



Graduate Education for Future Natural Resource Educators, Scientists, and Professionals

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Today's Symposium

- Gives our graduate students a chance to present their research
- Respond to questions and engage in discussion
- Will lead to a better understanding of the research activities throughout the College
- Demonstration of contribution to College mission/vision

Changes Effecting Graduate Education

- Paradigm shift in natural resource management, resulting in
- New agenda for graduate education in 21st Century

Shifting Management Philosophy

- 20th Century
- Agricultural Model
- Utilitarian foundation
- Output oriented
- Stand level
- Timber primacy (sustained yield)
- Multiple use
- Fundamental research
- 21st Century
- Ecosystem Model
- Eco-centric
- State oriented
- Landscape view
- Multi-resource (sustainability)
- Integrated use
- Integrative research

Why a Paradigm Shift?

- Changing societal values of a growing, affluent, and urbanizing population
- Growing awareness of the ecological and environmental implications of climate change and globalization
- Concern over loss of biodiversity in managed forests, fragmentation, invasive and endangered species, wildfire, water, and forest health

Why a Paradigm Shift?

- Recognition that we live on a human dominated planet
- Ecosystems do not attain a stable equilibrium but, instead, are open systems always in flux
- Both natural and man-caused disturbances play a significant role in ecosystem health

21st Century Environment

- Reducing risk of forest loss may replace productivity as the principal concern of resource managers
- Increasing forest resiliency for sustainability will grow more important and requires new knowledge
- Suggests that graduate education must change to keep pace



Our Academic and Research Programs

- Stress key principles and processes that explain the behavior and interaction of biotic and social systems along gradients from highly to minimally impacted terrestrial ecosystems
- Focus on the interaction between nature and humans with a synthesis of scientific knowledge related to natural resources and environmental sustainability



Our Academic and Research Programs

- Emphasize:
 - Integration
 - Interdisciplinarity
 - Collaboration (on and off campus)
 - Team-approach
 - Operate across multiple geographic scales, and cover the urban to rural gradient

McIntire-Stennis Strategic Plan (2007)

- Major components
 - Foundation areas of knowledge
 - Emerging and integrative areas of knowledge
 - New science of integration
 - Forest ecosystem services
 - Human attitudes and behavior
 - Conflict, uncertainty and decision-making
 - Technology advancements and forest applications
 - New applications for forest products
 - Urban ecosystems

Source: Sustaining Healthy and Productive Forests, NAUFRP, 2007 (www.naufrp.org)

Graduate Education in 21st Century

- Integrate social and ecological issues holistically
- Maintain disciplinary depth and provide greater breadth
- React to rapid change in an uncertain world
- Collaborate in an interdisciplinary environment
- Support development of a new science of sustainability to integrate ecological and economic approaches in a socially acceptable manner

The End

- I wish you success today as you address many of these concerns and issues within a holistic framework