

UMaine's School of Forest Resources is an important source for information and new research on some of Maine's most challenging forest management and environmental questions. In trying to balance our own forest management and conservation objectives, The Nature Conservancy often turns to the research of faculty whose work is made possible, in part, through the McIntire-Stennis Program.

— Bill Patterson  
Northern Maine Program Manager  
The Nature Conservancy

### Impact on UMaine's Forestry Faculty

For 50 years, M-S has allowed UMaine faculty to address critical forest resource challenges.

*I was pleased to find that under McIntire-Stennis support I could explore forest research that best matched my talents and interests with the needs of Maine and beyond. This new freedom enhanced my productivity. It also provided me with a base of support from which I could launch collaborative research projects with state agencies, federal forest research laboratories in the U.S. and Canada and with researchers at other universities.*

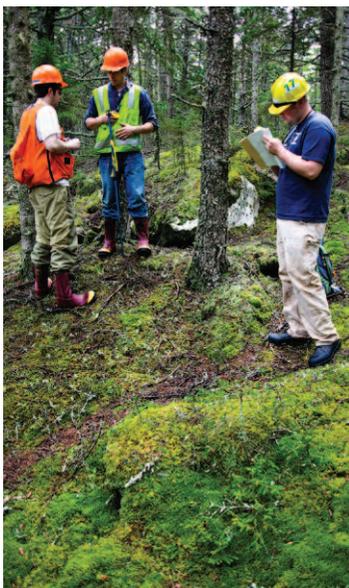
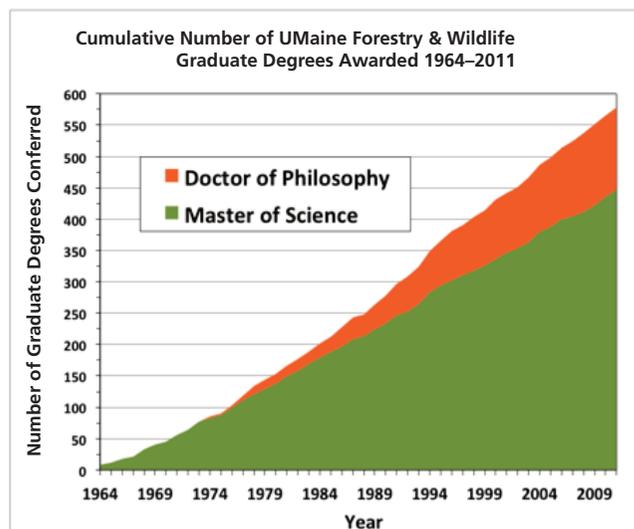
— Dr. Richard Jagels  
UMaine Forestry Professor, 1979-2010

*McIntire-Stennis funding not only paid part of my salary, but aided collaboration with colleagues in other academic departments, and together we pioneered in the application of recombinant DNA methods to examine changes in gene expression with tree age.*

— Dr. Mike Greenwood  
UMaine Forestry Professor, 1984-2009

### Impact on UMaine's Graduate Students

A key part of the M-S program has been providing support for graduate student research in forest resources. Since the start of the M-S program, UMaine has produced 447 master of science and 131 doctoral degrees (578 total). Most of these students have gone on to provide state-of-the-art forest management across the U.S. and around the world. These trained professionals would not have been possible without the M-S program.



Former UMaine graduate students explain the importance of the M-S program to their graduate education:

*The support I received from a McIntire-Stennis grant during my graduate education allowed me to focus my time and energy on my research project. McIntire-Stennis support gave me the opportunity to pursue an advanced education in forest ecology.*

— Sarah M. Butler, M.S.  
Research Assistant  
Harvard Forest, MA

*McIntire-Stennis helped purchase equipment to sample vegetation and soils at the Pine Barrens. This funding was especially useful in purchasing a time domain reflectometer for measuring soil*

*moisture — a piece of equipment that cost more than my annual salary as a graduate research assistant.*

— Dr. Carolyn Copenheaver  
Associate Professor of Forest Ecology  
Virginia Tech, Blacksburg, VA

### Conclusion

In the past 50 years the M-S program has clearly had a profound impact on forestry research and education in Maine and across the nation.

Steve Schley, President, Pingree Associates, summed it up best for Maine:

*McIntire-Stennis supports research efforts at UMaine and, in doing so, supports the opportunity for innovative thinking and training for both undergraduate and graduate students. We are in the midst of a hiring surge, replacing retiring foresters with a new class, 100 percent of whom come from the UMaine School of Forest Resources. Your school prepares foresters for in-woods forest management, not just theoretical consideration of environmental theories. I am convinced that current research taking place at UMaine will make Maine a leader in the wood-to-energy markets/economy, strengthening our ability to be more self-sufficient and trade globally.*



[forest.umaine.edu](http://forest.umaine.edu)

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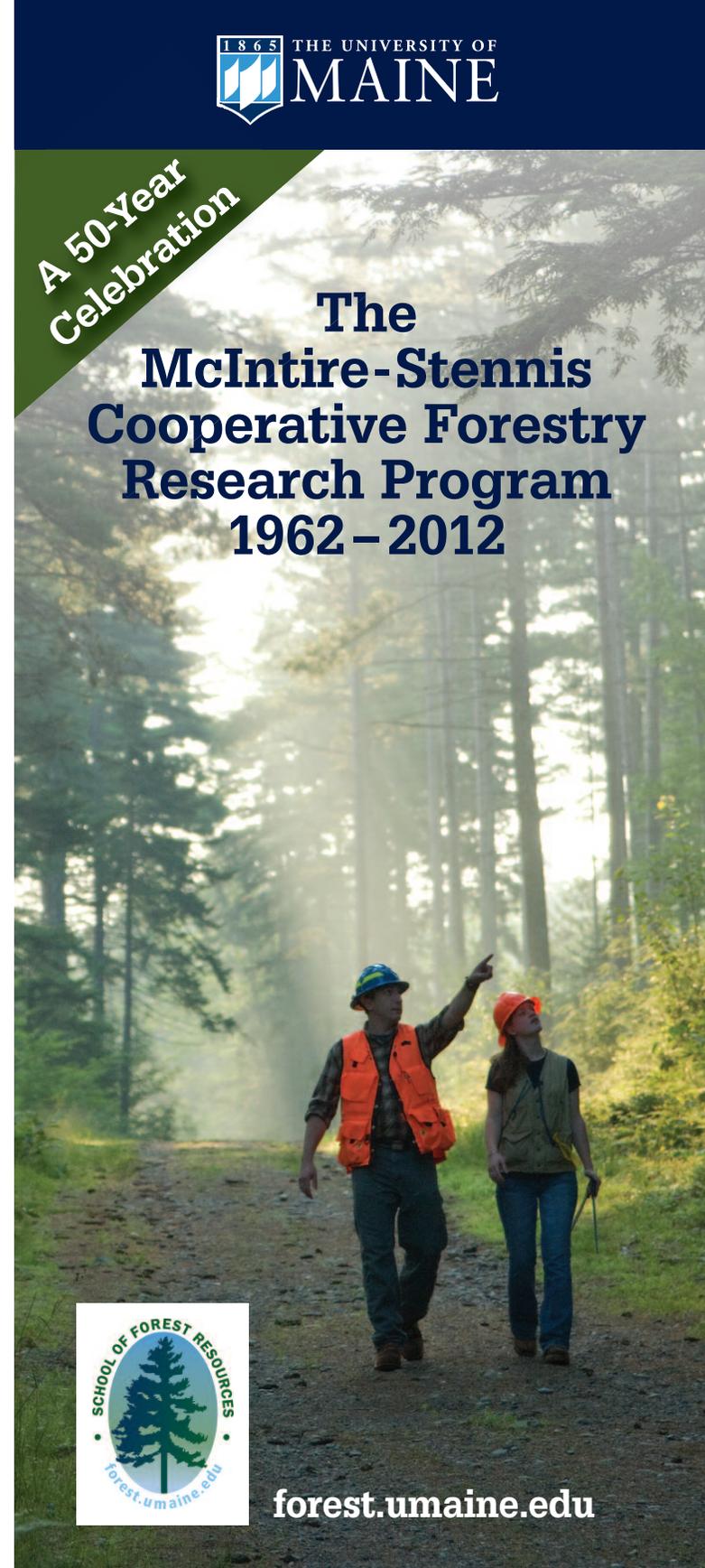
The University of Maine is an equal opportunity/affirmative action institution.

One of Maine's public universities



**A 50-Year  
Celebration**

# The McIntire-Stennis Cooperative Forestry Research Program 1962–2012



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## A 50-Year Celebration

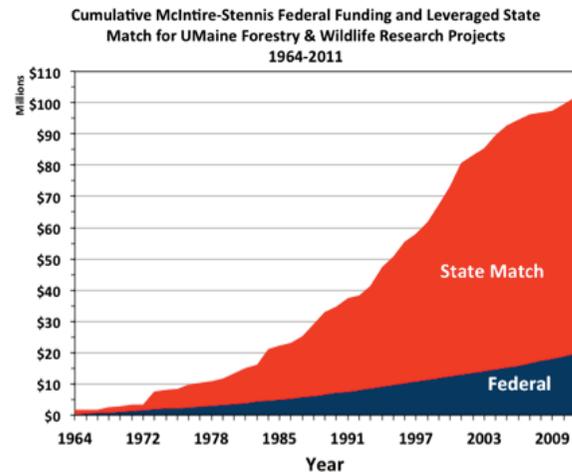
### The McIntire-Stennis Cooperative Forestry Research Program 1962-2012

- The McIntire-Stennis Act of 1962 provided the largest investment in forestry research and graduate education in U.S. history.
- An idea developed at the University of Maine, it has been a driving force for improving management of the nation's forests for 50 years.

#### A Federal and State Partnership

McIntire-Stennis (M-S) funding provided by the federal government leverages matching funds from the states using a formula. These funds are used to support university faculty and graduate students for specific forest research projects.

A small amount of federal M-S funds stimulates a substantial investment from the state. For example, since the start of the M-S program, Maine has received \$19.6 million in federal funding and matched it with another \$82 million, for a total investment in forest research and graduate education of over \$101 million.



#### Impact on Maine's Forests

M-S funding has supported nearly 200 research projects in Maine since 1964 and doubled the number of UMaine forestry faculty that would have been possible otherwise.

Advances from faculty research have immeasurably improved the health of Maine's forests and the economic value of forest products to Maine's people.

#### Key accomplishments of M-S research in Maine over the past 50 years include:

- Understanding how to manage the devastating spruce budworm outbreak of the 1970s and '80s
- Development of many new wood products at UMaine's Advanced Structures and Composites Center
- Improved reforestation technology for harvested forestlands
- Understanding how acid rain affects the health of Maine's forests
- Understanding the forest habitat needs of the threatened Canadian Lynx
- Development of better ways to predict the future growth of forest stands
- Understanding how to manage Maine's forests for American Marten habitat
- Understanding the factors affecting the productivity of Maine's forests

#### Impact on Nation's Forests

The M-S program has not only had a profound impact on Maine's forests, but a much larger impact on forests across the nation. The M-S program supports university research and graduate education programs in all 50 states, improves forest stewardship across the U.S., and helps the nation's forest products industry maintain a competitive advantage in global markets.

The M-S program helped make possible:

- Termite prevention and control methods in Hawaii that save the state's residents over \$30 million per year
- Reestablishment of Peregrine falcons on cliff habitats in Kentucky
- Development of glue-laminated beams that save \$60 million per year in raw material costs in the Pacific Northwest
- Development of guidelines that helped restore 300,000 acres of Mississippi bottomland hardwoods

#### Impact on Nation's Forestry Education

The M-S program has also helped produce thousands of trained scientists and other forestry professionals. Since initial funding in 1964, the M-S program has produced more than 8,000 master's degrees and 2,400 doctoral degrees (an estimated 37 percent of all graduate degrees in forestry) in the United States. Indeed, many universities would likely not have forestry research and graduate training programs today if it were not for the M-S program.



#### A Maine Beginning

The idea for the M-S program was developed on the University of Maine campus around 1960. UMaine College of Forest Resources Dean Emeritus Fred Knight (1972-90) talked about the beginning of the M-S program:

*I met with Clifford McIntire. Discussions had been going on for several years at national forestry meetings regarding the low level of support for forestry research. Clifford McIntire met with Al Nutting (former UMaine School Director) several times to discuss the idea of a separate source of funding for forestry research. Representative McIntire obtained support from Mississippi's Senator Stennis to be the sponsor in the Senate, thus the legislation became the McIntire-Stennis Bill. The bill became law in 1962.*

#### Impact on Maine's Forest Managers

M-S sponsored research at UMaine has helped foresters across the state improve management of their forestlands.

*The most important role UMaine research played during my career was during the spruce budworm era. When the outbreak occurred, there was little in the record to help us. UMaine taught us about instars, the timing of spray applications, the desirability of BT instead of DDT, the role of fir trees in the creation of the epidemic, and how to manage the forest to reduce the impact of future outbreaks.*

— Bradford Wellman  
Former President, Pingree Associates

*Maine has the hardest working forest in New England. [They] are rated sustainable by any type of measurement. Without the research to support this level of utilization, our forest would not be available to support an expanding and thriving forest industry.*

— Doug Denico  
Director, Maine Forest Service

*Basic and applied research has given us analytical tools for modeling and spatial analysis. Applied research done cooperatively with the industry has created most of the knowledge base that we rely on to manage young stands. Research has also increased our knowledge base on the management of wildlife habitat and riparian zones.*

— Peter Triandifiliou  
VP of Woodlands, Huber Resources Corp.