LOYOLA UNIVERSITY CHICAGO SCHOOL OF

ENVIRONMENTAL SUSTAINABILITY

FALL 2025

A COMMUNITY WITH PURPOSE

FACULTY, STAFF, AND STUDENTS LOOK TO THE FUTURE UNITED BY A SHARED MISSION—TO BUILD A MORE JUST AND SUSTAINABLE WORLD FOR ALL

THE SCHOOL OF ENVIRONMENTAL SUSTAINABILITY

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INSIDE

FROM THE DEAN

“It is deeply gratifying to be in a place where environmental sustainability is inseparable from social justice, community engagement, and Jesuit values.”

Dear alumni and friends,

I am thrilled to be writing to you as the new dean of Loyola University Chicago’s School of Environmental Sustainability (SES). It is an incredible honor to build on the legacy of Founding Dean Nancy Tuchman, whose vision and leadership were instrumental in establishing SES as a national leader in sustainability education. It is deeply gratifying to be in a place where environmental sustainability is inseparable from social justice, community engagement, and Jesuit values.

Since stepping into the role on July 1, I have been humbled and inspired by the SES community—our faculty, staff, students, alumni, supporters, and friends. I have witnessed dedicated faculty building innovative, hands-on learning experiences; alumni making an impact across diverse fields; and deeply engaged students who aren’t waiting until graduation to make a difference—they are taking action now.

It is an exciting time of growth and transformation for SES. Over the past year, we added a new program in climate and energy, an area of increasing importance and opportunity. We welcomed Rodrigo Mercado Fernández, PhD, a new faculty member who studies the resilience of energy infrastructure. This year SES also welcomed our new postdoctoral researcher, Daniel Hayden, PhD, who is already making meaningful contributions in our Food Systems Focus Area. Additionally, Bailey Cowart joined our team as the new lab manager, and Jackie Nowotnik assumed the role of academic advisor.

At the University level, Loyola celebrated an extraordinary milestone by achieving carbon neutrality. Today clean, renewable solar energy provides 100 percent of the electricity needs of our Chicago-area campuses. This remarkable achievement is a testament to the dedication and collaboration of our entire campus community—and it further cements Loyola’s national leadership in climate action.

Looking forward, we are excited to embark upon the next chapter, expanding enrollment and crafting a strategic vision for the future. On a personal level, I am eager to connect with many of you as we move forward together, united in our mission and inspired by what lies ahead.

Warmly,

Malini Suchak

MALINI SUCHAK, PhD
DEAN, SCHOOL OF ENVIRONMENTAL SUSTAINABILITY

Powering Ahead

Rooted in its Jesuit mission of care for creation and service to humanity, Loyola University Chicago continues to lead by example, making tangible strides to build a more just and sustainable world. In the 2024–2025 academic year, Loyola became the first carbon-neutral university in Illinois, transitioned to 100 percent solar-powered electricity across its campuses, and earned national recognition for its leadership in sustainability education and practice. As the only such school at any Jesuit university, Loyola's School of Environmental Sustainability trains future environmental leaders to forge a path guided by purpose, compassion, and scientific insight.

100% OF ELECTRICITY SUPPLIED BY SOLAR POWER

Loyola University Chicago was among the first organizations to sign on to buy power from the new Double Black Diamond solar farm in central Illinois. Loyola agreed to purchase enough electricity to completely power the University's Lake Shore, Water Tower, and Health Sciences campuses. The contract started on January 1, 2025, helping the University achieve carbon neutrality.

#12 IN THE PRINCETON REVIEW GUIDE TO GREEN COLLEGES, 2025 ED.

The Princeton Review's "Guide to Green Colleges" rated Loyola #12 nationally for its commitment to campus sustainability.

1ST CARBON-NEUTRAL UNIVERSITY IN ILLINOIS

In 2025, Loyola University Chicago became one of only 15 carbon-neutral universities in the nation.

158 DEGREES AND CERTIFICATES AWARDED

During the 2024–2025 academic year, the School of Environmental Sustainability awarded 109 bachelor's degrees, 43 master's degrees, and six graduate certificates.

Double Black Diamond solar farm

STUDENT LIFE

Rooted in action

Students learn, grow, and connect through immersive activities on campus and in the community

At the School of Environmental Sustainability (SES), students explore their interests and gain hands-on experience through engaged learning courses, campus clubs, internships, and faculty-mentored research. These immersive activities extend learning beyond the classroom, fostering the supportive community and sense of shared purpose that characterize the SES experience.

Restoring nature and spirits at LUREC

Every other weekend during the academic year, members of Loyola University Chicago's Restoration Club load into vans and travel 40 miles northwest of the Lake Shore Campus to the Loyola University Retreat and Ecology Campus (LUREC), where they work to restore biodiversity on the 90-acre suburban campus.

Under the guidance of Professor Emerita Roberta (Bobbi) Lammers-Campbell, PhD, club members learn the foundations of ecological restoration, taking part in activities such as removing invasive plants and shrubs. Club member Mack Shenker said he appreciated the skills and knowledge he has gained from the experience.

"Getting out here and getting hands-on experience with plant ID, with controlled burns, with manual labor, you get experience that you just wouldn't get in the classroom," he said.

Participants also build camaraderie with classmates while enjoying time outdoors surrounded by nature. After a day of work, they often gather around a bonfire to socialize and make s'mores. Many find that the time at LUREC helps them relax and recharge.

"Getting the fresh air, hearing the birds fly over, hearing the wind blow—it's an escape for a lot of people," said Shenker.

An internship with impact

SES connects students with internship opportunities on campus and in the community. Environmental policy major Jameson Walker spent a summer interning with the Glenwood Sunday Market in Chicago's Rogers Park neighborhood.

Walker's primary responsibility was managing the Food Access Program. The program makes shopping at neighborhood farmers' markets more affordable for people who use Supplemental Nutrition Assistance Program (SNAP) benefits by matching their purchases with vouchers. Walker said his favorite part of the internship was connecting with the community at the weekly market.

"Throughout the summer, the market provided a space for me to build relationships with my neighbors, get to know regulars, and make friends with local farmers." He said. "I'd studied sustainable food systems in SES, but getting to live what a sustainable food system actually looks like, even on a micro level, has been really inspiring and invigorating!"

Walker said the internship gave him greater

> **"The SES internship program enabled me to gain sustainability work experience before starting my career. As a senior graduating in December, this has really increased my confidence going into job hunting."**
>
> —JAMESON WALKER, ABOVE, AN ENVIRONMENTAL POLICY MAJOR INTERNING WITH THE GLENWOOD SUNDAY MARKET IN ROGERS PARK

Opposite:
Loyola students volunteer with restoration projects at LUREC

The biodiesel lab internship was a once-in-a-lifetime opportunity that allowed me to gain a deeper understanding of sustainability in the energy sector and helped me determine where I want to take my career."

— JOYLYN BON YU, INTERNATIONAL GRADUATE STUDENT FROM THE PHILIPPINES, WORKING IN LOYOLA'S SEARLE BIODIESEL LAB

confidence about entering the job market after graduation.

"My experience informed my decision to look for sustainable nonprofit roles, jobs in environmental grant-writing, and jobs with a community focus," he said.

Biodiesel program encourages independent learning

For Joylyn Bon Yu, an international graduate student from the Philippines, working in Loyola University Chicago's Searle Biodiesel Lab was a vital step toward a career in sustainability. Yu chose the professional track master's degree program in SES because it includes a focus on practical career skills and exposure to real-world sustainability solutions. She applied to the biodiesel internship on campus to gain hands-on experience with this flagship campus sustainability initiative.

With guidance from senior program manager Zach Waickman, students working in the lab convert used vegetable oil from campus cafeterias and local restaurants into renewable biodiesel fuel that powers campus shuttle buses. The team also uses the glycerin generated as a byproduct of biodiesel production to make soap for campus washrooms.

As an intern, Yu contributed to biodiesel and soap production and participated in quality control testing. Yu said she appreciated the independent learning culture within the lab. She noted that Waickman provided guidance while allowing interns to take initiative and propose project ideas and efficiency improvements.

Her time in the biodiesel lab reinforced Yu's interest in sustainability consulting and analytics, with a particular focus on the energy sector. She said it also helped her hone essential soft skills such as problem-solving, adaptability, and critical thinking. The experience gave her confidence when networking with professionals in the field and helped her secure a summer internship at a sustainability consulting firm.

Loyola students volunteer with restoration projects at LUREC

Celebrating 2025 graduates

The School of Environmental Sustainability celebrates all of our graduates, including the following students who received awards for academic performance, service, teamwork, and dedication to making a positive difference in the world.

Thomas Crabtree
President's Medallion Winner
BA IN ENVIRONMENTAL POLICY

The Loyola University Chicago President's Medallion honors one student from each college, school, and institute who excels in leadership, scholarship, and service. This year, the award for the School of Environmental Sustainability went to Thomas Crabtree, a senior from Annapolis, Maryland.

Ashley Klauck
Rachel Carson Award for Academic Excellence
BA IN ENVIRONMENTAL STUDIES

Ava Ubaydi
Berta Isabel Cáceres Flores Award for Outstanding Leadership
BA IN ENVIRONMENTAL POLICY

Caitlyn Smith
Rachel Carson Award for Academic Excellence
BA IN ENVIRONMENTAL POLICY

Charlotte Roos
Lee Botts Award for Environmental Stewardship
BA IN ENVIRONMENTAL STUDIES

Chase Lewis
Rachel Carson Award for Academic Excellence
BS IN ENVIRONMENTAL SCIENCE

Grace Rockenhauser
Hazel M. Johnson Award for Outstanding Graduate Student
MS IN ENVIRONMENTAL SCIENCE AND SUSTAINABILITY, LAW AND POLICY TRACK

Megan Wenner
Rachel Carson Award for Academic Excellence and the Aldo Leopold Award forOutstanding Achievement
BS IN ENVIRONMENTAL SCIENCE: CONSERVATION AND RESTORATION ECOLOGY

Scotty Monteith
Wangari Muta Maathai Award for Outstanding Service
BA IN ENVIRONMENTAL POLICY

Sophia Nelson
Rachel Carson Award for Academic Excellence
BA IN ENVIRONMENTAL STUDIES

Spencer Dzyacky
E. O. Wilson Award for Outstanding Performance in Environmental Research
BS IN ENVIRONMENTAL SCIENCE: CONSERVATION AND RESTORATION ECOLOGY

Thomas Minner
James E. Hansen Award for Outstanding Performance in Environmental Internship
BA IN ENVIRONMENTAL STUDIES

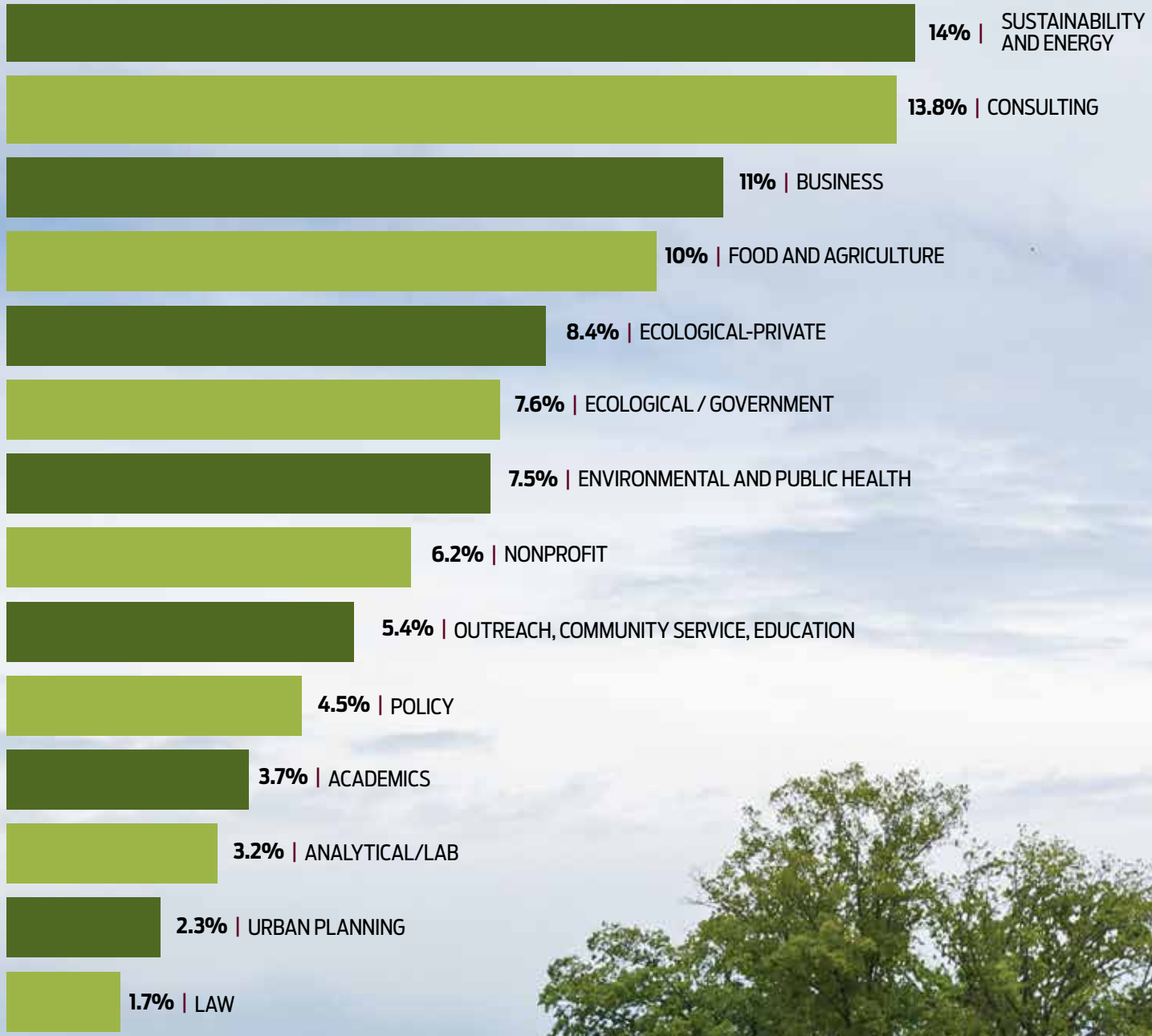
Being in an environment where everyone really cared about what they did was very motivational and inspiring. That kind of atmosphere sets a great launching platform for young professionals."

— KRISTINA TSAKOS
BS, ENVIRONMENTAL SCIENCE, 2023

Graduates succeeding across sectors

The School of Environmental Sustainability has a **proven track record of preparing graduates for successful, rewarding careers** in their chosen fields. The graph below shows some of the sectors where graduates work today.

GRADUATE EMPLOYMENT PERCENTAGES BY SECTOR



Graduate spotlights

Meet some of our alumni who are applying their SES degrees in meaningful, impactful careers

Emily Braun 1
BS, Environmental science, 2014

Emily Braun graduated from Loyola in 2014 with a BS in environmental science and later went on to earn a master's degree in crop sciences from the University of Illinois Urbana-Champaign (UIUC). Today, she applies the values and skills she developed at Loyola in her work as a sustainability theme data specialist at the UIUC Center for Advanced Bioenergy and Bioproducts Innovation.

"Between the classes I took and the people I met, being at Loyola helped strengthen my goal to help people in any way I can. Right now I do this by providing support to bioenergy researchers who are working toward more sustainable forms of energy. However, in every career move I've made since graduation, I have striven to contribute to meaningful change."

Haley Lim 2
BS, Environmental Science, 2014

Originally from Saint Charles, Illinois, Haley Lim graduated from Loyola University Chicago in 2014 with a bachelor's degree in environmental science. She currently works as a senior emerging technology analyst at GTI Energy, a technology development organization focused on deploying energy solutions that improve lives, economies, and the environment.

"The environmental science degree was well rounded in terms of math and science courses. I often use math and critical thinking in my chosen field and have always felt prepared to handle real-world decisions due to the critical thinking I practiced during my education."

Angelo Kelvakis 3
BS, Environmental Science, BA, Environmental Policy, 2018

As an undergraduate, Angelo Kelvakis got involved in the SES Urban Agriculture program and participated in faculty-mentored research projects. His research experience sparked a passion for making sense of complex data. Today, he blends his interests in food systems and data analysis as a decision scientist at US Foods. Kelvakis said his SES experience helped him realize the importance of community, particularly for those seeking to make a positive difference in the world.

"The most important thing I have learned is that if you really want to change something and be impactful, the first step is building community before anything else. Everything that I find important has some connection to a community involved, and that's a pattern that you don't need a decision scientist to analyze for you."

Emily Hammermeister 4
BS, Environmental Science, 2019

Emily Hammermeister's education in SES provided her with broad foundational knowledge of sustainability issues, opening a wide range of possible career paths. Shortly after graduating in 2019, she found an opportunity in sustainable energy at Trajectory Energy Partners, where she has built a career ever since. As an operations manager, she oversees compliance, data management, and behind-the-scenes coordination for large-scale solar projects.

"Loyola provided such a worldly lens—how to care about people, how to care about the planet. SES emphasizes that interdisciplinary approach: You take hard sciences, policy, and even philosophy. That made me think critically about how to move forward with real-world challenges. You leave knowing a little about a lot of topics, and that flexibility can work in your favor."

Joe Walsh 5
BS, Environmental Science, 2021

After graduating from Loyola in 2021, Joe Walsh completed a Master of Public Health at Benedictine University, focusing on epidemiology, data analytics, and healthcare administration. Today he works as a noncommunicable disease epidemiologist for the Kane County Health Department. In this role, he analyzes health data to help county officials understand outcomes, identify disparities, and develop solutions to enhance public health.

"I would not have pursued a Master of Public Health (MPH) if not for Loyola! It was at Loyola that I first discovered this career path and how my background in environmental science was a strong foundation for an MPH program. The School of Environmental Sustainability's curriculum prepared me for graduate studies and the work I do today."

Sampson Hao 6
MS, Environmental Science and Sustainability, 2023

As a project developer at Recurrent Energy, Sampson Hao applies the knowledge and skills he developed at SES to manage solar energy projects across the country. His graduate thesis investigated how large-scale solar projects impact nearby property values in the Midwest. With support from his advisor, Gilbert Michaud, PhD, Hao published his research in the journal Solar Compass. The paper has since become a widely cited resource for developers nationwide.

"Every week I hear about colleagues at other companies in the industry who are using the paper I published. It definitely helped me get my name out there and contribute to the field early on."

Kristina Tsakos (see page 7)
BS, Environmental Science, 2023

Kristina Tsakos helps conserve and restore habitat across the United States as an operations manager at Magnolia, an environmental mitigation company. As a student, her career interests came into focus through her work as a research assistant with Team Typha, a research group developing strategies to restore Great Lakes wetland habitats. At SES, she valued being part of a community of people who shared her passion for sustainability and the environment.

"Being in an environment where everyone really cared about what they did was very motivational and inspiring. That kind of atmosphere sets a great launching platform for young professionals."

Bailey Uttich 7
BA, Environmental Studies, 2024

Bailey Uttich works as the aquaponics coordinator at Windy City Harvest, the Chicago Botanic Garden's urban agriculture program serving the South and West sides of Chicago. As a student, she developed skills that apply directly to her career through her work with the SES Urban Agriculture program.

"I would not be where I am today without my experiences in Loyola's Urban Agriculture program, where I served as the hydroponics team leader and later as the greenhouse manager. Until I started Urban Agriculture, I never imagined I would actively seek employment outdoors. Working as an intern in the Winthrop Garden in the fall of 2022 was a truly life-changing experience for me."

Ethan Bower 8
BA, Environmental Studies, 2024; MS, Environmental Science and Sustainability, 2025

Ethan Bower completed Loyola's accelerated bachelor's/master's program, earning both a BA and an MS in a total of five years. During his final year as a student, Bower also worked full time in his current position as a life scientist with the U.S. EPA Region 5 office. At the EPA, he helps monitor air quality and manage regulatory compliance activities related to the Clean Air Act. Bower said his experience at Loyola prepared him for his career by providing opportunities to learn inside and outside the classroom.

"One of my favorite undergrad classes was Climate and Climate Change with Professor Ping Jing. I had previously done air monitoring research with her, and when I took that class, it sparked so much joy and interest in me that I've carried through my professional life and career."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Exploring pathways to a brighter energy future

A new faculty member brings his passion for sustainable and equitable energy systems to the classroom

> **It's important to engage people with broad perspectives in the discussion, including SES students who are studying different aspects of sustainability."**
>
> —RODRIGO MERCADO FERNÁNDEZ, PhD, ABOVE
> ASSISTANT PROFESSOR, SCHOOL OF ENVIRONMENTAL SUSTAINABILITY

Rodrigo Mercado Fernández, PhD, joined Loyola University Chicago's School of Environmental Sustainability (SES) as an assistant professor in the spring of 2025, bringing a robust engineering background, a globally informed perspective, and a passion for understanding how our energy choices affect people and the planet.

"I think the energy space is incredibly exciting," he said. "There are a lot of important challenges that we're facing at the moment. It's important to engage people with broad perspectives in the discussion, including SES students who are studying different aspects of sustainability."

Engineering energy solutions

Born in Guadalajara, Mexico, Mercado Fernández spent his early childhood in Oak Park, Illinois, while his parents pursued graduate studies at the University of Illinois Chicago. He later returned to Mexico, where he completed his undergraduate degree in mechanical and electrical engineering at the University of Guadalajara before working at GE Aviation. From there, he decided to explore his growing interest in energy by pursuing a PhD in industrial engineering and operations research at the University of Massachusetts Amherst.

"I was drawn to the energy field because of how impactful it is in our day-to-day lives and because of its importance—both now and in the future," he said. "While a lot of people focus on materials or efficiency, I was more interested in the big picture: how we make decisions and design policies around energy systems."

After completing his PhD, Mercado Fernández took a postdoctoral position at the Appalachian Energy Center, where he worked for two years. He then spent two and a half years as a professor in the industrial engineering program at the Tecnológico de Monterrey in Guadalajara before taking on his current role at Loyola.

Today Mercado Fernández's engineering background and focus on systems-level thinking continue to inform his research and teaching. His work explores energy transition pathways and their intersections with sustainability, equity, and health, focusing on how policy and planning can better support communities.

Research to guide equitable energy policies

Currently Mercado Fernández leads a collaborative research project with Appalachian State University to determine how power outages impact health outcomes in North Carolina hospitals. They have found that heat-related illnesses increase with more extended outages, and outages can also increase the risk of hospital visits for cardiovascular and respiratory conditions. In addition to learning about the types of health risks associated with outages, the researchers aim to understand how factors like geography, age, and socioeconomic status affect vulnerability.

"Our goal is to help guide more equitable policy responses to climate impacts," says Mercado Fernández. "We want to understand who is most at risk and how we can target interventions to make communities more resilient. So, for example, we want to identify which parts of the grid are most vulnerable to various types of disasters. Then we want to determine how we can incorporate that knowledge into our decision-making and long-term planning so that we have a more robust system going forward."

This research provides valuable information for policymakers and community advocates and contributes to scholarly work published in journals such as *Energy and Climate Change* and *Renewable and Sustainable Energy Transition*.

Teaching to inspire

At Loyola, Mercado Fernández brings his passion for sustainable and equitable energy systems to the classroom. He teaches courses including Energy and the Environment and Introduction to Energy and Power Systems, which include both undergraduate and master's students. His goal is to give students the tools to engage with complex energy issues—whether they go on to work in energy, policy, ecology, or community-based work.

"Through my classes, I want students to understand where our energy comes from, the trade-offs involved in our energy systems, and what we need to think about in a transition to more sustainable systems," he said.

He's especially excited about helping students feel confident engaging across disciplines and sectors. "I want them to be able to have informed conversations—with engineers, with nongovernmental organizations, with community members—about energy issues and why they matter."

Mercado Fernández said he was drawn to Loyola and SES in particular because of the school's interdisciplinary programs and the opportunity to work with people who share his interests in sustainability, climate, and energy. He said he enjoys interacting with students and colleagues at SES and appreciates the opportunity to teach classes on topics related to his research. As his career at Loyola continues to develop, he looks forward to collaborating with faculty, staff, and students on impactful research efforts to help shape more equitable and sustainable energy policies.

Through my classes, I want students to understand where our energy comes from, the trade-offs involved in our energy systems, and what we need to think about in a transition to more sustainable systems."

— RODRIGO MERCADO FERNÁNDEZ, PhD

Meet our newest staff members

Bailey Cowart

Bailey Cowart joined SES in 2025 as the **lab manager and safety officer**. She coordinates research and teaching lab spaces, operates and maintains analytical instruments for researchers, and trains students in lab safety and best lab practices. Cowart received her BA and MS from Boston University, specializing in ecology and conservation biology. Prior to joining SES, she worked as a laboratory analyst for an environmental consulting company in central Florida where she analyzed soil and water samples for nutrient pollution, developed new methods for sample analysis, and wrote standard operating procedures for the lab.

Daniel Hayden, PhD

Daniel Hayden, PhD, joined SES in 2025 as the **Taylor and Paulette O'Malley Postdoctoral Scholar of Food Systems**. He holds a BS in plant biology from the University of Oklahoma and a PhD in plant pathology from the University of Wisconsin-Madison. Hayden's doctoral research focused on plant-microbial feedbacks in Indigenous cropping systems of the Midwest. As a graduate student, Hayden also collaborated with Indigenous communities in Wisconsin to preserve traditional foodways and support food sovereignty. His work at Loyola University Chicago involves helping urban growers address concerns about soil health.

Maya Kelly

Maya Kelly took on the role of **sustainability manager** in the Office of Sustainability. An SES alum, she describes herself as an all-around nature nerd dedicated to stewarding humans towards a better relationship with the planet. Kelly previously worked as a conservation educator and sustainability professional with environmental institutions across Chicago, including the Forest Preserve District of Cook County, Shedd Aquarium, and the nonprofit Urban Rivers.

Jackie Nowotnik

Jackie Nowotnik joined the SES team as an **academic advisor**. She has over 10 years of experience providing holistic student support through academic advising and student engagement. She holds a bachelor's degree in communication, media, and theatre and a master's in educational leadership in higher education from Northeastern Illinois University. As a Rogers Park native, Nowotnik is happy to be back in the neighborhood and enjoys lunchtime walks along the lake front.

Honors and awards

Several faculty and staff members received awards recognizing their excellence in teaching, research, and service.

Kevin Erickson, MS
Loyola University Chicago Student Service, Person for Students Award

Gordon Getzinger, PhD
Named to the Early Career Editorial Board of the journal Environmental Science and Technology

Ping Jing, PhD et al.
Loyola University Chicago Schreiber Venture Fund Innovation Grant

Shane Lishawa, MS
Brian Ohsowski, PhD
Loyola University Chicago Schreiber Venture Fund Innovation Grant

I'm trying to empower our students to get actual state and federal level certifications that will make them more marketable as ecologists or restoration ecologists in the region or across the country."

— BRIAN OHSOWSKI, PhD, ASSISTANT PROFESSOR

Engaging curriculum with real-world relevance

Innovative courses provide hands-on experience and practical career skills

Faculty members in Loyola University Chicago's School of Environmental Sustainability (SES) are constantly innovating to create an engaging curriculum that involves students in hands-on learning and prepares graduates to succeed in their chosen careers. Two recent courses illustrate the benefits of the school's emphasis on engaged learning and career readiness.

New course equips students with professional credentials

Each May, SES offers immersive three-week courses at the Loyola University Retreat and Ecology Campus (LUREC). This year's offerings also included a new course titled Professional Credentials and Training for Ecologists. Assistant Professor Brian Ohsowski designed the class after consulting professional ecologists to identify the qualifications they value in job applicants.

"I'm trying to empower our students to earn state and federal level certifications that will make them more marketable as ecologists or restoration ecologists, locally and nationally," Ohsowski said.

The course enabled 16 students to earn multiple certifications, including the Illinois Boating Safety Certificate, Federal Aviation Administration Remote Pilot Certificate, National Outdoor Leadership School Wilderness First Aid Certification, and Midwest Ecological Prescription Burn

Students in the Professional Credentials and Training for Ecologists course learned to use equipment that converts organic matter into biochar. The charcoal-like substance is useful in ecological restoration projects.

> **This class has given me the biggest boost in terms of looking for work later. I have so many certifications that employers want.”**
>
> — ANNA LEIGH TANGEMAN, ENVIRONMENTAL SCIENCE MAJOR

Opposite, top: *Students learn to fly a drone during a three-week course at the Loyola Uaniversity Retreat and Ecology Campus.* ***Opposite, bottom left:*** *Students in the Professional Credentials and Training for Ecologists course practice gathering data on forest topography.* ***Opposite, bottom right:*** *students in the Conservation Biology Lab course install camera traps to capture images of wildlife at Graceland Cemetery.*

Crew Member Training. The students also learned practical field skills such as knot tying, forest volume assessment, and compass navigation.

Environmental science major Anna Leigh Tangeman valued the opportunity to build practical career skills.

“This class has given me the biggest boost in terms of looking for work later. I have so many certifications that employers want,” she said. “I have these skills to put on my resume, but I also really know how to use them.”

Andromeda Nerge, a senior studying environmental science, said the hands-on experience helped them envision a future career.

“This is wonderful, especially for science majors who want to be in the field or doing research. We’re learning the kinds of tasks we’ll actually be doing in our jobs. And we get to participate in fun outdoor activities, too, in our free time,” they said.

Students uncover the wild side of Loyola’s campus

Open areas such as parks, golf courses, college campuses, and cemeteries provide vital habitat for urban wildlife. Within Chicago’s dense Edgewater neighborhood, wild animals make use of green spaces on Loyola’s Lake Shore Campus and in the nearby Graceland Cemetery, offering a living lab for SES students.

This spring, a group of SES students conducted a semester-long research project to understand the diversity of wildlife living in these urban green areas and how people can make room for urban wildlife. Mary Dinsmore, PhD, developed the project for her Conservation Biology Lab course.

“My goal for the course is to have students work together to construct a conservation project from inception to implementation to analysis,” said Dinsmore. “I want this project to be hands-on so they can take the skills they gain and feel prepared to be active researchers and conservation practitioners after they graduate.”

To prepare students to study the local fauna at these two sites, Dinsmore taught the class to use wildlife monitoring equipment and several types of software for project management and data analysis.

Students installed monitoring equipment and conducted regular walk-throughs at each site. They analyzed video and audio recordings to identify the animal species present at each study site. The images revealed squirrels, songbirds, rats, mice, rabbits, and raccoons. The team also observed a family of coyotes living in Graceland Cemetery, and they found coyotes on Loyola’s campus for the first time since 2013. Across the two study sites, they found six bat species and nearly 70 bird species.

The research team also explored how people relate to the wild creatures around them by surveying community members about their attitudes toward urban wildlife. Most survey respondents said they enjoyed seeing wildlife and would support conservation efforts.

At the end of the semester, the student researchers presented their results to members of the Loyola community, Graceland staff and visitors, and interested neighbors. They shared their observations and recommended actions to conserve wildlife and avoid negative interactions with wild animals.

Conservation recommendations for the Lake Shore Campus included limiting the use of rat poison and road salts, which can be toxic to wildlife. The team noted the Graceland Cemetery managers could support wildlife there by replacing some sections of turf with more natural landscaping featuring native shrubs, grasses, and wildflowers. Based on strong community interest in learning more about plants and animals found in the cemetery, the team also suggested offering wildlife education programming.

Dinsmore said she was thrilled to see how the students grew over the semester and gained confidence as researchers.

“It’s been incredibly gratifying to see the students become involved, take ownership over the project, and invest their time in studying the wildlife,” she said. “Additionally, part of conservation is disseminating and sharing results. It was so rewarding to see the students’ professionalism and dedication shine through in their final presentation.”

Measuring the value of nature

Economist Max Melstrom, PhD, works to help people understand the tradeoffs involved in environmental decisions

How do you measure the value of the experience of catching a smallmouth bass in a pristine lake or watching a flock of sandhill cranes take flight over a lush wetland? As an environmental economist, Richard "Max" Melstrom, PhD, works to measure what many assume is immeasurable. He aims to quantify the value of natural resources and recreational experiences, as well as the losses people experience due to environmental damage. Melstrom's research helps policymakers and natural resource managers make more informed decisions about environmental issues.

Weighing conflicting interests

Melstrom's current work with the Indiana Department of Natural Resources (DNR) focuses on sandhill cranes. Conservation efforts have helped this once-threatened species make a remarkable comeback. Their numbers have grown to the point that hunters have approached the DNR about harvesting the birds. If the DNR allows hunting, the birds would likely respond by avoiding areas where they might encounter people. That would reduce opportunities for birders to see the large, impressive cranes.

"Birding is popular. It can be big business, and it's important to the DNR," said Melstrom. "They value birders as a constituency, and they have a responsibility to make sure that there are recreational opportunities. So now the DNR finds itself trying to balance these potentially competing needs. And that's why they started contacting economists."

The DNR engaged Melstrom and Carson Reeling, PhD, of Purdue University's Department of Agricultural Economics, to

assist in evaluating the options. Melstrom's role is to quantify the value that people place on the birding experience, particularly the opportunity to see sandhill cranes. Carson is studying the potential value of the hunting experience. By comparing their findings, they aim to inform a policy decision that balances recreational, ecological, and economic needs. In a follow-up study, Melstrom plans to examine how cranes and other birds impact agricultural production—both positively and negatively.

Fishing, pollution, and the value of cleaning up

The project on cranes is just one example of how Melstrom works to quantify the value people place on natural resources. He has also studied the changing value of recreational fisheries in the Great Lakes. That includes examining catch rates, fishing quality, and the health risks associated with toxic contamination. He wants to understand how much people value the recreational fishery and how changing environmental conditions impact their experience.

"About 60 percent of anglers in the Great Lakes eat their catch," he says. However, many species have advisories warning people, especially children and pregnant women, to limit their consumption due to pollutants such as mercury or polychlorinated biphenyl.

Melstrom wants to know whether these advisories lower the value of the fishing experience. If they do, it helps make a case for investing in cleanup efforts.

Along with the student research assistants he mentors, Melstrom also explores the economics of environmental restoration.

"We've looked at housing prices around polluted sites," he says, referring to a study that SES alum Emma Donnelly conducted under his guidance as a graduate student. The study evaluated the impacts of cleanup efforts in two highly contaminated areas of Lake Michigan—Waukegan Harbor and the Milwaukee Estuary. Donnelly's work showed that people tend to avoid living near contaminated areas.

> **People act based on the value they get from experiences…When the environment changes—whether it's cleaner water, fewer fish, or birds avoiding their favorite park—their experiences change, too."**
>
> — RICHARD (MAX) MELSTROM, PhD

"But when those areas get cleaned up, people move back in and property values rise," said Melstrom. "I want to look at whether anglers do the same—do they return to fish in cleaner waters?"

That kind of evidence is useful for policymakers and public advocates.

"If a company causes a pollution event, there's going to be a loss—both environmental and economic. We need to be able to measure that impact in economic terms to know the extent of the harm and what relief should be provided by the offender," said Melstrom.

Why put a price on nature?

Trying to put a dollar value on nature might sound cold, but Melstrom sees it differently.

"People matter," he says. "Their values matter. There's the value of the experience, and there can be goods where there's zero expenditure attached to it and it's incredibly valuable. If we don't measure those values, they're too easy to ignore."

Melstrom's job is to capture those values in economic terms, and that goes beyond tracking the flow of money. He notes that measuring wages or market prices can only reveal part of the picture. People reveal their values not only by how they spend their money, but also by where they choose to live or how they spend their time.

"People don't make decisions in a vacuum. They act based on the value they get from experiences. And when the environment changes—whether it's cleaner water, fewer fish, or birds avoiding their favorite park—their experiences change, too."

By making those changes visible and quantifiable, Melstrom's research helps people more fully understand the trade-offs involved in environmental decisions.

As an educator, Melstrom is also training the next generation of environmental leaders. During a typical semester, he mentors three paid research assistants (two undergraduates and one graduate student) and three unpaid undergraduate interns. The students gain valuable skills that will help them shape policies and advocate for decisions that account for the full costs of ecological damage and the value of conserving and restoring natural resources.

Impactful SES research informs sustainability and equity initiatives

SES researcher Shane Lishawa and his collaborators are investigating how muskrats contribute to shaping wetland ecosystems.

Investigators at the School of Environmental Sustainability (SES) conduct applied research to help policy makers, land managers, and community advocates make informed decisions about issues impacting sustainability, community health, and equity. These highlights offer a glimpse into their impactful research.

The role of muskrats in controlling invasive wetland plants

Shane Lishawa, MS, an SES senior research associate, conducted a study on muskrats with collaborators from the University of Connecticut and Sault Ste. Marie Tribe of Chippewa Indians. The research team investigated how muskrat activity affects wetlands dominated by the invasive cattail *Typha* × glauca (*Typha*) and another invasive plant, European frogbit. They found that in *Typha*-dominated wetlands, muskrats reduce invasive plant density and enhance habitat complexity. The research team concluded that management activities aimed at increasing muskrat populations could contribute to ongoing efforts to restore wetlands in the Great Lakes region.

Using birds killed in building collisions to study forever chemicals in wild birds

Scientists recognize the need to understand how per- and polyfluoroalkyl substances (PFAS), also known as forever chemicals, impact people and ecosystems. Field studies have demonstrated that birds bioaccumulate PFAS through ecosystem exposures, but such studies are expensive and complex. Assistant Professor Gordon Getzinger, PhD, and Ben Marks, PhD, of the Field Museum published the results of a study that used birds killed in building collisions to understand PFAS exposure in various bird species. The researchers found that PFAS levels varied according to the birds' feeding strategies and habitat utilization and were consistent with levels measured in wild populations previously. The work confirms that using collision fatalities could present opportunities for more detailed investigations of PFAS exposure and bioaccumulation in wild birds.

Managing the arrival and spread of aquatic invasive species

Invasive species are the largest driver of biodiversity and economic losses in the Great Lakes ecosystem. The Keller Lab, led by Professor Reuben Keller, PhD, published two papers that provide novel insights for managing the arrival and spread of invasive species in the Great Lakes.

Former Loyola postdoctoral scholar Victoria Prescott, PhD, evaluated methods of predicting which species are likely to survive the climate and conditions in the Great Lakes. Her work shows wide variability in the accuracy of the available tools. Newer tools based on machine-learning approaches were most accurate. The paper, coauthored by Keller, appeared in the journal *Fisheries*.

SES graduate program alum Carter Cranberg collaborated with Keller and Loyola biology professor Joseph Milanovich, PhD, to publish a paper based on Cranberg's graduate research. In this study, published in *Aquatic Invasions*, the researchers used a machine-learning approach to predict the spread of two invasive crayfish species under different climate change scenarios.

Enhancing collaborations to support food security

Loyola University Chicago researchers Associate Professor Tania Schusler, PhD, and SES graduate program alum Dikshya Dahal (MS '23) examined how Chicago-area organizations collaborated to address food insecurity during the COVID-19 pandemic. Their findings emphasize the importance of relationship building and equitable resource sharing in withstanding food system disruptions, whether due to a pandemic, climate change impacts, or rapidly shifting political and economic conditions. Their paper appeared in the June 2025 issue of *Frontiers in Sustainable Food Systems*.

Strategies for preventing environmental gentrification

Associate Professor Tania Schusler, PhD, and Amy Krings of the Ohio State University studied how cities can improve the environment through pollution cleanup or urban greening without displacing or excluding socioeconomically vulnerable residents. They interviewed community organizers, environmental justice advocates, urban planners, housing specialists, and others with relevant expertise. Their research shows that fair, community-led decision-making is key to preventing environmental injustice and ensuring everyone benefits from cleaner, greener neighborhoods.

> **"Our findings offer practical guidance for how greening professionals, nonprofit and municipal planners, elected officials, developers, and others promoting environmental improvements can do so in ways that reduce the likelihood of reproducing social inequities."**
>
> — TANIA SCHUSLER, PhD
> ASSOCIATE PROFESSOR

Associate Professor Richard (Max) Melstrom, PhD, worked with Jarron VanCeylon of Bowdoin College to study the economic impacts of developing greenways in major cities. They aimed to determine whether greenways cause gentrification by increasing housing demand and pricing out existing nearby residents. They looked for evidence of gentrification around a 22-mile greenway under construction in Atlanta. The researchers found that housing demand and prices increased, but this occurred primarily before the greenway project started. This finding suggests that greenways can be a symptom of gentrification rather than a primary contributor. Their research highlights the need for policies that fight gentrification while still expanding access to green spaces.

SUSTAINABILITY AT LOYOLA

“Carbon neutrality is a landmark achievement, one achieved by only a handful of universities across the country.”

— AARON DURNBAUGH,
DIRECTOR OF SUSTAINABILITY

Double Black Diamond solar farm

Carbon neutrality and beyond

Loyola achieves net-zero carbon emissions and looks to set ambitious new sustainability goals

At the start of 2025, Loyola University Chicago reached a remarkable sustainability milestone, becoming one of only 15 carbon-neutral universities nationwide. This accomplishment fulfills a goal set in Loyola's 2015 Climate Action Plan and reflects more than a decade of dedicated efforts to integrate innovative, effective green practices across all of the University's campuses.

"Carbon neutrality is a landmark achievement, one achieved by only a handful of universities across the country," said Aaron Durnbaugh, Loyola's director of sustainability.

As part of its climate action plan, the University completed a decarbonization study to identify strategies to cut emissions. It advanced its energy goals by installing geothermal wells throughout campus, optimizing space utilization, and making building-envelope improvements, such as wall insulation, roof insulation, and window replacements.

Shifting to renewable electricity was another crucial step in Loyola's journey toward carbon neutrality. In April 2023, the University announced that it had signed an agreement with Constellation to purchase power

Loyola representatives at the Double Black Diamond ribbon cutting included (from left) graduate students Drew Pellico and Thomas Brelage, Director of Sustainability Aaron Durnbaugh, Energy Manager Brian O'Malley, SES Assistant Professor Gilbert Michaud, and Director of Neighborhood Initiatives Summur Lawson.

from the Double Black Diamond solar project, allowing the developer to receive financing and build the project.

Double Black Diamond is a large-scale solar project operated by Swift Current Energy. The nearly 5-mile-wide solar farm near Springfield, Illinois, is the largest solar project east of the Mississippi River and can power over 100,000 homes. As of January 1, 2025, the project supplies all the electricity needed to power the University's Chicago-area campuses.

Thomas Brelage (MS '25) studied renewable energy policy as a master's degree student in the School of Environmental Sustainability (SES). His thesis research focuses on county commissioners' perspectives on large-scale solar projects in rural Indiana. Given the connection to his research interests, Brelage was excited to join a group from Loyola at the ribbon-cutting ceremony for the solar project in April 2025.

"That was one of the first large-scale solar projects that I had seen in person, and the size really blew me away. It was great to be a part of it," he said.

Investments in efficiency and renewable energy account for the majority of Loyola's reductions in greenhouse gas emissions. The University offsets the remaining emissions through a partnership with the company Tradewater.

"We've made significant strides toward reducing the carbon footprint on our campuses in the past 10 years, and we work with the Chicago-based partner Tradewater to help us reach net-zero through high-quality carbon-reducing projects," said Durnbaugh.

In addition to offsetting emissions, Loyola's partnership with Tradewater creates educational opportunities for students, including internships. SES junior Robin Sinclair interned with the company during the summer of 2025. Her work involved reaching out to rural landowners to identify opportunities to repair or plug leaking oil and gas wells.

As an environmental policy major, Sinclair said the internship enhanced her understanding of policies related to carbon markets. It was also a valuable opportunity to explore career options.

"It gave me a clearer idea about the direction I want to go in my career," she said. "I think I'd like to work in carbon offsets at some point."

Carbon offsets comprise 15 percent of Loyola's zero-emissions achievement, and Durnbaugh says the University continues to work toward long-term sustainable solutions to improve efficiency and protect the environment.

"We're always looking for ways to improve," said Durnbaugh. "So while we're taking a moment to celebrate this significant accomplishment, we're not resting on our laurels and instead are seeking the next opportunities to make our campuses more sustainable."

Loyola is currently developing its next climate action plan as a part of the University's five-year strategic plan, titled For the Greater Good.

Celebrating the leadership of Founding Dean Nancy C. Tuchman, Phd

In June, 2025, Nancy Tuchman stepped down from her role as founding dean of the School of Environmental Sustainability (SES), leaving behind a decades-long legacy of leadership, innovation, and deep commitment to justice through ecological stewardship.

To honor her service, Loyola established the Nancy C. Tuchman Scholarship Fund to provide financial support for SES students in perpetuity. Additional gifts in Tuchman's honor will further expand the scholarship's impact, enabling the next generation of environmental leaders to follow in her footsteps.

Please join us in celebrating Dean Tuchman's legacy by making a gift to support current and future students in the School of Environmental Sustainability.

Learn more and make a gift:
LUC.edu/SupportSES2025

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