

Department of
Forest Resources *and* Environmental Conservation

STRATEGIC PLAN

2014 - 2020



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Dear Colleague, Alumni, Friend, and Supporter:

The Department of Forest Resources and Environmental Conservation (FREC) is one of four departments in the College of Natural Resources and Environment along with the other three being Fisheries and Wildlife Conservation, Sustainable Biomaterials, and Geography. As you can see from the box on the right side, our department has been the centerpiece around which many things have evolved.

FREC is proud of its quality programs and people. It is one of the Exemplary departments of Virginia Tech. It was ranked #1 in North America based on a perception-based score plus a citation-and-publication-based composite index. The National Research Council Report 2010 noted that FREC's Ph.D. program is one of the best in the country. FREC is the 1st in the country to earn SAF accreditation for urban forestry program. It is the 1st in the world to launch Environmental Informatics undergraduate major. FREC has been chosen to lead a campus-wide 4-year undergraduate degree in Water: Resources, Policy, and Management.

FREC is one of the most interdisciplinary and highly integrated departments at Virginia Tech. It has 4 undergraduate majors (Forestry, Environmental Resources Management, Environmental Informatics, and Environmental Resources Management) and 4 graduate programs (MS, MF, MNR, and PhD). Its research areas include Forest Ecology and Management, Forest Biometrics and Geomatics, Forest Economics and Policy, Human Dimensions, Forest Biotechnology, Forest Operations and Business, Forest Soils and Hydrology, and Urban Forestry. Its outreach includes Forestland Owners Education, SHARP Logger, Master Naturalist, Geospatial, and Real Forestry to Real Estate programs.

In order to position ourselves for future challenges/opportunities in learning, discovery, and engagement relating to forestry and environmental conservation, we wanted to have a well-thought out plan. Towards this goal, about a year ago, I have appointed a Task Force (see the box for details) to help us develop FREC Strategic Plan 2020. The Task Force met more than 6 times to discuss and consolidate thoughts. They had a series of deliberations with other members of the department. The draft plan was shared with faculty, staff, and the Advisory Board for feedback.

I am very pleased to share this strategic plan with you!!



Janaki Alavalapati
Professor and Head

Evolution of the Department and College:

- 1930s: Courses in forestry and wildlife
- 1938: First Bachelor of Science degree in Conservation and Forestry offered
- 1959: Department of Forestry and Wildlife was formed in the College of Agriculture
- 1974: Department of Forestry and Forest Products and Department of Fisheries and Wildlife Sciences were formed
- 1976: School of Forestry and Wildlife was formed with two departments
- 1979: Department of Forestry was formed from the Department of Forestry and Forest Products
- 1992: College of Forestry and Wildlife Resources was formed
- 2000: College was renamed as the College of Natural Resources
- 2009: Department of Forestry was renamed as the Department of Forest Resources and Environmental Conservation
- 2010: College of Natural Resources was renamed as the College of Natural Resources and Environment

Task Force

Dr. Tom Fox (Chair)	Dr. Kevin McGuire
Dr. Greg Amacher	Dr. Marc Stern
Dr. Jason Holliday	Dr. Val Thomas
Dr. John Munsell	

Introduction

Virginia Polytechnic Institute and State University is a public land-grant university serving the Commonwealth of Virginia, the nation, and the world community. The discovery and dissemination of new knowledge are central to its mission. Through its focus on teaching and learning, research and discovery, and outreach and engagement, the university creates, conveys, and applies knowledge to expand personal growth and opportunity, advance social and community development, foster economic competitiveness, and improve the quality of life. The Department of Forest Resources and Environmental Conservation in the College of Natural Resources and Environment plays a central role in this mission.

The Department of Forest Resources and Environmental Conservation (FREC) is one the preeminent academic programs in the world focused on advancing the science of sustainability by 1) educating the future leaders in forestry and environmental resource management, conservation, and science; 2) discovering the basic and applied knowledge needed to sustainably manage forest ecosystems and provide science based solutions to the issues facing society; and 3) engaging with multiple stakeholders, including landowners, industry, governmental agencies, non-governmental organizations, and the general public to help make better decisions that solve the forestry and natural resource problems facing in the state, , the nation and the world.

The Department of Forest Resources and Environmental Conservation offers B.S., M.F., M.S., M.N.R., and Ph.D. degrees. Bachelor of Science degrees are offered in Forest Resources and Environmental Conservation (FREC), and Water: Resources, Policy, and Management (WRPM). The department approaches forestry and natural resources issues from a multidisciplinary perspective and offers multiple majors and options. The undergraduate major in Forest Resources and Environmental Conservation include options in Forest Resources Management, Forest Operations and Business, and Urban Forestry. The Environmental Resource Management major offers options in Environmental Resource Management and Watershed Management. The Natural Resources Conservation major provides options in Conservation and Recreation Management, Environmental Education, and Natural Resources Science Education. A new major in Environmental Informatics has recently been developed as well.

The Department has diverse, passionate, and productive faculty and staff dedicated to mentoring and assisting students through experiential learning. The faculty conducts basic and applied research using the latest tools and techniques to advance the science of forestry, environmental and natural resource management and conservation. This forms the basis for a focused translational research program, often conducted by interdisciplinary teams, that engages the faculty with stakeholders throughout the Commonwealth and the world to develop practical solutions to the complex natural resource issues facing society.

Vision

To be a leader in developing science based understanding and sustainable management of forest ecosystems, the natural resources and services they provide, and the social systems they support in the Commonwealth, the nation and around the globe.

Mission Statement

The mission of the Department of Forest Resources and Environmental Conservations is to prepare the future generation of natural resource professionals, managers and leaders, to conduct the basic and applied research needed to solve the complex natural resources issues facing our planet, and to transform this research into knowledge and tools that citizens, communities and organizations across the state and around the world can use to sustainably manage forests and environment.

Program Direction

The strategic priority for the Department of Forest Resources and Environmental Conservation is to maintain its existing core strengths in forest resource management and natural resource conservation and to build on emerging areas such as water resources, environmental informatics, biotechnology, forest health and sustainability.



Specific Goals

Goal 1: Support the faculty endeavor and grow the size and quality of the faculty and staff.

Strategies:

1. Maintain an inclusive and collegial atmosphere in the department where all faculty and staff feel welcome, respected and valued.
2. Ensure that junior faculty in the department are adequately supported and mentored so that they can succeed in their careers.
3. Maintain key programmatic strengths in the department when existing faculty retire or leave the university.
4. Create and fill new tenure track faculty positions that address programmatic gaps and emerging areas that align with the University Plan for a New Horizon.
5. Add departmental staff positions to increase administrative and technical support of the outreach, teaching, and research missions of the department.
6. Create a pool of funds to support faculty travel and involvement associated with exploring new learning, discovery and engagement initiatives, including international activities.

Goal 2: Increase undergraduate enrollment by 25% by 2020 while enhancing the quality of the Virginia Tech experience for students.

Strategies:

1. Promote and advertise existing and new undergraduate programs in the department at high schools, community colleges and within Virginia Tech to attract high quality undergraduate students to the program.
2. Hire a dedicated undergraduate advisor focused exclusively on the needs of potential and current students in FREC.
3. Highlight programs in the department to attract STEM-oriented students on campus who have not identified a career path or are not able to gain admission to established STEM programs on campus.
4. Increase diversity of undergraduate students in the department.
 - A. Develop private support for funding of scholarships that provide financial support to attract underrepresented groups to the departmental programs.
 - B. Develop 2+2 program with the Virginia State University.
5. Actively promote the minors in Forestry, Urban Forestry, and Natural Resources Recreation and create new minors in other programs to attract students from other colleges who have an interest in these areas.
6. Improve the quality of existing courses and instructions through peer-review, curricula review, participation in Networked Learning Initiative, and introducing new technologies and techniques in the classroom.
7. Enhance existing opportunities for undergraduate research and experiential learning.
8. Continue to develop and support undergraduate courses, including first-year experience and

- on-line courses, that interest and attract a broad student base.
9. Increase participation of undergraduate students in the CNRE Leadership Institute, the University Honors Program and similar programs across campus that enhance the educational experience of our top students.
 10. Expand participation in study abroad and international exchange programs.

Goal 3: Enhance the impact of the departmental research and increase expenditures and outputs by 25% by 2020.

Strategies:

1. Explore creation of new collaborative research endeavors, including interdisciplinary efforts, in areas related to sustainable management of forest and environmental resources.
2. Provide seed grants and extra support for faculty in the pre-award phase of discovery.
3. Increase sponsored research on critical regional, national, and international forest resources and natural resource conservation issues and problems.
4. Support faculty to pursue high impact transformative research proposals.
5. Increase department participation in existing and emerging research institutes and initiatives related to sustainability and the environment at Virginia Tech and beyond.
6. Encourage more integration among research, education, outreach and engagement programs to create novel and innovative broader impacts.

Goal 4: Enhance graduate student experience and increase enrollment by 25% by 2020, emphasizing increased enrollment of Ph.D. students.

Strategies:

1. Increase the enrollment of high-quality graduate students, particularly Ph.D. students, in the department.
 - A. Increase the number of university supported Graduate Teaching and Research Assistantships in the Department.
 - B. Develop improved communication tools, including the website and the use of social media, to recruit high quality graduate students.
 - C. Create named fellowships to advance problems driven and curiosity driven research.
2. Develop on-line graduate programs for working professionals.
 - A. Hire a technical person to assist faculty in developing on-line courses, certificates, and graduate degree programs.
3. Address long running concerns with statistical training and writing ability of graduate students through innovative approaches to teaching or hiring.
4. Ensure that graduate students are well mentored, educated, and trained and that they receive experience in teaching, grant writing, research, outreach, and publishing that will make them competitive in the job market.

Goal 5: Enhance outreach and engagement through issues-based external partnerships, inclusive programming, and use of state-of-the-art digital technology.

Strategies:

1. Maintain agency and industry partnerships to support core professional programming such as the SHARP Logger Program, the Virginia Geospatial Extension Program, and the Urban Forestry Gateway.
2. Seek additional resources to strengthen and expand programs such as the Virginia Forest Landowner Education Program, the Master Naturalist Program, Virginia's Link to Education about Forestry (LEAF) program, and the FORSITE youth education programs that serve to educate landowners and the general public on natural resource and sustainability issues in the Commonwealth.
3. Maintain support for the forestry and natural resources specialists within the Virginia Cooperative Extension.
4. Build new partnerships with NGO and private foundations to develop new issues based programs locally and globally.
5. Increase the use of digital technology and remote program delivery.

Goal 6: Improve departmental facilities and infrastructure needed to achieve departmental goals.

Strategies:

1. Increase classroom space to accommodate increasing undergraduate enrollment.
2. Invest in labs, classrooms and offices to improve safety, efficiency, and quality of the learning environment.
3. Improve greenhouse facilities on Virginia Tech campus and at Reynolds Homestead Research Center to strengthen research capacity.
4. Continue to upgrade graduate student, research associate, and post-doc office space.
5. Increase security and improve roads and access on the Fishburn Forest.
6. Develop a new teaching, research and outreach center on the Fishburn Forest.

Outcome Measures and Benchmarks

Progress towards the goals set forth by the Department of Forest Resources and Environmental Conservation is constantly measured using a variety of indicators and metrics. These include internal and external evaluations of our programs such as periodic accreditation reviews.



The success of our efforts in the Learning Scholarship Domain is measured by enrollment levels, increased gender and ethnic diversity of students, performance of incoming students on standardized tests such as the SAT and GRE, scholarships and awards earned by students, course evaluations, teaching awards, number of undergraduate and graduate degrees conferred, placement rate for graduates, salary range of graduates, the performance of our graduates in their professional careers, and feedback provided by potential employers of our graduates.



The success of our efforts in the Discovery Scholarship Domain is measured by the research and scientific stature of the faculty, number and size of external grants received, state support received for research, publications in peer reviewed journals by faculty and graduate students, scientific and broader impacts of research, and participation of faculty in university wide strategic research initiatives.



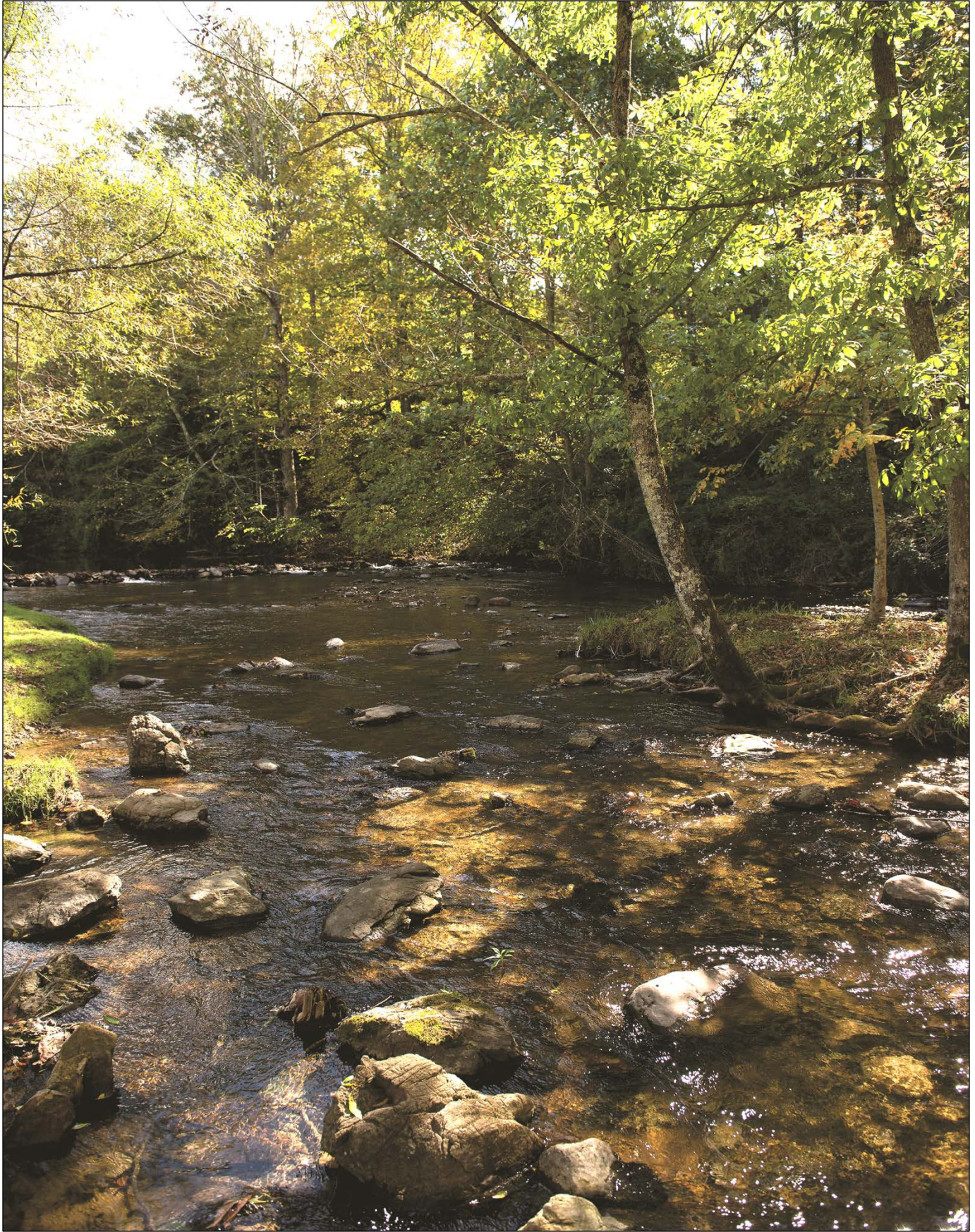
The success of our efforts in the Engagement Scholarship Domain is measured by our continuing education efforts focused on the clients of our programs including professional foresters and environmental managers, loggers, landowners, and youth. The metrics of success include the number of extension and outreach programs presented, extension publications, web sites developed and maintained, and distance education programs developed.



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The success of our Foundation Strategies are measured by the facilities available to students, faculty and staff in the department, both on campus and off-campus, allocation of resources required to fill key faculty positions in critical areas, and the support that is provided for outreach and engagement efforts in forestry.



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