

**AGENDA**  
**CELS FACULTY AND PROFESSIONAL STAFF MEETING**

Wednesday, February 27, 2019

CBLS 100

3:00PM

- 1) ***Call to Order*** (Dean Kirby)
- 2) ***Approval of the Minutes*** of the December 12, 2018 CELS Faculty and Professional Staff Meeting (Dean Kirby)
  - Text available at: <http://web.uri.edu/celsgov/meetings-minutes/>
- 3) ***Announcements*** (Dean Kirby)
  - a. Call for participation in nominating colleagues & students for University-wide awards
  - b. Other announcements
- 4) ***Reports of Standing Committees***
  - a. Curriculum Committee (Prof. Rebecca Brown)
  - b. Research Committee (Prof. Howlett)
  - c. Extension and Outreach Committee (Assoc. Dean Sheely)
  - d. Space Committee (Assoc. Dean Thornber)
  - e. Commencement Committee (Prof. Trandafir)
  - f. Bylaws and Review Committee (Prof. Katherine Petersson)
  - g. Diversity Committee (Prof. Jannelle Couret)
  - h. Scholastic Standing Committee (Associate Dean Veeger & Kim Anderson)
- 5) ***Old Business***
- 6) ***New Business***
  - a. Draft CELS Strategic Plan (For discussion led by Faculty Secretary Rice)  
*Introduced as Seconded Motion from the CELS Curriculum, Research and Cooperative Extension Coordinating Committees*
- 7) ***Adjournment***

**APPENDIX 1**  
**DRAFT STRATEGIC PLAN 2018-2023**  
**COLLEGE OF THE ENVIRONMENT AND LIFE SCIENCES**

**CELS Vision Statement** We will be a national leader among colleges specializing in environmental and life sciences, environmental management, policy, and design. *Adopted 16 November 2006.*

**CELS Mission Statement** We strive for excellence in teaching, research and service. We prepare our students with the skills, knowledge and insight to address the challenges of today's world and support their development as lifelong learners. We foster collaboration among our undergraduate and graduate students, staff and faculty in experiential learning and provide opportunities for students to apply their knowledge beyond the University. We address contemporary problems through innovative, relevant and scholarly research. We extend our research based knowledge through community engagement in the tradition of our Land Grant and Sea Grant heritage and are dedicated to outreach and service to our state, national, and global community. *Adopted 16 November 2006.*

In support of the vision and mission statements of the College of the Environment and Life Sciences, elected and appointed members of the Curriculum Committee, Diversity Committee, Research Committee and Cooperative Extension and Outreach Coordinating Committees have come together to formulate a strategic plan to guide priorities for the College's three cardinal mission elements of instruction and learning, research and discovery, and engaged extension and outreach. The three mission elements are not intended to work independently of each other. Our cutting-edge research and scholarship, informs our instructional activities with students as well as contributing to the success of our extramural extension clientele. Likewise, our engagement with extramural extension clientele not only informs our research activities, to keep them timely and relevant, but our extension and outreach activities provide great opportunities for practical engagement and experiential learning to all our CELS students as well. And recognizing the complementary nature of academics, research and public engagement we cooperate and work collaboratively with faculty and staff from other URI colleges, most prominently the Graduate School of Oceanography, in the fulfillment of our mission.

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# ACADEMIC PROGRAMS

## Summary Goal Statement

The College of the Environment and Life Sciences' Academic Strategic Plan focuses on the following core elements that align with the URI academic strategic plan, leverage our strengths, and position our students for success in meeting the evolving challenges of the 21<sup>st</sup> century.

**Educational Excellence** – Innovative Curricula and Enhancing Student Success  
**Research and Discovery** – Integrating Research and Experiential Learning into the Student Experience  
**Global Perspective** – Building Global Competence  
**Diversity and Social Justice** – Fostering an Inclusive and Diverse Community of Learners  
The CELS Academic Plan aligns with the following goals of URI's Academic Strategic Plan:  
*Goal 1* – Enhance Student Success (strategies 1, 2, 3, 4 and 6)  
*Goal 2* – Expand Research, Scholarship, and Creative Work (strategies 2 and 4)  
*Goal 3* – Grow a Global Presence (strategy 3)  
*Goal 4* – Embrace Diversity and Social Justice (strategies 1, 2, and 3)

## Focus Area 1: Educational Excellence – Innovative Curricula and Enhancing Student Success

Rapid changes in knowledge, disciplinary fields, and career opportunities require graduates with a professional toolkit that allows them to adapt to the evolving needs of the workforce. CELS will be leader in offering students innovative academic and co-curricular opportunities that support academic success, develop critical thinkers, and meet the evolving needs of employers.

**Goal 1:** By 2023, CELS will enhance program excellence through innovative curriculum development and assessment.

**Sub-goal 1:** Leverage our excellence in research and extension/outreach to provide innovative academic programs at the undergraduate and graduate level, including environmental communication, biotechnology, sustainable agriculture, global environmental change, and environmental health.

**Sub-goal 2:** Implement learner-centered course design that includes evidence-based teaching methods and student metacognition based on research that demonstrates the effectiveness of these methods in improving knowledge retention and promoting deeper learning.

**Sub-goal 3:** Integrate skill-building across the curriculum, such as experimental design, data analysis, geographic information systems, remote sensing, rhetoric, communication, and data visualization.

**Sub-goal 4:** Integrate and assess learning outcomes across all levels of the curriculum.

**Sub-goal 5:** Incorporate student, alumni, and employer feedback into program assessment; review and update the core curriculum to ensure that it continues to meet the needs of program graduates.

**Sub-goal 6:** Build and strengthen formal partnerships with other academic programs and departments.

**Goal 2: By 2023, CELS will implement new programs, learning pedagogies and modes of course delivery to enhance student learning and meet the needs of a changing student body.**

**Sub-goal 1:** Develop innovative certificate, degree, and dual-degree programs to provide students with interdisciplinary and multidisciplinary opportunities that will increase the employability and success of our graduates.

**Sub-goal 2:** Support development of online courses and programs using best-practices for online education.

**Sub-goal 3:** Develop new approaches to curriculum delivery by collaborating with CCRI to create classes and programs that transfer seamlessly to CELS degree programs.

**Sub-goal 4:** Support scholarship of teaching and learning research and related professional development of faculty.

**Sub-goal 5:** Integrate learning outcomes assessments with pedagogical innovations.

**Sub-goal 6:** Increase online, summer and J-term offerings of high interest and high enrollment courses.

**Goal 3: By 2023, CELS will provide students with comprehensive academic, resource and career advising to support student achievement, increase retention and graduation rates, and prepare students for post-graduation success.**

**Sub-goal 1:** Evaluate and structure the roles of the CELS professional and faculty advisors to support student success.

**Sub-goal 2:** Evaluate CELS student progression, retention and degree completion; identify and address barriers to student success.

**Sub-goal 3:** Provide students with clear degree progress information using the e-Campus Degree Progress Report and program-specific academic maps; support student attainment of degree milestones.

**Sub-goal 4:** Support dual enrollment of undergraduates in graduate certificates and professional master's degree programs to enhance student success in the workplace.

**Sub-goal 5:** Offer co-curricular programming that supports the professional and career development goals of CELS students, including "soft/professional" skill development.

## **Focus Area 2: Research and Discovery – Integrating Research and Experiential Learning into the Student Experience**

CELS faculty address global challenges through research and outreach programs across the environmental and life sciences, environmental economics, and resource management. This breadth of expertise offers exceptional opportunities for integrating scholarly and outreach activities into the educational portfolio of our students. CELS will lead the university in offering academic programs and opportunities that integrate research, experiential learning and outreach into the student experience.

**Goal 1:** By 2023, CELS will support experiential learning opportunities for all CELS students through curricular and co-curricular programs, and provide them with the experience and confidence to successfully compete for opportunities upon graduation.

**Sub-goal 1:** Incorporate real-world problems into the curriculum, providing students with the opportunity to work in multi-disciplinary teams and apply tools taught in the classroom.

**Sub-goal 2:** Provide increased opportunities for service learning and outreach through collaborations with URI Cooperative Extension and State, Municipal and K-12 partners.

**Sub-goal 3:** Strengthen partnerships with local and global industry and state/federal partners to expand and formalize options for experiential learning including internships, research opportunities, directed study courses and capstone experiences.

**Sub-goal 4:** Provide increased opportunities for the public to engage with CELS students through course-based, co-curricular, college-wide programs.

**Sub-goal 5:** Support place-based teaching strategies that emphasize the study of local places, extra-mural experiences and a diversity of field experiences, including those available at CELS farms and research facilities, including marine facilities at the Narragansett Bay Campus.

**Sub-goal 6:** Promote career/professional development through alumni/industry engagement, the CELS URISE program, and the Center for Experiential and Career Education.

**Goal 2:** By 2023, CELS will increase opportunities for student engagement in research.

**Sub-goal 1:** Increase the number of students who engage in research experiences.

**Sub-goal 2:** Offer problem-based learning experiences that allow students to address questions of immediate concern to stakeholders in the State of Rhode Island.

**Sub-goal 3:** Offer research-based capstone experiences as an option for students to meet their integrative general education outcome requirement.

**Sub-goal 4:** Secure funding to increase the number of research fellowships offered through the CELS fellowship programs (e.g. Coastal & Environmental, Science & Engineering, and Energy).

**Sub-goal 5:** Provide opportunities for students to present research at local and regional symposiums, providing exposure, experience and networking opportunities.

**Goal 3:** By 2023, CELS will foster interdisciplinary knowledge and build greater connections across disciplines and academic units.

**Sub-goal 1:** Streamline CELS undergraduate majors through program revisions to improve time to completion and facilitate the ability of students to complete relevant double majors and minors.

**Sub-goal 2:** Develop interdisciplinary majors that allow students to combine training in existing areas of strength and select from a broad range of courses across campus.

**Sub-goal 3:** Solidify collaborations with other URI programs to provide relevant interdisciplinary courses and experiential learning opportunities to students (e.g. Entrepreneurship in Food Systems, Agribusiness with College of Business; One Health with the Health Collaborative; Food Security and Equity with College of Arts & Sciences; Marine Sciences with the Graduate School of Oceanography).

### Focus Area 3: Global Perspective – Building Global Competence

Global competence develops through opportunities to engage in issues of global importance and through interaction with a diverse community of fellow learners and scholars. CELS is well-positioned to support this focus area through our international research and outreach activities, our growing portfolio of faculty-led study abroad courses, and our increasing diverse faculty and student body.

**Goal:** By 2023, CELS will prepare students to engage in international education, research and outreach collaborations and to be successful global citizens.

**Sub-goal 1:** Incorporate the international outreach and research activities of CELS faculty and staff into the undergraduate and graduate curricula.

**Sub-goal 2:** Increase opportunities for international study through J-term courses.

**Sub-goal 3:** Strengthen existing international programs and seek out new collaborations with institutions outside of the US for educational exchange, course articulation, graduate student recruitment and dual degree opportunities.

**Sub-goal 4:** Develop additional international partnerships in the sustainable management of fisheries and aquaculture resources, resources economics, and water resources to attract additional international students to our graduate programs.

**Sub-goal 5:** Development online certificates that allow qualified international students to begin their education online before completing their graduate degree on-campus.

### Focus Area 4: Diversity and Social Justice – Fostering an Inclusive and Diverse Community of Learners

CELS is an inclusive community that embraces diversity in all its forms and recognizes that diversity of thought and experience contributes to our excellence.

**Goal 1:** CELS will create an active learning community among students, faculty, and staff that supports diversity, inclusion and success.

**Sub-goal 1:** Foster the cultural competency of students, staff and faculty and work to more fully understand how issues related to multiculturalism and social justice affect us, our students, and the classrooms we share.

**Sub-goal 2:** Develop faculty expertise in inclusive teaching pedagogies, and support and reward curriculum revisions that implement best practices in inclusive teaching.

**Sub-goal 3:** Support the academic and social needs of our students through CELS Academic & Student Affairs Office and our student programming (e.g the CELS leadership program, URISE; the Seeds of Success student organization SOS; and the freshman Living & Learning Community).

Goal 2: CELS will recruit and support a diverse community of students, faculty and staff.

**Sub-goal 1:** Recruit a more diverse faculty and staff to reflect and support our student body.

**Sub-goal 2:** Evaluate new faculty hires through the lens of multicultural and inclusive teaching and research.

**Sub-goal 3:** Increase recruitment of undergraduate and graduate students with a diversity of backgrounds.

## RESEARCH

### Summary Goal Statement

By 2023, CELS research will be at the forefront of the state and nation's efforts to solve the most pressing environmental and life sciences challenges using innovative, inclusive, and multidisciplinary team science approaches.

The four strategic focus areas for growth over the next five years include:

***Local to Global Environmental ChangeAgriculture and Food SystemsHuman and Environmental HealthMulti-scale Science: From Genomes to Ecosystems, Microbes to Humans***

The CELS research community is vibrant and incorporates faculty, research professionals, and graduate and undergraduate students in the natural and social sciences. Numerous interdisciplinary partnerships both within and beyond CELS have arisen from the coupling of natural-human systems, and there is a recognition of the importance of incorporating social sciences research into the natural sciences, and vice versa. Our research strengths and collaborations span the globe, and much of our research is directly linked to URI's Land Grant and Sea Grant missions, including, respectively, the Agricultural Experiment Station and Cooperative Extension, and coastal and marine research.

The CELS Research Strategic Plan directly aligns with URI's Academic Strategic Plan, including three of the four core goals identified therein:

Goal 2 – Expand Research, Scholarship, and Creative Work (strategy 1)

Goal 3 – Grow a Global Presence

Goal 4 – Embrace Diversity and Social Justice (strategy 2)

The four interwoven strategic focus areas encompass multiple departments, and showcase our collective strengths in environmental and life sciences. Central tenets of all four focus areas include:

- The application of big data, bioinformatics, and machine learning methods throughout the natural and social sciences.
- Awareness that many societal problems addressed by research in the college are inherently interdisciplinary, requiring the perspectives of social, biological, and physical scientists.
- The enhancement of effective scientific communication skills as they apply to inclusive public and academic spheres.
- Recognition of the importance of diversity in academic background, training, and experience to efforts to solve complex problems.

All focus areas utilize one or more of CELS' and URI's collective resources, including but not limited to the: Animal Care Facilities; Coastal Institute; Coastal Resources Center; Commercial Fisheries Center; Diving Program; East Farm; Environmental Data Center; Food Safety Education Program; Gardner Crops Station (Agronomy); High-Performance Computing Research Facility; Metcalf Institute for Marine and Environmental Reporting; Peckham Farm; RI Genomics and Sequencing Center; RI-INBRE Centralized Research Core Facility; and the Marine Life Sciences and Seawater Facilities at the Narragansett Bay Campus.

## Focus Area 1: Local to Global Environmental Change

Environmental change caused by increasing populations, rapid development and resource depletion, and a warming climate present significant challenges to natural systems and the societies that rely on them at global and local scales. Global models predict with high confidence that climate will continue to warm over the coming centuries, even if greenhouse gas emissions are stabilized at current levels. As the flagship research university of the Ocean State, we are uniquely positioned to monitor and predict these local and global changes, as many of them impact our nearshore and marine habitats. Our geospatially-explicit research enables communities to both better understand and cope with changing hazards in the face of sea-level rise, stronger coastal storms, increasing water temperatures, impacts to water quality and availability, ocean acidification, changing disease patterns, invasive species, and biological invasions, among many other challenges. We are also focused on mitigating global environmental change by understanding the social and biological consequences of transitioning to renewable energy technologies. A particular strength of the CELS community is the dynamic interplay between natural and social scientists utilizing both quantitative and qualitative information and analysis.

**Goal:** By 2023, CELS researchers will have increased our ability to respond and adapt to local, regional and global environmental changes.

**Sub-goal 1:** Understand how environmental change may alter the biology and ecology of coastal, freshwater, marine and terrestrial species and habitats on local through global scales.

**Sub-goal 2:** Improve our understanding of human-natural systems (including coastal, freshwater, marine, and terrestrial), how they are coupled, and how to enhance their resilience to environmental change.

**Sub-goal 3:** Expand our knowledge of the ecology of disease and biological invasions, and how global change will impact the prevalence and spread of disease.

**Sub-goal 4:** Understand how the linkages between hydrology, energy, food, and policy can impact our environment and society.

**Sub-goal 5:** Facilitate transitions to renewable energy technologies by better understanding their impacts on both humans and the environment.

## Focus Area 2: Agriculture and Food Systems

CELS researchers take a systems-based, interdisciplinary approach to the biological and environmental sciences as applied to agriculture, aquaculture, fisheries, food policy and economics, food safety, and food innovation. Our diverse group of faculty use a broad array of approaches to help achieve economically, socially, and ecologically sustainable production, management, consumption, and utilization of plants and animals for the development of healthy communities across a global scale. CELS is also uniquely positioned to analyze the social

dynamics of food systems at local to global scales, with a broad range of expertise in markets and policy at various scales, consumer preferences, and the management of conflicts related to land, coastal, and offshore food production.

**Goal:** By 2023, CELS researchers will have increased our ability, on local, regional and global levels, to sustainably grow, harvest, market, and consume food from both land- and water- based species.

**Sub-goal 1:** Create innovative approaches within the food system for local, national, and global sustainable agriculture, aquaculture, fisheries, and food processing and innovation.

**Sub-goal 2:** Understand how natural products and live microbial supplements can be used to mitigate disease outbreaks and contribute to healthy internal and external environments.

**Sub-goal 3:** Enhance our understanding and communication of the global benefits and potential impacts of genetic approaches to agriculture and aquaculture, including genomically-informed selective breeding, gene editing and other forms of genetic modification.

**Sub-goal 4:** Maximize the capacity of managed environments to provide ecosystem services, such as nutrient management, water quality, and habitat.

### Focus Area 3: Human and Environmental Health

Environmental Health is broadly defined as the study of how the environment influences human, animal, and plant health. A greater understanding of the science underlying how our environment impacts health will enable us to design safer and greener products and curb the rise of diseases associated with environmental and occupational exposures. CELS has considerable expertise and potential for growth in the broad areas of Human and Environmental Health. We are committed to devising innovative and interdisciplinary team-based approaches to address health challenges arising at the intersection of humans, animals, and the environment. CELS faculty are actively studying the molecular basis of infectious and noninfectious human, animal, and plant diseases, mechanisms of antibiotic resistance, and the design of new vaccines and probiotics. We are also investigating the distribution, and impacts of, health challenges across communities.

**Goal:** By 2023, CELS researchers will have increased our ability to recognize and manage emergent human and environmental health challenges.

**Sub-goal 1:** Create interdisciplinary teams of researchers with the capacity to understand the underlying biological and social mechanisms that contribute to human, animal, and plant health threats.

**Sub-goal 2:** Develop innovative strategies to prophylactically mitigate the threats posed by new and/or resurgent infectious diseases through the development of new vaccines and probiotics.

**Sub-goal 3:** Harness the power of big data and bioinformatics to implement improved diagnostic, preventative, and therapeutic approaches to human and environmental health challenges.

**Sub-goal 4:** Understand and address the distribution and impacts of human and environmental health challenges across communities, which have implications for social sustainability.

## Focus Area 4: Multi-scale Science: From Genomes to Ecosystems, Microbes to Humans

An understanding of biodiversity at all levels is critical to our ability to productively, responsibly and sustainably interact with our natural world. In addition to our appreciation and fundamental understanding of the natural world, the preservation of biodiversity is essential for providing key ecosystem services upon which we rely. CELS researchers study the evolutionary and ecological dynamics of biodiversity from microbes to humans, and from genomes through organisms and populations to ecosystems. We have particular strengths in marine and freshwater research, given our proximity to Narragansett Bay and Rhode Island Sound and their watersheds. While recognizing our traditional strengths in organismal research, our growing strengths in genomics and bioinformatics are enhancing our understanding of biodiversity and enabling the prediction of species' responses to an ever-changing planet in freshwater, marine and terrestrial ecosystems. CELS faculty and students work in interdisciplinary, collaborative research teams, frequently across URI Colleges. We study how our foundational knowledge of biology at scales from genes to ecosystems can be used to develop effective land management plans, coastal and marine policy, a green economy, and a healthy and sustainable global ecosystem.

**Goal:** By 2023, CELS researchers will have increased our understanding of (a) biodiversity at multiple scales from genomes to ecosystems, and (b) how the evolution and ecology of organisms within given ecosystems, from microbes to humans, affects environmental and ecosystem health.

**Sub-goal 1:** Promote interdisciplinary and collaborative research that integrates multiple levels of scientific inquiry (from genomes to ecosystems to social systems) and co-produces knowledge to ensure a sustainable planet.

**Sub-goal 2:** Utilize big data and bioinformatics approaches to enhance our understanding of biological and functional diversity, from microbial systems to ecosystems and large landscapes.

**Sub-goal 3:** Understand the fundamental biological properties of genes and proteins, cells, organs and organ systems, organisms, populations, communities, and ecosystems, as well as their collective responses to environmental change.

**Sub-goal 4:** By working with stakeholders, collaboratively develop solutions to restore and protect biodiversity and the ecosystems that support our planet.

**Sub-goal 5:** Understand how the coupling between human and natural systems can enhance and preserve biodiversity, enhance resilience, improve the management of aquaculture, fisheries, and wildlife populations and habitats, and promote a vibrant, sustainable environment.

# COOPERATIVE EXTENSION AND PUBLIC OUTREACH

## Summary Goal Statement

The extension and public outreach strategic plan focuses on the following core elements that align with the URI academic strategic plan, leverage our strengths, and position our students and extramural clientele from Rhode Island, the nation, and abroad for success in meeting the evolving challenges of the 21<sup>st</sup> century.

***Food Systems and Agriculture; Healthy Lifestyles; Land Stewardship; Water Resources; Energy Literacy*** Most of these core elements are derived from an extensive strategic planning process undertaken by Rhode Island Cooperative Extension in 2017 (See:[https://web.uri.edu/coopext/files/Coop\\_Extension\\_Strategic\\_Plan\\_2018.pdf](https://web.uri.edu/coopext/files/Coop_Extension_Strategic_Plan_2018.pdf)). In addition to addressing the goals described below, we will seek to design and implement programs to achieve social and environmental justice, promote resilience to climate change, advance quality of life for Rhode Islanders, develop our state's workforce and state leaders, build resilient economies, and ensure sustainable ecosystems.

The CELS Extension and Public Outreach Strategic goals align with the following goals of URI's Academic Strategic Plan:

- Goal 2 - Expand Research, Scholarship, and Creative Work (strategies 1, 2, 3, 4 and 5)
- Goal 3 – Grow a Global Presence (strategies 1 and 4)
- Goal 4 – Embrace Diversity and Social Justice (strategies 1 and 2)

**Focus Area 1: Food Systems and Agriculture** Demand for locally produced food has grown in recent years due to consumers' interest in where and how their food is grown and raised. URI Cooperative Extension programs support the production of safe, abundant food by providing training and assistance to Rhode Island food producers, processors, and entrepreneurs. In addition, URI Cooperative Extension introduces young people to sustainable agriculture to raise awareness of its importance to human well-being.

**Goal:** By 2023, URI Cooperative Extension will have strengthened Rhode Island's food and agricultural systems by increasing Rhode Islanders' capacity to grow, process, and provide safe and nutritious food, and to better manage wild fisheries in Rhode Island and abroad.

**Sub-goal 1:** Increase the capacity of Rhode Island producers to adopt innovative techniques for agriculture and aquaculture to achieve commercial viability and environmental sustainability.

**Sub-goal 2:** Increase the capacity of Rhode Island food producers, processors, and service sectors to improve food safety practices and to meet federal and state regulatory expectations.

**Sub-goal 3:** Educate Rhode Island's youth population and consumers about food production, safe food handling, gardening, and ecosystem value.

**Sub-goal 4:** In cooperation with the Coastal Resources Center at the Graduate School of Oceanography, we will engage with fisheries management officials and extension professionals internationally to develop more robust fisheries management protocols.

**Focus Area 2: Healthy Lifestyles** URI Cooperative Extension's efforts to promote healthy lifestyles for Rhode Islanders are focused on reducing obesity, improving the well-being of our state's youth population, and preventing Lyme disease. Half the state's adults are projected to be obese by 2030, and currently, one-third of Rhode Island's youth population is overweight or obese. In addition, young people often experience poor self-image, emotional trauma, peer pressure and exposure to unhealthy situations. Lyme disease, which affects Rhode Islanders at more than eight times the national average, is another health challenge for the state. Cooperative Extension addresses these challenges by encouraging children and adults to adopt healthy behaviors.

**Goal:** By 2023, URI Cooperative Extension will have strengthened the ability of Rhode Islanders to take actions that promote healthy lifestyles and result in improved nutrition and physical activity, reduced risk of vector-borne diseases, and improved physical, social, and emotional health.

**Sub-goal 1:** Contribute to reduction of obesity-related disease in Rhode Island by teaching behavior-change techniques that increase intake of nutrient-dense foods and increase physical activity.

**Sub-goal 2:** Increase tick literacy among Rhode Island residents to promote behaviors for disease prevention using education and technical assistance programs targeted especially to community members of high-risk towns, outdoor workers, health professionals, children, and pest managers.

**Sub-goal 3:** Improve the physical, social, and emotional well-being of Rhode Island's youth population by expanding activities, events, and educational experiences related to healthy living, especially those supporting the 4-H Healthy Living mission mandate.

**Focus Area 3: Land Stewardship** Land use decisions made by private landowners, towns, and the state collectively affect water quality and quantity, ecosystem health, economic vitality, and quality of life. Many Rhode Island residents have become disconnected from the land and the current challenges we face in an urbanized state. Cooperative Extension communicates and demonstrates best management practices to agricultural producers, land managers, property owners, and others to support active stewardship of Rhode Island's land resources.

**Goal:** By 2023, URI Cooperative Extension will have provided leadership, information and guidance on the stewardship of land including urban, suburban, rural, and coastal

landscapes to achieve ecosystem resilience, water resource protection, forest management, and economic and agricultural viability.

**Sub-goal 1:** Increase implementation of best management practices to support sustainable agriculture and forestry by developing and delivering demonstration programs on URI farms and properties.

**Sub-goal 2:** Increase the capacity of public and private landowners and conservation organizations to apply best stewardship practices to achieve coastal resilience, ecosystem resilience, and increased use of effective green infrastructure.

**Sub-goal 3:** Ensure ready access to essential geospatial information for decision makers and landowners to support resource management decisions.

**Sub-goal 4:** Increase public awareness of how land-use decision-making affects economic viability, quality of life, environmental health, and food security

**Sub-goal 5:** Increase the capacity of urban planners to improve urban, farm, park, and open space development by addressing climate change and native wildlife enhancement.

**Focus Area 4: Water Resources** Water resources are valued for drinking, irrigation, recreation, shell fishing, fishing, and aquaculture. In a densely developed state like Rhode Island, careful management is needed to protect and restore our waters. Cooperative Extension contributes to protection of water quality by monitoring watersheds and by providing educational programs in storm water management, private well water protection, and on-site wastewater treatment systems. Recognition of URI's expertise in aquaculture and water resources has led to international extension opportunities, which are expected to become part of Cooperative Extension's portfolio over the next five years.

**Goal:** By 2023, URI Cooperative Extension will have expanded the capacity of Rhode Islanders to assess water resources and apply management practices to restore and protect water resources.

**Sub-goal 1:** Increase the capacity of citizen groups, the public, and private sector groups to understand, use, and contribute to the assessment of the status and trends of watersheds, streams, rivers, lakes, ponds, reservoirs and estuaries.

**Sub-goal 2:** Increase the capacity of public and private sector groups to implement storm water controls and green infrastructure practices to reduce risk of flooding and improve water quality.

**Sub-goal 3:** Work with local officials, public water suppliers, households with private wells, and real estate, lending and mortgage professionals to build their capacity to protect drinking water.

**Sub-goal 4:** Work with state, federal, and international partners to increase targeted implementation of best management practices for agricultural, aquacultural, forestry, and other related industries to enhance water resources while sustaining economic vitality and ecosystem services.

**Sub-goal 5:** Enhance the capacity of the private sector to upgrade onsite wastewater treatment systems for water quality improvement and resiliency to climate variability.

**Focus Area 5: Energy Literacy** In accordance with the Resilient Rhode Island Act of 2014, URI will help Rhode Island meet statutory goals for reduction of greenhouse gas emissions. Energy use and energy production are major sources of emissions that need to be reduced. For effective action, communities and individuals must be informed about best practices related to energy consumption and innovations in energy production and distribution. Cooperative Extension offers education and training in energy literacy to the public while providing specialized training to students for future employment in the energy sector.

**Goal:** By 2023, URI Cooperative Extension will have strengthened the capacity of Rhode Islanders to face current and future energy challenges related to sustainable energy consumption and production.

**Sub-goal 1:** Increase Rhode Islanders' awareness of contemporary energy challenges and bring about behavior change by promoting best practices that increase sustainable energy consumption and production. **Sub-goal 2:** Strengthen Rhode Island's growing energy sector by providing workforce development to undergraduate and graduate students through the URI Energy Fellows Program.