Dear Friends

As we go to press with this issue of Stewards, there is a palpable sense of anticipation in the Dana Building. Though most students are still away for the summer, these days the building never really quiets down. Staff and faculty still populate the halls and offices, some students linger over the summer to work on special projects, and many visiting students, scholars, and researchers grace our space. We each have our own objects of anticipation.

For some, it’s an upcoming vacation. Summer is the ideal time for Wolverines to venture off the Diag. This magazine’s designer, Dave Brenner, is taking his family to Greece, and my own travels have taken me to Italy and Africa. Together our students, faculty, and staff will set foot on every continent this summer.

For others, it’s the impending start of school. As a longstanding faculty member, I can tell you that the coming of September is both exciting and welcome. Our faculty members find their life’s purpose in teaching, and though surely they enjoy the summer break, they are eager to rejoin with the students.

For me, the greatest anticipation is about what the future holds for our school. As many of you have heard, we are entering a period of expansion. We have unprecedented support from President Mark Schlissel and Provost Martha Pollack. And we expect an influx of resources to make even more positive change out in the world.

And how about you, dear alumni? This issue of Stewards is peppered with your voices, but I am always eager to hear more. I appreciate the notes I’ve received from many of you already, especially with regard to SNRE’s growth, and I encourage you all to keep in touch. Reach me at snre@umich.edu.

Daniel G. Brown
Interim Dean and Professor

SNRE works to help protect the Earth’s resources and achieve a sustainable society.
Beyond all of the coursework, fieldwork, and research, there was no shortage of plain ol’ good times in 2016. But as you might expect from the SNREds, some of those ‘good times’ were anything but plain. Sustain-A-Ball? Food Olympics? Well, why not?

None of that stopped them from putting their best foot forward at Career Fair, engaging with the Alumni Panel on Visit Day, and finally... ‘16 grads celebrating their newly earned degrees at commencement.
STUDENT EVENTS
TOP: FOOD OLYMPICS
MIDDLE: LUNAR NEW YEAR
BOTTOM LEFT: SUSTAIN-A-BALL
BOTTOM RIGHT: SNRE TALENT SHOW
PLACE SNREDS IN EVERY SECTOR

Over SNRE’s 100-year history, countless contributions to the planet’s well-being have issued forth from the Dana Building. We have long understood, however, that not all answers come from within. That’s why field work has always held a place of great prominence in the curriculum.

Today’s environmental issues involve politics, society, business, science, and design, and our definition of “field” has expanded accordingly. Master’s projects are designed to help students excel in all sectors, recognizing that the need for high quality environmental professionals knows no bounds.

EXPLORING POSSIBILITIES FOR REFORESTATION IN SOUTHWESTERN NICARAGUA

Client: Paso Pacifico (NGO)
Location: Rivas, Nicaragua
Team: Elizabeth Dorgay, MS, Conservation Ecology; Andrew Klooster, MS, Environmental Justice; Rachel Muelle, MS, Sustainable Systems; Ivette Perfecto (advisor)
Mission: To assess the potential benefits of planting trees along the edge of agricultural land to increase reforestation efforts in regions of southwestern Nicaragua on behalf of Paso Pacifico—a conservation organization aiming to restore natural ecosystems in Central America. The study focused on native bee populations in the area—1,550 bees were analyzed and 22 species were identified. In addition, landowners were interviewed on how they perceive this technique as opposed to traditional (dead post) fences. Landowners preferred the live fence posts for the resources and services they provide, such as shade for cattle, windbreaks, and water conservation. Based on their findings, the team confirmed Paso Pacifico’s decision to implement the method in their reforestation program because it can serve as a gateway and habitat for rare and endangered species and provides ecological benefits without disrupting the livelihood of local landowners.
Insight: Klooster weighed in on his experience: “Doing field research abroad is incredibly challenging and also one of the most rewarding educational experiences I have ever had. "Despite our preparations and planning, nearly all of our expectations about how the research would progress had to contend with the reality we faced in the field. Though we often felt frustrated and overwhelmed, we never failed to improvise a solution. I attribute this in no small part to the diverse skill sets that were represented in our multidisciplinary team and the invaluable support we received from the employees of the conservation organization we were working with.
“The contribution of their knowledge and experience to our research was absolutely essential. There is immense value in the sort of collaborative effort we sought to achieve, bridging the gap between qualitative interview research and quantitative biodiversity surveys, and we are indebted to everyone who was so willing to help us make it possible. I think Rachel and Beth would agree when I say that the lessons we learned in terms of the values of teamwork and collective problem solving are perhaps the most important takeaways from this experience."

MEIJER ENVIRONMENTAL FOOTPRINT REPORT

Client: Meijer Inc. (corporation)
Location: Michigan
Team: Joshua Silverblatt, MS, Sustainable Systems; Lu Chen, MS/MSE, Sustainable Systems; Montana Krukowski, MS, Environmental Policy and Planning; Ryan Leclerc, MS, Sustainable Systems; Denise Miller, MS/MBA, Environmental Policy and Planning; Xiajun Zhang, MS/MAE, Environmental Policy and Planning & Environmental Informatics; Greg Keoleian (advisor)
Mission: To help Grand Rapids-based Meijer, Inc.—one of the Midwest’s largest supermarket/supercenter chains—understand and mitigate their environmental impacts. Although Meijer was the first among competitors to remodel a store following Leadership in Energy and Environmental Design (LEED) certification standards, the retailer recognizes that there is always room for improvement in reducing its energy use and carbon footprint. To that end, the team provided the retailer with an actionable report on water use, greenhouse gas footprint, energy use, habitat impacts, and waste production and disposal. In comparison with distribution centers, stores had the largest impact across the board. Further research showed that the older models of shopping centers were the biggest contributors, especially in energy use.
Insight: When asked which environmental metric to address first in terms of sustainability challenges, Miller responded, “We evaluated how to choose the ones we included by looking at where Meijer had the most significant impact, as well as the most opportunity to create positive change. My theory would be to look at the greenhouse gas emissions first, particularly in stores and gas stations.”
“There is a correlation between greenhouse gas emissions and energy,” said Leclerc, “So, by focusing on those two aspects, you can kill two birds with one stone.”
“I would agree with the energy impacts of greenhouse gases because with the effects of climate change, it is a direct result of greenhouse gas and energy use,” added Krukowski, “so not only would Meijer be impacting itself and its own bottom line but it would have a great impact globally.”
RESILIENCE OF COASTAL COMMUNITIES IN RESPONSE TO EXTERNAL STRESSORS

**Client:** Oregon Department of Fish and Wildlife (government agency)

**Location:** Coastal Oregon

**Team:** Ricky Ackerman, MS, Environmental Policy and Planning; Mike Burbidge, MS, Environmental Justice; Stanley Chen, MS, Conservation Ecology; Theo Eggermont, MS/MBA, Behavior, Education, and Communication; Joanna Lehrman, MLA, Landscape Architecture; Rachel Neuenfeldt, MS/MPH, Environmental Policy and Planning; Nathan Wells, MS, Environmental Policy and Planning; Paige Fischer (advisor); Julia Wondolleck (advisor)

**Mission:** To assist the Oregon Department of Fish and Wildlife (ODFW) in identifying opportunities for coastal communities to respond and recover from disasters or threats that disrupt their livelihood. In 2012, ODFW completed the designation of five marine reserves along the Oregon coast and holds a commitment to monitoring the socio-economic impacts on the communities that surround these reserves. The report focused on 77 interviews conducted within six Oregon towns, in which the team analyzed common stressors (decline of natural resource industries, economic recession) and responses.

**Insight:** According to Neuendfeldt, “These communities each had in common the fact that they were all historically reliant on natural resource industries like fishing and timber. As these industries are dwindling, communities are really struggling with how to make money and how to continue their existence.

“In terms of responses, we saw a lot of these communities pursuing economic alternatives. As timber and fishing were leaving, some of them were turning to things like tourism to try to increase revenue or support jobs in the communities. Others looked at alternative funding strategies like grants or low-interest loans that can help support government services, even without these economic drivers.”

Neuendfeldt noted that additional responses included improving livability to attract families, lobbying and legal action, emergency response preparedness, and electing new leadership.
This fall marks the 25th anniversary of the Center for Sustainable Systems. Over the years, the center has analyzed a diverse set of technologies and systems—from cars and urban infrastructure to renewable energy and even your diet—in order to assess and improve sustainability performance. The founders, Professor Emeritus Jonathan Bulkley and Professor Greg Keoleian, are well-known in the SNRE community. We’d like to take a moment now to recognize some of the center’s other talented, accomplished faculty members. This year, you can find them conducting research in China, Japan, Russia, Washington, D.C., Detroit, and right here in Ann Arbor.

SHELIE MILLER
JONATHAN W. BULKLEY COLLEGIATE PROFESSOR
IN SUSTAINABLE SYSTEMS

Fast Facts
- Area of Research: Sustainable Technology
- Years at SNRE: 6
- Favorite Course to Teach: NRE 597: Environmental Systems Analysis
- Favorite Place in Ann Arbor: Saginaw Forest with my duck tolling retriever
- Accolades: Presidential Early Career Award for Scientists and Engineers (2009), NSF CAREER Award (2009), Jefferson Science Fellow (2016-17)

What Most Excites You about Your Research?
I like thinking about up-and-coming technologies. My lab group tries to foresee how these technologies will affect the environment, and then consider whether they can be designed in a more sustainable way. If we could go back in time to the first cars rolling off the assembly line, how would we redesign the system to minimize cars’ environmental impact? We’re trying to answer that question in relationship with new technologies, such as autonomous vehicles and 3-D printing.

This year, I’m going on sabbatical to work in Washington, D.C., on a science policy fellowship. I would like to help influence policy and design decisions associated with new technologies, whether that’s trying to incentivize certain types of scenarios, or making designs in a way that we think will lead to more sustainable behaviors.

JEREMIAH JOHNSON
ASSISTANT PROFESSOR

Fast Facts
- Area of Research: Sustainable Energy Systems
- Years at SNRE: 4
- Favorite Course to Teach: NRE 501.091: Renewable Electricity and the Grid
- Favorite Place in Ann Arbor: The Arboretum with my family

What Most Excites You about Your Research?
My projects assess the environmental impact of changes to the power system. For example, what happens when we incorporate wind, solar, or energy storage into the grid? This research excites me because electricity production has a huge environmental impact. We have a tremendous opportunity to reduce that impact due to decreasing prices of renewables like wind and solar, and favorable public policies and incentives.

This is a fast-moving field with a lot of unanswered research questions and a high degree of student interest. I think students are intrigued by the potential outcomes and by the job opportunities. SNRE has done a very good job of placing students interested in energy and environment at for-profits, non-profits, think tanks—the whole gamut of opportunities.
JOSE ALFARO
ASSISTANT PROFESSOR OF PRACTICE

Though his research takes him to far-flung destinations around the globe, the central goal of Jose Alfaro’s work remains the same: to bring sustainable infrastructure to the world’s least developed countries. With a focus on water, food production, and renewable energy, he uses systems-thinking and tools from industrial ecology to design viable, place-based solutions. A cornerstone of his practice—and his teaching—is his commitment to ethical engagement with communities at home and abroad.

“Our work with Sustainability Without Borders (SWB) continues to bear fruit for our students and our research. This year we had five working teams: China, Peru, Liberia, SustainEd, and the Technical Development Team. The interdisciplinary teams are impacting communities from Detroit to the remote mountains of Peru, to isolated areas of Africa. We are learning about technologies, sustainable development, and new methods for capacity building and technology transfer—a key piece of the Paris Climate Change Agreement and the sustainable development agenda.”

TONY REAMES
ASSISTANT PROFESSOR

As a multidisciplinary scholar with degrees in engineering and public administration, Tony Reames focuses his work on the nascent field of energy justice. In an early 2016 lecture, Reames addressed the concern that millions of American households suffer an everyday energy crisis, lacking affordable and reliable energy access to adequately heat or cool their homes. Currently, he is exploring such disparities in residential energy generation, consumption, and affordability—focusing on the production and persistence of inequality by race, class, and place. Through this research, he seeks to connect the areas of technological advancement, the policy process, and social equity.

“My interest in environmental justice began when I wrote an undergraduate research paper questioning why my small rural county, out of all counties in South Carolina, was home to both the state’s largest landfill and correctional institution. This initial inquiry continues to push me to seek understanding of the factors that produce and sustain inequities, and also how communities overcome past and prevent future injustices.”

JOSHUA NEWELL
ASSISTANT PROFESSOR

Fast Facts
- Area of Research: Urban Sustainability
- Years at SNRE: 6
- Favorite Course to Teach: NRE 501.037: Urban Sustainability
- Favorite Place in Ann Arbor: Bandemer Park, on the boat docks in the Huron River
- Accolades: Web of Science ‘Highly Cited’ Papers (2016)

What Most Excites You about Your Research?
I’m excited by what happens when you combine the strengths of two academic fields in order to better understand the ways in which we use natural resources. Once we know how much of a resource we’re using, where that resource comes from, and how we can use less of it, we can build more sustainable and equitable systems for people and the planet.

My work draws on basic principles of industrial ecology to quantify resources, such as water, that a city might use. It also draws on political ecology to understand the political structures behind the resource use—how things are governed, who benefits and who loses, and how we might best proceed.

MING XU
ASSOCIATE PROFESSOR

Fast Facts
- Area of Research: Engineering and Industrial Ecology
- Years at SNRE: 6
- Favorite Course to Teach: NRE 573: Environmental Footprinting and Input-Output Analysis
- Favorite Place in Ann Arbor: The petting farm with my daughter

What Most Excites You about Your Research?
Being able to tell people the true environmental cost of things like consumer products and energy consumption. To do this, I apply techniques from industrial engineering, data science, and complex systems science to answer questions related to the environment. For example, recently, my post-docs and students recalculated emission factors (the ratio between the amount of pollution generated and the amount of a given raw material processed) from purchased electricity for interconnected regional power grids. We used network analysis, a tool from complex systems science, to achieve a more accurate assessment.
FLINT: LOOKING FORWARD

In the wake of the Flint water crisis, the environmental community has been asking what went wrong, what needs to be done, and how to prevent similar crises in the future. Three SNRE alums discuss their work.
VIEW OF THE FLINT RIVER LOOKING SOUTH FROM THE MOTT FOUNDATION HEADQUARTERS

MICHAEL GREEN (MS, ’93)
Founder and C.E.O. of the non-profit Center for Environmental Health

This past February, Michael Green traveled to Capitol Hill to brief Congress and the public on the Flint water crisis and its implications for communities across the United States. Green is the C.E.O. of the Center for Environmental Health (CEH), which he founded in 1996 to raise awareness of the corporate use of toxic chemicals, including lead. For nearly a decade, the center systematically tested children’s products, finding lead in baby powder, candy, toys, lunch boxes, and bibs. In 2008, CEH drafted and helped pass a federal bill banning lead in children’s products.

But this doesn’t address what Green calls “relic lead”—the sort of lead that’s behind Flint’s water crisis. The largest sources of lead exposure today are a legacy of products used before federal bans were enacted. These include lead in paint (banned for residential use in 1978) and lead in soil contaminated by lead gasoline (largely phased out in the 1970s). Lead service lines for drinking water are also a source of exposure when not properly monitored and maintained, as was the case in Flint. No one knows precisely how many lead service lines were installed nationwide before they were banned in 1986. Estimates place the number between 3 and 10 million. In his testimony, Green noted that the EPA has said the nation’s drinking water utilities need almost $400 billion dollars in infrastructure investments over the next 20 years. Current funds cover just 10% of this.

“The question is, do we want to spend the money?” asks Green. He suggests that federal, state, and local governments should begin by replacing the pipes in schools and playgrounds. Next, they should replace pipes in low-income communities of color that have historically been most heavily exposed to lead and other toxins.

“While money won’t solve all problems,” says Green, “it can solve this one. It’s a simple matter of testing the water, identifying the pipes with lead, and then eliminating the lead source.”

JUMANA VASI (AB, ’97, MS, ’08)
Program Officer for the Charles Stewart Mott Foundation

Speaking from her office in downtown Flint, in a building that overlooks the Flint River, Jumana Vasi notes that the water crisis unfolded “in full public view,” and yet environmental groups weren’t as engaged as they could have been. “If there had been a Clean Water Act permit issue, I could have given you one hundred people who would have come into town immediately with tested and practical solutions,” she says. But this wasn’t the case for drinking water infrastructure.

Founded in 1926, the Mott Foundation provides grants supporting education, the environment, civil society, and the area around the City of Flint. As a program officer, Vasi oversees about 40 grants, totaling approximately $4 million a year, dedicated to safeguarding the Great Lakes ecosystem. “We’re in the early stages of this, but the way I summarize where we are is that for decades Mott has invested in surface water protection—keeping our rivers, lakes, aquifers, streams, wetlands as protected as possible from
A GROUP OF SNRE PHD STUDENTS VOLUNTEERED TO DELIVER WATER DURING THE WATER CRISIS

habitat destruction, pollution, and overuse. Now we’re asking more questions about how that water gets to people in a way that’s good for the environment and good for people.”

Vasi sees an opportunity to develop safe drinking water expertise within the network of Great Lakes environmental groups. This might include a clearinghouse for information about the Safe Drinking Water Act, and more organizations with the capacity to advise citizens. “Right now, all the water testing happens through your state agency or municipality,” she says. “There’s no third party monitoring of trends or translation of data.” Vasi acknowledges the need for more research into effective interventions, but she says, “I think it’s clear that a system of checks and balances is the best defense against problems. Leaving it up to any one sector . . . is not going to provide the best outcome.”

Improving drinking water infrastructure can also benefit the environment. Flint, for example, currently loses up to 50% of the water in its system through leaks. Some of these leaks occur in the sewage and stormwater pipes, allowing waste to enter the natural system and contaminate aquifers and surface waters—potential sources of drinking water. Says Vasi, “The big picture is there’s a lot of connectivity that has not been appreciated. We all need to understand and move forward in a more integrated way than we have before.”

NOAH HALL (BS, ’95, JD, ’98)
Environmental Attorney, Associate Professor of Law at Wayne State University

Noah Hall doesn’t mince words: “As an environmental advocate, I’ve had to take a hard look in the mirror and ask myself, ‘What could I have done differently? How could I have missed this?’” Like many others, he wonders why nearly 18 months passed between the time Flint began drawing its water from the Flint River and the time the city reconnected with Lake Huron. “Anyone who can read a newspaper should have known what was going on in Flint for over a year,” says Hall. “As a society, none of us stepped up to the stop the problem as soon as we wish we had.”

Hall has spent his career as an environmental attorney, working on behalf of citizens in cases that include challenges to the Marathon Oil Refinery in southwest Detroit, and to the Detroit incinerator. In March, he was appointed Special Assistant Attorney General for Michigan, part of the special counsel team responsible for investigating whether state laws were violated during the Flint water crisis.

The team has already indicted two state employees, and a third employee has pleaded guilty to a misdemeanor. Hall, who leads the civil litigation, participated in a press conference on June 22, announcing lawsuits against two private corporations: Lockwood, Andrews & Newnam (LAN), a Texas-based company hired in 2013 to upgrade the Flint water plant to treat new sources of drinking water, including the Flint River; and Veolia North America, which Hall characterizes as the world’s largest water services company. Veolia was hired by Flint to serve as a consultant in February 2015 when it became clear there was a problem with the water.

For their part, LAN and Veolia have both denied the allegations of committing professional negligence and causing a public nuisance: corroded lead pipes. Veolia has also been charged with a third allegation—committing fraud by providing false statements about the safety of Flint’s drinking water, a charge the corporation denies. These lawsuits raise a host of new questions, and the situation is far from resolved. “This is not going to get wrapped up in a year,” says Hall, whose goal is to recover damages for the State of Michigan and to create a public trust fund for people directly affected by the contaminated water.

“I’ve done a lot of litigation over Great Lakes issues—water diversion, invasive species—and I’ve had a lot of success,” says Hall. “But when it comes to environmental justice, we don’t have a lot of success in court. The deck is really stacked against these communities, in part because courts want evidence of intentional discrimination. It isn’t enough to simply show that one segment of the population is disproportionately harmed by environmental contaminants.”

Still, Hall believes that the Civil Rights Act and environmental statutes give everyone the right to clean air, clean water, and an unpolluted landscape. He hopes that the special counsel’s investigation will identify those most responsible for the damage in Flint—and draw nationwide attention to the problem of environmental contamination.
IN MEMORIUM

REMEMBERING DAVID M. GATES,
PHYSICIST, ECOLOGIST, PROFESSOR

David Murray Gates, 94, died March 4, 2016. Gates was a physicist, ecologist, and professor emeritus of biology at the University of Michigan. Born on May 27, 1921 in Manhattan, Kansas, he received his BS, MS and PhD degrees in physics at the University of Michigan. During World War II, Gates worked on the performance of the proximity fuse at U-M as well as John Hopkins Applied Physics Laboratory. From 1947 to 1955, he became an associate professor of physics at the University of Denver, where he worked on the radiation properties of the atmosphere and climate. In 1971, Gates became professor of botany and director of the Biological Station at U-M, where he modernized the course program and raised funds from various organizations for research purposes.

From the early 1970s through the 1990s, he served on the boards of the National Science Foundation, the Conservation Foundation, the World Wildlife Fund, National Audubon Society, among others. Honors include the Gold Medal for Accomplishments in the Field of Ecology from the National Council of State Garden Clubs, the Distinguished Faculty Award from U-M, and the Henry Shaw Medal from Missouri Botanical Garden. In his esteemed years of academia, Gates published more than fifty research papers and wrote six books.

“Many of us were fortunate to know and work with David during and following his work at U-M and the Biological Station,” said Knute Nadelhoffer, Director of U-M Biological Station and U-M Professor of Ecology and Evolutionary Biology. “He became a good friend and valued advisor through the years following my 2003 arrival in Michigan and I am sorry to see him pass on.”

REMEmBERING GWYNN H. SUITS,
RESEARCH SCIENTIST AND PROFESSOR

Gwynn H. Suits, 93, died January 19, 2016. Suits is known for his groundbreaking research in the field of remote sensing at the Environmental Research Institute of Michigan (ERIM) and its predecessor, Willow Run Laboratories. Born on November 17, 1922 in St. Louis, Missouri, he received his BS, MA and PhD in Physics from the University of Michigan.

Suits taught Remote Sensing at U-M and while on sabbatical, conducted research at the National Research Council in Washington D.C. as well as the Johnson Space Center in Houston, Texas. In 1939, he became licensed in amateur radio and used these skills to contribute to the war effort during WWII. He held a deep passion for his experiences in amateur radio as well as playing classical music on the viola.

“I feel grateful to have been assigned to the Infrared Physics Lab at the Michigan Institute of Science and Technology when I first arrived back in Ann Arbor in 1963,” said Chuck Olson, SNRE professor and dean emeritus. “Gwynn Suits was the head of that lab and I had several years of association with him—as well as working with him when he began teaching in the Remote Sensing Program. I consider Gwynn the best instructor I have ever had.”
The story of SNRE began in a forest. If you could see a cross-section of our family tree, you’d find the growth rings earned through winters harsh or mild, rains that fell or failed to fall, and summers of abundant sunlight.

Survival has depended on our ability to adapt and renew, our “growth rings” measured by the impact we make in the world.

As a school on the forefront of conservation, ecology, and sustainability, we’ve weathered our share of storms over the years—and endured more than one economic drought. Sometimes those challenges required restructuring, reorganizing, and even renaming ourselves.

But at our core, it is our community—our alumni, students, and faculty—that keeps our roots strong, and our eyes open to the story that is constantly unfolding.

**CONSERVATION**

This summer, we asked intern Demario Longmire to help us honor that story through the histories of our alumni.

A natural researcher at heart, he began with the archives at the university’s Bentley Historical Library. Sifting through troves of newspaper clippings, encased photos, and documents, Longmire found much to pique his interest.

“In the end,” he says, “the richest resources were the voices of the alumni themselves.”

Over several months, Longmire interviewed 31 alumni from multiple generations and fields of study. In conversations that often lasted the better part of an hour, he asked them to share their experiences and insights.

Mapping their responses on his poster-sized legal pads, Longmire found commonalities among what many alumni valued most at SNRE.

“A love for the outdoors was universal for the earlier alumni,” says Longmire, “and they appreciated that it was a small school in a large university. They felt it was a place where ‘everyone knew everyone.’”

Longmire adds that the faculty was central to their memorable experiences. “Alumni recall their professors not only as leading intellectual voices in their fields, but also as dedicated transformational leaders who paved opportunities for their students’ careers. Many spoke of long-lasting mentorship relationships.”

**BY DENISE SPRANGER**
One fond memory shared by most was Camp Filibert Roth. “Those seemed to be magical days for many alumni,” says Longmire with a smile. “Lots of hard work, but plenty of camaraderie. And everyone seems to remember the challenge of the Woody Plants course.”

Those were the days when students like John Bassett (AB, ’49, BSF ’51, MF, ’52, PhD, ’61) worked in Stinchfield Woods—for a whopping 35 cents an hour. Bassett was just as proud to be on the planning committee for the Paul Bunyan Ball, an event where “plaid shirts” were the appropriate formal attire.

Longmire admits that he listened to some difficult memories as well. Carroll Williams (BSF, ’55), pictured in photo above, had ranked in the top ten-percent of his high school class when he was denied admission to SNRE based on low grades. When he discovered that a white student—with lower rankings—had been accepted, he raised the issue and was subsequently admitted “with apologies.” Though Williams made no accusation of racism and continues to value his education at SNRE, we can only speculate how many more students of color might have been among our successful alumni today. As for Williams, he went on to be a US marine, a lecturer at Yale, and a professor at UC Berkeley.
Women at SNRE also represented a small minority in the 1950s and early 60s. Fortunately, the women Longmire spoke with remembered a supportive atmosphere at the school. “We would hang out and study together,” said Carol Kopack (BS, ’63), “I felt like a sister of the guys.” After graduation, some of those early alumnae would be among the first women to make an impact in environmental fields.

In addition to her research, Jean MacGregor (BS, ’67, MS, ’71) helped write the definitional paper on environmental education, along with the late Professor William Stapp, recognized as the founder of the field. She currently teaches environmental education in the masters program at Evergreen State College in Washington State.

Graduating just a year before MacGregor, Sara Segal (BS, ’66, MS, ’69) volunteered in Israel and Palestine, helping students form cross-cultural connections through environmental education.

Though her years at SNRE were indeed positive, Segal admits that the experience was different for women. Not invited to attend Camp Filibert before 1969, women were similarly excluded from the Society of Les Voyageurs—the university student organization highly favored by SNRE students—until 1972.

INNOVATION

Amid the cultural sea change of the 1960s and ’70s, the environmental movement broke new ground, inspiring a generation—already marching for civil rights, women’s rights, and an end to the Vietnam War—to demand the protection of the planet. As environmental teach-ins sprang up across the country, the largest and most visible were held at the U-M Ann Arbor campus, along with its first celebration of Earth Day.

In 1967—long after his hourly job in Stinchfield Woods—Bassett was teaching his first classes at SNRE. He recalls the campus unrest of those years, as well as a disconcerting attitude among his students. “Now you had students who didn’t believe in cutting down a single tree,” he said, “and definitely weren’t interested in managing the process—even though they were students in forestry.”

Bill Hyde (MS, ’75, PhD, ’77) relates his experience as a student during those years. He had served four years in the military before entering graduate school, and recalls that the ideas of the environmental movement were “common conversation” during class. He himself was involved in campus activism and a member of Vietnam Veterans Against the War (VVAW).

Longmire’s eyes grow wide as he describes one of the organization’s notable protests. “In collaboration with the football team,” he says, “VVAW actually surrounded the stadium during a game.”

Michael O’Day (BS, ’71) recounts that there was “something of a divide” in the school during the rise of the environmental movement. There was also a divide between the institution and its alumni, many of whom felt that their alma mater was changing too rapidly. In response, Sharon Miller, (BS, ’52, MF, ’56) sought to mend those broken relationships by helping to form the first Alumni Society of SNR.

If the ’60s and ’70s erupted like a sudden downpour, the 1980s were a lightning strike at SNRE. Having endured the recession of the past decade, the school was once again threatened by university budget cuts—launching yet another wave of restructuring and reprioritizing.

But by then, SNRE alumni were out in force, and their contributions were making impacts around the globe. Brian Day (MS, ’77), who has worked in over 30 countries and in every state in the U.S., reported that SNRE alumni had a presence in nearly every environmental organization that he encountered.
As Longmire reviews the notes from his 31 conversations with alumni, he shares his own reflections on what he’s learned through the project.

“All of the alumni spoke so positively about the school,” he says, “and ultimately, what the school enabled them to accomplish.

“But I did hear a sense of loss from some of those involved in the earlier forestry program. It was as if their work has been forgotten.”

Longmire views it differently. He holds deep respect for the conservation efforts of the first half of the 20th century. But having been born in 1994, he was taught that environmentalism and sustainability were natural—even inevitable—outcomes of those efforts. Fundamentally, he agrees with his mentor on the project, alumnus Sharon Miller: the school must change to survive in a changing world.

“For me, the story of SNRE is less about divisions and more about connections,” he says, “and seeing those connections in the larger picture.”

Or maybe, as one of our early alumni might put it, “It’s being able to see the forest for the trees.”
In the Mountain West, the land is wild and boundaries are wide. The fate of many acres often rests on a handful of environmental leaders—luckily many of them are SNREds with interdisciplinary experience, strong voices, and keen sensitivity to the complexities of environmental justice.

In the past few decades, the Rocky Mountain region has experienced sweeping economic change. According to Dennis Glick (MS, ’81), the “Old West” economy of resource extraction—mining, logging, cattle, and so on—has been replaced by a recreation-based economy that actually depends on the protection of natural resources. Although the transition has ameliorated certain obvious environmental issues, it also brings forth new, more intricate sustainability challenges that involve not multinational corporations, but the very people who love and admire nature.

“It doesn’t matter if you are a card-carrying environmentalist; your lifestyle, recreational pursuits, and even homesite could seriously affect the long term ecological integrity of both public and private lands,” Glick said. “The recreation economy we thought was an environmentally benign alternative to resource extraction is having both site-specific and cumulative impacts.”

Tourists and residents may, in fact, be loving the West to death. Glick says wilderness designation is now opposed by many recreationists, such as mountain bikers, who don’t want their access to natural landscapes curtailed. Rafters want to open up currently...
protected waters, like those in Yellowstone National Park, to boating. Snowmobile and ATV users want to be allowed deeper into the backcountry. And, as once-quiet cities like Bozeman, Montana, sprawl now at an alarming rate, new home construction by those chasing a rural lifestyle further fragments wildlife habitat, introducing everything from noxious weeds to domestic animals into the ecosystem.

In short, the intense love for nature that draws people to the West in the first place, and often keeps them there, must be mediated with the overall ecosystem—or it all falls apart. To this end, Glick founded and directs Future West, a Montana nonprofit that takes a collaborative, community-based approach to conservation by providing key land use decision-makers with the information, training, technical assistance, and facilitation services they need to make wise decisions on conservation and rural development issues.

“Many, like county commissioners and rural ranchers, are people who don’t always see eye-to-eye with the conservation community,” Glick said. “But we nearly always find common ground and stay focused on these issues of shared concern.”

Montana Wildlife Federation executive director David Chadwick (MS, ’03) believes that the longstanding “hook and bullet” culture of the Treasure State opens the door for constructive dialogue when it comes to conservation efforts, allowing environmental leaders to motivate citizens to take action.

“Montanans spend their free time in the woods and on the water, often with a gun or fly rod in their hand; they fill their freezers every fall with elk, venison, and other wild game. This strong culture of hunting and fishing provides a platform for outreach and advocacy, because wildlife and habitat issues are so personal,” Chadwick said. “Managing big game, conserving endangered species, protecting water quality in our rivers and streams for trout are not just abstract ‘environmental issues’, as they may seem in other parts of the country. They have a tangible impact on Montanans’ lives.”

In fact, the Montana Wildlife Federation, which celebrates its 80th anniversary this year, was founded by hunters and anglers. This contingent is still well represented in the organization’s membership today, which is united by a high level of direct engagement with wildlife and the outdoors.

“We’re dedicated to mobilizing citizens to protect the state’s abundant wildlife, natural lands and clean waters, and public access to the outdoors. We pursue this by educating people about conservation issues and involving them in the public policy process,” Chadwick said.

A recent success involves the passage of the Rocky Mountain Front Heritage Act in 2014, which designated the first new wilderness in Montana in 31 years—67,000 acres—and protects nearly 500,000 additional acres.

In addition to such collaborations across varied interest groups, early education is also key to sustaining the area. At the University of Montana, Beth Covitt (MS, ’88, PhD, ’04) is head of science education research and evaluation for the spectrUM Discovery Area, a K-12 focused science center, and leads the Montana Groundwater Academy* for high-schoolers. Hands-on experiences through both initiatives provide a foundation for Montanans to understand and participate in decisions related to water resources, mining, agriculture, forestry and forest fires, climate change, and more.

“A core goal for my work is to develop a citizenry that is environmentally science-literate,” Covitt said. “Someone who is environmentally science-literate is capable of participating in evidence-based discussions about socio-ecological issues and of making decisions about those issues that are informed by science.”

Glick, Chadwick, Aengst, and Covitt are just a handful of many SNRE alumni working toward the preservation of the American West—so many, in fact, that 1988 graduate Paul Sihler has dubbed the contingent “the Michigan Mafia.”

“Professors Steve Yaffee and Julia Wondollick have left a legacy that is visible and tangible across the region—three decades of former students who are now in leadership positions within federal and state agencies, nonprofits, and universities,” said Sihler, who is chief of staff for Montana Fish, Wildlife and Parks. “And we are all shaping organizations, landscapes, and communities based upon the principles of collaboration, negotiation, ecosystem management, and interdisciplinary problem solving that we learned from them. Knowing there is a pipeline of SNRE students out there gives me confidence about the future of conservation in the West.”

* The Montana Groundwater Academy is supported by an EPA Environmental Education grant and multiple partners in western Montana.
IN COLORADO, SUZANNE AND ELISE JONES USE THEIR POLITICAL POWERS FOR GOOD

Growing up in a blue collar neighborhood in Kansas City, Missouri, Suzanne and Elise Jones witnessed firsthand the plight of families struggling to make ends meet and the need for a strong public school system and safety net for those less fortunate. They credit their parents, both teachers and advocates for social justice in their community, with instilling in them the importance of giving back to the world, and for inspiring their love of the Colorado wilderness.

The family spent every summer in the mountains of western Colorado, where they hiked the state’s high peaks and swam her whitewater rivers—and, at age 5, the twins’ affinity for the environment was born. The combination of their childhood experiences in the inner city and the western wild catalyzed their desire to pursue careers that couple environmental advocacy with public service.

Suzanne (MS, ’90) is mayor of the city of Boulder, and Elise, (MS, ’93), is a Boulder County commissioner.

Their combined 50 years of environmental policymaking and advocacy experience is a great fit for the values of Colorado voters. While Colorado is a “purple state” politically and vacillates between red and blue in various elections, what doesn’t change, and what the twins say is ingrained in virtually all Coloradans, is an abiding love for the great outdoors.

From its snow-capped peaks to red rock deserts, Colorado is defined by its stunning natural scenery and an abundance of opportunities to enjoy it. More than 65% of Coloradans regularly recreate outdoors, fueling $13 billion in annual spending on outdoor recreation and 125,000 direct jobs. This in turn helps foster a commitment to natural resources stewardship that matches well with the twins’ efforts to provide greater protections for the state’s world-class environment.

“My primary motivation to run for local elected office was a realization that, because of a lack of national leadership, it was up to cities to craft and push for solutions to address climate change,” said Suzanne. Her mayorship provides only a nominal per-meeting stipend; for her day job, she runs Eco-Cycle, a community nonprofit that promotes and implements recycling, composting, and other zero-waste solutions.

Over the course of her career with The Wilderness Society, the Boulder City Council, and now as mayor, Suzanne has helped craft, adopt, or put on the ballot some of the most progressive local policies and programs in the country, including: the nation’s first carbon tax on energy usage, an aggressive climate action plan aimed at reducing greenhouse gas emissions 80% by 2050, innovative multi-modal transportation solutions, a universal zero-waste ordinance requiring recycling and composting by all residences, businesses, and institutions in Boulder, and more—all while wrestling with important social issues such as housing affordability, livable wage, homelessness, and inclusiveness.

Elise, who served as executive director of Colorado Environmental Coalition for 13 years, has played a key role passing the regional FasTracks initiative to fund a multi-billion-dollar transit system in the Denver metro region, adopting a renewable energy standard for the state (and then increasing it twice), and updating oil and gas regulations to provide better environmental and public health protections.

“As a county commissioner, I’m particularly proud of our efforts to expand our award-winning climate action and sustainability programs to enable home and business owners to install energy efficiency and renewable energy improvements, and to increase the purchase of electric vehicles,” Elise said. “I’ve also found it very gratifying to help expand county services that help those in need recover from the recent economic recession and break the cycle of poverty, and to spearhead initiatives that help foster a culture of acceptance and inclusion for everyone who lives in our community.”

The twins’ work often overlaps. While Suzanne’s role covers initiatives and services within Boulder’s city limits and Elise’s is spread over the broader county, the twins say both areas are politically progressive and historically have worked closely together on a number of these same initiatives. “Our close sister relationship just helps this long-standing collaboration work even better,” said Suzanne.
In the Mountain West, environmental organizations are experiencing a changing of the guard, as many high-level leaders are retiring and a new generation is taking the helm. We asked SNRE alumni in longstanding roles to share their perspective on how environmental work has evolved over their tenure, and up-and-comers to describe their vision for the future.

NANCY FISHBEIN [MS, ’90], BOULDER
25 years • Director of Protection, The Nature Conservancy – Colorado

“In the years since I joined The Nature Conservancy, our conservation vision has shifted from protecting discrete, ecologically important pieces of land to looking more broadly at working landscapes, resilience in the face of changing climate, and engaging communities more effectively in conservation challenges. The work is more complex and hopefully more far-reaching than ever before.

“The next generation of environment leaders will be challenged to solve serious resource constraint issues that are already facing the American West. With Colorado’s population expected to double by 2050, water quantity will likely be one of our most pressing conservation problems. Environmental leaders will need to be solution-oriented, creative thinkers who can bring disparate interests together to address complex issues.”

PATRICIA SACKS [BS, ’77, MLA, ’86], DENVER
33 years • Landscape Architect, National Park Service

“The National Park Service is doing a better job of communicating the purpose and value of our work to our public stakeholders. We’re currently working on a plan to upgrade facilities at Muir Woods National Monument. At a recent public meeting in Marin County, California, the park superintendent recast the ‘Site Improvements Plan / Environmental Assessment’ as the ‘Muir Woods Sustainable Access Project.’ She clearly stated the project purpose is to ‘preserve the primeval character and ecological integrity of Muir Woods, and improve visitor safety and experience, by providing appropriate, sustainable infrastructure.’”

HEIDI SHERK [MS, ’93], BOULDER
22 years • Director of External Affairs, The Nature Conservancy

“Over the last 20 years in Colorado, I’ve observed a growing awareness and appreciation of conservation issues and the benefits of nature, but also increased demands on our natural resources resulting from a fast growing population and the impacts of a warming climate. There is strong public support for conservation reflected in polling numbers. Natural resources are seen as a driver of the state’s economy—every year outdoor recreation in Colorado generates $13 billion in consumer spending. And companies recognize the importance of nature in their ability to recruit and retain high quality workers.

“The next generation of environmental leaders in Colorado and the West will need to focus on water—finding ways to meet the needs of people, agriculture, and nature. And it will require solutions that provide flexibility and nimble approaches. As more people live in cities, we will need to ensure that nature is a part of cities, providing key benefits like cooling from tree canopies and storm water management from wetlands, and that urbanites have the opportunities to connect with nature, both in their backyards and the backcountry.”

CLAYTON ELLIOTT [MS, ’10], MISSOULA
Age 30 • Executive Director, Montana Conservation Voters

“We’re lucky to live in Montana. Our abundance of riches in public land, wild country, and big sky provide a daily reminder of what’s at stake in our work. To protect these special places, who we elect matters. At Montana Conservation Voters, our unique role is to hold elected officials accountable and to help elect pro-conservation public officials who champion our clear air, clean water, and open space.

“It’s an exciting time to step in as the executive director of the organization. Turning our conservation priorities into election year issues is a difficult—but critical—challenge for our generation of environmental leadership in the American West.”

AMANDA BARKER [MS, ’11], DENVER
Age 34 • Executive Director, Colorado Coalition of Land Trusts

“By 2050, Colorado’s population is expected to exceed 9 million, nearly doubling our current number of residents and putting more pressure on our land and water. With such intense pressures, my goal is to create sound public policy during this critical timeframe that incentivizes private land conservation opportunities.

“I want to help keep Colorado a dynamic landscape of family farms and ranches, wildlife habitat, and scenic vistas that the state is so famous for and part of the reason many people come to live and play.”
DEAR FRIENDS:

A highlight of my year has been the opportunity to meet and gather with alumni all around the country. So many of you generously shared your time, ideas, and incredible stories with me, and I am truly grateful. Your accomplishments amaze me, and your vision inspires us all.

Thanks to you, our SNRE community remains strong, and is growing even stronger. Over 600 graduates attended more than two dozen alumni events in the past year, and we’ve featured a number of your stories from the Mountain West in this issue of Stewards. We’ve also launched twelve new regional clubs nationwide, and are proud to welcome 25 new alumni leaders.

All of this is only possible because of the deep sense of camaraderie so alive within our alumni community. That camaraderie is exactly what our intern, Demario Longmire, reported that our earlier alumni remember most. Over the summer, he had the opportunity to speak with numerous graduates from the 1950s through the late ’70s. We welcome you to enjoy a few of the memories they shared in our feature, “Stories from Our Family Tree.”

We realized, however, that there never seems to be enough space in Stewards—or in SNRE Connect—to share all of your thoughts, feedback, and stories. With that in mind, we have been developing a new alumni website. We’re building an alumni directory for the site to make it easier for you to keep in touch with old friends and network with colleagues. We’ll send news of the website soon in future issues of SNRE Connect.

I look forward to meeting many more of you in the upcoming months, and as always, I’d love to hear from you. Please feel free to contact me directly to share memories, career and life updates, or to find out how to get involved. My inbox is always open.

Best,

Nicole Ver Kuilen
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SNRE “FAMILY” GATHERINGS

More gatherings coming soon! Find details in SNRE Connect or at snre.umich.edu.
Rocky Rohwedder (MS, ’79) began his journey with a single, central question: “Are there highly successful examples of communities lifting themselves out of poverty, while simultaneously lowering their ecological footprint?” Based on decades of exploration, he has found the answer to be a resounding yes. Illuminating that link for others prompted Rocky to write Ecological Handprints, an interactive eBook focused on proven grass-roots remedies that both ameliorate poverty and restore ecological resilience.

Once a “garden-variety ecologist,” Rocky was not exposed to poverty until he traveled through rural Mexico right after high school. There he witnessed the abjection of people and natural resources, and sensed a relationship between the two. Years later, upon meeting SNRE Professor Bunyan Bryant, one of the founders of the field of environmental justice, his suspicions were confirmed. Environmental destruction and global poverty are inextricably linked.

Rocky’s life’s work has been to seek and promote solutions that improve both human and environmental conditions. He describes the relationships he formed at Michigan as “catalytic,” leading to jobs with the Peace Corps and USAID. With fellow alumnus Erv Peterson (MS, ’78, PhD, ’84), Rocky introduced environmental education into Los Angeles public schools’ curriculum, thanks to Professor Bill Stapp’s outstanding reputation.

In a recent interview, Rocky talked about his experience with the LA public school system.

“Erv and I tried and tried to get a meeting with the curriculum director because we had some great ideas for integrating environmental education. Finally the director granted us five minutes to make our pitch. We started to describe our plan to improve urban ecology by engaging inner-city youth.

After a minute or two, the director asked us where we had studied, and we told him Michigan. His reply? ‘Oh, you’re some of Stapp’s Commandos.’ I’ll never know how he came up with that term—or even how he knew of Bill Stapp—but immediately his respect for us skyrocketed. From then on, we had his attention.”

In the same interview, Rocky shared his admiration for Professor Stapp.

“In Bill’s class, I would make two columns on my notepad,” he said. “The first column was for notes on the subject being taught. The second column was for notes on the way Bill taught. That man knew how to make an impression, and I wanted to record his secrets.”

Rocky’s career in academia began at Sonoma State University (SSU), where he was hired as a tenure-track faculty member with a master’s degree from SNRE. He had seven years to complete a PhD—which he did, from UC Berkeley—or he would lose his job. He has been with SSU ever since.

One of the highlights of Rocky’s career—and the path that led him to his current work—has been teaching with “Semesters at Sea,” a global study-abroad program that takes place on a ship voyaging around the world. He credits this program for first exposing him to what he has come to call “ecological handprints.”

According to Rocky, ecological handprints occur at the nexus of social justice and environmental restoration. They are market-driven, locally controlled solutions to economic poverty and environmental ruin. They include innovations like the gravity light, which uses gravity power to replace dangerous kerosene lighting, and the Darfur Stoves Project, which created stoves that use half as much fuel, reducing the need for women to put themselves in danger retrieving wood.
Shortly before his ninth birthday, José González (MS, ’09) moved with his family to California, where González noted that many Americans travel to nature in order to have a “nature experience”—a concept he had not previously encountered. As a child in rural Mexico, nature was just outside his door. He had played with friends in a nearby river, sometimes accompanying his grandparents as they tended their crops.

This dual understanding of how to connect with nature is crucial to González’s Latino identity and to his work as an environmentalist. In 2013, he founded Latino Outdoors, a non-profit dedicated to connecting Latinos throughout the U.S. to outdoor spaces. “All communities are conservationists,” González says, but it’s important to recognize that each community brings its own cultural history and understanding of nature to the table.

When engaging diverse groups, conservationists should avoid “the arrogance of expertise,” advises González, referring to an attitude that there’s only one way of knowing about and experiencing nature. He recalls a recent hike with a group of Latino Outdoors families. He spotted a turkey vulture and asked a father if he had seen one before. The father provided three different Spanish names for the bird. He then shared a story his grandfather used to tell him about spotting turkey vultures in Mexico, and how that related to lawlessness in Mexican society.

“It opened me up to the story of this individual,” says González. “Not just, ‘I’m bringing you out here to educate you.’”

González’s career interests developed during his undergraduate years at the University of California, Davis, where he served in the California Mini-Corps. The Mini-Corps employs college students with rural migrant backgrounds to work as teacher assistants in schools with a large number of migrant children. González served as a role model for migrant students, and he particularly enjoyed the outdoor summer program. But at the time, there was no clear career path for an undergraduate wishing to engage the Latino community in the outdoors.

González credits two of his SNRE instructors in the Behavior, Education, and Communication program, Julia Wondolleck and Steven Yaffee, with stimulating his thinking about connecting people with the environment. “They ask, ‘How do you connect people to outdoor resources? How are people integral to conservation?’” González wants to build on those questions by asking, “How is culture integral to the work of conservation?”

Latino Outdoors currently has two full-time employees, including González, plus over 35 volunteer leaders across the U.S. To date, more than five thousand people have participated in a variety of Latino Outdoors events, including hiking, rock climbing, kayaking, and camping. “Climbing every peak is not necessarily the best outdoor experience,” says González, noting that visiting a local trail or urban corridor can be just as valuable. “Ultimately, we want people to feel a sense of ownership and connectedness to their environment, regardless of where they are.”
Walter H. Cheely (BS, ’47) served in the US Marine Corp from 1942–1953. During his eleven years in the military, he took part in seven campaigns in three separate wars. He then went into the lumber industry and retired as a V.P. of Moser Lumber, Inc., in Naperville, IL. He has self-published two memoirs, and now writes articles on the topic of Americanism for history journals.

Rupert Cutler (BS, ’55), board member of the Blue Ridge Land Conservancy in Roanoke, VA and columnist for the Roanoke Times, recently married Brenda McDaniel, a former Roanoke City Council colleague and retired Hollins University administrator. His late wife of 57 years, Gladys, passed away in 2013. “Rupe,” editor of the Michigan Forester yearbook in 1955, recently saw two classmates - former US Forest Service employee Charlie Blankenship (in Roanoke) and former Virginia Tech forestry extension faculty Willy McElfresh (in Blacksburg, VA). All are doing well.

Leonard “L. Jack” Lyon (PhD, ’60) retired in 1996 following a rewarding 30 years of wildlife research for the Intermountain Research Station, US Forest Service. Most protocols for big game habitat management on public lands are based on information provided by his research. Since retiring, Jack has been active in protecting open space in Missoula, and has just published the second volume of his autobiography, You Have to Be Tough to Live in Montana.

Gerald Ginnelly (MS, ’62) recently published a book about his service in the Marine Corps during the Korean War, and shared two copies with the university. He is currently consolidating old film material into a mini-documentary about the fisheries of the Mekong and Tonle Sap Rivers in Cambodia.

John S. Troy (MLA, ’73) has practiced residential landscape architecture in the San Antonio, Texas region for the last 35 years, having received five design awards from the Texas Chapter of the American Society of Landscape Architects (ASLA). He is currently serving as president of the San Antonio Botanical Garden through 2017, and was recently recognized with the 2016 Texas ASLA Community Service Award for his service to the Garden.

Tom Gallagher (MS, ’75, PhD, ’77) retired from the Ford Family Foundation where he was director of the Ford Institute for Community Building. This past April, he was honored with the Lifetime Public Achievement Award from the Center for Public Service at Portland State University. Previous to joining the Foundation he was professor of public administration (natural resources) with the University of Alaska and a W. K. Kellogg Foundation National Leadership Fellow.

Marion Secrest-Gold (BS, ’77) has served as commissioner of the Rhode Island Office of Energy Resources (OER) since August 2012. As leader of the OER, Dr. Gold is dedicated to working with public and private sector partners to provide sustainable, secure, and cost-effective energy services to all sectors of the community. She was recently recognized by New England Women in Energy and the Environment (NEWEE).

Ray Drapek (BS, ’81), Tsipora Claudia Berman (BS, ’76), and Dr. Hillary Egna (BS, ’80) of Corvallis, Oregon met up for an impromptu alumni get together in May. Ray led the group on a beautiful nature tour of the Hesthavn Nature Center, which he helps manage as part of the Audubon Society of Corvallis. They later went to dinner at Sky High Brew Pub downtown to relive their SNR days. Today, Ray works as a biologist and GIS specialist for the U.S. Forest Service, Tsipora is a holistic education instructor at OSU, and Hillary is the unit leader and director of AquaFish Innovation Lab at the College of Agricultural Sciences at OSU.

JoAnn Myer Valenti (PhD, ’83) is serving as a juror for the annual Rachel Carson Book Award, and reviews environmental and science books as well as films for national/international publications. She is also serving on numerous editorial boards. JoAnn was recently invited to help launch a science communication program at the University de Los Andes in Bogota, Columbia and participate in a national conference to bring together the country’s indigenous peoples and the National Parks Service.

Sue Johnson Emery (BS, ’92) is an IT project manager for the USDA Forest Service. She manages software development projects for natural resource applications used internally by the Forest Service to make better management decisions or do upward reporting to Congress.

Peter Arbuckle (MS, ’07) and Nicole Fernandes (MS/MPP, ’08) welcomed future Wolverine, Xavier Arbuckle, in September 2015.

Susan Dieterlen (MLA, ’04, PhD, ’09) recently published Immigrant Pastoral: Midwestern Landscapes and Mexican-American Neighborhoods (Routledge, 2015), a full-length monograph repositioning her SNRE dissertation work for practitioners, public officials, and scholars across several disciplines. She is a research assistant professor with the School of Architecture at Syracuse University and a faculty research fellow at the Syracuse Center of Excellence.
José González (MS, ’09) is currently leading Latino Outdoors, an organization he founded in 2013 that aims to bridge opportunities with Latino communities and conservation. This past year, he has resided in Washington, DC where he had the opportunity to meet both President Barack Obama and Secretary of Interior Sally Jewell. In November, González will return to California to continue his never-ending efforts with Latino Outdoors.

Lauren Cline (BS, ’08, PhD, ’15) is serving as a postdoctoral associate at the University of Minnesota, and won the 2015 ProQuest Distinguished Dissertation Award—an extremely competitive award that recognizes the best doctoral work across the university. The recognition provides strong validation of the excellent work she accomplished in producing her dissertation.

Cody Yarbrough (MS/MSE, ’16) was just named a Presidential Management Fellowship STEM finalist. Out of 6,050 student applicants, he was one of 97 students chosen as a finalist. Through the program, Cody will go through rigorous leadership training, have the ability to do six-month rotations to other federal agencies, and be on a fast-track to management roles within various federal agencies.

Robert E. Buckman (PhD, ’59) died April 2, 2016. Buckman’s talent for administration and leadership propelled him onto a career track that included two separate assignments in the Washington D.C. offices of the U.S. Forest Service (USFS). There he held various staff positions in forest research, and served as deputy chief from 1976-1986. During that period, he also served as director of the Pacific Northwest Forest Experiment Station in Portland, Oregon for five years. Shortly after his retirement, Buckman joined the College of Forestry at Oregon State University (Corvallis) where he taught forest policy and international forestry. During this time, he also served as vice-president, then president, of the International Union of Forest Research Organizations (IUFRO) from 1986-1990. He represented 15,000 forest scientists, spanning across 110 countries. Buckman will be remembered for his passionate career in forest research and his love of hunting and the outdoors.

Ajay Gupta (MS/MBA, ’03), died on August 13, 2016 from injuries sustained in a bicycle accident while training for an upcoming triathlon. He was 45.

As a student in the dual-degree program at the Ross School of Business and SNRE, Gupta was an enthusiastic pioneer in his belief that sustainability could be achieved through business. Upon graduation, he leveraged his leadership skills in the area of green finance with the United Nations Development Program, and later brought that same drive for sustainable solutions to his work on global corporate strategy and renewable energy at Cummins Power Inc.

Gupta brought his love for sports to Indian cities when he founded Sport365, a company created to build community through sport. He was also a trustee at his parents’ school, and was actively involved in managing the administration and growth planning since 2009. Gupta will be remembered for his intense desire to make a difference in the lives of others, and his creative willingness to “venture and adventure” his way into making the world a better place.
Four SmithGroupJJR landscape architects brought their expertise to the classroom in 2016, challenging SNRE students to think—and work—on a larger scale.

The landscape architects, two of them SNRE alumni, team-taught the U-M Metro Studio, a capstone course designed to push the envelope on skills attained in the master’s program.

The professional team selected Lansing’s riverfront corridor as the project site.

“It’s a large district that extends well beyond the riverfront itself,” says Oliver Kiley (BS, ’03, MLA, ’08), “The students needed to understand the area from the multiple perspectives of urban design and land-planning, along with environmental and cultural concerns.”

Despite the complexity of the area, the students were given no real parameters.

“We intentionally gave them a wide open canvas,” says Lori Singleton, “and in some ways, that was the greatest challenge for them.”

This meant that it was up to the students to determine land use, including open space, roadways, and buildings. In addition, the students had to consider factors such as retail, office, and commercial needs, as well as public and private property boundaries.

“It exposed them to the complexity of working in an urban environment, or in any larger-scale environment,” says Singleton. “We didn’t expect them to know how to shape buildings or how to scale them, but we did expect them to justify their decisions. So, they could dream a little,” she adds with a smile, “but they had to dream with some justification for how they got there.”

Neal Kessler notes that the scale of the project was out of the “comfort zone” for many of the students, but that was perhaps the greatest value of the course.

“We wanted them to see the project in the context of an entire city,” says Kessler, “So we tried to give them the 30,000-foot view.”

The project’s first steps involved data-gathering, beginning with an initial field trip to the district. The students then compiled geographic information system (GIS) data, as well as historic and cultural analysis from a myriad of sources.

“It’s a lot of information to ingest,” says Singleton, “but a project is not just about data. You have to start drawing conclusions from it. That’s what landscape architects bring to the process.”

BY DENISE SPRANGER
Though the students may have struggled in the early phase of the project, Kessler notes that they ultimately produced “fresh and interesting ideas” with well-designed supporting graphics. He also noticed that a few developed a deeper interest in the planning aspects of urban design.

The students, as it turns out, were not the only ones who gained a “learning experience” through the course. Apart from Kiley, who has taught the landscape analysis and planning studio at SNRE for the past four years, the professional team was new to teaching.

“I was energized by it,” says Kessler. “Here are these young people who just want to learn, and it was amazing to me to realize how much I could impart to them, and that was gratifying.”

Singleton discovered another benefit.

“They challenged us on a regular basis,” says Singleton. “That really helps to test where you are, and to make sure that you’re not just sticking to the same assumptions.”

Along with colleague Neal Billetdeaux (BS, ‘82, MLA, ‘87), Kessler has been with SmithGroupJJR for 26 years. Yet he shares Singleton’s sentiment. “The students are still asking, ‘Why CAN’T we do it that way? Why IS that impossible?’ That gave me reason to pause,” says Kessler. “And I thought that maybe I shouldn’t be telling them that something is ‘impossible.’ Maybe they’re right—and I should be asking myself those same questions.”
Professors **Steve Yaffee** and **Julia Wondolleck** have launched a new web-based teaching tool to help people understand facilitation strategies and collaborative decision-making. The new website follows in SNRE’s strong tradition of work in conflict management and collaborative problem solving, while using new technology that enables engaged learning. According to Yaffee, “We built this site to provide users with a stepwise guide for facilitating a complicated public decision making process. We hope our SNRE alums will give it a try.”

The site presents numerous strategies coupled with illustrative video clips, organized by the stages of collaborative decision-making. The clips were drawn from the stakeholder- and science-based process used to designate marine protected areas in California’s offshore waters. “For the last three years, I have been writing a book about the California Marine Life Protection Act Initiative, a ten-year process that ended up setting aside sixteen percent of state waters,” explained Yaffee. “It was an amazing process, and hundreds of hours of stakeholder, science team, and policy meetings were digitally recorded. In reviewing the meetings, I realized that they showed skilled facilitators dealing with all the tasks associated with collaborative decision-making.”

While Yaffee and Wondolleck have been teaching negotiation and mediation skills at SNRE for more than twenty-five years, their teaching uses role-plays to simulate negotiation dynamics and to create situations where students practice mediation and facilitation techniques. “But here we have examples of best practices recorded for posterity from a process that actually came to resolution. Unlike in simulations, emotions are raw, conflicts are real, and the challenges for mediators are compelling,” commented Yaffee.

The two professors recruited three graduate students, Nat Lichten (MS, ’15), Julia Elkin (MS, ’15), and Sara Cawley (MS, ’15), to help extract clips from the thousands of hours of recordings. Together they built a web tool that presents a model of the facilitation process, broken into bite-sized chunks. The tool was piloted as prep work for Yaffee and Wondolleck’s mediation course during the Fall of 2015; feedback was incorporated by students Becca Baylor (MS, ’15) and Christina Carlson (MS, ’17).

The student work was supported by the McCance Family Foundation, a philanthropic organization for which alumna **Elizabeth McCance** (PhD, ’04) serves as a trustee. According to McCance, “I worked on ecosystem-scale management for my SNRE dissertation and know how important it is for collaborative groups to have individuals who can facilitate complicated processes. I was pleased that my family could help in the development of this exciting website. Being able to support a few of the great SNRE grad students was also a real pleasure.”

Complex decisions over natural resource management, which involve scientific questions and conflicting public interest, are not going away. With large scale challenges like climate change, sage grouse conservation, and renewable energy planning, well-crafted and well-managed public decision-making processes are even more in need today than ever before. “We hope this new tool can be helpful in preparing stakeholders, facilitators, and students to engage in these processes,” noted Yaffee.

The site can be accessed at www.snre.umich.edu/ecomgt/mlpavideo. Professor Yaffee is interested in your comments about the site. You can e-mail him at yaffee@umich.edu.
SNRE EVENTS

Exemplars of environmental leadership will visit SNRE in the coming months. Alumni and friends are invited to experience these events with our vibrant student community.

SEPTEMBER 15
Dean’s Speaker Series Lecture by Ruth DeFries, MacArthur “Genius” Fellow and author of The Big Ratchet: How Humanity Thrives in the Face of Natural Crisis

SEPTEMBER 17
Alumni Tailgate at the Dean’s Residence

SEPTEMBER 22
Public lecture: Ann Spirn, award-winning author and distinguished landscape architect, photographer, teacher, and scholar

SEPTEMBER 29
Wege Lecture on Sustainability by William C. Clark, Harvard University. Pursuing Sustainability: Linking Science and Practice

SEPTEMBER 30 & OCTOBER 1
CSS 25th Anniversary

FULL SCHEDULE OF SNRE EVENTS:
snre.umich.edu/events
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We recently launched SNRE Connect, a monthly enewsletter to bring SNREd Nation even closer together. In every issue, you’ll read about what your classmates are up to, hear from your favorite professors, find out what’s going on in the Dana Building, and learn how to get involved at SNRE.

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