

UMaine Today

CREATIVITY AND ACHIEVEMENT AT THE UNIVERSITY OF MAINE

NOVEMBER/DECEMBER 2002



**Peter Hoff on charting
UMaine's course**

**How would Gandhi
see our world?**

**Roots of the
environmental
movement**



\$4.00

From the President

IT SEEMS LIKE ONLY YESTERDAY that Dianne, Jay, and I drove through a snowstorm in May to spend three days visiting Orono and exploring the idea of coming here. We met solicitous Mainers who expressed concerns for these “Californians” facing such severe conditions. Few realized that we were actually hardy Midwesterners in disguise, and that a few snowflakes could hardly dim our enthusiasm for the unspoiled Maine landscape and for the traditional beauty of the Orono campus. We happily traded the warm California climate for the supportive warmth of the Maine people, and we never looked back.

Now that I have been UMaine’s president for five years, though, it is a time to look back and take stock of how far the University has come, and where we are headed. Five years at UMaine represents a milestone. Since the unparalleled tenure of Arthur Hauck (1934-1958), only two UMaine presidents have served beyond five years (Howard Neville for six and Lloyd Elliott for seven). The time has flown by, marked by significant improvements in the way UMaine is regarded across the state and treated in Augusta, strong enrollment gains accompanied by increasing academic strength in the student body and faculty, astonishing gains in state and federal support for research that helps the economy, much-needed renovation and construction of University facilities, and remarkable success on the nation’s playing fields and ice sheets matched by championship performances in classrooms and international professional meetings.

I hope you enjoy the article that begins on page 14. Thanks to Margaret Nagle and the *UMaine Today* staff for their work on the interview, which gave me the opportunity to put into words my thoughts on both the past five years and on the very bright future of The University of Maine. If you are interested in further thoughts about the direction of UMaine, my annual State of the University Address, which I presented on Oct. 8, is on the Web (www.umaine.edu/president/reports/sou2002.htm).

Doing the interview gave me a chance to reflect on how much I enjoy being in Maine, how much I enjoy traveling from Kittery to Madawaska talking to people about our flagship university, and especially how much I enjoy and draw energy from our students and their successes.

Peter S. Hoff
President



Photo by Warren Roos



ON THE COVER: In the Trear Grand Foyer of the new Robert D. Buchanan '44 Alumni House is a mosaic of The University of Maine seal, created by Colorco Ltd., of Merrimack, N.H. Up to 20,000 hand-set porcelain pieces were used to create a mosaic replica that measures 14 feet in diameter. The image represents classic and contemporary mosaic styles, with tessellated tiles end-to-end and sculpted porcelain pieces forming fine graphic details. The founder of Colorco is Jim Burnard, son of UMaine alumnus Steven Burnard of Wells, Maine, who graduated in 1952.

Cover photo illustration by Val Williams



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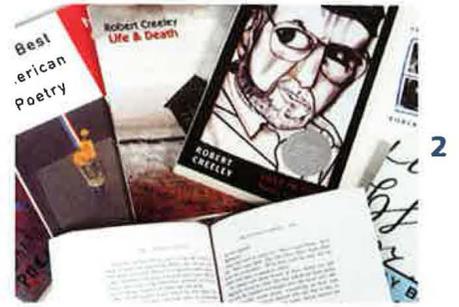
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2 Robert Creeley's Sense of Place in Maine

Like a number of America's important poets, Robert Creeley has had ties to The University of Maine for years. Most recently, he has been in the classroom as UMaine's Distinguished Visiting Professor of Poetry and Poetics, giving students an opportunity to learn from the best and Creeley a chance to return to his roots.



5 How Would Gandhi See Our World?

Amid today's terrorist threats and talk of war, Mohandas Gandhi's philosophy is as relevant as ever, according to Doug Allen, one of the world's leading authorities on the 20th-century leader. Now, as in Gandhi's day, two of the most dangerous forces in the world are religious fanaticism and extreme nationalism.

8 Reflections in Vernal Pools

The role of woodland wetlands in an ecosystem has not been well understood — until now. Research by UMaine wetlands ecologist Aram Calhoun is informing conservation policies by demonstrating that vernal pools are indicators of environmental health.



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12 Abetted Arsenic

Environmental engineer Jean MacRae is on the trail of a culprit previously unknown to water quality researchers. Initial studies in her lab have revealed a new species of bacteria that has the potential to elevate the toxicity of arsenic in groundwater.

14 Charting the Course

As he marks his fifth year as president of The University of Maine, Peter Hoff reflects on the mission of Maine's land-grant institution, the important role of higher education, and the difference UMaine makes.

20 The Common Roots of Environmental History

The history of environmental conservation has a grassroots start. It springs from a broad spectrum of ordinary people who saw these resources as their own legacy and set out to protect them, according to historian Richard Judd.



Photo by Joseph J. Kirkbride, courtesy Library of Congress, Prints and Photographs Division



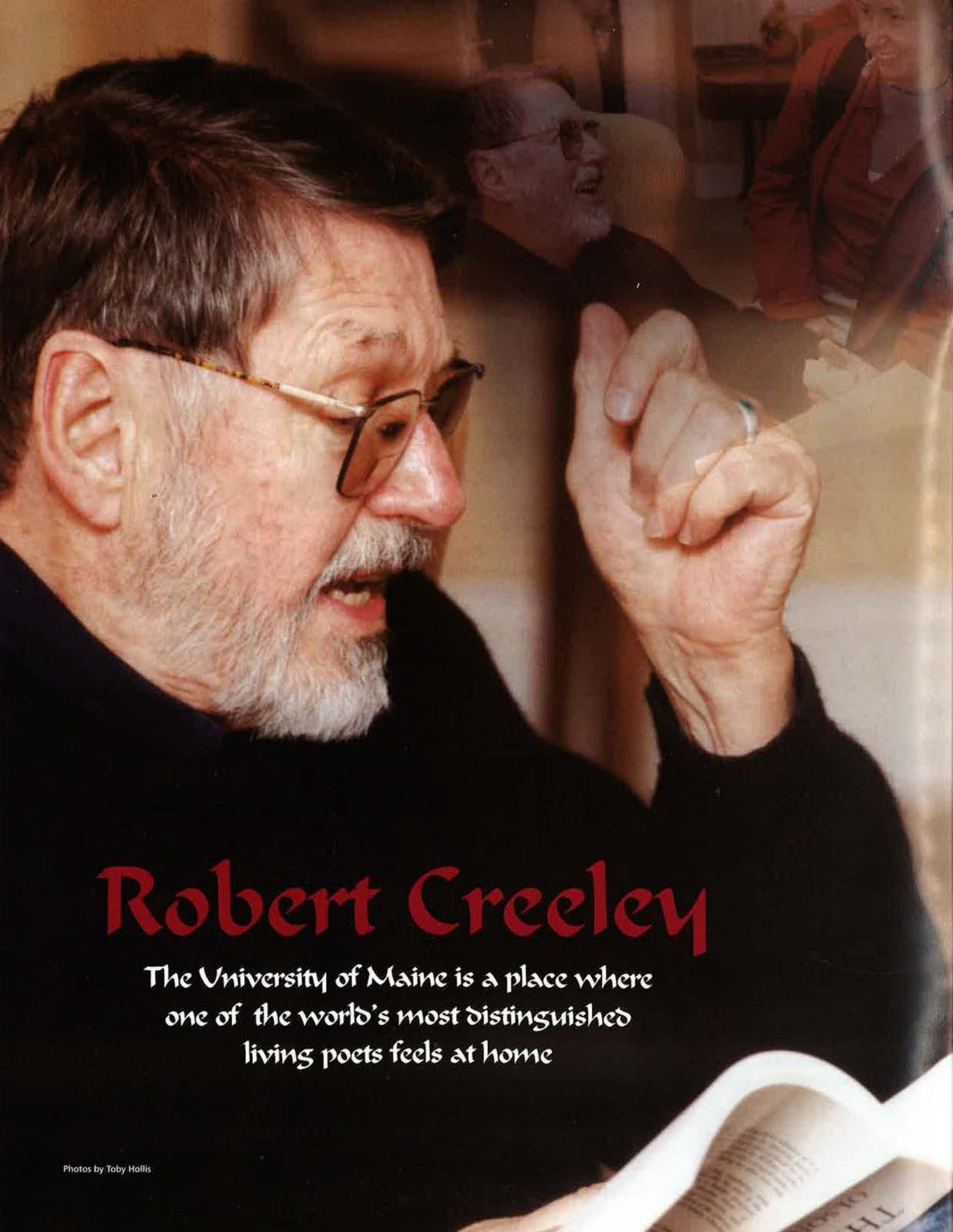
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Advocacy for Community Inclusion
Predictability in Preschoolers



Robert Creeley

The University of Maine is a place where
one of the world's most distinguished
living poets feels at home

Generous Life

Do you remember the way we used to sing
in church when we were young
and it was fun to bring your toys with you
and play with them while all the others sung?

My mind goes on its own particular way
and leaves my apparent body on its knees
to get up and walk as far as it can
if it still wants to and as it still proves able.

Sit down, says generous life, and stay awhile!
although it's irony that sets the table
and puts the meager food on broken dishes,
pours out the rancid wine, and walks away.



Robert Creeley has had ties to The University of Maine for more than a quarter century. Since UMaine's National Poetry Foundation (NPF) was established in 1971, Creeley has embarked on regular visits to Orono to participate in conferences and readings, or to work as a visiting writer.

Now in his third year as a Distinguished Visiting Professor of Poetry and Poetics at UMaine, the man who has produced more than 75 volumes of poetry and was awarded the prestigious Lannan Lifetime Achievement Award last year is a comfortable fixture in UMaine's community of faculty and student poets.

So comfortable, in fact, that Creeley — who lived in Northeast Harbor, Maine, when his mother was a Red Cross nurse there in the early 1940s — is conscious of the common bonds he shares with many UMaine students.

"I find UMaine students very tender. They have a classic shyness about the world to the south. I remember that feeling very well. But this University can certainly give them the confidence that lets them go anywhere in the universe," Creeley says.

Creeley is instilling that sort of confidence in students. Indeed, they say it's easy to forget his towering stature in the literary world when he is teaching them in the UMaine classroom, or conversing with them in a local pub.

"He's one of the most important American poets, so he could have an intimidating persona if he wanted to," says Ben Shockey, a graduate student in English. "But he's so easy to listen to and talk to. He'll meet you right where you are."

The very form of Creeley's poetry creates a rapport with students. Creeley writes in the "plain style," a decision he says was influenced by a desire to identify with people like his grandparents, who were Mainers.

"The plain style is a tradition of poetry that attempts to use a rhetoric and diction open to all imaginable readers, but that does not talk down. My real influences were my grandfather and grandmother. I didn't want to be isolated by some rhetoric from the very people I lived with. I didn't want to be separated from them in a way that they couldn't understand or recognize as their own.

"My mother's family moved from Stonington (Maine) to Natick, Mass., in the early 1900s. There were many family stories about Maine. My grandfather went to sea from Belfast as a 12-year-old cabin boy, and sailed in classic clipper ships around the Horn. My way of thinking about the world, and my factors of speech, were influenced by Maine," Creeley says.

Students and members of the community fill the University's Soderberg Center to capacity when Creeley gives a reading, which typically consists of his poems and those of others, as well as his commentary on poetry in general.

"The students hear a familiarity in his voice," says Steve Evans, an assistant professor of English and the coordinator of NPF's poetry reading program, the New Writing Series. "They say he sounds like their father or their grandfather."

Creeley says he tries to help his students understand how poetry allows them to express themselves in ways that other forms of literature don't.

"I don't teach poetry as an isolated focus or subject. It's obviously a particular mode of literature, a particular activity, but I like to think of it in its communal aspects — the way it relates to people.

"I like to ask, what does poetry do?" he says. "How does poetry respond in ways that other modes of saying things don't? For instance, after Sept. 11, poetry has had a very relieving effect. It says something that one has felt, but hasn't found words for. It's a way of recognizing the world."

Creeley's students appreciate the freedom that his approach grants them, unleashing their creativity to both interpret and produce poetry.

"He says that the meaning of a poem is found in you, the reader. That reflects his personality and everything about him," says English graduate student Megan London.

"He told us that the reader knows more than he does," says sophomore Melissa Armes. "He respects what people reading his work think."

Creeley, for his part, has been impressed by the insights of his UMaine students.

"In a seminar the other day one student was really brilliant. He was reporting on one aspect of Charles Olson's activity as a poet, which had to do with the senses of time and history. It was quick and clean, and in 15-20 minutes he had located more active information than most people do in a lifetime. That's a very unusual student," Creeley says.

The National Poetry Foundation's legacy

B

y embracing the experimental and extreme, the National Poetry Foundation (NPF) at The University of Maine has nurtured the development of poets whose innovative use of language has shaped modern poetry for more than three decades.

Through its international conferences on modern poetry, its publications and journals, and its program of campus readings by nationally and internationally renowned poets, NPF continues to be one of the world's leading centers for contemporary poets and scholars of poetry.

NPF was founded in 1971 as a center dedicated to the study of the poetry of Ezra Pound. That year, the first issue of *Paideuma: A Journal Devoted to Ezra Pound Scholarship* was published by the foundation. It published James Wilhelm's seminal *Dante and Pound* in 1974, followed by book-length monographs on Pound scholarship.

NPF has since examined the works of the Objectivist poets of the 1930s; the Black Mountain School poets and the San Francisco Renaissance poets of the 1950s and 1960s; the Language poets of the 1970s and 1980s; and the current generation of avant-garde poets. Milestones include the 1986 publication of its best-seller, the influential anthology of Language poets, *In the American Tree*, edited by Ron Silliman, and the initiation of the scholarly journal, *Sagetrieb: A Journal Devoted to Poets in the Imagist/Objectivist Tradition*.

"Over the years, the National Poetry Foundation has built an international network of poets and scholars through its publications and conferences, and has attracted renowned literary figures such as Robert Creeley and Allen Ginsberg to campus. It has acquired a reputation as a center of publications on and scholarly study in the alternative tradition of American poetry," says Burton Hatlen, a professor of English and NPF director.

Concurrently, UMaine literary scholars who built the foundation's international reputation, including Hatlen, NPF founder Carroll Terrell, Constance Hunting and Sylvester Pollet, have been sharing their expertise with UMaine students in the classroom and with writers throughout Maine. NPF also has published important Maine poets, such as Samuel French Morse, Hunting and John Tagliabue. Three years ago, it initiated the Maine Poetry and Story Exchange, a conference that serves as a forum for established and aspiring writers.

"Some of the best contemporary poets are coming to campus on a regular basis to work with us in the community of faculty members, students and Maine writers we are building for the University," says Tony Brinkley, chair of UMaine's English Department.

"We want our students and the people of the state to avail the opportunities we have here. This is a space where they can become powerful creators of their own culture," Brinkley says.

Creeley was born and raised in Massachusetts. Today, his primary residence is New York, where he is the Samuel P. Capen Professor of Poetry and Letters at the State University of New York – Buffalo.

Creeley and his wife Penelope maintain a home in Waldoboro, Maine; many relatives live in other small communities in the state. He says he values the way his poetry and teaching connect him to Maine.

"Last summer, the postmistress from the Waldoboro post office came to one of my readings. That meant as much to me as the Lannan Award. To be accepted, taken in, made me very happy. It's very sweet to be involved at UMaine. I like the sense of having a practical relation to a state university that has had so much to do with me feeling real."

Creeley says he values the contributions the National Poetry Foundation has made to the development of the experimental, open form or free verse tradition of American poetry. That sort of poetry wasn't always recognized by the mainstream literary world or the major academic institutions.

Creeley, who published his first poem in 1946, had established himself as one of the pioneers of that form of poetry long before the establishment of NPF. During the 1950s, Creeley joined Olson at the Black Mountain College in North Carolina, where he taught and edited its literary journal, *Black Mountain Review*. There, Creeley contributed to the development of the Black Mountain School of poetry, designed to transmit meaning through natural speech rhythms and lines determined by pauses for breathing.

"There was an exceptional cluster of artists gathered at Black Mountain. People there were more interested in what they didn't know than what they did. It could be a volatile cluster," Creeley says. Similarly, NPF became a forum where Creeley and others pushing the limits of poetic expression gathered to contemplate their craft and communicate insights.

"The National Poetry Foundation started a whole tradition that was unique in the country. It has been the most active center for the investigation of American poetry — and that continues," Creeley says.

With Creeley on campus, the tradition is even stronger.

"On a list of great poets of the 20th century, Robert Creeley's name is at the top," says graduate student Ben Priest. "It's amazing to have him here. But you forget that after awhile, as he becomes your teacher."

Gladys Ganiel



How would Gandhi see our world?

One of the world's leading authorities on the 20th-century moral icon reflects on the relevance of the revolutionary's philosophy

WHAT HAS BECOME OF GANDHI?

The non-violent revolutionary, draped in a peasant's shawl and loincloth, is one of history's most recognizable figures, and few have been more influential or admired. He led India to independence from Britain and, in doing so, showed the world the amazing power of peaceful resistance.

During his lifetime and for years following his assassination in 1948, Mohandas Gandhi was regarded as a man of oracular wisdom and saintly goodness. His name was spoken with reverence. But today, it is rarely spoken at all.

Certainly, there are people around the world who still espouse Gandhi's philosophy of peace, tolerance and understanding. But his teachings are no longer as widely studied, either in India or in the West. And it is likely that few world leaders, in weighing their options for dealing with today's most difficult problems, ever stop to ask what Gandhi might do.

That's too bad, says Doug Allen, professor and chair of philosophy at UMaine and one of the world's leading Gandhi scholars. From the stare-down between India and Pakistan to the Israeli-Palestinian conflict to the global war on



World Trade Center site
New York, N.Y., September 2001.
Photos by Michael Lysett

terrorism, Allen believes that what the world needs right now is a good, strong dose of Gandhi-ism.

"Gandhi would absolutely oppose al Qaeda and other terrorists, but he would also oppose some of the ways we are approaching the war on terrorism," Allen says. "For Gandhi, your means have to be as noble as your ends. You can't use just any means to stamp out terrorism, because you will find that you are mimicking those you oppose."

For example, Allen says, in enlisting the support of countries around the world to help fight terrorism, the United States is cozying up to repressive regimes.

"President Mushareff in Pakistan is a military dictator who is guilty of all sorts of human rights violations and was funding terrorists," Allen says. "Now, all of a sudden, he is a trusted ally in the war on terrorism. And the oppressive dictatorship in Saudi Arabia: Sure, they provide oil and military bases, but they also helped fund those fanatical schools where the terrorists were being trained."

While the U.S. turns a blind eye to violence and repression in the name of fighting terrorism, Allen says, "the rhetoric coming out of Washington" is giving other countries an excuse to vilify and wage war on their enemies and opponents, at home and abroad.

"Russian President Putin says the Chechen rebels are terrorists, so we no longer raise questions about human rights violations there. In India, Prime Minister Vajpayee calls the Pakistanis terrorists. Sharon and Arafat call the other terrorist. There seem to be no limits now on the war on terrorism. You can crack down on dissent and deny civil liberties. Just label someone a terrorist, and anything goes."

Gandhi, too, would define terrorism in very broad terms, according to Allen, and in doing so, he would outrage many Americans.

"Gandhi would have no problem talking about U.S. terrorism. He would say that if we have a permanent war economy and we're selling weapons to governments that use them against their neighbors and their own people, then we're supporting terrorism. And if we're

spending billions of dollars on weapons instead of feeding people and providing healthcare, then we're not fulfilling our moral obligations."

Allen says that, in Gandhi's view, "If my neighbor is in need and I keep accumulating wealth and do nothing to help him, then I am complicit in the violence of the status quo."

For Gandhi, violence was not just physical aggression — throwing punches or dropping

"Gandhi likely would say that two of the most dangerous forces in the world today, as in his own time, are religious fanaticism and extreme nationalism."

Doug Allen

bombs. The nature of violence also could be economic, social, religious and environmental. In fact, any type of suffering that humans cause or humans could prevent was, to Gandhi, a form of violence. And the victims of this violence — the exploited and oppressed — sometimes see no alternative than to lash out.

Eliminating the root causes of suffering, poverty, injustice, anger and resentment is, in Allen's interpretation of Gandhi's teachings, the most effective way to prevent the terrorism of guns and bombs. It is naïve, he says, for governments to think they can wipe out terrorism "while maintaining the unjust and oppressive status quo in every other way, without making any real shift in their values or policies."

Gandhi inspired much of Martin Luther King Jr.'s philosophy of nonviolent resistance. Both believed strongly in resisting oppression and struggling against conditions they considered unjust, but they preached against demonizing those who were committing the injustice.

"Gandhi opposed evil, but he didn't personalize the evil-doer," Allen says. "That meant he left open the possibility for reconciliation. He

said the goal is not to defeat your enemy, but to establish a relationship" in which grievances on both sides can be addressed nonviolently.

Gandhi knew from experience that war and conquest, even in a just cause, often lead to greater resentment and escalate the cycle of violence. Yet he also recognized that force is sometimes necessary. If terrorist acts are being committed, "it is better to intervene violently to prevent them than to stand aside and let the terrorists do what they want," Allen says. "Gandhi believed you do have to stop fanatical people who are committing acts of terror."

Gandhi likely would say that two of the most dangerous forces in the world today, as in his own time, are religious fanaticism and extreme nationalism.

"People who believe that their religion has an exclusive higher truth are very dangerous because so many atrocities have been committed throughout history by people who claim to have a pipeline to God," Allen says. "Gandhi believed that all true religion is grounded in morality, and the more moral you are in terms of your relations in this world, the more spiritual you become."

Gandhi saw all religions as imperfect, with none having a lock on truth. He was a practicing Hindu, but he recognized many "truths" in Christianity, Islam and other religions. He taught respect for the beliefs of others, and he opposed religious fanaticism which, he knew, bred intolerance and repression. Ironically, he was killed by a Hindu fanatic.

The father of Indian independence, Gandhi believed that people have a right to their own nation. But he opposed national chauvinism, the notion that one's own country is better than others. He valued national unity, but with tolerance and respect for diverse races, cultures, religions and opinions.

"Gandhi would look at the arrogant unilateralism and triumphalism of the United States and say that we should be more humble because no nation has all the answers," Allen says. "He believed that nations have much to learn from each other."

However, Gandhi might be appalled at

how eagerly — and how selectively — his fellow Indians have embraced the culture and values of others. India today is quite Westernized.

“The Indian elite — talented scientists, people in technology and corporate leaders — were educated at the Harvard Business School and MIT. The U.S. is their model of success,” Allen says. “There is little interest in Gandhi because he has no value in terms of profit maximization and control of the global market.

“Much of what we call success is completely anti-Gandhian. He would look at our culture, where the priorities are on having the biggest house and the newest car, and see it as a sign of undeveloped human beings. He would say we are morally, socially and spiritually bankrupt.”

One of Gandhi’s most famous sayings is, “Live simply that others may simply live.”

Doug Allen has been immersed in the teachings of Gandhi for more than 40 years. His first of many teaching and research trips to India was in 1963 on a Fulbright grant. Since

joining the UMaine faculty in 1974, he has taught courses on a number of philosophies, religions and social movements. He has authored or edited 10 books on philosophy. He has received two of the University’s highest honors: the Presidential Research and Creative Achievement Award in 1998 and the 2000 Distinguished Maine Professor award.

A social and political activist, Allen is passionate about issues of peace, justice and human rights. He frequently speaks to school, community and church groups on topics as diverse as modern feminist theory, the ethics of affluence, world hunger, racism and anti-Semitism, nonviolent civil disobedience and, of course, the philosophy of Gandhi. Since 1974, he has served as faculty advisor to the student Maine Peace Action Committee, and chaired the education committee of the Peace and Justice Center of Eastern Maine since 1988.

Allen currently is president of the international Society for Asian and Comparative Philosophy. For next year’s World Congress of

Philosophy in Istanbul, Turkey, he has lined up seven of the world’s leading Gandhi scholars to present two sessions on the relevance of Gandhi’s philosophy to 21st-century issues.

Allen doesn’t consider himself a “pure Gandhian.” His beliefs have been shaped by a number of philosophies, but Gandhi has been one of the most important influences in his life. He acknowledges that it can be discouraging to live in a world that so often fails to live up to Gandhi’s vision of justice and peace.

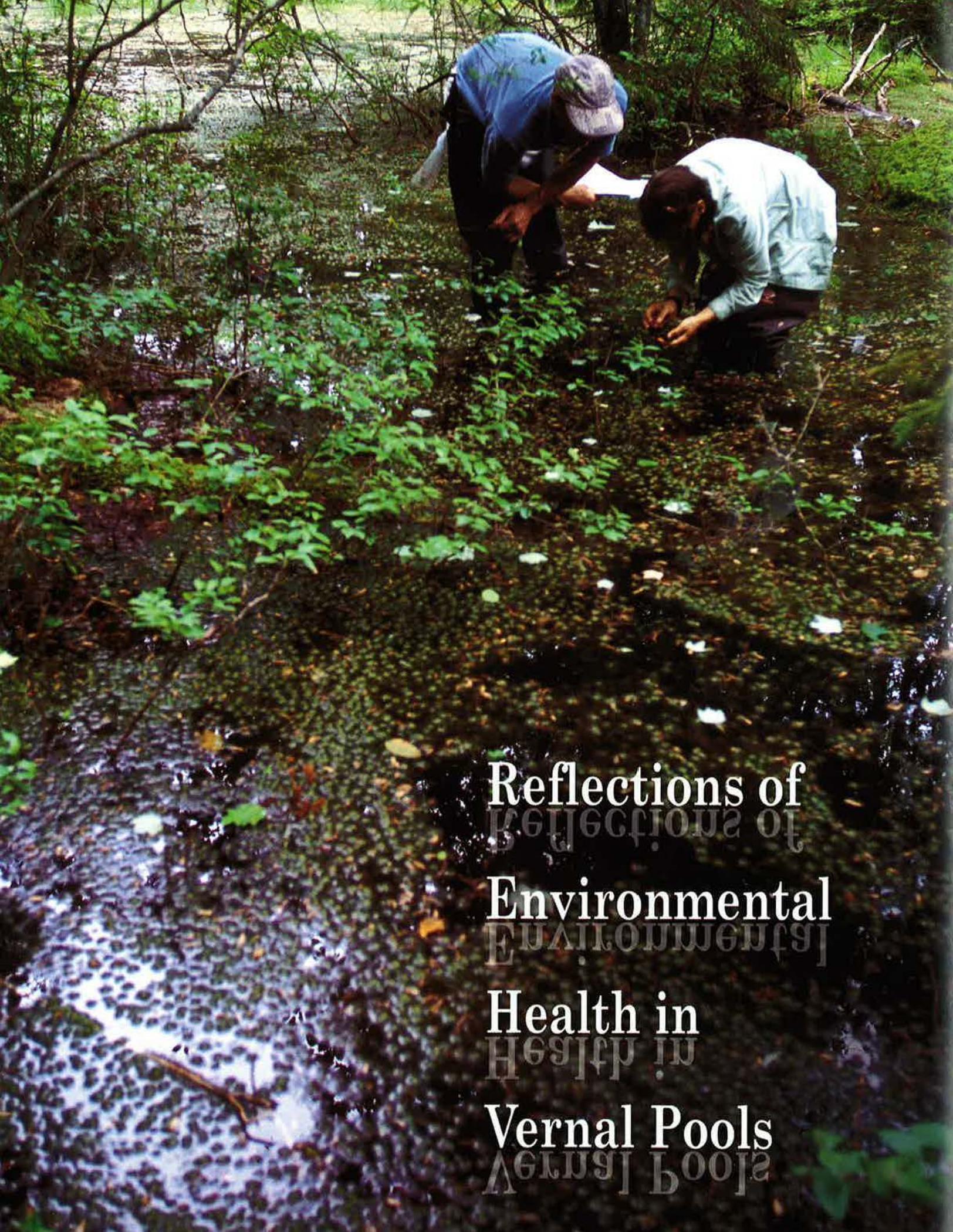
“We are not in a particularly good period for Gandhian values, so if you focus too much on the big picture, you can become overwhelmed and cynical,” he says. “Sometimes you have to focus on smaller changes, where you can make a difference and have some success.

“We affirm our humanity through the struggle to achieve, to create better relations and to leave the world better than we found it. Even if we don’t always succeed, that struggle is what gives us dignity.”

Dick Broom



Photo by Toby Hollis



Reflections of
Reflections of
Environmental
Environmental
Health in
Health in
Vernal Pools
Vernal Pools

UMaine scientists are discovering the ecological wonder of woodland wetlands

From early spring to late summer, wetlands ecologist Aram Calhoun heads for the Maine woods in search of shallow, water-filled depressions in the forest floor. These seasonal wet spots are often pungent and stagnant, lined with decaying leaves and woodland debris. But what Calhoun and a dedicated band of volunteers see in vernal pools are reflections of environmental health.

For the past four years in more than 50 pools statewide, the vernal pool monitors have been recording the ebb and flow of animal traffic, from frogs and salamanders to moose, raccoon and deer. At times the observers sit in deep shadows and watch the coming and going of reptiles and amphibians. Other times, they'll hike up their boots and wade into the dark water and muck for a closer look at fairy shrimp or frog larvae. They visit day and night.

Compared to larger wetlands, vernal pools are still poorly understood. Fish don't live in them; they are known chiefly for breeding mosquitoes. Some even dry up, then reappear every spring. Moreover, their small size leaves most of them unprotected under Maine and federal environmental law. As a result, these areas are under constant threat from development.

But now, Calhoun, her volunteer monitors and graduate student researchers are developing profiles of these wetlands to make the case for conservation, and they are working closely with municipalities and the forest industry to preserve as many pools as possi-



Wetlands ecologist Aram Calhoun is studying the ecological role of vernal pools. Her research takes her to woodland sites like one in Lincolnville, Maine (photo left), where she and Mark Miller of Tanglewood 4-H Camp and Learning Center inspect one of the many vernal pools on the 950 acres near Camden Hills State Park.

Photos by Michele Stapleton

ble. Their strategy is to find a compromise in the age-old struggle between preservation — in this case, of every last pool — and development at any cost.



Photo by Rob Baldwin

Tadpole from a vernal pool (above) and a wood frog in leaf litter associated with a vernal pool.

“People have a perception that small wetlands are everywhere, and they're little so they really don't matter. In the developing landscape these are the things that are most likely to be lost. They go through the regulatory cracks. It makes sense that if these places keep blinking out, we're going to affect the ecology of the larger wetlands and the upland systems,” says Calhoun, an assistant professor in The University of Maine Department of Plant, Soil and Environmental Sciences.

Working with Maine's Department of Inland Fisheries and Wildlife, Maine Audubon and other organizations, Calhoun helps to coordinate the state's vernal pool conservation efforts. In addition, together with Susan Gallo of Maine Audubon, she co-directs the North American Amphibian Monitoring Project in Maine, which was one of the first states in the Northeast to initiate the volunteer-based monitoring program. Since 1995, she has been actively involved in the conservation of reptiles and amphibians, some species of which depend on vernal pools to breed.

There is more at stake than a few slimy species, says Calhoun. In fact, amphibians are a cornerstone of our forests, recycling nutrients, aerating the forest floor and linking the bottom of the food web with higher levels.

Moreover, scientists like Calhoun are finding new evidence that far from being isolated mud holes of no particular consequence, vernal pools and other small wetlands work ecological wonders. “You have leaves going in and frogs and salamanders hopping and crawling out, and invertebrates flying away. With them, they bring their biomass that other animals can eat. These pools are often the

first places to green up with vegetation in the spring. Moose and bear and other game species visit these little scattered pools in the landscape,” she says.

In a sense, vernal pools are like cafés for critters. And best of all, they deliver.

While the volunteer monitors are watching and recording, Calhoun and her graduate students are tracking animal behavior in pools to figure out exactly how these systems work and what they mean to the world

The problem is, vernal pool-dependent species also depend on the upland habitats around the pool. If you get development all around the pool . . . the breeding habitat is useless.

beyond. UMaine scientists have spent thousands of hours carefully documenting vernal pool ecology from York County to Sears and Mount Desert islands and Aroostook County.

They pay as much attention to the immediate surroundings as to the pools themselves. It has become clear, says Calhoun, that amphibians can travel

1,000 feet or more away from the pool where they hatched. Creating narrow buffer zones to protect pools in developing areas may be done with the best of intentions, she says, but can result in a place that eventually turns silent because of a lack of animal life. Understanding just how a vernal pool affects the environment is important in helping Maine communities maintain their natural character.

“When you travel south to areas where there’s more development than there is here, species are in trouble. So it’s going to happen up here if we don’t pay attention to the habitat. The problem is, vernal pool-dependent species also depend on the upland habitats around the pool. If you get development all around the pool — if where these species live most of their lives is destroyed — the breeding habitat is useless,” Calhoun explains.

That is an issue that concerns Rob Baldwin, a Ph.D. student. Baldwin has identified 365 pools in three York County towns over the past year. He is



focusing his efforts on just a quarter of the pools, trying to determine whether the condition of the land surrounding each pool affects amphibian reproduction.

In the course of his fieldwork, Baldwin has noticed that moose are frequent pool visitors. As a result, he has decided to study the role of moose dung in fueling the pools with nutrients.

Meanwhile, master’s student Dan Vasconcelos has taken a different approach. He is intensely studying amphibian ecology in three pools that were constructed as part of the Sears Island marine cargo terminal project at the upper end of Penobscot Bay. The cargo terminal was never built, but what he has found has given pause to the practice of creating new ponds in exchange for permitting wetlands elsewhere to be dredged or filled.

All three of the ponds that were built on Sears Island were populated by wood frogs and salamanders during their first year. Regulators considered them a success in the first two years, says Calhoun. However, things changed rapidly in subsequent years. One pond fails to dry down during the year and has become a favorite haunt for predatory green frogs



Aram Calhoun and Mark Miller (photo above) look for signs of health in a particular vernal pool, like the remnants of a salamander egg sack (photo left).

that feed on wood frog and salamander larvae. The second pond dries up in most years and produces a handful of wood frogs, but green frogs have caused problems there, too. The smallest and most successful pond dries up quickly in the summer and this year produced more than 10,000 wood frogs.

To find out how the small pool affects its surroundings, Vasconcelos trapped and, one-by-one, applied a harmless dye to 10,000 wood frogs during the animals' migration away from the pool. It was a laborious task, involving weeks of capturing and releasing young frogs and then looking for dye marks as the frogs moved into the woods. And the result? They found that frogs were migrating 1,000 feet and more away from the pool. Thus the researchers clearly made the case that preserving a wood frog population in a single pool requires substantially more than a 50- or 75-foot buffer.

Two more of Calhoun's students are nearing completion of their projects in Acadia National Park on Mount Desert Island. Jesse Cunningham, a master's student, is studying how beaver dams affect amphibians in pools. Mary-Beth Kolozsvary, a Ph.D. student, is looking at networks of vernal pools to determine how they affect the composition of amphibian communities.

"We're trying to get rid of the notion that vernal pools are isolated. In fact, many vernal pools are connected to other wetlands through groundwater," Calhoun says.

"We can also document the way that bull frogs, green frogs, mink, turtles, raccoon, and other species use these little oases in the landscape. I see the smaller wetlands on the landscape supporting the more permanent ones — those traditionally considered the high-value wetlands where you can boat or fish."

Vernal pools continue to be lost to development and scientists have yet to determine how each species responds to such a loss. For example, spotted salamanders, which can live for 20 years, lay eggs in more than one pool. Yet wood frogs live for up to five years and are much more selective about where they breed. In many cases, these animals remain faithful to the ponds where they were born.

"When you have creatures that have such a high biomass in the surrounding upland forest, they must have an effect on nutrient cycling, carbon dynamics and aeration in the forest floor. There are some very complex interactions between amphibians and other aspects of our environment," says Calhoun.

That's why it's important, she says, that people make the link that these animals are bioindicators of environmental quality and, hence, our quality of life.

Nick Houtman

Balancing all-out preservation and development at all cost

Translating vernal pool science into land-use policy is no easy task. Nevertheless, Aram Calhoun of The University of Maine, and Michael Klemens of the Wildlife Conservation Society have led a team of scientists and development specialists in creating guidelines for municipalities and developers: *Best Development Practices — Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States*.

This spring, UMaine graduate student Damon Oscarson will be working with two York County, Maine, towns to put the guidelines into practice and create a model that other communities can use.

The guidelines do not have any regulatory authority; they are strictly voluntary. They call for municipalities to identify vernal pools, prioritize them according to their importance to the environment and then create a conservation plan.

Creating the guidelines was a joint project of UMaine, Maine Audubon Society and the Wildlife Conservation Society, with funding support from foundations and environmental agencies. Developers also provided input to the document.

Another set of guidelines will be published for the forest products industry.

"What I like about this approach is that it admits that, in a developing landscape, we're going to lose pools," says Calhoun. "In the past, people put a little 50-foot buffer around them, and that made us feel good. (Now) the point is to put mitigation into a resource that's going to serve the function. We are going to lose pools in a developing landscape, so let's be careful about which ones we choose to conserve."

Graduate student Dan Vasconcelos at an amphibian marking site near a vernal pool on Sears Island, Maine.



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Arsenic has an accomplice?

Research reveals the toxin that contaminates wells may get assistance

THEY LIVE A DARK, UNASSUMING existence, going about their quiet, microscopic lives in underground waterways. But now University of Maine researchers are questioning whether the lifestyle of these microbes is inadvertently poisoning our groundwater, contaminating it with elevated amounts of arsenic.

In the laboratory, UMaine environmental engineer Jean MacRae and a team of researchers have isolated a previously unknown species of bacteria. Given the right conditions, the microbes can speed up the normally slow chemical processes that release arsenic from bedrock into groundwater.

If confirmed through additional research in the field, MacRae's findings could contribute to our knowledge about how arsenic gets into Maine's groundwater.

The possible breakthrough comes none too soon. Arsenic is a naturally occurring chemical element in rock and soil — the 20th most common in the Earth's crust. Bedrock is one of the most significant sources of arsenic in water, as demonstrated in research by UMaine scientist Andrew Reeve and other geologists. In addition, arsenic contamination can come from manufactured products such as treated wood and pesticides.

Knowing how arsenic seeps out of Maine's bedrock and into wells could help landowners keep it out of the water, MacRae says, and could aid in reducing a long-term health threat.

At high levels in drinking water, arsenic can kill quickly; at lower levels, it can cause cancer of the skin, bladder, kidney, lung and liver, and

it can affect blood circulation. Even at very low levels, new evidence suggests that arsenic can affect reproduction and contribute to diabetes.

MacRae's interest in the toxin stems from her awareness of just how severe the problem can be. In Bangladesh, millions of people suffer from health problems caused by drinking arsenic-laced water. According to the World Health Organization, more than 200,000 people could die of arsenic-related cancers in Bangladesh.

UMaine scientists have isolated a previously unknown species of bacteria that, given the right conditions, can speed up the normally slow chemical processes that release arsenic from bedrock into groundwater.

In Maine, arsenic levels in some wells are similar to those found in South Asia, but the problem is far less widespread. Nevertheless, the State Drinking Water Program estimates that 10 percent of homes with private wells have unsafe levels of arsenic in their water. Instead of being evenly spread out across Maine, these homes tend to occur in clusters, such as the Bayside community in Northport, and along Green and Branch lakes near Ellsworth.

"Arsenic levels are high in parts of Maine, and they are hard to explain in terms of the geology," says MacRae, who this year was awarded a National Science Foundation Career Award in support of her research. "One home may have a high level, while a neighboring home is low. That made me think that we have

either a patchy situation where the geology is affecting (the levels), or we've got different cultural practices and land uses that make it a problem in one area and not in another."

While the bulk of arsenic research has focused on geology, the role of bacteria has remained largely unexplored. "Everywhere we look there's an important role for microorganisms in cycling (elements) in the environment. I think the likelihood of microbial involvement in cycling (arsenic) in the subsurface is great.

Chemical reactions in the environment happen slowly, but you can get things to speed up if you add some microbial action," says MacRae, who combines her engineering expertise with a master's degree in microbiology.

With a grant from the U.S. Geological Survey through

UMaine's Senator George J. Mitchell Center for Watershed and Environmental Research, MacRae and Kevin McCaffery, a master's student, collected water samples in 2001 from two wells with high arsenic levels, one in Bayside and the other near Ellsworth.

In the lab, they isolated some bacteria that could have an effect on arsenic compounds in the water, transforming a less toxic form into a more toxic, mobile form. The next step is to prove bacteria are making this transformation in the environment.

This year, MacRae received a \$375,000 five-year grant from the National Science Foundation to continue her research on bacteria and arsenic. Working with her will be engineering graduate students Ingrid Lavine

from a newly discovered microbe

and Erin McCormick. They will work respectively on refining techniques to identify the presence of arsenic-transforming bacteria and to determine what factors affect the rate of leaching. MacRae also is planning to involve public school students and teachers in using the subject for meeting Maine's Learning Results goals in the classroom.

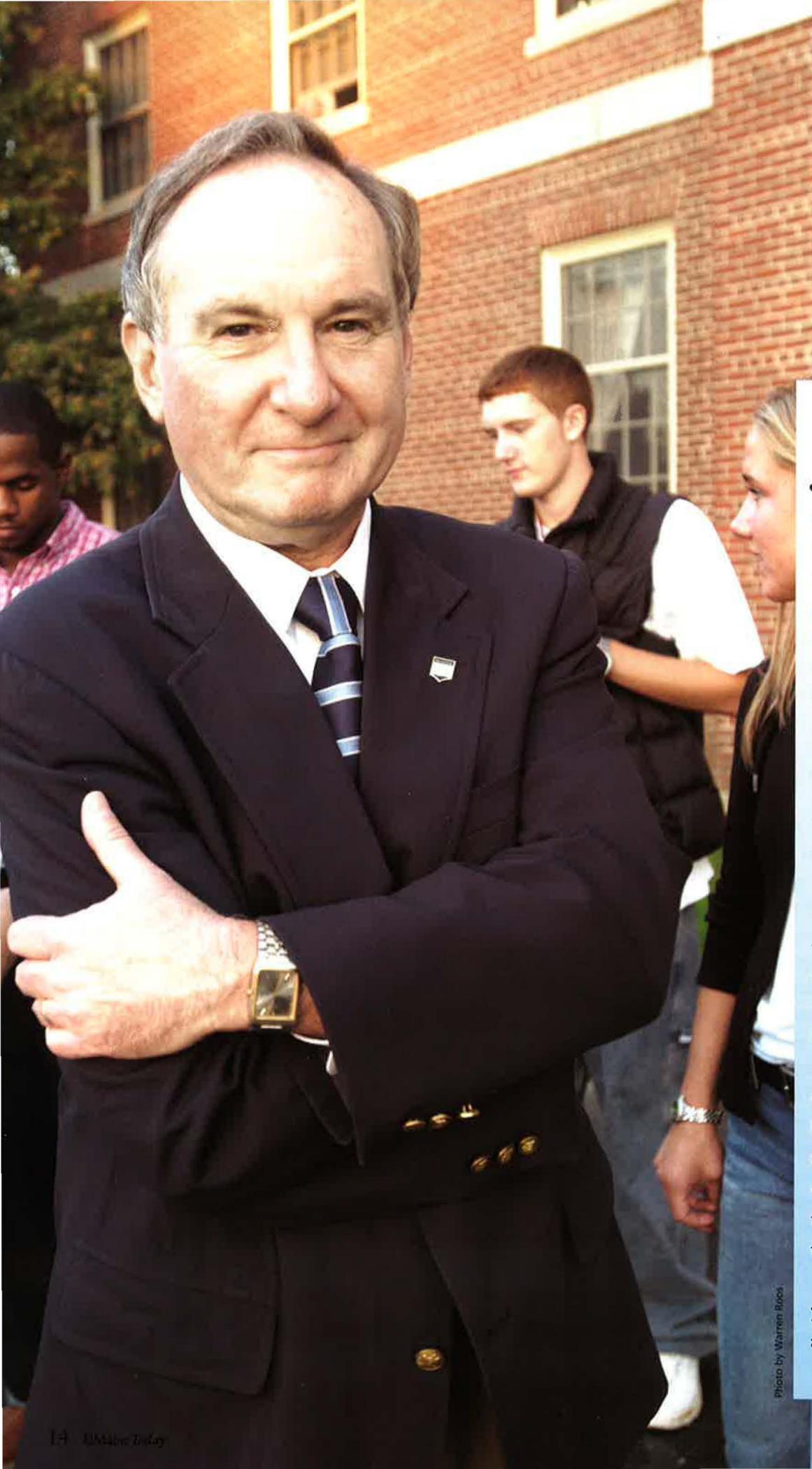
In addition to contributing knowledge about how arsenic gets into groundwater, MacRae may be breaking new ground in microbiology. When she and McCaffery took a closer look at the identity of the Northport bacteria species, they found that it was not described in the scientific literature. The species they found is new to science.

Geochemists and microbiologists are increasingly teaming up to consider the role that microbes play in the environment. For MacRae, such collaborations offer the potential for solutions to environmental problems. "I got interested in environmental engineering because it was closer to finding a solution that would happen in my lifetime," she says.

"Once you get a sense of how things are actually working in the environment, then you have more angles on how to fix a problem. If we find that these organisms are speeding up the release of arsenic from bedrock or from the groundwater environment, then we can start looking at land-use factors, such as septic field maintenance or the addition of manure to fields," she adds. Under some circumstances, such activities could promote bacteria growth underground and make a small arsenic problem worse.

Nick Houtman





Char

From the helm
his 1

*F*ive years ago, Peter S. Hoff was named the 17th president of The University of Maine. In his inaugural address, he noted that leading UMaine was “the most demanding and the most welcome challenge” of his professional life. Hoff talked of the significance of UMaine being the state’s land-grant university and he emphasized the responsibility it had to help Maine face the challenges of the 21st century as a social leader, a catalyst for economic development, and a place with enviable quality of life.

Access and engagement — the cornerstones of a land-grant university — are key to creating the “university of the future” that would address the current and future needs in Maine and beyond, he said.

Guided by that philosophy, much has changed in the past five years at The University of Maine — enrollment, academic advancements, research and development (R&D), direct service to the state, institutional image. At the same time, challenges remain.

This fall, Hoff reflected on the last five years in UMaine’s 137-year history — and what lies ahead.

Photo by Warren Ripps

Righting the Course



of Maine's flagship university, Peter Hoff reflects on his first five years as president and talks about what's on the horizon

How would you characterize your first five years at The University of Maine?

Think of it in terms of the tripartite mission:

1. Righting the ship with enrollment gains made up of excellent students
2. Extraordinary gains in R&D activity
3. Engagement with the entire state

"Redefining the land-grant university" was the theme of your inaugural address. How has UMaine succeeded in doing that?

Recall our BearWorks (strategic action plan) themes:

1. A land-grant university with a Maine focus and a human scale
2. A strong and dynamic university
3. A collegial community of learners
4. Maine's college of choice

We have made solid progress toward all of those overarching goals. Our Maine focus is reflected in such things as the continued emphasis on in-state students (more than 80 percent, and a huge proportion of the state's valedictorians and salutatorians), compared to the universities of Vermont and New Hampshire, which balance the books with an excessive proportion of out-of-staters. Also the incorporation of the seven targeted technology areas in the state's R&D legislation — translating to UMaine's R&D focus on Maine's economy for the heart of its funded research activities, and the development of new facilities such as the Target Center in the Tech Park, and the Advanced Manufacturing Center. Our

New Media Program and our strategic initiative in Information Science coincide with what Maine employers say they want from our graduates. But we have not forgotten our Maine-focused emphasis on Maine arts and humanities — witness the project to renovate Lord Hall and construct a new art studio for young Maine artists, and witness our prowess in the National Poetry Foundation (supported by the University and by Stephen and Tabitha King). New strength and dynamism are evidenced in the growth of a very able student body; and the rebuilding of the faculty with outstanding young professors and a solid core of star-quality faculty members who have already achieved distinction in their respective fields. You have to visit the campus to feel the atmosphere of learning and achievement here that reflects our human scale and our "collegial community of learners." The level of civility here is stronger than ever. Our small classes and caring professors promote a great learning community. And the *Princeton Review* ranked us No. 1 in the nation for "more to do on campus." Clearly the solid and sustained growth in enrollment has demonstrated that, more than ever, we are Maine's college of choice. The second most gratifying day of the year for me is Move-In Day, when Dianne and I join hundreds of UMaine volunteers in helping the new students and their families carry belongings into the residence halls. It makes me very happy when parents approach me, as they often do, to tell me how welcome we made them feel on this opening day. The most gratifying day

Five years in the history of The University of Maine

1997 • Inauguration of Peter S. Hoff as UMaine's 17th president • Approved bond issue brings \$3.25 million to campus for extensive renovations to Fogler Library and Stevens Hall • Groundbreaking for Alford Stadium and Morse Field • Ice Storm • Board of Visitors established • BearWorks action plan introduced • Secretary of Defense William Cohen inaugurates lecture series named in his honor • Women's Studies becomes a major • Four-year degree guarantee available • ALANA Center established • Reaccreditation by New England Association of Schools and Colleges • Ph.D. program in computer science •



for me is Commencement. Every student who walks across the stage and receives a diploma represents a special story. If we only had time to hear all those stories of challenge, overcoming hardships, unexpected discoveries and achievements, and final success, we would be touched beyond belief.

What's been the biggest surprise for you in your five years at UMaine?

Not really a surprise, but Dianne and I have been deeply touched and moved by the warmth, friendliness, and supportiveness of the Maine people. There is a myth out there about how slow Mainers are to embrace "people from away." But we have not found any evidence of it. We could not have been treated better by any community in the world.

With a Ph.D. in English and Humanities from Stanford University, you know the importance of academic excellence and research in the liberal arts. How has UMaine's liberal arts core evolved in the past five years and what is its role?

Maine has extraordinary strength in the liberal arts. As the university that awards virtually all the Ph.D.s in Maine, our work in arts and sciences competes with the best universities at the highest levels. Our professors are known far and wide for the quality of their books and the impact of their teaching. A little-known fact is that we are one of the top liberal arts colleges in New England, as evidenced by the presence of a chapter of Phi Beta Kappa. These chapters are very hard to establish. In Maine only Bowdoin, Bates, Colby, and The University of Maine have Phi Beta Kappa chapters. I love our track record of sending out liberal arts graduates who achieve greatness as scholars and as professionals, and I am impressed that UMaine's College of Liberal Arts and Sciences is embracing its role as a contributor to the preparation of teachers. It would be a huge mistake, however, to see me as a president fixated on fields of study close to my own, in spite of the deep love of the humanities that brought me to this profession in the first place. I believe one of the strengths I bring to the presidency is my ability to appreciate and promote the many fields of study that make land-grant universities the most exciting and relevant institutions on the face of the earth. Science, technology, and the professions all blend marvelously with the liberal arts in making us an extraordinary university that serves our society well.

How has UMaine, like other higher education institutions, been affected by 9-11?

Although most media coverage has seen the events of Sept. 11, 2001 as an attack on the United States, in reality I think they were an attack by the forces of unreason upon the forces of reason, enlightenment, and civilization. In other words, the values that universities stand for and defend came under direct attack on Sept. 11. It therefore behooves universities to engage in this battle by doing what they do best: promoting knowledge, enlightenment, and understanding. By doing this, they can help enlist a worldwide army committed to everything that is humane and civilized, and thereby make it less likely that unreasoning zealots can have any success. Worldwide understanding is vital to victory. Our curriculum should stress language and cultural studies, as well as deeper understanding of such phenomena as religious fundamentalism and the psychology of patriotism. Meanwhile, our powerful research and development capacity can aid homeland security and defense. Our expertise in areas such as chemical and biological sensors; monitoring oceans, rivers, lakes, and the atmosphere; emergency preparedness; and many other fields can contribute to a more secure nation. America's land-grant universities have contributed heavily to winning previous wars. This one is very different, but perhaps even more in need of university expertise.

During your high school visits throughout the state, what's been the most-asked question from students?

Maine high school students have very high aspirations. Almost all of them want to go on to college. But they want to know if they will be able to afford it and they want to know why they should stay in Maine rather than go out of state. Fortunately the answer to one question provides the answer to the other. UMaine offers a superior education at an affordable cost, and more and more of the state's high school students are 'catching on to that basic truth.

If you had to cite your most memorable moment at UMaine, what would it be?

It's hard to forget the overtime victory that gave us the National Hockey Championship in 1999. But there have been many quieter moments that have touched me and moved me literally to tears — some happy, some sad. Losing (long-time men's ice hockey coach) Shawn Walsh was such a time. However, he was one of many from the UMaine community whom we have lost



\$10.3 million U.S. Navy grant to continue advanced sensor research to detect biological agents • Second NCAA hockey championship • Center on Teaching Excellence established • Genetics Ph.D. program links UMaine, Jackson Laboratory, Maine Medical Center Research Institute and University of Southern Maine • [Groundbreaking for Hutchinson Center in Belfast](#) • UMaine's visual identity campaign launched • Groundbreaking for Memorial Union addition •

The Decade Ahead

Where do you see this institution 10 years from now?

Within 10 years we will have assembled an even stronger faculty and student body. UMaine will be more than ever the college of choice for Mainers and will be attracting more students from across the country and around the world. We will be doing well over \$100 million per year in externally funded research, and the number of spin-off companies making use of UMaine technology will be increasing rapidly. Maine will have found a way to provide scholarship support to all students who can maintain at least a B average in high school and college. And the combination of economic and academic growth in Maine will have made the state a strong contender for leadership in the knowledge-based economy.



Photo by Toby Hollis

prematurely, and I have felt every loss. On the happy side, however, I am very moved by each Commencement ceremony and by each individual triumph.

What have been your biggest leadership challenges during your years at UMaine?

The biggest ones are the ones we still face, as you might expect. This University is like a race car speeding around the track, going very fast, but running on (fiscal) fumes and with many parts in need of repair or replacement. Pulling into the pit is not an option, because we must keep going. We simply need to find ways of taking on more fuel as we run, changing the spark plugs and the oil without stopping the engine, and reshaping the aerodynamic design to compete with the other cars. Our entire constituency expects nothing less of us.

What is it that sets UMaine research and academic excellence apart from that of other higher education institutions?

Within the state we do more than 90 percent of the funded scientific research carried out by colleges and universities, and essentially all of the doctoral-level study. I am continually amazed, however, by how well our research-oriented faculty members attend to the teaching of undergraduates with care and commitment. Nationally and internationally, we make our mark in small but

very important interdisciplinary niches. It's hard for any university to compete with UMaine in areas like Quaternary and climate studies, chem-bio sensor technology, advanced engineered wood technology, certain areas of speech and language acquisition, poetry, folklore, and lobsters.

What difference does UMaine make? Or to put it another way, if the state's land-grant, sea-grant, research institution was not here, what would we be missing?

Without the University, there would be no inexpensive access for Mainers to the kind of education you can only get at a state flagship — the vast array of different academic programs combined with the challenge of attending college with other top students. Ninety percent of the university research in the state would no longer exist. Ninety-nine percent of the doctoral opportunities would be gone. And gone with those things would be any hope of joining the 21st-century economy. Cultural events in music, theater, dance, new media, and access to a huge art collection would no longer exist for people who live in most of the state's land mass. The friendly help that comes from University of Maine Cooperative Extension would be gone. And where would Mainers turn for the pride that comes with a national championship in a major sport?



Largest capital improvement campaign in UMaine history under way • Incoming class largest in a decade • Groundbreaking for \$11.4 million Hitchner addition • New Media Program established • Opening of Advanced Engineered Wood Composites Center • Secretary of Defense William Cohen adds his Defense Department papers to the William S. Cohen papers, donated in 1996 • The \$21 million renovation of Aubert Hall begins • Construction begins on \$6 million Buchanan Alumni House **2002** • University of Maine Museum of Art opens in new home in downtown Bangor • Construction begins on \$8.5 million student housing complex • Construction begins on the

Have there been disappointments during your administration?

I am pleased by how few real disappointments have occurred. Still it would be silly to suggest that we have succeeded at everything we have attempted. I was sorry we stopped short of constructing the retirement community literally at the University, because I thought the decision that was imposed on us represented a refusal to embrace new opportunities and take risks. The money at stake was minimal either way, and therefore not an issue. It was more a matter of the principle of being entrepreneurial and expansive.

How can the University continue to make progress in its recruitment and retainment of students, faculty, staff, and administrative leaders who contribute to campus diversity?

We have never been in a position where we can simply “buy” good people with high wages. We don’t have enough money. We therefore have to attract people to Maine with a certain quality of life that many people value, with a friendly and inviting campus culture, and with a welcoming attitude. No matter what your race, ethnic background, gender, or culture, there is a good chance that you will find Maine a welcoming place that allows you to have a very attractive lifestyle. Sometimes, however, people who have never been here do not realize the attractions of life in Maine. So we need to do better at getting different kinds of people to come give us a look. We don’t suit everyone’s tastes. But many will find that Maine is a great place for them.

What is your advice to college students today? How has it changed through your years in higher education?

I have certain unorthodox beliefs about education. For example, I think the academic major is the most overrated aspect of a college degree. Not that it isn’t important. It’s just that we place too much emphasis on the major, to the detriment of the rest of the degree program, especially the liberal arts core that all students get, no matter what their major. Another unorthodox view I take is that liberal “skills” are more important than liberal “arts.” That is, I care more about what you can *do* because you are well educated than what subjects you took. Properly taught, an engineering course can be as “liberating” as a course in the humanities, because the key is to learn to think, to express yourself, to see old issues through new eyes, to solve problems, to work with other people, and to appreciate life in its fullness.

Why is University-wide engagement in K-12 education a priority?

Mainers value education and want to see their children get a great start in life. UMaine prepares more teachers and administrators in this state than any other institution and we want to do it as well as we possibly can. We see teacher preparation as a University-wide priority. Almost all of our professors play a role. We are in a better position than most to recruit and train mathematics and science teachers, to prepare school administrators, and to offer master’s and doctoral programs to school personnel. Our contribution to K-12 education and our partnership with the schools are among the most important things we do.

What are the UMaine benchmarks from the past five years?

The measurable benchmarks are things like strong, sustained enrollment growth, which includes the very best students from our high schools, the addition of key programs such as new media and the computer science Ph.D., the tripling of our external research funding, and the enthusiastic support of the legislature and the governor for R&D. I believe the best and most important measure of any academic leader’s tenure is the list of people who came on board during his or her time. And that list — which includes both students and faculty — is a remarkable one here. Extremely able people — people who would be stars at any university in the country — have come to UMaine in the past five years. The University has taken a decided turn toward greater academic excellence and reconnected with a public that once saw it as an isolated place. Maine leaders have come more than ever to see the University not as a burden to the state’s budget but as a vital resource crucial to economic growth and social enlightenment.

What should Maine people know about the University?

UMaine is *their* university — it exists to serve the people of Maine. And it does so by offering a world-class education at an affordable cost. But we don’t stop there. It is equally important for us to help build the kind of state where well-educated people can find jobs and the quality of life they desire. That’s why our research and our community engagement are so important. The University of Maine helps create jobs and works hard to build a better Maine.

Margaret Nagle

More of the Q&A interview with UMaine President Peter Hoff can be found on the Web www.umaine.edu/president



\$47 million engineering and science research complex • Strategic information technology planning begins • Externally funded research in FY02 reaches \$55 million — more than double that of FY96 — and is more than half way to the \$100 million goal • Twenty-three percent of incoming students were in the top 10 percent of their high school class • No. 1 in the Princeton Review ranking of universities with “more to do on campus” • Maine Center for the Arts to undergo \$10 million rejuvenation • Lord Hall renovations for new home of the Department of Art • Advanced Manufacturing Center planned.



Photo by Warren Roos

Peter and Dianne Hoff

Lessons of Life

Peter Hoff is the son of Hubert Hoff of New York, N.Y., and Margaret Hodgson of Atlanta, Ga. He was born in Atlanta in 1944 while his father was a soldier in World War II, one of the troops to cross the Rhine at Remagen. After the war, the family moved to Wisconsin so that Peter's father could study political science at the university — attracted there by his fascination with the LaFollette Progressive Movement. The family grew with two more sons and a daughter. In the 1950s, Hubert and Margaret Hoff were investigated by a local district attorney for being members of the "Joe Must Go" club, a group dedicated to recalling Sen. Joseph McCarthy. Although he learned to read at age 4, and had read works such as *Oliver Twist* and *Robinson Crusoe* before age 7, Peter never considered making a career of literary studies until compelled to declare a major as a college sophomore. He was more interested in football, baseball, and golf (a sport his father introduced him to at age 8). The arrival of "Boston's other team," the Braves, in Milwaukee in 1953 led to a lifelong passion for the team.

The grandson of a concert pianist and amateur violinist on his father's side, Peter showed an early interest in music that led to taking up the French horn, another passion that has lasted a lifetime. In high school in suburban Madison, he played football, volleyball, and golf at the varsity level, and held a number of the school's golf records until a future two-time U.S. Open winner, Andy North, enrolled at the school. Peter also acted in school plays and musicals, and helped the debate team finish among the top three in the state for two years. He edited his school newspaper. Though admitted to Cornell and Stanford, he chose to attend his home state flagship university, a choice he says he has never regretted.

In college, Peter Hoff played his horn at the 1963 Rose Bowl, and was counted playing *On Wisconsin* 41 times on Colorado Boulevard that morning. Equally fascinated by literature and history, he chose his major (English) with a flip of a coin. As a junior, he joined the future dean of the UMaine Law School, Donald Zillman, on Wisconsin's GE College Bowl team — undefeated in five appearances on

national TV that year. He graduated with honors and moved on to graduate school at Stanford, earning an M.A. in English and an interdisciplinary Ph.D. in English and Humanities in four years.

Peter Hoff held the post of vice chancellor for academic affairs at Indiana University Southeast, the University System of Georgia, and the California State University before coming to Maine.

His decision to return to Wisconsin and help start a new university (UW-Parkside, in Kenosha) turned out to be pivotal to his career, because of the leadership opportunities it presented. Besides being a professor in Wisconsin for 17 years, he founded and chaired the Honors Program in his first year, was a department chair by his third year, and founded the interdisciplinary humanities program the next year. On earning tenure and promotion, he turned his attention to faculty development at the statewide level and soon found himself chairing the faculty senate and faculty executive committee — a slippery slope that led to full-time administration.

Peter Hoff held the post of vice chancellor for academic affairs at Indiana University Southeast, the University System of Georgia, and the California State University before coming to Maine. His wife, Dianne, is an assistant professor of educational leadership who won numerous awards for her teaching and for her work as principal of a National School of Excellence in Georgia and a unique public school of performing arts in California. She co-authored the recently published book, *Legal Issues for Maine Educators*. Peter credits her with providing him with unwavering friendship, support, and counsel over the years, and for sharing his enthusiasm for "Boston's other team." They enjoy visiting (and being visited by) their three children: Marc (a lawyer with the U.S. Patent Office), Jay (an aeronautical engineering student and ice hockey player at Georgia Tech), and Lara (a musician in Wisconsin).

While he credits his father with instilling an ability to look with innovative and compassionate eyes on every issue, Peter recognizes many gifts from his mother. The daughter of an Atlanta surgeon, she aspired to be a doctor. She was eternally creative, writing plays, performing songs, helping her children and others identify and learn to use both their artistic and analytical selves. Peter's mother returned to college at age 50, graduating from the University of Wisconsin with a degree in ecology and serving for the rest of her life as a passionate and powerful advocate for the environment. In her words, she ultimately became

a different kind of doctor — an "earth doctor."

Universities, like families, Peter Hoff believes, draw their power from understanding and honoring a past that created them and made them what they are, so that they literally can engage in the act of creating the future.



President's House during the holidays



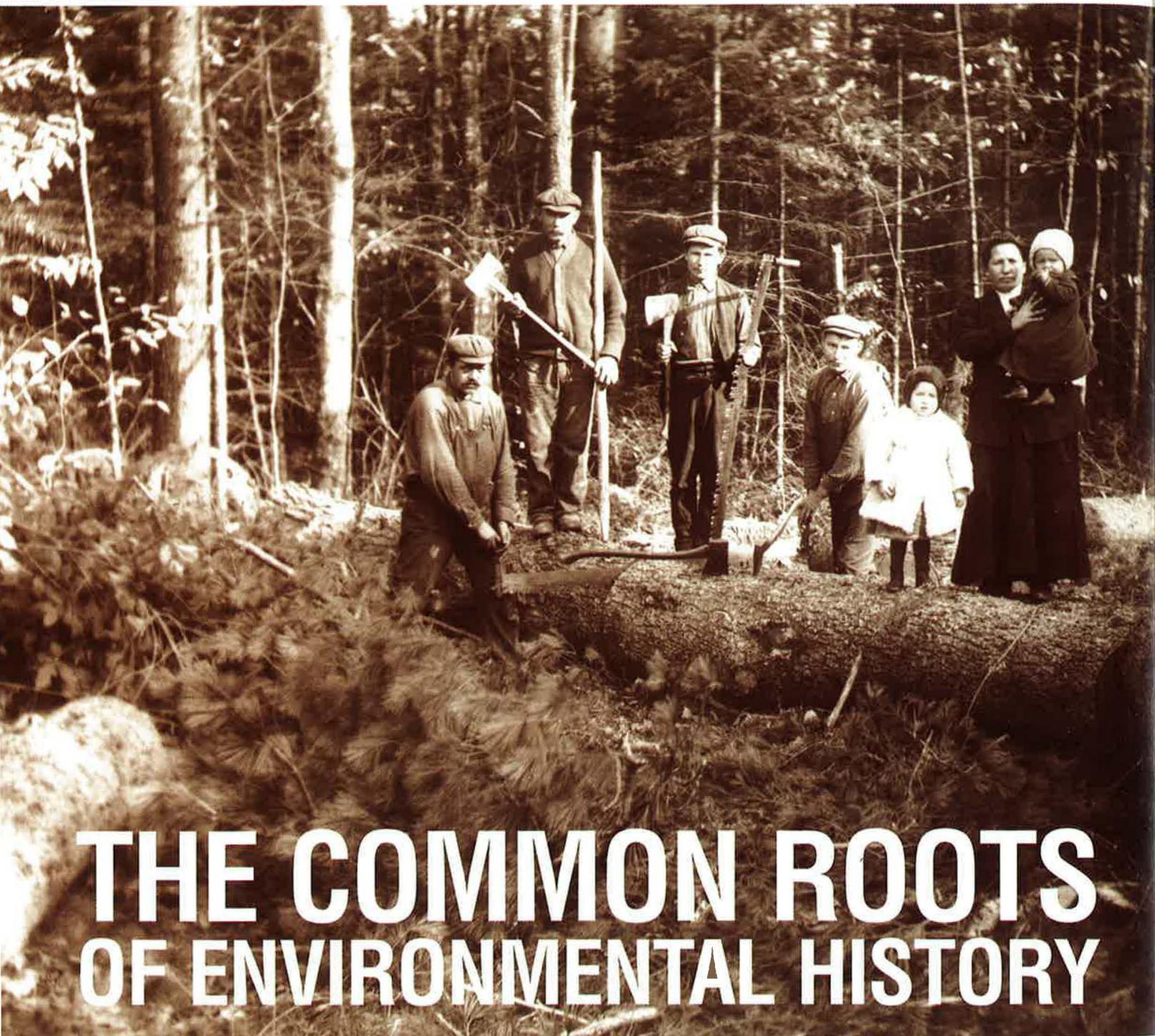
Maine Hello



Maine Day Oozeball



Playing French horn with UMaine Marching Band

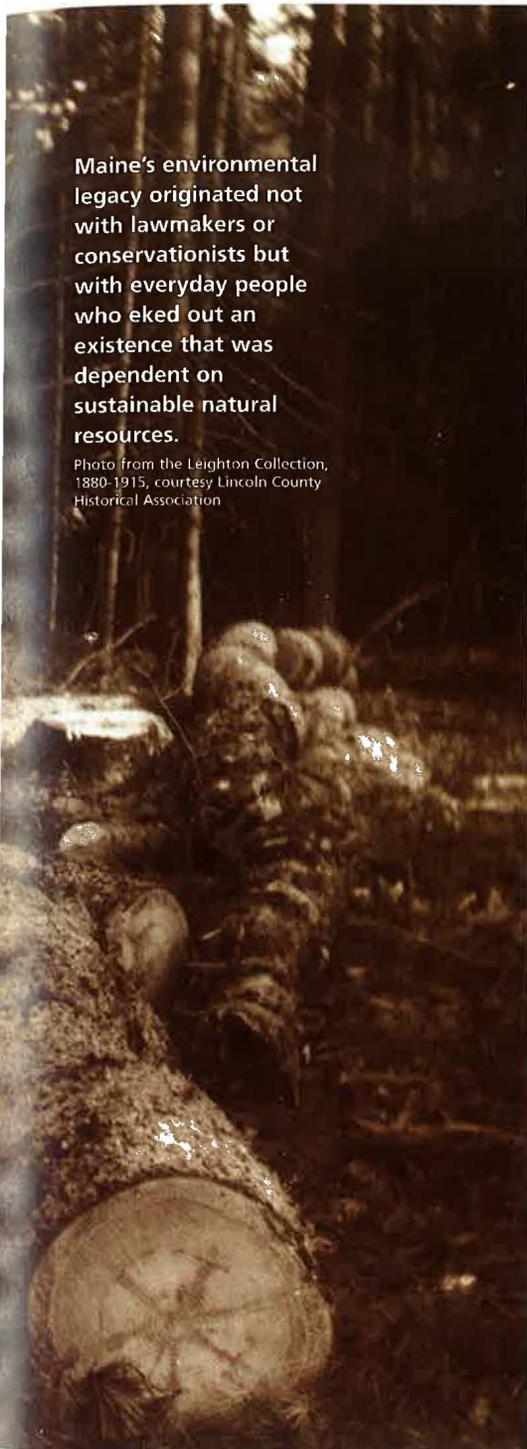


THE COMMON ROOTS OF ENVIRONMENTAL HISTORY

WHEN RICHARD JUDD came to Maine for the first time in 1980 to complete a post-doctoral research project on the history of logging in Aroostook County, the men and women he interviewed were interested in more than telling stories about the past.

Maine had embarked on its spruce budworm spray projects, and Judd, who was

doing his work for the Forest History Society and The University of Maine, assumed that the farmers would wholeheartedly support the pesticide spraying. But when Judd broached the subject with Pete Sawyer of Ashland, Maine, the farmer and forestland manager for Dunn Timberlands launched into a detailed discussion about the project's merits, and its environmental dangers and drawbacks.



Maine's environmental legacy originated not with lawmakers or conservationists but with everyday people who eked out an existence that was dependent on sustainable natural resources.

Photo from the Leighton Collection, 1880-1915, courtesy Lincoln County Historical Association



Research reveals the ecological ethic of northern New England's rural population has long been at the heart of the conservation movement

For years, social scientists credited urban intellectuals and politicians with formulating conservation measures, and depicted local farmers and fishermen as opposing conservation. But in his research, Judd has uncovered the roots of the environmental movement among the ordinary farmers and fishermen of northern New England.

“One of the perennial arguments against conservation or environmental legislation is that it is an idea cooked up by a noisy minority or a bunch of elites who want to lock up resources for their own limited uses,” says Judd, UMaine professor of history. “I think it’s very important that we understand where these ideas came from — not from elites, but from a broad spectrum of ordinary people who saw these resources as their legacy and set out to protect them. The conservation legacy — and the environmental legacy — is a popular legacy. It belongs to ordinary people like us, and it’s up to ordinary people to protect it.”

Rural people confronted a series of changes in the ways their landscape and resources were used. Their response was based on a moral vision of democratic access to common lands and by a perfectionist drive to complete the natural landscape.

Grassroots environmental activism blended with urban Romantic visions and scientific expertise to give New England its basic resource-management policy.

Richard Judd

Men in canoes and a bateau on South Branch Lake, Maine, ca. 1900, photo courtesy Maine Folklife Center, University of Maine

In families like Sawyer’s and others in Aroostook County that had worked the land for generations, Judd found a homegrown ecological perspective that balanced industry and sustainable development. This communitarian ethic, neither uniformly conservationist nor anti-conservationist, recognized the challenges involved in making good decisions and standing up as advocates for them.

Judd has been exploring environmental history for more than two decades. He has written three books on the subject: *Common Lands, Common People: The Origins of Conservation in Northern New England*; *Natural States: The Environmental Imagination in Maine, Oregon and the Nation*; and *Aroostook: A Century of Logging in Northern Maine, 1831-1931*. He also has taught numerous courses on environmental history and served as associate editor of the *Journal of Forest History* for three years.

In archival sources such as legislative petitions and journals from the 19th century, Judd has found evidence that citizen initiative was the main thrust behind the environmental movement. He found that elements of Christian theology, practical wisdom, economic incentive and secondhand natural history combined with the science of resource management and class interests to shape the emerging philosophy of resource use.

For instance, in 1847 the Lawrence, Mass., textile mill owners constructed a dam on the Merrimack River, which blocked the migratory route for salmon. New Hampshire farm families that depended on the salmon circulated a petition to force their lawmakers to send a complaint to the Massachusetts legislature. Subsequently, both states established fish commissions to protect their waters.

"I had read accounts of this petition in secondary sources, but was lucky enough to find the actual document, with a few hundred scrawled signatures attached to it, in the Massachusetts State Archives. Holding that document in my hand, I could imagine the outrage those old New Englanders felt toward the corporation dam, and I was awed by the feeling that I held in my hand the instrument



that, you might say, touched off the conservation movement in America," Judd says.

Judd's research on 20th-century environmentalism in Maine and Oregon confirms that grassroots activists continued to be instrumental in shaping conservation legislation and attitudes about the environment.

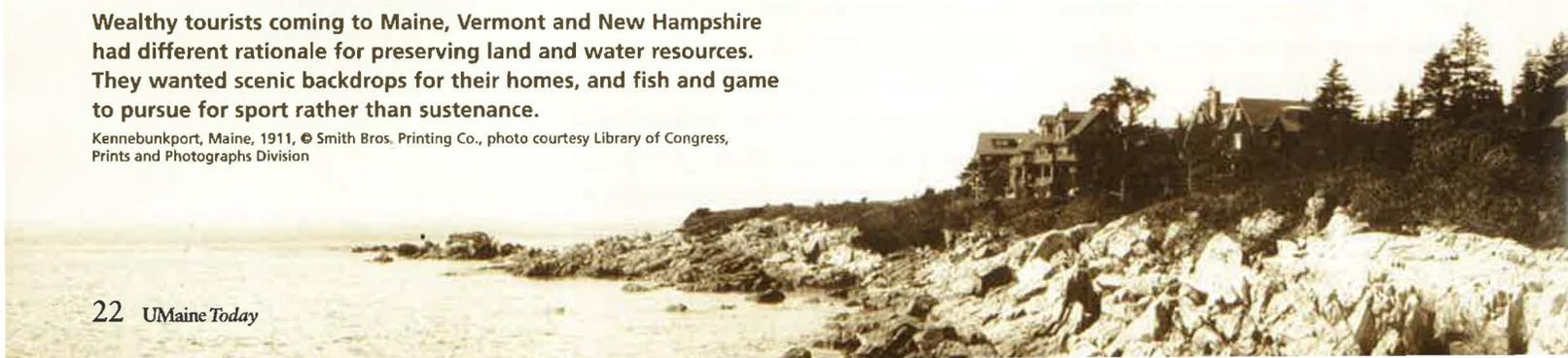
"For a conservation measure to be passed, it must be perceived as an expression of democratic will," he says. "When conservation legis-

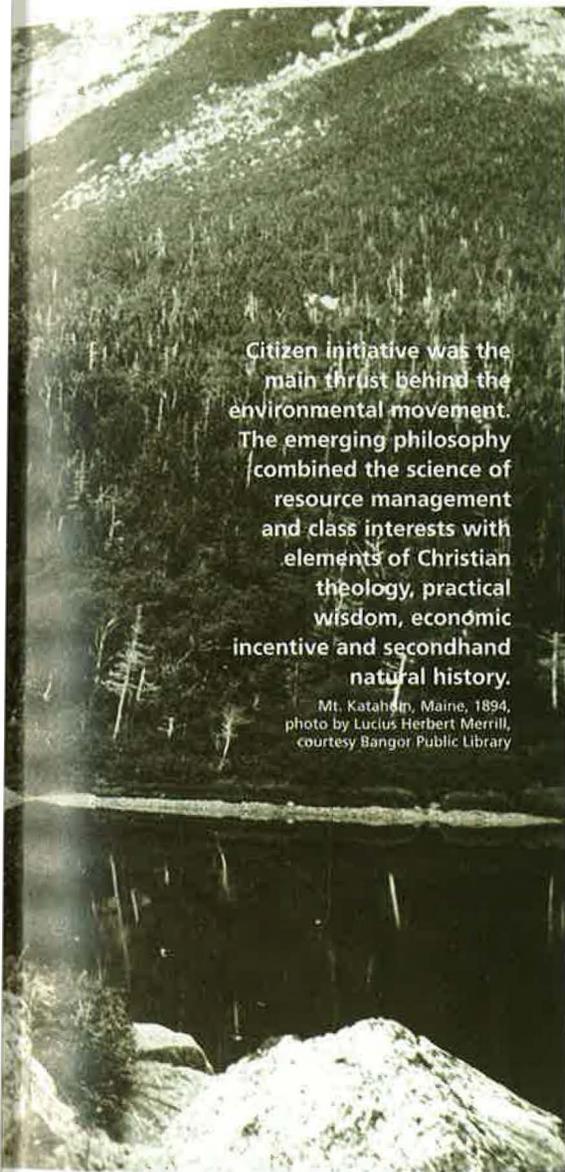
lation transcended the grassroots ideologies and became an elite proposition, it met its fiercest resistance."

Settlers arrived on the northern New England frontier in increasing numbers after the French and Indian War (1755-1760). They cut trees, burned forests, leveled the land, and introduced new crops and livestock, building idealized agrarian communities of small, economically independent farms.

Wealthy tourists coming to Maine, Vermont and New Hampshire had different rationale for preserving land and water resources. They wanted scenic backdrops for their homes, and fish and game to pursue for sport rather than sustenance.

Kennebunkport, Maine, 1911. © Smith Bros. Printing Co., photo courtesy Library of Congress, Prints and Photographs Division





Citizen initiative was the main thrust behind the environmental movement. The emerging philosophy combined the science of resource management and class interests with elements of Christian theology, practical wisdom, economic incentive and secondhand natural history.

Mt. Katahdin, Maine, 1894, photo by Lucius Herbert Merrill, courtesy Bangor Public Library

The New England agricultural system of mixed husbandry, in which farms were profitable only if men and women could bring in some form of income in each month of the year, required rural people to take to the countryside to hunt or fish. Relying on many off-farm resources, they became sensitive to the integrity of the natural landscape.

But by the 1820s, earlier practices had depleted the soil's fertility, as well as wildlife

and fish populations. Young people were moving to the cities or to more productive farmlands out West. The out-migration had intensified after the exceptionally cold year of 1816, and after the completion of the Erie Canal allowed shipments to reach Eastern metropolitan markets and compete with New England grains and produce. In addition, industries began monopolizing natural resources, such as forests and rivers, that were once considered common property.

"In order to rebuild the image of the New England farm and to stem the loss of rural youth, agricultural leaders launched a farm reform movement in the decades before the Civil War. This movement centered on soil conservation, better fertilizers, more efficient farm techniques and stock, and more effective marketing. It also included an attempt to reform the natural landscape — more productive woodlots, more sustainable forestry, more abundant fisheries — because the farm economy relied on a whole range of natural resources for its profitability," Judd says.

Intense political battles ensued when industries used resources for commercial purposes, such as constructing dams across the major rivers, using rivers for waste disposal, clear-cutting forests, or using destructive commercial fishing techniques and equipment that wiped out whole fisheries. River fishing decreased dramatically and near-shore ocean fishing stocks declined by the 1870s.

Concurrently, legislation regulating fisheries and game resources developed out of colonial town ordinances. For instance, very early town ordinances employed deer Reeves, moose wardens or fish wardens to watch over hunting and fishing — occupations that were later taken up by employees of the state. By



By the turn of the century, the tourism industry in Maine was booming. Men and women hunters and anglers from out of state often made Maine wilderness treks led by local guides. Conflicts arose when laws protecting Maine's natural resources were redesigned to protect fish and game for the elite.

Margaret Motti, standing in the woods near the Socateau River, Maine, photo by Joseph J. Kirkbride, courtesy Library of Congress, Prints and Photographs Division





Natural resource legislation helped river fishing and near-shore ocean stocks rebound after experiencing a dramatic decline by the 1870s.

Fishing on the Kennebunk River, 1893, photo courtesy Kennebunkport Historical Society



The earliest settlers on the northern New England frontier carved their farmlands from the forests. The agrarian economy relied on a range of natural resources for its profitability.

Horse-drawn potato digger on Don Mitchell farm, Moro, Maine, ca. 1935, photo courtesy Maine Folklife Center, University of Maine

the turn of the century, when the tourism industry was booming, conflict arose when these laws were redesigned to protect fish and game resources for elite, usually out-of-state hunters and anglers. The rural population's conservation ethic and strategies of common resource management were adapted by those elites — but for different reasons.

“Very wealthy tourists wanted scenic backdrops for their lavish hotels, and to pursue fish and game for sport rather than sustenance,” Judd says.

These opposing interests fueled intense clashes about the proper techniques for hunting and fishing. Legislation resolved such differences only gradually and through compromises. Tensions continue still, from debates about out-of-state hunting licenses to Maine's proposed North Woods State Park.

By the middle of the 20th century, Judd writes in *Common Lands, Common People*, “rural people confronted a series of changes in the ways their landscape and resources were used. They responded by reasserting their claims to the commons, rebuilding traditional

justifications, and adapting, finally, to the new authority systems that were necessary to accommodate the broader scope of resource use and distribution.

“Their response, animated by a moral vision of democratic access to common lands and by a perfectionist drive to complete this natural landscape, blended, albeit uneasily, with urban Romantic visions and scientific expertise to give New England its basic resource-management policy,” according to Judd.

Because of their long histories of grassroots activism, states like Maine and Oregon have fashioned identities based on natural beauty and rural economies, and have passed progressive environmental legislation.

“These states are representative of what's going on in the nation at large,” Judd says. “Northern New England and Oregon serve as repositories for environmental values and as examples of the possibility of securing conservation measures — and much of that is because of grassroots activism.”

Gladys Ganiel

Saving sea urchins

IN SOME PLACES along the Maine coast, the spiny marine animals known as sea urchins have disappeared. That's why for the past three years, University of Maine graduate student Amanda Leland has worked closely with the sea urchin industry to determine if the marine resource can be re-established in areas where there has been intense harvesting in the last 15 years.

Evidence suggests that urchin populations probably will not recover naturally. As a result, sea urchin harvesters, fishery managers and scientists have been exploring options to restore urchin stocks and manage the fishery. The results of Leland's marine biology research could help to determine whether replanting urchins in depleted areas is a viable management option.

In 2000, Leland received a Marine Studies Fellowship from the Maine Department of Marine Resources and The University of Maine, which created a fisheries liaison position that began her work with the sea urchin industry. As a liaison, Leland helped to bridge the gap between science, industry and policy by translating science to both harvesters and resource managers.

"The harvesters have helped me realize the socioeconomic importance of fishing in small, rural communities and the rationale behind their concerns for the future of their industry," says Leland, who did her undergraduate work at Purdue University.

This spring, Leland will be on Capitol Hill as a Dean John A. Knauss Marine Policy Fellow. The competitive fellowship, offered by the National Sea Grant College Program, places graduate students from across the nation in positions with the U.S. Congress and the Executive Branch. This is the second consecutive year that a UMaine graduate student has been selected for the fellowship.

Leland says the Knauss Fellowship program will provide the experience in federal marine policy that she needs to become an effective marine conservationist.



Photo by John Vavrinec



Photo by Toby Hollis

OPTING TO CO-OP

UMAINE CHEMICAL ENGINEERING junior P.J. Dumont of Holden, Maine, is between jobs. Co-op jobs.

This past summer, he gained cooperative education experience working at the International Paper mill in Bucksport, Maine. He's headed back in January for a semester-long internship.

Dumont was awarded a co-op position coordinated by The University of Maine's Department of Chemical and Biological Engineering and offered in cooperation with industrial employers.

On the job, Dumont is working as a junior chemical engineer, gaining paid professional experience. He is part of a process engineering team that monitors the quality of the papermaking process, including troubleshooting through computer data analysis.

"It's interesting to see the actual process of making paper — from the size of the machines to the steps in creating it," Dumont says. "Especially after next semester, my co-op experience will help me decide my field."

While chemistry was Dumont's forte in high school, he was unclear what career path to pursue. He enrolled in UMaine's Academic and Career Exploration (ACE) program, designed to give students an opportunity to research the academic programs that match their abilities and intellectual or career interests.

For Dumont, the choices range from pulp and paper to pharmaceutical research.

Ants under fire

AS IF MOSQUITOES AND BLACK FLIES aren't enough, homeowners in some Maine communities now have to worry about an aggressive red ant from Europe that can deliver a nasty

Close-up of European fire ant showing stinger

sting. The European fire ant, *Myrmica rubra*, has already caused problems in Eastport and Boothbay Harbor. The heaviest concentrations are on Mount Desert Island; the ants also have been reported in Castine, Rockland, Owl's Head and Cushing.

With support from a \$75,000 National Park Service grant, University of Maine entomologists Eleanor Groden and Frank Drummond are working with two graduate students and David

Groden. The welt can be up to 6 inches across with a small white raised area in the center. Pain can last from a few hours to a few days.

The European fire ant is a separate species from the fire ants that have infested millions of acres of livestock pasture in Southeastern states from Texas to South Carolina. To date, the Maine invader has followed a course typical of non-native species. It appears to have adjusted gradually to Maine's environment but now has replaced native ant species at many sites. For example, most of the 80 infested sites that have been studied at Acadia have only the European fire ant. Areas where native ants are present have multiple species co-existing.

"To the best of our knowledge, the first confirmed reports of this ant species in Maine came from Eastport in 1952," Groden says. "Problems were reported in the 1960s and 1970s in individual yards, but it wasn't until the 1990s



With support from a \$75,000 National Park Service grant, University of Maine entomologists are working to understand what causes European fire ants to be such a problem in Maine and how they might be controlled.

Manski, natural resources director at Acadia National Park, to understand what causes the ant to be such a problem in Maine and how it might be controlled.

The researchers are excavating ant nests and observing ant activity throughout the day and under various weather conditions. They also are asking homeowners for help in determining how far the fire ant has spread in Maine.

The ant is less than the length of a pencil eraser long, 1/8 to 3/16 inches, has a stinger at the end of its abdomen and can form dense colonies.

"They live in nests in the ground. You might see a few red ants on a leaf and then realize that they're on every leaf in the area and running up and down the trunks of trees," says Groden, an associate professor in the UMaine Department of Biological Sciences. The ants may not bother someone walking through a moderately infested area, but if an individual actually steps on their nests and or pauses too long, the ants may emerge to deliver their painful stings.

The sting of this ant is like a wasp sting, says

that it began to cause problems on a community-wide scale."

European fire ants were first reported in the United States at Harvard University's Arnold Arboretum in Boston in 1908. Visiting there last year, Groden and her colleagues found that the ants are still present but have not formed the aggressive colonies that they have at sites in Maine.

The ants have been reported in the Buffalo, N.Y. area, and are native throughout Europe from Britain, Scandinavia and Russia to countries on the north border of the Mediterranean. However, they have not become pests in the vast majority of their native range, and Groden and her colleagues would like to understand why.

UMaine scientists are considering three possibilities. Other ants in those locations could out-compete the fire ants for food and/or nesting sites, or a pathogen such as a fungus could be keeping them in check. It also is possible that the fire ants in Maine originated from a particularly aggressive population that is not widely distributed elsewhere.

Learning the in's and out's of global commerce

GIVING MAINE business leaders the basic knowledge to help them globalize their companies is the focus of the International Business Certificate program, offered by the William S. Cohen Center for International Policy and Commerce in The University of Maine College of Business, Public Policy and Health, and the Maine International Trade Center (MITC).

In the International Business Certificate program, participants learn about management strategies, marketing, logistics, financing and other aspects of globalizing businesses. Faculty from UMaine, the University of Southern Maine and Maine Maritime Academy teach in five Friday-evening, Saturday-morning modular sessions, held over a nine-month period at the MITC headquarters in Portland.

The program, which began last year, is partially funded by a U.S. Department of Education grant.

Culturefest

EVERY FALL, the richness of the international community at The University of Maine is celebrated at Culturefest, which features cultural exhibits, an international food court, talent show and children's activities. The daylong event by the Office of International Programs and the International Students Association culminates UMaine's International Week, offered in collaboration with the University's Canadian-American Center, the Maine Folklife Center and the Hudson Museum. Mirei Onozawa, left, and Aya Ochiai from Japan are two of the more than 425 international students and scholars from 75 countries enrolled at UMaine this academic year.





Prejudice and Punishment

IN THE PAST 30 YEARS, the criminal justice system in the United States has meted out increasingly harsh punishments for offenders, so that today, the U.S. imprisonment rate is the highest in the Western industrial world. Research by two University of Maine sociology professors suggests that racial prejudice against African-Americans is one of the underlying factors in the creation of public policies favoring crime control.

The findings by Steven Cohn and Steven Barkan are detailed in "Racial Prejudice and Public Attitudes About the Punishment of Criminals," part of an anthology, *For the Common Good*, edited by Robin Miller and Sandra Browning.

"Punitive measures might be favored within a democratic context (because of) a fear of crime, a concern for public safety and even a desire for retribution," says Barkan. "But within a democracy, racial prejudice is not a legitimate reason. Democracy is more than just the right to vote — it also means equality of treatment and opportunity."

Cohn and Barkan analyzed data from a number of studies, including the General Social Survey, which draws from a random sample of the U.S. population, to demonstrate the effects of racial prejudice on public opinion about issues such as support for the death penalty, use of excessive force by police, and harsher treatment of criminals by the courts. That public opinion influences policymakers, who adopt tougher measures against criminals.

Cohn and Barkan found that whites who hold racially prejudiced attitudes against blacks are more likely to favor punitive policies.

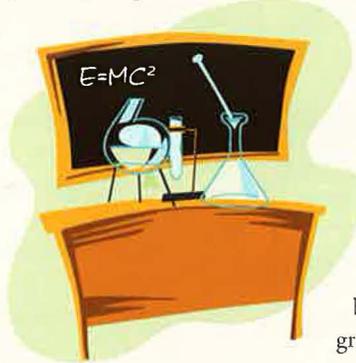
"We're not claiming that everyone who favors punitive policies is motivated by racial prejudice," Cohn says. "But prejudice is so embedded in our society, it often operates in ways that people are not aware of. We need to be aware how that affects public policy, especially in areas such as criminal justice and welfare."

Teaming up to train teachers

THE UNIVERSITY OF MAINE and Maine Maritime Academy (MMA) are working together to help address the severe shortage of mathematics and physical science teachers.

A three-year pilot program that began this fall opens access for MMA students to the teacher-training sequence of courses offered by the UMaine College of Education and Human Development. It is intended to expedite the initial certification process for a select group of aspiring educators.

Successful completion of the required educational methods and foundations courses, plus development of a professional portfolio, will position the students to seek either conditional or provisional certification when they receive their



baccalaureate degree from MMA.

In addition, MMA students can apply to UMaine's fifth-year Master of Arts in Teaching Program or the Master of Education in Environmental Science Education Program, beginning in January 2003. Both graduate programs lead to teacher certification.

"The MMA agreement taps into one more valuable source of potential science, math and technology teachers for the state's middle schools and high schools," says UMaine College of Education and Human Development Dean Robert Cobb. "It is a strong example of how Maine's higher education institutions can work cooperatively in the interest of Maine students at all levels."

SOME OF THE U.S. COAST GUARD'S aging marine facilities in the Northeast will get a face-lift using some of the newest building materials available as the result of research at The University of Maine.

UMaine's Advanced Engineered Wood Composites (AEWC) Center has a three-year, \$500,000 contract with the Coast Guard to develop and test composite components for decks, walkways and retaining walls. The hope is that the engineered components will last longer, minimize environmental impact and be made from recycled materials.

UMaine engineers will design, develop, install and monitor wood composite materials made of 60 percent wood fiber and 40 percent polyolefin plastic for slip-resistant pier decks and retaining walls.

Plans call for the installation of composite

decking at a working pier in New Haven, Conn. In addition, AEWEC engineers also will design and test a 100-foot by 25-foot retaining wall, and compare the performance of four kinds of deck planks on the walkway at

Owl's Head lighthouse near Rockland, Maine.

The repairs needed at existing Coast Guard facilities in the Northeast are estimated at almost \$120 million. There are 45 stations in New England, seven of which are in Maine.

Wood/plastic composite material development is one of the fastest growing areas of the composites industry,

says Douglas Gardner, professor of wood science and technology. For more than 10 years, scientists and engineers have studied the characteristics and production techniques for products using various wood species and plastic resins. Products being developed at AEWEC also use sawdust and other wood wastes.

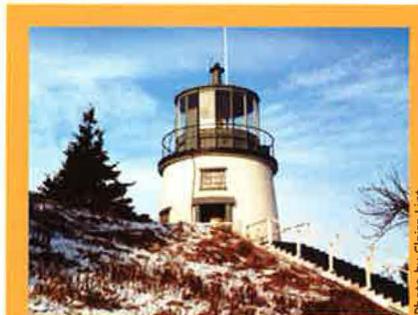


Photo by Claire Unt

Manufactured Maritime Materials



A blueprint for housing older adults

AS THE NUMBER OF MAINE residents over age 65 continues to increase, many communities cannot offer housing that meets older tenants' needs. The University of Maine Center on Aging and Bucksport, Maine, are teaming up to examine that problem and search for ways to solve it.

The Center on Aging and Bucksport Community Health Advisory Committee are collaborating on a systematic community-wide assessment and analysis of the housing needs and preferences of residents 65 years and older in the town.

The housing needs survey, expected to be completed early next year, is funded by a \$15,000 grant from the Bingham Program, which is dedicated to advancement of medicine and healthcare in Maine.

"This survey will provide elders with a real voice in terms of constructing an informed blueprint of their future housing needs and preferences. I applaud the town of Bucksport for recognizing the importance of systematically planning for elder accommodation," says Lenard Kaye, director of the UMaine Center on Aging.

The project reflects Bucksport's desire to correct deficiencies in available housing and services for the elderly that were highlighted in the town's 2000 Health Plan.

Policymakers, housing programmers, environmental planners and advocates for the elderly will be able to utilize the survey data to establish long-range plans for development of affordable, appropriate housing for older adults.

Advocacy for community inclusion

A DECADE OF developmental disabilities education, research and policy analysis, technical assistance, and dissemination activities is being celebrated by The University of Maine Center for Community Inclusion (CCI).

To mark the anniversary throughout the year, CCI will offer events and activities, including the inauguration of a Distinguished Lecture Series in Disability Studies, and a juried exhibit of art produced by persons with disabilities.

The center is part of a national network of University Centers for Excellence in Developmental Disabilities, funded by the Administration on Developmental Disabilities, U.S. Department of Health and Human Services. The network is

dedicated to ensuring interdependence, productivity and inclusion of people of all ages with disabilities.

CCI, directed by UMaine Associate Professor of Education Lucille Zeph, provides undergraduate and graduate interdisciplinary coursework in disabilities studies. Current research initiatives are being conducted in the areas of early childhood data systems, effective school reform and adolescent health. From the main offices at UMaine, and outreach offices in Augusta and Windham, CCI collaborates with a wide range of state, national and international partners to enhance the quality of life for individuals with disabilities and their families.

Predictability in

PRESCHOOLERS

RESEARCH conducted by a University of Maine Upward Bound high school student is being presented in November at the American Speech-Language-Hearing Association National Convention held in Atlanta, Ga.



"I'm not aware of any work conducted by a high school student that ever has been presented to the national convention. This is an extraordinary accomplishment," Hall says.

The research by Segarra and Hall

built on previous studies, examining the correlation between nine language test scores in preschool and how the children performed on academic tests in elementary school. Their most significant finding was the correlation between the Vineland Communication Domain score and reading, spelling and writing test scores at age 9. The Vineland relies on parental report of communication abilities.

Veronica Segarra of Waterbury, Conn., now in her second year as a speech language pathology major at the University of Connecticut, will present a paper with Nancy Hall, UMaine associate professor of communication sciences and disorders, on "Predicting School Performance Using Preschool Language Measures." The research investigates the ability of preschool tests to predict how children with developmental language disorders will perform academically in later years.

Segarra conducted the research at UMaine's Upward Bound Regional Math-Science Center the summer before she entered the University of Connecticut. She attended UMaine's Upward Bound program for three summers.

"The deficiencies (in children's language skills) reported by the parents may be the most significant areas to focus on improving during preschool," Segarra says.

Segarra and Hall recommend that future research concentrate on determining the most useful ways to capture a parent's understanding of a child's language skills.

LASTING IMPRESSION



TEN YEARS AFTER The University of Maine's first NCAA National Hockey championship, the 1992–1993 UMaine hockey team is still regarded as one of college hockey's legendary teams. Coached by Shawn Walsh, the Black Bears compiled a 42–1–2 record, unrivaled in the sport's modern era. Rookie sensation Paul Kariya led the team with a national record 100 points on his way to winning the Hobey Baker Award, given annually to college hockey's top player. Kariya, along with teammates Jim Montgomery and Cal Ingraham, made up the most prolific scoring line the sport has seen. The defense was led by All-American and future Olympian Chris Imes, while future Olympians and National Hockey League goaltenders Garth Snow and Mike Dunham formed the nation's top goaltending duo. The Black Bears' 5–4 come-from-behind win over Lake Superior State is still regarded as one of college hockey's classic championship games and is remembered across the state and beyond as the exclamation point on a most memorable season.

Photos courtesy of Department of Marketing

"Lasting Impression" features a memorable person or event in UMaine history.



Supporting Maine's Lobster Industry



Photos by Toby Hollis

FOR THE PAST TWO DECADES, Bob Bayer has been involved in lobster research as a University of Maine professor. For the last seven years, he also has served as executive director of UMaine's Lobster Institute.

The cooperative program between Maine's lobster industry and the University was established to help conserve and enhance the resource. Their common goal: a sustainable, thriving fishery and related businesses. Key to the success of the Lobster Institute is its industry-driven agenda of research, educational outreach and technical support. Serving on the institute's board of advisors are men and women who are active in lobstering and the industry from Long Island Sound to the Maritimes.

Much of the funding for the Lobster Institute comes from the lobster industry and private monies in three funds managed

by the University of Maine Foundation. The group Friends of the Lobster Institute has established a Director's Fund to cover operating expenses. The Kenneth A. Brown Fund, established in memory of a lifelong lobsterman from Edgcomb, and an endowed Lobster Institute Fund are for institute research.

Much of that research focuses on maintaining a healthy lobster population. Other recent work involves development of value-added products.

In addition, the institute has launched an oral history project to record the stories and wisdom of some of Maine's most veteran lobstermen and their families. And for landlubbers, the Lobster Institute offers on its Web site (www.lobsterinstitute.org) a video of a working lobster boat off the coast near Bunkers Harbor, Maine.

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