



Update FY11

School of Forest Resources and Environmental Science

Michigan Tech

Peg Gale, Dean

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School of Forest Resources & Environmental Science

Mission-Driven

We foster excellence in forestry and ecological science.

AND

Regionally-focused taking into account the influence of national and global economies & policies

School of Forest Resources & Environmental Science

Who are we?

- Emphases in *Forestry, Forest Ecology, Applied Ecology & Environmental Science, Wildlife Ecology & Management, Forest Molecular Genetics & Biotechnology* (~180 undergraduates & 90 graduate students)
- Instruction is heavily field-oriented and quantitative with emphases on science results/theories
- Some of the things we are known for as a School and our University:
 - ↑ Graduates who have an intensive field applications Fall Camp (14 weeks-one of the longest camps nationally) with other disciplines (forestry, wildlife, and ecology)
 - ↑ Cutting-edge research - interdisciplinary with our Engineering, Business, Technology, and Arts/Social Science colleagues
 - ↑ Great teachers and researchers! 25 faculty, five instructors/lecturers, ~20 research scientists/faculty

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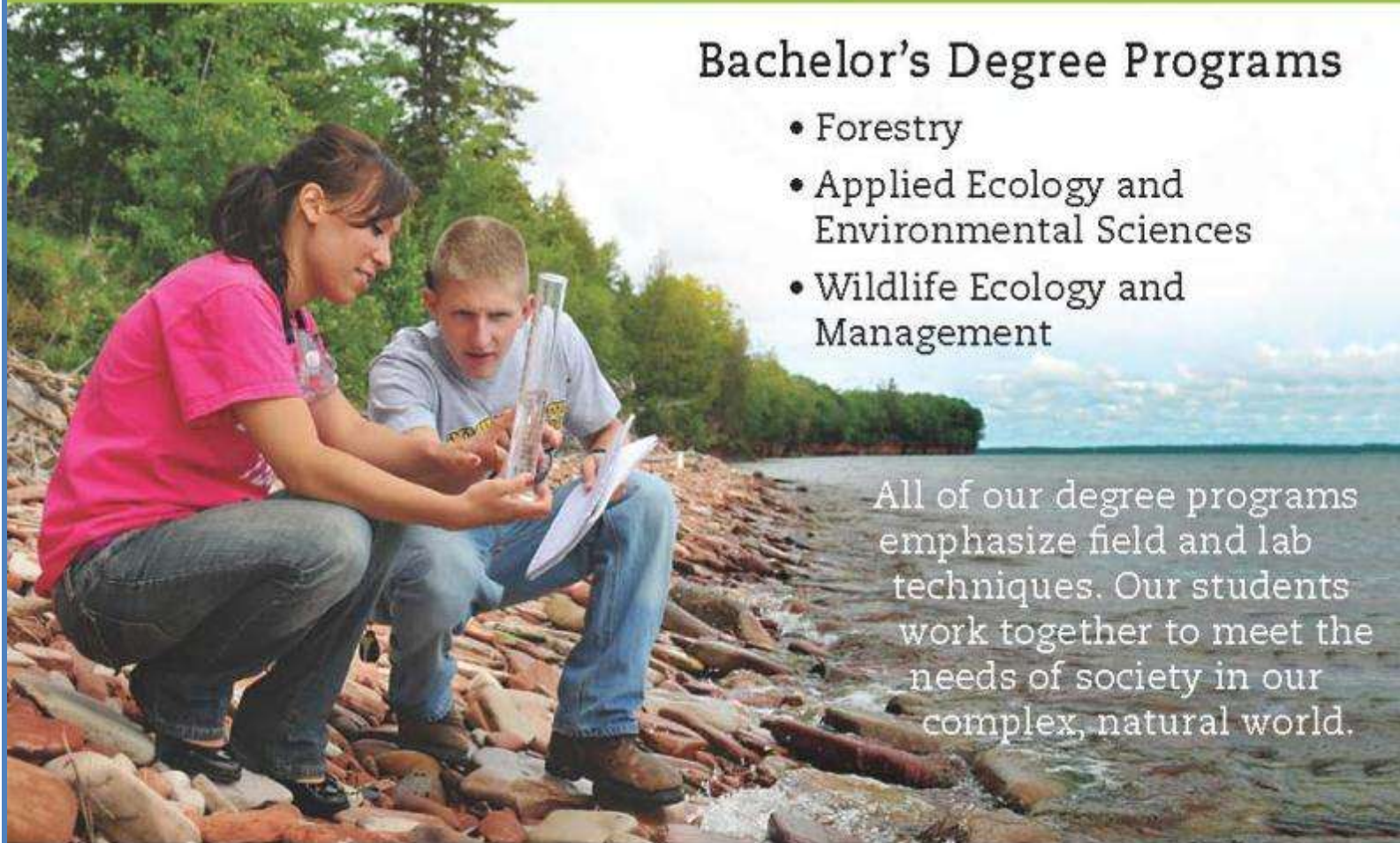
School of Forest Resources and Environmental Science

Michigan Technological University

Bachelor's Degree Programs

- Forestry
- Applied Ecology and Environmental Sciences
- Wildlife Ecology and Management

All of our degree programs emphasize field and lab techniques. Our students work together to meet the needs of society in our complex, natural world.



www.mtu.edu/forest



FY 11 Instructional Highlights

- All BS, MF, and Peace Corps Masters International students attend 14-week integrated field practicum – Tech’s Ford Center, Alberta, MI
- Senior Capstone & Forest Environmental Resource Management (FERM)
- Master’s of Forestry Degree program
- Peace Corps Master International Program in Forestry, Forest Ecology & Management, and Applied Ecology
- 5,426 acres under School management
- Department of Education-European Union ATLANTIS program
- Integration of cutting edge research into our undergraduate classes
 - science based decisions



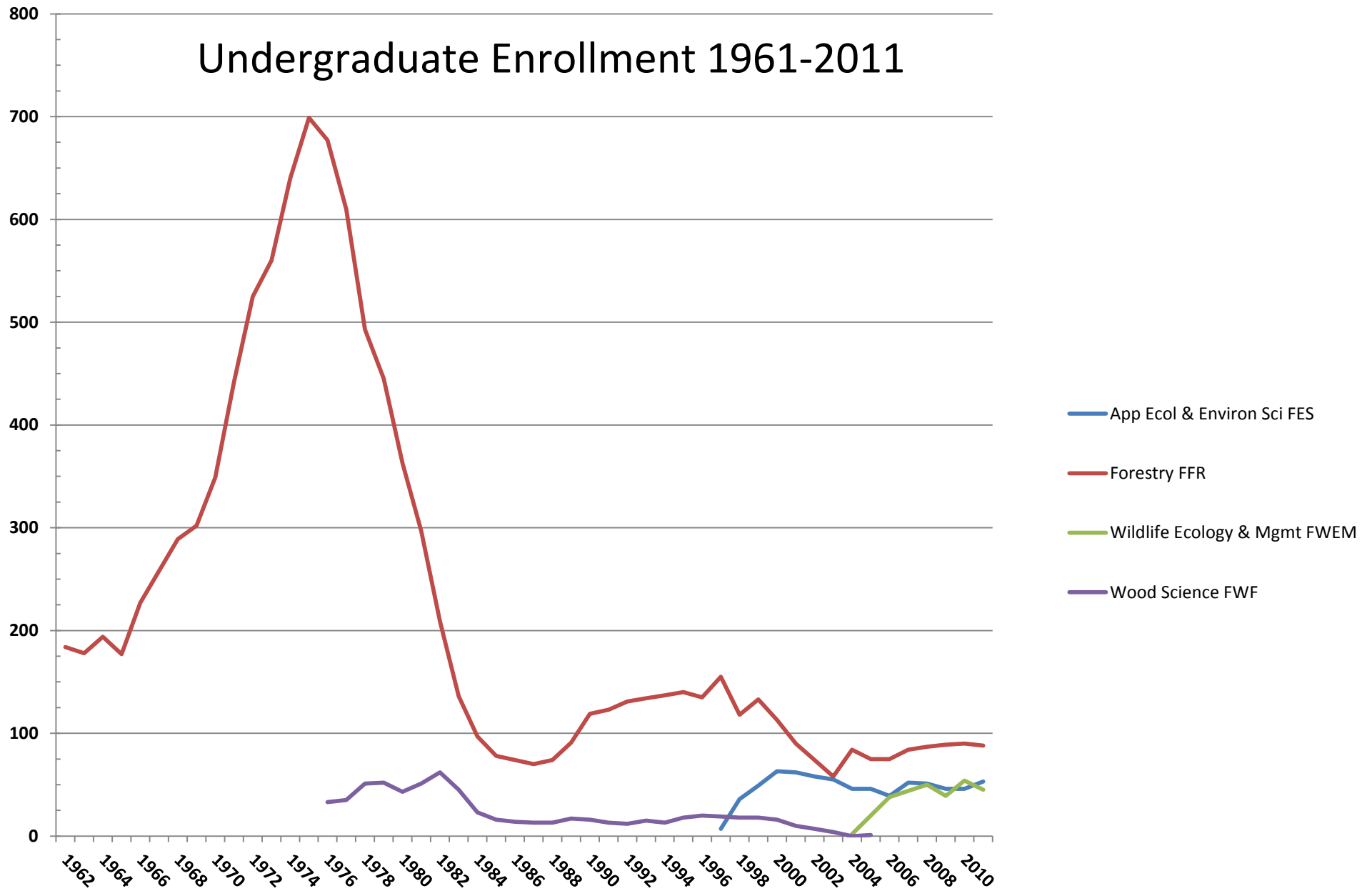
Students in Fall Camp



FY 11 Instructional Highlights

- Over 36% of our alumni reside in Michigan
- Over 56% of our alumni reside in the Great Lakes
- A workshop-based on the exploration, considerations, strategies, and approaches for adaptive silviculture for an uncertain climate – Linda Nagel and colleagues
- Teacher Institutes in Forestry

Undergraduate Enrollment 1961-2011



FY11 Research Highlights

- The School enjoys a strong relationship with other academic units through:

the School's

- Biotech Research Center
- Ecosystem Science Center and

the University's

- Sustainable Futures Institute
- Transportation Institutes
- Center for Water and Society

- Research funds available in FY11 - \$27.2 million
- Research expenditures in FY11 - \$8.8 million



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Education & Research Expertise

**Biotechnology,
Molecular Genetics,
Genomics, &
Wood Utilization**

**Forestry,
Forest & Wildlife
Ecology &
Ecosystem Science**

Quantitative Science



Some Recent Research Projects

with Undergraduate or Graduate student participation

- *“Aspen FACE (Free-Air Carbon Dioxide Enrichment) Experiment – assessing the effects of increasing tropospheric ozone and carbon dioxide levels on the structure and function of northern forest ecosystems”*



- *“Wolf-hunting dog conflict in the Upper Great Lakes Region”*
- *“Poplar Genome Based Research for Carbon Sequestration in Terrestrial Ecosystems. Genome-enabled modification of poplar root development for increased carbon sequestration”*

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Some Recent Research Projects

with Undergraduate or Graduate student participation

- *“Large Area Characterization of Wildland Fire Fuels Across Space and Time via Biophysical Modeling and LiDAR Remote Sensing”*
- *“Compliance with Wetland Mitigation Standards in the Upper Peninsula of Michigan”*
- *“Development of New Organic Soil Survey Methods for Determining Carbon Storage in Northern Great Lakes Peatlands”*
- *“Spalting of Sugar Maple for non-traditional forest products”*

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Recent Research Projects

with Undergraduate or Graduate student participation

- *“Multi-criteria risk model for garlic mustard (Alliaria petiolata) in Michigan’s Upper Peninsula”*
- *“GK12 Global Watershed: Integrating Rural and Global Perspectives with Research and Technological Advances “*
- *“Expected Rates of Value Growth for Individual Sugar Maple Crop Trees in the Great Lakes Region”*
- *“Emerald ash borer risk based detection survey in Wisconsin and Northern Michigan”*

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Recent Research/Outreach Projects

with Undergraduate or Graduate student participation

- *“Patch selection by wintering white-tailed deer: consequences for eastern hemlock regeneration at local and landscape scales”*
- *“A comparative systems biology approach to elucidate resistance mechanisms of ash trees to EAB”*
- *“Enhancing Tools and Geospatial Data to Support Operational Forest Management and Regional Forest Planning in the Face of Climate Change”*

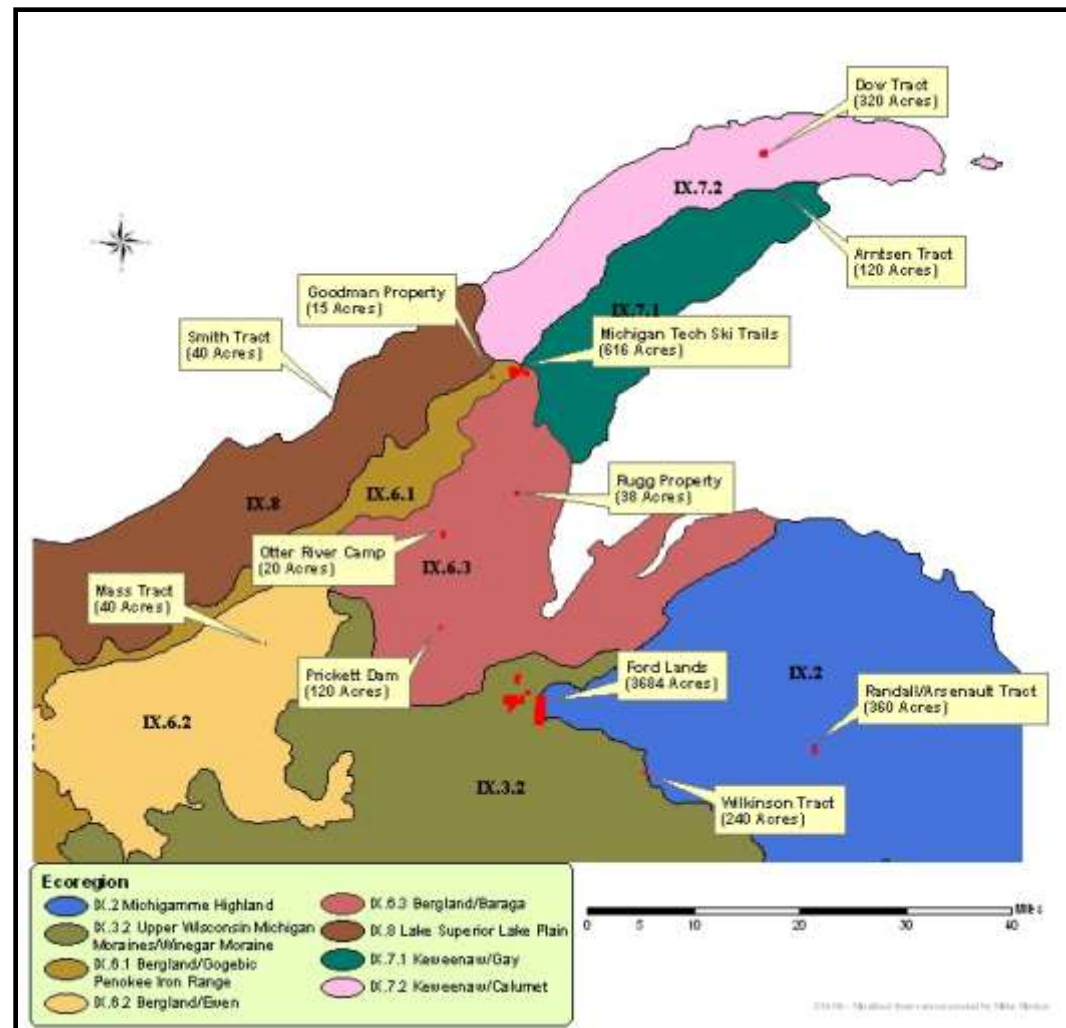
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School of Forest Resources & Environmental Science

Education & Research Expertise

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Oversee Michigan Tech's Ford Center, Alberta, MI and Ford Forest – 5,426 acres of land that Tech owns – “Jewel in the Landscape”





Areas of Distinction

- Maintain strong outreach programs (such as National Advanced Silviculture Program and National Institute of Applied Climate Science)
- Our efforts to connect with K-12 students and teachers – forestry, maple syruping, etc.
- New research efforts - Making connections between atmosphere and biosphere; Biofuels integrated approach (full life cycle analyses); Ecogenomics in plants and animals; Sustainability; Remote sensing; Wildlife dynamics across landscapes; Degradation processes of bioproducts; Canopy ecology; Remote sensing using LIDAR; and Peatland ecology
- Partnership with Forest Service – Northern Institute of Applied Climate Science

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Areas of Distinction

- Seven School Faculty have received Tech's Distinguished Teaching Award (given to one person per year) – Andy Burton nominated FY12
- Six School Faculty have received Tech's Research Award (given to one person per year) – Andrew Storer FY12

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Questions?

