

Resources

News from Ecosystem Science and Management | Forests • Soils • Water • Wildlife and Fish • Wood

Summer/Fall 2015

Pennsylvania Needs Future Forest Stewards

If we are going to have productive and healthy forests in the future, we need future forest stewards today. This is the reason Penn State Cooperative Extension is offering a new, free program to teach youth about forests and the concept of forest stewardship. The program, Future Forest Steward is a successor to the Junior Forest Steward Program that was offered for 10 years with great success. Focusing on youth to embrace forest stewardship today is nothing new to Cooperative Extension.



Future Forest Steward is designed for implementation by teachers, youth-group leaders, and other adults working with youth (ages 8-12).
Michael Houtz photo

According to Sanford Smith, Penn State Cooperative Extension natural resources and youth-education specialist, Pennsylvania youth often know very little about the forests and natural areas that cover the state. “We have been committed to getting kids excited about, and interested in Penn’s Woods for many years,” he says.

Future Forest Steward is designed for implementation by teachers, youth-group leaders, and other adults working with youth (ages 8-12). Cooperative Extension is now seeking interested adults to help facilitate the program.

“The adults we need do not have to be naturalists or forestry experts to carry out the Future Forest Steward program,” Smith explains. “An interest and willingness to learn right along with youth is the only thing we require. The program is suitable for both formal and non-formal educational settings.”

The program format is also flexible. Young participants 1) read an interactive publication (individually or as a group), 2) discuss the questions, and then 3) participate in a forest stewardship activity led by the adult educator or

According to Sanford Smith, Penn State Cooperative Extension natural

Maurice K. Goddard Chair Filled

Please join us in welcoming Mr. Cal DuBrock as our Maurice K. Goddard Chair in Forestry and Environmental Resource Conservation. He joined our department on September 1.

The majority of DuBrock’s professional career has been with the Pennsylvania Game Commission (PGC) where he served as wildlife biometrician (1982-1985), wildlife planning division chief (1985-1987), assistant director and research division chief (1987-1991), and wildlife management director (1991-2014).

His most recent responsibilities with the PGC included directing and coordinating the planning and operations of the statewide game, nongame and endangered species management and research programs; and developing and implementing agency wildlife management goals, objectives, standards and policies.

DuBrock is a Certified Wildlife Biologist. His honors include the Wildlife Conservation Award, Pennsylvania Game Commission, 2008; Certificate of Achievement, Association of Fish and Wildlife Agencies, 2014; and the Kirkland Lifetime Achievement Award, Pennsylvania Chapter of The Wildlife Society, 2014.

DuBrock served in the U.S. Army, 1972-1975. He earned a B.S. at Michigan State University in 1977 and an M.S. at Virginia Tech in 1980. ★

Eastern Poultry Producers Brace for Avian Flu this Fall as Waterfowl Migrate

”This strain of avian flu, H5N2—which has yet to be seen along the Eastern Flyway—usually doesn’t make waterfowl sick, in fact many don’t show any symptoms, and it doesn’t affect people or other mammals,” says Margaret Brittingham, professor of wildlife resources.

“But it does sicken and kill other birds, namely domesticated chickens and turkeys. It has devastated the poultry industry in states such as Minnesota and Iowa along the Mississippi Flyway, and Washington and Oregon along the Western Flyway.”

Two years ago, migrating waterfowl carried a novel strain of avian flu out of Asia to breeding grounds in the Bering Sea re-



Avian flu has yet to be seen along the Eastern Flyway. Migrating ducks are expected to carry the disease here.
Image: InAweofGod'sCreation

helper. A guide for adults accompanies the publication and provides answers to questions and ideas for activities that participating youth and adults can undertake.

After participants complete the three steps, their adult helpers send in a short “tally-sheet” and the youth receive an embroidered Future Forest Steward patch as an award and reminder of what they learned. The program raises awareness of forest stewardship and the importance of being a steward of the natural world. “After all, today’s Future Forest Stewards will be responsible for the forests that give Pennsylvania its very name, and they will pass them on to future generations” said Smith.

For questions about the program, contact Sanford Smith at sss5@psu.edu. To request copies of the Future Forest Steward publication and adult guide, contact Penn State’s Renewable Natural Resources Extension Office at RNRExt@psu.edu or (814) 863-0401. Downloadable versions of the curriculum materials can also be found at <http://ecosystems.psu.edu/youth/sftrc/future-forest-steward>. *



Avian Flu continued from page 1

gion of northern Russia, and from there at least a few ducks are believed to have conveyed it to Alaska, where south-migrating birds brought it to the Pacific Northwest.

It somehow spread east from there. Along the way, it is believed, the disease evolved—or “recombined”—to become a highly pathogenic virus that is even more deadly to domestic poultry.

The threat has eastern U.S. poultry producers bracing for the potential arrival of the deadly virus this fall, trying to prevent an outbreak that farmers in the Midwest have struggled to stop. Thanks to strict biosecurity, avian influenza can be kept out of most poultry barns along the Eastern Flyway, Brittingham predicts.

For the latest avian influenza news and related information, visit <http://extension.psu.edu/animals/poultry/topics/health-and-diseases/avian-influenza>. *

The Deer-Forest Study

Dr. Marc McDill and Dr. Duane Diefenbach are principal investigators on a project studying deer and vegetation conditions on state forests in Pennsylvania. Four study areas, each 24-40 square miles, will be monitored for deer abundance and vegetation conditions as deer populations change under the Deer Management Assistance Program. More information about the project is available at <http://ecosystems.psu.edu/deer>, including a blog with updates and findings.

Deer are being captured (including fawns) and fitted with GPS collars that communicate via satellite, and vegetation is being sampled using U.S. Forest Service Forest Inventory Analysis and PA Bureau of Forestry Continuous Forest Inventory protocols. See page 8 for related story. *

In this ISSUE

Features

- Pennsylvania Needs Future Forest Stewards 1
- Maurice K. Goddard Chair Filled..... 1
- Eastern Poultry Producers Brace for Avian Flu this Fall as Waterfowl Migrate 1
- The Deer-Forest Study 2
- Interview with Mike Messina 3
- The Center for Private Forests at Penn State 4
- Faculty Profile: William Elmendorf..... 5
- Partner Profile: USGS Pennsylvania Cooperative Fish and Wildlife Research Unit 7
- Alumni Profile: Logan Zugay ‘11 W F S..... 9

- Department News 11

- Student News 13

- Alumni News 15

- Outstanding Alumni and Outstanding Recent Alumni Award Nomination Form 23
- Summer/Fall 2015 Response Form 23
- Calendar 24

RESOURCES -- a publication for faculty, staff, students, alumni, and friends of the Department of Ecosystem Science and Management.

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This publication is available in alternative media on request.

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Interview with Mike Messina Head, Department of Ecosystem Science and Management

Q: What's new in the department?

MM: As far as human resources are concerned, our faculty and staff numbers have remained fairly constant since our last newsletter, as the only new hire we made was Cal DuBrock as our Goddard Chair holder. Also, Matt Hurteau left Penn State on June 30. There's more about Cal and Matt elsewhere in the newsletter.

We are currently searching to fill a tenure-track assistant professor position in hydrology. This position has been in the planning stage since my arrival in 2009, but was delayed for various reasons until a search was launched in late spring 2015. The position will emphasize research but will have graduate and undergraduate teaching responsibilities. It will be co-funded by the College of Agricultural Sciences and the Penn State Institutes of Energy and the Environment. We are excited about this position helping us restore the strength in hydrology and watershed management that made the former School of Forest Resources internationally recognized.

Our new dean, Rick Roush, started on October 1, 2014. He came to us from the University of Melbourne, although he is American by birth. His academic expertise is in entomology, but he is no stranger to natural resources, as he was dean of a college in Australia that had a forestry department. Although a new dean is not something new specifically in our department, Dean Roush has been regularly exposed in several ways to the influence of ESM on Pennsylvania's natural resources. For instance, he has addressed the PA Department of Agriculture's Hardwoods Development Council, has met twice with the executive board of the PA Forest Products Association along with his fellow associate and assistant deans and me, has toured Dwight Lewis Lumber's sawmill and Lewis Lumber Products' lumber store, and has recently been asked to serve with Cal DuBrock on the Governor's Green Ribbon Task Force for Forest Products, Conservation, and Jobs. This task force is a combined effort of the Pennsylvania departments of Conservation and Natural Resources, Agriculture, and Community and Economic Development. This six-month effort will develop a set of specific recommendations to improve forest conservation, workforce development, and products and marketing. The position of college dean has a strong influence on our department, so these experiences of Dean Roush's are a great way of impressing upon him how important our department is to the college's efforts concerning forests, wildlife, fisheries, soils, and water.

Chuck Ray brought us international attention in summer 2015 when he hosted the five-day World of Wood 2015 in the Forest Resources Building. The conference featured combined meetings of the International Wood Collectors Society and the International Association of Wood Anatomists, and a large number of concurrent presentations in three tracks: Wood Science, Wood Crafting, and General Interest. About 80 people attended from several U.S. states, Canada, Australia, and Russia. Chuck's conference showed that ESM still maintains some presence in things wood, even after the migration of our Wood Products major to a fellow department.

Q: In the last newsletter, you discussed the upcoming re-accreditation of the Forest Ecosystem Management degree by the Society of American Foresters. How has that progressed, and when will you learn the outcome?

MM: At the time of the last newsletter, we were writing our self-study, an intensive analysis of the department and the Forest Ecosystem Management (FOREM) degree that follows strict SAF guidelines. Our self-study was submitted to SAF on schedule for their site visit. Part of the re-accreditation process is a three-day site visit by three to four people chosen by SAF. The team is led by a university administrator of an SAF-accredited forestry program, a member of the SAF Committee on Accreditation (COA), and a practicing forester. The purpose of the visit is to "ground truth" the self-study to ensure the program is delivering the type of curriculum it described in its self-study. Our site visit occurred from April 6 to 9, and involved the help of several of our alumni in a prescribed session involving alums and employers of alums who were asked by the visitation team about how well our degree served them after graduation. I think the visit went well.

We received the visitation team's report, which is strictly a factual compilation of their visit and not an assessment of whether we deserve re-accreditation. We then responded to their report. The final phase of the process involves an appearance by the visitation team's leader and me before the COA at the SAF national convention in Baton Rouge on November 2 where we answer the COA's questions. The COA then decides our fate with a promised answer in the weeks following the convention. Regardless of the outcome, I thank the alums who helped us with a day of their time to frankly assess our degree program.

Q: What are you looking forward to concerning alumni relations in the coming year?

MM: I am excited by the energy and interest of the Forest Resources Alumni Group Board of Directors. Our current president (Steve Fairweather), vice president (Dave Gustafson), and immediate past-president (Howard Wurzbacher) have brought some new ideas and an encouraging level of energy to our board. We are working on a new format for our Alumni and Friends Banquet in April 2016, and other new concepts for communication and interaction between alums and our current undergraduates. I am also encouraged to see more Wildlife and Fisheries Science alums becoming active in our alumni group. Samantha Pedder ('11 WFS) and Chad Stewart ('00 WFS) have been elected to the board and will help us attract other WFS alums. Wildlife and Fisheries Science has been its own major since 1981. Through the years, WFS majors have outnumbered forestry majors in most years, so we really need WFS participation in our alumni affairs into the future or we risk losing contact with a large number of our colleagues.

Q: Anything else going on in the department that our alumni and friends would be interested in hearing?

MM: I am glad to report that our students are quite active. Our student chapters of the Society of American Foresters and The Wildlife Society are constantly contributing to local projects in Stone Valley and elsewhere to leave lasting improvements. They are also representing Penn State at local, state, regional, and national meetings, partly due to generous contributions from our alums. The realignment of the college in 2012 teamed up the former School of Forest Resources with Soil Science, so we now have a Soil Judging Team, too. That team placed second in a recent regional competition in Ohio, and will be competing at the national level in Kansas next spring. Our ESM Graduate Student Organization held a session recently for undergraduates interested in attending grad school, and has also helped organize our departmental seminar series. The graduate students are also largely responsible for the social climate in ESM by sponsoring the fall picnic and arranging fundraising activities at other times such as their chili cook-off and bake-off that foster association among faculty, staff, and students. In summary, we have a student body that is helping to put our new department on the map.

The Center for Private Forests at Penn State

Promoting Stewardship of Pennsylvania's Privately Owned Forests, Connecting People with the Land

A 2010 Bureau of Forestry sponsored study by Alex Metcalf (2010 Ph.D. FOR R) found that Pennsylvania has nearly 740,000 private forest landowners who together own about 11.5 million acres of the state's nearly 17 million acres of forests. From that study, we learned many things about our state's woodland owners. Surprisingly, about 25% of Pennsylvania's privately owned forests are in ownerships of less than 20 acres and they represent about 75% of owners in the state. Furthermore, the study found that about 60% of the state's privately owned forests are 50 acres or less, held by more than 700,000 owners – by far the greatest proportion of owners.

In contrast, there are only about 25,000 owners holding more than 100 acres, which represents about 23% of the private forests. Pennsylvania's private forest owners are a large and diverse clientele who turn to the Department of Ecosystem Science and Management for research-based information to address the myriad decisions and challenges they face managing their woodlands. Other owners—especially those who are new woodland owners—may not yet know where to turn for information.

Late in 2011, in response to the growing number of woodland owners and diverse needs of those owners, the Center for Private Forests was established at Penn State. The center's mission is to provide continued focus on education and outreach to private woodland owners and responsiveness to their evolving needs and challenges in caring for forest resources. Simply put, the center strives to connect people with the land, while encouraging stewardship that extends beyond the current generation.

The two primary tools used by the Center for Private Forests are: 1) applied research, which ensures that we understand and can address the challenges and needs of private forest landowners, and 2) outreach and education designed to connect with woodland owners and the public that benefits from the economic, social, and ecological values provided by our private forest resources.

Providing relatable and timely information to such a large set of owners with diverse experiences and needs is clearly a challenge and suggests the need for building partnerships and trying new approaches. For the past 25 years, our department, Penn State Extension, and now the center have benefited from continued financial support from the Pennsylvania Bureau of Forestry for many outreach efforts. These efforts include *Forest Leaves*, a monthly electronic and quarterly print newsletter sent to about 12,000 readers; a network of Pennsylvania Forest Stewards (PAFS) volunteers who receive 40 hours of intensive training to become peer-to-peer educators (in 2013, they reached out to nearly 600,000 individuals in a variety of settings); and a yearly webinar series through the PA Forests Web Seminar Center. The Center for Private Forests is continuing to build and strengthen partnerships for addressing emerging needs such as planning for the legacy and future of private owners' forests and exploring approaches for collaborative stewardship of privately owned forests at the landscape scale.

In fall 2015, the center and the Ibberson Chair are col-

laborating to initiate a Graduate Student Speaker's Bureau. The intent is to provide financial support to graduate students in the department and in the Human Dimensions of Natural Resources and Environment dual-title degree program to present their research or subjects of interest to audiences such as woodland owner associations, conservancies, or others interested in forests and forest issues. This also will benefit these groups through access to a broader range of programming than may be currently available. If you would like to learn more about this program and possible presentation topics, please contact the center.

This past spring, in Altoona, the center sponsored its second Private Forest Landowners Conference – “The Future of Penn's Woods.” The first of these biennial conferences was held in 2013 and the next one is already in planning for March 24 and 25, 2017, again in Altoona. The 2015 conference attracted 450 landowners and others for two days of learning about forests and forest issues during 99 presentations, keynote addresses, tradeshow, and tours. The enthusiasm among the participants was palpable, with attendees commenting on the quality and range of available information and the opportunity to talk with other forest landowners and managers. Be sure to mark your calendar for the 2017 event.

To learn more about the center and its work, please visit and bookmark the website ecosystems.psu.edu/private-forests. The website has information about the center's faculty, outreach programs, educational opportunities, our first annual report, and ways to support the center's work. We're accomplishing lots with only three staff members (and our partners and volunteers) and are seeking contributions to the center's long-term endowment in order to grow our capacity to reach more landowners. For more about our work, please call the center's office at (814) 863-0401 or reach out to Jim Finley (fj4@psu.edu), Allyson Muth (abm173@psu.edu), or Leslie Horner (lah310@psu.edu). *



Pennsylvania Forest Steward Mike Jackson talks with fellow landowners about a habitat improvement project he and his wife Laura recently completed. *Leslie Horner photo*



2015 Forest Landowner Conference
Michael Houtz photo

Faculty Profile: William Elmendorf

Associate Professor and Extension Specialist, Community and Urban Forestry

Millions of Pennsylvanians have experienced the results of William “Bill” Elmendorf’s work—but few are likely to realize it. Perhaps they enjoyed the shade of a young tree while walking around Pittsburgh, walked safely below old trees in Harrisburg, or paused to admire a newly planted tree on Penn State’s main campus.

Elmendorf’s hands are not typically the ones that plant or prune.

Rather, he advises and trains those who decide what trees are too old to save, where to plant new trees, which species to plant—and those to avoid—and how to thoughtfully consider open space and other natural environments in urban places.

Elmendorf teaches community and urban forestry and is the state extension specialist in urban forestry. He leads a team of four extension urban foresters who provide research-based expertise and guidance to cities and towns on how to plan and properly care for the trees in public spaces – part of our “green infrastructure.” A \$400,000 annual grant from the U.S. Forest Service, provided in partnership through Pennsylvania’s Department of Conservation and Natural Resources (PA DCNR) Bureau of Forestry, has funded the statewide extension urban forestry program over the last decade.

At the statewide level, Elmendorf provides leadership for programming and assistance aspects of the extension program. He is also president of the Penn-Del Chapter of the International Society for Arboriculture. Locally, he serves as chairman of the State College Borough Tree Commission, and is chairman of the Penn State University Tree Commission.

Although he was principal investigator in DCNR’s 2003 and 2015 State Comprehensive Outdoor Recreation Plans and other research projects, teaching and extension make up the lion’s share of Elmendorf’s appointment.

An Ethic of Community

Teaching and extension complement each other, he says. In both roles, he sees community development at the core of his work – whether that means finding shared interests to resolve a conflict or guiding a town to better plan and care for its trees

Hometown: Thousand Oaks, California

Alma Mater:

University of Montana
(B.S., 1980, Forest Resource Management)
University of Montana (M.B.A., 1986)
Penn State (Ph.D., 2002, Forest Resources; Minor in Rural Sociology)



Approach:

“I believe in goal-oriented management. That’s what I teach in urban forestry. There are tiers of strategies and actions that you need to do well to reach your goals. You need to accomplish the small steps to move forward. As UCLA basketball coach John Wooden discussed, if you want to win a national basketball title, you have to first learn how to tie your shoes correctly. Adaptive management is important. You have to have criteria and measures to see if your strategies are working. If they are not working, you have to listen and change.”

His work at its core: “You can’t have healthy people in a community without a healthy natural environment. So healthy natural systems are a foundation of community. How do you go about managing a community forest plan? The big thing there is diversity: diversity of species, diversity of age, diversity of people, and diversity of funding.”

Time at Penn State: 24 years

Best book on role of nature in community: *Design with Nature*, Ian McHarg

Favorite book: *The Community in Rural America*, Ken Wilkinson

Favorite trees on campus:

- The copper beech inside the president’s yard at the arboretum. “It is a mammoth, spreading, beautiful tree.”
- The American elms. “For what they represent to Penn State in terms of integrity and beauty, despite their problems.”

Elmendorf’s fingerprints on downtown State College: All the new downtown tree plantings including the honey locust and ginkgo on Pugh Street between East College Avenue and East Beaver Avenue.

and other natural resources to improve overall economic, social, and environmental value.

“Community is a place-based process of people interacting to reach mutual goals, if you will,” says Elmendorf. “So it’s an emerging process in places, and there are some strategies that enhance community development. One of them is a healthy natural environment and another is people working together on natural resources and other community issues.”

Common among the state’s 2,552 municipalities is limited money to fund seemingly optional items as caring for trees



In 1982, Elmendorf was a wildland fire fighter on the Los Padres National Forest in Southern California

along streets and in parks. So Elmendorf and his team speak to officials in financial terms about the economic benefits of nature, pulling from five decades of research into how trees, parks, open spaces, and attractive landscapes economically lift an entire community.

Street trees and other public landscapes increase property values by nine percent, says Elmendorf, quoting a study from the Wharton School of Business at the University of Pennsylvania. Conserved open space tends to lift the value of every property – and thus the tax base – in a community.

Beyond that, there are economic benefits to clean air and clean water, beauty, and human health benefits such as decreases in rates of asthma, childhood obesity, human stress, and increased learning capacity.

But few people fully know about all of those benefits. So, Elmendorf tells them, and trains others to spread that information.

“You’re not preaching to the choir when you’re preaching about the ecosystem services that nature provides people and the places they live,” he says, “because there is no choir.” Studies show fewer than 10 percent of elected officials and citizens understand the full values of nature, particularly benefits to human health.

Once informed, officials often pay more attention to their trees and parks by taking an inventory of the condition and species of trees on public land, establishing a tree or environmental advisory commission, tree ordinance and tapping volunteers to help with planning decisions, and sometimes partnering with non-profit organizations to help.

Tending People

In Pittsburgh, a 2005 inventory of the city’s street trees showed decline and no help to remove or replant trees, which led to the creation of Tree Pittsburgh, a non-profit founded in 2006 to plant and maintain the city’s trees and engage the public.

Tree Pittsburgh coordinates 1,400 volunteer “tree tenders” in the greater Pittsburgh area who plant, weed, mulch, and prune, says its Director of Urban Forestry, Matt Erb, a 2003 Forest Science graduate and a former student of Elmendorf’s.

Elmendorf has helped advise Pittsburgh on care of its trees and review its Natural Area Study/Plan and Urban Forestry Master Plan.

“He’s definitely outspoken. He’ll definitely share his ideas with everybody, which is a good thing,” says Erb. “A lot of times when you bring a lot of stakeholders together there are a lot of people talking and messages get lost. He’s good at speaking up and clarifying his viewpoints and important topics of discussion.”

As a teacher, Elmendorf uses that same clarity, says Erb, who remembers Elmendorf explaining that mastering the skills to work well with people determines an urban forester’s success or failure.

Last year, Elmendorf and the extension urban foresters worked with 434 municipalities and 383 volunteer organizations, and supported 34,000 hours of volunteer giving.

That “sweat equity” is critical in cash-strapped towns, he says. “It’s the three sisters on the Philipsburg Tree Commission – they’re the ones who get it done.”

Experience Informs Teaching

Elmendorf’s time working as the urban forester for Thousand Oaks, California, as a wilderness ranger in Montana, as a wildland firefighter in Montana and California, and measuring and evaluating some of the world’s largest trees for a project that formed Redwood National Park also helps his teaching.

He teaches Urban Forest Management (FOR 401), which covers proper care of trees, tree inventories, how to plant trees in urban areas with sidewalks and parking lots, proper planning and zoning – and how all of these processes work toward community development.

“I believe in goal-oriented management—that’s what I teach in urban forestry,” says Elmendorf.

He also teaches Human Dimensions of Natural Resources at the undergraduate level (FOR 450W) and Human Dimensions of Natural Resources and the Environment at the graduate level (HDNRE 574).

The two courses are based on reading, writing, and class discussions. Topics include: tools for gathering social perspectives, land use planning, conflict resolution, Aldo Leopold’s land ethic, people’s attitudes and beliefs about environmental and social change, and the role of community in natural resource management along with conservation and ethical development of natural resources.

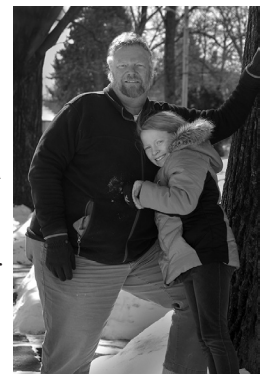
In the last few years, Elmendorf has worked to streamline the urban forestry option within the department’s curriculum into tracks that align with students’ goals of working in arboriculture, or as a municipal urban forester, or in the education and planning realms.

Students who want to work as a private arborist take courses in small business management and financing, while those who plan to work in local governments take courses in parks and recreation management and conflict resolution, and those interested in planning and education take courses in landscape architecture and geography.

The work is important, says Elmendorf, noting the U.S. population could reach 400 million by 2045, with growth primarily around established urban areas like the Eastern seaboard. That means trees, open space, and other natural resources in urban areas are just as important as those found deep in the forest.

“Having high-quality natural environments close to people is going to become increasingly important, for social equity and environmental and human health issues,” says Elmendorf. *

Elmendorf and daughter Shannon in State College, PA



Partner Profile: USGS Pennsylvania Cooperative Fish and Wildlife Research Unit

As an M.S. Wildlife and Fisheries Science student, Tyler Evans analyzed the landscape of states that have seen outbreaks of the fatal Chronic Wasting Disease (CWD) in white-tailed deer to determine where the disease is likely to spread in Pennsylvania.

Studying the landscape patterns in West Virginia, Maryland, and Virginia led Evans to the key finding that CWD is more likely to move into open and developed landscapes than into dense forest areas. Evans used spatial modeling techniques to analyze data such as the age and sex of deer with environmental data including the amount of clay in the soil, elevation, slope and the presence of streams.

That work not only led Evans to his M.S. thesis and publication submissions, but also helped the Pennsylvania Game Commission prioritize its sampling for CWD during the 2014 deer hunting season.

“It’s certainly nice to know your efforts may end up having a direct effect on disease surveillance,” says Evans. “This research project that required collaborations gave me a better idea of how wildlife conservation and management happen at the state level. It was extremely beneficial.” Evans graduated in December 2014. In early 2015 he worked on a field crew for the Game Commission and is now a research technician in Ohio.

CWD – which attacks the brains of infected deer, elk and moose – has been detected in a total of 10 dead captive deer and in four Pennsylvania counties: in 2012 at a captive deer farm in Adams County and in hunter-harvested deer in Blair and Bedford counties, in late 2013 in a road-killed deer in Bedford County, and in October 2014 on a deer farm in Jefferson County.

“Because money is always hard to come by, we’re trying to focus our efforts in areas more susceptible to CWD,” says wildlife ecologist Dr. W. David Walter, one of two assistant unit leaders of the U.S. Geological Survey Pennsylvania Cooperative Fish and Wildlife Research Unit. Walter is also an adjunct assistant professor of wildlife ecology.

Evans’ project initiated subsequent work on a larger project by Walter on using genetics to determine groupings of deer that

share common genes – the genetic relatedness of deer – and their geographic locations. He is analyzing deer DNA found in tissue samples to identify and differentiate deer sub-populations.

ESM Ph.D. student Will Miller began collecting samples in fall 2014. In the next couple of years, those results may explain a lot about CWD, such as its origin in the region and its pathway or likeliness of spreading north into Pennsylvania.



Jake Dingel/PGC Photo



Evans’ work is just one example of how ESM graduate students work on research projects aimed at informing wildlife management and addressing real wildlife problems — and gain valuable experience as they train for careers in wildlife fields.

“One of the biggest contributions the Cooperative Research Unit makes to our department is in graduate education,” says ESM Department Head Dr. Mike Messina. “They teach graduate courses and mentor graduate students.”

Those spots are highly coveted, says Walter, and there are always far more graduate students interested than available spots.

Fisheries ecologist Dr. Tyler Wagner, also an assistant unit leader of the Cooperative Research Unit, and his graduate students work on several projects including identifying factors contributing to population declines of smallmouth bass in the Susquehanna River.

When the national network of Cooperative Research Units was established in 1935, there were no wildlife programs to train wildlife professionals, says Dr. Duane Diefenbach, who is the leader of the Pennsylvania’s Cooperative Research Unit, a USGS scientist and adjunct professor of wildlife ecology. The Cooperative Research Unit has partnered with Penn State, initially with the School of Forest Resources, since its creation in 1938.

“That training is an important part of our mission today,” says Diefenbach. “I’m a federal scientist, but because I’m here with the university I have graduate students and am training future professionals. A lot of our students go on to work at state and federal agencies or universities.”

The Cooperative Research Units also facilitate research between national resource agencies and universities. There are now 40 of them in 38 states, and each is a partnership among the U.S. Geological Survey, a land-grant university, a state natural resource agency, and the Wildlife Management Institute, a nonprofit scientific and educational organization.

“State wildlife agencies need research support,” says Diefenbach. “That’s the other key thing that we provide to our partners. They come to the co-op units to assist with research problems that address wildlife management or fisheries management needs.”

Initially, almost a century ago, the research was comprised mostly of basic observations of wildlife and working to restore game populations, says Diefenbach. “Today, we need to be doing more experimental work. So some of the work that I’m doing is

looking at the responses of game populations to experimental manipulations in hunting regulations. The questions are more difficult today, but I think we have the tools and can get at the answers.”

Another critical way in which the Cooperative Research Unit and ESM work together is that Diefenbach, Wagner, and Walter all teach courses as adjunct faculty. Diefenbach teaches students how to use various methods to estimate abundance, survival, or reproductive rates in wildlife populations. Walter uses his expertise in disease and spatial ecology to teach a course on how animals use habitat and how diseases spread across the landscape. Wagner has developed and teaches a course on techniques in analyzing ecological data.

Deer and the Forest Ecosystem

Diefenbach’s research will help guide the future decisions of deer and forest managers. During a five-year project that began in January 2013, he and Dr. Marc McDill, associate professor of forest management, and Danielle Begley-Miller, a Ph.D. candidate, are studying the interaction among deer, plants, and soils in the forest. High densities of deer can reduce plant diversity in forests because they eat any vegetation within reach, including tree saplings.

“If you’d asked me 10 or 12 years ago ‘What’s the biggest threat to our forests?’, I would have said deer densities,” says Diefenbach, “but the Pennsylvania Game Commission has made some big changes in hunting regs for deer and today I’m not sure I would say the same thing. That’s why we’re doing this research project, because we’re at the point where we need to better understand how deer, soil conditions, and competing vegetation interact. Once we better understand those interactions, we can make smarter decisions for managing deer and managing forests.”

For example, says Diefenbach, deer are browsing and eating small shrubs like hobblebush, and wildflowers like trillium, Canada mayflower, and Indian cucumber. “These are basically ‘ice cream’ plants to deer. But at the same time there’s an indirect effect. By removing those species, something else takes its place: mountain laurel, rhododendron, huckleberries, and blueberries. They become more successful. So those plants then are competition for tree regeneration, and that’s where that interaction comes in,” says Diefenbach.

There’s a “feedback loop” of deer browsing, and the competing vegetation’s response to deer browsing, he says. “The soil fits in because some species such as oaks that deer prefer don’t do as well in a more acidic soil but other plants like red maple can thrive.”

Pennsylvania has reduced its deer densities during the past decade. “The question is: Do we need to reduce them further, because we still have problems in the forest? And I’m not willing to say yes, when I know there are other factors.”

For part of the project, Ph.D. Wildlife and Fisheries Science student Danielle Begley-Miller has established 264 plots, each about 1,800 square-feet, in Rothrock and Bald Eagle state forests. She has applied lime to some of them to address soil pH, applied herbicide to others to control vegetation, fenced others to control deer browse – and included combinations of those treatments.

“A project of this size is really invaluable,” says Begley-Miller. “We are looking at real-world problems. Everybody’s considered these factors separately but nobody has looked at them together. Ecological systems are complex. Working on that with an adviser is a real-world experience and that’s applicable no matter where I go.”

Likewise, in the bigger picture, the Cooperative Research Unit is greater than the sum of its parts, says Diefenbach. Each partner brings something to the table: The university provides offices and administrative support, USGS provides salaries, and the state agencies provide research support.

“Those separate pieces come together to address real-world management problems and train future professionals in what would otherwise be too big a challenge for any partner to address by itself,” says Diefenbach. *

USGS Pennsylvania Cooperative Fish and Wildlife Research Unit

<http://www.coopunits.org/Pennsylvania/>

Current Staff

Federal Staff: 3	Post-Docs: 1
M.S. Students: 9	University Staff: 1
Ph.D. Students: 4	

5-Year Summary

Students graduated: 17
 Scientific Publications: 72
 Presentations: 90

Leaders

	Years
Logan J. Bennett (W)	1938-1948
Ward M. Sharp (W)	1948-1962
James S. Lindzey (W)	1962-1980
Robert L. Butler (F)	1963-1980
Dean E. Arnold (F), Acting Co-leader	1980-1984
Gerald Storm (W), Acting Co-leader	1980-1984
Robert F. Carline (F)	1984-2007
Duane Diefenbach (W)	2007-present

Assistant Leaders

Pennoyer F. English (W)	1938-1958
H. Norton Cope (W)	1958-1959
John L. George (W)	1963-1969
Anthony Bodola (F)	1964-1967
Donald C. Hales (F)	1967-1969
Charles T. Cushwa (W)	1969-1971
Robert F. Raleigh (F)	1970-1972
Gerald L. Storm (W)	1972-1980
Gerald L. Storm (W)	1984-1997
Dean E. Arnold (F)	1973-1980
Dean E. Arnold (F)	1984-1999
Duane Diefenbach (W)	1999-2007
Erin Snyder (F)	2001-2003
Tyler Wagner (F)	2008-present
W. David Walter (F)	2011-present

W = Wildlife Research Biologist
 F = Fisheries Research Biologist

Alumni Profile: Logan Zugay

2011 Wildlife and Fisheries Science

Q: What's your current position (job title and employer) and what are your responsibilities?

I'm a wildlife biologist/environmental scientist and U.S. Fish and Wildlife Service/PA Fish and Boat Commission Qualified Phase 2 Bog Turtle Surveyor with Skelly and Loy, Inc. Engineering Environmental Consultants. My daily responsibilities include delineation of wetlands and watercourses, Threatened and Endangered (T&E) species habitat assessments, and coordination with jurisdictional agencies (particularly, the bog turtle), presence/probable absence surveys for herptiles and bats, report writing, and permit composition.

As a consultant, one of my goals is to help collect data necessary to acquire permits for construction activities such as roadwork or bridge/culvert replacements. Wetland and watercourse delineations are the keystone of what I do and are the majority of my work. Also, helping to develop and implement avoidance and minimization measures for both aquatic resources and T&E species is a significant task.

In April 2015, I was added to the USFWS/PFBC lists of Qualified Phase 2 bog turtle surveyors. My responsibilities include evaluating wetlands as potential suitable habitat for the species and coordinating with USFWS. As a seasonal activity (April 15 through June 15), I conduct Phase 2 surveys that are used to determine presence or probable absence of the species in particular wetlands deemed to be considered potential bog turtle habitat. Only 33 biologists are recognized as qualified Phase 2 surveyors in Pennsylvania per PFBC.

Q: What was your educational path to Penn State and to degree completion?

I graduated from Mechanicsburg Area Senior High (Mechanicsburg, PA) in 2007. I opted to study and play baseball at Penn State Harrisburg from Fall 2007 through Spring 2009 before changing location to University Park. In May 2011, I graduated from the College of Agricultural Sciences, School of Forest Resources, with a B.S. degree in Wildlife and Fisheries Science.

I chose Penn State for multiple reasons, but the most important was the reputation of the wildlife program. When it comes to natural resources, there are few places in Pennsylvania or the country that can compare to Penn State's education and reputation. Knowing that I was interested in wildlife biology, I couldn't have picked a better place.

Q: What additional training or education have you completed since earning your baccalaureate degree?

Bog Turtle Phase 2 Qualified Surveyor field audit (2015)
Bog Turtle research surveys with The Nature Conservancy (2008, 2009, 2011, 2015) and Maryland DNR (2015)
Maryland Biological Stream Assessment (2014, 2015)

Q: What were some of your activities as a student?

- The Wildlife Society – I attended meetings, but particularly enjoyed the guest speakers like bat biologist Dr. Dan Riskin. There were plenty of opportunities to listen to some of the leading experts in their respective fields



Conducting a Phase 2 Bog Turtle survey in 2015. Bog turtles live in perennial spring-fed wetlands dominated by emergent vegetation and mucky soils. The range of the species within the state is limited to southcentral, southeast, and eastern Pennsylvania.

as well as get together with classmates such as the pot luck dinner at the Boalsburg fire hall.

- A work-study position with Dr. Jason Kaye (Soil Biogeochemistry) – At the time, I didn't realize how important a solid foundation in soils would be to my future career, but it is an integral part of my work, particularly wetlands. As a member of Dr. Kaye's lab, I assisted several master's and Ph.D. candidates with their research. The exposure I received to great minds in the lab was tremendous. I learned more about soil biogeochemistry from working in that lab for two years than I could have imagined.
- Penn State – I was fortunate to participate in Varsity baseball at Penn State Harrisburg (Division 3) during my freshman and sophomore years.

Q: How did you get interested in the major you selected?

I've always had an interest in wildlife and nature since I was young. My family joked that I was destined to be a biologist after watching a show on the lifecycle of earthworms when I was 4 years old. Whether it was reading flash cards about exotic species or trying to catch spring peepers and Luna moths at my grandparents' farmhouse, I wanted to learn about as many animals as I could. To this day, I'm still captivated by shows like Planet Earth on The Discovery Channel.

Q: How did you get to where you are today?

In summer 2008, I interned with my current company. I was lucky enough to have met somebody who suggested applying for the internship to see how I liked the consulting industry. At the time, I was still unsure about what career path to take, but the internship experience really opened my eyes to the opportunities and possibilities in consulting.

As far as where I am in my career, hard work is the best explanation. Sometimes you have to be willing to go the extra mile when everyone else has packed it in for the day. I want to be great at what I do, so that has motivated me to have success early in my career.



A large snapping turtle captured during a May 2015 survey. All herpetofauna observed and captured during surveys are reported to the regulatory agencies.

Q: Was there an activity or course at Penn State that was particularly important to you?

I enjoyed the majority of my classes, but Mammalogy and Dendrology are two that stood out the most.

While the majority of my work involves herpetology, I've always been interested in the mammalian world. The information for the course was borderline overwhelming at times, but it was a class I loved to go to so it was a pleasurable challenge. The lab component was also fantastic and the opportunity to have hands-on experience with preserved specimens and skeletons was greatly helpful.

Dendrology was the best 3- to 4-hour class I could have possibly taken. Ninety percent of the time is spent outside – sometimes on campus, sometimes in the state forest, and sometimes in surrounding neighborhoods. I didn't need to know anything about trees heading into this class, but by the time the semester was over,

I felt like I could identify every tree I came across. Personally, the most beneficial element of this course was that the class is mostly fall/winter identification. Being able to ID species with leaf-off is very important when I perform winter delineations. I still use the information I learned in that class every day for my job. Also, I can thank Dr. Margot Kaye for my habit of identifying every tree I see, whether I'm at work or not.

Q: What did you like most about your major?

Wildlife and Fisheries Science has a lot of perks –it's hard to pick one thing. For me, the subject matter was very fascinating so it was easy to go to class. The accessibility of your professors and advisers is also something that should not be undersold. With a much smaller student-to-faculty ratio, you have the opportunity to engage with your professors much more easily than some other majors. Lastly, when you have class all day/every day with the same 50 people, you grow close with them. There was never a shortage of people with whom to study, to review papers, or even to go out downtown.

Q: What advice do you give someone seeking a job with a degree in W F S?

INTERNSHIPS!

There is no better way to get exposure in any field of wildlife or fisheries than interning. An internship is essentially a three-month interview with a potential employer, but it's also

an extremely useful tool to help you decide what career path is right for you. I would have never thought of being a biologist for my consulting firm had I not taken an internship with them after my freshman year. It was also my internships with other employers after my sophomore and junior years that helped lead me back to consulting and to get me in the position I am today.

Q: What's something important you have learned from your work experience?

There are no shortcuts.

The right way to get something done isn't always the easiest, but you can't be afraid to be a grinder. You have to be motivated enough to take serious pride in your work and the product you present because you're only as good as your last performance.

Q: What do you like most about your job?

I love the wide variety of things I get to do. One day I'm surveying for turtles, the next I'm at an emergence survey for bats, and the next I'm doing benthic macroinvertebrate sampling. There are so many different types of projects that I am unsurprisingly involved in a lot of studies and surveys. The chance to work in multiple environments and with different forms of wildlife keeps my job exciting. I don't dread getting up on Monday mornings because I never know what I'm going to see when I'm in the field.

Another perk is being able to travel all over the state and beyond. There is so much to see in Pennsylvania and I'm lucky enough to have been able to see much of it while working. Much of the traveling I do is to nooks and crannies of PA, not state parks or sight-seeing locations for tourists. I get to see the heart of the state and see places that the vast majority of Pennsylvanians will likely never visit. Additionally, I've spent a lot of time in West Virginia, Virginia, Maryland, and even Tennessee. *



"Muddling" in a soil pipe during a bog turtle survey 2011. Bog turtles burrow into mucky soils for thermoregulation, but also as a way to escape potential predators.

Photos courtesy of Logan Zugay.

DepartmentNews

News Briefs

Katie Gaines, a doctoral candidate in Ecology advised by Dr. David Eissenstat, has been awarded the 2015 Intercollege Graduate Student Outreach Achievement Award for her dedication to teaching and mentoring K-12 students. Gaines' outreach experiences include being a fellow for Penn State's CarbonEARTH (Carbon Educators and Researchers Together for Humanity), a program that provides middle school science instruction and curriculum development at middle schools in Philipsburg and Harrisburg, Pennsylvania.

Undergraduate student **Aaron Lewis** received the Forest Technology Program Award in May 2015. This spring he graduated from Penn State Mont Alto with an associate degree in Forest Technology and this fall he re-enrolled in the Forest Ecosystem Management baccalaureate degree program. At the Mont Alto Campus he was president of the Forestry Club, and a member of the soccer team and the woodsmen team. The past two summers he has worked for the U.S. Forest Service in New Hampshire and in California. Aaron's dad is **Marc Lewis** '78 FORSC, a past president of our Forest Resources Alumni Group.

Charles McCole received a 2015 Shikar Safari Club scholarship, having been selected by faculty to be this year's nominee from Penn State's Wildlife and Fisheries Science program. McCole completed the B.S. degree in May 2015 and is currently serving as a 2nd Lieutenant in the U.S. Marine Corps at Quantico, Virginia. Penn State's 2014 nominee and Shikar award recipient was **Robert Ritson** who graduated in December 2014. Ritson is now a research associate at Montana State University. Qualifications for the Shikar award include being an active hunter, demonstrating leadership abilities, having a grade point average of 3.0 or higher, and being nominated by faculty in a wildlife management program.

Ronald Pursell died March 17, 2014. He earned B.S. and M.S. degrees in botany at Penn State in 1952 and 1954, respectively, and completed a Ph.D. in botanical science at Florida State University in 1957. He returned to Penn State in 1959 and taught botany for four years at Mont Alto before moving to University Park. He retired from Penn State in December 1991 as professor emeritus of botany. At the time of his death, he was a research associate at the Missouri Botanical Garden in St. Louis, Missouri. *

Scholarships and Awards 2014-15

The College of Agricultural Sciences awarded more than \$2.3 million in scholarships and awards to 752 students for the 2014-15 academic year. This total includes about \$140,000 that our Department of Ecosystem Science and Management distributed among 80 students, including six incoming freshmen.

Recipients and donors were honored at a banquet on October 16, 2014, at the Penn Stater Conference Center Hotel in State College. Forest Science senior **Travis Cunningham** was selected to offer the Recognition of Scholarship and Award Donors.

Two of our college's new scholarships for 2014 were made possible by School of Forest Resources alumni: the **Storer Family Trustee Scholarship in the College of Agricultural Sciences** and the **Carl and Veronica Stravinski Scholarship in Forest Science**.

Two of our department's scholarships were among those recognized at the banquet for reaching a milestone of continuous support. The **Mark Petty Bush Memorial Scholarship in Wildlife and Fisheries Science** has been awarded for 20 years. The **Orpha Kelly Rapp and Jesse Rossiter Rapp '15 Memorial Scholarship** has been awarded for 30 years. *

Faculty and Staff Awards

The following award winners were recognized at our department's annual spring picnic hosted by Tau Phi Delta fraternity on Tuesday, April 21, 2015. Our undergraduate students submit nominations and vote, and the final selection is made by a panel of representatives from our department's student organizations.

Outstanding Graduate Student Teaching Assistant Award
Ms. Lauren Chaby, M.S. candidate in Ecology and Ph.D. candidate in Neuroscience

Outstanding Undergraduate Advising Award
Dr. Paola Ferreri, associate professor of fisheries management

Outstanding Undergraduate Teaching Award
Dr. Margot Kaye, associate professor of forest ecology *

Hurteaus Leave Penn State

Matthew and Sarah Hurteau left Penn State in June 2015 to continue their careers at the University of New Mexico. Matt had joined us as assistant professor in July 2011, filling an earth systems ecologist position jointly funded by Penn State Institute of Energy and the Environment and the College of Earth and Mineral Sciences.

His research focused on climate change mitigation and adaptation in forest systems, using both field-based and modeling approaches to examine a range of topics including forest carbon, wildfire, and growth modeling. He led the Earth Systems Ecology Lab, which included a team of both undergraduate and graduate researchers and postdoctoral scholars. The two main undertakings of the lab were forest-based climate change mitigation and adaptation.

He also created and taught an undergraduate course FOR 201 - Global Change and Ecosystems, focusing on the connections between climate and terrestrial ecosystems.

Sarah, a wildlife ecologist, was employed in various positions in the department and college. One fall semester she taught Wildlife and Fisheries Measurements (W F S 310). She was involved in an Extension project on restoring riparian buffers and building green infrastructure on the lower Susquehanna, and she produced Extension publications including an ID guide of common reptiles and amphibians of Pennsylvania. *

In Memoriam



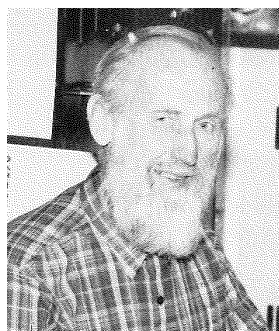
Peter Labosky, Jr., professor emeritus of wood science and technology, died August 6, 2014. He served in the U.S. Army after high school and later earned a Ph.D. in Wood Science from Virginia Tech. He joined our faculty in 1979 and served for 22 years. His research included study of the deterioration of oaks killed by gypsy moths, and wood chemistry and pulping processes. He was also a member of the interdisciplin-

ary research team that developed the standards for hardwood glue-laminated timber bridges. He was one of ten emeritus professors who were named Provost's Emeritus Faculty Teaching Scholars in 2002-03 as part of an initiative that provided additional opportunities for emeritus faculty to return to the classroom to share their expertise and time with students.



Edgar H. Palpant, retired research assistant, died October 4, 2014. He joined the forestry department at Penn State in 1966 and he took care of the greenhouses and assisted faculty with a variety of research projects. Tree breed-

ing and provenance testing were among his specialties. He also grew Christmas trees and served as executive secretary of the Pennsylvania Christmas Tree Growers Association. He ran his own nursery outside of State College, PA, and an international seed tree business with many connections in Europe. He retired in 1983; he and his wife moved to Buena Vista, Colorado in 2009.



Russell J. Hutnik, professor emeritus of forest ecology, died November 2, 2014. He was a faculty member for 30 years (1956 - 1986). His interests included pollutant effects on forests, revegetation of strip mine spoil banks, and ecological effects of herbicides on rights-of-way. He established *Research Briefs*, an in-house publication, in 1966 to facilitate the timely reporting of research results by faculty and graduate students. He

authored/edited several books, including *Ecology and Reclamation of Devastated Land*, a two-volume series.

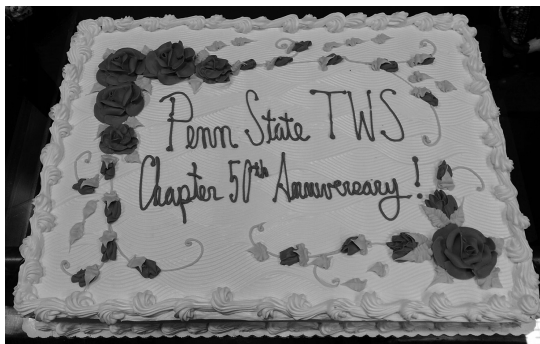
Richard H. Yahner, professor emeritus of wildlife conservation, died July 8, 2015. He was a faculty member for 30 years (1981 - 2011), including three years as associate dean of The Graduate School, and 25 years as an environmental consultant. Much of his work focused on wildlife diversity in relation to managed forests and landscape changes. He published four books and more than 300 scientific publications. In 1992, Yahner learned of the existence of the "Original Nittany Lion," owned by Penn State, but forgotten for 40 years in the basement of the Carnegie Museum in Pittsburgh. Yahner arranged for its transportation back to Penn State and its subsequent restoration that was completed in 1996. Memorial contributions for Dr. Yahner can be made to www.CurePSP.org.



Rich Yahner with Smokey Bear at School of Forest Resources Centennial Celebration, 2007.
Charles Strauss photo

The Wildlife Society - Penn State Student Chapter

50th Anniversary, 1964-2014



To commemorate the 50th anniversary of Penn State's TWS Student Chapter, we are collecting photos and short stories that will be compiled on our department's website. Include as much detail as possible in terms of names, dates, and locations. Please help us document the history of the chapter! Send material to Dana Grove, dlg5035@psu.edu. Thank you.

Amy Rutter Honored with George Award, Rapp Prize, and Outstanding Senior Award

About six weeks before American Pharaoh won the Triple Crown, Wildlife and Fisheries Science (W F S) senior Amy Rutter was honored with three prestigious awards in the Department of Ecosystem Science and Management: the John L. George Student Conservation Award, the Orpha Kelly Rapp and Jesse Rossiter Rapp '15 Prize for Academic Excellence, and the ESM Outstanding Senior Award.



As the graduating senior in the College of Agricultural Sciences with the highest grade point average, Amy also served as College Marshal at spring 2015 commencement. She was

a Schreyer Honors student. Her thesis work, conducted in the Hedges Lab in the Department of Biology, focused on studying the morphology of croaking geckos (*Aristelliger* spp.) specimens for taxonomic revision and new species description. In addition to the B.S. in W F S, she completed a minor in Biology.

Amy's university career began at Penn State Berks. There she served as a Penn State Peer Mentor, a Penn State Lion Ambassador, and as the community service coordinator for the Penn State Honors Club. In the latter role she organized more than 100 hours of volunteer service projects at French Creek State Park, Nolde Environmental Education Center, and Hawk Mountain Sanctuary to maintain hiking trails and remove invasive species.

Amy had her first undergraduate research experiences with the Arnold Lab at Penn State Berks. In summer 2012, she conducted field research on common terns (*Sterna hirunda*) in Ontario, Canada, including data entry, nest observations of feeding and behavior, and bird handling. She also assisted with elementary school education programs in the region's Presqu'île Provincial Park.

She spent summer 2013 as a National Science Foundation intern conducting independent research on the morphological variability of brocket deer (*Mazama* spp.). She also spoke with visitors in the Hall of Mammals at the Smithsonian National Museum of Natural History as part of the "Scientist Is In" program.

Throughout spring 2015, Amy worked as an undergraduate curator in the Department of Ecosystem Science and Management, independently identifying and cataloging 500+ mounted bird specimens. In May 2015 she served as an Outdoor School Counselor at Shaver's Creek Environmental Center.

Among the recognitions that Amy has received is being featured as one of "18 Incredibly Impressive Students at Penn State," by Business Insider in 2014 (<http://www.businessinsider.com/most-impressive-students-at-penn-state-2014-2>). She also received a Best Student Poster Award from the Waterbird Society, and the Outstanding Sophomore Award from the Gamma Sigma Delta Honor Society, both in 2013.

After graduation, Amy began work as a seasonal wildlife biologist aide for the PA Game Commission to track fawn survival in central Pennsylvania. She plans to work in a number of seasonal positions before entering graduate school with the goal of becoming a professor or museum curator and focusing her research on questions with conservation implications in order to preserve and protect native fauna.

The John L. George Student Conservation Award honors an undergraduate student enrolled in the Wildlife and Fisheries Science program who best exemplifies the spirit of Dr. George. Dr. George was the driving force behind the establishment of the Wildlife and Fisheries Science major in the School of Forest Resources at Penn State. He was known for his perseverance, dedication and involvement in conservation service, and his remarkable teaching skills.

The Orpha Kelly Rapp and Jesse Rossiter Rapp '15 Prize for Academic Excellence is given each spring to the senior in our department with the highest grade point average. Elizabeth Rapp Tukey (now deceased) endowed the award in 1992 in memory of her father Jesse Rossiter Rapp (Class of 1915) and her mother Orpha Kelly Rapp.

The ESM Outstanding Senior Award is given in recognition for service to the department, academic performance, service to the University and society, and professional promise and experience. *

Latham Award

David J. Muñoz, an M.S. candidate in Wildlife and Fisheries Science, received the Latham Award in 2014. His research focuses on understanding range-wide variation in demography of red-backed salamanders and how they respond to environmental conditions. As a graduate assistant in Dr. David Miller's Applied Ecology Lab, David has also served as a teaching assistant for W F S 447W, Wildlife Management, and has worked with the PA Game Commission to develop analyses to model spatiotemporal changes in age and sex ratios of Ruffed Grouse.

"Exemplifying the Latham philosophy, David has made outreach a priority during his time at Penn State," says Dr. Miller.



StudentNews

“In addition to regularly bringing undergraduates out into the field to help with capturing and marking salamanders, David has sought out opportunities to reach broader audiences.”

David gave a presentation on global amphibian declines to the local Audubon Society chapter, he has encouraged younger scientists by serving as a volunteer judge for the PA Junior Academy of Sciences and Penn State’s Undergraduate Research Exhibition, he has returned to his alma mater – Elon University in North Carolina – to discuss his experiences and research with students there, he facilitated workshops for undergraduates at the Northeastern Conclave of The Wildlife Society in April 2014, he was an event volunteer at the Pennsylvania Forest Fest in September 2013, and he maintains a blog, “Salameandering: wildlife, plants, and how they are studied” (<http://salameandering.blogspot.com>).

“Given my desire to make nature, science, and ecology accessible to everyone,” says David, “I plan to expand beyond my blog. I hope to develop pieces for local newspapers and online outlets. I also have other outreach events planned in the upcoming year for Camp Karoondinha, Centre County YMCA, Penn State Upward Bound, and Girl Scouts.”

David completed the M.S. degree in August 2015. In May 2015, David received the National Science Foundation Graduate Research Fellowship, and he has decided to continue to studies at Penn State in pursuit of his Ph.D. He will expand upon the work he started as a master’s student and hopes to also complete a research internship with the Smithsonian Institute.

The Roger M. Latham Memorial Graduate Award, created in 1981, memorializes Dr. Roger M. Latham (1914–1979), who devoted his career to promoting conservation and management of renewable natural resources. Latham was well known as an author and the outdoor editor at the *Pittsburgh Press*, a lecturer, a photographer, a naturalist, a teacher, and a resource conservationist.

The Latham Award is given annually to an outstanding full-time graduate student advised by a Wildlife and Fisheries Science faculty member. *

Students Enhance Habitat for Wildlife near Restored Creek

Students in Dr. Michael Sheriff’s Conservation Biology class built and installed bird and bat boxes to enhance wildlife habitat near a recently restored creek.

They installed the wildlife homes on Saturday, Sept. 20, 2014, as part of a hands-on component of their course to learn about conservation in action at the Grandview Chase Condo Association Natural Area demonstration site in Lancaster.

Lancaster and the surrounding lower Susquehanna River region are Pennsylvania’s largest source of pollution to the Chesapeake Bay. More than 40 percent of local streams are impaired by stormwater runoff from suburban and agricultural sediment and other pollutants.

Penn State researchers have teamed with the Chesapeake Bay Foundation, LandStudies Inc. and the Grandview Chase Condo Association on a project funded by the National Fish

and Wildlife Foundation to develop and implement a “Green Master Plan.”

“This plan employs the use of ‘green’ practices that reduce flooding, stormwater runoff and pollution to improve water quality and wildlife habitat in a suburban setting, and the project will serve as a demonstration site for green infrastructure,” explained Sheriff, assistant professor of mammalogy and ecology.

“The plan includes patches of streamside forest and woodlands, wildflower and native grass meadows, walking trails, and street trees to beautify the neighborhood, provide wildlife habitat and improve the water quality of the nearby stream.”

The Grandview Chase Condo Association hosted a volunteer planting event in June, when 30-plus volunteers planted more than 600 native plants. It was the first step to restore the health of the neighborhood creek that has been degraded by trash and pollutants. The students enrolled in the Conservation Biology course, mostly Wildlife and Fisheries Science majors, added their own habitat.

Additional native trees and shrubs will be planted following the installation of the wildlife boxes by project partners.

The native trees, shrubs, and grasses in the natural area will begin to grow deep roots, protecting the local creek from soil erosion and the pollutants carried by stormwater runoff, Sheriff noted. The wildlife boxes will provide man-made homes for several species of wildlife while the plants grow to maturity and provide more natural homes.

Lancaster residents were invited to stop by the Grandview Chase Condo Association Natural Area demonstration site on September 20 to learn more about green infrastructure, wildlife habitat and creek restoration. *



Students built a number of bird boxes and four bat boxes to install in the Grandview Chase Natural Area.

President's Message

In this issue we share an April 2015 message from **Howard Wurzbacher**, then president and now immediate past president, and an August 2015 message from **Steve Fairweather**, newly elected president of our alumni group.



Through our educational and professional careers, we see and experience events, and meet people along the way that may seem rather routine in the moment. These people and events get filed somewhere in the recesses of our minds—in storage, but available as memories at some later time. As I

sit down to write this message, I am reminded of sad news of the passing in recent months of two of our associates within the Penn State forestry, wildlife and ESM community; and fond memories of those people and past shared experiences.

Dr. Russell Hutnik taught me, and many others, forest ecology, and several things came to mind when I heard of his passing. First was a recollection of the terminology of the 'Schooley peneplain, the Allegheny peneplain, and the Worthington erosion cycle', and second, a visual lesson demonstrating the concept that 'the whole is greater than the sum of its parts.' **Dennis Brehm** was an alum who I met while I was a student, and ran into from time to time through the years at SAF and other activities. Dennis had a long career with Weaber Lumber Company, and gave many a PSU forester a job to start them on their way in the profession. Both individuals were positive influences—a teacher and fellow practitioner—and I'm grateful for having known them.

I realize that these are simple, fond memories of good people whom I was fortunate to share time with; but it is demonstrative of important things that have happened, continue to, and will happen at Penn State. There is a community here preparing students for conservation and natural resource careers with an ongoing dynamic interaction between faculty, students, alumni, professional practice, research, and technology transfer. I invite and encourage your participation with the ESM Department and the Forest Resources Alumni Group.

It can't be any easier; just show up and participate with one of our group meetings or events: the annual meeting in April, the upcoming Forest Fest in 2016, student recruiting at the Harrisburg Great American Outdoor show, or receptions at the SAF and TWS national conventions. While doing so, it is very likely that you will meet people and share experiences that will prompt fond memories in the future. Best wishes,

Howard Wurzbacher
'79 FORSC

814-432-3187 (office)
hwurzbacher@pa.gov



I'm excited to take on some new duties as president of the Penn State Forest Resources Alumni Group! We have a great Board of Directors representing a range of graduating classes, majors, geography, and employment, and we're all looking forward to making this organization all that it can be. My

new job continues a long-standing relationship with some great people and programs at a wonderful university, where I was an undergraduate Forest Science major in the early 70s, a Ph.D. student and instructor in biometrics in the late 70s, and a faculty member in forest biometrics and management from 1984 to 1993. I'm looking forward to connecting with classmates, meeting more alumni, and helping current students realize their full potential.

By the time you read this, the board will have met for our annual August meeting in State College. During that meeting I plan to have a discussion about our alumni group constitution, which was last updated in 2005. It needs to be updated again, I believe, because it officially refers to the "School of Forest Resources Alumni Group". We should be considering a new name—perhaps along the lines of "Forest Resources Alumni Group", or "Forestry, Wildlife, and Ecosystems Alumni Group", or ... well, you get the picture. I know there are pros and cons with any kind of name change, so I expect we will have had a spirited discussion! We're all interested in your comments and suggestions along these lines, so don't hesitate to share those with me.

I'd also like to address the purpose of the alumni group as outlined in the constitution. Right now it's pretty vague. I hope we can develop something like a mission statement that will help guide the alumni group in future decisions. Again, your input is very welcome.

In the meantime I hope you'll help keep the alumni group going by making a donation to either the RESOURCES newsletter or the Student Support and Alumni Relations Fund (or both!). Because we don't charge any dues for membership in the alumni group, we rely on contributions to support our activities, including the publication of this newsletter. The cost per issue is about \$6,000 for editing, printing, and mailing to about 3,500 alumni and friends, so we could really use your help.

Contributions to the Student Support and Alumni Relations Fund help to fund student travel to professional meetings, alumni receptions at those meetings, student registration at the annual alumni banquet, class field trips, the department's Career Fair, and other activities that foster student/alumni and department/alumni relations. Every contribution helps!

Thanks for listening! I look forward to hearing from you and seeing you at the spring banquet in 2016.

Steve Fairweather
'74 FORSC, '82g FOR R

503-224-3445 (office)
sfairweather@masonbruce.com

Election Results and Board Updates

The spring 2015 election results are as follows, based on 89 ballots cast: **Samantha Pedder** '11 W F S and **Chad Stewart** '00 W F S have each been elected to a first three-year term, and **Dave Gustafson** '00 FORSC and **Nick Lylo** '89 FORSC have each been elected to a second term.

Thank you to board members **Tracey Coulter** '01a FORT, '03 FORSC, '05g FOR R (for six years of service) and **Tom Kearse** '75 FORSC (for three years of service) and to **Bob Rorabaugh** '72 FORSC who completed his two-year term as immediate past president. Newly appointed graduate student representative is **Staci Amburgey**.

Thank you to **Dan Lawler** and **David Muñoz** for one year of service as graduate student representative. **Stephen Fairweather** '74 FORSC, '92g FOR R was elected president of the board, and **Dave Gustafson** was elected vice president and CAAS representative.

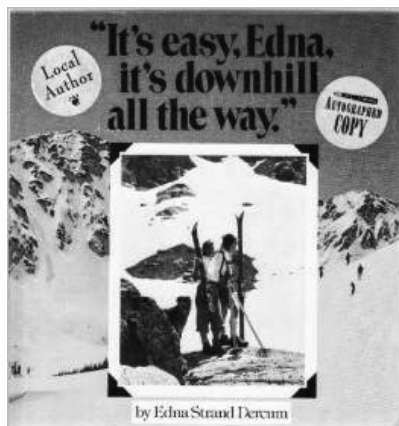
A board of directors listing is available online at ecosystems.psu.edu/alumni/about/board. *

Edna and Max Dercum - A Belated Book Review and Personal Reminiscences

by Rod Cobi, Class of 1954

It's Easy, Edna, it's Downhill All the Way: Reminiscences of forty fun, gutsy, beautiful years in the high-country of Colorado is a richly illustrated narrative that offers a compelling glimpse into the evolving history of forestry education at Penn State and its relationship to forest recreation through the lives of skiing pioneers, Edna and Max Dercum. The book begins:

“Heading west, we had left the rolling green hills of Pennsylvania where Max had been a Professor of Forestry at Penn State. Our future home was to be Colorado, where sometime, somehow, and someday, we would build a ski lodge, go skiing every day, and live an uninvolved quiet life in the mountains. Little did we dream what lay ahead of us.”



Edna met Max in 1935 while he was Associate Professor of Forestry and she was a student at the college. They were married in 1936. In her 1981 book, Edna tells the tale of how Max started the Penn State Ski Club/Outing Club, and began construction of a small ski area near State College with a rope

tow—Bald Knob. She then goes on to describe their 1942 move to Colorado where they made numerous friends, raised a family, built and operated Ski Tip Lodge, pioneered the development of two renowned mountain resorts—Arapahoe Basin (1946) and Keystone (1970)—won many accolades, and lived a wonderful life together.

I didn't discover Edna's charming tales of adventure and vivid descriptions of years gone by until quite recently. The narrative is warm and personal, anecdotal, full of colorful scenes, interesting people, memorable places, and amazing detail. It reads almost like a novel and it can almost be imagined as a film; it's a Colorado Rocky Mountain High!

It's not all about skiing

Before becoming president of the Penn State Ski Club for the 1953-54 season, I credit fellow club members Henry 'Slim' Gerhold '52 (Penn State Prof. Emeritus of Forest Genetics) and Gerhard Eckelmann '52 for coaching me that Max Dercum founded the club (Edna was the first member) and the Penn State Ski Team in 1936, used forestry students to build ski trails at the now inactive Bald Knob site near Boalsburg (Penns Valley Ski Center), and that the Dercums then left to live in Colorado ski country. Following graduation, I spent the 1956-57 winter with the U.S. Army Mountain & Cold Weather Training Command at Camp Hale near Leadville, Colorado. On weekends many of us skied Arapahoe Basin, spearheaded by Max in 1946. There I finally got to introduce myself to Max, who headed the ski school. We sometimes stayed with Edna and Max at their Ski Tip Ranch near Dillon (at that time little more than a log cabin), where we slept on the floor or in the loft, partied to the wee hours, and made lasting friendships. Guests loved playing pranks on one another and many traditions evolved. One curiosity was a large glass jar on the mantle containing a bit of cotton and labeled, "Belly Button Lint." During winter parties, guests were invited to throw their empty beer cans out the back door into the snow. During spring melt, a special party was held to clean up. Great fun! Among the Dercum's many friends mentioned in the book by name, I served with several in the military, while others were familiar from the 10th Mountain Division, or professionals with European skiing backgrounds. Along with Edna and Max, they played major pioneering roles in skiing, including racing, ski schools, and ski area development.



Max and Edna Dercum
Image: 2010 Summit Magazine

AlumniNews

While still a student, Edna wrote a prescient article for a professional journal titled, “Forestry Goes Skiing,” making a strong case for mountain recreation as an integral part of forestry practice—a notion not wholly accepted in those days. Don Simonton wrote about Max and Keystone in: “The Other Side of Skiing” *SKIING Magazine*, 1978:

Skiing with Max Dercum is a ski lesson, a trip through history, a course in ecology, most of all an experience of the special fraternity of skiing. Keystone is Max’s mountain. It reflects his personal interest and his philosophy, a fascinating blend of recreation and ecology.

His runs were designed with scenic profiles, the interplay of vegetation and vista, with a touch of adventure that you get by following the mountain’s natural contours. He designed runs the whole family could enjoy—steep pitch for hotshot Junior, sweeping traverse around it for Mom.

Cruising the slopes with him involves constant observations about improvements of wildlife habitat by opening up the forest, watershed benefits from snow-making and erosion control and sheltered clearings.

Max is typical of a whole generation of skiers. They obviously love skiing much more for its sun, snow, schuss, and sociability than for its fashion and foibles.

Edna’s closing words:

“I wonder if we will get to ski in heaven? If Saint Peter gives me wings, I think I’ll trade mine in for skis! Some day Max will say to me, ‘Remember back 50 years ago, Edna, to your first race?’ ‘And I’ll answer,’ ‘You know Max, it sure hasn’t been easy all the time, but it has been downhill all the way.’

In a 2010 *Summit Magazine* article titled “Edna and Me,” Mary Ellen Gilliland wrote, “I stood in awe of this woman, whom I considered a legend. I tiptoed around imposing or intruding upon her but she initiated almost every contact. I experienced not only her genuine warmth and enthusiasm for recording and preserving local history but also her uncommon goodness.”

Edna passed away in 2008, aged 94.

In addition to the ski world of Colorado, Max was engaged in logging, mining, and ranching in the old West, but also enjoyed free-hand drawing, the clarinet, tennis, and model railroading.

Max passed away in 2011, aged 98.

To learn more about Max in his own words, see:

“Max Dercum: My Life with the Continuously Circulating Wire Rope.” *Skiing Heritage Journal*, Second Edition Vol 11 No 2, pages 24-27, June 1999.

Also see pages 233-234 in *A Century of Forest Resources Education at Penn State* by Henry Gerhold, 2007. *

2015 Outstanding Alumni

Each year the Forest Resources Alumni Group honors up to four Outstanding Alumni and at most one Outstanding Recent Alum at our April banquet. These individuals are recognized for professional achievement, excellence, impact and recognition; service to the profession, to the department, and to the community; and demonstration of high personal and professional standards.

Biosketches of all of our Outstanding Alumni are available online at <http://ecosystems.psu.edu/alumni/awards>.

Nominations are due annually by September 30. Nomination forms are also available online.

Pictured here are our Outstanding Alumni for 2015, left to right, with Department Head Mike Messina ’79 (second from right): **Peter Prutzman** ’77, **Stephen Grado** ’79, **Samantha Pedder** ’11, and **Paul Blankenhorn** ’72g. **Richard Guldin** ’70 was also recognized as one of our 2015 Outstanding Alumni, but he was unable to attend the banquet.



Gene Miller photo

1940s

Robert C. Early, 1948 and 1949g, Hummelstown, PA, October 2014: "I built and monitored 300+ bluebird nest boxes for more than 25 years with 30-40% successful bluebird usage." In 1992, *Apprise* magazine (re-named *Central PA* in 1997) featured an article about Bob Early "Hummelstown's Bluebird Man" and his conservation work.

Author Scott Shalaway wrote, "Eastern bluebirds were once common across Pennsylvania. But after World War II, pesticides, clean farming, and the switch from wood fence posts to metal ones took its toll.... When Early hung up his first bluebird box in 1984, he 'hadn't seen one in 35 years.' ... Last year Early's bluebird trail totaled more than 270 boxes. He has boxes spread out over seven townships, including 17 in Shank's Park in Derry Township. Bluebirds used 12 of those boxes, proving that bluebirds use nest boxes that are placed in suitable habitat, even amid the hubbub of hiking trails and ball fields. Early also monitors a set of large boxes designed for kestrels, screech owls and wood ducks.... A few years ago Early surveyed the area around his hunting camp in Huntingdon County and decided it looked like bluebird country. He built 17 boxes and hung them on a Friday afternoon. Before he left for home that Sunday, bluebirds had already moved into three of the boxes. Seeing the need, acting upon it and then watching the birds benefit is what makes Early's hobby such a rewarding one."

A copy of the complete article is available by contacting *RESOURCES* newsletter editor Ellen Manno at 814-863-0362 or exr2@psu.edu.

1950s

Class of 1958. A 60th reunion of the 1955 freshman Forestry class at Mont Alto (also billed as the 57th reunion of the class of 1958) took place this summer. The photo above was taken



Seated, l. to r. - Joe Frank, Vernon VanOrder, Ralph Heilig, William McCafferty, George Siehl
 Standing, l. to r. - Richard Kost, Henry Hartman, Robert Slagle, Charles Strauss, Charles Rine, Richard Hunter, Louis Shain, Ralph Peace, Maurice Hobaugh, Roger Odell. Robert Schall, not picture, joined the group on the second day.

June 3, 2015, in the Heritage Room of the Mill Stream Café at Penn State Mont Alto. The Class of 1958 also plans to gather in Post Falls, Idaho in September 2015, with arrangements being organized by Bill O'Connell.

Paul "Sunshine" Shogren, 1951, Oakland, MD. "I am the owner of a permanent pacemaker installed 3 October 2014 ... On 7 October 2014 I attended a county commissioner's meeting since I was one of five nominees for Garrett County's Most Beautiful Person Award."

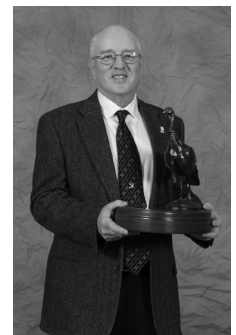
In August 2014, Shogren wrote, "**Lacey Johnson** of the 1951 class is 93 and still drives a car and pilots his own airplane. He's a WW II Army Air Corps vet. He's probably one of the oldest alums."

1960s

William M. Healy, 1964, Smithville, WV. Healy received the National Wild Turkey Federation's (NWTF) Wayne Bailey Lifetime Achievement Award at the 39th annual convention held in Nashville, TN, Feb. 12-15, 2015.

From NWTF's news release: "William M. Healy retired from the USDA Forest Service in 2000 after a 33-year career as a wild-life biologist, but his ground-breaking wild turkey research still influences conservation and restoration efforts today.... Since 1975, Healy has participated in and contributed to the National Wild Turkey Symposiums. His wild turkey research includes studies about nesting habitat, as well as the effects of weather on turkey survival rates. Healy was also among the first to use human-raised wild turkeys in researching aspects of turkey behavior that are impossible to closely observe in turkeys raised by wild hens.

Healy wrote, "NWTF is big, about 250,000 members, and Penn State is well represented in membership and staff... There is a state chapter and a new Penn State Student Chapter of NWTF... I had a nice visit with some other alums: Steve Williams, Wildlife Management Institute; Dave Putnam, Commissioner, PA Game Commission; and NWTF biologists Kevin Yoder and Kevin Walter."



Thomas Yorke, 1964 and 1967g, Haymarket, VA. Yorke was inducted into the Armsby Honor Society on October 31, 2014. The society honors individuals who have demonstrated a commitment to the College of Agricultural Sciences at Penn State. Yorke is a consulting hydrologist for federal, regional, and state agencies and organizations involved in surface-water management issues. Prior to starting a consulting business, Yorke had a 36-year career with the U.S. Geological Survey.

Yorke maintained close ties with Penn State while moving around the country. He is a member of Xi Sigma Pi, Phi Epsilon Phi, Tau Phi Delta fraternity, the Nittany Lion Club, a life member of the Penn State Alumni Association, and a member of both the Greater Washington D.C., and Naples, Florida, chapters of the Penn State Alumni Association. He was president of the

Tampa chapter of the alumni association while living in Florida. He also served as president of the Forest Resources Alumni Group, a member of the College of Agricultural Sciences Alumni Society, and editor of the alumni newsletter of the Tau Phi Delta fraternity.



Yorke (center) with Dean Richard Roush (left) and Scott McAllister, committee chair, Armsby Honor Society

1970s

Wayne MacCallum, 1971g, Grafton, MA. Retired as director of the Massachusetts Division of Fisheries and Wildlife in February 2015. He was director for 27 years.

Craig Cope, 1974, Buffalo, WV. Buffalo Bulletin news, October 2014: “Alternatively called a legacy and a mentor by his fellow U.S. Forest Service employees, Craig Cope left a gap not easily filled at the Forest Service’s Powder River District.

It’s true that Cope has seen some history. His 39-year career with the Forest Service and the West began as a dream in his childhood in northcentral Pennsylvania.

After graduating from The Pennsylvania State University in 1974 with a degree in Forest Science, he relocated to Utah to work for a sawmill. But the sawmill went bankrupt six months after his arrival, and Cope turned his eye to the Forest Service.

After working seasonally doing timber sale preparatory work, thinning and planting, the federal agency hired him full time. He spent two years in Dillon, Colorado.

Cope moved for a third time, traveling to Spearfish, South Dakota, where he continued his work in timber sales. The Forest Service liked to shift its employees around. He requested a move roughly seven years later, but it was denied.

Cope didn’t give up. He searched for a new home and, almost 10 years after leaving Utah, he arrived in Buffalo, the place he has called home for the past 31 years. Not until the ’90s did he begin the work that defined his legacy in Buffalo: managing the Cloud Peak Wilderness. In 1993, he was handed the responsibility of protecting the Cloud Peak Wilderness, a job that will be synonymous with his name even after his retirement on Oct. 3.”

Peter Prutzman, 1977, Arkadelphia, AR. “Elected president of Arkansas Forestry Association, to serve two-year term (October 2014 – October 2016).

Gregory Reighard, 1978, Seneca, SC. “Since my Penn State days I have visited with Glenn Howe ‘77, Ph.D. at Oregon State, and chatted with Dr. Kim Steiner at the American Chestnut Foundation meetings. However, I have not seen my senior room-mates Terry Harrison and Ed Van Blargan, both class of ‘77, but I know Terry is a professor at Penn State and wish them the best.

After my time at Penn State, I went on to get graduate degrees from the University of Michigan and Michigan State in biology and forest genetics. After a brief stint working in the Southern Forest Tree Improvement Coop program at the University of Florida, I started a 30-year career at Clemson University where I am professor of horticulture and a fellow of the American Society of Horticultural Science working in tree fruit with a focus on *Prunus* genetics and peach culture (so I never left working with trees). Even though I did leave the forestry profession, I live in a region (southern Appalachians) with a high diversity of tree species among rugged forested mountains not unlike Pennsylvania forests. Thus, the love of forests never left me, and having traveled for work throughout most the U.S.

Reading List

Paul Shogren ’51 shares his conservation references, with his descriptions thereof. “My three favorites are listed first,” he wrote.

Sand County Almanac, 1949 – Aldo Leopold who worked for the U.S. Forest Service prior to teaching at the University of Wisconsin, and founder of the wildlife management profession.

The Holy Earth, 1915 – Liberty Hyde Bailey aka “Dean” of the School of Agriculture, Cornell University, reprinted by The Christian Rural Fellowship. He was editor of the seminal *Cyclopedias of American Horticulture*.

The Man Who Planted Trees, 1985 – Jean Giono, mentioned by Wendell Berry in a reprint by the American Forestry Association.

Town and Country Churches and Family Farm, 1954 – Marshall Harris and Joseph Ackerman, prepared for the Department of Town and Country Churches, National Council of Churches.

A Primer for Friends of the Soil, The Great Depression – A project of The Fellowship of Southern Churchment (Luke 4:18) Eugene Smathers

The Web of Life, 1953 – John Storer. Neat and simple.

Books by Richard Austin, Presbyterian minister, including *Spoil* (1976), *Hope for the Land* (1988), and *Baptized in the Wilderness* (1987)

Excelsior, 1995 – Laurence Walker, Mont Alto 1932, memoir of forestry, former dean of the College of Forestry, Stephen F. Austin State University. He was an ordained minister of the Cumberland Presbyterian Church. Stephen F.

Breaking New Ground, 1947 – Gifford Pinchot, former chief of the U.S. Forest Service, whose definition of conservation I accept: “Conservation means the wise use of the earth and its resources for the lasting good of men. The greatest good of the greatest number by the longest time.”

and 30+ countries on five continents, my Penn State forestry experience gave me the knowledge and curiosity to see the forests across the globe, for which I am forever grateful.”

1980s

Eric Chevallier, 1985g, Bienne, Switzerland. “I appreciate receiving the newsletter, as a link with the experiences I gained during the time I spent at Penn State.”

Steve Williams, 1986g, Gardners, PA. “I saw the announcement about the 50th anniversary of the TWS Student Chapter. For what it’s worth, I served as the TWS Student Chapter President while working on my Ph.D. program back in the early 1980s. From there I have been employed with the Massachusetts Division of Fisheries and Wildlife, Pennsylvania Game Commission, Kansas Department of Wildlife and Parks, and before I became president of the Wildlife Management Institute, I served as the Director of the U.S. Fish and Wildlife Service. I remember those days fondly and send a shout out to my fellow colleagues.”

1990s

Mark Mikilon, 1992, Lakeland, FL. “I am currently working in Polk County Florida for the Natural Resources Division in the Water Resources Section. I am an Environmental Specialist III/ Biologist working with Class III water bodies for improved water quality. This photo shows one of our project sites on the south shoreline of Lake Mariana in Auburndale, Florida. I made the wood duck box shown and three were placed in this water quality project in April 2006. I have been working in this current position for 17 years and have a passion for improving wildlife habitats.”



Bryan J. Burhans, 1987a and 1992. From July 2014 PA Game Commission news release: Bryan J. Burhans, a native of PA with 25 years of experience working in conservation, stepped into his new role as deputy executive director of administration. He assists in planning, directing, executing, and coordinating all activities of PA’s wildlife management program, and directly supervise Game Commission bureau directors and other staff. . . . A Penn State University graduate, Bryan went on to earn a master’s degree in wildlife and fisheries biology at Frostburg State, and has worked for conservation organizations in several states. He spent more than a decade as part of the national executive staff of the National Wild Turkey Federation. Prior to that, he worked as a biologist for the VA Department of Inland Fisheries and the Florida Fish and Wildlife Conservation Commission. Most recently, he worked in North Carolina as president and CEO of The American Chestnut Foundation.

Colleen DeLong, 1994g. ClearWater Conservancy news release, July 2015: “Colleen DeLong has joined ClearWater Conservancy as its land stewardship assistant. In her new role, Colleen will

help coordinator the Riparian Conservation Program, work with the Growing Native and Native Garden volunteers, and assist with other conservation initiatives. . . . Most of Colleen’s work over the past 20 years has been in habitat establishment and conservation, along with education and outreach. Colleen comes to us from the PA Game Commission, where she was the statewide coordinator for the Wild Pheasant Recovery Program.”

2000s

Jennifer Ottenberg, 2000, Westminster, MD. “On June 16, 2015 I left Maryland Department of the Environment - Wetlands & Waterways Program (Tidal Wetlands Division) and on June 22, 2015 started as Senior Environmental Scientist with Brudis & Associates in Columbia, Maryland. I will be applying my 15 years of training and experience in private and public sector natural resource consultation and project management to acquire new business and lead wetland and waterways delineation and permitting services.”

Patrick Shirey, 2001, Sarver, PA. “I recently returned to my hometown and started a new job offering ecological services as a project manager for R.A. Smith National’s Pittsburgh office in Oakmont, PA. During 2015 I served as the first Policy Fellow of the American Fisheries Society, updating policy statements on threatened and endangered species. I previously earned an M.S. in Wildlife Science from New Mexico State University, a J.D. from Penn State Dickinson with a Certificate in Environmental and Natural Resources Law, and a Ph.D. in Biological Sciences from the University of Notre Dame. I was selected as a participant in the NSF-sponsored Ecological Dissertations in the Aquatic Sciences workshop in October, 2014 (Eco-DAS; formerly DIALOG). My recent peer-reviewed publications on topics of conservation, endangered species, and assisted colonization have appeared in the journals Integrative Zoology, Diversity and Distributions, Conservation Letters, and Ecohydrology.”

Milton G. Newberry III, 2007. From a June 2015 news release: “The University of Georgia, department of Agricultural Leadership, Education, and Communication is pleased to welcome Milton G. Newberry III as assistant professor of environmental education. Mr. Newberry and colleagues will develop and environmental education focus area at the undergraduate and graduate levels within the department.

Mr. Newberry hails from Browns Mills, New Jersey. He completed a bachelor of science degree in Wildlife and Fisheries Science at Penn State University and a master’s degree from the University of Georgia in Agricultural Leadership. He will complete his Ph.D. in Extension Education from the University of Florida in August 2015.”

2010s

Yvette Dickinson, 2011g, Houghton, MI. Assistant Professor, School of Forest Resources and Environmental Science, Michigan Technological University.

James Feaga, 2011, Elizabethtown, PA. Regional Biologist, Pennsylvania and New Jersey, Ducks Unlimited.

In Memoriam

Gordon T. Bamford, 1940 – died May 10, 2014

David W. Warner, 1946 – died June 13, 2014

Henry Wessel, 1948 – died May 20, 2015

O. Lynn Frank, 1949 – died August 9, 2014

Russell J. Hutnik, 1950 – died November 2, 2014

Herbert H. Bosselman, 1951 – died November 3, 2014

Oscar Tissue, Jr., 1951 – died April 10, 2015

Harold T. Waddell, 1951 – died April 20, 2014

John C. Davies, 1952 and 1957g – died March 26, 2015

Samuel J. Dyke, 1954 – died June 24, 2014

Phillip E. Caton, 1956 – died in May 2014

Gerhardt F. Eckelmann, 1956 – died June 4, 2010

Samuel I. Becker, Jr., 1958 – died November 13, 2014

Kenneth O. Graves, 1958 – died January 17, 2015

John F. Marker, 1959 – died January 15, 2015

Benjamin G. Tresselt, Jr. 1963 – died September 8, 2014

Warren A. Ely, 1965 – died August 29, 2014

David R. Palmer, 1974 – died July 16, 2014

Dennis M. Brehm, 1975 – died March 8, 2015

James F. Stiehler, 1975 – died December 31, 2014

Jackson L. Gearhart, 1977 – died January 9, 2015

Howard C. Luther, 1978 – died December 21, 2014

Gordon T. Bamford, 1940, of Pennington, NJ, died May 10, 2014. From Allegheny News, Summer 2014: After graduation, Gordon served in the U.S. Army during World War II in the South Pacific as a first lieutenant in the 317th Field Artillery Battalion of the 81st Infantry. After the war, he spent some time with the division as part of the occupation of Japan. He earned a master's degree in Forestry from Yale University in 1950. He spent his entire professional career with the New Jersey Forestry Service and became State Forester in 1975 until he retired in 1983. Gordon was active in SAF throughout his professional life. He was elected Fellow in 1996. He was also active in the NJ Soil Conservation Society, NJ Tree Farm Committee, and the Hopewell Shade Tree Committee.



David W. Warner, 1946, of Exeter, NH, died June 13, 2014. A veteran of World War II, he served as a sergeant in the 291st Field Artillery Observation Battalion. His first job after graduation was with the Bureau of Indian Affairs as a forester for the Yakima Indian Agency in Toppenish, WA. After four years as a forester, he moved back to PA with his wife and entered his father's trucking business, and became president of the company when his father passed away. **Bob Early** '48 wrote, "Dave was a good friend of mine since he moved to the Hummelstown-Hershey area about 25 years ago. He helped me monitor my 300-nest-box bluebird trails. We also established nature trails in a Hershey-area park and in Ontario, Canada."

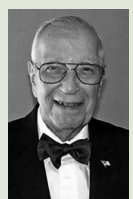
Henry Wessel, 1948, of Gwynedd, PA, died May 20, 2015. He was a World War II veteran and a graduate of Temple Law. Norm Lacasse of the Pennsylvania Forestry Association (PFA) wrote that Henry worked as a forester in Canada for a short while and then went to law school and spent the rest of his life practicing law. Henry was a passionate supporter of PFA and funded an endowment to support tree plantings in the state's forest districts.



O. Lynn Frank, 1949, of Clearfield, PA, died August 9, 2014. He served in the U.S. Army (1942-46) during World War II and was assigned to the Pacific Theater. He received his degree in forestry under the GI Bill. He operated a forest tree seedling and ornamental evergreen nursery and Christmas tree farm. He was employed by the PA Bureau of Forestry and was assigned to the Moshannon State Forest District with headquarters in Clearfield. He became an assistant district forester and was responsible for the district's Timber Management and Timber Sale Program for 16 years. He was transferred to the central office in Harrisburg and worked in the Division of State Forest Management for 14 years. He was responsible for the timber harvesting on state forest lands until his retirement in 1984.

Russell J. Hutnik, 1950, of State College, PA, died November 2, 2014.

Herbert H. Bosselman, 1951, of Coos Bay, OR, died November 3, 2014. He served in the U.S. Navy during World War II from age 18 to 22. He graduated from Penn State and Oregon State with bachelor's and master's degrees, respectively, in forestry. He worked for the Bureau of Land Management.

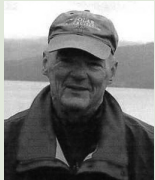


Oscar Tissue, Jr., 1951, of Jackson, MS, died April 10, 2015. He earned a master's in forestry at North Carolina State Univ. in 1953 and moved to Mississippi. He worked as a forester with the MS Forestry Commission in Philadelphia, MS, Wiggins, MS, and Jackson, MS. He served in World War II in the Army Air Corp. He served in the Philippines. He retired from the Air Force Reserves in 1973 with the rank of Lt. Col.

Harold T. Waddell, 1951, of Federal Way, WA, died April 20, 2014.



John C. Davies, 1952 and 1957g, of Lancaster, PA, died March 26, 2015. He served two years active duty in the U.S. Air Force and retired as Captain from the Reserve. A Wood Utilization graduate, he began his career with Roddis Plywood Corporation. He later joined the Mell Lumber Company in Bryn Mawr, PA, which, in time, he purchased and re-named the Mell-Davies Lumber Co., Inc. In 1990, John and his wife Esther established the Keith A. Davies Memorial Scholarship in the School of Forest Resources.



Samuel J. Dyke, 1954, of Salisbury, MD, died June 24, 2014. From Allegheny News, Summer 2014: Sam was chairman of the board of directors of the Ward Foundation, as well as chair of the Curatorial Committee at the Ward Museum of Wildfowl Art. He served the foundation and the museum for more than 40 years. He was an expert on the history of hunting and decoy carving, and was regularly published in major magazines, journals, and books. In 2008 he received the Heritage Professional Award from the lower Eastern Shore Heritage Council.

After completing his undergraduate degree at Penn State and before his time with the Ward Foundation, Sam earned a master's degree in forestry from Yale University and worked as a forester for Glatfelter.

Phillip E. Caton, 1956, of Montgomery, AL, died in May 2014.

Gerhardt F. Eckelmann, 1956, of Greensboro, NC, died June 4, 2010. He was born in Hamburg, Germany, in 1921 and moved to the U.S. at age five. In 1942 he joined the U.S. Army; he earned a Bronze Star and a Victory Medal. Following his service, he was employed by the U.S. Naval Oceanographic Office as a scientific assistant. His work included Project Deep Freeze with Admiral Byrd in Antarctica.

Samuel I. Becker, Jr., 1958, of Polson, MT, died November 13, 2014. He retired as a forester from the U.S. Forest Service after 25 years of service.

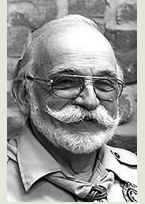


Kenneth O. Graves, Jr., 1958, of Vancouver, WA, died January 17, 2015. His 32-year career as a forester with the U.S. Forest Service in Washington state, mainly the Gifford Pinchot National Forest, included fire-fighting and horseback treks into wilderness areas. He retired in 1990.

John F. Marker, 1959, of Mt. Hood, OR, died January 15, 2015. He worked for the U.S. Forest Service for 33 years, retiring as director of public affairs in the Pacific Northwest regional office located in Portland, OR.

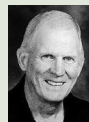
Benjamin G. Tresselt, Jr., 1963, of Hopewell, PA, died September 8, 2014. After graduation he worked as a vegetation forester for Potomac Edison Power Company. Next he took a position as a manager and sales consultant for Bartlett Tree Experts in Exton,

PA, and worked there for more than 19 years. He then worked with his son Ben at his family-owned company, Arborist Enterprises, in Manheim, PA, for three years. After moving to Hopewell he continued work as a consulting forester until retirement. He served on the School of Forest Resources Alumni Group board of directors, 2001 to 2007. He was a guest lecturer in our Urban Forestry course and in the Department of Horticulture's arborist training courses. He was a PA Forest Stewardship Plan Writer, a certified Tree Farm inspector, the director of the PA Urban and Community Forestry Council, and a member of the International Society of Arboriculture and the Society of American Foresters.



Warren A. Ely, 1965, of New Bloomfield, PA, died August 29, 2014. He retired from the PA Bureau of Forestry in 1998. He also served with the U.S. Marine Corps, attaining the rank of sergeant and receiving an honorable discharge in 1972.

David R. Palmer, 1974, of Ridgefield, WA, died July 16, 2014. He worked in Roseburg, OR, as a forester and computer systems analyst for the Bureau of Land Management (BLM). He fought forest fires; planned road layouts, forest prescriptions, and replants; and computerized the 40-year plan for all of the disciplines of the BLM. In 1989, he transferred to Portland, OR, to computerize all the functions of BLM. He and his wife moved to Ridgefield, WA, in 2000 to start a horse-breeding ranch. Dave was a member and past treasurer of Tau Phi Delta fraternity.



Dennis M. Brehm, 1975, of Jonestown, PA, died March 8, 2015. He was employed by Weaber, Inc. in the hardwood lumber business for the last 38 years, most recently in the position of Director of Forestry. He was a member of SAF and was the vice chair of the Pennsylvania SFI Implementation Committee. He was a member of the Tau Phi Delta fraternity.

James F. Stiehler, 1975, of Petersburg, PA, died December 31, 2014. From Allegheny News, Winter 2015: He was employed by the PA Bureau of State Parks for seven years; he retired in 2010 from the PA Bureau of Forestry with 28 years of service. He was an active member of SAF and also the Pennsylvania Forestry Association.



Jackson L. Gearhart, 1977, of Moscow, PA, died January 9, 2015. Until his retirement in 2011, he was a PA Bureau of Forestry forester in Wayne and Lackawanna counties. He was a member of the Sterling Township Planning Commission, the Wayne and Lackawanna Forest Land Owners Association, and the Wayne Conservation District. He served with the U.S. Air Force during the Vietnam War.

Howard C. Luther, 1978, of Nanty Glo, PA, died December 21, 2014. He was employed by Conrail, Mississippi Tie Plant, Illinois Central Railroad and Copper Plant as inspector of manufacturing and treatment of railroad ties. As a student, he worked summers with the U.S. Forest Service, fighting fires in Alabama, Arkansas, and Idaho. **Gregory Reighard** '78 wrote, "I was a classmate of Howdy's and played a lot of basketball with him at Penn State Altoona."



PennState
College of Agricultural Sciences

Department of
**Ecosystem Science and
Management**

Forest Resources Alumni Group
114 Forest Resources Building
Phone: (814) 863-0362 • E-mail: exr2@psu.edu

All graduates of the former School of Forest Resources and the newly formed Department of Ecosystem Science and Management – including alumni of intercollege graduate programs who were advised by our faculty – are automatically members of the Forest Resources Alumni Group. Membership in the Penn State Alumni Association is not required.

No membership dues are charged. Our Forest Resources Alumni Group relies on contributions to support its activities.

Donations to our department’s **RESOURCES newsletter** help offset the cost of preparing, publishing, and mailing this newsletter, which may total \$6,000 per issue.

Donations to our department’s **Student Support and Alumni Relations Fund** support class field trip opportunities, our department’s Career Fair, alumni receptions at professional meetings, student registration for our annual alumni banquet, student travel to professional meetings, and any activities that foster student/alumni relations and alumni/department relations.

Yes, I want to support the Forest Resources Alumni Group with a gift of: \$ _____

Name _____ Class Year _____

Address _____

City _____ State _____ Zip _____

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- Write “Forest Resources Alumni Group” on memo line of check and mail to:
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Dept. of Ecosystem Science and Management
114 Forest Resources Building
University Park, PA 16802

Make your donation online at agsci.psu.edu/giving

- Click on “Make a Gift Online” in left column
- Enter amount you wish to donate
- Select “Other in the College of Ag Sciences” (designation, line 5) and describe “Other” as “RESOURCES newsletter” or “ESM Student Support and Alumni Relations Fund” or whatever you wish to support.
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Thank you for your support!

Forest Resources

Outstanding Alumni and Outstanding Recent Alumni Award Nomination Form

Please check one:

Outstanding Alumni Nomination

Outstanding Recent Alumni Nomination (alumni who have graduated in previous ten years)

Date of nomination: _____

Is the nominee aware of this nomination? yes no

Information about the person making the nomination:

Name: _____

Address: _____

Phone: _____

E-mail: _____

Information about the person being nominated:

Name: _____

Address: _____

Phone: _____

E-mail: _____

Graduation year and major: _____

Please attach a thorough description of the nominee relative to following selection criteria:

1. Professional achievement, excellence, impact, and recognition (and significant career advancement for Outstanding Recent Alumni nominees)
2. Service to the profession, the School of Forest Resources / Dept. of Ecosystem Science and Management, and the community
3. High personal and professional standards

The nomination may also include a list of people who may act as references.

Nominations are due September 30 each year and may be mailed to:

Forest Resources Alumni Group Awards Committee; Forest Resources Building; The Pennsylvania State University; University Park, PA 16802

Nominations also may be submitted online at ecosystems.psu.edu/alumni/awards.

Forest Resources Alumni Group Newsletter

Summer/Fall 2015 Response Form

No dues are charged for membership in the Forest Resources Alumni Group. We rely on contributions to support alumni activities, including the publication of this newsletter. This newsletter is sent twice a year to more than 4,000 alumni at a cost of up to \$6,000 per issue for printing and mailing. Contributions for the Forest Resources Alumni Group should be made payable to "Penn State" and designated, in the memo section of the check or in a cover letter, for the Forest Resources Alumni Group; send to Penn State College of Agricultural Sciences Development Office, 240 Agricultural Administration, University Park, PA 16802 (or enclose it with this response form and it will be forwarded to the correct office). You will receive a receipt, and your contribution is tax deductible.

Name: _____

Date: _____

Class year: _____

Major: _____

Mailing address: _____

Phone: _____

E-mail: _____

I have sent a contribution for the Forest Resources Alumni Group in the amount of \$_____ to the Penn State College of Agricultural Sciences Development Office, 240 Agricultural Administration University Park, PA 16802 (or it is enclosed and will be forwarded to the correct office). The contribution is made payable to "Penn State" and designated for the Forest Resources Alumni Group.

I would like to nominate the following individuals as candidates for the Forest Resources Alumni Group Board of Directors (self-nominations are welcome):

I would like the enclosed news to be included in an upcoming newsletter. To submit news online, go to ecosystems.psu.edu/alumni/newsletters/contribute.

Mail this form to:

Ellen Manno, 114 Forest Resources Building, University Park, PA 16802

Ecosystem Science and Management
The Pennsylvania State University
117 Forest Resources Building
University Park, PA 16802



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Calendar

October 19 Forest Resources Alumni and Friends Reception, TWS Annual Conference, 5:30 - 7:30 p.m. Winnipeg, Manitoba, Canada. Contact: Ellen Manno, 814-863-0362, exr2@psu.edu

October 20 Ag Career Day, Bryce Jordan Center, University Park, PA. 9 a.m. - 3:30 p.m.
Contact: Richard Rateau, 814-865-7522, rjr20@psu.edu

November 4 Forest Resources Alumni and Friends Reception, SAF National Convention, 6:30 - 8:30 p.m. Baton Rouge, LA.
Contact: Ellen Manno, 814-863-0362, exr2@psu.edu

November 21 Ag Alumni Society Tailgate, Ag Live' 15, Snider Agricultural Arena, University Park, PA.
Contact: Naomi Knaub, 814-867-1819; nmk107@psu.edu

February 25, 2016 ESM Career Fair, Forest Resources Bldg., University Park, PA.
Contact: Ellen Manno, 814-863-0362; exr2@psu.edu

April 22, 2016 Forest Resources Alumni Group Annual Banquet Meeting, Toftrees Resort & Conference Center, State College, PA.
Contact: Ellen Manno, 814-863-0362; exr2@psu.edu