This follow-up report on the review of the forest science graduate program is the result of a meeting with Tom Adams, the interim head of the department of Forest Ecosystems and Society, and their graduate program coordinator, Lisa Ganio on February 24, 2009. The original review of the forest science program took place in the spring of 2006. The forest science program was then part of the forest science department and was found to be a thriving program with dedicated faculty and staff, high quality research by the graduate students and excellent facilities and support staff. The department was reputed to be one of the best in the country and highly productive in publications and research.

The college of forestry underwent a major overhaul since the last review. The departments of Forest Resources, Forest Engineering, and Forest Science were merged into the departments of Forest Engineering, Resources and Management (FERM), and Forest Ecosystems and Society (FES). Most of the faculty in the original Forest Science department moved to the department of Forest Ecosystems and Society. The Forest Science program is currently housed in this department and the current graduate students in this program are well-taken care of.

While this huge reorganizational effort was motivated largely by the fiscal problems faced at the college level and was very important to address, it also interfered with the department’s response to addressing some of the issues raised in the graduate review. As stated in the attached modified revision plan by the interim head of the department of FES, the faculty met in the fall of 2006 and formed various committees to comprehensively address the several issues raised in the graduate program review. As it soon became apparent that even the survival of the graduate program was in doubt, these tasks were put on the back burner.

Nevertheless, the faculty and students took a number of positive steps to address some of the concerns raised in the original review.

1. **Communication:** To encourage communication of research results among the graduate students, the students initiated a one-day Forest Science Graduate Student Symposium. It also helps the students polish their presentation skills. Apparently the symposium has been a huge success and will be occurring during this spring for the third time.

2. **Curriculum:** The plant sciences curriculum at the graduate level has been a weakness throughout the university. Recently the provost has taken an interest in this issue and appointed a committee of plant science department heads to make recommendations. Forest science program stands to benefit from a stream-lined curriculum in the plant sciences. A major overhaul of the forest science curriculum which was recommended in the review was not pursued due to the reorganization, but will be the major focus after the dust settles and the department decides on the future of its programs. Since the review, graduate Forest Science courses in agroforestry and climate change have been added to the curriculum, and forest science faculty participate in fire ecology courses offered primarily through FERM. In addition, Forest Science faculty have had leadership in the development of two new on-line graduate programs: the 18-credit Sustainable Natural Resource Certificate and the Master’s in Natural Resources (currently in Category I review). Both of these programs are administered by FES.

3. **Diversity and Hiring:** The department hired Brenda McComb, a wildlife biologist, as the head of the department. The college now has a diversity action plan that includes the goal of being proactive in hiring.
4. **Space Issues**: The department developed a policy for allocating space among the offices and labs and deciding who is responsible for space management. The plan includes ways of assigning office space to graduate students. The new reorganization led to the development of a college-wide meeting space for all graduate students in the college. All graduate student computer labs are shared by all students in the college. The development of controlled growth facility was put on hold.

In summary, the college of forestry and the forest science program have been in “a state of uncertainty and upheaval” since the last review of the forest science program. The threat of the wiping out of the college reserves by 2010 is still very much a concern in spite of the college reorganization. However, the new organization gives the department and the faculty a chance to creatively rethink their programs and possibly consolidate multiple related programs into one, or create multiple tracks within each program with different specializations. The arrival of the new department head is quite timely and no doubt will give additional impetus to designing these new programs from the ground-up in a way that simultaneously addresses the concerns raised in the original report while also taking advantage of the opportunities that arise from the new organization of the college.
Introduction

The following is a plan for how the department will address recommendations arising from the Graduate Council’s review of the Forest Science Graduate Program in April, 2006. This plan is tentative because the faculty as a whole has not had a chance to discuss it. In addition, we have yet to receive the report of the CSREES review which was conducted at the same time as the Graduate Program review. However, based on the oral presentation by the CSREES review team in April, issues expected to be raised in the CSREES report are likely to be largely the same as those identified by Graduate Program Review team.

We have scheduled a two-day faculty retreat in September to discuss the recommendations and to decide on appropriate approaches to dealing with each of them. Committees will be assigned at this time to address the higher priority issues with progress reports and discussions at regular faculty meetings in the fall and winter quarters. The faculty will then meet again at a retreat in the spring to finalize specific actions addressing the recommendations.

Note: The Forest Science faculty did meet in the fall of 2006 (9/14-15) for a two-day retreat to organize how to address the issues resulting from the review. Several committees were formed, including Curriculum Improvement, Department Mission and Goals, Communication, Interactions with Extension, and Facilities. These committees all started working on their various assignments. Shortly after the first of the year it became apparent that the College was to undergo a major restructuring of departments. At this time it wasn’t even clear whether a Forest Science graduate program would survive. Given the uncertainties and the need to focus energies on the larger reorganization effort, the Department Head suspended further strategic planning for the Forest Science Department. The College reorganization resulted in the reduction of the number of departments from four to three, including two new departments. In the revised structure, most of the Forest Science faculty were located in the Forest Ecosystems and Society (FES) Department along with social science faculty from the former Forest Resources Department. A small number of FS faculty were assigned to the other new department, Forest Engineering, Resources and Management (FERM).

Summary of Recommendations and Proposed Actions

1) Department Mission and Goals

Recommendation

Develop a vision and strategic plan for a fiscally viable department. Integrate the plan across the teaching, extension and research missions, and make sure it is well aligned with the University and College strategic plans.

Proposed Action
This recommendation is timely given that the last comprehensive strategic plan for the department was written more than 13 years ago. Although the department has engaged in a number of strategic planning efforts in the past 5 years, including revision of the graduate curriculum, updating the Staffing Plan, and participating in the College strategic planning process, we need to review our mission statement, departmental goals and programs in the light of the current realities (i.e., makeup of faculty, research needs, changing student interests and needs, fiscal constraints, etc.). Issues raised in the Graduate Program Review will help provide focus to this planning process. We expect to have a revised strategic plan prepared by summer 2007.

A major goal of the College in the next few years will be to deal with a potentially catastrophic fiscal situation. Presently, funds required to operate the College each year exceed income by approximately 30%. Fortunately, we have cash reserves to make up this difference, but without new revenue sources or drastically curtailed expenditures these reserves will be exhausted by 2010. The professorial staffing in the Department is 25% less than it was a few years ago, and despite these cuts in staffing we are barely able to maintain programs at the current level, yet meet ever expanding personnel costs. Further reductions to balance the budget by 2010 would have dire consequences for the Department and College. The College is certainly among the premiere forestry institutions in the world and the Department is recognized as among the best research and graduate education programs in forest biology. We cannot make further cuts without significantly reducing the quality of graduate education and research support we provide for our various stakeholders. Without new revenues, the consequences of the cuts required to balance the budget in 2010 would mean a greatly diminished College of Forestry at OSU, both in capacity and reputation. A vigorous campaign has been launched to raise the additional revenues necessary to maintain and build the College. As a department we need to be strong supporters and contributors to solving this budgetary dilemma. In addition, our strategic plan needs to be flexible enough to deal with any further fiscal constraints as well as to take advantage of growth opportunities.

Note: Despite the recent reorganization (which was largely done to save on administrative costs), the College still faces a significant financial crisis. A College-level strategic planning effort is underway to inform the College Executive Committee on how to deal with cuts related to bringing College expenses in line with revenues. There are also a large number of issues resulting from the reorganization concerning the Forest Science graduate program, including what it should like and how it should be managed in the future (if continued).

2) Culture and Communication

Recommendations

a. Foster a continued commitment to forests as a whole, leading to an expansive, forward-looking vision of forestry. The two camps of forest science must be bridged by pursuing the common ground between production-oriented research and more fundamental ecological/biological research.

b. Foster cross-department communication by encouraging group research projects with multiple PIs, and by having a college-wide colloquium or annual mini symposium to exchange and debate research and views within the College and Forest Science.

c. Increase awareness across the department on what students are working on by having a student seminar series in which students present proposed research.
d. Develop strategies for articulating the department’s research vision to clients and stakeholders and increasing effectiveness of transferring scientific information to users.

**Proposed Actions**

The recent conflict surrounding the Science paper on the effects of post-fire logging certainly forces us to examine the culture of the department and college. Collectively, the department has a broad, forward-looking vision of forests and forestry. This is evident in the variety of graduate education programs we offer, preparing students for an array of careers ranging from practical silviculture to basic and applied research in various disciplines of forest science. It is also evident in the wide range of research we undertake, spanning scales from genes to landscapes, a broad spectrum of biological disciplines, and basic to applied questions. We have also been very successful in leading interdisciplinary research efforts, involving investigators across departments in the University, other universities, and public agencies (e.g., Andrews LTER, AmeriFlux, CFER, Ecosystem Informatics, etc.).

As variously described in the report, two “camps” or “tribes” can be recognized within the department, one which emphasizes forest biology research related to commodity production of forests (e.g., the research coops) and the other which emphasizes more fundamental research on forest ecology (e.g., Andrews LTER, global climate change program). Such a characterization oversimplifies the situation because individual faculty’s research can span a broad spectrum from fundamental to applied, and there is often good collaboration between those interested in more fundamental aspects of forest ecology and those more interested in solving management issues. Nevertheless, the review report is correct in identifying the need to do a better job in bridging the differences between these groups, by fostering increased understanding and respect for alternative viewpoints, interchange of ideas, and when feasible, integration of research.

Among the various approaches to building bridges between these department members that will be discussed in the coming year are:

* Develop a graduate core curriculum that utilizes many of the professorial faculty in the department to introduce forest science principles, integrating knowledge and research approaches across biological disciplines necessary to understand forest ecosystem function as well as management of forests for a variety of uses.
* Encourage communication among faculty and students through colloquia addressing controversial issues, establishing a seminar series where students present proposed research (e.g., devote the spring seminar to student presentations), establishing a yearly departmental research symposium (e.g., like what is done in Fisheries and Wildlife), and/or joint research projects. Improved communication is also an objective of recommendations posed by the College's Committee on Academic Freedom and Responsibility (CAFR); departmental actions will be coordinated with overall College efforts.

Note: One tangible result of the review was the initiation of a one-day Forest Science Graduate Student Symposium. This symposium is organized by the students and features presentations of their research results. They symposium also includes a poster session where all new students are required to present their thesis research ideas. The symposium serves two major purposes: 1) Enhance communication within and outside the department on what research is being done and being contemplated; and, 2) The opportunity for students to polish and practice presentation skills. The symposium will occur for the third time this spring. It has been a huge success.
Another issue that arose in the review is that many of our stakeholders may have a poor understanding of the breadth of research we do in the department and its relevance to their needs. We need to develop means to promote our programs and enhanced understanding and appreciation of what we do. Different research programs in the department have individual outreach efforts for targeted clientele (e.g., research coops, Andrews LTER, CFER), but we don’t have a department-wide strategy for public relations and outreach. We need to employ our Extension faculty to help us in developing such a strategy.

Note: One approach I was hoping to pursue was the initiation of a Forest Science Department advisory committee. This was not followed up on because of the reorganization, but will be a strong recommendation for the new departments in the future.

3) Curriculum and Students

Recommendations

a. Examine the needs of the graduate curriculum and collaborate with other related departments and colleges in the University and elsewhere to develop a strong set of support courses that serves the needs of Forest Science and related departments on campus. Collectively convince the administration to commit resources to cover these needs on a regular basis. Develop creative solutions such as modules, short courses, and video conference courses with other universities.

b. Develop a strong set of stand alone graduate courses covering the broad spectrum of Forest Science. Get the Administration’s commitment to increase teaching FTE to an adequate level to offer these courses.

c. Explore means to add courses in fire ecology and soil science.

d. Improve the ability for students to obtain teaching experience. For example, encourage/facilitate volunteer teaching experience, and explore partnering with Education to develop a science education course.

e. Foster student development of communication skills, for example, by offering workshops or through a core departmental course.

f. Increase number of graduate students to be in line with faculty size and research funding.

Proposed Actions

Recommendation 3a addresses the decreasing availability of basic-biology graduate courses supporting programs in the department and other plant science majors across campus. The list includes courses in basic physiology, pathology, entomology, taxonomy and soils. Courses formerly offered have been discontinued because faculty teaching these courses have retired and not been replaced. In addition, similar courses formerly offered in a number of departments (e.g., various plant breeding courses) now are only infrequently taught, if ever, because of dwindling numbers of students in any one of the disciplines. There have been a couple of recent aborted attempts to address these cross-campus issues through the graduate school and by a collective effort of plant science Department Heads. The idea has been to create joint courses (or curricula) across the plant sciences that collectively would meet our needs, but this strategy will not be successful without resources to help in planning and to hire the needed teaching faculty. The alternative is to decide to no longer offer graduate programs where
supporting courses cannot be provided. Department Heads in Forest Science, Botany and Plant Pathology, Horticulture and Crop and Soil Science are currently supporting a post doc to help develop a joint plant breeding curriculum.

Note: The issue of declining basic plant biology offerings at the graduate level on campus has been addressed in a number of ways the last several years, but with little progress. Recently, the Provost has taken an interest in this issue, as well as in the health of plant science programs, in general, on campus, and has commissioned a committee of plant science department heads to develop recommendations. I am sure that reviews such as this one for Forest Science (and some similar issues raised in the Horticulture Department review a few years ago), stimulated the Provost to action. Anita Azarenko, Department Head in Horticulture is chairing the committee.

The department already has a “… set of stand alone graduate courses covering the broad spectrum of Forest Science” (Recommendation 3b), although a number of these courses are offered only infrequently because of insufficient numbers of students. As part of the strategic planning exercise above, we need to address whether it is wise to continue to try to support the broad spectrum of graduate degree specialities and course offerings in the department. An expanded departmental core curriculum (mentioned above) would integrate subject matter across forest science disciplines and might attract students from outside the department as well as within.

Note: Not pursued because of the reorganization. But, a major overall of the Forest Science curriculum is due if this program is to continue into the future.

The Department of Forest Resources is in the process of developing a series of courses in forest fire ecology and management (Recommendation 3c). Faculty in Forest Science are being consulted in the process and may contribute to these courses in the future. Two Forest Science graduate students and a faculty member are contributing to two Fire Ecology and Management courses offered through Forest Resources and Forest Science in fall 2006. The ability to offer courses in forest soils is problematic. Forest soils and below ground ecosystems were areas of strength in the Forest Science Department up until a few years ago when positions vacated by retirement were left unfilled due to lack of resources. Recently, the department initiated a search to fill a faculty position in forest soil biogeochemistry, with support from the Provost’s Subsurface Biosphere Initiative. Despite attracting a number of excellent applicants, the search was aborted because of the budget crisis in the College. In addition, the last trained soil scientist on the College faculty (in Forest Engineering) departed this summer for a position elsewhere, so we are left without coverage in this critical subject area. Filling at least two forest soil positions is a critical need in the College, but will be impossible without additional resources.

Note: There is still a void in forest soils expertise with no hope this situation will change in the near future. A couple of graduate courses in forest fire ecology and management are now being offered; faculty in both FES and FERM are involved. A very strong interest group in forest fire ecology has developed within the College. The group includes both graduate students and faculty that meet on a weekly basis to discuss the literature and mutual research efforts.

Providing our students teaching experience has been a challenge (Recommendation 3d). There are three one-term teaching assistant slots available in department and we do encourage students to fill teaching assistant slots elsewhere in the College and across campus, when available, or to volunteer to help teach courses. We have also offered a teaching practicum for a number of years where students learn basic teaching skills and have an opportunity to develop a 1-credit course of their own. Barbara Bond, who
has taught this practicum, is well qualified to teach this course. We did not offer the practicum this year in lieu of a graduate-level teaching course offered in the College of Agricultural Sciences. Several students in the department took this course. We need to follow up and see whether the Ag course would meet our needs in the future. Other than doing a better job in encouraging students to take advantage of the several opportunities already available for teaching experience, it seems like we are doing about as much as we can to meet this need.

All of our courses incorporate opportunities for students to practice written and/or oral communication, but with minimal formal instruction in communication skills (Recommendation 3e). A few years ago, the College’s Communications and Media Center staffs offered periodic communication workshops, but these have largely gone away with budget-driven reductions in both groups. It might be possible to include oral presentation training in a student seminar course. In addition, we might be able to provide workshops for our faculty on how they could better incorporate communication skills development in their courses. We will discuss mechanisms for enhancing training in communication skills when we address potential curriculum revisions this fall and winter.

We specifically asked the Graduate Program Review team to comment on the number of graduate students in the department (Recommendation 3f), since this number has declined as the number of faculty have declined in recent years. The report suggests that we should aim for at least four students per faculty; but where we are with student numbers depends on how you count. In February of this year we had 63 students; an average of 4.2 students per on-campus tenure/tenure track (T/TT) faculty member. The average is even greater if one excludes the Department Head (DH) and one full-time Extension Specialist (ES) from the on-campus T/TT faculty. This number of students, however, includes those with major professors that are adjunct or courtesy faculty (18 students); the number of students per major professor among the 13 on-campus T/TT faculty (not including the DH and ES) ranges 1-6 (mean 3.5, total 45). It is suggested in the report that departmental faculty have invested in Faculty Research Assistants and post docs at the expense of training graduate students. It should be noted, however, that FRAs and post docs often play an important role in graduate student development, especially in providing day-to-day instruction on data collection, analyses, etc. In addition, training of FRAs and post docs contributes to the education mission of the department, and the program continuity provided by support faculty is a major reason why the department has been highly successful in research funding. This funding also accounts for the fact that most students in the department have a GRA (only a few are on fellowships; there are no state-supported GRAs). Clearly, given the Review Team’s recommendation, we will re-examine our student numbers, but this has to be done in light of maintaining both strong research and education programs in the department.

Note: Student numbers have dropped even a little more since the review, but we have also lost additional faculty.

4) Diversity and Hiring

Recommendations

a. Implement a diversity plan including a strong preference for hiring external candidates.

b. Reform the faculty search process so that the search committee acts on behalf of the faculty to conduct a broad search, then summarizes and prioritizes the applications, while the faculty as a whole provides consensus on the candidates to interview and the final recommendation.
Proposed Actions

Diversifying the faculty and staff (Recommendation 4a) is a major goal of the College’s Diversity Action Plan and the department will be actively pursuing this goal with the rest of the College. Details of how to accomplish this goal will be addressed by the College’s Building Community Committee in the coming year. In addition, recent discussions in the department reaffirmed the need to diversify our faculty, including its “age structure” by emphasizing early career candidates in future hires. The department completed a professorial faculty search and hire process in June that was very similar to Recommendation 4b. We will review the process this fall and decide whether to modify it further. This most recent hire is a recent Ph.D. and Canadian citizen with no previous ties to OSU.

Note: The College has a Diversity Action Plan that includes goals for being more proactive in fostering diversity (especially racial and ethnic diversity) in the student body and faculty. Specific actions for achieving these goals, however, have yet to be fleshed out. As indicated above, the Department went through a successful hiring process in the summer of 2006. The new FES Department just went through a search process for a new department head that led to the hiring of a female wildlife biologist from Massachusetts.

5) Facilities

Recommendations

a. Try to find support for a controlled environment growth facility capitalizing on existing and new funding opportunities.

b. Optimize use of existing space by: relocation of storage materials and non-technical field equipment to lower quality space, and, by grouping graduate students into larger multiuse offices.

Proposed Actions

A committee has been named to oversee the department’s growth facilities which consist of a greenhouse complex and raised nursery beds adjacent to the Oak Creek building on campus. This committee will be tasked with examining the department’s need for environmental growth chambers and identifying potential mechanisms for funding (Recommendation 5a). A second committee has recently been named to provide advice on space issues in the department. This committee will be tasked recommending means for improving the efficiency of lab usage and storage in the department (Recommendation 5b). The Associate Department Head has been working with the students in identifying a “package” of work-space options that will better meet their needs, while releasing some current student offices for other purposes. A plan has been developed and will be made operational this fall.

Note: No progress has been made on upgrading growth facilities. This was another issue put on the back burner during the reorganization. It can also be said, that while the lack of these facilities has been a persistent deficiency in the College, it has been difficult to raise enough interest in the faculty to pursue this need with the gusto required to be successful. The Department did develop a “Space Allocation” policy that outlines how offices and labs are assigned, and who is responsible for the management of the labs. We also developed a plan for assigning office space to graduate students that allowed for a variety of options to them. This plan is largely in place in FES. In addition, one result of the earlier plan was to establish a graduate student meeting space that they could call their own. With
the reorganization, this concept has evolved into a facility that is open to all graduate students in the College. In addition, all graduate student computer labs in the college are now shared by all graduate students (rather than assigned specifically to students in anyone department). We hope that these arrangements will foster interaction and communication by graduate students across all the disciplines in the College.

Final Note: The College of Forestry has been in a constant state of uncertainty and upheaval since the Forest Science Graduate Program review in spring of 2006. This has largely been driven by our financial crisis which followed closely on the heels of the controversy regarding the publication of the article in Science on the impacts of salvage harvesting. Although the ultimate fallout from the financial situation is not clear, the reorganization has been met with optimism and has certainly created an opportunity to take a new look at how we conduct graduate education in the college. A serious move in dealing with graduate education awaits the arrival of the new department heads in FES and FERM. Surely, the Forest Science graduate program will evolve, perhaps dramatically, under the new College structure. It will be interesting to see where we end up!