



CCSS

Center for Conservation
Social Sciences

ANNUAL REPORT 2020

FEATURED TOPICS:

Celebrating 50 years collaborating
with the NYSDEC

Supporting reforestation in Haiti

Lessons from Lake Huron's
salmon collapse

Protecting forests by supporting
private owners in legacy planning

Educating graduate students in
the CCSS



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ANNUAL REPORT 2020

PURPOSE OF REPORT

This 2020 annual report provides an overview of recent research, teaching, and outreach activities of the CCSS. The report is designed to reflect the work, interests, and capabilities of the CCSS. Publications listed in this report are available for download on the CCSS website: <https://ccss.dnr.cals.cornell.edu> or may be requested by emailing ccss@cornell.edu.

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INTRODUCTION

The Cornell Center for Conservation Social Sciences (CCSS) strives to expand the understanding of academicians, students, natural resources agency staff, non-governmental organizations and policy makers about the interactions of social and ecological systems. We apply theory and empirical findings to real-world, contemporary problems. Our research outcomes, which include empirical data, conceptual frameworks, and theoretical insights, are reported at conferences and in peer-reviewed journals, books, policy briefs, and outreach publications. CCSS research is used by a wide array of decision makers and natural resource practitioners, especially those in state and federal agencies, to develop, implement, and evaluate environmental policies and management approaches.



The CCSS has earned an international reputation in the conservation social sciences. The oldest unit of its kind, the CCSS's history dates from the early 1970s. The success of the CCSS has been greatly enhanced by a partnership of approximately 40 years with the NYS Department of Environmental Conservation's Division of Fish, Wildlife, and Marine Resources and a number of federal and state partners.

Prior to 2018, the CCSS was known as the Human Dimensions Research Unit (HDRU). The HDRU had a long and productive track record of externally funded research and publications, teaching undergraduate and graduate students, and outreach and consultation to effect positive change in conservation and environmental management practices. Designation as the CCSS acknowledged that the group's long-term comprehensive focus on the human dimensions of natural resource management had effectively expanded since its inception in the 1970s to include a broader array of theory, problems and methods, producing outcomes and impacts for a wider set of environmental and conservation issues.

In addition to research, CCSS faculty and staff contribute to the teaching and outreach functions of the College of Agriculture and Life Sciences and the Department of Natural Resources & the Environment. We advise both undergraduate and graduate students, oversee internship and experiential learning programs, and teach courses concerning various aspects of the environment including sociology, policy, and planning.

While all CCSS faculty and academic staff engage in outreach, two of our faculty have Extension appointments from which we serve citizens of New York State and beyond.

CCSS AFFILIATIONS

The CCSS and cooperators comprise dozens of faculty, staff, graduate assistants, and undergraduate student technicians. Research and outreach programs are supported by grants and contracts from federal and state agencies, nongovernmental organizations, foundations, Cornell Cooperative Extension, and the Cornell University Agricultural Experiment Station. For 2020, CCSS faculty and graduate students were PIs or co-PIs on projects with more than \$5 million in funding.

CCSS graduate faculty hold membership in the graduate fields of Natural Resources, Development Sociology, Public Affairs, Global Development, and Water Resources. In 2020, graduate faculty committee members for CCSS graduate students came from a variety of departments: Natural Resources & the Environment, Earth and Atmospheric Sciences, Communication, Design and Environmental Analysis, Global Development, City and Regional Planning, Applied Economics and Management, Population Medicine and Diagnostic Sciences, and others.

CCSS AT A GLANCE

In 2020 CCSS had:

17 Peer-reviewed Publications

14 CCSS Publication Series Reports

5 Core Faculty

7 Affiliated Faculty

5 Staff

11 Graduate Students

5 Undergraduate Researchers and Interns

7 Course Offerings

FEATURED STORIES

The stories in this section highlight five ongoing areas of work for the CCSS and their impacts.



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FEATURED STORY

CELEBRATING 50 YEARS COLLABORATING WITH THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

For 50 years, Cornell's Center for Conservation Social Sciences has collaborated with the New York State Department of Environmental Conservation Division of Fish & Wildlife to inform wildlife management decision making, and enable DEC to make choices based on data about stakeholders, rather than assumptions.

CCSS, formerly called the Human Dimensions Research Unit, was the first academic unit in the country to focus on the social science of wildlife management, broadening the perspective of management considerations to include not just biological and ecological data, but also data on how and why people value wildlife and their preferences for how wildlife is managed.

"Giving human dimensions consideration is essential to fulfilling the public trust purpose of wildlife management," said Dan Decker, professor emeritus and former Director of CCSS, who has been with the center since 1976. "I can't tell you how many times I've heard wildlife professionals say, 'I work for the resource,' and I say, 'No, you work for the people.'"

TESTING ASSUMPTIONS ON DEER MANAGEMENT

Since the beginning of their collaboration in 1970, CCSS has helped state wildlife managers test, and sometimes debunk, the assumptions on which decisions are based. For example, for decades in the mid-1900s, wildlife managers in agricultural regions of New York adopted white-tailed deer management approaches consistent with the adage, "to a farmer, the only good deer is a dead deer." Indeed, deer caused crop damage and unsurprisingly most of the people from farming communities contacting

state authorities about deer were registering complaints about such damage, so that assumption was based on the evidence available at the time.

But in the mid-1970s, Bill Severinghaus, a leading deer biologist at DEC, realized that existing management decisions were keeping deer populations well below range carrying capacity and reducing recreational opportunities for deer viewing and hunting. He questioned whether the adage was true. He collaborated with CCSS researchers, who performed a series of surveys of farmers in Central and Western NY and the Hudson Valley to ask about their perceptions of deer. They found that, in fact, substantial majorities of farmers enjoyed seeing deer, weren't bothered by minimal crop damage, and wanted the deer population to remain the same or, in some locations, increase.

Clarifying stakeholder perceptions of deer and management preferences was not restricted to rural, agricultural landscapes. Starting in the 1990s, interest in deer management in urban and suburban areas has grown markedly. Studies at the community level have improved DEC's and community leaders' understanding of the breadth of interests and concerns among residents. As a result, the approach to deer management has become better tailored to local public preferences. Social science data in farm country and in communities across the state has led DEC to alter management policy and encourage or restrict the growth of the deer population, depending on the situation.

Given the presence and importance of deer statewide, DEC and CCSS will continue to collaborate on the

human dimensions of deer management into the future.

BLACK BEARS IN THE CATSKILLS AND WILDLIFE ACCEPTANCE CAPACITY

CCSS and DEC also collaborated for many years to measure human attitudes about black bears in the Catskills, which helped inform DEC policy changes that enabled growth of a previously declining bear population and expansion of bear range.

In the early 1970s, DEC wildlife biologists noted a decline in black bear populations in the Catskills, which were already below habitat carrying capacity. The major cause of bear mortality — approximately 90 percent — was attributed to hunting. Up to this point, DEC policy had been guided by “the principle of least complaints,” Decker said, but DEC wildlife managers wondered whether Catskills residents would tolerate a bigger bear population.

By 1978, DEC decided to place a five-year moratorium on bear hunting, a move they predicted would allow the population to nearly double. And DEC tasked CCSS with surveying residents about their perceptions of bear, positive or negative interactions, and their tolerance for a larger population — a concept that CCSS researchers would come to coin as “wildlife acceptance capacity.” They found that majorities of residents wanted to see more bears, even those who had experienced negative interactions such as bears raiding garbage cans and bird feeders.

Two years into the hunting moratorium, the population was rebounding as hoped, but DEC was receiving an increased number of complaints. Based on the previous “principle of least complaints” strategy, that would have resulted in reopening bear hunting and allowing numbers to drop again. Instead, armed with the CCSS survey data indicating generally high human tolerance of bears, DEC maintained the moratorium. A follow-up survey of landowners in 1983 found that five times as many people had experienced problems with bears, and yet the percentage of people wanting more bears actually increased from 62 percent to 74 percent.

DEC’s management decisions helped the recovery of bears in the Catskills. They are now not only more numerous, but more widely distributed across upstate New York.

LONG-TERM RELATIONSHIP HELPS REPLACE INTUITION WITH RESEARCH-BASED INSIGHT

Jeremy Hurst, Big Game Unit Leader for DEC’s Division of Fish & Wildlife, works with CCSS on multiple

projects, especially management of white-tailed deer. Collaborating with CCSS enables DEC to understand the values and interests of the public, including their opinions on specific regulations, as well as how they feel about wildlife species, he said.

“Wildlife management is really a confluence of interacting with wildlife as well as people, and the values and interests of the public are integral for making wise management decisions,” Hurst said. “It provides a social element to our decision-making that we can dovetail with our biological information to ultimately make better decisions.”



CC Image courtesy of GoToVan on Flickr

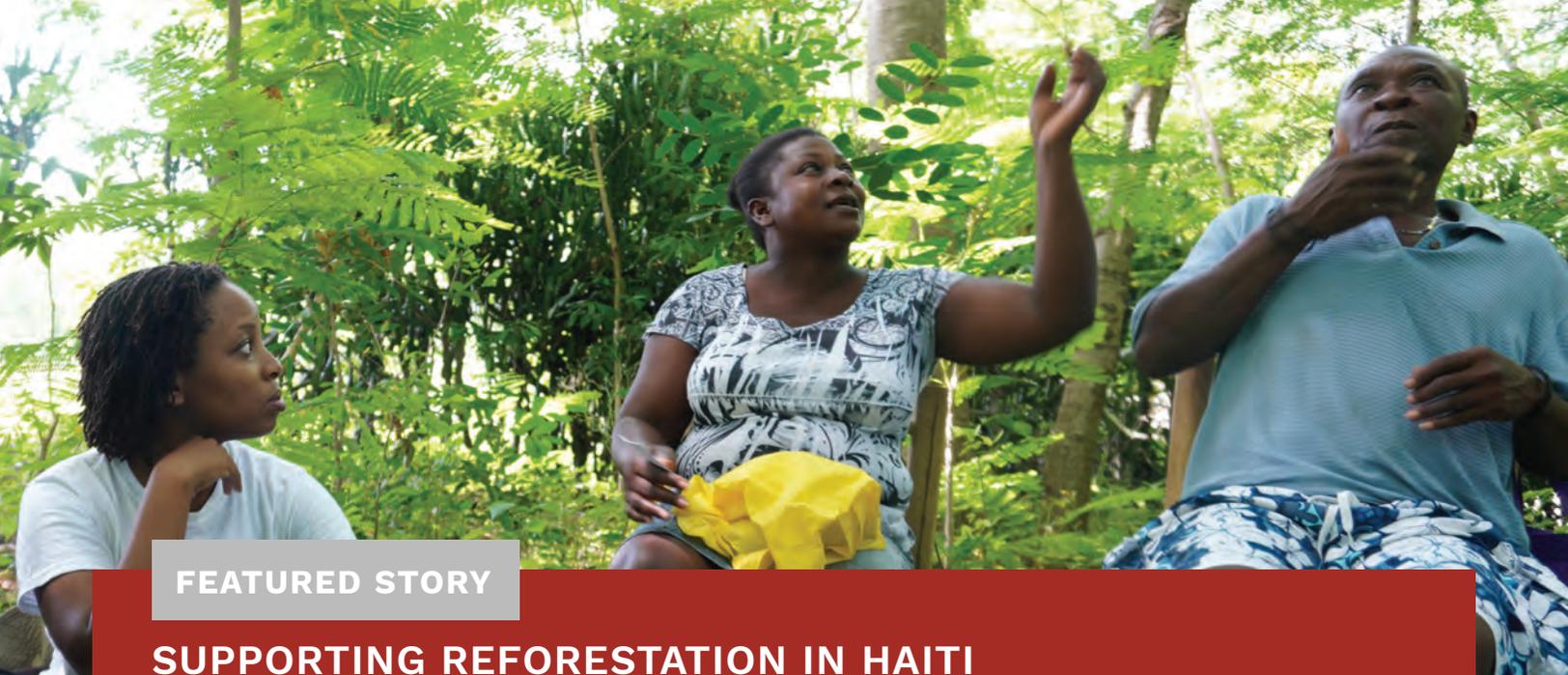
Giving human dimensions consideration is essential to fulfilling the public trust purpose of wildlife management.

Bill Siemer, a Research Associate with CCSS, has been part of the DEC-CCSS collaboration for over 30 years. “When I think back on this relationship, it’s pretty remarkable. I think

it changed our whole profession. It created a body of work that showed managers across the country how they could integrate stakeholder engagement and social science into the real-world practice of wildlife conservation.”

Decker said he hopes the relationship will continue to grow and evolve well into the future.

“I think over the last 50 years, it’s gone from provision of information, to how can information be better integrated into policy, to what strategies can we use to find information that’s even more useful, such as considering deep-seated values and ethics, and how those inform people’s feelings about wildlife,” Decker said. “I hope that in the future, Cornell continues to provide the help we have in the past, while also becoming more integrated and sophisticated and useful over time. That’s entirely in line with Cornell’s Land Grant philosophy.”



FEATURED STORY

SUPPORTING REFORESTATION IN HAITI

All images courtesy of Gloria Media

Over half of Haiti's 11.3 million people subsist on less than \$2 per day and rely on the island's natural resources for survival, according to the United Nations. But widespread deforestation of the island, which began during French colonial rule and continues today, has led to myriad ecological problems, including soil erosion, flooding, decreased agricultural output, and loss of biodiversity. While roughly 30 percent of the country has tree cover, only 2 percent of Haiti's primary forest remains.

Haiti may be well known for its poverty and environmental degradation, but many people, both Haitians themselves and foreign donors, are working to protect forests and create tree-based livelihoods. Two CCSS graduate students are studying reforestation programs in Haiti, working to understand the social and cultural factors that lead to effective conservation programs that value and support Haiti's environment and its people.

MOTIVATIONS FOR ADOPTING CONSERVATION PRACTICES

Gloria Blaise, a Ph.D. student and Gates Millennium Scholar studying under Professor Shorna Allred, was born in Haiti before her family immigrated to Brooklyn, NY. For her master's program in Natural Resources, Blaise returned to Haiti for 18 months to study the effectiveness of agroforestry interventions undertaken by the Haiti Timber Reintroduction Program. She compared communities that were actively practicing agroforestry initiatives against communities that were not, and found that community agroforestry contributes positively to social, human, financial, natural, and cultural capitals.

"There are a lot of natural resources programs in Haiti, but we don't know if these programs are doing what they're intended to do," Blaise said. "With my Ph.D., I'd like to dig deeper into the question of whether social and human investments really help people address ecological issues in the community, and develop a practical tool to help evaluate programs for agroforestry and tree planting projects throughout regions in the country."

The program Blaise studied, developed by the NGO Haiti Friends, trains farmers in the mountains around the Artibonite Valley in central Haiti about scientific principles around the benefits of reintroducing and preserving trees in their farming practices, such as using animal manure compost, rather than slash and burn for soil fertility. Since its inception in 2006, the program has involved 9,000 participants and planted 3 million trees.

Blaise was most interested to learn what motivated people to adopt agroforestry practices. Most Haitians use charcoal for cooking, so tree cutting for charcoal production is a stable market on which many rural people depend for short-term wealth. But preserving trees increases soil nutrients and agricultural output, and reduces the severity of natural disasters, strengthening long-term security.

Blaise emphasizes that Haiti's long history of colonial oppression and global intervention led many farmers to feel skeptical about the intentions of outside agencies and organizations. Key to the success of the Haiti Friends program was that they partnered with a beloved local hospital, Hôpital Albert Schweitzer Haiti.

"The hospital partnership proved to be critical, because

people trusted the hospital,” she said. “So people felt that, ‘They’re not coming here to destroy us, they’re coming here to help us.’”

BALANCING BIODIVERSITY AND LIVELIHOODS

Jim Goetz, a Ph.D. student studying under Professor Rich Stedman, has been working on bird and forest conservation in the Caribbean since 1996. His initial Ph.D. project focused on the basic ecology of endangered birds, but working in Haiti, he saw that many of the poor farmers who were converting the birds’ cloud forest habitats to cropland and pasture had no other way to feed their families.

“Ecologically and technically, we already know more than we can currently apply. What we don’t understand well enough is how human behavior plays into this system,” Goetz said. “My overall aim is to better understand how to support people’s local livelihoods while still retaining as much biodiversity as possible. Of course, there are huge trade offs; there’s no way to have all of your cake and eat it, too.”

In 2011, Goetz worked with international and local colleagues and Fondation Seguin, a Haitian non-profit environmental organization, to launch an innovative forest conservation program that provides direct, conditional incentives to farmers to stop farming, grazing, and woodcutting on their forest parcels. And the hard part for them – to prevent family and neighbors from doing so, too. This type of intervention, often called “payment for ecosystem services” (PES) has been used in many other places, but few as challenging as the remote mountains of Haiti, Goetz said. To fund the farmer payments, Goetz has obtained grants from multiple agencies, currently the UN’s Caribbean Biological Corridor program.

In the decade since the program’s inception, Goetz and his colleagues have found that in a traditional society governed by kinship ties, relationships are often valued above financial rewards. When extended family members are accustomed to relying on one another and sharing natural resources, protecting forest can become a source of conflict.

“While paying cash can spur conflicts over land use, it can also prompt collaboration to protect forests. So we introduced a solidarity payment

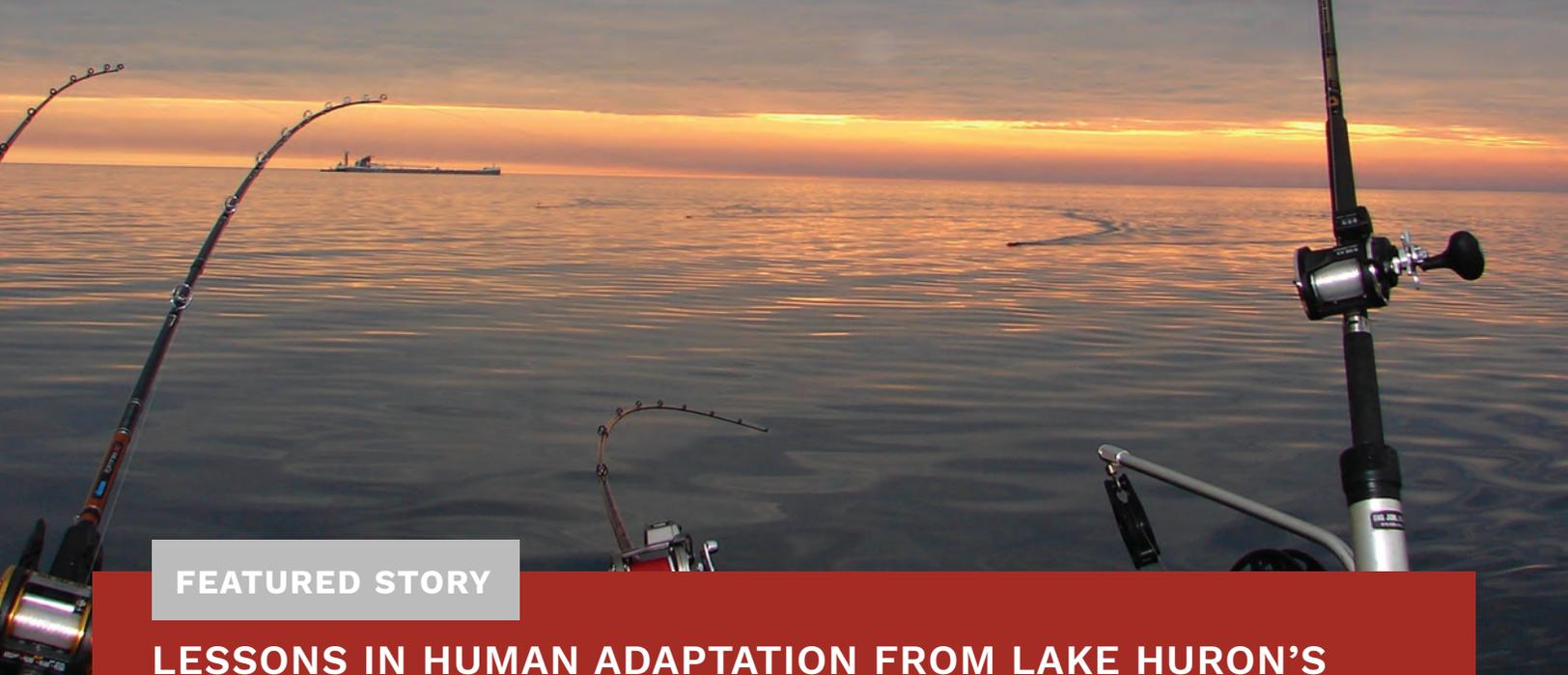
to reward blocks of parcels that succeed,” he said. “Another happy surprise is how the payments brought people to the table.”

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In order to receive payments, PES participants are required to attend monthly meetings with conservationists, where they collaboratively address implementation problems. Goetz and his colleagues also share information about how healthy forests support local livelihoods by providing habitat for the pollinators who aid in agricultural production, about the value of trees for erosion control and biodiversity, and many other topics.

“People tell us they had no idea about these things before. And they thank us,” Goetz said. “There is much to learn by taking this kind of holistic ethnographic approach to studying social-ecological systems, about how society and the environment form and reform each other with pushes and pulls and their effects rippling back and forth through every level, from nations, to regions, to communities, to households, and individuals.”





FEATURED STORY

LESSONS IN HUMAN ADAPTATION FROM LAKE HURON'S SALMON COLLAPSE

Beginning in the early 2000's, the Chinook Salmon fishery in Lake Huron collapsed. Chinook salmon feed almost exclusively on the tiny alewife, but when invasive zebra and then quagga mussels entered the lake, they disrupted the food web, causing a domino-like collapse of the alewife, and then the salmon.

The impact on the humans who relied on the fishery was dramatic: an economic analysis by the government of Michigan found that fishing activities at major Chinook ports declined 75 percent after the collapse, costing at least \$19 million in economic activity every year since 2004.

Researchers with Cornell's Center for Conservation Social Sciences (CCSS) have been working to understand how the people impacted by the species collapse responded, and studying which adaptations might help other fishing-dependent communities that may experience such collapses in the future.

GREAT LAKES FISHERY COMMISSION-FUNDED STUDY EXPLORING HUMAN ADAPTATIONS

Bruce Lauber, CCSS Director and Senior Research Associate in the Department of Natural Resources & the Environment (DNRE), is the principal investigator for a two-year study funded by the Great Lakes Fishery Commission on the human dimensions of the alewife collapse. The project began in January 2020 and runs through December 2021.

"Everyone who relied on those salmon — communities, fishery managers, fishing guides — they all made changes to try to respond to the changes in the ecology of the lake. We are looking back to evaluate how adaptive those responses were, because other types

CC image courtesy of Joseph Gerbyshak from U.S. Department of the Interior via Flickr

of ecological shifts will undoubtedly occur in the Great Lakes in the future," Lauber said. "It could be another collapse in a food source for fish, it could be changes related to climate change, but whatever the cause, we want to be able to say, 'These responses are adaptive, and these are not.'"

Also working on the project are Rich Stedman, Chair and Professor in DNRE and Associate Director of CCSS, Barbara Knuth, Associate Director of CCSS and Professor in DNRE, Nancy Connelly, Research Specialist in CCSS, Brandon Schroeder, Extension Educator with Michigan Sea Grant, and Stacy Furgal, Fisheries and Ecosystem Specialist with New York Sea Grant.

During 2020, Connelly conducted over a dozen interviews with people impacted by or involved with the response to the alewife and salmon collapse, including fishery managers, researchers, and sport fishery community leaders, especially charter boat captains.

"The core questions for charter boat captains and anglers in that area were: Did they try to adapt? Did they want to adapt?" Connelly said. "Our research is really trying to get a sense of this as a whole case study to understand how people learned from the experience. What was constraining them? What was helping them to move on? And then, once we've carefully analyzed the data, we hope our insights will help inform future management."



Left: CC image courtesy of Fotos By B via Flickr | Right: CC image courtesy of NOAA Great Lakes Environmental Research Laboratory via Flickr

THE CHANGING IMPACTS OF NATIVE AND INVASIVE SPECIES

Neither alewife nor Chinook salmon are native to the Great Lakes. Alewives found their way into the lakes in the late 1940s and by the early 1950s their numbers exploded with impacts that rippled through the Great Lakes ecosystems. Fishery managers introduced Chinook salmon into the Great Lakes in 1966 in part to control the alewife populations. Salmon soon became a staple of Great Lakes recreational fisheries, which collectively have an economic value of \$1.2 billion, according to a 2012 study by CCSS.

In the immediate aftermath of the alewife and salmon collapse, news stories show that some vocal anglers and charter captains were angry with Lake Huron fishery managers, and wanted them to continue stocking more salmon, while others thought they should reduce stocking, since there was no longer an alewife population to support them. After several years of research into the collapse and outreach to anglers, Michigan fishery managers first decreased and eventually largely stopped stocking Chinook salmon in southern Lake Huron (though minimal numbers are still stocked in the northern part of the lake).

The charter captains interviewed by Connelly adapted to these changes in several ways. Some simply went out of business. Some moved their fishing operation to other lakes that still support Chinook salmon. Others tried to adjust their fishing tactics and marketing to entice anglers to fish for other species, including native species.

The impact on the humans who relied on the fishery was dramatic: an economic analysis by the government of Michigan found that fishing activities at major Chinook ports declined 75 percent after the collapse, costing at least \$19 million in economic activity every year since 2004.

In fact, without the pressure of alewives preying on them, some native species, like Lake Trout and Walleye, were recovering, expanding their range, increasing in numbers, and growing in size — a consideration important for sport fishers. Walleye in particular have had the chance to increase in numbers since the alewife collapse.

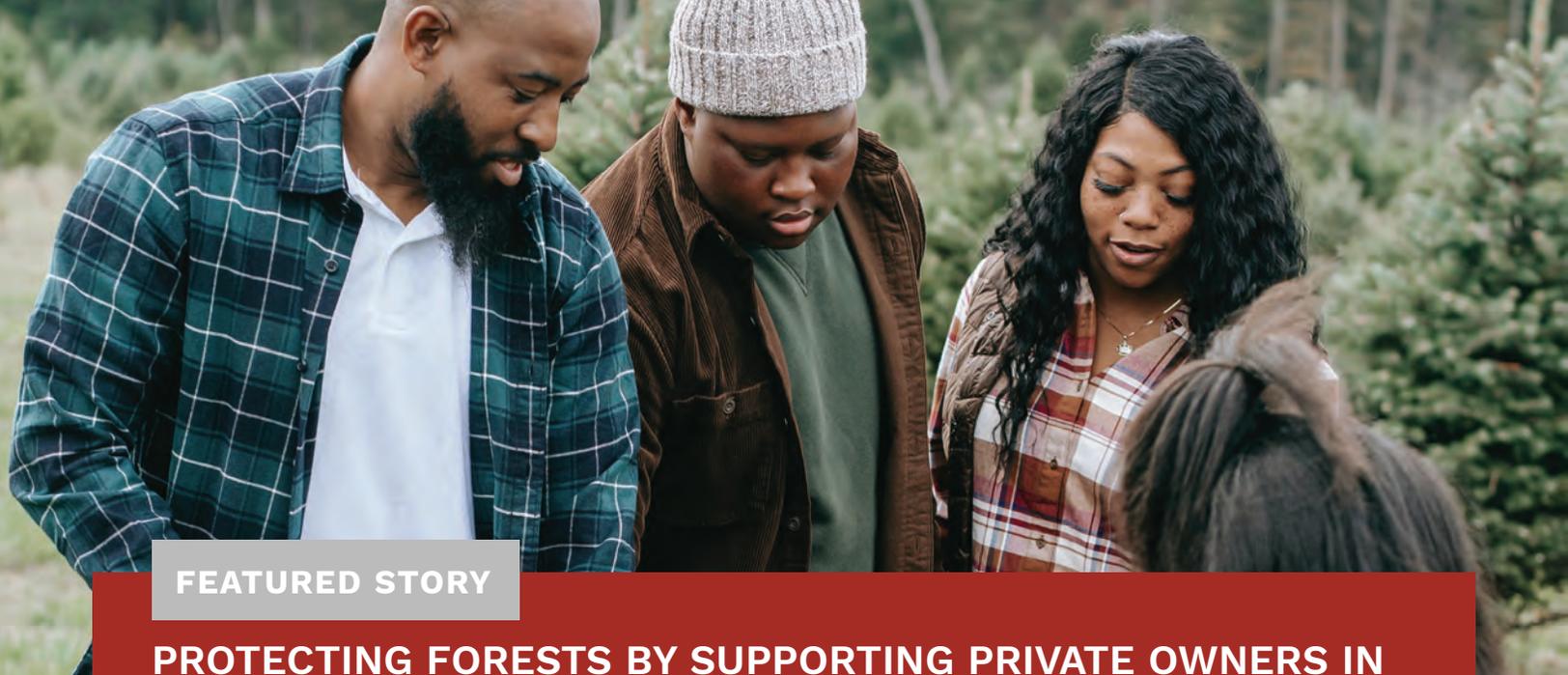
LESSONS FOR OTHER LAKES

Unfortunately, many of the pressures that led to the Chinook salmon collapse in Lake Huron also exist in Lake Michigan. In response to those pressures, and in an attempt to save their own salmon populations, Lake Michigan fishery managers have dramatically reduced their stocking of Chinook and coho salmon, as well as lake trout.

“We’re seeing strong public reaction to this change in Lake Michigan,” said Rich Stedman, co-PI on this project. “People have a lot invested in the system as it is, making it hard to respond to change. We hope that our work in Lake Huron will help them adjust, as well as be helpful to fishery managers in Lake Michigan and elsewhere.”

Though data analysis will continue through the rest of this year, one important suggestion already jumps out.

“Improving communication with all of the stakeholders — now — before a species collapse or other major ecological change, is key,” Connelly said. “I think people felt, reflecting on the situation, that where they had built relationships between managers and researchers and stakeholders over time, that helped people adjust to this changing Lake Huron situation.”



FEATURED STORY

PROTECTING FORESTS BY SUPPORTING PRIVATE OWNERS IN LEGACY PLANNING

Above: © Any Lane from Pexels | Right: © Magda Ehlers from Pexels

Forests are crucial for preservation of biodiversity, carbon sequestration, water filtration, erosion control, and a host of other conservation public goods. While millions of acres of forest in the United States are protected through state or federal ownership, more than one-third of the forest land in the U.S. is owned by private individuals. In New York State, private landowners play a far larger role in caring for forests: 74 percent of New York's forest land is privately owned.

Forest land is most at risk for parcelization and development when it changes hands, and two-thirds of private forest owners who hold at least 10 acres are over 55. CCSS Professor Shorna Allred is working to protect forest ecosystems by helping private landowners plan for the future legacy of their forests.

HELPING FAMILY FOREST OWNERS MOVE FROM MOTIVATION TO ACTION

To understand how family forest owners feel about their land, and whether they have taken measures to conserve their forests long-term, Allred and colleagues from the University of Massachusetts, University of Maine, University of Vermont, and the USDA Forest Service surveyed private landowners in four Northeastern states. They found that 66 percent of respondents wanted to keep most or all of their land intact and undivided into the future. And yet, 57 percent had not established any mechanism to protect their land, not even current-use tax incentive participation. Nationally, only three percent of private forest landowners have established conservation

easements on their properties — the most secure, long-term conservation protection. The mismatch between forest owners' intentions and actions suggest the need for support and education in legacy planning.

"There are a number of pinch points that make it difficult for family forest owners to move from motivation to action," Allred said. "It's really difficult to talk about your mortality. It can be difficult to engage family members and children who may not agree with your priorities for the land. It's difficult to find money managers and attorneys who are familiar with forest land in particular — it's very different from stocks and bonds, and even businesses; people view their land as an heirloom that they want to steward and pass down. What we're trying to do is reduce the barriers between motivation and action."

REACHING FAMILY FOREST OWNERS THROUGH EXTENSION AND OUTREACH

Allred and her colleagues developed a series of publications aimed at family forest owners, sharing the stories of landowners who had already designated future use of their land, and explaining which legal tools they had used to accomplish their goals. Another set of publications was written for foresters, informing them about legacy planning tools, and encouraging them to begin conversations with landowners about their long-term goals and plans for their forests.

"Even foresters are not comfortable talking about these things. They sometimes feel, 'This is not my job to pry into the lives of my clients.' Or, 'I'm not a tax expert.' People feel like this is too sensitive a ground for them to tread on,"

Allred said. “What we try to do is not encourage foresters to give tax advice or be a family counselor, but just to ask their clients some questions: ‘Have you thought about what’s going to happen to your land in the future? Have you talked to your kids about it? Would you like some help understanding what the first steps are?’ Just asking some questions to get them started on that path is helpful.”

Allred is also working to reach family forest owners in New York in particular, through Cornell Cooperative Extension. As part of a USDA-funded grant, Allred and CCE launched the “Your Land Your Legacy” website, www.yourlegacyny.org, to help New York landowners understand how to define their goals, and what options and considerations they have for determining future ownership and future use of their land. The site also provides research on the importance of intact forest habitat, and resources on how to begin legacy planning.

WORKSHOPS HELP FOREST OWNERS EXPLORE VALUES AND FEARS

Throughout her work, Allred emphasizes that legacy planning is not just about protecting forests, it is also about protecting family relationships. Disagreements about inheritances, land transfers, and designations of future land use only become worse when a familial owner dies and their intentions were not clear. Allred and CCE have hosted several workshops across New York State for landowners and forest professionals.

Part of the process during these workshops is helping forest owners understand and talk about their feelings about their land. Allred and her colleagues bring a set of 54 photographs, “Forest Story Cards, showing a variety of scenes related to forest land, such as a family camping trip, lumber cutting, bulldozing for new development, a couple going for a hike, and pictures of animals and plants in their habitats. They ask landowners to choose three photographs that represent most what their land means to them.

“We frequently have spousal pairs and inevitably the wives always choose photos with people in them. Families being together in the woods with a grandchild, a camping cabin, the relational pictures, you see the females choosing pictures like this. For the women, the land really is about the connections with people,” Allred said.

This opens a conversation about what forest owners want to preserve, what values are driving that preservation, and what they could be doing now to become more connected with their families and their



This brochure was developed by Cornell and Penn State Extension and features case studies of two sets of landowners and their legacy planning --the Kentzels in PA and the Antonios in NYS.

land, such as establishing an annual extended family picnic or campout.

Landowners also are asked to pick three photos that represent what they consider threats to their land. There are images representing a tombstone, suburban development, property taxes, and increased land prices, among other things.

“This kind of open-ended storytelling allows people to think about what the land means to them, and serves as a jumping off point to begin conversations,” Allred said.

Forest owners are also provided with information about the range of legacy planning tools available to them, such as conservation easements, land trusts, current-use property tax deductions for forests, and business structures such as LLCs that can hold forest land as an asset and be managed by a board of directors. Many forest owners have wills, but their land is not mentioned in the will, so Allred and her colleagues encourage landowners to consider

specifying or designating their desires for their land in their wills.

“The biological diversity of the landscape is dependent upon the mosaic of ownership that we have with public and private lands, so it’s vitally important that we engage with private landowners and help them understand the role they play in providing wildlife habitat, and the tools available to them to continue conserving those habitats into the future,” Allred said.

People view their land as an heirloom that they want to steward and pass down. What we’re trying to do is reduce the barriers between motivation and action.



The Cornell Center for Conservation Social Sciences offers a uniquely supportive and enriching experience for its graduate students, and CCSS leadership has helped improve the graduate experience across the university.

CCSS faculty are affiliated with several graduate fields, including Natural Resources, Development Sociology, Public Affairs, Global Development, and Water Resources. In addition to guidance from their individual advisors, CCSS graduate students also benefit from a long-standing tradition of weekly group meetings including every graduate student associated with the center. Graduate students' research projects frequently engage real-world issues, making learning more relevant and fulfilling.

Meanwhile, CCSS Professor Barbara Knuth in 2020 completed more than a decade of service as Dean of the Graduate School, where she implemented social science-based strategies that have improved social, academic, and career development support for all Cornell graduate students.

GRADUATE EDUCATION AS A COMMUNITY OF SCHOLARS

CCSS faculty collectively advise eight to nine graduate students at a time. In any university, it's common for a graduate student to meet with their advisor, and in some fields graduate students working with the same advisor regularly meet together. Taking that learning community model a step further, CCSS has a decades-long tradition of having all graduate students associated with the Center meet as a group weekly with faculty leaders. For the past decade, Rich Stedman, Chair and Professor in the Department of Natural Resources & the Environment (DNRE) and Associate Director of CCSS, has facilitated

these meetings, which CCSS graduate students say are a highlight of their graduate experience.

"We've strived to develop a community of students who trust each other and know each other and can give each other honest, critical feedback. This is a great challenge for students: the old adage that 'It's easier to fool a room of 100 people you don't know well than to fool a room of 10 people who do know you well' — we see that at play in this group," Stedman said.

I think being part of this group really does bind these students together and give them a sense of identity and an assurance that they can turn to each other, not just for feedback but for social support.

"I think being part of this group really does bind these students together and give them a sense of identity and an assurance that they can turn to each other, not just for feedback but for social support. It provides students the opportunity not only to receive peer feedback, but practice in giving it as well."

Jim Goetz, a Ph.D. candidate studying with Stedman, said he appreciates that CCSS provides "a home" within DNRE where graduate students can support and critique one another.

"DNRE is probably one of the most academically diverse departments on campus because you can do anything from neurobiology to communications and sometimes people are doing both," Goetz said. "Hearing what other

people are doing, and the methods they're using, is useful for professional exposure and breadth.”

Gloria Blaise, a Ph.D. student working with Professor Shorna Allred, agreed that the weekly meetings are a beneficial source of feedback and support.

“It's good to know there's a community there that's not afraid to give you the feedback you need,” Blaise said. “We're all here trying to do something, produce something that will be meaningful to us and hopefully to other people.”

REAL-WORLD IMPACT

Sarah Naiman is a Ph.D. candidate and has been a CCSS graduate student since 2015. For her Master's degree, Naiman worked with advisor Shorna Allred and the Albany Pine Bush Preserve to survey their stakeholders on their attitudes about management practices at the Preserve, such as prescribed burning and tree mowing to remove invasive species. With Allred, Naiman co-wrote a 125-page report on the survey and presented her findings to the preserve's board of directors, and to the public.

“It had real-world implications, which is something I really like about CCSS — everything has a purpose,” Naiman said. “The work we're doing isn't hypothetical; we're working with practitioners and managers, coming up with solutions or suggestions together. That's something I was looking for in a program.”

For her Ph.D., advised by Stedman, Naiman is studying how Latinx people engage with environmentalism, specifically looking at how family and other cultural values influence Latinx's lifestyle behaviors and voting preferences that benefit conservation.

Other CCSS graduate students in 2020 were studying topics such as renewable energy in New York, snow leopards in Nepal, and Andean Bears in Ecuador.

TAKING SOCIAL SCIENCE INSIGHTS UNIVERSITY-WIDE

Professor Barbara Knuth, the most senior member of the CCSS faculty, served as Dean of Cornell's Graduate School from 2010-2020. Starting in 2013, Knuth established a comprehensive, ongoing effort to survey graduate students and alumni, to understand their graduate experiences and identify concrete actions to improve their Cornell education and support them on their career paths.

“We were striving to understand in the moment what students were experiencing, and use that information to understand: Where are the gaps? What negative

experiences are they having and how can we address them? What services are they in need of?” Knuth said. “Just as we do in CCSS with natural resource managers, resource users, and members of the public, we in the Graduate School wanted to listen to the voices of our student stakeholders to understand their perspectives, needs, and interests.”

The surveys provide data upon which evidence-based decision making can occur. One of the first assumptions disproven by the survey data was the idea that most doctoral students go into careers in academia. In fact, only about half of doctoral students choose that route. The other half choose careers in business, government, and nonprofits. Knuth and her staff realized that graduate students would benefit from more career development support, and launched two initiatives: one focused on preparing doctoral students for entering academia, and one focused on supporting careers beyond academia.

The survey data also informed improvements in mental health programs. The Graduate School creates subsets of data, comparing responses of students in different programs, enabling faculty to see how their students are experiencing mentoring, feedback, and social support, in comparison to other programs.

“The beauty of having those comparative data is that faculty are very competitive by nature, so when they see that their students are reporting that mentoring is a 5 out of 10, but students in another unit are reporting mentoring as an 8 or 9, they see that data and say, ‘Oh, my colleagues are doing much better; I can be doing better,’” Knuth said. “Instilling that culture of continual improvement, I think was an important element of my tenure.”

The improvements Knuth oversaw resulted in multiple recognitions for the Graduate School and Knuth personally, including the 2019 Debra W. Stewart Award for Outstanding Leadership in Graduate Education, given by the national Council of Graduate Schools.

Stedman emphasized the critical role that graduate students play within CCSS.

“One of the truths I learned about becoming a faculty member and now chair of the department is that I'm not the one discovering new ideas anymore: I don't have as much time to read widely in the literature, because I'm focusing on student papers and keeping projects moving forward,” he said. “Grad students are really the glue that helps bind things together and push new ideas forward, and they are crucial to the research agenda of the entire program.”

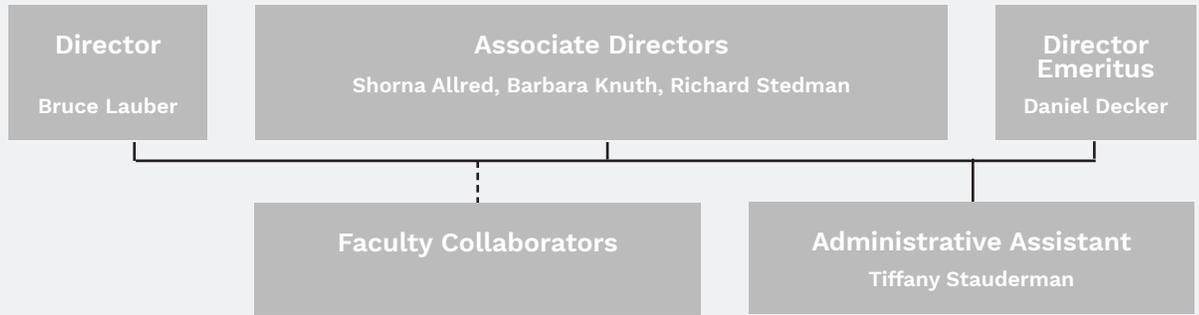
CCSS PEOPLE

The success of the CCSS depends on its faculty, staff, and graduate students – and the people who collaborate with us.

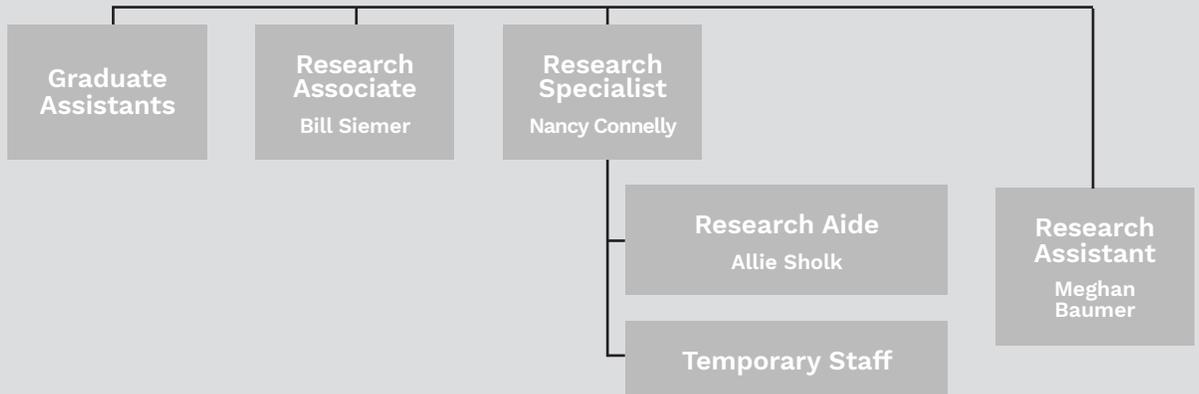


FACULTY AND STAFF

SUPERVISORS OF CCSS ACTIVITIES



PROJECT STAFF



CENTER FOR CONSERVATION SOCIAL SCIENCES ORGANIZATIONAL CHART

CORE FACULTY (as of January 2021)

T. Bruce Lauber, Senior Research Associate and CCSS Director

Specializations: Risk management and communication related to fish and wildlife; invasive species management; conflict and collaboration in natural resource management; stakeholder engagement in decision making; Great Lakes.

Shorna B. Allred, Associate Professor, House Professor and Dean (Alice Cook House), and CCSS Associate Director

Specializations: Conservation social science; natural resource policy and decision-making; community resilience, environmental justice, and community-based participatory research methods.

Barbara A. Knuth, Professor and CCSS Associate Director

Specializations: Risk communication and risk perception related to chemical contaminants in fish; ecosystem-based approaches to fisheries management; Great Lakes and marine fisheries policy and management.

Richard C. Stedman, Professor and CCSS Associate Director; Chair of the Department of Natural Resources & the Environment

Specializations: Sense of place; community resilience; impacts of social and environmental change on wildlife recreation and community; risk and policy; environmental attitudes and behaviors; community-based resource management; landowner attitudes and behaviors; coupled human/ecological systems.

Daniel J. Decker, Professor Emeritus and CCSS Director Emeritus

Specializations: Integration of human dimensions insights into wildlife management decision making, policy, planning, and practice; stakeholder involvement in wildlife management.



AFFILIATED FACULTY (as of January 2021)

Paul D. Curtis, Professor and Department Extension Leader

Specializations: Resolving conflicts between people and wildlife; citizen participation in decision making; outreach and policy education.

Marianne Krasny, Professor and Director of Graduate Studies; Director, Civic Ecology Lab; Department of Natural Resources & the Environment

Specializations: Environmental and climate education; grassroots environmental stewardship (civic ecology); strategies for scaling up of individual climate actions and stewardship behaviors; online and engaged learning.

Heidi Kretser, Adjunct Assistant Professor, Conservation Social Scientist - Americas, Wildlife Conservation Society

Specializations: Land-use development and patterns; how human activities in rural landscapes influence wildlife and human-wildlife conflicts; how communities, groups of actors in a conservation issue, or a single organization move from process and discussion of an issue to on-the-ground conservation impacts.

Katherine A. McComas, Vice Provost for Engagement and Land-Grant Affairs and Professor, Department of Communication

Specializations: Risk, science, and environmental communication; community involvement and public participation; trust and credibility related to science communication.

Jeff Niederdeppe, Associate Professor, Department of Communication

Specializations: Health and environmental communication; public communication campaigns; public opinion and social policy.

Amanda D. Rodewald, Professor, Department of Natural Resources & the Environment and Director of Conservation Science, Cornell Lab of Ornithology

Specializations: Wildlife population and community ecology; conservation biology; landscape ecology; socioecological interactions in tropical working landscapes; forest management; urban ecology.

Keith Tidball, Senior Extension Associate, Assistant Director Cornell Cooperative Extension (Environment and Natural Resources)

Specializations: Anthropology of social-ecological systems; therapeutic attributes of nature and outdoor recreation among returning combatants and survivors of traumatic events; food motivations in hunter and angler recruitment, retention, and reactivation; citizen science in angling and hunting communities of practice.

CENTER STAFF (as of January 2021)

Meghan S. Baumer, Research Assistant

Specializations: Environmental psychology; environmental education; volunteer management; human dimensions training program assistance.

Nancy A. Connelly, Research Specialist

Specializations: Incorporating human dimensions perspectives in natural resources management; risk perception and communication related to fisheries management; survey research methods.

Alexandra Sholk, Research Aide

Specializations: Survey implementation; interviewing; database management; content analysis.

William F. Siemer, Research Associate

Specializations: Motivations and satisfactions associated with wildlife-dependent recreation; program evaluation; risk perceptions associated with human-wildlife conflicts; understanding wildlife acceptance capacity.

Tiffany Stauderman, Administrative Assistant

Specializations: Center office management; website maintenance; administrative assistance.

GRADUATE STUDENTS (as of January 2021)

Gloria Blaise, Gates Millennium Fellow

Specializations: Socio-ecological systems; community-based agroforestry outcomes, and community development; environmental education in developing countries.

Santiago Garcia

Specializations: Leadership; governance; conflict resolution skills; strategic organizational planning and management; fundraising and donor development; biodiversity conservation; human dimensions in natural resources; ecosystem services; climate change and community-based adaptation; REDD+.

James Goetz

Specializations: Political ecology of natural resource and protected area management. Social and environmental outcomes of payments for ecosystem services. Participative, adaptive conservation planning and management.

Frieda Kay

Specializations: Human dimensions of natural resources management; comparative energy transitions; stakeholder engagement; climate planning and infrastructure resilience; information transfer and solutions sharing.

Deanna Kreinheder

Specializations: Human dimensions in natural resources; wildlife disease; governance; communication campaigns; behavioral change; risk communication.

Sarah Naiman, National Science Foundation Fellow

Specializations: Social psychology; environmental justice; drivers of Latinx environmentalism in the U.S.

Roberta Nilson

Specializations: Rural studies; natural resource dependent communities; government, politics, and policy studies; energy impacts; sense of place; public engagement; environmental justice.

Shashank Poudel

Specializations: Large carnivore monitoring and conservation in human dominated landscapes; human leopard conflict; leveraging communication and outreach for human wildlife conflict mitigation; designing capacity building program for protected area staffs and local communities; social survey for conservation.

GRADUATE STUDENTS RECEIVING DEGREES IN 2020

Gloria Blaise

M.S. Natural Resources (S. Allred, advisor). Can Agroforestry Effectively Increase Tree Cover and Enhance Livelihoods in Haiti? A Comparative Study of Community Agroforestry in the Latibonit.

Candice Reeves

M.P.S. Natural Resources (R. Stedman, advisor). Exchanging Sustainability Data between Farmers and Consumer-packaged Goods Companies in the United States: Barriers and Opportunities.

Alexandra Sholk

M.P.S. Natural Resources (B. Lauber, advisor). Pilot Evaluation of the Northeast Fish and Wildlife Diversity Technical Committee: Analyzing Collaborative Conservation Efforts of Eastern Hellbenders.

Rex Ukaejiofo

M.P.S. Natural Resources (S. Allred, advisor). Examining Climate Adaptation Policies and Strategies in Agricultural Livelihoods in Sarawak, Malaysian Borneo.



KAR gets ready to visit the Penan community of Long Lamai, Borneo. Photo by Shorna Allred.

REMEMBERING KAR ROBISON

KAR Robison, Environment & Sustainability major, McNair and Public Service Scholar, artist, social justice activist and friend passed away unexpectedly in late December 2020. KAR was a junior majoring in Environment & Sustainability with a minor in Africana studies. They had a deep commitment to social justice and wanted to make an impact working with farmers on sustainable agriculture. CCSS faculty Allred and Stedman had the privilege of working with them in both classes and research. KAR was instrumental in helping to curate a collection of archival photographs of the Penan of Long Lamai, Borneo and was an avid discussant in NTRES 2201, Society and Natural Resources.. KAR's light will continue to shine through the impact they had on the many lives they touched.

CCSS COLLABORATORS

CCSS collaborates with a wide variety of organizations, universities, and governments (recent examples listed). Without the assistance of these and other collaborators, much of the work we do would not be possible.



GOVERNMENT

City of Binghamton, Eastern Grouse Working Group, FL Fish and Wildlife Conservation, Genesee/Finger Lakes Regional Planning Council, Great Lakes Fishery Commission, Hudson River Estuary Program, ID Department of Fish and Game, National Academy of Science, National Park Service, Michigan DNR, Michigan Sea Grant, MN Department of Natural Resources, Northeastern Fish & Wildlife Diversity Technical Committee, NY Sea Grant, NYS DEC, PA Game Commission, TN Wildlife Resource Agency, US Fish and Wildlife Service, US Geological Survey, USDA National Institute of Food and Agriculture, Wisconsin Department of Natural Resources, Wyoming Department of Game and Fish

PRIVATE/PUBLIC ORGANIZATIONS

Albany Pine Bush Preserve Commission, Avangrid, Center for Nonprofit Strategies, Dutch Research Institute for Transitions, Innovative Outcomes, NYS Energy Research & Development Authority, Pecan Street, Science and Resilience Institute at Jamaica Bay, Wildlife Conservation Society, Wildlife Management Institute

UNIVERSITIES

Michigan State University, Montana State University, North Carolina State University, Stockholm University, University College of Technology Sarawak, Universiti Malaysia Sarawak, University of Alberta, University of Arkansas, University of Edinburgh, University of Helsinki, University of Massachusetts, University of Michigan, University of Minnesota, University of Wisconsin, Virginia Tech

CORNELL UNIVERSITY

Cornell Atkinson Center for Sustainability, Community and Regional Development Institute, Cornell Cooperative Extension, Cornell Institute for Climate Smart Solutions, Cornell Southeast Asia Program, Cornell Survey Research Institute, Cornell University Agricultural Experiment Station, Wildlife Health Lab, Office of Engagement Initiatives, Public Service Center, Cornell University Library

Departments of: Biological and Environmental Engineering, Communication, Global Development, Earth and Atmospheric Sciences, History of Art and Visual Studies, Landscape Architecture, Natural Resources & the Environment, Population Medicine & Diagnostic Sciences

PUBLICATIONS

In 2020, the CCSS produced 17 peer-reviewed journal articles and 14 other publications.

CC Image courtesy of U.S. Fish and Wildlife Service Southeast Region on Flickr.

2020 CCSS PEER-REVIEWED JOURNAL ARTICLES

Peer-reviewed journal articles appearing in 2020 included 14 final articles and 3 online preprints.

- Armstrong, A. & Stedman, R. C. (2020). Thinking upstream: How do landowner attitudes affect forested riparian buffer coverage? *Environmental Management*, 65, 689-701. <https://doi-org.proxy.library.cornell.edu/10.1007/s00267-020-01271-y>
- Blaise, G. C., Brown, J. A., Jordan, R. C. & Sorensen, A. E. (2020). The impact of forest usage and accessibility on the perceptions of its users and surrounding residents. *Urban Science*, 4(4), 79. <https://doi.org/10.3390/urbansci4040079>
- Fuller, A. K., Decker, D. J., Schiavone, M. & Forstchen, A. (2020). Ratcheting up rigor in wildlife decision making. *Wildlife Society Bulletin*, 44(1), 29-41. <https://doi.org/10.1002/wsb.1064>
- Georgakakos, C., Cerra, J. F., Allred, S., Williams, K., Walter, T., LoGiudice, L. & Smith, G. (2020). Cross-disciplinary learning in environmental engineering and landscape architecture. *International Journal of Collaborative Engineering*, <https://doi.org/10.1504/IJCE.2020.10033950>, (Published online 2020)
- Gottwald, S. & Stedman, R. C. (2020). Preserving one's meaningful place or not? Understanding environmental stewardship behaviour in river landscapes. *Landscape and Urban Planning*, 198, 103778. <https://doi.org/10.1016/j.landurbplan.2020.103778>
- Lauber, T. B., Stedman, R. C., Connelly, N. A., Ready, R. C., Rudstam, L. G. & Poe, G. L. (2020). The effects of aquatic invasive species on recreational fishing participation and value in the Great Lakes: Possible future scenarios. *Journal of Great Lakes Research*, 46(3), 656-665. <https://doi.org/10.1016/j.jglr.2020.04.003>
- Lawrence, T., Morreale, S., Stedman, R. & Louis, L. (2020). Linking changes in ejido land tenure to changes in landscape patterns over 30 years across Yucatán, México. *Regional Environmental Change*, 20(4), 1-13. <https://doi.org/10.1007/s10113-020-01722-6>
- Lewis, N. A., Schuldt, J. P., Bravo, M., Naiman, S. M., Pearson, A. R., Romero-Canyas, R. & Song, H. (2020). The complementarity of qualitative and quantitative methods in environmental psychology. *MethodsX*, 100943. <https://doi.org/10.1016/j.mex.2020.100943>
- Lu, H., McComas, K., Kretser, H. & Lauber, T. B. (2020). Scared yet compassionate? Exploring the order effects of threat versus suffering messages on attitude toward scary victims. *Science Communication*, 42, 3-30. <https://doi.org/10.1177/1075547019894342>
- Pomeranz, E.F. & Stedman, R. C. (2020). Measuring good governance: A pilot instrument for evaluating good governance principles. *Journal of Environmental Policy and Planning*, 22(3), 428-440. <https://doi.org/10.1080/1523908X.2020.1753181>
- Quartuch, M. R., Siemer, W. F., Decker, D. J. & Stedman, R. C. (2021). Learning from hunter education volunteers' experiences. *Human Dimensions of Wildlife*, 26(1), 37-47, <https://doi.org/10.1080/10871209.2020.1788193>. (Published online 2020).
- Sachs, C., Bugden, D. & Stedman, R. (2020). Grand theft hydrocarbon? Post-production clauses and inequity in the U.S. shale gas industry. *Extractive Industries and Society*, 7(4), 1443-1450. <https://doi.org/10.1016/j.exis.2020.08.007>
- Sakurai, R., Tsunoda, H., Enari, H., Siemer, W. F., Uehara, T. & Stedman, R. C. (2020). Factors affecting public attitudes toward reintroduction of wolves in Japan. *Global Ecology and Conservation*, 22, e01036, doi: <https://doi.org/10.1016/j.gecco.2020.e01036>.
- Shirvani, A. S., Sargolini, M., Allred, S., Chatrchyan, A. & DeLuca, G. (2020). Climate change and sustaining heritage resources: A framework for boosting cultural and natural heritage conservation in central Italy. *Climate*, 8(2), 26, <https://doi.org/10.3390/cli8020026>.
- Siemer, W. F., Lauber, W. F., Kretser, H., Schuler, K., Verant, M., Herzog, C. & McComas, K. (2020). Predictors of intentions to conserve bats among New York property owners. *Human Dimensions of Wildlife*. <https://doi.org/10.1080/10871209.2020.1817628>. (Published online 2020).



Song, H., Lewis, N. A., Ballew, M. T., Davydova, J., Gao, H., Garcia, R., Hiltner, S., Naiman, S. M., Pearson, A. R., Romero-Canyas, R. & Schuldt, J. P. (2020). What counts as an “environmental” issue? Differences in issue conceptualization across race, ethnicity, and socioeconomic status. *Journal of Environmental Psychology*, 68(101404). <https://doi.org/10.1016/j.jenvp.2020.101404>.

Zanocco, C., Boudet, H., Clarke, C. E., Stedman, R. & Evensen, D. (2020). NIMBY, YIMBY, or something else? Geographies of public perceptions of shale gas development in the Marcellus Shale. *Environmental Research Letters*, 15(7), p.074039. <https://doi.org/10.1088/1748-9326/ab7d01>

OTHER CCSS PUBLICATIONS

Armstrong, A., Stedman, R. C. & Krasny, M. E. (2020). Intimacy on the half-shell: place, oysters, and the emerging narrative of Virginia aquaculture. *In Intimate Relations: Communicating (in) the Anthropocene*. Lexington Press (Roman and Littlefield).

Connelly, N. A. & Lauber, T. B. (2020). *Public Awareness of NYSDEC and Participation in Wildlife Viewing*. (CCSS Publication Series 20-5). Ithaca, NY. Dept. of Natural Resources & the Environment, College of Agriculture and Life Sciences, Cornell University. <https://ecommons.cornell.edu/bitstream/handle/1813/70176/Empire%20Poll%20CCSS%2020-5%20report%207-15.pdf?sequence=2&isAllowed=y>

Connelly, N. A., Lauber, T. B., Stedman, R. C. & Kretser, H. E. (2020). *Landowner opinions about moose in northern New York State*. (CCSS Publication Series 20-4). Ithaca, NY. Dept. of Natural Resources & the Environment, College of Agriculture and Life Sciences, Cornell University. <https://ecommons.cornell.edu/bitstream/handle/1813/69952/CCSS%20Report%2020-4.pdf?sequence=2&isAllowed=y>

Connelly, N. A., Lauber, T. B., Stedman, R. C. & Kretser, H. E. (2020). *Attitudes towards moose among large private forestland owners and managers in Northern New York*. (CCSS Publication Series 20-1). Ithaca, NY. Dept. of Natural Resources & the Environment, College of Agriculture and Life Sciences, Cornell University. <https://ecommons.cornell.edu/bitstream/handle/1813/69642/CCSS%20%20Report%2020-1.pdf?sequence=2&isAllowed=y>

Decker, D. J. (2020). Giving leadership rather than taking it. Pages 397-404 in Taylor, W. W., Carlson, A. K., Bennett, A. & Ferreri, C. P., editors. *Lessons in Leadership: Integrating Courage, Vision, and Innovation for the Future of Sustainable Fisheries*. American Fisheries Society.

Decker, D. J., Siemer, W. F., Pomeranz, E. F., Forstchen, A. B., Schiavone, M. V., Baumer, M. S., Smith, C. A., Riley, S. J. & Lederle, P. E. (2020). Habits and practices of effective fish and wildlife management professionals. *The Wildlife Professional*, 14(1), 28–33.



- Kay, D. L., Nilson, R. & Stedman, R. C. (2020). *Challenges of large-scale solar electric siting in New York State*. CaRDI Research and Policy Brief #89 (May).
- Knuth, B. A. (2020). Just say yes: Sharing your time builds your talents. Pages 153-156 in Taylor, W. W., Carlson, A. K., Bennett, A. & Ferreri, C. P., editors. *Lessons in Leadership: Integrating Courage, Vision, and Innovation for the Future of Sustainable Fisheries*. American Fisheries Society.
- Nilson, R., Kay, D. & Stedman, R. (2020). Challenges of large-scale solar electric siting in New York State: Part II, The evolving permitting process. CaRDI Research and Policy Brief #91 (July).
- Portway S., Lewis T. L., Allred S. & Frank R. (2020). Longitudinal influence of online consumer knowledge on millennials' sustainable clothing consumption. *Sustainability in Fashion Proceedings*, 1(1), <https://doi.org/10.31274/susfashion.11420>.
- Siemer, W. F., Lauber, T. B. & Stedman, R. C. (2020). *Understanding black bear hunting in New York: Findings from 2019 hunter survey*. (CCSS Publication Series 20-2). Ithaca, NY. Dept. of Natural Resources & the Environment, College of Agriculture and Life Sciences, Cornell University. https://ecommons.cornell.edu/bitstream/handle/1813/69864/CCSS%20Report%2020-2%20Understanding%20Bear%20Hunters%20in%20NY%204_30_2020.pdf?sequence=2&isAllowed=y
- Siemer, W. F., Lauber, T. B., Stedman, R. C. & Decker, D. J. (2020). *New York State hunters' perceptions of chronic wasting disease*. (CCSS Publication Series 20-3). Ithaca, NY. Dept. of Natural Resources & the Environment, College of Agriculture and Life Sciences, Cornell University. <https://ecommons.cornell.edu/bitstream/handle/1813/69950/CCSS%20Report%2020-3.pdf?sequence=2&isAllowed=y>
- Siemer, W. F., Stedman, R. C. & Lauber, T. B. (2020). *Local residents' deer population preferences: Results from a 2020 survey of 8 Wildlife Management Unit Aggregates*. (CCSS Publication Series 20-6). Ithaca, NY. Dept. of Natural Resources & the Environment, College of Agriculture and Life Sciences, Cornell University. <https://ecommons.cornell.edu/bitstream/handle/1813/71225/CCSS%20report%2020-6%20Local%20residents%20deer%20population%20preferences%202020.pdf?sequence=2&isAllowed=y>
- van Riper, C. J., Golebie, E. J., Shin, S., Eriksson, M., Smith, A., Suski, C. & Stedman, R. (2020). *A study of angler behavior and the spread of aquatic invasive species in the Great Lakes region*. (CCSS Publication Series 20-7). Ithaca, NY. Dept. of Natural Resources & the Environment, College of Agriculture and Life Sciences, Cornell University. <https://ecommons.cornell.edu/bitstream/handle/1813/76830/CCSS%20Report%2020-7.pdf?sequence=2&isAllowed=y>

CCSS FUNDING

In 2020, CCSS faculty were PIs or co-PIs on grants and contracts with more than \$5 million in funding.



CCSS FUNDED PROJECTS ACTIVE IN 2020

- Anderson, C. L., Stedman, R. Bitar, E. & Cowen, E. Planning grant: Engineering research center for sustainable energy smart solutions. National Science Foundation. 2018-2020.
- Allred, S. & Michener J. Toxic inequality: Environmental justice in America. Engaged Cornell. 2019-2020.
- Allred, S., Peters, S., Horrigan, P., Kiely, R. & Hargraves, M. Participatory evaluation of the Rust to Green University-Community Partnership. Cornell University, Office of Engagement Initiatives. 2018-2020
- Ault, T., Allred, S., Chatrchyan, A. & Stroock, A. Integrating climate, crop, and cloud computing data in the Caribbean to improve drought resilience. Atkinson Center for a Sustainable Future—Academic Venture Funds. 2018-2020.
- Catanzaro, P., Markowski-Lindsay, M., Bell, K., Kittredge, D., Markowitz, E. Leahy, J., Butler, B. & Allred, S.B. Understanding and informing family forest owner decisions of land transfer to enhance the viability and competitiveness of our forested landscapes. USDA NIFA. \$250,000. 2015-2020.
- Chatrchyan, A., DeGaetano, A., Hoffman, M., Allred, S., Krasny, M. & Bunting-Howarth K. Climate Master Volunteers: Supporting the work of climate change adaptation, mitigation, and community resilience at the local level. USDA NIFA. 2017-2020.
- Cowen, E. A., Daziano, R., Schultze, R. & Stedman, R. C. Achieving the hype: Leveraging storage to turn smart meters into a smart service system. National Science Foundation. 2016-2020.
- Fuller, A. & Stedman, R. C. Spatial risk mapping of sustainable food systems threatened by conflicts with Andean Bears in the Western Ecuadorian Andes. School of Integrative Plant Science, Cornell University. 2019-2020.
- Fuller, A., Stedman, R. C. & Gilbert, M. Living with Leopards: Implications of human-leopard interaction on food security and public health in the foothills of the Himalayas. Atkinson Center for a Sustainable Future, Academic Venture Fund. 2019-2021.
- Kleisner, K., Burden, M., Sullivan, P. & Stedman, R. Factors influencing the long-term effects of fisheries reform efforts: How resilient are Icelandic fisheries to climate change? EDF-Atkinson Post-doctoral Fellow Funding. 2019-2021
- Klinck, H., Allred, S. & Beard, V. Traversing the Java Sea: Social-ecological impacts of an Asian megacity migration on a biological and cultural diversity hotspot. Migrations Global Challenge, Cornell University. 2020-2023.
- Lauber, T. B. Communication to promote recovery of an important species for agriculture: perceptions of risks and benefits of bats. Cornell University College of Agriculture and Life Sciences Agricultural Experiment Station. 2017-2021.
- Lauber, T. B., Knuth, B. A., Stedman, R. C. & Connelly N. A. Stakeholder and resource manager responses to the Chinook salmon fishery collapse in Lake Huron: Informing future decision making. Great Lakes Fishery Commission. 2020-2021.
- Lauber, T. B., Stedman, R. C. & McComas, K. Developing a research-based digital media campaign to reduce the risks of Chronic Wasting Disease. New York State Department of Environmental Conservation and USDA-APHIS. 2020-2021.
- McGowan, K. & Allred, S. Penan of Borneo and the Hedda Morrison collection. Cornell University Library. 2018-2020.
- Naiman, S. & Schuldt J. El Poder de la Familia: Understanding the role of familism on Latino environmentalism. National Science Foundation Doctoral Dissertation Research Improvement Grant. 2020-2021.
- Russo, S., Paustian, K., Field, J., Lehmann, J. & Stedman, R. Connecting communities through smart tools and sensors to deliver enhanced ecosystem services and economic returns from regenerative farmland management. National Science Foundation. 2020-2021.
- Stedman, R. C. Emerging inequality in New York State solar energy development. Cornell Center for the Study of Inequality. 2020-2021.
- Stedman, R. C., Ifft, J., & Kay, D. L. Understanding barriers and opportunities for renewable energy transitions in New York State. Cornell University

College of Agriculture and Life Sciences
Agricultural Experiment Station. 2016-2020.

Stedman, R. C., Allred, S. B., Decker, D. J. & Lauber, T. B.
Collaborative research in the human dimension
of wildlife management. NYS Department of
Environmental Conservation. 2016-2021.

Stedman, R. C. Understanding angler behaviors the
influence the spread of aquatic invasive
species. University of Illinois at Urbana-
Champaign. 2018-2021.

Stedman, R. C. Understanding hunting and other
outdoor recreation at West Point Installation.
USDOD United States Army. 2020-2021.

Steinschneider, S., Lauber, T. B., Stedman, R. C., Knuth,
B. A., Gronewald, A. & Thomann, J. Using
hydroclimate modeling and social science
to enhance flood resilience on Lake Ontario
through the Climate Smart Communities
program. Great Lakes Fishery Commission.
2020-2022.

Steinschneider, S. & Stedman, R. C. Climate-smart
flood risk planning for coastal communities
on Lake Ontario. New York Sea Grant Institute.
2018-2020.

Walter, T., DeGaetano, A. & Stedman, R. C. Testing
online nutrient management decision support
tool. Cornell University Agricultural Experiment
Station Federal Formula (Hatch). 2018-2020.

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CCSS

Center for Conservation
Social Sciences

2020 ANNUAL REPORT

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