

A BLURB FROM THE JUNIORS

BY HUGH VIOLETTE & MAGGIE BURKE
FOREST OPERATIONS SCIENCE & FORESTRY

Maggie Burke: There I was...

Hugh Violette: Sitting in room 102 listening to Al Kimball discussing the role of a Forester.

M: I won't lie, he had me a little worried. I hadn't taken FTY 107 and softwoods could be distinguished from hardwoods and that was about it.

H: Right from the start Al focused on orientation, by which I mean map and compass. One of the first questions he asked the class was: where do you hold a compass in reference to your body and undoubtedly a student would shout out...

M: Where I can read it!

H: And then Al would give the classic response as to why compasses have mirrors attached to them.

M: And it's not for looking pretty. Al's always good at explaining the practical stuff in a practical manner. He kept us on our toes and a smile on our faces, and he still does.

H: While Al's class provided us with useful and common forestry know how, Dr. Brann's Forest Statistics class proved to be the real number cruncher.



This is what happens after 24 hours straight in Nutting Hall.

M: I've been known to be late to classes, but nothing compared to Brann's complete absence from class due to a little snooze and a broken choo-choo train clock!

H: For some of us the class proved to be way over our heads...

M: Yup, it didn't kick in until sophomore year, I'm sure glad it finally did though...

H: Upon entering my sophomore year, I remember how fellow forestry students forewarned me about Louis Morin...they all said his classes were extremely difficult...



M: But a wicked high score on my first Surveying test proved otherwise for the *time being*.

H: For some reason I have vivid memories of going out in the University Forest to complete and REDO labs numerous times in the freezing cold.

M: I remember the first day of lab in t-shirts, we finished up on a Saturday with hats and gloves on and snow on the ground. Remember that time Hugh, when we had to go out and GPS the trails on our survey block? We anticipated getting out there a little earlier than we did and reading the GPS screen in the near dark got kind of hard. So, having your "trusty True Value" lighter on you solved our problems and we were able to read the screen (if it was held at just the right angle). A little annoyed, we went back to Nutting Hall and told Louis about our mishap. Long story short, we both know where the light button is on the Geo Explorer and I don't plan on forgetting it anytime too soon.

H: Little did I know, a semester later we would be in that exact same block completing an intensive cruise for Andy Egan in Advanced Forest Measurements, and I must say there was no GPS used in the dark!

M: But there was a lot of "maneuvering" around the pond and all in all we managed to get all our points done...rain and a bit of shine.

H: On one late spring day in Andy's lab, I remembered one thing in particular and that was the pond...ice was still on the pond but starting to turn black. For some reason Andy was given the impression that some groups or individuals were going to walk across the ice in order to complete the cruise. So, in the very next class period Andy made a point to say that "under no circumstances" were we to go on the ice.

M: And some of us didn't! Andy's class brought Brann's and Al's classes together...felt like we were getting somewhere.

H: And somewhere was knee deep in ecology and silviculture.

M: These classes shared a lab and the workload sure did show that.

H: I must say at times it felt like we were taking classes in the Lake States...for some reason our silviculture instructor had the impression that we were in the Midwest!

M: The labs helped me demonstrate some understanding for Silviculture and Ecology, while the tests...not so much. Though "silvi-torture" and Ecology lab took its greatest toll on the Junior class's sleep schedule, we were grumpy and fed up with computers as a whole by the end of this past fall semester.

H: Both Silviculture and Ecology proved very trying at times, but in the scheme of things have proved to be key as I continue to gain knowledge and experience in the field of Forestry.

M: As we write this "article" we should be studying for Forest Economics and Watershed...well, maybe tomorrow.

H: As we have started to prepare for our first Economics exam Dr. Field has pointed out that old tests may be easy to come by but and I quote "be careful studying old tests, because sometimes I ask the same question and just change the answer." So, needless to say we shall be "very careful" in studying for our first exam!



What's wrong with this picture?

Conclusive thoughts by Hugh Violette

As I look back over the last three years, my mind keeps wandering back to the "best of times." The "best of times" would include the Forestry Summer Camp of 2002 on Mount Desert Island, the countless hours spent in the field for Surveying, the late nights dedicated towards GIS, Silviculture, and Ecology, and by far the "best of times" were spent with fellow colleagues and friends. It's hard to believe that working relentlessly on GIS, Surveying, Silviculture, and Ecology projects would be considered the "best of times," but in my mind it was those trying

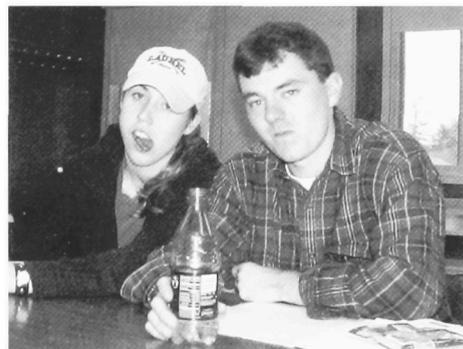
moments that have and will continue to provide me with the skills I will need to succeed in life. Regardless of what field I choose to enter, the skills I have gained will provide me with the work ethic and basic life skills so many lack.

Conclusive thoughts by Maggie Burke

I wandered into this program two years ago, as a "late starter" – having been one of the thousands of undecided students on campus, I found something I enjoyed a semester into my freshmen year, Forestry. Now with two years and a variety of courses behind me, I find that maybe I am just as undecided as I was when I first set foot on this campus. Some may say that's a horrible thing, I disagree. Though only a couple years have gone by, my eyes have thought and my mind has seen that there is a whole lot "out there." Professors have taught more than their stated course outline. They have taken the time, their time, to surpass the expected so that maybe somewhere along the way, we will too.

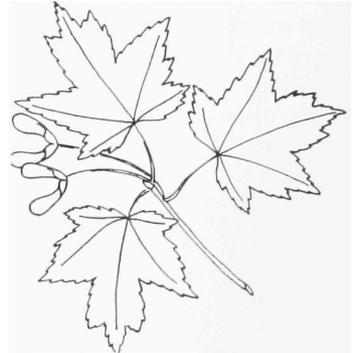
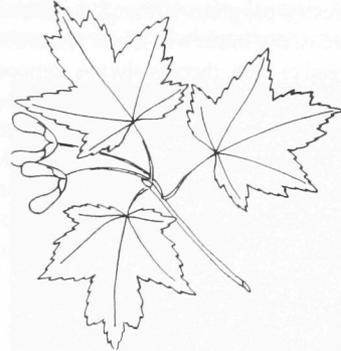
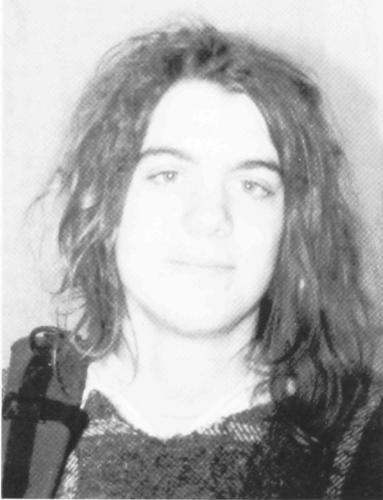
So, on a level somewhere between the realm of class and outer-Nutting Hall I have come to a realization that there's an unimaginable amount of places I can go with the experiences I've gained inside the "classroom," as well as out. What I've found most important over my few years in the Forestry program is that I've learned how to use my resources, my brain will never remember all that I've heard or read or seen, there is always someone willing to answer a question somewhere, that sometimes *there simply is no answer but just another question*, and learning is infinite as long as one desires. I've found this in offices, pass-by remarks in the hall and on the outskirts as well as deep in the woods. Learning is always about more than what it seems at the time; I guess it's never too late to realize that.

There we were...here we go.

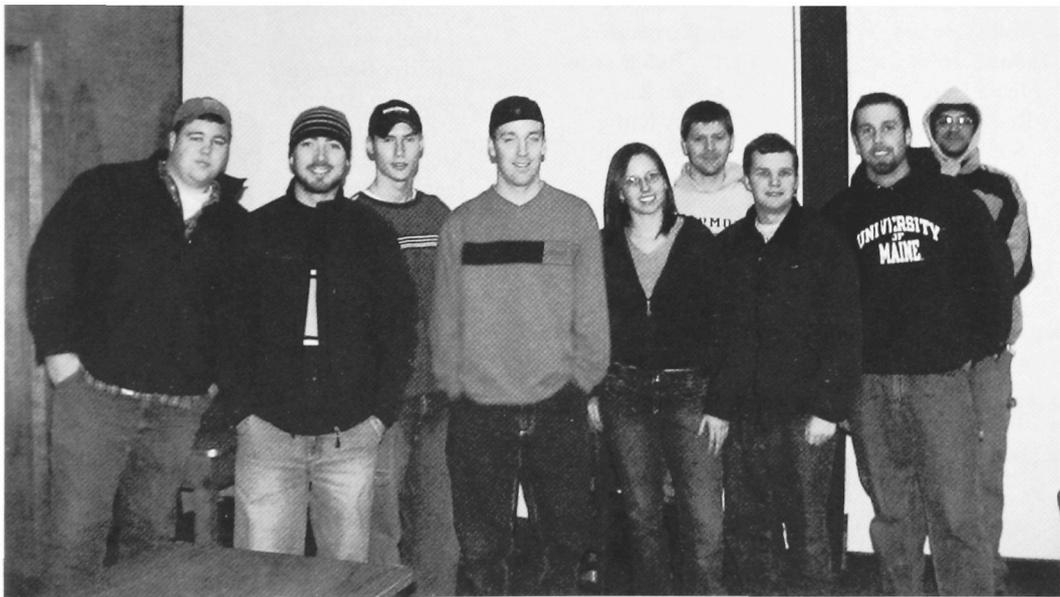
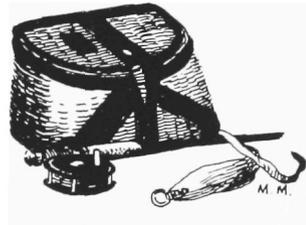


"No really we're okay."

FOREST ECOSYSTEM SCIENCE (FES)



PARKS RECREATION AND TOURISM (PRT)



FES

Jennifer Becker
Joshua Caron
Keri Crean
MorganCottle
Brian Curry
David Ginsberg
JessicaHudec
Matthew Kasson
Catherine Kropp
Elicia Landry
Sarah Lemin
Frank Mackinson
Blanka Peridot
Seth Rifkin
Matthew Swartz

WSC

Nicholas Baser
Matthew Plungis
Jason Stevens
Keith Trask

FSC

Brian Berube
Thomas Bessey
Joshua Bubier
Thomas Coleman
Jesse Duplin
Rory Eckardt
Sean Fallon
John Fogarty
Edward Fortin
Brian Hanlon
Matthew Howard
Ryan Lister
Daniel mMcCracken
Timothy O'brien
Aaron Richie
Joshua Roy
Hugh Violette
Matthew Avery

FTY

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Tyler Alexander
Simeon Allen
Laurie Anderson
David Andrews

Wally Archer
Ross Banach
Nicholas Baser
Jeremiah Beach
Justin Bean
Carl Bickford
Jared Boucher
Brian Brady
Chandler Buie
Kyle Burdick
Devon Burgess
Maggie Burke
Chris Byrnes
Jeremy Caggiano
Jessica Campbell
Eric Castonguay
Bob Chandler
Darren Cole
Ross Congo
Robert Cousins
Patrick Cowan
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Willam Devore
Brett Gerrish
Douglas Greve
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Chad Hayes
Jake Heinemeyer
Gretchen Heldmann
Scott Hennessey
Dana Hermanson
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Nathan Kay
Gregory Kirby
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John Leso
Paul Levesque
Clint Libby
Frank Mackinson
Mark Mancini
Kathryn Manende
Benjamin Martinelli
Thomas Mason
Mark Matthews
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Adam Nicak
Benjamin Nottermann
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Joseph Orefice

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Chris Sellevold
Andrew Shaffer
John Shields
Wade Shorey
Molly Simonson
Alexander Stace
Joseph Stevenson
Brian Stoddard
Tracy Swan
Megan Sweeney
Timothy Taylor
Micheal Tippet
Jeffrey Tudor
Aneal Virick
Christopher White
Christopher Wolf

WLE

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Wally Archer
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Lindsey Fenderson
Shannon Fitzpatrick
Sarah Folsom
Nicholas Fortin
Patrick Gleason
Jason Godbout
Justin Gott

Tyler Grant
Rose Graves
Eric Hanson
Samuel Heffner
Darian Higgins
Kurt Hood
Curtis Johnson
Nathan Kay
Erin Kennedy
Steven Knapp
William Korth
Catherine Kropp
Kevin LaChapelle
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John MacLaine
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Adam mMckay
Caleb Mcnaughton
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Matthew Lambert
Ryan Ligon
Michael Lincoln
Scott Malicky
Kevin Martin
Sean Mcauley
Eva Mclaughlin



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Ross Timberlake
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Kyle Vosmus
Jennifer Wachtl
Dan Walker
Nicholas Walters
Benjamin Watson
Matthew White
Stephen Williams
Thomas Williams
Ian Woelfel
Mallory Young
Tabor Young
Harlan Small
Emma Pope-Welch
Kristina Wyman



FORESTRY SUMMER CAMP 2003

BY MOLLY SIMONSON
FORESTRY & WILDLIFE ECOLOGY

In the course catalog, the FTY 241 description begins with “Three-week intensive field training.” I’d rather call it a “three-week intensive field fun.” Sure it took away some of our summer, but it was worth it for the experiences. Granted, some students already had familiarity with what we did. For those with none, like me, it was a tremendous step up in realizing what forestry is all about.

As with the past several summer camps, this was broken up into two sections. For the first week we remained in the area around the university. Most of the second two weeks were spent on Mount Desert Island at the Appalachian Mountain Club (AMC) lodge on Echo Lake, with a three-day overnight trip to Jordan Island off the coast. We learned valuable skills on running equipment, chainsaw safety, cutting trees, measuring stands, playing wiffleball, and cooking mussels. Louis and Al worked hard to give us the best experience they could. The biggest reason



“Do these jeans make my butt look big?”

summer camp is a success is that students get individual time with each activity. Half an hour was allotted for every piece of heavy machinery there was to operate.

The learning experiences took its toll sometimes though. My personal favorite was the bent grapple on the forwarder; surely a result of one of those “Hey what happens if I do this?” situations. No one is quite sure who did it, however there was a certain teaching assistant that came up with an equally remarkable solution. A twisted post on the bunk was all he had to show for his idea.

Of course, it wasn’t all fun and games. There were some serious decisions that needed to be made. For example, Spaghettio’s again or switch it up with a ham sandwich? Go watch the sunset on Cadillac Mountain or have fun in Bar Harbor? Sleep longer or actually shower? You get the point. We had the rough life.

So what about the bonding aspect? Louis told us that after living together for three weeks, the group of first year students would bond with closer friendships. This was the case sometimes, but I believe that we just learned to tolerate each other better! After all, three weeks is a long time...



“Yeah, we could be models.”

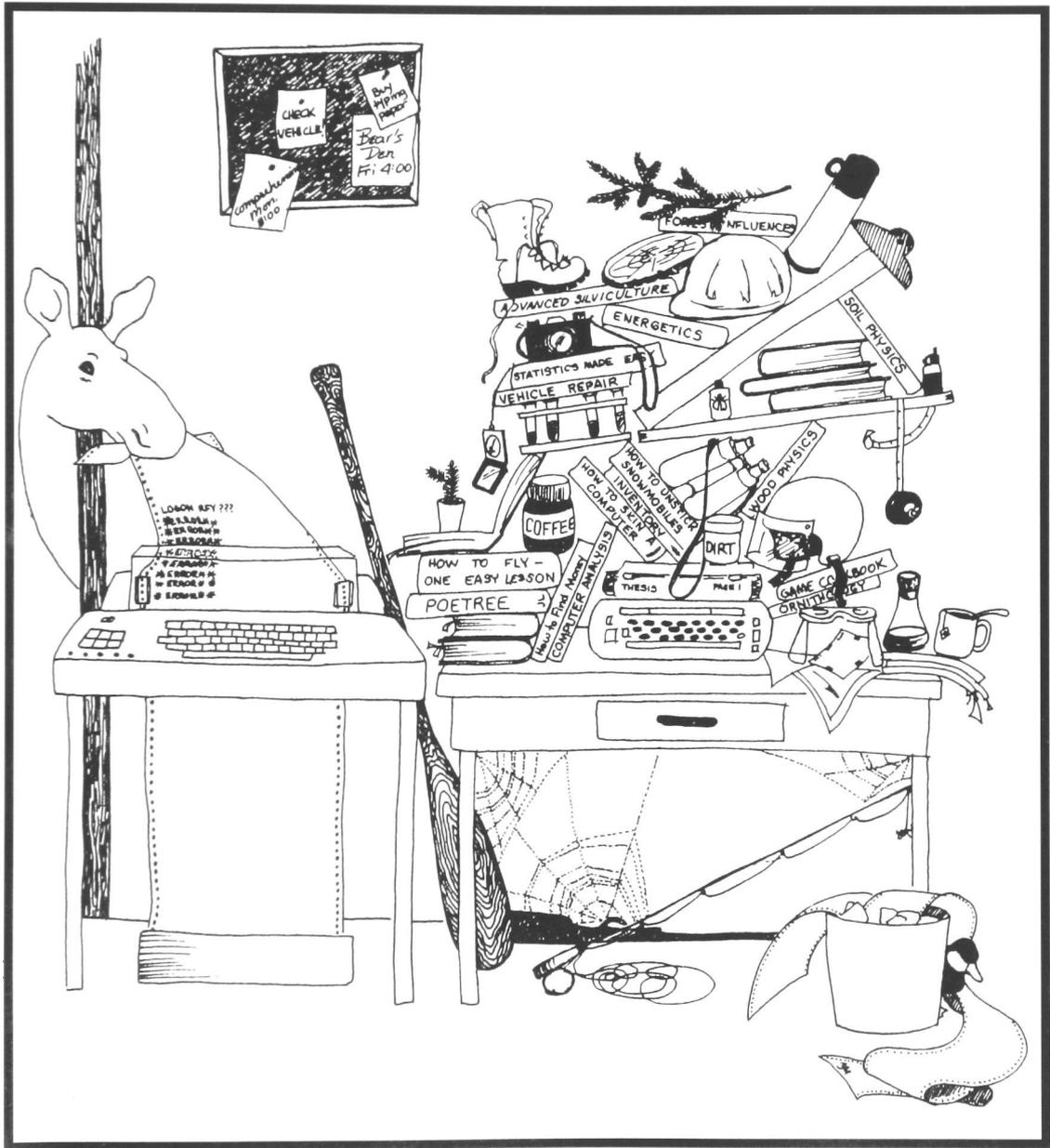


Women and heavy machinery...
...yeah we’ll leave it at that.



“Are you sure this is right?”

Graduate Students





Pilar Andrea Palacios; *Ph.D. Student in Wildlife Ecology*

Research focuses on the effects of different land use practices on juvenile amphibian movements and condition.

Previous Degrees: University of Chile, Santiago; *Pilar is a Fulbright Scholar

Sean Michael Blomquist; *Ph.D Student in Wildlife Ecology*

Research focuses on the impacts of habitat alteration on components of lifetime fitness, habitat selection, and movements of wood frogs, spotted salamanders and blue-spotted salamanders.

Previous Degrees: B.S. Denison University, 1998; M.S. University of Nevada, Reno, 2000



Steve P. Campbell; *Ph.D. Student in Wildlife Ecology*

Research involves investigating the long-term effects of a selective timber harvest on the bird community of an oak-pine forest in Maine.

Previous Degrees: B.S. State University of New York College of Environmental Science and Forestry, Environmental & Forest Biology; M.S. New Mexico State University, Biology; M.S. New Mexico State University, Experimental Statistics

Frederic Beaudry; *Ph.D. Student in Wildlife Ecology*

Research focuses on determining the significance, extent, and types of threats posed by roads to the Spotted and Blanding's turtles in southern Maine.

Previous Degrees: M.S. Humboldt State University, Wildlife Management; B.S. Universite du Quebec a Rimouski, Biology



Dianna M. Queheillalt; *Ph.D. Student in Wildlife Ecology*

Research focuses on developing a regional model of bird-forest relationships as a prototype for an eventual national model to be incorporated into the USDA Forest Service's Forest Inventory and Analysis (FIA) database.

Previous Degrees: B.A. Michigan State University, 1993, Business Administration; B.S. California State University, 2000, Biological Conservation; M.S. California State University, 2002, Biological Conservation

Angela Fuller; *Ph.D Student. in Wildlife Ecology*

Research involves examining the effects of scale on ecological processes and patterns to identify spatial scales relevant to Canada lynx and American marten.

Previous Degrees: B.S. University of Maine at Machias, 1996, Wildlife Biology; M. S. University of Maine, 1999, Wildlife Ecology



Volker Bahn; *Ph.D. Student in Wildlife Ecology*

Research focuses on modeling animal distributions in space and time. In addition to the usual determining factors, such as habitat characteristics and climate, the study will investigate spatial effects resulting from autocorrelation in underlying factors as well as dispersal.

Previous Degrees: M.S. Philipps University, 1998



Jordan Carol Perkins; *M.S. Student in Wildlife Ecology*

Research focuses on indentification of factors that influence population growth and occurance of the least tern in the state of maine.

Previous Degrees: B.S. Louisiana State University, Wildlife & Fisheries

John Skinner; *M.S. Student in Wildlife Ecology*

Research focuses on examining the local life history characteristics of western North Atlantic harbor seal (*Phoca vitulina concolor*) pups during the first weeks of development along the coast of Maine.

Previous Degrees: B.S. Colorado State University, Wildlife Biology



Carol Strojny; *M.S. Student in Wildlife Ecology*

Research involves evaluating the effects of partial canopy removal on forest amphibian abundance.

Previous Degrees: B.S. University of Wisconsin ; *U.S. Peace Corps Volunteer in Bulgaria from 1998-2000

Laura Robinson; *M.S. Student in Wildlife Ecology*

Research involves investigating the effect of snowshoe hare densities on lynx occurrence by comparing the predicted hare densities within lynx home ranges to predicted hare densities in areas where lynx do not occur.

Previous Degrees: Western Washinton University



Medea H. Steinman; *M.S. Student in Wildlife Ecology*

Research focuses on statistical modeling of habitat fragmentation effects on birds.

Previous Degrees: B.A. University of Massachusetts



Morgan Kelly; *M.S. Student in Wildlife Ecology*

Research involves using DNA sequence information to evaluate range-wide taxonomy for the tidewater mucket (*Leptodea ochracea*) and yellow lampmussel (*Lampsils cariosa*) and also the use of micro satellite markers to evaluate population level variation for both species in the state of Maine.

Previous Degrees: B.A. Swarthmore College



Natalia Politi; *M.S. Student in Wildlife Ecology*

Research focuses on investigating the impact of forest ecosystem management and loss of cavity-nesting birds along an altitudinal gradient through the subtropical montane cloud forest of Northwestern Argentina (Yungas).

Previous Degrees: Licentiate, Universidad Nacional del Sur, Biology; M.S. Universidad Nacional de Córdoba, Wildlife Management



Jon T. McCloskey; *Ph.D. Student in Ecological & Environmental Science*

Research focuses on developing a vegetation succession and fire spread model for the Okefenokee Swamp, Georgia, using SPOT satellite imagery.

Previous Degrees: B.S. University of Montana, Wildlife Biology; M.S. Texas A&M University-Kingsville, Range & Wildlife Sciences



Tom Danielson; *Ph.D. Student in Ecology & Environmental Science*

Research focuses on developing an algal biological assessment tool to assess the condition of streams and rivers.

Previous Degrees: B.B.A. University of Massachusetts, Amherst, 1993; B.S. University of Massachusetts, Amherst, 1993, Wildlife Ecology; M.E.M. Duke University 1996; M.P.P. Duke University 1996



Emily Gaenzle Schilling; *Ph.D. Student in Ecology & Environmental Science*

Research focuses on: 1) determining the number of potentially fishless lakes in Maine using remote sensing and geographic information systems tools that identify the geomorphic and geographical features associated with the fishless condition, 2) determining whether invertebrate communities inhabiting fishless lakes in Maine are unique compared with similar ponds containing fish, and, 3) determining the effects of stocking fish in fishless lakes over time.

Previous Degrees: B.A. Colgate University, Biology & French; M.S. University of Maine, Ecology & Environmental Sciences



Stephen Kneeland; *M.S. Student in Ecology & Environmental Science*

Research focuses on distribution patterns of fish hosts for threatend species of freshwater musseles in the state of Maine.

Previous Degrees: B.A. University of Maine, Biology

Rastislav Lagana; *Ph.D. Student in Wood Science*

Research focuses on measuring and modeling stress-strain behavior of wood that is subjected to long-term load and cyclic humidity conditions.

Previous Degrees: M.S. Technical University, Slovakia, Wood Science & Technology; Ph.D. Technical University, Slovakia, Wood Science & Technology



Xinfeng Xie; *Ph.D. Student in Wood Science*

Research is on wood composites and the technology used for the fabrication of composite materials.

Previous Degrees: Master of Engineer, PRC, China

Shane Robert Columba O'Neill; *Ph.D. Student in Wood Science*

Research will determine, characterize, and quantify the interfacial relationship between thermoplastic processing additives and wood particles.

Previous Degrees: B.S. Michigan Technological University, Wood Science; M.S. University of Maine, Forestry



Benjamin J. Herzog; *M.S. Student in Wood Science*

Research focuses on the characterization of the bondlines formed between both wood-wood and wood-fiber reinforced polymer (FRP) laminates as a result of the composet resin infusion (ComPRIS) process.

Previous Degrees: B.S. University of Maine, Forestry

*University of Maine Salutatorian, Class of 2002

Herman van Dyk; *M.S. Student in Wood Science*

Research involves investigating the use of ultrasound for defect characterization and detection in dried lumber.

Previous Degrees: B.S. University of Stellenbosch



Qingzheng Cheng; *M.S. Student in Wood Science*

Research focuses on micro-structural changes in wood-polymer composites due to extended moisture immersion and redrying.

Previous Degrees: M.S. P.R. China, Wood Science and Technology



Russell Edgar; M.S. Student in Wood Science

Research involves inventing, fabricating and testing a new structural composite lumber (SCL) product using underutilized northeastern hardwoods.

Previous Degrees: B.S. University of Massachusetts, Building Materials & Wood Technology

Suming Jin; Ph.D. Student in Forest Resources

Research focuses on: 1) The use of Landsat TM data and high spatial resolution satellite data in forest and land cover mapping; 2) Image processing of time-series satellite data for forest change detection applications; and 3) Monitoring and multisensor in Maine's industrial forest.

Previous Degrees: M.S. Chinese Academy of Forestry 2001, Forest Management.



Oscar Bustos; Ph.D. Student in Forest Resources

Research involves investigating the productivity, effects and economical issues of four different forest harvesting systems: Harvester & Forwarder, Farm-Tractor, Skidder and Bulldozer.

Previous Degrees: B.S. University of Talca, Chile; M.Sc. Oregon State University, Forest Engineering

Stephanie Phillips; Ph.D. Student in Forest Resources

Research involves investigating forestry best management practices, including the creation of a soil erosion hazard map for the state of Maine.

Previous Degrees: B.S. University of Maine; M.S. University of Maine



Mike R. Saunders; Ph.D. Student in Forest Resources

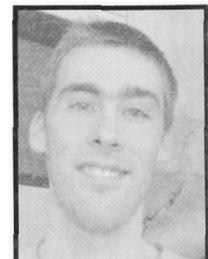
Research focuses on the investigation of three-dimensional (3D) forest structure and how it is affected by silvicultural prescription in the Penobscot Experimental Forest in central Maine.

Previous Degrees: B.S. Iowa State University, Forestry; B.S. Iowa State University, Fisheries & Wildlife Management; M.S. University of Minnesota, Forest Resources

Kevin Michael Todd; M.S. Student in Forestry

Research involves an assessment of the factors affecting raw material inventory levels of pulp mills in the Northeastern United States.

Previous Degrees: B.S. University of Maine, Forestry



Erin Small; M.S. Student in Forestry

Research involves investigating the vegetation growth following the 1977 Baxter State Park forest fire.

Previous Degrees: A.A. Sterling College, Natural Resource Management & Forestry; B.S. Sterling College, Wildlands Ecology & Management



Jacob W. Metzler; M.S. Student in Forestry

Research involves exploring the utilization of IKONOS and Landsat ETM+ satellite data to assess regeneration conditions using regression with the goal of providing a unique data layer to assist in managing forest stands.

Previous Degrees: B.S. University of Maine, Forestry

Michael C. Eckley; M.S. Student in Forestry

Research involves investigating aesthetic values associated with small-scale forest operations.

Previous Degrees: B.S. West Virginia University, Forestry



Jennifer L. Brickey; M.S. Student in Forestry

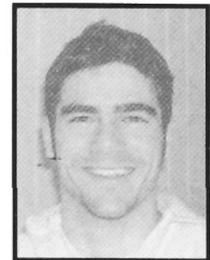
Research involves investigating the management and harvesting of farmers woodlots in Maine, New Hampshire, and Vermont.

Previous Degrees: B.S. Unity College, Forestry

Brian Schneider; M.S. Student in Forestry

Research involves investigating scale issues associated with the management of small, non-industrial, private woodlands.

Previous Degrees: B.S. University of Vermont, Forestry



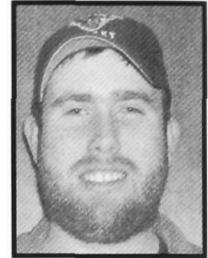
Jesse St. Clair Studley; M.S. Student in Forestry

Research focuses on the scale of sustainable forestry and the economic implications that should be considered with it.

Previous Degrees: B.S. University of Maine, 2001, Forest Ecosystem Science



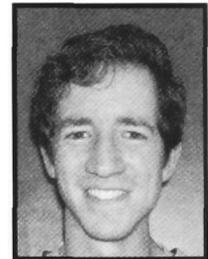
Raymond Ilg; *Masters of Forestry Student (M.F.)*
 Research focuses on investigating policy issues associated with Colorado's Forests.
Previous Degrees: B.A. Ithaca College, Business & Politics



Jason S. Lyle; *Masters of Forestry Student (M.F.)*
 Research focuses on private landowners opinions, attitudes and beliefs towards public use of their land.
Previous Degrees: B.S. University of Maine, Parks, Recreation, & Tourism



Robert F. Sproule; *Masters of Forestry Student (M.F.)*
 Research will focus on reviewing the history, political climate, environmental issues, and economics surrounding plantation forestry in the United States, and determining if plantation forestry is under utilized based on society's social and economical goals.
Previous Degrees: Fordham University



Stephen D Peck; *Masters of Forestry Student (M.F.)*
 Research focuses on the American chestnut blight fungus and the reintroduction of a blight resistant American chestnut to Maine's forest.
Previous Degrees: B.B.A. College of William & Mary



Robert Justin DeRose; *M.S. Student in Forest Ecosystem Science*
 Research will focus on investigating the relationships between structure, leaf area, and relative density in even-aged spruce-fir forests of Maine.
Previous Degrees: B.S. Utah State University, Forestry



Margaret Helen Ward; *M.S. Student in Forest Ecosystem Science*
 Research focuses on a comparison of needle anatomy in reaction to photosynthetic rates of red spruce.
Previous Degrees: B.A. Ithaca College



Allison Kanoti; *M.S. Student in Forest Ecosystem Science*

Research will focus on the Balsam woolly adelgid, *Adelges picea*, and it's effects on tree growth

Previous Degrees: B.S. University of Vermont, Forest Biology; A.E. Vermont Technical College, Civil Engineering Technology



Keith Kanoti; *M.S. Student in Forest Ecosystem Science*

Research involves examining the effects of different soil temperature and moisture regimes on the germination and early survival of Acadian and exotic tree species.

Previous Degrees: B.S.F. University of New Hampshire



Stephanie Lynn Adams; *M.S. Student in Forest Ecosystem Science*

Research involves examining physiological causes for the decline in photosynthetic capacity in red spruce with age.

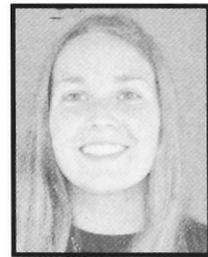
Previous Degrees: B.S. Stockton State College, Environmental Science.



Spencer R. Meyer; *M.S. Student in Forest Ecosystem Science*

Research focuses on using leaf area as a growth predictor of red spruce (*Picea rubens*) and balsam fir (*Abies balsamea*) in managed stands in Maine.

Previous Degrees: B.A. Dartmouth College



Sarah Butler; *M.S. Student in Forest Ecosystem Science*

Research focuses on examining the forest disturbance history in old-growth forests of the southern Appalachian Mountains.

Previous Degrees: B.S. University of Indiana, Environmental Science



Jennifer L. D'Appollonio; *M.S. Student in Forest Ecosystem Science*

Research focuses on the exotic invasive plant species, *Barberis thunbergii* (Japanese barberry). Experiments will be conducted to assess the effectiveness of a range of invasive control methods to return Monhegan Island (ME) forest to a natural state.

Previous Degrees: B.S. University of Maine at Machias, Environmental Studies – Conservation Biology



Andrew Brett Reinmann; *M.S. Student in Forest Ecosystem Science*

Research involves investigating the effects of harvesting on nutrient cycling, soil productivity and red spruce radial growth in spruce-fir stands in Maine.

Previous Degrees: B.S. Binghamton University, Environmental Studies

Graduate Students not Pictured

Wildlife Ecology:

Marcy Nelson

Rebeca Chalmers

Dave Patrick

Elizabeth Baldwin

Philip Wick

Katie DeGoosh



Forestry:

Elizabeth Baldwin

Diogo Baptista

Silvia Cordero-Sancho

Jamie Hannon

Elizabeth Munding

Jungil Son

Kristen Hoffmann

Zuelian Zhang

Matthew Peterson

Wood Science:

Qingzheng Cheng

William Tze

Ran Lin

Forest Ecosystem Science:

Damion Cirelli

Alex Elvir

Shawn Fraver

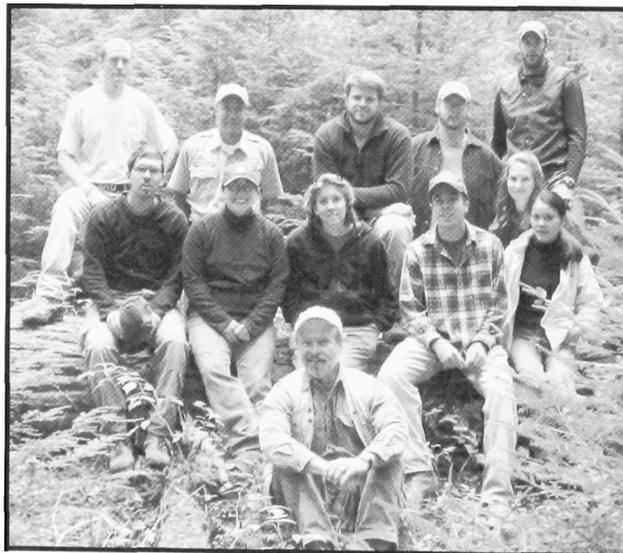
Gregory Granger

Michael Maguire

Lori Jean Mitchener

Erika Rowland

Xiaochun Li



ADVANCED ENGINEERED WOOD COMPOSITES AND THE FUTURE OF THE WOOD PRODUCTS INDUSTRY

BY BARRY GOODELL
PROFESSOR WOOD SCIENCE AND TECHNOLOGY

Maine is the most heavily forested state in the country. Although wood is plentiful in the state, much of that wood is of lower grade. To use this wood competitively in the market for structural products, innovative manufacturing processes and new designs must be developed to allow us to compete successfully with southern pine and Douglas fir markets. Development of new products and efficient use of our natural wood resources are the primary goals of students and faculty at the Advanced Engineered Wood Composite (AEWC) Center. The work done at the AEW is vitally important because demand for wood products continues to increase every year, and as wood supplies become more limited, we must train students ways to better use our resources to meet the demands of the public.

The AEW Center is a relatively new entity on campus that was initially conceptualized in the mid 1990's. Four faculty members, two from the Wood Science and Technology program and two from the Civil Engineering program, initially founded the Center. Federal support through a program known as the Experimental Program to Stimulate Competitive Research (EPSCR) provided for the initial support of two additional faculty members, one in Wood Science and Technology and one in Civil Engineering. In 1996 the National Science Foundation provided funding to the University to establish the Center, focusing specifically on wood composites that were bonded to fiber reinforced polymer (FRP) materials. Many other grants followed to help build the Center. FRPs are nothing more than materials such as glass fiber (like fiberglass) that can be infused with resins to become stiff, structurally supporting materials. Although the use of fiberglass together with wood had been done for many years, structural FRPs made from glass, carbon, and even Kevlar had not been bonded to wood previously for use as a hybrid structural material. The Center now has developed and patented a number of new products, and faculty and staff are actively moving these products out to the marketplace.

Within four years from the startup of the Center, 41 undergraduate and graduate students were working on AEW projects. Today, close to 100 undergraduates alone are hired to work at the Center each year. With a high bay expansion and a new office and lab space ex-



AEWC Center

pansion to be completed later this year, the AEW Center has truly become a World Class educational and research facility without rival in the United States. Students are exposed to state-of-the-art equipment and technologies that they would normally only see in industrial operations. The Center conducts both basic and applied research, and industry often contracts with the Center to run tests of new products that cannot be fabricated and tested elsewhere. Examples of the test equipment in the Center with unique capacities include the full size 4x8 ft hot press that can produce a full size composite structural panel, or the new Davis-Standard twin-screw Extruder that produces wood-plastic composite lumber produced from a variety of plastics and wood furnish, including from recycled materials. The ability to produce full size "plastic lumber" and other profiled products using this technology has attracted interest from a number of companies interested in ways to utilize wood residues, formerly considered as waste, to produce useful products.

The AEW Center continually seeks ways to better utilize wood and wood fiber and in a relatively short time has taken a leadership role in this quest both nationally and internationally. The combination of Wood Science and Technology with Engineering has produced a facility where education and research are blended to benefit both students as well as the industry of the state and beyond.

Quotable Quotes

Blast From The Past

"The time may soon arrive when the three great cities of North America - Bangor, New York, and San Francisco - shall be representative of the wealth, population, intelligence, and enterprise of the eastern, central, and western divisions of our country."
-Oliver Frost, 1869



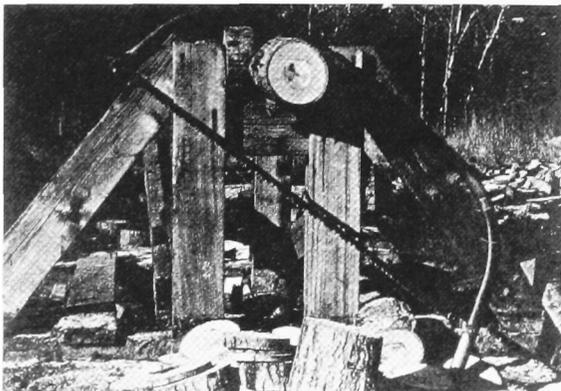
"Beer is a metaphor for everything we use as consumers; we don't buy it, we just rent it."
- Mark Anderson (unknown year)

"Despite all this talk of metrification and stuff, we'll work in board feet." - Dick Hale (1983)

"I'll talk about it a little bit, just so you can see how complex it is" - Dave Field (1983)

"...some silly basal area figure which doesn't mean anything to anybody." - Dr. Newby (1983)

"What is really fun is to play Star Raiders with a six foot projection and three foot speakers on each side."
- Dave Field (1983)



"If you have to choose between organization and breakfast, choose breakfast every time."
- Al Kimball (unknown year)

"Real foresters don't giggle."
- Dave Field (1983)



"That answer is another example of the 'Tom Brann Endless Answer To A Question'."
-Tom Brann (1983)

"I am supposed to be out of the room so that I don't intimidate you." - Dick Hale (1983)

"You guys are foresters? Do you trim bushes?"
- Waitress in Kentucky, SAF Convention

"I'm back in front of the arcade again."
- Dave Field (1983)

"It's sort of like due east south."
- Faith Allen (1983)

"I keep killing all my deer... They 're stable, but they're all dead" - Carol Shaw (1983)

"Sites... It's either a good site or a bad site, it either grows trees or it doesn't."
- Edwin Giddings (1977)

Quotable Quotes

Blast From The Past

“If you can’t research you teach, if you can’t teach you do research, if you can’t do either you become an administrator” – Anonymous

“If it flies, it dies.” – Terry May (1977)

“With the Kraft process you can start with anything, the paper ends up brown anyway.”

– Dick Hale (1977)

“For all you guys from Aroostook County, that is a girl. For all you guys from New Jersey, that is a tree.”

– James Shottafter (1977)

Dave Field: “Economists are a rare and endangered species.”

Ben Hoffman: “Good! Let’s keep it that way.”

“Definition of an economist: an accountant without a personality.” – Bud Blumenstock (unknown year)

“Was Ed McMahan in to see me while I was out?”

– Dave Field (unknown year)



“The final exam will be at 8:00, Tuesday morning. It will not be typical, not rational.” -Dick Hale (1979)

“Some of the things i teach you in this course may be of marginal value.” -Dave Field (1980)

“A graduate student is one that writes down everything the professor says - even ‘Good Morning’ ”

- Warren Burns (1980)

“Hey, where is Joe at? He’s probably inside talking to the cashier about skidders.”

-Sophomore Summer Camp (1990)



“I went up to a felder, and it feeded up”

-Dick Hale (1981)

“You can get to the point where your mind goes dull - before you go to Pat’s.” -Al Kimball (1981)

Upon reading the first question on the entomology exam: “Oh well, I’m already down to a 99” -Nick (1985)

“Next lecture after midterm is damage appraisal”

-Dave Field (1985)

“It is an unwritten law of the west, you don’t mess with a man’s toothbrush!” -Brian Hobbs (1985)

“I’ve never seen a pileated woodpecker whip out a D-tape.” -Louis Morin (1989)

“If I died at the age of my test grades, I’d be in trouble.”

-Cindy Gamron (1989)

“The hardest thing I had to learn when I went back to school wasn’t the new material, but new names of the material.” -Ben Hoffman (1990)

Quotable Quotes

Here And Now

“People throw bulls^#@ around all the time.”
– Al Kimball



“If somebody doubled the price of TP, are you gonna buy less? Cause I’m not!!” – Dave Field

“Since you are mostly water, it can’t be normal.”
– Al Kimball

“I know I’m approaching gezzerhood, cause I got one of these, a Gold National Parks pass.”
– Dave Field

“Listen as I babble along.” – Dave Field

Al Kimball On Competition:

“If you are my size, you do it in the dark, from behind, with a stick.”

“Before this class you may read through it and say ‘What the h\$^& is this about?’ ”
– Bill Livingston

“Its hard to explain, its kinda like sausage being made.”
– Dave Field

“I have one and my kids have warned me where it is going to go one of these times.” – Al Kimball

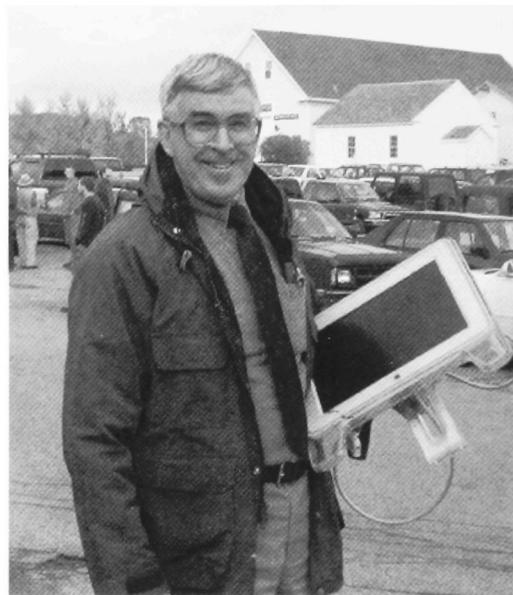
“Oh God, I gotta coin a whole new phrase.”
– Dave Field

“If you want to get someone upset, you kill their kids. But if you really want to piss them off, you twist things.” – Al Kimball

“The world has many gray areas. We continue to learn. It used to be that clearcuts were good, now they are bad. It used to be that slash was good and now it is bad. We continue to learn.”
– Dr. Field

“That’s a wise-ass posture by the way.”
– Al Kimball

Rob: “I guess I’m not really sure what you are asking.”
Al White: “Well I’m not so sure either.”



“You are in the woods with a paint gun trying to decide whether or not to mark a tree, and the tree is saying ‘Don’t kill me, don’t kill me, don’t kill me....?’ ”
– Dave Field

“Don’t assume that you know what you know you know until you know that you know.....Well.....Whatever.”
– Dave Field

“Be careful studying old tests, cause sometimes I ask the same question, and just change the answer.”
– Dave Field

Quotable Quotes

Here And Now

“Back in the early nineties, well to be exact it was ‘88.”
– Louis Morin

“So, how big are your crabs?” – Steve Sader

Rob: “So, exactly how long do you have to stroke it louis?”

Louis Morin: “Oh, not very long..... Why do you always set me up like that?!”

“Is it ethical to promote alternatives to wood, especially if you yourself consume wood, and do not reduce your consumption?” – Dave Field

“Opposable thumbs; not only great for holding beer cans but also for tree climbing.”
– Mac Hunter

“Find one and I’ll disturb it.” – Al Kimball



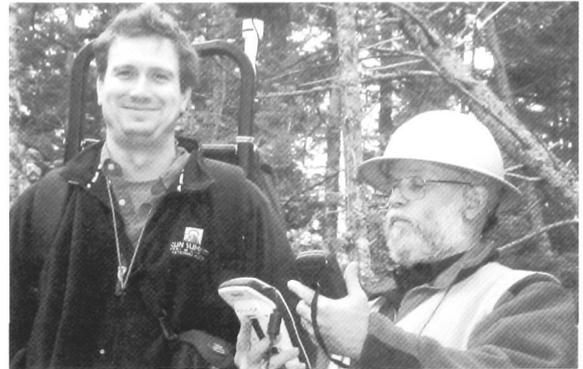
Dean Kezis on random drug testing: “Yep, they are waiting for all of us right out that door..... I’m going out the other door..... No really, I am going out the other one.”

“And this thing went ‘Boogidy Boogidy’ out through the woods.” – Al Kimball

Al Kimball on gymnasts: “...those little noodley people on the bars.”

“In my notes it says ‘elasticity.... Who cares’!?”
– Dave Field

“Environmental ethics hold the single most important factor in forest policy.” – Dave Field



“I know it’s time to start losing weight when I start finding lint in my belly button.”
– Fred Servello with a piece of lint in his hand at Winter Ecology

“Humans are like moths, the only reason we are still alive is that we can’t fly.” – Al Kimball

Bill Livingston: “You guys are finally getting it.”
Class: “Uugggh... Not really.”

Bill Livingston: “Please just let me have my illusions.”

“You should now have a complete Wang.”
– Andy Egan

Al Kimball on.....well, we aren’t sure: “...that’s cause fish need a bubbler.”

“Forest Policy is a standard or guideline that an individual organization or society has chosen to direct behavior through the use of forest resources.”
– Dave Field

Al Kimball while swinging his arms wildly: “What would you call this?”
Ross: “Aerobics.”

“Does anybody know what an air brace is? AHHHH I’M GONNA DIE!” – Al Kimball

Regarding New Zealand Forests: “It just burns, if you look sideways at it.” – Dave Field

“The opposite of communicate is obfuscate.”
– Al Kimball

“What is a homo?” – Bill Livingston

Quotable Quotes

Student Funnies

Dude, stop ripping on me about my animal noises.”

– Rory



Rory: “I’m not sure what I would do without this example in front of me.”

Aaron: “I’d get it wrong just like I did on the last test.”



“My dad used to fill bottle caps with beer and give them to my hamster. He did this again and again. By the end of the night my hamster was sloshed.”

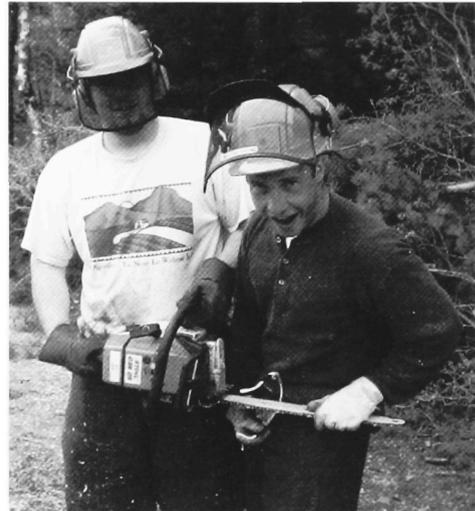
– Iron Balls (Adam Nicak)

While studying for a Forest Ecology test:

Pete: “WOW!!”

Nottermann: “What? Do you actually know something?”

Pete: “NO!! These are damned hard!”



Davey: “You better watch it, we’re a heck of a lot bigger than you!”

Rory: “Yea, but we’re like hydrogen bonds: weak alone, but very strong in big groups!”

Ross: “Eyes on your own paper!”

Nottermann: “Like I’m gonna copy off of you!”

Sammy: “What the h*&@ is Ash??”

Maggie: “ITS A TREE!!”

“I need the grease in Sammy’s pants!!”

– Shawn Bugbee



STUDENT ACTIVITIES



Xi Sigma Pi



Xi Sigma Pi is a National Forestry Honor Society that recognizes individuals who have excelled in their prospective fields through dedication, commitment and hard work. Although Xi Sigma Pi was originally an honor society for forestry students, it has gradually expanded

to encompass Wildlife Ecology and other majors in Forest Resources. As a service organization we are most notably involved in the annual Christmas tree fundraiser for student scholarships. We also encourage contact with local forestry and natural resource professionals.



Society of American Foresters Student Chapter

Over the past year, the UMaine SAF Student Chapter has increased its number of members, and continued to provide opportunities for students to enhance their academic experiences and professional development. We have meetings twice a month, noontime lectures every month, one or two field tours a semester, and are involved in many volunteer activities.

The "SAF Noontime Lectures" involve speakers from various professions in forestry and related fields. Lecture topics over the past year have included resume building, forest certification, sustainable management, consulting foresters, and issues concerning forest policy.

In October we took a trip to Portage, Maine to view hardwood utilization. We toured Seven Island's hardwood concentration yard, Maine Woods Company's Hardwood Sawmill, and Georgia Pacific's Chip Plant. Despite the snow, (in October!) it was an excellent trip. In February, International Paper Company arranged a tour

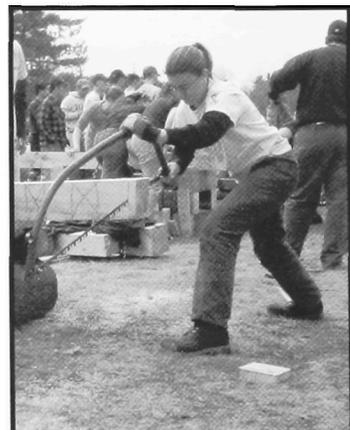


for us to view in-woods limbing by a stroke delimber. This spring, we plan to take a trip to view The Maine Legislature in action.

In this past fall, our chapter participated in the Maine SAF Poster Contest. The poster contest involves going to elementary schools and discussing what forests and forestry means to them. The elementary students then have an opportunity to make a poster based on their perception of forests. This spring, SAF and Consulting Forester, Carol Redelshiemer, are planning to conduct a trail work and forestry education day for the local Boy Scout Troop. This will take place in the Veazie Town Forest and we are really excited about it. Our chapter finds volunteer work, especially working with children, very rewarding. The children of today are our future, and we try to take every opportunity we can to educate them about forest ecology and management.



WOODSMEN TEAM



A YEAR IN REVIEW

BY THOMAS COLEMAN
FOREST OPERATIONS SCIENCE

The University of Maine Woodsmen Team has been very active and very productive in its forty-ninth year. During the spring of 2003, the team had a total of 26 members fielding four full teams of six in the form of two men's, one women's, and Jack and Jill. Our two men's teams were made up of returning students and practiced formally a minimum of twice a week all semester, as did the women's team. This made for three teams that worked like oiled machines at meets, and still left three weekdays to simply joke around and hang out at our practice shed as well as the weekends for fishing trips and thirst quenching at each others houses. At most meets, the A team was filled out by Mathew Galambos (Bos), Tate Connor, Ross Banach, Brendan Moore, Darren Cole (aka Taz), and Rob Freeland (aka Goon). The B team competed with Shawn Bugbee (Trail Boss), Dave George, Jeff Spaulding, Sammy Roy, Ben Nottermann, and Tom Coleman. The Jack and Jill team changed from meet to meet depending upon who could attend, and in order to give all of the new members some competition experience. In the women's division, Allison Melton, Maggie Burke, Anna Nelson, Virginia Foote, Molly Simonson, Becky Palmer, and Christie Haley competed.

The teams started off strong, with the men's A and B teams taking second and fifth out of twelve teams at Nova Scotia's annual meet, only two weeks into the spring semester. The women took fifth against stiff competition in their division. The freshmen Jack and Jill team finished 12th, but gained much experience. The two men's teams took twenty top five and two first-place finishes. This feat was quite impressive, given that this was only the second meet of the year with tough competition. Following the showing in Nova Scotia, the UMaine teams hosted the UMaine home meet, and competed against Unity and Colby Colleges. The UMaine men's A and women's teams both took first place while the men's B and Jack and Jill teams took fourth and seventh respectively.

The all-important season ending Spring Meet followed, as did trouble for the A team. They lost two members for the competition due to schoolwork. Faced with not fielding a complete team, the remaining members decided to compete anyway by picking up an extra competitor from Colby College. In 2003, Spring Meet was held at Colby College and consisted of fourteen men's teams, six women's team and three alumni teams. While competing shorthanded the UMaine men placed second overall, by winning four events, and placing in the top three in six other events.

The B team also put-up respectable numbers, winning two events and placing in three others on their way to a fifth place finish. The women fought to a hard earned fourth place standing.

The start of a new school year and a new season of competition arrived in the fall of 2003, and the team took stock of its condition. We lost four men and three women to graduation, but picked up six new men and two new women. After restructuring the teams to account for this loss, the men's A and B teams, the women's team, and a Jack and Jill team headed off for Unity College. The men's A team took first place overall for the meet. They won nearly every event; all but log roll and pole climb. The men's B team was not far off of the A teams mark with a third place finish. The women put on a great show



as well, sweeping their division for the win. A month later, the UMaine teams headed north to compete with the Canadian Intercollegiate Lumberjacking Association (CILA) at The University of New Brunswick. Typically this meet has very tight competition; we were not disappointed in that respect. The A team competed with four upperclassmen and one freshman, and finished fourth, as did the women. The B team placed thirteenth out of sixteen. The men did manage to garner four top three finishes, while Bos and Davey finished first in standing block. To finish out the semester, the teams

headed to UNH for their annual competition. The UMaine teams left with a nearly perfect repeat of Unity.

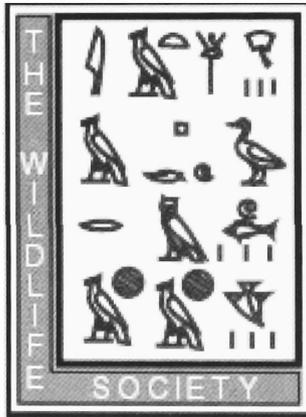
Entering the spring semester, the teams stand ready to continue the winning momentum. After the roster has changed repeatedly throughout the fall, the teams have been finalized. Matthew Galambos (Team Captain), Ben Nottermann, Thomas Coleman, Sammy Roy, Adam Bither, and Darren Cole will compete as the men's A team. The B team will consist of Adam Nicak (Team Captain), Josh Roy, Mathew Taylor, Brian Curry, Mattew Tourgee, and Brian Milakovsky. In the women's division we will field Molly Simonson (Team Captain), Maggie Burke, Allison Melton, Anna Nelson, Alice Doughty, and Katie Manende.

One special note should be made. In the spring of 2003, Matthew Galambos and Tate Connor competed at UNH in the Stihl Timbersports Collegiate Qualifier. This event required that each competitor complete an underhand chop, single buck, and stock chainsaw cut. Tate finished first and Bos placed third. Upon graduating, Tate went on to compete with, though not against, the professionals on the Timbersports series over the summer and finished as the first collegiate national champion.

Student Chapter The Wildlife Society



The University of Maine Student Chapter of The Wildlife Society (TWS) is an organization composed of undergraduate and graduate students who are committed to conservation and management of natural resources. We are committed to these ends through education, professionalism, public involvement, and stewardship of the environment



TWS interacts with local conservation groups, state and federal governments, and regularly attends regional and national conferences. Recent activities include species surveys for wetland preservation, owl call-back surveys around the state for Maine Audubon, ice-fishing trips, whale watches, camping, hiking, canoeing, and tending wood duck boxes in Hirundo Wildlife Refuge.



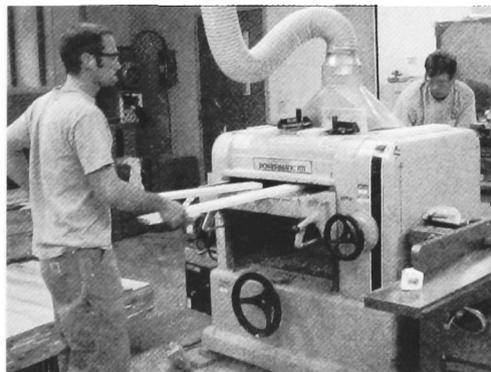
Student Chapter



The Forest Products Society (FPS) is the student chapter of the international association of the same name. Membership is open to any interested student, faculty, or staff member at the University of Maine. The society was formed to encourage the development and application of wood utilization technology and provide a link between industry and research.

In the past year, the student chapter sponsored visiting lecturers Dr. Heiko Thomen and Christian Heinemann from Germany, and Dr. Geoffrey Daniel from Sweden.

The student chapter raised nearly \$3000 to help send five student members to the 2003 FPS annual meeting in Bellevue, Washington. FPS also revamped the undergraduate reading room in Nutting Hall by painting the walls and installing a wainscoted wall made of red maple boards from timber harvested from the University's forest, and cosponsored a trip to Maine Woods Company in Portage Lake, ME to tour a state of the art hardwood sawmill and learn about their utilization system.



Student Chapter

The National Association for Interpretation 
Inspiring leadership and excellence to advance heritage interpretation as a profession



The Student Black Bear Chapter of NAI (National Association for Interpretation) is an organization that brings students together who are interested in the park, recreation and tourism (PRT) profession in a social and academic atmosphere. NAI and PRT are both designed to aid individuals in

their personal and professional development by inviting guest speakers to talk about issues related to our profession and participating in community service projects. NAI holds monthly meetings where current issues are discussed and future project ideas are generated.

MAINE BEAR HUNTING REFERENDUM

BY NATHAN KAY
FORESTRY & WILDLIFE ECOLOGY

During the November Elections of 2004, Maine voters will be faced with a challenging question at the polls. They will have to decide if they want to ban the practice of hunting black bears with the use of bait, traps, and hounds. A group called Maine Citizens for Fair Bear Hunting, based in Falmouth, Maine, is bringing this referendum forward.



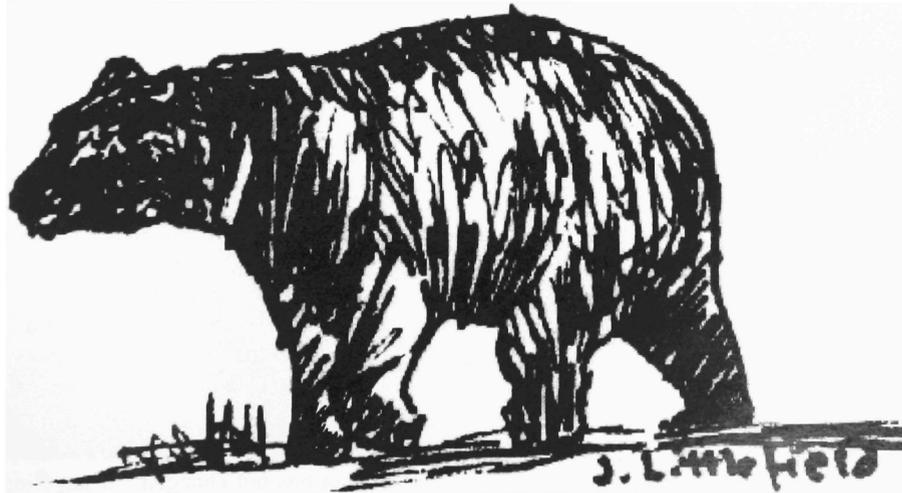
Bear biologists at Inland Fisheries and Wildlife estimate Maine's bear population to be a healthy 23,000 bears. This makes Maine's black bear population the highest in the lower 48 states. Currently, bears are hunted during a three-month season, with hunters harvesting around 3,000 bears annually. In 2002, 2683 bears were harvested with the use of bait. Three hundred seventy five bears were harvested with the use of hounds. Ninety five bears were harvested with the use of traps. Two hundred sixty four bears were harvested during deer season and ninety five bears were harvested by other methods, such as stalking. The bear hunt alone brings in approximately \$1.5 million annually in permit and license fees to the Maine Department of Inland Fisheries and Wildlife, the agency mandated to preserve, protect, and enhance fish and wildlife resources of the state. The Maine bear hunt generates an estimated \$6.4 million

annually, with most of the revenue going into small, rural communities. This money is very important for the small communities around Maine. Maine Citizens for Fair Bear Hunting argues that hunting bears over bait, with hounds, and trapping bears are cruel and unsporting. Their referendum is backed by the Humane Society of the United States, which is the best-funded and most aggressive national anti-hunting organization. Together, they portray bear hunters who hunt over bait, with dogs, or trap bears as unsporting and unethical people who have no hunting skill what-so-ever.



The issue of bear hunting is complex and is going to be a hard fought battle, with both sides spending large sums of money to promote their respective positions. The end is unclear, but as a society that values facts and scientific evidence, let's all hope that the well-informed voters make the right decision for Maine's abundant natural resources and heritage.

Above pictures are of UMaine Wildlife Students with black bear cubs, during a trip to a bear den with a Wildlife (bear) Biologist





MAINE'S FOREST RESOURCES: POLICIES FOR A NEW CENTURY

BY LLOYD C. IRLAND
PRESIDENT, THE IRLAND GROUP

"The fertility of Maine's forests is one of the amazing miracles of our time. It has stood up under two hundred years of constant shortsightedness.

... without new planting, without protection, the pines and spruces have come trooping bravely back, have created new soil and new moisture and new forests. And this evergreen empire could be made tenfold greater if men would assist the tough resourcefulness of a soil that is bound to bring forth forests to house the children of the future."

Robert P. Tristram Coffin, Kennebec, 1937.

Maine's "Evergreen Empire" of forest has supported families, communities and major chunks of the State's economy for four centuries. The early years of this new century are challenging the Maine forest resource, its landowners, and its wood-using industry at an intensity not seen since the Great Depression. What are these challenges?

Maine's forest resource and forest-based industry have entered this century to find new and troubling dynamics at work. Changes in the corporate world, in world financial markets, insatiable demands for land in southern Maine, and surging foreign competition create new challenges and opportunities. Our traditional views about the Maine woods and the industry, and our established policies are not capable of coping with these new challenges. An entire industry is being re-invented before our eyes and we do not have the operator's manual. We will have to improvise.

The importance of a stable public policy environment has not changed. If anything, it becomes more important as the ownership and market environment have

become less stable. At a time of economic stress and unsettling change, it is harder to summon the optimism of the poet about Maine's forest future.

The first priority is to recognize that the northeastern economy is restructuring in a largely permanent way. The general shift away from manufacturing, and especially resource-based employment, is permanent. This is not a cyclical downturn as we have seen in the past, in which we will return to the employment levels of the previous peak.

Though the U.S. dollar has weakened in the past year, and there are indications that this has been helpful to the U.S. manufacturing sector, the other long-term challenges have not gone away. This means that we are in new territory, economically, politically, and socially. Our familiar methods of providing for economic development, industrial parks, subsidized financing and the like, were designed for a different world. That world is gone. The question is not, how to get a plant to expand here and not in Wisconsin. It is, how to compete with China or Brazil.

Maine must base its future on a sustainable competitive advantage. This means growing high quality wood of valuable species in a semi-wild to wild setting. We have lost the race to grow for tons. We need to win the race for quality.

Our first rule for policy must be that Stability Counts.

The second rule is Do No Harm. Under this second rule, we must review instances where our existing public policies seem to be having perverse results, and fix them. The Legislature has in fact been doing this.

The third rule is No Wishful Thinking. Our hopes and our policies must be based on our best appraisal of a tough and dynamic land and product market, on the world as it

is. Our policies must then focus on well-tested methods of moving forward toward shared goals, a step at a time.

The last rule is, The Perfect can be the Enemy of the Good. There is no policy that will satisfy everyone. There are no policies that will fully solve any single problem, much less all of them at once. And, we do not even agree on what the problems are. Our policy tools are imperfect, blunt, and are forged in an imperfect mechanism in which politics, budget limits, and administrative practicalities affect program design and the results.

*****This article is condensed from a background paper for use at the Blaine House Conference on Natural Resource Industries. The purpose of the paper assesses the strengths of, challenges to, and opportunities for Maine's forest sector.*****

The full paper is available at the Conference Website at:

http://www.state.me.us/governor/baldacci/news/events/natres_conference_1003.html



RESEARCH ON MAINE'S OLD-GROWTH FORESTS

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For the past several years, my graduate students, colleagues, and I have studied old-growth forests to describe their composition and structure and determine the disturbances that have shaped them. Much of our work has centered on The Nature Conservancy's approximately 5000-acre Big Reed Forest Reserve in northern Maine. This forest is believed to be the largest contiguous block of old-growth forest in New England and contains a variety of northern hardwood, conifer, and mixed-species forest types.

With the exception perhaps of northern white cedar, the trees at Big Reed are not exceptionally large; however, there are many old trees. For example, we have found hemlock > 400 years old, red spruce > 350, sugar maple > 300, ironwood > 280, and yellow birch around 250. The forest contains many tree species but is perhaps more remarkable for the species it does not contain, or only has in very low abundance. These poorly represented species include the aspens, white birch, and red maple, early successional species common in much of the surrounding forest.

The key to understanding the composition and structure of these old-growth stands lies in their disturbance history. By analyzing the growth patterns in tree rings, stand age structures, and the spatial distribution of stems, we have found that these stands, regardless of forest type, are dominated by a history of small gap-forming disturbances. Because these gaps are small (usually less than an acre) and caused by disturbances that tend not to expose a lot of mineral soil (for example, insect outbreaks), they are not conducive to the recruitment of shade intolerant, early successional species; instead, they favor shade tolerant, late successional species. Although gap-forming disturbances affect a little more than 1% of the Big Reed forest per year on average, they vary considerably over time, giving rise to somewhat erratic, multi-aged, stand structures.

Despite being an old-growth forest, Big Reed has not escaped the influence of humans. Perhaps most notable is evidence of the introduced beech bark disease. Besides the obvious signs of the disease seen on stems today, the tree-ring record shows that many of the beech trees in the forest became established following the original killing front of the disease in the 1940s and 1950s.

Knowing the disturbance history of old-growth forests does more than just inform us about how these forests came to have the structure and composition they exhibit today. It also allows us to develop silvicultural analogs of natural disturbance dynamics, such as single-tree and small-group selection systems.



Many foresters have advocated silvicultural systems that mimic nature (often referred to as ecological forestry); studying the dynamics of old-growth forests is one way to provide a scientific basis for such systems. Fortunately, the Big Reed Forest Reserve is large enough to allow natural disturbances to occur and to include sites comparable to those managed for the many forest products that we as a society value so highly.

