



## The President's Roundtable

**The University of Maine as a Flagship University:  
Role, Relevance and Requirements**

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# The President's Roundtable

## The University of Maine as a Flagship University: Role, Relevance and Requirements

### Introduction and Overview

“As America pursues economic growth and other national goals, its research universities have emerged as a major national asset — perhaps even its most potent one.”

Research Universities and the Future of America  
National Academy of Sciences, 2012

In fall 2012, University of Maine President Paul Ferguson convened the President's Roundtable as a venue for a small group of faculty from across the disciplines to focus their intellectual capital and academic experience on describing the role of the University of Maine as the Flagship campus in the University of Maine System, and to consider how the Blue Sky Project — UMaine's Strategic Plan — can optimize the impact of UMaine within the System and throughout the state.

This first Roundtable agreed that a timely and relevant charge would be to determine the role, relevance and requirements of the University of Maine in serving as Maine's Flagship University. This topic is salient to (1) the challenge of declining state appropriations to higher education in the face of rising student tuition, (2) tangible uncertainties about the public's understanding of the good produced by the public research university, and (3) the need for the University of Maine to adapt its nationally recognized teaching, research and outreach functions in response to a changing landscape within the University of Maine System.

The Roundtable group scheduled discussions to address the following major themes in the 2012–13 academic year: (1) The Evolving Context for Flagship Universities: National and State Perspectives and the Impact on the University of Maine, (2) Defining and Supporting Programs and Centers of Research Excellence at UMaine, (3) Defining and Supporting Teaching and Learning Excellence, Including Student and Academic Program Quality at UMaine, and (4) Establishing UMaine Priorities for Community Engagement to Lead Maine's Economic and Cultural Development Needs. These major themes are developed in the four chapters of this report.

## Chapter 1

# The Evolving Context for Flagship Universities: National and State Perspectives and the Impact on the University of Maine

### Flagship Defined

**A**cross the national landscape of higher education, there is much discussion about the role, scope and mission of the “Flagship University.” Without question, the emergence of greater numbers of colleges and universities in a given state, the creation of public university systems and the rising cost of higher education have all contributed to the public’s uncertainty as to what a flagship campus is and what its role should be in addressing the needs of a state’s citizens.

Although the term “flagship” has historically been found in naval definitions of the largest and best equipped ship in the fleet, the term has been metaphorically used in a variety of professions and services to mean the largest or leading member of a group. In higher education, the flagship campus has traditionally been associated with a number of qualities, including being the largest, the first established and oldest; offering the most comprehensive academic degree programs; being the primary site of professional, doctoral and research programs; and featuring the widest array of public outreach services.

### The Future and Value of Flagship Universities

In his convocation speech at Texas A&M University in October 1998, Dr. Robert M. Berdahl, then Chancellor of the University of California, Berkeley, spoke eloquently on “The Future of Flagship Universities.” Dr. Berdahl has enjoyed a distinguished career in academia and has led some

of the finest flagship universities in America, including the University of Texas (1993–97), the University of California, Berkeley (1997–2004), and the University of Oregon (2011–12). He also served as President of the Association of American Universities from 2006–11.

In his comments, Dr. Berdahl provided an important historical perspective, precisely captured the continuing and vital importance of flagship universities, and clearly defined the continuing challenges of ensuring their success. In describing the development of flagship universities, Dr. Berdahl noted that:

... it was always clear that the one or two institutions that were the original land-grant or public universities in the states were the flagships — the leaders — even though they may not have been referred to as such. They became the centers for research and graduate education and they developed an array of professional schools that added to their size, scope, and pre-eminence.

The term “flagship” universities came to be associated with these institutions primarily after the Second World War, largely in the 1960s, when the country underwent its second enormous expansion of higher education. During this period two things happened. First, in many states, branch campuses of the primary universities were established in the cities. Second, during the 1960s, various institutions were grouped together into “systems.”

## The Evolving Context for Flagship Universities

Dr. Berdahl proposed four major principles to guide the function of flagships:

- It is important to provide broad, virtually universal access to post-secondary education.
- It is essential to differentiate clearly the missions of the various institutions, with the recognition that each type of institution is essential, though different.
- Research universities cost considerably more and therefore need a different funding base and student-teacher ratio.
- States can only afford a very limited number of research universities; not every institution that wants to be one can be and not every region that wants to have a research university can have one.

Dr. Berdahl ended his remarks with a strong endorsement of the success of flagship universities, some advice to improve them and a caution to preserve them.

Any successful plan requires a clear understanding of what it takes to build excellence. There must be a recognition that flagship campuses cost more than other kinds of institutions. To build a flagship campus, you must have faculty who are internationally recognized and competitive. That requires substantial salary differentials, and salary differentials that are not merely made possible by the herding of undergraduates into large classes with graduate instructors. It requires student-teacher ratios that are comparable to those at the best universities in the country — and that costs money. Research universities cost a great deal of money. They also take a long time to build. When John D. Rockefeller first considered building the University of Chicago, he visited President Eliot at Harvard to ask what was required to build a great university. Eliot replied, “Fifty million dollars and two hundred years.” The amount of money has grown considerably, and the amount of time has shrunk.

No state can afford to build many flagship universities. They cannot be built quickly. They cannot be built by faculty who do not meet the highest standards of scholarly research. They cannot easily be built from institutions that have historically not been involved in much research or graduate education. Once built, they can be easily destroyed by political intrusion or financial neglect.

But flagship universities are vital to our future. Unless the state recognizes and supports excellence, excellence will not develop and we will all be the poorer for it.

## The University of Maine as Flagship of the University of Maine System

**History of the University of Maine.** The University of Maine was established as the Maine College of Agriculture and the Mechanic Arts under the provisions of the Morrill Act, approved by President Abraham Lincoln in 1862 (in 1897, the name was changed to the University of Maine). The institution opened on September 21, 1868 with 12 students and two faculty members. By 1871, curricula had been organized in Agriculture, Civil Engineering, Mechanical Engineering and electives. From these courses of study, there gradually developed the Colleges of Life Sciences and Agriculture (later to include the School of Forest Resources and the School of Human Development), Engineering and Science, and Arts and Sciences. The School of Education was established in 1930 and received college status in 1958. The School of Business Administration was formed in 1958 and was granted college status in 1965. Women have been admitted into all curricula since 1872. The Maine Agricultural and Forest Experiment Station was founded as a division of the University in 1887. In 1912, University of Maine Cooperative Extension, which offers field educational programs for both adults and youths, was initiated. The first master’s degree was conferred in 1881; the first doctoral degree in 1960. Since 1923, there has been a separate graduate school.

**Current University of Maine Mission and Scope.** Internationally recognized research, scholarship and creative activity distinguish the University of Maine as the state’s flagship university, where faculty and students contribute knowledge to matters of local, national and international significance. Within the role as the state’s primary doctoral-granting institution, research and education at UMaine are inextricably linked. Comprehensive outreach — including public service, Cooperative Extension, continuing education and distance learning — engages learners

of all ages in improving their lives and communities. Using research-based knowledge, outreach efforts promote sustainable use of Maine's abundant natural resources and build intellectual, cultural and economic capacity throughout Maine and beyond. In fall 2012, 10,901 students (81% undergraduates and 19% graduate students) were enrolled at the University of Maine in the College of Liberal Arts and Sciences (26% of enrolled students), College of Natural Sciences, Forestry, and Agriculture (23%), College of Education and Human Development (17%), College of Engineering (14%), Division of Lifelong Learning (10%), and the Maine Business School (7%). Through integrated teaching, research and outreach, the University of Maine improves the quality of life for people in Maine and around the world, and promotes responsible stewardship of human, natural and financial resources.

**The University of Maine System.** The University of Maine System (UMS) consists of seven distinct universities (in Fort Kent, Presque Isle, Augusta, Southern Maine, Machias, Farmington and Orono) and eight University College regional outreach centers. Though each university has a distinct mission, they share two overarching goals: (1) to provide high-quality, accessible and affordable learning opportunities, and (2) to undertake and share creativity, innovation and outreach to improve Maine's economy and quality of life. Established in 1968, the University of Maine System today offers a variety of academic settings, each with its own style and attitude, each with its own strengths and ways of learning. In addition to the campuses of the seven universities and eight outreach centers, 31 instructional sites deliver distance education programs to students in remote locations across the state.

**As the Flagship Campus.** As the Flagship campus of the University of Maine System, the University of Maine annually awards the most degrees (40% of the total), enrolls the most students (40% of the total FTE), has the largest annual budget (47% of the total), and has the largest grant and contract expenditures (85% of the total) within UMS. In this role, UMaine takes seriously its responsibility to lead by example with the clear charge to align our resources with the state's needs and to: (1) educate more people and make sure they have the skills necessary to meet the labor resource needs of Maine's businesses, (2) drive innovation to support entrepreneurship, and

serve the public and support business through regional economic development efforts that help them thrive in the global economy, (3) expand the role of community and cultural centers to enhance the quality of life in Maine, and (4) promote an engaged and insightful citizenry.

## Future Challenges for the University of Maine as the Flagship

To preserve the tradition, legacy and impact of its flagship status, the University of Maine must effectively navigate some troubled fiscal waters ahead. In accord with the University of Maine's strategic Blue Sky Pathways, several areas of challenge must be addressed as we work to realize our UMaine Flagship Agenda:

### Pathway 1. Serving Our State: Catalyzing Maine's Revitalization

- Recapturing the public's understanding and appreciation of the role and impact of UMaine R&D in the state's economic development success.
- Better defining the role of "use-inspired" research to serve Maine.
- Defining and optimizing community engagement strategies and programs to serve Maine's economic and cultural needs.
- Fully exploring and developing the leadership/mentoring role as Flagship among the UMS institutions, broadening the impact in serving the educational and economic needs of Maine.

### Pathway 2. Securing Our Future: Ensuring Financial Sustainability

- Recapturing state and System leadership's understanding and appreciation of the funding needs for the Flagship's broad and unique enterprise.
- Continuing to define and request appropriate funding to support the unique Flagship mission, as justified by accurate and equitable metrics.
- Maximizing new sources of revenue in the face of limited state appropriations.
- Defining new budget models to pursue added fiscal efficiencies.

### **Pathway 3. Embracing a Culture of Excellence: Promoting Spirit, Community and Collaboration**

- Developing new faculty and staff incentives to reward excellence and innovation consistent with a Flagship campus.

### **Pathway 4. Transforming Lives: Strengthening the Undergraduate and Graduate Experience**

- Clearly defining expectations and qualities of academic excellence commensurate with the Flagship campus.
- Ensuring strong commitment for teaching excellence at both the undergraduate and graduate levels commensurate with the Flagship campus as a world-class research institution.

### **Pathway 5. Restoring the Dream: Renewing Pride and Stewardship of Place**

- Continually assessing, prioritizing and improving infrastructure needs for both the classroom and laboratory to ensure that faculty and students experience a Flagship environment of learning and discovery.

## Chapter 2

# Research at the Flagship University: Investing in Centers of Excellence

### Introduction

The University of Maine is Maine's only land grant (established in 1862) and sea grant (established in 2000) institution. Research at UMaine involves an extensive cadre of faculty and staff members pursuing scholarship and discovery across many disciplines, including the arts and humanities, engineering, business, education and the natural sciences. Enabling this broad range of endeavors is fundamental to the integration of teaching, research and outreach that embodies Maine's Flagship mission. UMaine provides education and conducts research with direct application to the current and future needs of society.

UMaine is a comprehensive institution of higher education, a major research enterprise, and the hub of technology transfer. UMaine research addresses the challenges of Maine's economy and society through the work of a scholarly community, where Maine citizens mingle with citizens of the world to exchange ideas and to engage in research, with a positive impact on every citizen, community and economic sector in Maine. No other institution in Maine has been so closely coupled to the history of Maine people — nor so fundamental to Maine's future.

The first Pathway of the Blue Sky Project seeks to catalyze Maine's revitalization by increasing UMaine's stature and footprint, and expanding "use-inspired research" that addresses priorities for Maine, with significant returns on investment that benefit all Maine citizens.

### Demonstrated Accomplishment in Research

The University of Maine System has many campuses and learning centers. Each plays an important role. As the Flagship institution, the essence of UMaine's preeminence in research can be framed by answering a series of key questions:

**How Is UMaine Unique in Research?** UMaine is the largest research enterprise in Maine (Figure 2.1). The Flagship has the largest faculty in the University of Maine System that works across the broadest range of academic disciplines and degree programs. The Flagship also has the largest number of tenured faculty within the System, and the largest percentage of full-time instructional faculty possessing a terminal degree in their discipline. These criteria exemplify the high degree of capacity and expertise in UMaine's faculty resources. Similarly, UMaine's student body is the largest in the System and is engaged in the broadest range of academic degree programs. Our students stand out in the state for their high qualifications and scholarly accomplishments. Many of our undergraduate students pursue advanced degrees at UMaine, and mentor the next generation of undergraduate students and researchers.

UMaine's brick-and-mortar infrastructure for research, largely developed over the last two decades, is unmatched in Maine. The rich assembly of faculty and research resources, including laboratories, studios, libraries, scientific equipment and field research programs, are the core of our research excellence, allowing UMaine faculty and students to engage in important,



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cutting-edge research and scholarship. These physical resources are an important part of what distinguishes the Flagship University.

**Why Is UMaine Unique?** UMaine is the most comprehensive assemblage of academic units and programs in Maine, all engaged in research. Within this rich intellectual landscape, UMaine has developed internationally recognized centers of excellence. These include institutes, centers, schools, departments and programs. They all have a remarkable enterprise of discovery involving teams of faculty, research scientists, graduate and undergraduate students, technical and support staff, collaborators from other institutions in Maine and beyond, stakeholders from communities, businesses and government, all working together to create new knowledge within their disciplines and to solve real-world problems in Maine.

UMaine's centers of excellence address problems for Maine people, our nation and the world.

UMaine is addressing some of the most critical challenges and exploring new opportunities that are defining the 21st century that range from energy and the environment to biomedical and social sciences. A few examples of the Flagship University's preeminence in research and scholarship:

- UMaine is playing a turnkey role in developing renewable energy, a global challenge for society. Our research offers real solutions for people in and beyond Maine. The Forest Bioproducts Research Institute, the Advanced Structures and Composites Center, the Ocean Engineering Program, the School of Marine Sciences, and the Laboratory for Surface Science and Technology are performing research to provide feasible solutions for Maine's energy needs, including biomass, wind, tidal and solar technologies.
- The challenges of a changing environment and the opportunities these changes represent are critical to Maine's future. The Climate Change Institute is world-renowned for its research on the dynamics of a changing climate and its effects on ecosystems (oceans, lakes, streams, forests and farms of Maine) and human populations. Insights are critical to inform the decisions we need to make today in light of modern climate trends. The Climate Change Institute, University of Maine Cooperative Extension, the Advanced Manufacturing Center, the Sustainability Solutions Initiative, and

the Maine Agricultural and Forest Experiment Station represent resources Maine can use to inform mitigation and adaptation strategies for Maine. Mitigation and adaptation solutions are increasingly relevant today, and will be more so in the decades ahead, to build resilience and grow a healthy Maine economy.

- Maine is vitally connected to the Gulf of Maine, a critical resource for fisheries, aquaculture and tourism. UMaine's School of Marine Sciences, Darling Marine Center, Aquaculture Research Institute and the University of Maine Cooperative Extension program associated with Maine Sea Grant inform stakeholders and perform research in diverse areas — from fisheries regulation and sustainable quotas to early detection and modeling of harmful algal blooms.
- Maine has demonstrated national leadership in providing research to address the needs of individuals with disabilities, and linking those research outcomes to university training, families, communities, professionals and policymakers in Maine and beyond. The hub of this work is the highly regarded Center for Community Inclusion and Disability Studies, one of a national network of congressionally authorized University Centers for Excellence in Developmental Disabilities, sponsored by the U.S. Department of Health and Human Services.

**What Does This Enable UMaine to Do?** The breadth and depth of UMaine's research enterprise helps Maine solve problems and nurture the entrepreneurial spirit like no other institution in the state. UMaine does this on issues and opportunities that are fundamental to Maine, the nation and the planet. All Mainers can be proud of the international reputation of faculty and research, where many of our centers of excellence are world leaders in their fields and use this capacity to benefit Maine. UMaine provides state-level coordination and leadership in the U.S. Experimental Program to Stimulate Competitive Research (EPSCoR) grants. In Maine, EPSCoR includes the National Science Foundation, Department of Energy, National Aeronautics and Space Administration, and the National Institutes of Health. UMaine competes well for research funds, receiving approximately 85% of all funding within the University of Maine System (Figure 2.1).

**How Does This Research Capacity Impact UMaine Students?** Both UMaine undergraduate and graduate students are engaged in a wide array of intellectual pursuits, ranging from classrooms and laboratories to field sites and travel away experiences. Students benefit by having world-class faculty who are actively engaged in the research and scholarship enterprise, bringing their cutting-edge insights into the classroom, and engaging their students in their research. Many students have opportunities to work as part of research teams, both part-time during the academic year and full-time during summers. Students benefit in the classroom by having access to research equipment and experiences that are part of research programs, but are also

part of faculty pedagogy. These experiences take students deep into molecular and atomic space, into schools and health care facilities in Maine communities, on the open seas, into fields and forests, and to distant archaeological sites and high mountain glaciers. Being part of the research enterprise, in real time, is fundamental to being a UMaine student. At UMaine, there is a high level of student involvement in undergraduate research, in addition to student employment opportunities in research programs (Table 2.1).

Figure 2.1. The Flagship Difference: Research Funding and Expenditures at the University of Maine. As reported in the 2011 edition of *Top American Research Universities*, the University of Maine ranked 97th among public research universities in total research expenditures with \$100,580,000.



Table 2.1. The Flagship Difference. Students Involved in Undergraduate Research Experiences Through the Center for Undergraduate Research (CUGR) in FY13.

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\$61,874 distributed to 36 undergraduate students through CUGR Fellowship Award Program.
117 undergraduate student presentations were made at the 4th Annual Undergraduate Research and Academic Showcase, with eight exhibits, 77 posters, and 32 oral presentations or performances.
266 students and faculty participated in the Showcase.
\$18,000 distributed to six undergraduate students for CUGR Summer Research Fellowships.

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### Current Challenges

There are three priority questions to address as we consider the future of research excellence at UMaine, emphasizing the “centers of excellence” model whereby resources and expertise are focused on the highest priority areas of research.

**How Does UMaine Sustain Existing Centers of Excellence?** Excellence is not something an institution earns that lasts forever, like an academic degree. Excellence in research is something we practice and strive for every day. UMaine is challenged by the realities of our current economy and the complexities of the modern research enterprise. Increasing non-academic demands on faculty for reporting across a range of responsibilities, such as human resources, data quality, fiscal management, safety, grant administration and field logistics, represent diversions to their focus on research and scholarship.

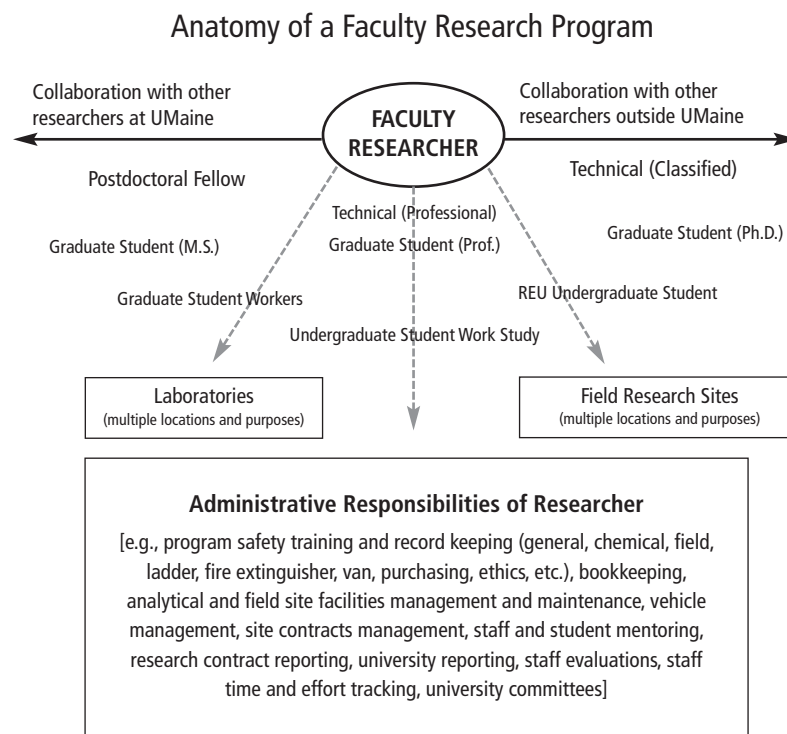
A modern research faculty member now must be more like a small business manager (Figure 2.2) than a professor in front of a classroom.

Engaging students in research comes from academic integration, as well as positions funded through external contracts and grants, but many more students could be engaged in the research enterprise if additional funding for

positions were available for undergraduate and graduate students. Many faculty members are doing research in areas with high public interest. Demands for outreach are integral to the research mission and pose an additional responsibility for limited faculty time and fiscal resources.

As state funding has declined and reliance on grants and contracts, with typically short time horizons (e.g., 3–5 years), has increased, how can we provide continuity in staff, instrumentation, physical infrastructure and other resources in a cost-effective, longer-term manner? Addressing these questions is central to sustaining and enhancing our accomplishments. Part of the answers to these challenges rests with streamlining support systems within the institution, increasing MEIF (Maine Economic Improvement Fund)

Figure 2.2.



investment in UMaine research, increasing funding for student engagement in research through paid positions, internships and graduate assistantships, and strategically investing in new faculty positions. This would reverse the consequences of the past several years of lost faculty positions through retirements, resignations and non-reappointment. The loss of faculty who were lured to other institutions is largely attributable to budget restrictions rather than strategic planning.

**How Does UMaine Create a University Where Seeds of Inspiration and Innovation Can Emerge for New Centers of Excellence That Will Define Our Future?** UMaine must achieve a balance between preserving the centers of excellence that define our research strengths and priorities today, and affording the opportunity for new, worthy initiatives to emerge and thrive. This requires UMaine to be entrepreneurial and nimble in its investment in programs and faculty to enable the right people to coalesce around critical information needs for Maine and beyond. Historically, centers of excellence emerged from individuals with vision and commitment who were given the opportunity to develop an idea, and these people benefited by encouragement and some initial investment. We must encourage faculty to identify and develop new ideas, and then support them with seed money and leveraged support.

**How Does UMaine Create a Process of Reaffirmation and Renewal So That the University Constantly Invests in the Faculty and Resources in the Highest Priority Needs for Maine Citizens, Particularly for the Future?** UMaine is relatively new to national rankings of major research universities. In 1997, Maine established the Maine Economic Improvement Fund (MEIF) and with it, launched a major research enterprise. Overall, the funds from MEIF have been well invested, with a roughly 5:1 return on investment, including new critical faculty hires, instrumentation and research buildings. This scale of research, which developed mostly in the past 15 years, has enabled us to develop and sustain several centers of excellence. With time, we need to demonstrate to Maine citizens that this is a good investment of their funds, and that we are constantly evaluating the efficacy of their investments. Not all centers of excellence should simply be sustained. We need to demonstrate the capacity to retire centers and activities no longer of high priority, while at the same time demonstrating a

commitment to maintain and nurture those that remain high priorities and evolve over time. This process should be integral to the university's oversight of centers of excellence and transparent to the public, to promote the accomplishments of existing centers and demonstrate accountability.

## Recommendations to Enhance Research Excellence at Maine's Flagship University

Several priorities emerged from the Roundtable discussions, some of which encompass specific actions not detailed here. All are supportive of the goals discussed above.

- **Establish a Return of Indirect Costs from Grants and Contracts.** High priority is placed on the need to create a system of return of indirect costs from externally funded research projects to help researchers manage and sustain programs. The lack of such a system is clearly inconsistent with UMaine's stature in research; at the national scale, ICR (Indirect Cost Return) is a standard operating procedure. This creates limitations to growth in the research enterprise.
- **Increase Funding for Students.** What sets UMaine apart is the opportunity for undergraduate students to be part of the research conducted by faculty in many different ways. Funding for undergraduate research and positions in research programs are the only thing limiting increased engagement of undergraduates in research. Similarly, additional assistantship support for graduate students would significantly increase the opportunities for graduate education within the research sphere and invigorate the research enterprise itself, growing our doctoral degree completion rate and enhancing the quality of our graduate programs
- **Decrease Faculty Administrative Burdens.** At a time when UMaine is seeking to increase faculty time investment in research and scholarship, faculty members are increasingly dis-incentivized by the growing demands of administrative reporting. UMaine needs to

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identify the best support framework and infrastructure to make faculty time the most cost effective, and then ensure the implementation of that support infrastructure throughout the academic units and centers.

- **Improve Investments in the Faculty.** UMaine has experienced a long period of budget reductions that were accompanied by a decreasing size of the faculty and an undesirable prevalence of nonstrategic faculty losses to meet budget reduction goals. UMaine needs to invest strategically in faculty to enhance interdisciplinary research, where appropriate, through shared appointments and incentives. Such shared positions will spread the culture of excellence across campus, and could help preserve both depth and breadth at the Flagship campus.

## Chapter 3

# Teaching at the Flagship University: Supporting Innovative Practice and Evaluating Performance

### Introduction

The University of Maine's Blue Sky aspiration of becoming the most student-centered and community-engaged of the American Research Universities offers the promise of a remarkable resource for the state of Maine. This particular quality of outstanding faculty associated with the Flagship research university is directly related to the quality of teaching. Recognizing that excellent teaching stands at the heart of the Flagship mission and is a critical dimension of the Flagship difference, UMaine supports the faculty in three interconnected ways, through: (1) resource allocation, (2) campus support services and (3) strategic action. The ongoing outcomes of this support can be seen in the impact our faculty have on our students, primarily in how they grow as citizens, and how they are prepared to contribute to a thriving, vibrant state of Maine and nation.

### Demonstrated Excellence in Teaching

UMaine faculty members are the public face and vital core of our land grant teaching mission. With 448 full-time, regular faculty members (tenure-track and research) who are highly credentialed and have expertise in subjects ranging from art to zoology, UMaine boasts a faculty with international reach and reputation. UMaine faculty drill ice cores in Antarctica and teach budding climate scientists how to do the same. They install wind turbines in the Gulf of Maine with the help of our outstanding engineering students. They teach music, dance and theatre to future soloists, troupe members and

stage performers. They foster critical thinking, encourage imagination and sharpen communication skills to help our students prepare for real-world success in politics, business, medicine and law. They prepare the next generation of Maine public school teachers to enter classrooms from Kittery to Allagash. UMaine students pursue the broadest range of undergraduate and graduate degree programs that exists in Maine. UMaine also offers the opportunity for advanced undergraduate students to enroll in graduate coursework. This often leads to a seamless transition to a graduate degree for many students. With the high level of faculty involvement in research at the Flagship, undergraduate students have more opportunities to become involved in groundbreaking studies, where the content learned in the classroom transforms into innovative applications. The students at UMaine challenge their instructors and invigorate the shared learning that takes place, both in and outside the classroom.

The teaching excellence of UMaine's faculty is well-documented. In the past six years alone (2007–13), individual members of the UMaine faculty have:

- Won the Nelson and Small Award from the University of Southern Maine School of Applied Science, Engineering, and Technology.
- Developed and taught the innovative, multipartner Acadian Program in Regional Conservation and Stewardship.
- Received the Adult Education Outstanding Teaching Award from the Maine Adult Education Association.

- Designed and taught an introduction to philosophy series for public school students in Orono.
- Been recognized for excellence in teaching through dozens of departmental, college and university-wide teaching awards.
- Turned modest faculty development grants (from UMaine's Faculty Development Center and Center for Excellence in Teaching and Assessment) into a stunning array of pedagogical and technological innovations in classroom teaching, service-learning projects, online instruction and student research projects.

### **How Does UMaine Support Excellence and Innovation in Teaching?**

*Targeted resource allocation.* For example, as UMaine enters Year 3 of the Blue Sky Project, the five Blue Sky Pathways align specific material needs with new and emerging resources to provide optimal support for faculty in STEM fields, the social sciences and the humanities. Emerging from the Presidential Requests for Visions of Excellence Program (PRE-VUE), critical and timely funding has buttressed the teaching-based Center for Undergraduate Research and has turned the teaching-focused University of Maine Humanities Initiative from a concept into a culturally enriching reality. Additionally, a number of internal granting opportunities allow faculty to travel to teaching-oriented conferences and gain professional development in the latest innovations in pedagogy, instructional technology and classroom practices. These and related allocations have ignited a renewed sense of promise and purpose in the faculty as they engage with and train our students.

*Support by a coordinated array of campus services.* The Faculty Development Center leads dozens of workshops and specialized training sessions each semester to assist faculty in the use of new course management systems, apply “clicker” technologies effectively in the classroom, and aid in mastering related technological components of modern teaching. The Division of Lifelong Learning's Continuing and Distance Education office was the first in the state to provide instructional design, development and technical support for distance and online courses, and it continues to be a statewide leader in that work, serving faculty in nearly every unit on campus, as well as the Hutchinson Center in Belfast.

Continuing and Distance Education also offers: (1) planning grants for

faculty to develop new online or hybrid courses, (2) travel study courses in which UMaine faculty and students travel internationally for an interactive, intercultural teaching-learning experience, (3) the Academ-e Program (a UMaine/Maine Department of Education partnership that allows talented Maine high school students to take an online UMaine course for credit), and (4) instructional training sessions for adjunct faculty in tandem with the Center for Excellence in Teaching and Assessment.

The Center for Excellence in Teaching and Assessment (CETA) assists faculty in developing contemporary skills ranging from writing a comprehensive and compliance-based syllabus to constructing learner-centered assignments and resolving grade disputes. CETA also reaches nearly 1,000 faculty, staff and graduate teaching assistants each year through workshops, panel presentations and symposia on a diverse array of teaching-related topics. CETA further supports teaching excellence through its Active Learning and Learning Circle awards supporting faculty in their efforts to create active learning experiences for their students and/or gather with colleagues to explore a teaching-related topic in greater depth.

UMaine's commitment to teaching excellence is further exemplified by its new CETA Classroom on the main floor of Fogler Library. This state-of-the-art, fully functional space is devoted to teaching-learning programming — panels, workshops, technology demos and other presentations — sponsored and led by CETA, the staff of University Libraries, and other campus partners involved in advancing the teaching mission of the University.

Together, these service units help faculty overcome the inherent challenges of staying current in their teaching, while also helping them to move forward with innovative instructional practices.

UMaine continuously seeks to offer courses and programs that will maximize students' opportunities for growth as citizens and as highly skilled members of Maine's workforce. To this end, faculty regularly review and retool curricula, assignments and skill-based projects to ensure that the University of Maine is meeting students at the precise intersection of best practices, best knowledge and best technology. At the same time, UMaine is currently unveiling a finely calibrated set of new online programs and certificates aimed at helping adult learners complete their undergraduate degrees, become certified or recertified for on-the-job advancement, or reboot their career trajectories with a master's degree in an emerging growth field.

In addition, UMaine is strongly invested in high-quality outcomes-based assessment focused on answering a singularly important question: How do we know that our students are learning what we want them to learn? As the culmination of a series of structural and strategic improvements in our assessment practices in the past several years, UMaine will welcome to campus its inaugural Director of Assessment in fall 2013: a full-time professional staff member whose chief task will be to help the University develop and deploy an effective system for campuswide outcomes assessment, in keeping with our commitment to student success and our obligations to our external accreditors for assessment and retention as critical components of student success. Table 3.1 presents data on student retention and graduation rates:

Table 3.1. The Flagship Difference: Educational Outcomes at UMaine

	First-Year Student Retention	Six-Year Graduation Rate*
Overall	76%	59%
Education and Human Development	70%	66%
Engineering	84%	63%
Liberal Arts and Sciences	76%	59%
Natural Sciences Forestry, and Agriculture	77%	66%
Maine Business School	86%	60%

*\*National average for public four-year institutions is approximately 51%; the University of Maine System average is approximately 38%.*

**How Do Faculty Use the Resources of the Flagship That Are Available to Them?** Faculty throughout the degree-granting colleges teach in diverse venues, including classrooms, laboratories, experimental facilities, farms and studios, as well as on Wall Street, in Greenland, in the woods, in blueberry fields, in public archives, and on the streets of cities and towns across the state, region, nation and world. Through seminars, independent studies, applied projects, internships, capstone courses, Study Abroad courses, field

trips and many other kinds of opportunities, faculty take students into the places where cutting-edge scholarship occurs. These guided experiences provide students with real-world, hands-on learning that is invaluable as they prepare to enter a competitive, ever-changing workforce environment.

**How Does Research Strengthen Teaching at the Flagship?** At UMaine, research and scholarship inform the content of what is taught and how course material is presented. Students are at an advantage at the Flagship University because research and teaching are both accorded high priority — and are interwoven. Nationally and internationally recognized scholars immerse students in content and bring enthusiasm, passion, drive and cutting-edge knowledge into the classroom and laboratory. Faculty produce new knowledge in their disciplines with practical solutions to address societal problems in Maine. Therefore, students have the opportunity to engage the nexus of theory and real-world applications. Faculty mentor students through teaching, research and scholarship, and advising. They invite students to co-present research at conferences and to publish their findings. These activities assist students to be fully prepared for their future careers and advanced studies.

## Current Challenges

While UMaine challenges and engages students in learning at the highest levels and provides a wide range of opportunities for students to learn alongside leading scientists and scholars, there are several key areas where the University will need to strengthen its investment in infrastructure to uphold its leadership role in higher education in Maine. Repeated reductions in the University's budget, faculty retirements and a period of retrenchment have resulted in a reduction in the total number of faculty and annual new hires. Investment in the human capital to support teaching is needed to ensure that we continue to provide the best quality of instruction, and fully prepare students for careers and advanced studies.

In addition to ensuring the adequate numbers of faculty to deliver academic programs and advise students, enhanced resources to support faculty professional development and encourage innovative practice are necessary. Mentoring and professional learning circles can be powerful vehicles for helping faculty develop their teaching skills, in addition to more



traditional forms of faculty professional development.

Further, UMaine needs a coherent system to evaluate the quality of teaching and student outcomes. This system should include both formal and informal peer evaluation. Implementing a framework to incentivize, recognize, and reward teaching excellence and innovation is needed to encourage and expand UMaine's educational strengths. Moreover, a strong recommitment to UMaine's broad mission is essential to ensure a healthy balance among the three core responsibilities: teaching, research and service. Finally, a coherent system of collecting and evaluating student outcomes is needed to ensure that UMaine students graduate with the knowledge and skills they need to be successful and productive in the 21st century.

### Recommendations to Enhance Teaching Excellence at Maine's Flagship University

To address the current challenges and maintain a system of excellence and innovation in teaching, the Roundtable suggests the following recommendations:

- **Investing in Faculty and Teaching Assistant Positions.** Reduced numbers of faculty in many departments have stretched faculty resources for teaching and advising at a time when the University hopes to increase enrollment. Investment in faculty positions is needed to maintain strength in student programs, as well as to continue the vitality of the academic environment for faculty in departments. Additional teaching assistant positions are needed to assist faculty teaching courses with large enrollments and provide accessibility for students seeking help outside of class, as well as offer teaching and mentoring experiences for graduate students.
- **Investing in Classrooms, Technology, Library and Learning Resources.** While significant classroom and technology upgrades have taken place associated with the Paint, Plant and Polish Initiative — with investments to date exceeding \$2 million — this work should continue with input from the faculty on identifying priorities.
- **Diversifying the Support for Faculty Professional Development.** While CETA, the Faculty Development Center, the ADVANCE Rising Tide initiative, and other units provide excellent support for faculty professional development and mentoring, many faculty prefer less traditional forms of learning. A framework that includes peer learning circles would provide opportunities for more sustained and in-depth learning about teaching. Peer-to-peer learning is an effective way to stimulate experimentation and innovation.
- **Incentivizing, Recognizing and Rewarding Teaching Excellence and Innovation.** A coherent, university-wide approach is needed to increase the priority given to teaching. One aspect of this may include revising expectations for faculty workload and performance through the formal system of peer evaluation.
- **Re-establish the University Teaching Council.** Another strategy for identifying and rewarding excellence is to empower a university-level committee to examine progress in the teaching mission. The Roundtable recommends that the University Teaching Council be re-established as a counterpart to the existing University Research Council. This council can highlight models of excellence in teaching and share these models broadly across units.
- **Evaluating Teaching Quality and Student Outcomes.** While the peer review process does include an evaluation of faculty teaching, the primary source of data is student course evaluations. Additional sources of information are needed to ensure adequate review of teaching performance and program quality. Peer observation, either formal or informal, would significantly inform the task of teaching evaluations. Periodic reviews, such as during the post-tenure review, should also critically examine teaching performance. On a program level, review of student learning outcomes is essential to determine how well courses and programs of study are preparing UMaine students. Rather than having individual units struggle in isolation to develop an assessment system, a coherent approach across the campus is needed to develop a system to collect, review and use data on student outcomes.

## Chapter 4

# Community Engagement with the Flagship: Improving our Communication with Stakeholders

## Introduction

At the heart of the Blue Sky Plan is the goal of making the University of Maine the most distinctively student-centered and community-engaged of the American Research Universities. As a public research university, engagement is deeply embedded within UMaine’s tripartite mission of delivering the highest quality research, teaching and public service. In his inaugural address, President Paul Ferguson emphasized that UMaine must recommit to “the inherent, mutually beneficial partnership between the citizens of Maine and their University.” This commitment builds the foundation of UMaine in the 21st century and is rooted in the core mission of the land grant university in its aspiration to make higher education accessible.

At UMaine, accessibility defines all that we do. Accessibility means not only enabling individuals from diverse backgrounds to pursue degrees in higher education, but also to return to the citizens of Maine the various benefits that public higher education produces to the state. Such benefits range from teaching students how to develop and incubate innovative ideas in the Foster Center for Student Innovation, to sharing learning experiences with more than 1,000 students of color and approximately 400 international students promoting a deeper experience and understanding in global diversity, to launching the first grid-connected offshore wind turbine deployed in the Americas, to preparing the next generation of teachers, coaches, psychologists, nurses and artists who will directly impact the well-being of individuals all across the state.

In many circles of higher education, the research component of our tripartite mission receives the highest priority, while teaching is a second

priority and service is last. Service is not an afterthought at the University of Maine. Rather, service is fully interwoven with the research and teaching missions, and is a crucial component of the overall contribution to quality of life and economic vitality of Maine.

## Demonstrated Success in Community Engagement

UMaine stands as a national leader in community engagement, as affirmed by our Carnegie Classification for Community Engagement. Community engagement exists through partnerships between UMaine and the private and public sectors of Maine. Consistent with the Carnegie definition, community engagement cuts across all aspects of UMaine. Through research and creative activity, teaching and service/outreach, the role of community engagement is to “enhance curriculum, teaching and learning; prepare educated, engaged citizens; strengthen democratic values and civic responsibility; address critical societal issues; and contribute to the public good.” Engagement is at the center of our public service and outreach, and it is infused across teaching and research. Community engagement is reflected in UMaine political science students working with representatives from the town of Orono to improve communication — and opportunities — between the campus and the community; and in UMaine students pursuing internships in all realms of business, the sciences and the humanities to learn about potential careers and to serve the public in a diverse range of contexts.

## Community Engagement with the Flagship

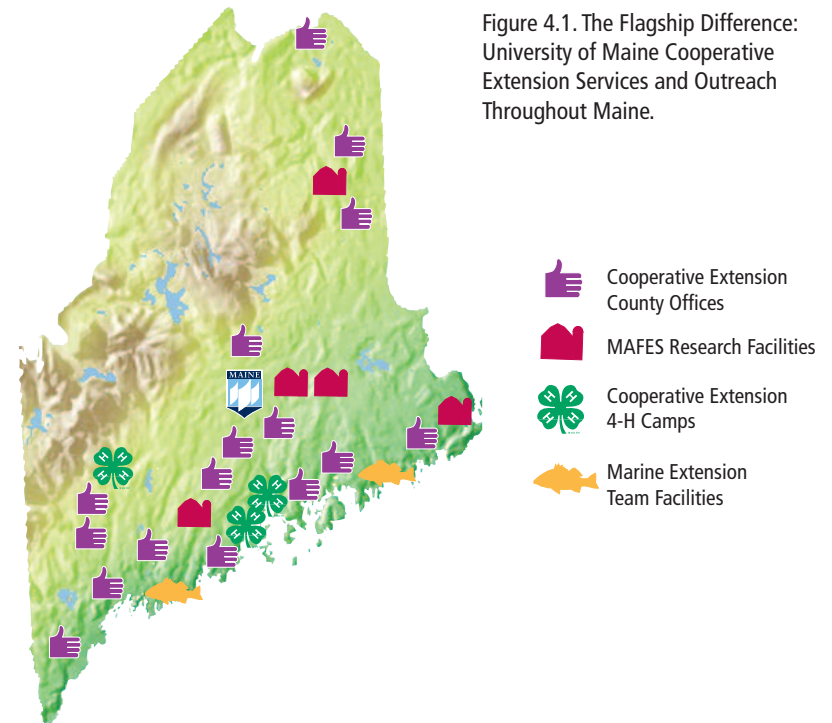
Public service is also a core mission of the College of Education and Human Development's formal partnerships with school districts to support professional development and improved teaching practices for more than 1,000 Maine educators and more than 10,000 pre-kindergarten through grade 12 students. This involves more than 12 formal partnerships with school districts.

Engaged service suggests faculty who communicate with legislators and business leaders about groundbreaking research in engineering, the social sciences and the natural sciences. The UMaine Bodwell Center for Service and Volunteerism creates civic-mindedness by building an engaged campus through the promotion of service learning and volunteerism with students, faculty and staff, strengthening local, national and global communities. This past year, the Bodwell Center brokered 30,000 hours of student-community service. Faculty serve the community by responding to phone calls, visiting farms and factories and forests, and working with members of the community to improve the quality of food, oceans and families.

The University engages the people of Maine by hosting dozens of conferences each year for schoolchildren, community groups and private sector entities on the Orono campus and at the Hutchinson Center in Belfast. Thousands of Mainers visit the Planetarium, museums, the Memorial Union, the Collins Center for the Arts, sports venues and recreation facilities, classrooms and laboratories across campus every year.

As the state's Flagship, land grant and sea grant university, engaging the state and its people is at the core of UMaine's mission. This mission is fulfilled in a multitude of ways. Community engagement is the guiding principle of the Blue Sky Plan Pathway 1 (Serving Our State: Catalyzing Maine's Revitalization) and aims to leverage UMaine's research and development capacity to address the state's most pressing needs, while still advancing cutting-edge research and teaching. This enables UMaine to have a direct and important impact on Maine while contributing to its reputation of excellence nationally and internationally. The UMaine Office of Innovation and Economic Development was formed specifically to enhance the ability to grow new ideas and products — an effort that leads to the development of new companies while providing support for existing businesses across the state. This unit fulfills an important liaison function, bridging the expertise and resources of UMaine to businesses, economic developers, organizations and individuals.

This solutions-oriented work, as exemplified by numerous efforts across campus and the state, demonstrates important problem solving in collaboration with communities, while also producing cutting-edge knowledge. Solutions are the focus of University of Maine Cooperative Extension, the “doorway to University of Maine expertise.” Cooperative Extension brings UMaine to the lives of individuals in every county of the state, and puts research to work promoting lifelong wellness, managing phenomenal natural resources, and enhancing economic opportunities (see Figure 4.1). The recognized need to create solutions to sustainability challenges led to the development of Maine's Sustainability Solutions Initiative, an interdisciplinary effort designed to balance the needs of communities, ecosystems and the economy. Maine Sea Grant focuses on the concerns of our state's coastal communities, and undertakes work that is directly relevant and responsive to the people of Maine. These efforts place community and stakeholder needs at the center of outreach efforts, and ensure that UMaine is relevant and responsive to the people of Maine.



The boots-on-the-ground accomplishments of UMaine’s faculty in this arena are extraordinary. Here is a representative (and remarkably diverse) sample of awards and recognitions earned by UMaine faculty members for their service/community engagement efforts in the past four years:

- A Special Recognition from the National Park Service for Outstanding Support and Contributions.
- An award from the UMaine Non-Traditional and Commuter Students Association for creating positive learning environments for nontraditional undergraduates.
- A Distinguished Service Award in food science from the Chinese American Food Society and an Eastern Scholar Award from the Shanghai Institutes of Higher Learning.
- The Commissioner’s Distinguished Service Award from the Maine Department of Agriculture.
- An Outstanding Industry Service Award from the Northeastern Loggers’ Association.
- Public recognition from the National Transportation Board and National Academies of Sciences for event planning/organizing for the Transportation Issues in National Parks and Public Lands Committee.
- A National Outstanding Science Award from the USGS Cooperative Fish and Wildlife Research Unit.
- An Award of Excellence from the National Heart, Lung and Blood Institute of the National Institutes of Health for contributions to preventing childhood obesity.

UMaine faculty members have been praised for volunteering to educate children about food and nutrition, for supporting local agriculture, for promoting best practices in New England’s vital maple syrup industry, and for leading pathbreaking workshops to help public school administrators foster and grow adult learning communities in Maine cities and towns. Our faculty are nationally known experts and leaders in the prevention of hazing, in teaching athletes how to reject relationship violence, and in promulgating effective digital learning platforms in multi-district contexts for Maine’s public schools.

UMaine faculty and staff engage and serve the community as part of the community. This may reflect participation in hiking, fishing, riding, walking

or exploring; participation at the Folk Festival or at the Art Museum; travel to Moosehead and Baxter and the Old Port. UMaine families camp and canoe, children play soccer and hockey, and relatives magically seem to find their way to our doorsteps every summer. UMaine members invest time and energy in the communities of Maine because they are a part of those communities. Blue Sky is about building engagement into the fabric of all that UMaine can do.

UMaine’s in-state students predominantly seek jobs in Maine (Table 4.1), filling important economic and labor force needs in the state. The Flagship University informs strategies for supporting people across the age spectrum, from kindergarteners to the state’s aging population. UMaine helps Maine address pressing public health care concerns and rising energy costs. Indeed, UMaine has the breadth and experience as a Flagship research university to address the state’s most pressing concerns, and this role of assistance is embedded in our core mission. Community engagement emerges as a tangible and convergent outcome of UMaine’s tripartite mission of teaching, research and service.

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Table 4.1. The Flagship Difference: Where UMaine Students Find Their First Jobs.

The University of Maine provides a total output to the Maine economy of \$780.9 million.

	Job in Maine	Job Outside of Maine
Total	70.5 %	29.5 %
In-state Students	79.0 %	21.0 %
Out-of-state Students	21.5 %	78.5 %

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## Recommendations to Enhance Service Excellence at Maine's Flagship University

While UMaine's track record and commitment are strong, some key challenges exist in moving forward to serve and effectively engage Maine.

- **Develop a better understanding of Maine's diverse needs.** This understanding requires research and deeper engagement across the entire state and the entire campus. Serving the state means that UMaine also needs to understand stakeholder perceptions better to know how the Flagship University can communicate and collaborate more effectively with these groups.
- **Enhance communication skills of faculty, staff and students.** It is increasingly important to communicate and collaborate with stakeholders effectively. This requires work and effort, and will require new models for training and education among the UMaine constituents. Initiatives like the new Blue Sky Faculty Fellows program that are designed to provide leadership, communication and collaboration training will become increasingly important in UMaine's strategic efforts to support better engagement and stronger linkages between knowledge and action.
- **Making the knowledge produced at UMaine useful and accessible to diverse audiences.** This is one of the greatest challenges for all flagship research universities. This requires creating a better understanding of the perspectives of legislators, leaders of federal and

state agencies, and other key decision makers. This will require building internal capacity to work with the needs of diverse communities to ensure that Maine embraces the wealth of knowledge, experience and skills that many can offer. To accomplish this, a more systemic, empirically based approach is needed to understanding the state's needs — an approach that helps to connect the right partners with each other on a regular basis. This kind of understanding can help UMaine create stronger alignment between the state's need and the University's role in developing an agile, sophisticated, capable workforce for the 21st century.

- **UMaine must continue to develop priority areas of focus that integrate teaching, research and service, rather than isolating these into discrete silos.** UMaine's strength rests in an ability to be synergistic, adaptive and agile. To achieve this, faculty need to become better leaders, who understand different kinds of boundary spanning and engagement, so that they can function as effective agents of change, as well as stellar role models for students. At the center of these efforts rests the need for communication that provides clear messaging about strategic directions of UMaine.

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**Dr. Stephanie Welcomer**, *Associate Professor and Associate Dean, Maine Business School*

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