

**External Review Report
Faculty of Forestry
University of Toronto**

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Introduction

This External Review Report is based on a site visit conducted at the University of Toronto, Faculty of Forestry (FF) on November 17-18, 2009. An outline of the visit is contained in Appendix I. During our visit, we interviewed 13 of the 14 teaching faculty, 7 administrative staff, 10 graduate students and 6 undergraduate students. We also met with Provost Misak, Vice Provost Regehr, Dean Tat Smith, the FF Advisory Board, alumni, external association representatives, cognate division representatives and the Advisory Committee for the search for the Dean.

We wish to thank all members of the Faculty of Forestry, Provost Misak and Vice Provost Regehr for their hospitality and kindness during our stay in Toronto. We especially appreciate the attention of Dean C. Tat Smith who looked after us and responded to our needs.

The Terms of Reference (TOR) for this review (Appendix II) were altered on November 17 when we were advised by Provost Misak that a reorganization of the FF was being considered. Thus, our primary charge became one of discussing with each group we met during our site visit the possible reorganization options being considered and the appropriate leadership required to successfully implement this new structure. Accordingly, Provost Misak advised that our report should only briefly comment on the traditional seven questions included in the TOR and concentrate instead on reorganization and leadership issues. Given the lateness of this new charge, we have done our best to provide meaningful input into the review process.

Program Objectives

The FF offers two research-oriented graduate degree programs: 1) Master of Science in Forestry (MScF) and 2) Doctor of Philosophy (PhD). The FF also offers a professionally-oriented graduate program leading to the degree of Master of Forest Conservation (MFC).

The objectives of the MScF and PhD programs are to provide high level education and training in forestry research and to encourage critical analytical thought processes. The primary objective

of the MFC program is to produce highly qualified graduates who are equipped to function effectively as members of multi-disciplinary resource management and forest conservation teams and to respond flexibly to the national and international demands of sustainable forest and natural resource management in the 21st century.

The FF also offers an undergraduate program in collaboration with the Faculty of Arts and Science (FAS) leading to BSc and BA degrees in Forest Conservation Science and Forest Conservation Arts, respectively. The objectives of these undergraduate programs are to prepare students to provide global leadership in forest conservation and sustainable natural resource management. Additionally, a BSc degree in Forest Biomaterials Science is offered through the FAS to provide students with the knowledge to help shape the new bio-economy by acquiring an in depth knowledge of forest-based materials, life cycle analysis and environmental issues.

1. Quality and Priorities of the Faculty's Education Activities

Based on interviews with the undergraduate and graduate students (both course-based and thesis-based), they fully realized that they were very fortunate to have good instructors who were dedicated to their students. At the undergraduate (UG) level, the students stated that they had generally “accidentally found” or “stumbled into” the BSc and BA degrees in Forest Conservation Science and Forest Conservation Arts, rather than having sought out this specific specialization. Surprisingly, (at least to the review team) they realized, based on the proposed UT budget model, that this type of “boutique” UG education could not continue, although they fully appreciated and valued the education they were currently receiving. A similar awareness/philosophy was exhibited by the professionally-oriented graduate students working towards the degree of MFC. It was clear that the students enrolled in both these undergraduate and graduate programs valued their instructors and the education/experience they were receiving and were strongly supportive of the FF.

The thesis-based MScF and PhD students were also supportive of the FF. It seemed that the three faculty members in the forest products area (and their groups) had strong links with groups outside of the FF, particularly with science and engineering and that, perhaps, these linkages (at the research/graduate student level) were stronger than they were with the forestry/conservation members of the FF. As the UT budget model plays a major determinant factor in the allocation of teaching resources, it seemed apparent that the UG and professional Masters programs, as they are currently delivered, are not sustainable. However, it was clearly apparent that the faculty and students have invested heavily in the current educational activities and the customers (the students) are strongly supportive and value the education they are currently receiving. The challenge will be to adapt the current educational program so that it can function within budget allocations.

2. Relevance of the Faculty's Research Activities

One of the FF's clear strengths is the diversity, quality and competitive funding of its research. The FF claims that it is second to medicine in external funding obtained per full time equivalent faculty member. A large variation in funding across the faculty was observed. However, the funding is significant and the thesis-based graduate students clearly value the support (financial, equipment, field work, etc. that they have access to. The research undertaken by the faculty members is obviously of a high caliber as evidenced by its grantmanship, publications, citations,

etc. In the context of the assignment that was given orally to the review team at the beginning of the review (“is the FF located in the right place within UT”), it is likely that the research productivity and caliber of the faculty members would be an asset to either the FAS on the St. George campus or on the UT Scarborough Campus (UTSC). Again it was clear that members of the conservation /forestry /forest products groups within the FF have close research links with other units such as engineering and science and that this benefits all Faculties. The FF manages to cover a wide spectrum of research activities that are associated with the “forest sector” (i.e., the economic, ecological and social aspects of forestry) and the current FF structure facilitates the coordination of these “three legs of sustainability” and some consideration should be given to try to maintain this coordination when alternative structures are considered

3. Nature of the Faculty’s Relationship with Cognate Units of the University

It was apparent that the FF is valued by their colleagues and that the two main options that are currently being considered for possible future reorganization (closer integration with either the FAS on the St. George campus or a gradual, closer alignment with the UTSC) are openly discussed and encouraged by senior members of these two units. It is apparent that some individuals within the FF are heavily engaged with specific units (such as the Pulp and Paper Centre associated with the Department of Chemical Engineering) such that the two options discussed above do not necessarily work to their advantage. It was not apparent from the documents provided, or from discussions with the thesis-based graduate students and their supervisors, how much faculty members from outside of the FF contribute to the student’s advisory committees, research and facilities. This should be taken into consideration when alternative structures are considered, to try to build on what already appears to be a productive and cooperative research endeavor between the relevant research units on campus.

4. Nature of the Faculty’s Relationship with External Government, Academic and Professional Organizations

As evidenced by both the documentation provided for the Review Team and by meetings/discussions with the members of the FF’s Advisory Council, the FF is valued by government (Provincial and Federal), ENGO’s (such as Tree Canada) and industry. To operate within the Province of Ontario, a professional forester designation is required (Registered Professional Forester, RPF). Since the dissolution of the undergraduate forestry program at the UT about 15 years ago, there has been ongoing concern about the university’s ability to prepare individuals for subsequent professional accreditation, with this responsibility defaulting to Lakehead University. The provincial representatives expressed concern about the continued erosion of a “forestry focus” at UT and that a restructuring of the FF or a relocation of the faculty members would exacerbate an already fragile arrangement. When the financial basis of UT’s resource allocation was discussed, there was recognition of the difficult circumstances that are being encountered by all groups, but a request was voiced that the senior administration recognize the importance that forestry plays in many of Ontario’s communities.

It was also recognized that the FF was at the forefront in championing the ecological/social aspects of forestry as evidenced by the conservation focus of the UG and graduate programs. Whatever restructuring is considered in the future, the external groups hope to be consulted as they have a clear affinity with the FF. The Faculty Advisory Council members held Dean Smith in high regard and felt he had provided good leadership. They felt he had inherited a difficult

situation (in terms of faculty size, no clear UG program, limited ability to hire, etc.) and that the new budget model would make an already difficult situation more problematic.

5. Faculty Organization and Financial Structure

Currently, there are 12.59 FTE academic faculty covering a wide range of academic disciplines in forestry, ecology, biology, social science, wood science, biomaterials and natural resources management. Supporting the faculty are 7 administrative staff, who provide excellent support to the faculty, the students and their programs. All members of the faculty and staff are highly dedicated to the future success of their unit and most have served in their current positions for many years.

Given the multidisciplinary nature of a contemporary forest resources academic unit, it is clear that additional faculty capacity through either new FTE , or joint appointments with other academic units, are needed to increase the diverse disciplinary expertise required to achieve the strategic teaching and research goals of the FF. The FF has identified five disciplinary areas where new faculty hires will occur if resources become available. We recommend that resources be made available to increase the capacity of the FF to respond to the growing needs of the region.

The UT budget model determines net revenue for each academic unit as the difference between gross operating revenue (made up of tuition and government grants) minus contributions to the University Fund and student aid and a share of university-wide services. The unit's expense budget is equal to its net revenue plus a share of the University Fund to maintain a historical budget for the unit. Presently, the FF receives 87% of its annual expense budget (\$2.7 million) from the University Fund. Thus, there is a perceived need at all levels of the University to explore ways to increase revenues to the FF by increasing student enrollment in new programs.

Recent attempts to redefine the FF as an 'applied environmental science' faculty unit with the goal of increasing undergraduate enrollment (primarily on the St. George campus) have not met with success. However, the Provost appears committed to finding a solution wherein the forestry faculty can continue to educate more undergraduate students while maintaining a strong focus on graduate and professional education.

Given low enrollment in some of the programs offered by the FF and the small size of the faculty, new approaches have been discussed to attract more students (primarily undergraduates) and revenue for the FF. These suggestions affect both the graduate programs and undergraduate interdivisional contributions of the FF. We recommend that these discussions continue in order to identify financially viable options with other units across the three campuses of the UT.

6. Long Range Vision of the Faculty

Per the 2007-2012 Academic Plan, the vision of the FF is to evolve into a new unit focusing on applied environmental and biomaterials science. The implementation of this vision may best be accomplished by working collaboratively with the FAS and its Center for Environment. This would also allow the FF's contribution to undergraduate education on the St. George campus to be better recognized while graduate-level instruction continues along the same pathways as currently envisioned albeit with increased attention on a larger proportion of PhD students. In

addition, increased attention to advancement through private fund raising, increased partnerships with research organizations, use of lecturers from outside the UT to assist with the professional MFC and continuation of strong relationships with cognate units on the campuses of the UT will continue. In short, the FF's vision is to continue as an independent faculty but with increased collaboration with the FAS as outlined above.

Discussions with the Provost, members of the FF and leaders of cognate units lead us to conclude that under the current budget model and low student numbers generated by the FF, the above vision requires modification to be acceptable and financially viable. Based on our conversations, we believe that a more viable alternative may be to relocate the FF into the FAS as a new department. This new department could continue to develop and grow an undergraduate program in forest conservation and biomaterials science while also continuing to support existing graduate programs. In addition, the new forestry department should consider the existing proposal to offer a curriculum in Urban Forestry while continuing to collaborate with other campus units such as Geography, Applied Science and Engineering, Chemistry, Ecology and Evolutionary Biology, etc. Relocating the FF in the FAS will also allow the new department to better coordinate its offerings with those offered through the Center for Environment which currently offers a wide array of undergraduate environmental programs on the St. George campus.

Discussions with the UTSC should also continue to determine if undergraduate and (perhaps) graduate programs in applied environmental science can be further developed on that campus. Logically this would be coordinated and run through the Center for Environment which presently offers a professional Master's program in environmental science on the UTSC campus. It may also be beneficial to consider a professional Masters program on either the St. George campus or at UTSC that qualifies graduates as Registered Professional Foresters. Raising the level of professional forestry education to the Master's level should be seen a move in the right direction as it will bring increased respect to a profession that suffers in the hierarchy of similar professions.

7. Recommendations of Previous External Reviews

The last external review was conducted in November 2004. One of the recommendations of the review identified characteristics that the FF wished to see in the hiring of a new Dean. It was noted that it would be difficult to attract an outstanding person but it was essential to bring in new leadership to help the FF achieve its vision. As a result, the University conducted an international search and hired Dean Smith in 2005.

The second recommendation was to increase support for the MFC and to ensure that external clients view the program as meeting their needs. Further, certain modifications in the design of the MFC were noted as requiring attention. Our review suggests that the FF have successfully altered the design of the MFC to provide additional flexibility in course selection. A case study course has been developed so students have an opportunity to integrate previous course work in a problem-oriented context. Lastly, the FF has increased financial support to MFC students in order to reduce the difference between MFC and MScF students.

In the 2004 report it was also noted that the FF have worked to develop collaborative relationships with other campus units and that this should continue. Interdivisional teaching at

the undergraduate level was also recognized as a strength of the FF but gaining financial recognition of this contribution remained elusive.

Our review suggests that a continuing issue, as yet unresolved, concerns how the University will choose to organize its large array of environmental programs on the St. George campus. This on-going issue was noted in the 2004 External Review Report and has yet to be resolved. Dean Smith and the FF have played an important role in helping to search for an acceptable solution. The Center for Environment plays a key role in helping to organize and deliver academic programs that cut across the St. George campus. Located in the FAS and the School of Graduate Studies, the Center seems to be the logical unit for the FF to associate with. Yet, our review suggests that this potential has yet to be realized and/or widely endorsed.

Our review also suggests that the FF need to better steward their relations with the private sector, government agencies and nongovernmental organizations. Each of these has an important role to play in any future reorganization of the FF and each, therefore, needs representation on a future Advisory Board.

8. Summary and Recommendations

As stated at the outset of this External Review Report, the TOR of our review were modified at the outset of our visit to campus. Thus, the focus of our External Report is directed at responding to the Provost's primary concerns related to the possible reorganization options being considered for the FF and the appropriate leadership required to successfully implement this new structure. We note, parenthetically, that if performance metrics and expense budgets for each of the existing UT faculties were provided, it would have allowed us to undertake a more comprehensive assessment of the FF's relative performance against other campus units per dollar of investment.

The FF are to be congratulated for their outstanding research productivity as evidenced by their publications in refereed journals and the high level of external grants and contracts they have earned. Thus, we find that the quality of the FF is unassailable. Further, the vision of the FF to continue to be deeply engaged in the 'greening' of the economy and as a global player in international conservation and biomaterials science is exactly the proper path to pursue.

The student body, as represented by undergraduates, course-based and research/thesis-based graduate students was impressive - not just in their intellectual capacity and enthusiasm, but also because of their appreciation of their current learning environment (ability to access faculty members, some classes taught by the Dean, resources available, etc.). Equally impressive was their realization that the current "boutique" education they currently receive was unlikely to be sustained in the current budget-limited environment.

The issues confronting the FF are the direct result of the following interrelated forces: a) the UT budget model, b) a small graduate enrollment, c) absence of an undergraduate program and d) the changing landscape of contemporary forest resources programs across the country and around the world. Most of these issues precede the appointment of Dean Smith who has worked tirelessly to better assimilate the FF's programs into the main stream of the UT.

Based on our two-day review of the FF we recommend that the following reorganization suggestions be considered for additional thoughtful review:

- either relocate the FF into the FAS as a new department to grow the undergraduate program in forest conservation and biomaterials science on the St George campus or consider a relocation to the UTSC campus where the FF can be a leader in evolving the status of the campus in the area of conservation and sustainability
- provide additional financial resources to the new department to allow the hiring of new faculty members
- encourage the new department to grow its research and professional graduate programs and its research portfolio while also collaborating with other campus units
- work closely with the Center for Environment in developing undergraduate programs on the St. George campus in forest and natural resource conservation and biomaterials science (in collaboration with the Faculty of Applied Science and Engineering)
- explore additional connections with the UTSC in the applied environmental science professional graduate program through the Center for Environment and help evolve the program to meet societal needs in conservation and sustainability
- consider offering a professional Master's degree that qualifies graduates as Registered Professional Foresters
- improve relationships with all external stakeholders of the existing FF in order to garner additional support
- seek a leader for the new department who is committed to the new mission and vision and who possesses the requisite managerial and leadership skills to successfully operate in an increasingly interconnected campus environment

We recommend that discussions related to the above issues continue in earnest among the FF, cognate units and the UT administration in order to identify the best combination of financially attractive and viable options (across the UT campuses). It would also be beneficial to solicit advice from the external community of stakeholders and supporters before any final decisions are taken.

Appendix I Visitation Schedule

FACULTY OF FORESTRY November 17 – 18, 2009

Reviewers:

Professor Bruce Bare, former Dean, College of Forest Resources, University of Washington
Professor Jack Saddler, Dean, Faculty of Forestry, University of British Columbia

*The **Faculty of Forestry** is located at 33 Willcocks Street
Simcoe Hall is located at 27 King's College Circle*

All meetings at Faculty of Forestry Conference Room Number 1016b unless otherwise noted

TUESDAY, NOVEMBER 17, 2009

8:00 - 8:45 a.m.	Vice-President and Provost, Cheryl Misak and Vice-Provost, Academic Planning, Cheryl Regehr <i>Reviewers to take cab to Faculty and be met by Amalia Veneziano at Forestry's Office of the Dean (at approximately 9:15 am).</i>	Breakfast meeting Annona Restaurant Park Hyatt
8:45 – 9:00 a.m.	<i>Travel Time from Hotel to Faculty of Forestry</i>	
9:15 - 10:00 a.m.	Dean Smith	Dean's Office, ES 1016d
10:00 – 10:15 am	<i>Reviewers escorted to room 1016b</i>	
10:15 – 11:00 am	Academic staff Terry Carleton, Paul Cooper, David Martell, Sandra Smith	
11:00 – 11:45 am	Academic staff Andy Kenney, Sally Krigstin, Jay Malcolm, Neera Singh, Ning Yan	
11:45 – 12 noon	BREAK	
12pm – 1:00 pm	Graduate students PhD: Sedic Pankras Mettlemary; Carlos Quijano-Solis, Smith Sundar. Master of Science in Forestry: Kaho Hayashi, Andrew Lee, Daniela Tudor Master of Forest Conservation: Shahwar Aslam, Martha Kornobis, Brian Volz	Lunch Meeting
1:00 – 1:15 pm	BREAK	
1:15 – 2:00 pm	Cognate divisions representatives Malcolm Campbell, Vice-Principal Research, University of Toronto, Scarborough Amrita Daniere, Vice-Dean Graduate, University of Toronto, Mississauga and former Graduate Chair Tri-campus Department of Geography	
2:00 – 3:00 pm	Undergraduate students: Forest Conservation and Forest Biomaterials Science programs (BA/BSc) Lauren Brown, Elizabeth Comber, Tyler Hall, Maciej Jamrozik, Feinan Long, Jessica Stokes, Carl Wegenschimmel	

3:00 – 3:15 pm	BREAK	
3:15 – 3:45 pm	Administrative Staff Joan Bunyan, Administrative and Development Assistant Kathy Giesbrecht, Administrative Assistant, Student Services Mary Rose Naudi, Financial Officer Deborah Paes, Graduate Administrator	
3:45 – 4:30 pm	Cognate divisions representatives – Faculty of Arts and Science Rob Baker, Vice-Dean, Research and Graduate Programs Virginia Maclaren, Chair, Department of Geography Locke Rowe, Chair, Department of Ecology and Evolutionary Biology Ingrid Stefanovic, Director, Centre for Environment Suzanne Stevenson, Vice Dean, Teaching and Learning	
4:30 – 5:00 pm	<i>Reviewers alone to discuss findings</i>	
5:00-6:30 pm	BREAK	
6:30 pm	Advisory Board Members and Alumni John Beaucage, President, Wind Dancer Power Corporation Robert Burgar, Alumnus, Class 5T4 Frank Dottori, Past-President, Tembec Inc. Tony Jennings, Alumnus, Class 6T3 and Executive Director, Ontario Professional Foresters Association John Riley, Chief Science Officer and National, Director, Conservation Strategies Nature Conservancy of Canada Don G. Roberts, Managing Director, CIBC World Markets Inc. Michael Rosen, President, Tree Canada C. Tattersall Smith, Dean, Faculty of Forestry	Fairley Lounge, Faculty Club 41 Willcocks Street

WEDNESDAY NOVEMBER 18, 2009

8:30 – 9:00 am	Cognate divisions representatives – Faculty of Arts and Science Meric Gertler, Dean (<i>Teleconference. Reviewers to initiate call and number to be supplied by Amalia Veneziano</i>)	Breakfast Meeting
9:00 – 9:45 am	Academic Staff John Caspersen, Shashi Kant, Sean Thomas	
9:45 – 10:15	Administrative Staff Ian Kennedy, Systems Manager John McCarron, Coordinator, Technical Services Amalia Veneziano, Assistant to the Dean/Undergraduate Administrator	
10:15 – 11:15 am	External associations representatives George Bruemmer, Executive Director, Fibre Centre, Natural Resources Canada David Lindsay, Deputy Minister, Northern Development, Mines and Forestry Rich Greenwood, Director, Forest Management Branch, Natural Resources (teleconf) Cheryl Lewis, Director, Applied Research and Development Branch, Natural Resources	
11:15 – 11:45	Cognate divisions representatives – Faculty of Applied Science and Engineering	

	Bryan Karney, Associate-Dean, Cross-Disciplinary Programs Office, and Chair, Division of Environmental Engineering and Energy Systems Honghi Tran, Director - Pulp & Paper Centre Professor - Department of Chemical Engineering and Applied Chemistry	
11:45 - noon	BREAK	
Noon – 12:45 pm	Dean C. Tattersall Smith	Office of the Dean, ES 1016d
12:45 – 1:00 pm	<i>Reviewers escorted to Simcoe Hall Room 229 by John McCarron</i>	
1:00 – 2:00 pm	Reviewers alone to discuss findings and prepare for Advisory Committee meeting – <i>Reviewers escorted to Board Room by Margie Halling</i>	Lunch Simcoe Hall, Room 229
2:00 – 3:00 pm	Advisory Committee for the search for Dean	Boardroom, Simcoe Hall

Please call any of the numbers listed below if you need assistance or further information:

*Amalia Veneziano (Assistant to the Dean, Faculty of Forestry): T 416-978-5480
Margie Halling (Coordinator, Office of the Vice-President and Provost): T 416-978-6986 / 416-732-8298 (cell)
Vanessa Laufer, (Special Projects Officer, Office of the Vice-President and Provost): T 416-946-8522*

Appendix II

Terms of Reference

*University of Toronto
Office of the Vice-President and Provost*

Faculty of Forestry External Review 2009

The Faculty of Forestry is the oldest forestry faculty and the pioneer of scientific forest management in Canada. It is a highly competitive centre for Forest Studies with a focus on conserving and sustaining forests for a full range of uses - from timber harvesting to recreation to wildlife management to the conservation of biodiversity. Its scope encompasses Canadian forestry practices and international approaches. The Faculty's programs address a wide range of needs in the forest sector contributing to its strategic goal to lead in transformation of the way in which forests are globally managed and protected. The Faculty offers graduate degree programs leading to the Master of Forest Conservation (M.F.C.), the Master of Science in Forestry (M.Sc.F.) and the Doctor of Philosophy (Ph.D.) and participates in collaborative graduate programs in Environmental Studies and Environmental Toxicology. In collaboration with the Faculty of Arts and Science, Forestry offers undergraduate programs in Forest Conservation Science (BSc), Forest Conservation (BA) and Forest Biomaterials Science (BSc).

The following questions are provided to help focus the reviewers' discussion and to provide a structure for the final report. Reviewers are asked to comment upon the following:

1. Size, scope, quality and priorities of Faculty's education activities:
 - Consistency of the programs with the general objectives of the University's mission and academic plans, and with the standards, educational goals and learning objectives of the degree.
 - Quality of teaching, and evidence that research, professional activities and scholarships are brought to bear in teaching.
 - The quality of the educational experience provided to students beyond the classroom, commenting such as opportunities for international mobility and availability and utilization of student advising and counseling.
2. Scope, quality and relevance of the Faculty's research activities. Is the level of activity appropriate in terms of comparisons nationally and internationally? Are research activities appropriate for the graduate students in the Faculty?
3. The scope and nature of the Faculty's relationship with cognate academic departments and units at the University of Toronto. Has the Faculty developed or sustained fruitful partnerships with other universities and organizations in order to foster research, creative professional activities and to deliver teaching programs?
4. The scope and nature of the Faculty's relationship with external government, academic and professional organizations. What has been the social impact of the Faculty in terms of outreach and impact locally and nationally?
5. The appropriateness and effectiveness of the Faculty's organizational and financial structure. How well has the Faculty managed resource allocation, including space and infrastructure support?
6. The quality of the Faculty's vision and its long-range plan. Is the plan consistent with the University's academic plan?
7. How has the Faculty met the recommendations of its previous external review?