RUTGERS DEPARTMENT OF HUMAN ECOLOGY
STRATEGIC PLAN | *2024–2029*

Leading

SUSTAINABILITY SOLUTIONS

HUMAN ECOLOGY

CONTENTS

Students on the Raritan River October 2024 for Environmental Law and Policy (11:374:460) learning about coastal law in Dr. Cymie Payne’s class.

DEAR FRIENDS AND COLLEAGUES:

I am thrilled to share with you the strategic plan for the Department of Human Ecology in the School of Environmental and Biological Science (SEBS) at Rutgers, The State University of New Jersey. This five-year plan is the result of focused discussion from Departmental members along with input from students enrolled in our major and minors, faculty across many of the university's departments, institute leaders, programs, along with leadership at SEBS. What we have learned is that the problem-based interdisciplinary social science expertise Human Ecology brings to studies of health and environment are essential pieces for leading knowledge production and training of students for solving human-environmental problems and improving societal sustainability.

Our mission: Equitable Environmental Solutions that balance human well-being and the environment. The key practice driving our mission is "collaborative leadership."

The Department of Human Ecology contributes to improving sustainability and solving environmental problems through producing interdisciplinary knowledge about the nature of human-environment problems and solutions, teaching and training students in critical multi-perspective problem diagnosing and problem-solving, and serving local, state and global communities by translating knowledge into action. Often these three tasks are integrated through activities like involving students in community engaged research on food systems or faculty running a graduate summer school on research approaches to sustainability governance. The Department of Human Ecology – faculty, students, staff – all strive in their roles to find ways to enable the conditions of a more sustainable and just future.

In 1973, just over 50 years ago, the Department of Human Ecology was founded within Cook College to provide excellence in interdisciplinary research and teaching about human-environment interactions. A department of social scientists - anthropologists, psychologists, sociologists, political scientists, communications and legal scholars – all studying environmental and resource issues- Human Ecology oriented itself to bring nuanced and state of the art social science to natural sciences and engineering. Revealing the foresight of this innovation, almost 30 years later, sustainability science declared itself as a field that "seeks to understand the fundamental character of interactions between nature and society… encompassing the interaction of global processes with the ecological and social characteristics of particular places and sectors." The need for rigorous use-inspired interdisciplinary knowledge and its translation is greater than ever to help society meet the fundamental needs of all humans while preserving the life-support systems of planet. The Department of Human Ecology collaboratively leads across SEBS, Rutgers University, other universities, non-governmental organizations and community groups, industry, and others to advance environmental solutions.

After extensive consultation with departmental members and across Rutgers faculty and administration, we identified four overarching goals for the next five years.

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GOAL ONE: Clarify and communicate our identity as collaborative leaders in sustainability research and education

We want people – faculty and students – to come to Rutgers because of its reputation for sustainability sciences. Human Ecology was founded as a department that sought to bring social science expertise to interdisciplinary understandings of human-environment issues. While the department's mission is still true to the term 'human ecology' – the interdisciplinary study of how humans interact with their environment as part of an ecosystem and are impacted by their environments' – it is a lesser known term and confusing to members of the Rutgers community (faculty, students, and staff) and beyond. Words like "sustainability" – the science on how complex physical, biological and social systems function interrelatedly to support sustainable policies and positive social transformations- have more recognition in academic and popular discourses. Similarly, our undergraduate major of Environmental Policy Institutions and Behavior (EPIB) has a limited profile within and external to SEBS.

Key aspects in our identity we wish to clarify and communicate:

- Leadership of interdisciplinary sustainability research that informs the design of policies, institutions, and programs that account for environmental and human quality of life
- Student-centered education of future leaders in the sustainability solutions field with an emphasis on skill and knowledge building experiential learning
- Expertise in community engagement, translation and communication of environmental and health sciences to increase research impacts and improve sustainability outcomes

This strategic planning report is one effort to clarify and communicate this identity. To further communicate this we are revisiting the name of our major and its classes, and the name of the department. We are discussing a shift to sustainability language and an alignment of major and departmental name. We will continue to build our website presence providing current information on our dynamic teaching, research and service activities and impact.

GOAL TWO: Lead interdisciplinary community and decision-maker engaged scholarship in sustainability science

Human Ecology is convening transdisciplinary teams that create innovative research frames, methods, analysis, and dissemination of science that advances equitable sustainability solutions that account for environmental and human well-being. Through relationships with communities of users, from local community NGOs to global policy communities, and academic partnerships that span disciplines from the sciences to humanities and arts, the Department is building teams of researchers, educators, and practitioners that produce usable sustainability science.

Identified areas of strengths are 1) sustainability governance of energy, biodiversity, food systems, and fisheries under climate change 2) the nexus of food, health, and environment and 3) science and risk translation and communication. Faculty will convene inclusive interdisciplinary discussions, symposia, and workshops, along with working with Rutgers Climate and Energy Institute, Rutgers Institute for Food Health and Nutrition, and Center for Urban Policy Research – among others – that bring together natural and environmental social science experts and community members to ascertain funding and examine and address complex environmental problems.

GOAL THREE: Expand the number and diversity of students who are prepared to take on grand challenges in sustainability

In AY 2023/2024, the Department of Human Ecology taught 36 courses with an average course quality of approximately 4.4 out of 5. Human Ecology is partnering with Rutgers colleagues within and outside of SEBS to build an umbrella of sustainability curriculum for the University and in conjunction revision and rebrand our undergraduate Environmental Policy Institutions and Behavior (EPIB) major into a cutting-edge interdisciplinary undergraduate sustainability policy and governance major that will provide a transformational educational experience grounded in the natural and environmental social sciences. This will improve student successby 1) clarifying and identifying pathways for sustainability careers for students 2) broaden access for students with early exposure across schools and 3) provide knowledge skills and competencies for the next generation of sustainability problem-solvers. In addition to sustainability governance, we

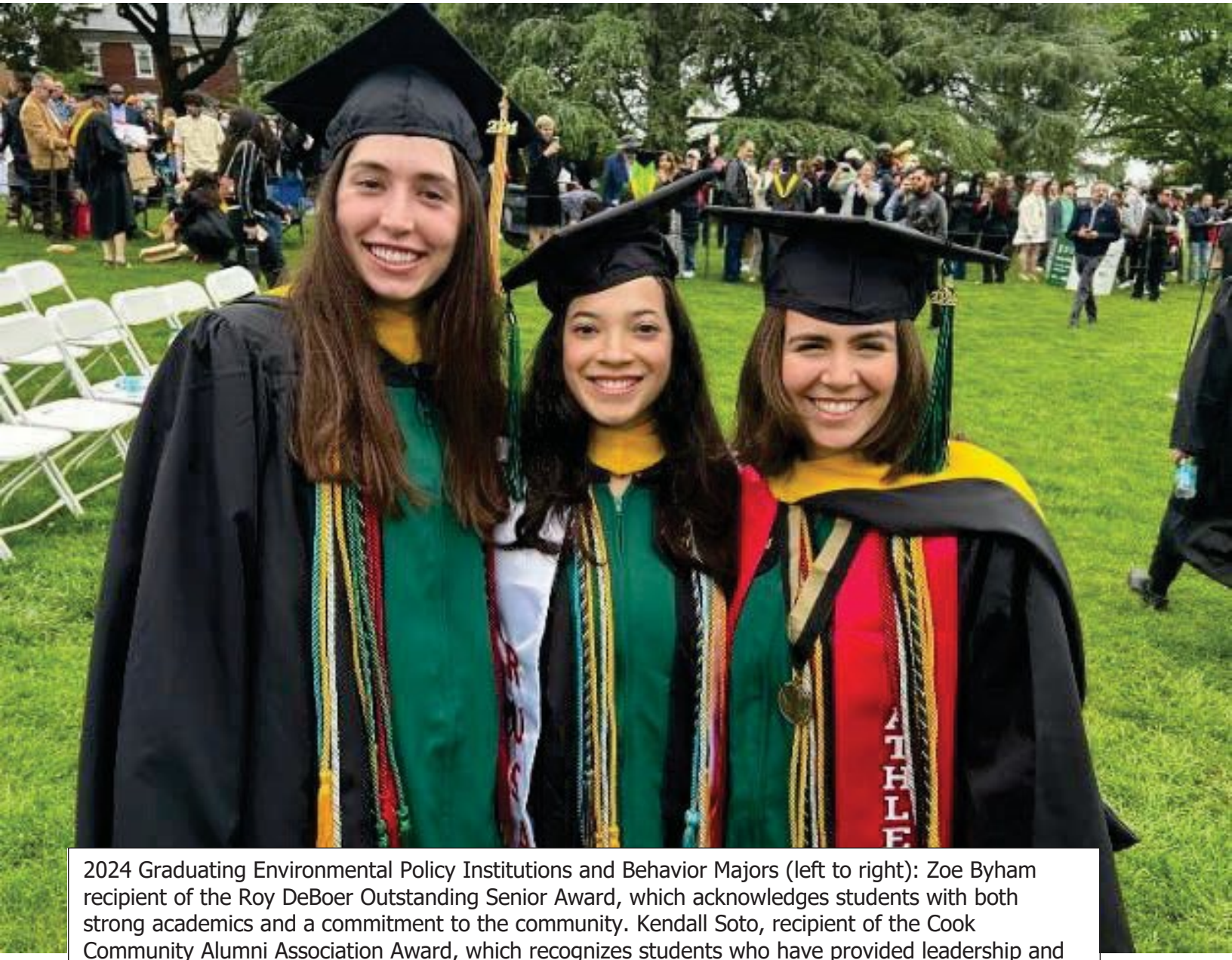
are growing Agribusiness and Food Systems co-major with DAFRE to prepare students working at the intersections of agricultural business and policy with an eye towards sustainability. The department will continue to explore opportunities to grow and connect its minors in Sustainability, Creative Expression and the Environment and Science Communication and investigate micro-badging to integrate these skills with various majors.

In order to bring our department's sustainability expertise to a broader and more diverse audience, the department will investigate graduate programs including a professional master's program or 4 plus 1 offerings that could strengthen the state and region's workforce to advance the sustainability transitions in fields like climate and energy, food and agriculture, and biodiversity and conservation.

I hope you are excited and inspired by the pages that follow, and I invite you to join us in putting our plan into action.

Sincerely,

Rachael Shwom, PhD
Chair and Professor
Department of Human Ecology



2024 Graduating Environmental Policy Institutions and Behavior Majors (left to right): Zoe Byham recipient of the Roy DeBoer Outstanding Senior Award, which acknowledges students with both strong academics and a commitment to the community. Kendall Soto, recipient of the Cook Community Alumni Association Award, which recognizes students who have provided leadership and service to the SEBS Community; and Emily Mahaffy, valedictorian for the School of Environmental and Biological Sciences.

What is

Human Ecology's Role In Sustainability?

Throughout our strategic planning process, we have used the following definition of sustainability science:

> "The study of interactions between natural and social systems, and with how those interactions affect the challenge of sustainability: meeting the needs of present and future generations while substantially reducing poverty and conserving the planet's life support systems."[1]

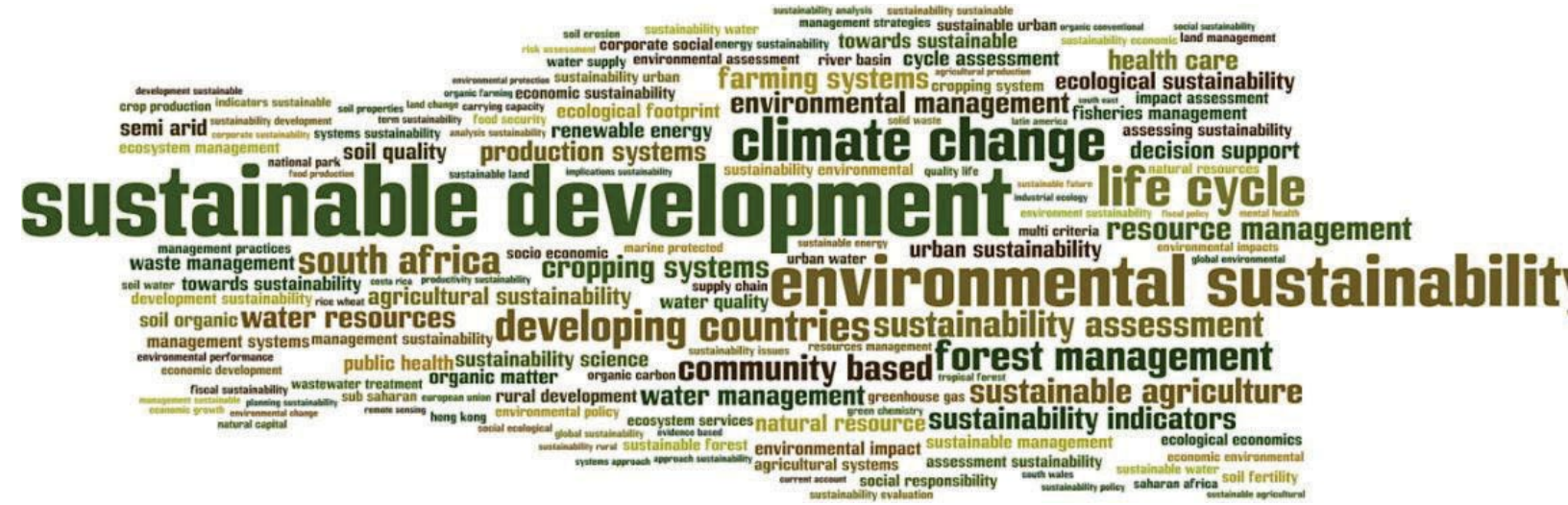
In understanding the meaning of sustainability science, it is helpful to take a closer look at several key components of this definition.

BALANCE OF ENVIRONMENT AND QUALITY OF LIFE

The focus on balancing ecosystem health with human well-being means that our expertise must span both environmental and human health sciences. Sustainability is often understood as a three-legged stool of environment, economy, and society. The goal of sustainability is to provide humans with access to required resources (i.e. healthy foods, shelter, living environments, energy and water) without undermining the integrity of the ecosystems to produce those goods and services into the future.

INTERSECTIONALITY AND INCREASING EQUITY

Access to healthy environments, natural resources for livelihoods, and resources for quality of life differ across and within nations. The risks and benefits of development have long been inequitably distributed with class, gender, race, and other characteristics being significant and interacting social determinants of this distribution. Social scientist working in sustainability science are equipped to document these inequities and help develop sustainability solutions that are more just and equitable.



From left Left to right: Class of 2024 EPIB graduate Deja Gutierrez with her poster on mitigating flash flooding through new parking lot materials; Dr. Ethan Schoolman at agrivoltaics research site where he investigates farmer decision-maker for siting solar farms; Dr. Pam McElwee speaking to students about graduate school opportunities; and Dr. Cymie Payne testifying at United Nations on Law of the Sea Tribunal climate change advisory opinion.

USE-INSPIRED BASIC RESEARCH

Sustainability science is problem-based – driven to create knowledge useful in addressing sustainability challenges while also contributing to generalizable knowledge.

Research approaches that are community engaged and/or user inspired can help scope research questions, methods and analysis that provide relevant, salient, and trusted knowledge. The Department's location within the land grant

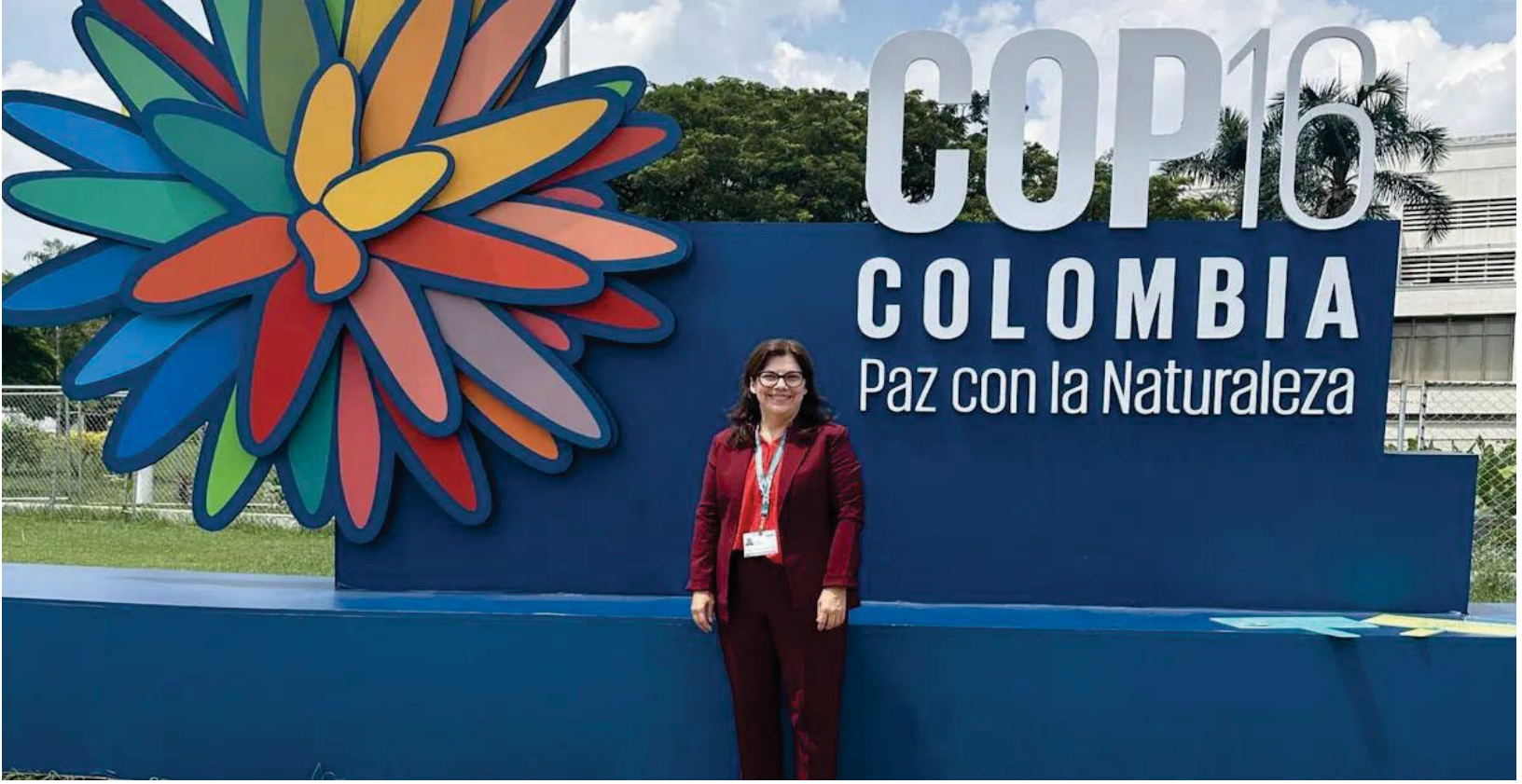
INTERDISCIPLINARITY

Managing our world sustainably complex challenge that require multiple perspectives and disci working together to solve the problem. The Department of H Ecology was founded as an interdisciplinary social science department where faculty are t as interdisciplinary experts and committed to working across disciplines. This distinguishes u other social science disciplinary departments at Rutgers.

SCIENCE COMMUNICATION FOR SUSTAINABILITY

The challenges of sustainability are complex and multi-faceted. The natural and social science involved is complex and entails a range of probabilistic outcomes along with potential for true surprises and uncertainty. In addition, sustainability science is often being interpreted in the context of controversial decisions or politicized circumstances. Research and training on best practices in communication about facts and values is a key piece of social learning to improve sustainability decisions.

[1]Kates, Robert W. "What kind of a science is sustainability science?." Proceedings of the National Academy of Sciences 108.49 (2011): 19449-19450



Pamela McElwee, attending the United Nations' 16th Conference of the Parties (COP16) to the Convention on Biological Diversity (CBD) in Cali, Colombia as a University representative. Dr. McElwee has been a lead author on the 2024-2025 IPBES assessment of the interlinkages among biodiversity, water, food and health – coined the 'Nexus Assessment'

Defining Our PURPOSE

OUR MISSION

The Department of Human Ecology leads knowledge production, translation, and teaching of the interdisciplinary social science knowledge needed to advance sustainable communities and societies – a world that better manages the use of environmental resources and human well-being in the present and for future generations.

Through leadership of collaborative research on human-environment issues, decision-maker engagement, translation, and high impact teaching practices we seek to provide the knowledge needed to advance a sustainable societal transition.

OUR VISION

A world in which all humans, current and future generations, have access to safe and healthy environments and the natural resources like food, energy, climate, and water needed for a good quality of life.

Dr. Cara Cuite in the Department of Human Ecology, a health and risk psychologist who studies food insecurity collaborated with design professor whose work engages marginalized communities in self-advocacy to work with staff and students from Hudson County Community College (HCCC) to promote New Jersey's Supplemental Nutrition Assistance Program (SNAP).

The project involved creating a print and digital publication featuring HCCC student art and anonymous testimonies on 15-foot decals displayed on the windows of the college's library in Jersey City to destigmatize obtaining food benefits.

OUR VALUES

Student-Centered Teaching

Our faculty strive to provide students the intellectual development needed to solve future sustainability problems. Students are empowered to engage in their education through active and experiential learning to gain the skills and knowledge needed to become leaders in the sustainability field.

Transdisciplinary leadership in innovative research

We lead collaborations that engage knowledge users near home and around the world to advance interdisciplinary research on sustainability dimensions of human well-being and the environment.

Knowledge into Action

Guided by best practices in engaged research and science communication and outreach, we utilize multiple approaches to produce useful knowledge that is integrated into household, government, and industry decision-making to improve ecosystem and human well-being.

Developing

FOCUS AREAS

These three initial focus areas will guide the creation of teaching, research, and service for the Department and capacity building. They were chosen based on identified research needs, current Departmental strengths, and input gathered via our focus groupsResearchers in the Department of Human Ecology focus on understanding the complex interactions between nature and society. Our goal is to conduct interdisciplinary research that provides the social science that guides the creation of policies, institutions, and programs aimed at enhancing environmental health, human well-being, and quality of life.

SUSTAINABILITY GOVERNANCE & POLICY

This focus area has the goal of conducting interdisciplinary research to create evidence-based solutions that strengthen human resilience, security and quality of life by addressing seemingly intractable environmental and resource use challenges that confront society. Effective sustainable **governance, the process of making and enforcing decisions that balance well-being and the environment in societies at multiple scales,** will be needed to address environmental crises like climate change, biodiversity loss, and unsustainable development that are accelerating rapidly due to human activity. This research focus area includes:

* Dr. McElwee and Shwom's NSF planning grant to design a Center on Sustainability and Governance in the Anthropocene (C-SAGA) that focuses on innovative interdisciplinary social science research to develop and assesses new forms of environmental governance under climate change. Working groups on Fisheries and Marine Governance in the Face of Rapid Environmental Change, Safeguarding Island Food Systems Under a Changing Climate, and Piloting Equity-driven Nature-based Solutions to Biodiversity Loss and Invasive Species have been working to scope and answer questions like key mechanisms for coordination of action across governance and ecosystem scales and what are the mechanisms for public participation.

* Dr. Cymie Payne's policy engaged research that informs the development and implementation of international treaties such as the Marine Biodiversity of Areas beyond National Jurisdiction. Her research helps craft integrated approaches to high seas governance that advance ocean sustainability.

* Dr. Meryl Shriver-Rice's research on indigenous knowledges and people provides insights on issues of data ethics and colonialism in biodiversity conservation governance

* As part of the Megalopolitan Coastal Transformation Hub, Dr. Victoria Ramenzoni's community engaged research in Philadelphia and Manville conducting interviews with marginalized residents on perceptions and responses to flooding to help craft effective flood adaptation policy and programs under climate change and rising seas.

* Dr. Jack Harris's research on community interorganizational networks and how they function to share information and advance community disaster resilience on the New Jersey shore post-Sandy. He is currently studying community owned goods and services in Scotland and how they contribute to social well-being.

SAFE, HEALTHY, AND SUSTAINABLE FOOD SECURITY

This research focus area has the goal of making safe and healthy food accessible to all while maintaining the ecosystem services that underlie its production. Researchers conduct research that can help inform transforming sustainable agricultural production, building markets, and understanding consumer practices that can get healthy and sustainable food on people's plates. Example of this focus area includes:

Dr. Cuite's research on community and college student food insecurity has helped define the problem of food insecurity and its causes. In addition, with her research partners she has identified barriers to student and community members accessing food (SNAP) benefits and co-created media to help de-stigmatize using SNAP benefits.

Dr. Ramenzoni researches household dietary health, physical activity levels, and livelihood diversification in Mantangai, Kalimantan, Central Indonesia. She assesses how peatland degradation, mining, and forest fires affect fishing households' nutritional health and adaptation strategies. She is working with village leaders to directly translate her research findings into building village nutritional education programs and improving economic development, along with meeting with local health authorities to collaborate on nutrition efforts.

In conjunction with the World Food Program (WFP) of the United Nations, Dr. Hallman is researching how to better communicate with donor countries about a systems approach to balancing food security, food safety, supporting local production systems, and the economics of providing emergency food supplies to vulnerable populations.

Dr Ethan Schoolman's research on agricultural producers includes investigations on their decisions to participate in farmers markets, use of pesticides, and decisions to site solar on agricultural lands providing insights into producer motivations for sustainable production.

BEST PRACTICES IN SCIENCE AND RISK COMMUNICATION

The information challenges of environmental and health and well-being controversies are complex and multi-faceted. The increasing challenges of trust in science, understanding of science, and politicizaiton of science in policy are significant challenges to improving sustainability outcomes. Research and training on best practices in science and risk communication about facts and values is a key piece of integrating information to improve sustainability decisions. Research in this focus area includes:

*Dr. Meryl Shriver-Rice's research on discourse on whale conservation and newspapers and movies over the past two decades to provide context for public understanding of whale conservation

* Dr. Mary Nucci has conducted research on informal learning about the food system for immigrant populations.

* Sponsored by New Jersey Sea Grant, Drs. Cara Cuite and Shwom investigated how best to communicate about coastal evacuations to improve storm safety.

*Dr. Bill Hallman studies the best words to use in labeling cell-cultured meat, poultry, and seafood in the U.S. in order to advance labeling regulations that fit with public understanding the U.S.

The Department of Human Ecology researches policy relevant complex human-natural relationships in contexts from local (New jersey farmers, Rutgers student food insecurity, decarbonizing urban low income multifamily housing) to global (war-environment interactions in Vietnam, community resources in Scotland, fisheries livelihood adaptations in Indonesia, and cane sugar commodity changes in Cuba).

GOAL ONE:

Clarify and communicate our identity as collaborative leaders in sustainability research and education

Sustainability science advances the understanding of complex human-environmental systems with innovative and transdisciplinary approaches. In the Department of Human Ecology, these are not just buzz words, but practices we undertake in our research, teaching and service every day. In the Department of Human Ecology, we are leading sustainability research, education, and service across the university and focusing on increasing our research, teaching and service impacts. To enhance our ability to lead these collaborations, we need to clarify who we are and how we communicate about it to internal Rutgers and external stakeholders and improve the recognition and visibility of the department.

OBJECTIVE: To clarify our identity, we will update and align the language we use to communicate about departmental efforts and impacts with language that is understandable, salient and compelling to students, academic collaborators, non-academic collaborators, and potential funders.

Strategies:

- Revise major curriculum to explicitly provide coverage of sustainability competencies in third party accreditation proposals and better align with current faculty expertise.
- Revise major name to have Sustainability in the title. Options include environmental policy and sustainability; environmental sustainability policy; and sustainability policy. The selection of a final name will be informed by student focus groups and consultation of chairs across relevant departments.
- In conjunction with investigation of major name change, we will investigate changing the name of the Department to better align with educational and research initiatives. Options include Department of Environmental Social Sciences or Social Sciences and Sustainability among others. The selection of a final name will be informed by student focus groups and consultation of chairs across relevant departments.

OBJECTIVE: To communicate our clarified identity as collaborative leaders in sustainability.

Strategies:

- Update of website language and materials to advance clarified identity and provide current face of activities and efforts.
- Outreach to deans at School of Environmental and Biological Sciences and others including School of Arts and Sciences, School of Labor Relations and Management, Bloustein School of Environmental Biological Sciences, School of Engineering, and School of Business about the departmental mission and revised major.
- Conduct outreach to departments within School of Environmental and Biological Sciences and other relevant departments to discuss revised major and departmental mission.
- Outreach to relevant Rutgers Institutes and Centers including Rutgers Climate and Energy Institute, Rutgers Global Health Institute, Rutgers Institute of Food Nutrition and Health, Center for Urban Policy Research and others discuss revised major and departmental mission.
- Brand and align departmental activities to communicate mission and goals.

The New Brunswick Farmers Market founded by Dr. Bill Hallman and colleagues in 2009 with a grant from the Robert Wood Johnson Foundation is an example of a sustainability solution that brings fresh healthy local food to vulnerable populations.

GOAL TWO:

Lead interdisciplinary community and decision-maker engaged scholarship in the science of sustainability solutions

The Department's faculty are undertaking engaged knowledge production for interdisciplinary sustainability solutions in the areas of sustainability governance and policy; food safety, health, and sustainability; and science and risk communication for sustainability. These focus areas provide fertile ground for the Department of Human Ecology to connect with School of Environmental and Biological Sciences Departments such as the Departments of Landscape Architecture, Food and Resource Economics, Ecology Evolution and Natural Resources, Family Community and Health Sciences, and Environmental Sciences. We will also reach out across schools. These efforts are also aligned well to leverage relevant university-wide efforts through Rutgers Climate and Energy Institute and the Institute of Food Nutrition and Health among others.

OBJECTIVE: Build capacity to increase collaborative research leadership in key focus areas identified

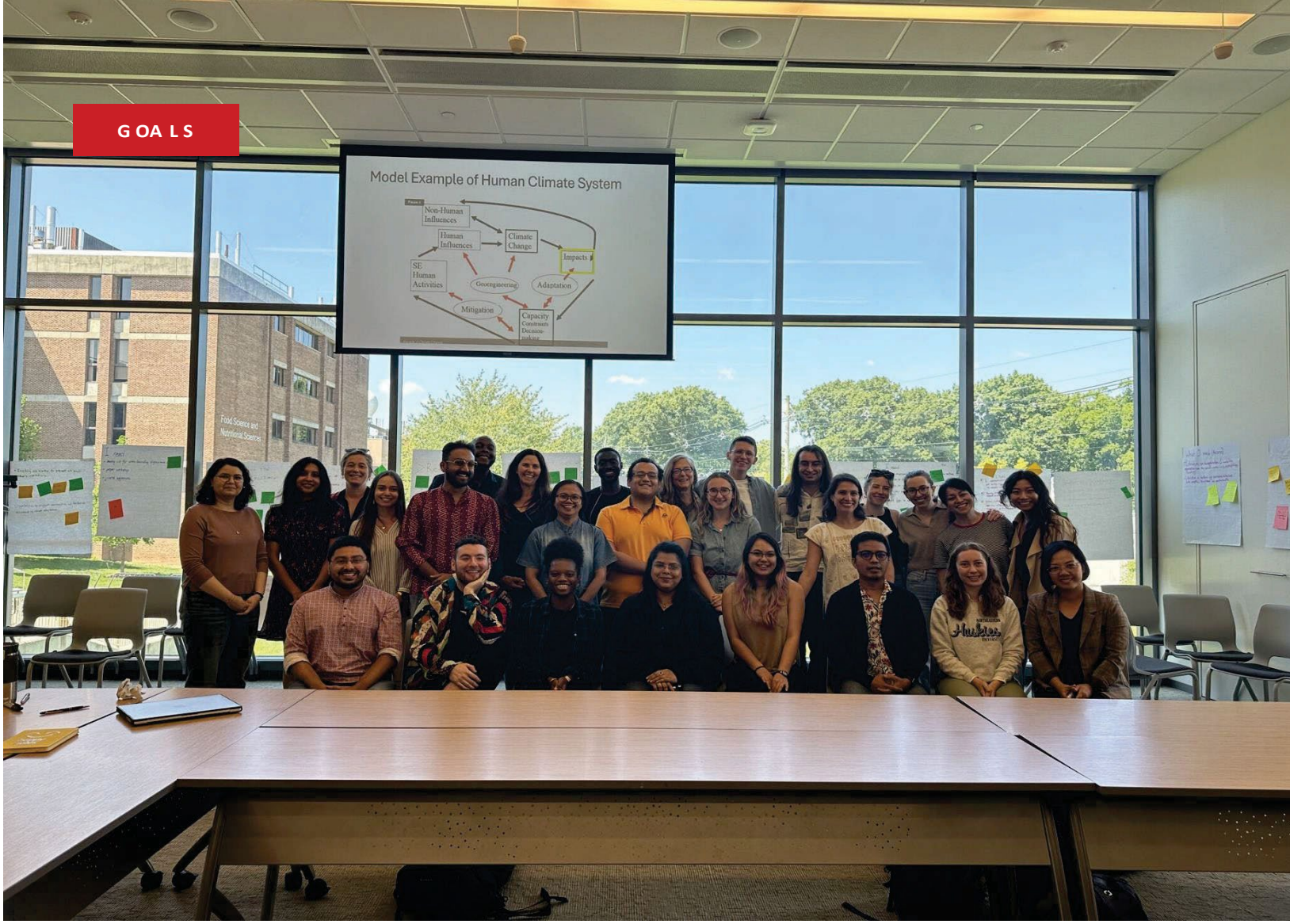
Strategies:

- Currently hiring for a tenure track sustainability governance assistant professor position.
- Hire an additional tenure track assistant professor to strengthen the social science of human health and well-being dimensions of sustainability governance and policy focus area.
- Hire an additional tenure track assistant professor to strength the social sciences of human health dimensions of the safe, healthy, sustainable food security cluster area.
- Hire an additional tenure track assistant professor of applied ethics in the area of food, health, or environment to improve the explicit inclusion of research on ethical dimensions of key focus areas and training of faculty and students in these areas
- Utilize departmental seminar series to bring in speakers in key focus areas with upcoming grants and invite potential research partners to seminars and focused discussions following
- Leverage institute resources to gain seed grants, build networks, and help with grant writing
- Continue to refine and improve processes with departmental staff for more efficient grant administration, hiring, and reimbursements.
- Continue to advocate for improvements in processes outside department such as central grants administration and Institutional Review Board that lower transaction time and resource costs.

OBJECTIVE: Increase research departmental grant funding and success

Strategies:

- Leverage SEBS, central, and institute grant resources to help identify relevant grants with lead time in key focus areas
- Hold departmental discussions on strategic choices for grants agencies, foundations, and programs (size, partners, overhead, mission) to pursue and peer mentoring in increasing grant writing effectiveness
- Support junior faculty in grant-writing via mentoring and training on logistics like budgeting, etc.



Drs. McElwee and Shwom led the first ever Summer School in Sustainability Governance in partnership with the Rutgers Climate and Energy Institute. Twenty-nine early-stage researchers from 20 institutions across the US, Canada, Brazil, the Netherlands, and the UK convened at Rutgers in August 2024 to learn about governance issues, strengthen research capacities across a range of skills, and build a cohort of like-minded scholars.

GOAL THREE:

Expand the number and diversity of students who are prepared to take on grand challenges in sustainability

The Department of Human Ecology prides itself on taking student education seriously and implementing innovative teaching approaches with cutting edge knowledge and skills. While technological solutions are a piece of sustainability, improving sustainability is as much a sociopolitical transformation as anything else. The work force needed to implement sustainable environmental solutions should be trained in a range of governance and policy tools, systems thinking, the ability to understand the conceptualization and measurement of the range of factors to be considered, the ability to communicate across diverse expertise and perspectives, and the creativity to problem solve. Students from all walks of life are needed to bring their unique experience to the learning program and advance solutions in their home communities and beyond.

OBJECTIVE: Strengthen and revise the undergraduate Environmental Policy Institutions and Behavior major curriculum to an undergraduate Sustainability Policy major that has an emphasis on experiential learning and skills

Strategies:

- Strengthen and revise the undergraduate Environmental Policy Institutions and Behavior major curriculum to an undergraduate Sustainability Policy major that has an emphasis on experiential learning and skills
- Revise major curriculum to 1) align with key competencies in sustainability advanced by emerging accreditation efforts for sustainability programs in higher education 2) better align with current faculty expertise and 3) develop key experiential learning opportunities in governance in international and community institutions

OBJECTIVE: Implement new Agribusiness and Food Systems major as equal partner with Department of Agriculture Food Resource and Economics

Strategies:

- Participate in meetings and retreat with DAFRE to ensure the creation and delivery of a major that brings students an integration of economics and governance of food systems approach to the major
- Align current class offerings on social science aspects of food production and consumption systems for major
- Hire non-tenure track teaching professor to teach social science aspects of food production and consumption systems for major and food systems governance that are not taught by current faculty

OBJECTIVE: Improve undergraduate student employment opportunities and outcomes

- Track student alumni and job placements each year using exit survey but also with frequent follow-ups
- Continue utilizing capstone class for developing job seeking skills like resumes, cover letters, and interviews
- Grow alumnae networks through continuing to write alumni highlights and place on website, invite local alumna to student events, and utilize list-serve or other mechanism to connect current undergraduates with graduates

OBJECTIVE: Assess the opportunities for graduate education for the department.

Strategies:

- Assess potential to grow or transform graduate certificate for human dimensions of environmental change
- Assess feasibility of a Masters and/or 4 plus one for sustainability policy.
    - Identify departmental strengths that match to a graduate program and what program offerings make sense
    - Discuss potential masters degree program with administrative stakeholders and potential partners
    - Undertake investigation of programs that would be competition
    - Focus group with potential students and employers
    - Decide by end of fall 2026, if Department will pursue development of graduate degree and what it would be

OBJECTIVE: Improve broader student educational attainment in the sustainability sciences for non-majors across the University

Strategies:

- Grow and promote the idea of a high profile sustainability umbrella that promotes all environmental majors and minors at Rutgers
- Grow and connect our sustainability minor including connecting with engineering and business schools more along with working to get sustainability minor approved for School of Arts and Sciences as a minor
- Assess opportunities to grow science communication minor or changed into a format that more students can take advantage of science communication training (i.e. microbadging).