

# UMaine Today

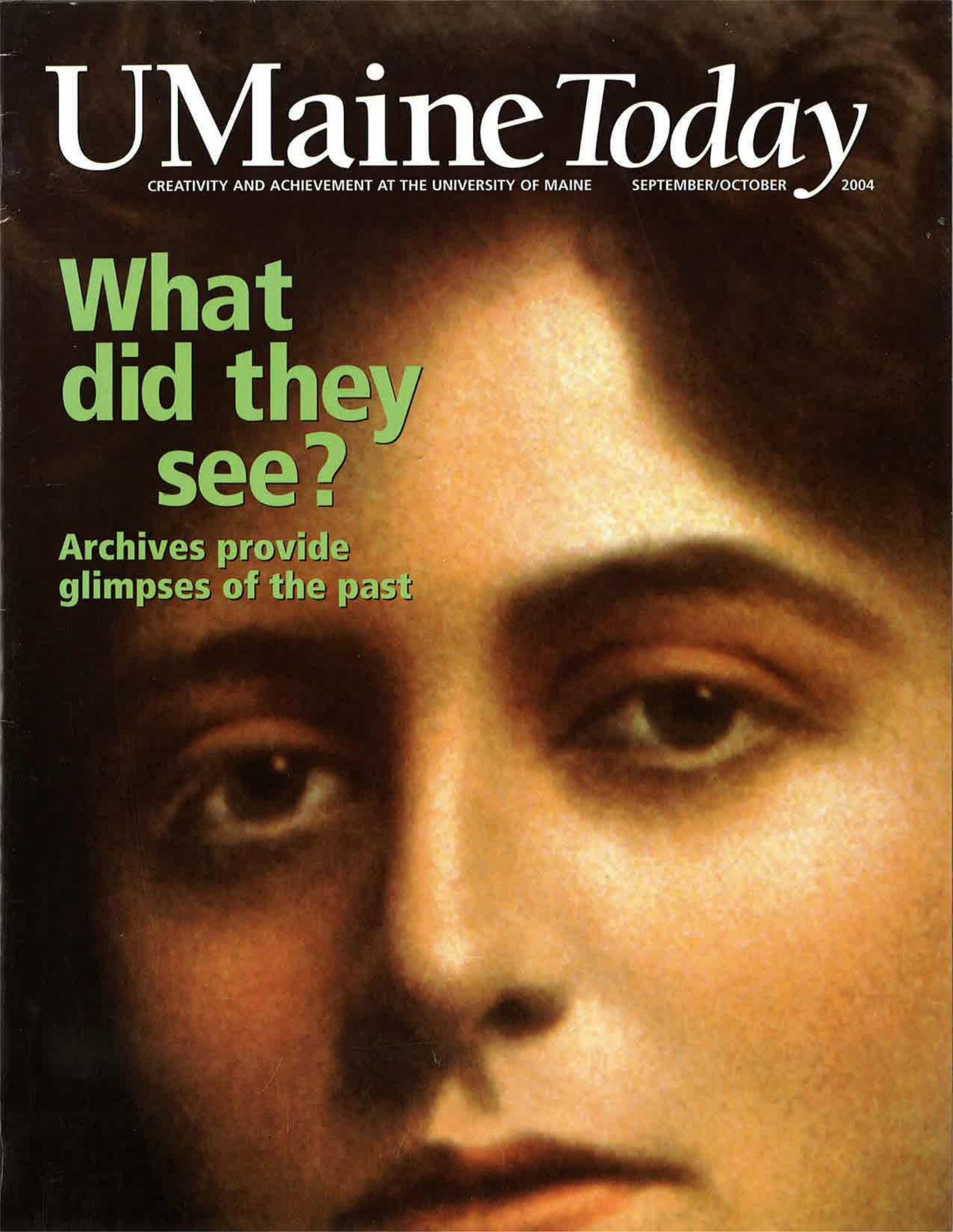
CREATIVITY AND ACHIEVEMENT AT THE UNIVERSITY OF MAINE

SEPTEMBER/OCTOBER

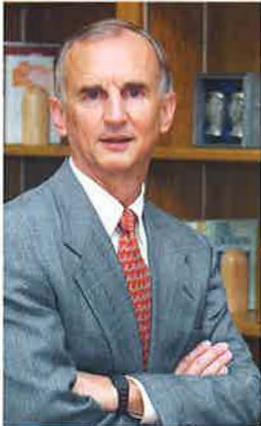
2004

## What did they see?

Archives provide  
glimpses of the past



## From the President



WITH ITS 3,500 MILES of coastline, Maine has always been inextricably linked to the sea. Shell middens provide clues to how early peoples interacted with the marine environment. Archival records reveal how Europeans first explored the coast, sea captains and boatbuilders made their livings, and fishermen plied their trade.

Despite such a long history, we are still looking for greater understanding of our oceans, including the effect of humans on the marine environment. Today, it's particularly urgent because our oceans are in crisis, as demonstrated by recent reports from the U.S. Commission on Ocean Policy and the Pew Oceans Commission. A number of abundant fisheries have crashed, although some show signs of recovery. Ocean policies must respond to multiple pressures, including industrial development and homeland security concerns.

Researchers around the globe are racing to contribute information through basic and applied science to ensure that our marine environments remain sustainable, economically viable and safe. At the University of Maine, we are expanding our long-standing marine sciences and aquaculture research efforts. Our scientists and students work in the Gulf of Maine and around the world, on scales ranging from single species to marine ecosystems. They are learning how fish — from Atlantic cod to tropical reef species — develop to become reproducing adults. With new round-the-clock monitoring technologies, they are studying the complex cycles of plankton, which is the foundation for marine food webs and a major influence on global climate.

Increasingly, UMaine is strengthening those efforts by building partnerships with private-sector businesses, coastal communities and individuals who make their living from the sea. The results are such initiatives as: studies of cod, salmon and halibut at UMaine's Center for Cooperative Aquaculture Research in Franklin; marine-related business incubator facilities at the Darling Marine Center in Walpole; and problem-solving efforts by Maine Sea Grant and Marine Extension.

Learning how our marine environment works, and how we can keep it healthy, is critical to solving problems and making sure that Maine citizens will continue to harvest the benefits of our close relationship with the sea.



Robert A. Kennedy  
Interim President

EDITOR'S NOTE: University of Maine Executive Vice President and Provost Robert Kennedy was named Interim President when UMaine President Peter Hoff resigned in July.



ON THE COVER: Actress Maxine Elliott was a legend in her day. Extensive documentation of her life (1868–1940) in such forms as scrapbooks, photographs and theater playbills is preserved for posterity in Raymond H. Fogler Library's Special Collections at the University of Maine. Hers is one of nearly 1,200 collections archived at UMaine, putting researchers in touch with original materials that offer eyewitness accounts of history in the making. A story about UMaine's Special Collections begins on page 2.

*Miss Maxine Elliott*, color lithograph, ©1905 by The Strobridge Litho. Co., Cincinnati & New York; part of the Theatrical Poster Collection, Library of Congress, Prints and Photographs Division



### UMaine Today

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Fogler Library's manuscript-dominated Special Collections holds some fascinating — and surprising — pieces of history that speak to the breadth and depth of the archives.



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Volunteers in Cooperative Extension's Maine Phytoplankton Monitoring Program serve as the eyes and ears of the state's comprehensive efforts to ensure the safety of shellfish consumers.



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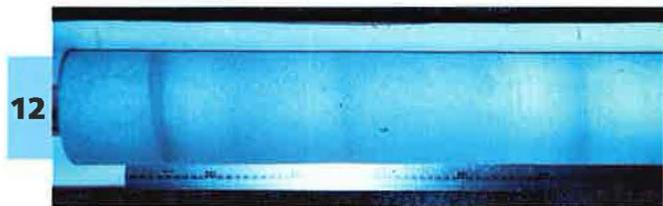
With all the white-collar scandals by CEOs in recent years, Americans are left wondering where the ethics are in business today. UMaine Business School faculty weigh in on the controversy.



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# Experiencing history

**Fogler Library's  
Special Collections  
provides an enriching  
exploration of the past**

By Margaret Nagle

IT'S ONE THING TO READ ABOUT HISTORY. It's another to hold it in your hands.

Diaries of sea captains, letters from suffragettes in Maine, an early manuscript of *Carrie* make us vicarious eyewitnesses to history in the making. Original footage of a 1930s log drive transports us like a time machine to the riverbank where the cameraman stood. We peer deep into the eyes that stare out at us from photographs of the past, looking for a glimmer of recognition, searching for understanding of what these people — women, children and men — saw and experienced.

Some of this history already is displayed in museums, interpreted in books and sensationalized on the silver screen. Most of it is not. What makes archives like the Special Collections Department of the Raymond H. Fogler Library at the University of Maine so compelling are the original, unadulterated threads of history that are woven into the colorful tapestry that is America's past.

"Historical documents — being artifacts directly created by the lives, communities and struggles of the past — can convey a sense of history that can never be duplicated by books or movies," observes Richard Hollinger, head of Special Collections.

Fogler's Special Collections is Maine-centered and manuscript-dominated, largely rooted in the late-19th and early-20th centuries. At its core are the overarching themes of nature and the environment.

Its leading collections document the state's extensive logging and lumbering history. Letters, books, photos, business records and diaries similarly preserve the histories of other natural resource-based industries in the state, such as shipbuilding, farming, fishing, paper-making, ice harvesting, and slate and granite quarrying. Even the effect of the landscape on Maine politics and arts is reflected.

Such Maine-focused collections as those of folklorist Fannie Hardy Eckstorm and historian James Vickery are not "famous," yet they are incredibly valuable for their depth of documentation.

While many of the approximately 1,200 collections archived by Fogler Library are of regional interest to scholars, others are of value to researchers nationally and internationally. They include political papers of U.S. Vice President Hannibal Hamlin, former U.S. Secretary of Defense William Cohen and Maine's current governor, John Baldacci. The James Russell Wiggins Collection documents political and journalistic history throughout the former *Washington Post* editor's 21-year tenure at the paper.

Papers of UMaine alumnus and author Stephen King, big band leader Meyer Davis and painter Vincent Hartgen are part of a growing collection focusing on artists, writers and the Maine "climate" deemed so conducive to creativity.

Also actively being developed is an archive of Maine women's history. Already in Special Collections is a range of documents, including the papers of the first woman to serve as a judge in Maine, Harriet Henry; plans by eminent landscape architect Louise Payson; and diaries of farmers and a 19th-century millworker.

A number of the manuscript collections include fascinating — and surprising — artifacts. In context, these objects of history have unique stories to tell — stories that add to the experience inherent in an exploration of archives.

The "gems" in the University of Maine's collection of more than 6,000 rare books are just too numerous to mention. They include *The Aurelian*, a natural history of English insects, published in 1766 with cloth pages and hand-painted illustrations. One of the oldest books dates to the 1500s. Fogler's Maine Collection includes nearly 23,000 volumes on the state's history and literature. Rare books also are found in archives like the Vickery Collection, which includes *Scripture Animals; or, Natural History of Living Creatures Named in the Bible*, published in Portland, Maine, in 1834, written for youth by the first settled minister of Blue Hill, Maine — artist, author and architect Parson Jonathan Fisher (1768–1847).

Photos by Kathy Rice





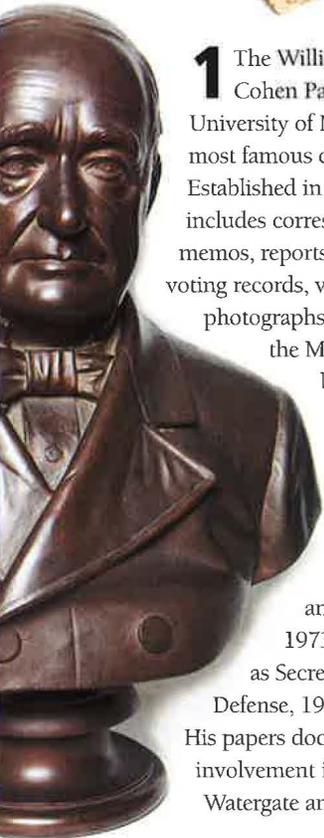
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**1** The William S. Cohen Papers is the University of Maine's most famous collection. Established in 1996, it includes correspondence, memos, reports, speeches, voting records, videos and photographs spanning the Maine leader's political career in the state, in the U.S. House and Senate, 1973–97, and as Secretary of Defense, 1997–2001. His papers document his involvement in both the Watergate and Iran-

Contra investigations on Capitol Hill. Born in 1940, Cohen was first elected to public office as a city councilor, then mayor in his hometown of Bangor, Maine. In the state's hotly contested Second Congressional District race in 1972, he walked 600 miles throughout the district (in the shoes pictured above, the bright yellow sign posted on an accompanying vehicle) to "find out what is on people's minds." Walking and talking informally with his constituents became Cohen's trademark.

**2** Dime Novels, a genre of popular fiction for adolescent audiences, were in their heyday in the 1800s. Young readers were introduced to adventure stories set on the frontier and on city streets, featuring historical figures

like Buffalo Bill and characters such as Deadwood Dick.

UMaine's collection of more than 1,700 pieces includes Beadle's Dime Novels.

**3** Maine native and longtime U.S. Senator Hannibal Hamlin was Abraham Lincoln's first vice president. The winning of the so-called "Abra/Hamlin/coln" ticket was a trigger for secession of the Southern states. After his four-year term, Hamlin was not renominated. A month after reelection, Lincoln

was assassinated, April 14, 1865. The Hamlin papers, documenting several generations of the Maine family,





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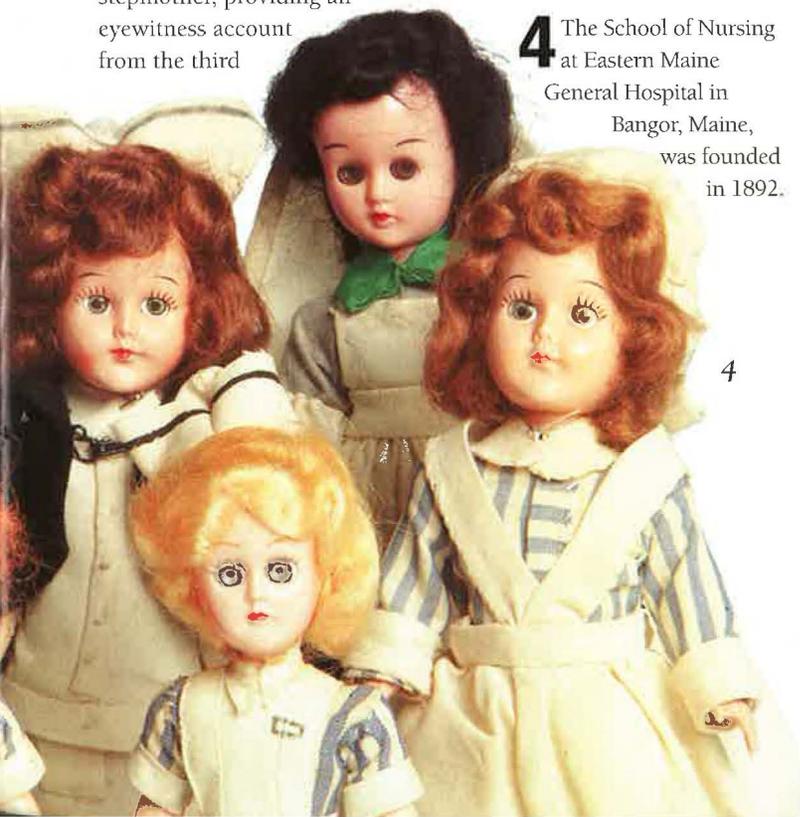


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1802–1965, include a letter written by Sarah Hamlin to her stepmother, providing an eyewitness account from the third

row of Ford's Theater the night of Lincoln's assassination.

**4** The School of Nursing at Eastern Maine General Hospital in Bangor, Maine, was founded in 1892.



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Today, its history is reflected in an extensive collection of photographs, yearbooks, scrapbooks, curriculum materials, reports and correspondence. Among the artifacts are dolls dressed in nursing uniforms of different eras.

**5** Fannie Hardy Eckstorm was a folklorist and historian of Native Americans, a naturalist and musicologist. She also was an author who published extensively on all these subjects in the early 1900s. She often accompanied her father, a fur trader, on his trips up the Penobscot River. Eckstorm lived from 1865–1946; the collection spans 1730–1947. It includes documentation on ballads and legends, woodmen

and river drives; items from J.T. Hardy's fur trading business; and detailed information, including extensive photographs, on the Penobscots and other Maine tribes.

**6** The papers of the Talbot-Whittier Family of East Machias, Maine, are an outstanding example of historical documentation. One descendent, Capt. Ephraim Chase, went to sea at age 7 and later sailed an armed schooner in the Revolutionary War. From other family members: an 1849 journal of a trip by ship to California; a Civil War diary; an 1894 account of a journey to Europe on the (first) *Britannic*. Family history is recorded through 1976.



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**7** Postcards are portals to the past, providing glimpses of history and culture. Fogler holds more than 8,500, including the Hoffman and Pottle Postcard Collections. The postcards include images of Maine and Massachusetts, and cover a variety of periods, subjects and countries.

**8** June 6, 1918, *Chicago Tribune* war correspondent Floyd Gibbons was on the front line with the Marines at the Battle of Belleau Wood when he was wounded by German machine gun fire. One of the bullets entered his left eye and exited the back of his skull, leaving a gash in his helmet. He never lost consciousness during the three hours he was pinned down as the battle raged on. Gibbons' other adventures and derring-do, like his eyewitness account of the sinking of the *Laconia* and coverage of Mexican revolutionary Pancho Villa, made him one of the top correspondents of his genera-

tion. He went on to a successful career in radio with such shows as "The Headline Hunter." His papers, 1900–40, include photographs, fan mail and radio scripts.

**9** "The New England March King" Robert Browne (R.B.) Hall began his career as a cornet virtuoso at age 16. Born in Bowdoinham, Maine, in 1858, Hall performed with all the major municipal and military bands in New England at the end of the 19th century. He composed more than 60 marches in his career, including one traditionally performed at military funerals. R.B. Hall's

scores and sheet music comprise most of the Thomas Bardwell Collection, 1870s–1960s. The collection also includes recordings from more than 1,000 bands from Japan, Britain, Switzerland, France, Norway, Sweden, Denmark and the U.S.

**10** Maxine Elliott is said to have been one of the most photographed and beautiful actors at the turn of the century. The Rockland, Maine, native was the star of the stage and the silver screen. She also



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owned Maxine Elliott's Theatre on 39th Street, New York City. Her collection, spanning 1846–1940, includes correspondence, diaries, photos and playbills from her 30-year acting career. Also included is the manuscript of the biography written by her niece, Diana Forbes-Robertson, *My Aunt Maxine*. ■

More information on UMaine's Special Collections is on the Web [www.library.umaine.edu/speccoll/](http://www.library.umaine.edu/speccoll/)

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## Volunteers are on the lookout for ocean invaders

# Two if by sea



Photo by Toby Hollis

**To identify the different species of microscopic phytoplankton just dipped from the water, Sarah Gladu (left), coordinator of Cooperative Extension's Maine Phytoplankton Monitoring Program, and volunteer Ann Bex use a hand-held Swift field compound microscope.**

**Some of the smallest** organisms in the sea are true giant killers. Take tiny phytoplankton — microscopic algae with bizarre but beautiful shapes. While most varieties are harmless and indispensable to healthy marine life, some can generate toxins deadly enough to kill whales.

In the Northeast and elsewhere, these insidious invaders also have contaminated shellfish and sickened people, leading government agencies and citizen volunteers to maintain vigilance. When such toxic species do show up in Maine, Betty Killoran and Ann Bex are among the first to know.

Killoran is a retired New York City physician now living in Rockport, Maine, and Bex, a resident of nearby Camden, once operated a windjammer. They are two of more than 60 volunteers in the Maine Phytoplankton Monitoring Program that is coordinated by the University of Maine Cooperative Extension. Motivated by their curiosity and love of the sea, citizen teams monitor coastal waters spring, summer and fall, and thus serve as an early warning system for the coast.

"I look forward to seeing what's in the water every week. I get a lot of satisfaction out of it. It's another world," says Killoran, who has been dipping phytoplankton out of the waters off mid-coast Maine for five years.

Her first brush with toxic algae was in the early 1980s at a medical conference in Rockland, where she heard a victim of paralytic shellfish poisoning describe the symptoms — tingling in the face and arms, numbness, headache and nausea. The shell-

fish the person ate contained high levels of a neurotoxin, produced by a species of phytoplankton.

Volunteers monitor coastal waters at about 40 locations along the Maine coast. In addition to Extension, supporting organizations include Maine Sea Grant, the Bigelow Laboratory for Ocean Sciences and the Maine Department of Marine Resources.

Sarah Gladu of Extension's Waldoboro, Maine, office coordinates the monitoring program. She says the volunteers show a lot of enthusiasm for a job that puts them at the intersection of public health and marine science. "It's a great way for people to become involved in the outdoors in a way that ties them to a place and is instructive," she says. "There is always more to learn. There are species out there that we've never seen before."

By Nick Houtman

A common species of phytoplankton is *Chaetoceros socialis*.

Image courtesy of Sarah Gladu

**Dockside, volunteers (left to right) Ann Bex and Betty Killoran talk with Maine Phytoplankton Monitoring Program coordinator Sarah Gladu as they start their weekly sampling routine. Spring, summer and fall, they join more than 60 volunteers along the Maine coast, taking measurements and collecting water samples in the incoming high tide. The hour-long process is considered an early warning system for toxic phytoplankton.**



Photo by Toby Hollis

For Jesse Leach, a volunteer monitor and former fisherman with an oyster aquaculture lease on the Bagaduce River near Castine, Maine, checking the water regularly for phytoplankton has a practical benefit. "It's (oysters') food," he says. "(That's why) we do all the tests that we can: chlorophyll, currents, water depth. We want to see how much food there is; we're interested in keeping the water clean."

Another group of monitors on Mt. Desert Island, home of Acadia National Park, uses phytoplankton as the key to a broad environmental education program. Jane Disney, executive director of the MDI Water Quality Monitoring Coalition, says the group has been monitoring coastal waters since 1992.

As a high school biology teacher, Disney saw monitoring as a way to give students direct experience with science. Often as not, she says, students' questions cannot be answered with current knowledge. For example, why doesn't the presence of toxic

algae in the water always lead to shellfish contamination? "We've never seen a summer when toxic phytoplankton species have not been around," says Disney, yet mussels, clams and other shellfish rarely turn out to be toxic.

Nevertheless, toxic algae have made headlines. They've been linked to deaths of whales in the Gulf of Maine, manatees in Florida and pelicans in California.

These poisonings can start with clams, mussels and other shellfish that eat by filtering phytoplankton out of the water. Although they do not seem to be harmed by eating toxic algae, shellfish can concentrate the toxins in their flesh. Animals, including humans, that eat shellfish can suffer paralysis, diarrhea and temporary amnesia, and even die.

Federal and state shellfish sanitation programs make sure that human poisonings are rare. Regulators test shellfish frequently to ensure it is safe to eat, but they can't keep a constant eye on thousands of miles of

coastal waters to see what phytoplankton species are present. That's where volunteers play a role.

The sampling routine is straightforward. Participants receive monitoring equipment and a day of training in the spring, usually at UMaine's Darling Marine Center in Walpole, Maine. On the incoming high tide, volunteers spend about an hour taking measurements and collecting water samples. A cup of water can contain millions of phytoplankton cells. Once they identify the types of cells present, monitors send that information to Laurie Bean at the Maine Department of Marine Resources.

"(Volunteers') work has made a difference," says Bean. "As they've gotten more familiar with Alexandrium, which causes paralytic shellfish poisoning, they've been able to spot it in the water column a week or so before toxin shows up in shellfish." ■

More information about the Maine Phytoplankton Monitoring Program is available on the Web  
[www.ume.maine.edu/ssteward/phyto.htm](http://www.ume.maine.edu/ssteward/phyto.htm)

## Only a click away



Photo by Kathy Rice

**R**EUBEN CARON knows firsthand what laptop computers mean to Maine schoolchildren. As a technology consultant for eight Aroostook County school districts, the University of Maine electrical engineering technology major saw middle school students, who had never used a computer, become overjoyed at their first touch of a keyboard.

During his four years at UMaine, Caron helped the state's pioneering laptop initiative to level the learning field for students without computer access at home. He created a computer network for the eight districts, providing online access to more than 2,000 students and 400 teachers.

Reuben graduated May 8 and headed for a job with the Putney School in Vermont as a network operations manager.

As a student engineer, Caron provided information technology (IT) support for UMaine's Electrical Engineering Technology Program. He also designed and installed computer systems for department labs and for UMaine's Advanced Manufacturing Center.

Caron learned the fine points of technology sales and management working for the Computer Connection, UMaine's technology purchasing unit. He took academic courses in management information systems, computer programming and electrical networks.

Working with the University of Maine System's computer network (UNET) and Apple Computer, Caron conducted nightly backup operations for the state's middle school laptop network. He found himself working in the dead of night after daily traffic on the statewide school network had died down.

In 2003, his summer job with Kannon Communications Inc., in New Gloucester, Maine, involved consulting with businesses throughout New England on their network needs. All the while, he continued to provide services to the Maine Laptop Initiative.

In the long term, Caron hopes to start his own technology consulting business in Maine. "Some of my friends and I are all going out on our own right now, but once we build up our experience, we may come back together as a group. We know there are exciting possibilities out there."

**ELIZABETH MUNDING** LIKES a good story, especially if it involves nature and wildlife.

As a journalist, she sought out people whose lives intertwined with woods and water, and on vacations, she visited state and national parks to learn more about the environment. While at the University of Maine for a master's degree in parks, recreation and tourism, she spent two weeks on Matinicus Rock off the Maine coast volunteering in the National Audubon Society's Project Puffin. She also worked as a park ranger at Acadia National Park in Bar Harbor, Maine.

Now the Iowa native is putting her storytelling skills and love of nature to work for Maine's diverse tourism industry. "I hope to give tourism a higher profile in the state as our No. 1 industry," she says.

Working with Wilbur LaPage, associate professor of forest recreation, and with support from the Maine Tourism Commission's Natural Resources Committee, Munding has interviewed more than 40 people with direct and indirect interests in tourism. She has talked to forest landowners, managers of white-water rafting companies, owners of bed and breakfast inns, and state tourism officials.

## Telling tourism's story



Photo courtesy of Elizabeth Munding

For her master's thesis, she will analyze their points of view, and develop recommendations and guidelines to take advantage of the growing international interest in nature-based tourism.

Consistent themes running through her discussions include the need for a statewide database for tourism businesses to find opportunities in training, grants and research; rural economic development plans that target tourism-related businesses; and strategies to market Maine's nationally significant experiences and resource qualities.

For example, certification of "green businesses" might guide customers in making tourism choices, even before they get to the state, Munding says.

For state policy, an important issue is the balance between natural resource protection and use of those same resources for business purposes, she says.

Munding's work and the Maine Tourism Commission's focus on nature-based tourism grew out of an initiative promoted in 2003 by Rep. Sean Faircloth of Bangor, Maine. He suggested that Maine look at ways to enhance opportunities for the public to see wildlife, particularly birds.

# Can **Business** and **Ethics** Coexist?

*UMaine Business School faculty weigh in*

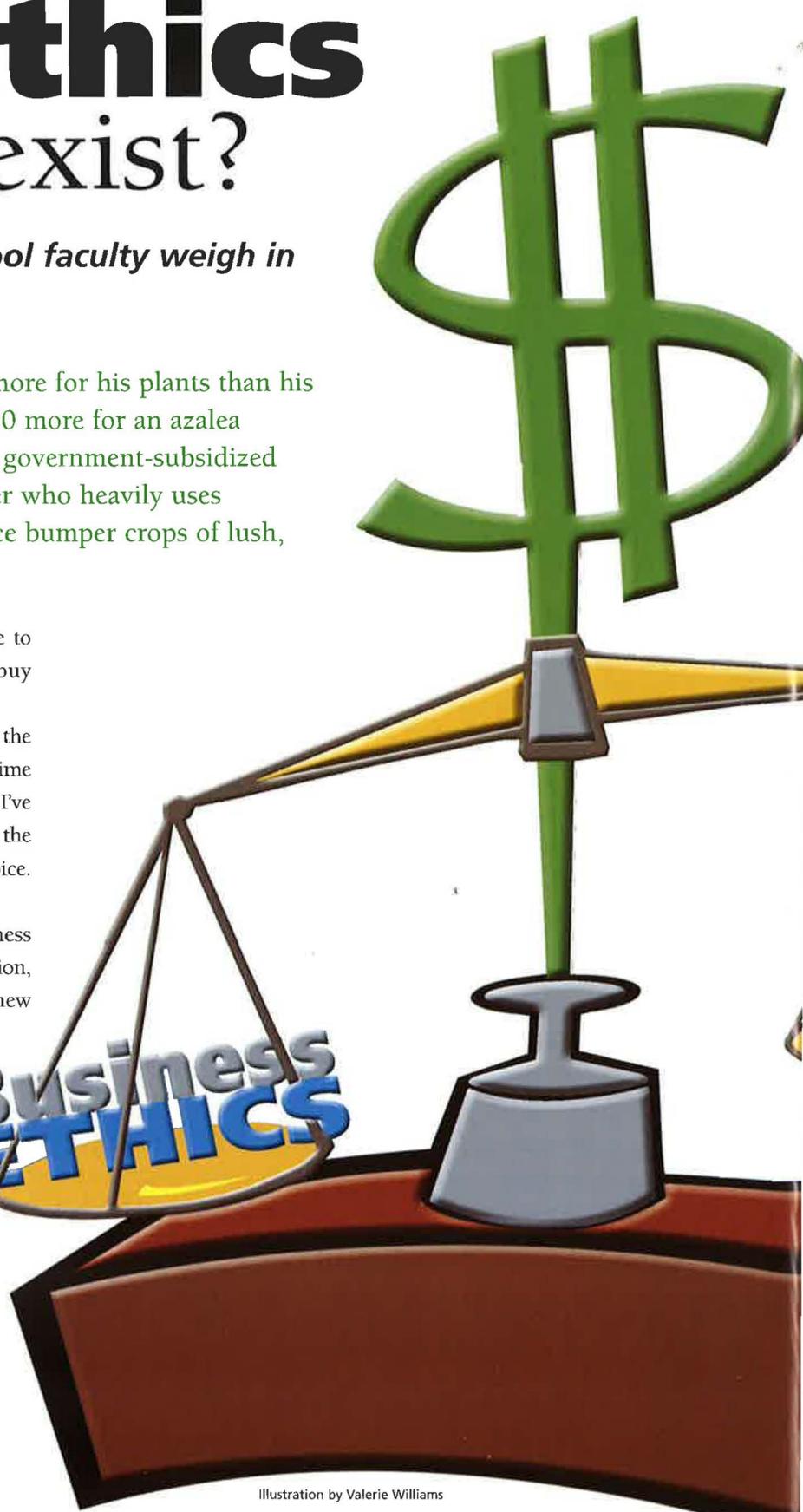
By George Manlove

Phil Frederick at Bangor Floral often pays more for his plants than his competitors. He'll shell out as much as \$1.50 more for an azalea ordered from a Florida nursery than from a government-subsidized Canadian company or an Ecuadorian grower who heavily uses pesticides and chemical fertilizers to produce bumper crops of lush, green plants.

"If I have a choice — (even if) it does cost me more to carry the green plants that I do — I'd much rather buy locally," he says. "I feel better."

To remain competitive, Frederick says he doesn't pass the extra cost on to customers and he doesn't spend much time thinking about how that compromises profits. "One thing I've learned over the years is that there's always a cost to doing the right thing. I think for some people, it's a conscious choice. For others, money is all that matters," he says.

With a national backdrop of a winner-take-all business environment and stunning instances of corporate corruption, decisions like Frederick's are refreshing examples of a new business ethic engaging greater social responsibility. In recent years, investigations, indictments and trials involving mismanagement within some of our most trusted corporate institutions have shaken Americans' faith in the very companies feeding retirement portfolios and investment accounts. Frederick and business leaders like him are part of a growing business culture trying to counterbalance a helter-skelter free market environment that invites ethical shortcuts in the race to maximize quarterly earnings. Their decisions consider consequences beyond the bottom line.



Business  
**ETHICS**

In his book *The Cheating Culture: Why More Americans Are Doing Wrong to Get Ahead*, David Callahan, co-founder of the New York-based Demos think tank, cites two common excuses for unethical business behavior: "everyone else is doing it" and cheating is a way to survive.

## "The biggest ethical decisions are between right and right, not right and wrong."

— Ken Nichols

But how does the need to get ahead equate to allegations that Enron executives in California cynically manipulated the energy market to generate profit from chaos, then falsified audit reports?

What's happened to old-fashioned ethics in business?

"I don't think you're going to get an easy answer," says University of Maine Assistant Professor of Management Stephanie Welcher. "It's like asking: Where have our values gone? The question is not when are we going to trust business. It's when are we going to trust each other?" she says. "We've really created this animal."

Ethical behavior isn't as simple as deciding whether to break the law or deceive stockhold-

ers, says Roger King, UMaine associate professor of philosophy who teaches business ethics. It's hard to hold to firm ethics without firm personal values.

"Part of my goal is to give students a set of conceptual tools (with which) to reflect on motivations and values, and to see the complexity of a lot of situations," he says. "Many times there's a tendency to oversimplify. That's why they need the tools for analyzing ethics."

Fundamentally, ethics are determined by societal values, adds Ken Nichols, associate professor of public administration, who also teaches ethics in his courses. "The biggest ethical decisions are between right and right, not right and wrong. There are contrasting outcomes and values. That's what we want to introduce to our students."

But some decisions are right and wrong.

"Everyone looks at Enron, Global Crossing, Tyco, Adelphia and WorldCom and says 'unethical behavior,'" notes Daniel Innis, dean of the UMaine College of Business, Health and Public Policy.

"A lot of people are saying those activities are a sign we need better ethics education at our business schools. I disagree. Those executives knew what they were doing was wrong. They knew the difference, but they chose to do it anyway."

John Mahon, UMaine's John M. Murphy Chair of International Business Policy and Strategy, says too many people ask the wrong question when it comes to balancing business ethics and profitability. "Can I make money and still do the right thing?" he asks. "That's a seductive trap."

Mahon prefers to ask, "What's an ethical rate of return? What's a reasonable profit? No one asks that question," he says. "I believe you can succeed in business and be absolutely ethical. I suggest you don't have to make a choice between doing the right thing and making a ton of money." ■

## Ethical emphasis

DANIEL INNIS isn't sure whether corporate corruption is getting worse or that more cases of fraud are being exposed to the public. But the dean of the University of Maine College of Business, Public Policy and Health says that public exposure gives a business school a good opportunity to focus on the subject and the complexity of applying ethics to business decisionmaking.

In October, UMaine's Business School faculty will spend a week shining an extra bright spotlight on ethics — from basic accounting and marketing to management and information systems.

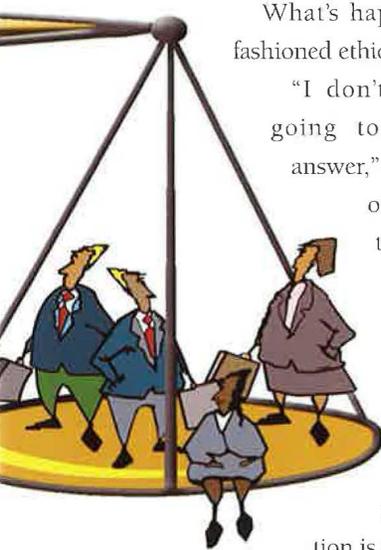
The point, says Professor of Management John Mahon, is to drive home the message that "ethics is not an afterthought in business. It should be front and center."

The goal is to integrate wide-ranging discussions on ethics and typical ethical dilemmas in the business world, including the ways ethics decisions shift from level to level in management.

"Ethics is fundamental. Clearly, we have big needs out there and I think it signals to our business students that Tyco, Martha Stewart and Enron are not the exemplars," says Stephanie Welcher, assistant professor of management.

Not only is business ethics instruction critical to training business students, she says, but dedicating a week to ethics "also signals that we care."

"I don't really feel like I have all the answers," she says. "What I would like are some really interesting discussions to try and make sense of the myriad of ethical dilemmas that exist, and to do it from a point of humility and open discussion."



# Ice is hot.

Drilled from mountaintop glaciers and the world's great ice sheets, ice cores give scientists with unparalleled views of the planet's past. Falling snow contains volcanic eruptions and dissolved chemicals from land and sea. As snow accumulates, fingerprints of past environments stay locked in layer upon layer of ice.

## FACE OF A CHANGING PLANET

Volcanic eruptions, dust storms, air pollution and El Niño weather patterns all leave signatures in the ice, enabling scientists to understand how climate and other environmental factors interact. University of Maine scientists study changes in atmospheric circulation, temperature, sea ice extent, volcanics, environmental change, solar variability, nutrients feeding marine ecosystems and other areas.

## WHY ICE CORES?

Instruments have reliably measured climate for the past century. To understand the natural variability of climate requires knowledge of the environment prior to instrumentation. Ice cores enable high-resolution reconstructions of climate going back as far as 450,000 years. They are essential tools in the research of UMaine's Climate Change Institute, directed by scientist Paul Mayewski.

## A FROZEN C

The problem answer: loo reaches a p year. The le rise and fal produced in the Souther inland whe ice, these c



## DUST TO DUST BANDS

Dust on both ends of this ice core extracted from the Dry Valleys of Antarctica indicates increased dust transport during the windy season. The ice between the two dust bands is equal to one year of precipitation. Invisible to the eye is the chemical composition of the ice core: sodium and chloride that come from the ocean, magnesium and calcium from continental sources (rocks/dust). Some visible dust found in Antarctic cores is volcanic in origin. Each eruption has its own chemical signature of dust and glass shards. It can take up to a year for volcanic dust to be deposited in the ice, and there are times when dust doesn't get to Antarctica. Much depends on the atmospheric circulation and violence of the eruption.



## THE YEARS MELT A

Unlocking an ice c complex process. T so that chemical m made. An ice core heated aluminum or "melt head" in samples in small v long takes about a yields up to 50 via from a human fing significantly alter ice, which is frequ billion range. Scie always wear glove contaminating the

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By Nick Houtman

**LOCK**  
how to tell one year from the next. The  
for a clock in the ice, something that  
peak during the same time of the year, every  
levels of many chemicals transported by wind  
with the seasons. For example, sulfate is  
summer by sea life such as phytoplankton in  
Ocean; in winter, sea salt is transported  
marine storms intensify. Deposited in the  
chemicals leave records of past climates.



Photo courtesy of the  
Climate Change Institute

**THINK LIFE IS TOUGH  
WHERE YOU WORK?**  
Scientists from UMaine's Climate  
Change Institute who retrieve ice  
cores from Antarctica, Greenland, Asia  
and North America endure some of  
the highest, coldest and windiest  
places on Earth. They use drills that  
bore deep into the ice to extract  
cores up to 5 inches in diameter. In  
the field, measurements and visual  
observations of the cores' layers are  
recorded. Then the ice cores are  
packaged in plastic sleeves and  
shipped in insulated boxes. It's  
important to avoid chipping or  
melting on the long trip home. Cores  
come to UMaine or to the  
National Ice Core Lab in Colorado. On  
campus, the ice cores are kept in a  
freezer at -27 degrees Celsius.



DUST BAND

**WAY**  
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Photos by Kathy Rice

#### HISTORICAL EVIDENCE

The atmospheric evidence found in ice cores often correlates with important dates in history. For instance in Arctic ice cores, scientists have clearly "seen" the advent of the Industrial Revolution at the beginning of the 20th century because of the rise in atmospheric acids from burning fossil fuels. Other events that have left evidence in the ice include the Dust Bowl of the 1930s and the Chernobyl nuclear accident in 1986. Some of the most powerful tools for dating include measurements of radioactivity levels from nuclear bomb testing in the 1950s and 1960s, and measurements of sulfate from large volcanic eruptions, most notably Tambora in 1815.

More information on UMaine's  
Climate Change Institute is on the Web  
[www.climatechange.umaine.edu](http://www.climatechange.umaine.edu)

# Keeping down on



# cod the farm

UMaine researchers  
are working with  
regional scientists to  
overcome barriers  
to raising the once  
abundant fish  
in captivity

By Nick Houtman



IT'S LATE SPRING, but the wind on Down East Maine's Cobscook Bay still has a bite. Scientists in winter jackets turn up their collars as they peer at a video screen at an aquaculture pen near Eastport. They're watching live footage captured by an underwater camera that is monitoring thousands of Atlantic cod (*Gadus morhua*) from the bottom of the pen. On screen, fish silhouettes meander against a white sky.

It's the only look that Austin Dinsmore, manager for International Aqua Foods USA's Eastport operations, and University of Maine scientists Linda Kling, Nick Brown and Bill Palmer will get of their cod today. The edge of the 50-foot-wide circular pen is only a few feet away, but the water is quiet. The fish have hunkered down well below the surface, wary of their new surroundings. They are among the pioneers — the latest hatchery-raised Atlantic cod to be placed in aquaculture pens, following in the wake of similar efforts in New Brunswick and New Hampshire.

"We are investigating the potential of other species of fish as a viable alternative to Atlantic salmon for Maine aquaculture," says Kling, an animal nutritionist. Brown, manager of UMaine's Center for Cooperative Aquaculture Research (CCAR) in Franklin, Maine; UMaine food scientist Denise Skonberg; and Kling are working with the aquaculture industry to determine the feasibility of raising cod from egg to market in Maine.

In a sense, the cod at Eastport have come home. They are the progeny of

**In Cobscook Bay near Eastport, Maine, University of Maine scientists Linda Kling and Bill Palmer use a video monitor to see live underwater images of some of the thousands of 2-year-old cod being grown in captivity. The cod will stay in the aquaculture pens for almost 15 months, and are expected to be ready for market next year.**



Photos by Fred J. Field



**At UMaine’s Center for Cooperative Aquaculture Research (CCAR) in Franklin, graduate researcher Bill Palmer (top photo) and Associate Professor of Aquaculture Nutrition Linda Kling examine young cod. Center manager Nick Brown (bottom photo) shows off a fully grown cod that is part of the broodstock for an emerging cod aquaculture industry in the United States.**

Photos by Fred J. Field

wild fish caught a few miles from the International Aqua Foods pen in 2000. Those wild fish don’t have a pedigree, but like prize race-horses, they have been tended with loving care at CCAR. They are the broodstock — the Adam and Eve, if you will — of an emerging cod aquaculture industry.

SUPPORTED BY A \$358,000 federal Department of Commerce grant, the cod-rearing project is one of many research efforts around the world aimed at developing alternative species for fish farms. In the U.S., farmers and scientists are raising red snapper in Hawaii, white sea bass in California, cobia in Florida, winter flounder and cod in New Hampshire, and halibut and cod in Maine. Spurred on by declining wild fish stocks, aquaculture is already meeting a significant share of the nation’s seafood demand.

**“The fish we’re raising will go to high-end uses — the fresh filet and possibly the live market, like restaurants.”**

**Nick Brown**

In 2002, the National Marine Fisheries Service estimated that share at about 30 percent. The U.S. Ocean Commission estimates the value of marine and freshwater aquaculture production in the U.S. at nearly \$1 billion.

International Aqua Foods USA’s parent company, Stolt Sea Farm, is already raising cod commercially in Norway. The king of ground-fish also is a natural for the Gulf of Maine’s cold waters. A resident of far northern seas, cod thrive at low temperatures. Brown notes that they are more resilient than Atlantic salmon, which still account for the largest portion of Maine’s aquaculture industry.

In the wild, cod numbers have declined significantly worldwide in the past 30 years. Overfishing is thought to be a primary cause, but scientists consider changing climate and water temperatures to be critical factors as well.

In a spring 2004 report, the Maine Aquaculture Task Force chaired by Paul Anderson, director of the Maine Sea Grant program, acknowledged cod as a “new and promising species” under development in Maine. Nevertheless, success has been slow.

THE ROOTS OF cod farming go back more than a century in Norway, but it wasn’t until the 1980s that techniques for feeding the newly hatched larvae were worked out in detail. Cod larvae are picky eaters. They need live zooplankton raised in culturing tanks, an expensive process. As juvenile fish, they continue to prefer live prey.

In the mid-1990s, Kling found a way to increase the survival of larval cod to the juvenile stage. In a system that recirculates and treats water at the Aquaculture Research Center in Orono, she achieved higher survival rates than those reported in previous

studies. She also created a pellet feed cod would eat early in their development.

She and other researchers continue to work on an "early weaning diet" that could ease the transition away from more expensive live feeds. "Early weaning has not been embraced by the industry because it results in reduced growth rates. That diet is still in the future," she says.

Nevertheless, these were important milestones. Similar research efforts were under way in Canada and Europe. Cod aquaculture was on its way.

Since then, efforts to raise cod have accelerated. Norwegian companies are selling farm-raised cod, and the government has set a goal of producing 200,000 tons per year, Brown notes. For comparison, the World Wildlife Federation has reported that fishermen harvested about 950,000 tons of wild cod worldwide in 2000, down from 3.1 million tons in 1970.

On this continent, cod farming in New England was slowed by disease (viral nervous necrosis, caused by nodavirus) and a Newfoundland hatchery fire. Fish now in pens in New Brunswick and Eastport may be the first to reach North American markets.

IN ADDITION TO the economics of farm-raised cod, the project is looking at disease potential, environmental impacts, feeding behavior, feed utilization and consumer acceptance. At CCAR, Brown is establishing a quarantine system for fish brought in as potential broodstock to prevent diseases from being carried into the hatchery.

No one knows how the fish will fare in a net pen, but the industry is applying lessons learned in raising salmon. The cod are fed a dry pellet that is higher in protein and lower in fat than salmon feed (and \$200 to \$300 per ton more expensive). Too much fat leads to liver problems in cod, says Kling.

Dinsmore and other cod farmers also are vigilant when it comes to fish behavior. "We're using a specially designed net with smaller mesh and a tougher twine because cod behave differently from salmon," he says. Cod will be kept in the pen for 15 months. The pen must then be allowed to lie

## The lure of cod

**MONITORING THE HEALTH and development of cod in aquaculture pens near Eastport is a responsibility of University of Maine graduate student Bill Palmer.**

**A native of Missouri, the 37-year-old father of three is pursuing a master's degree in marine bioresources. Before coming to Orono, Palmer earned a business degree at Murray State University in Kentucky and sold cars at his family's dealership. The certified diving instructor also studied catfish and freshwater shrimp aquaculture in the Midwest.**

**Now Palmer has traded cars for cod. He works with UMaine scientists Linda Kling and Nick Brown to monitor the growth rate, maturation (development of reproductive capacity) and health of the cod.**

**"This is the perfect opportunity to mix my business background with being in an environment that I like," he says.**

fallow, according to regulations developed to minimize the chances for disease.

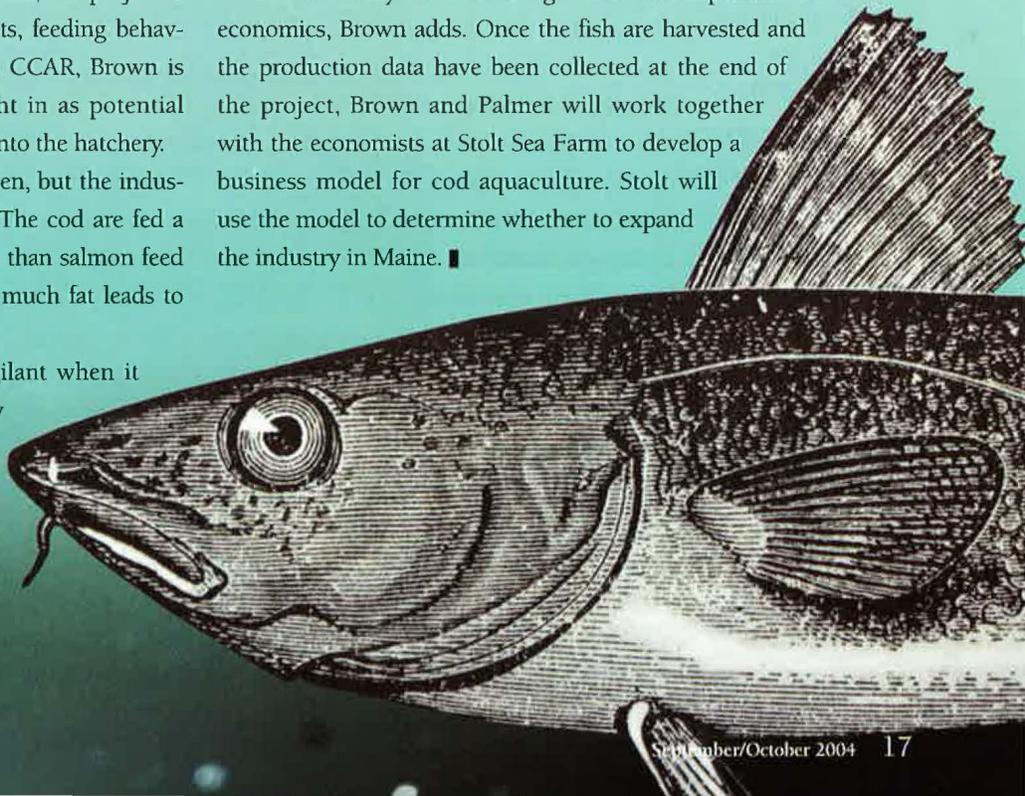
GENETIC DIVERSITY HAS been a concern in the salmon industry, but the cod in Eastport are reared from wild fish and are not genetically different from them, says Brown.

Plans call for the fish at Eastport to be harvested in fall 2005. UMaine food scientist Denise Skonberg will then evaluate the meat for consumer acceptance and yield.

"Farm-raised salmon tend to produce more filet per pound than wild salmon. We don't know what it will be like with cod," she says. Her research will focus on nutritional qualities, such as fat, protein and mineral content; the average weight of processed fish; and differences between wild and farm-raised cod.

As cod aquaculture proceeds in North America and Europe, fishermen, scientists and governments remain concerned with wild cod fisheries recovery. Aquaculture is unlikely to pose a threat, says Brown. "Aquaculture won't compete on price with boats hauling in nets full of wild, caught cod. The fish we're raising will go to high-end uses — the fresh filet and possibly the live market, like restaurants where customers pick the fish they want to eat out of a tank."

The feasibility of cod farming in Maine is dependent on economics, Brown adds. Once the fish are harvested and the production data have been collected at the end of the project, Brown and Palmer will work together with the economists at Stolt Sea Farm to develop a business model for cod aquaculture. Stolt will use the model to determine whether to expand the industry in Maine. ■



To: Mr. Coleman  
From: Whitney

To: Mr. Coleman!  
From: Bridget!

# Proof positive

We Love  
Mr. Coleman

**Steve Coleman inspires students  
to aspire to their full potential**

By Margaret Nagle

“HAVE YOU HEARD MY CARROT JOKE?”

A groan rises from the small group of 10- and 11-year-olds sitting with Steve Coleman at the lunch table.

“You’ve told this so many times,” moans one girl.

“It gets annoying,” says another with an exaggerated sigh.

In dramatic, preadolescent fashion, Coleman feigns a spilt-second of ignominious hurt and then plunges ahead with his story. It goes like this: Standing in line for breakfast one day with a friend, Coleman commented that carrots are good for eyesight, so his friend naturally handed him a bowl full of them.

The youngsters roll their eyes and giggle at the inside joke they’ve heard one too many times, delighting in the offbeat humor so popular at this age. They respond to their friend’s disarming drollness and self-effacing charm not only because he speaks their language, but because they know his story. Coleman has been blind since age 19, the result of a rare degenerative disease.

Joking about blindness is not meant to be profound or disrespectful. For Coleman and the youngsters at the Fairmount School in Bangor, Maine, it’s all about having fun and enjoying their time together. He remembers what it’s like being their age. “I ask what they have for lunch and if anyone has carrots, I ask if they’ve heard my joke. What I’m fishing for is all of them at once to say ‘YEAH,’ they’ve heard it. Having a sense of humor is an important part of my life. I tell them when you lose the kid in you, you get old.”

Coleman, 45, a state-certified teacher, is an aspirations adviser with the National Center for Student Aspirations (NCSA) at the University of Maine. For the past six years, he has led NCSA’s elementary school-based mentoring program at Fairmount. In his residency, federally funded under Title IV, Coleman works one-on-one with selected fourth and fifth graders, in and out of their classes.



*Steve Coleman was invited to speak about aspirations at Freeport Middle School almost five years ago. His motivational talk was so powerful, the students asked him to return for their eighth grade graduation. This past June, Coleman was again in Freeport, this time as the commencement speaker, requested by the same students.*



Photos by Michael Mardosa

The goal is to have students set high aspirations for themselves and be motivated to take action to achieve them.

“When they go on from here to middle school, I want them to remember how special they are and I want them to always strive to reach their full potential, whatever that might be,” Coleman says. “Feeling good about school and about who they are will help as they get older and face all the insecurities that come with teen life.”

Coleman is one of nine members of the National Center for Student Aspirations who help to foster high aspirations in students through goal-setting, academic support and relationship building. He also is like no other.

Being in Coleman’s orbit feels like the whisper of a chill breeze out of nowhere on a hot summer day. Invigorating. Genuine. Intense. From the way he moves confidently through his day (unassisted by any aids) to his ever-present enthusiasm for life, Coleman defies expectation. His humor is dry, his laugh contagious. His outlook on life is positive without being Pollyannaish. With such strength in character, which garners respect from both children and adults, Coleman is able to change people’s lives.

“You won’t see anybody better with the kids,” is the unsolicited comment you hear from his colleagues in the halls of Fairmount School.

Fairmount Principal Paul Butler describes Coleman’s work with the fourth and fifth graders as the time “when he works his magic.”

**For many students, lunchtime fun involves pulling up a chair to eat with Mr. Coleman. While the fourth and fifth grade students who grab seats next to him are considered the luckiest, the other youngsters are content to be within earshot of the banter and good humor.**

# Proof positive

AT FAIRMOUNT, the Aspirations Advisor Program most effectively reaches those students who possess academic strengths and just need encouragement, focus and organization to foster those strengths. They are students who can benefit from having another positive adult in their lives, Butler says, to help them better define their own leadership and academic abilities, and help them to grow interpersonally.

"In Bangor schools, our bottom line is student achievement," says Butler. "If students do well in school and have a positive connection, they will meet the goals of what we want all students to be. There's also a great benefit any time you can get a child thinking about his or her future. While some kids are more ready than others, this program helps them reflect on how they want to achieve success in their lives."

It's difficult to measure confidence, leadership and a positive connection to school. Surveys look at such factors as grades and absenteeism to quantify the success of programs like Aspirations Advisor. At Fairmount, the informal measure is anecdotal and behavioral — what teachers, parents and administrators see in the children.

Coleman has been at Fairmount long enough that his reputation precedes him with new fourth graders who are selected for the aspirations program. For some, their eyes light up because they're loving the attention and support. Another student may have his guard up at the beginning.

**During the day, Coleman meets with students in his office, where there are few distractions or interruptions when reviewing for a spelling test, getting help with math homework, reading aloud or editing a writing assignment.**



"I have no magic dust to sprinkle on them, but in time, I hope the process of working together, being happy to see them and willing to help in any way will show that I care and want them to be happy in school and in life," Coleman says.

EVERY SCHOOL DAY before the opening bell, Coleman is moving through the halls at breakneck speed. First stop: the cafeteria to say good morning to a handful of students who mob him the minute he steps through the door. A volley of voices greets "Mr. Coleman."

He sits among them and picks up the threads of six simultaneous conversations.

"Is that Shawn?" he says, responding to a greeting. "Hi Shawn. Hi Heather," he says, recognizing a nearby voice.

"See you at lunch," Coleman says to Kori as she drifts out the door toward class.

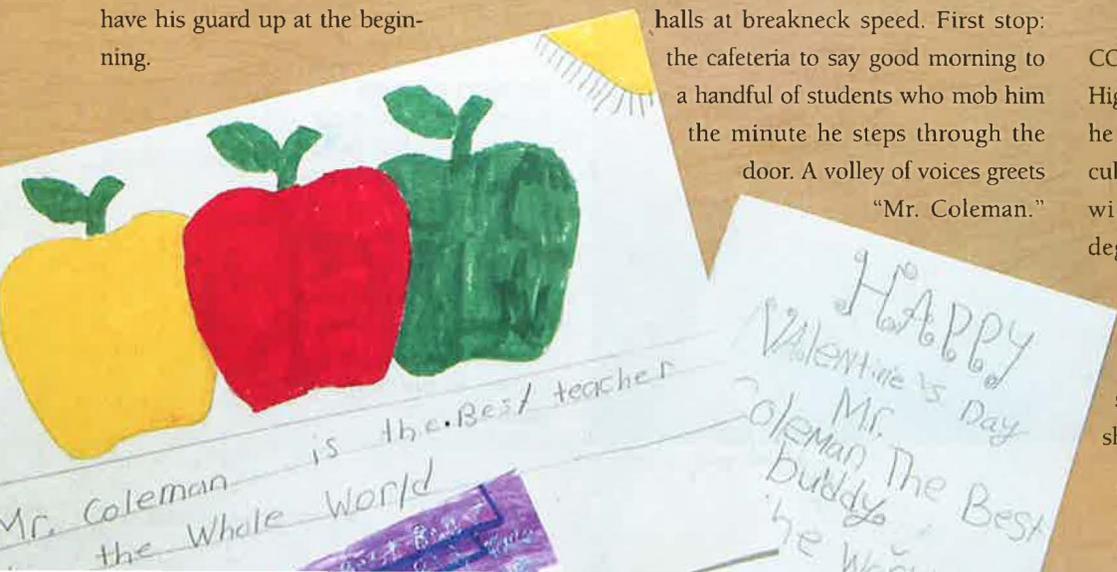
"Isaac, great job in karate last night."

Coleman checks his "talking" wristwatch — something he does a hundred times a day — and dashes to the stairs. He moves from one classroom to the next, stopping by the desks of students to hear their latest news and to inquire about homework. He does the same at day's end. Many of the other students in the class eagerly vie for Coleman's attention, burning to tell him one thing or another. They all have come to count on him being there. And caring.

Once Coleman jump-starts the students' day, he then settles into different classrooms, helping youngsters to stay on track with particular assignments. His job is motivational more than remedial, helping the students to understand the importance of hard work and confidence in themselves. Knowing his high expectations, the students combine a work ethic and their respect for Coleman. And along the way, they better understand who they are.

"Mostly there are a lot of things I can talk to him about," says 11-year-old Kori. "He can be both a teacher and a friend. I've learned a lot from him."

COLEMAN, A QUARTERBACK for Bangor High School, graduated in 1977. Soon after, he noticed he was having increasing difficulty reading. Ultimately, he was diagnosed with a rare genetic disease that causes degeneration of the optic nerve, Leber's Optic Neuropathy. Within six months, he lost all of his central vision. Today, he describes what he sees as a "bright, sparkly blotch," with only blurs and shadows on the periphery.





**Students selected for the Aspirations Advisor Program "blossom" as a result of their interaction with Coleman during their two years at Fairmount. "We believe in the program because we see the results day in and out," says Principal Paul Butler.**

"As someone who's blind and facing the challenges of life in general, it's been important to not let negativity totally dominate my mind," he says. "It's not a matter of always being positive. It's a matter of acknowledging the challenges and then getting back on the positive path."

Coleman says college was one of the biggest challenges to achieving his dreams of getting a job and having a life with his new wife, Ellen. It took six years to graduate from UMaine. And there were naysayers.

Coleman was once told that no school superintendent in the state would hire a blind physical education teacher because of the potential liability. He was strongly advised to consider another major.

In December 1997, Coleman received his degree in kinesiology and physical education, with a concentration in developmental disabilities. Two months later, his first job was as a physical education instructor at a local elementary school.

"I got the job because they thought of the things I could do, not what I couldn't," he says.

Coleman was already doing public speaking when he was tapped by the

National Center for Student Aspirations in UMaine's College of Education and Human Development. In public talks for NCSA that take him throughout Maine and the nation, Coleman relates his life "in the hope that some part of it can be positive for someone in some way, at some time." He also stresses that everyone needs a little help every now and then to get back on track.

In 1998, Coleman was asked if he would step into the aspirations program under way at Fairmount. Ironically, it's the elementary school he attended in the '60s.

MID-DAY AT FAIRMOUNT, Coleman borrows the music room across from the cafeteria for his "lunch group." All students are welcome so long as they adhere to his strict rule: have fun. In this case, fun is pulling up a chair to eat lunch with Coleman. While those who grab seats next to him are considered the luckiest, the other youngsters are content to be within earshot of the banter, this day touching on favorite ice cream flavors and the school concert.

"We tell him that he got hit on the head too many times with a football, that's why he's bald," says one youngster.

"He's a bad singer, but don't tell him," whispers another child.

Three days a week, Coleman is involved in after-school programs. On Thursdays, he offers study hall. Mondays and Tuesdays, he leads a karate class.

Coleman, a black belt who has been teaching the sport for 23 years, uses a technique he calls "tactile positioning," standing beside the athlete to ensure proper stance and movement. Last October, 50 students signed up. Laura was one of them. "I heard from my older friends that they had lots of fun in his karate class and that he's funny," said the 9-year-old, soon to be a white belt.

As in his mentoring, Coleman mixes learning and laughter. "They know my boundaries," he says. "They also don't take advantage of my blindness."

Seeing the Fairmount students interact with Coleman, it's clear that they have self-imposed limits, too. If needed, peer pressure keeps most in check. The children know when they can joke with Coleman and when it's time to "buckle down." They instinctively watch out for him, spelling out the mispronounced word he questions in their reading, telling him when a teacher has momentarily stepped out of the room. They show no frustration, sympathy or intolerance, only a maturity not usually seen so pervasively at this age.

"They don't think of me as Mr. Coleman who's blind," he says. "I'm Mr. Coleman first, their friend and teacher whom they care about and who cares about them. They give my life a great deal of joy." ■

More information on UMaine's  
National Center for Student Aspirations is on the Web  
[www.studentaspirations.org/](http://www.studentaspirations.org/)



## IN THE NAME OF Leadership

**A** \$2.85 MILLION DONATION to the University of Maine Foundation will advance the William S. Cohen Center for International Policy and Commerce.

With the funding, the center in the College of Business, Public Policy and Health will hire its first director and enhance its role in the curriculum, research and public engagement.

The center was established in 1997 with a \$100,000 gift from Cohen when he left the U.S. Senate. Since then, it has been supported by \$1.3 million in an endowment and other funds. Among the center's presentations is UMaine's annual William S. Cohen Lecture.

The anonymous gift, in the form of six charitable lead trusts, will produce income for the Cohen Center in annual installments, beginning later this year. Two-thirds of that income will be used to support the current needs of the Cohen Center; the remainder will be added to the already established Cohen Center endowment in the foundation.

The Cohen Center is an important part of the college's activities and "a cornerstone of our future," says Daniel Innis, dean of the College of Business, Public Policy and Health. "The study of international policy as it relates to business is a fundamental element of our business curriculum."

## Evidence of an early autopsy

IN HIS 1613 BOOK *Les Voyages*, geographer and cartographer Samuel Champlain documented how the first French settlement in North America was established nine years earlier on a 6.5-acre island in the St. Croix River that now divides the United States and Canada. His account has graphic description of the desperate plight of 79 French gentlemen, sailors and artisans who struggled to stay alive during that first unusually harsh winter in 1604.

Champlain provided first-hand clinical accounts of the symptoms of scurvy, malnutrition and exposure that claimed the lives of nearly half the men. He also gave what medical historians have long considered to be descriptions of the first autopsies performed in North America.

Forensic anthropologists now have the first skeletal evidence of one of those early autopsies. The skull of a man in his late teens buried on St. Croix Island exhibits a standard autopsy cut around the cranium. Champlain described dissections of body parts to "determine the cause of their illness." In many cases, wrote Champlain, "it was found that the interior parts were diseased."

The skull was discovered during fieldwork on the island in summer 2003. At that time, the graves there were excavated to thoroughly study the bones and gather data on the ages, nutritional status and pathological conditions of the colonists.

In 1969, the National Park Service had some of the bones excavated from 23 graves on the island. Forensic fieldwork last year included examination of two other burial sites. Before this year's 400th anniversary observance of the 1604 settlement, all the remains were reinterred in cooperation with the Wabanaki — the tribes of Maine and sev-

eral of the First Nations of Canada — and Canadian, French and U.S. governments.

The fieldwork, which also involved returning the first bones to their right graves, was headed by National Park Service archaeologist Steve Pendery, and included forensic anthropologists Thomas Crist of Utica College and Marcella Sorg of the University of Maine's Margaret Chase Smith Center for Public Policy and Maine Office of Chief Medical Examiner.

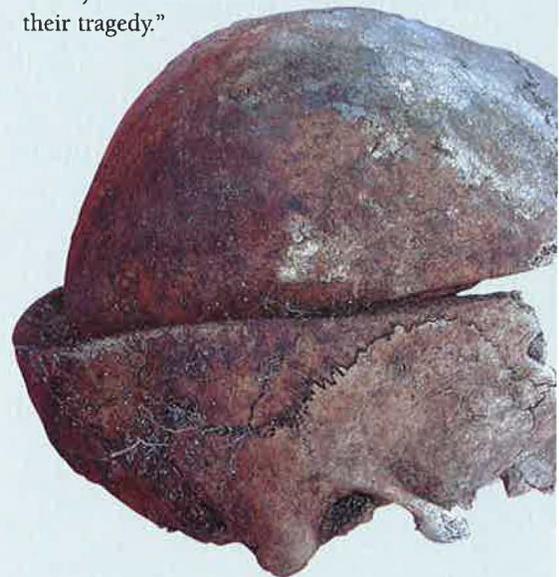


Robert Larocque of Université Laval, a member of the international forensics team, and UMaine's Marcella Sorg excavate one of the St. Croix Island sites.

Photos by Thomas Crist

Findings on the St. Croix autopsy were presented earlier this year at the American Academy of Forensic Sciences annual meeting in Dallas, Texas. They included 3-D CT scan images by Mt. Desert Island Hospital radiologist John Benson, who assisted in the forensic analysis. The CT scan data document pathological conditions and could help digitally reconstruct facial features.

Champlain noted that "surgeons were unable to treat themselves so as not to suffer the same fate as the others." That means it's possible that the men who performed the autopsy were buried next to the corpses they studied, says Sorg, "having unknowingly established a landmark in medical history in the midst of their tragedy."



A side view of the skull cap shows a standard autopsy cut around the cranium.

## Silence Isn't Golden

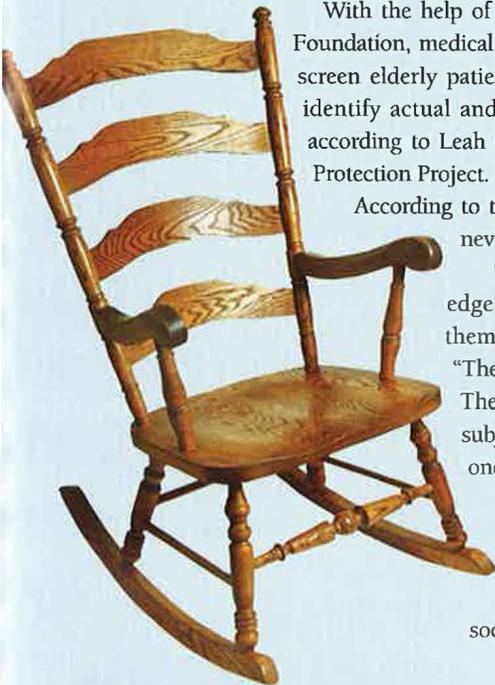
THE UNIVERSITY OF MAINE CENTER ON AGING is piloting a program to help detect and prevent elder abuse.

With the help of a \$200,000 grant from the Maine Health Access Foundation, medical personnel in doctors' offices in two counties will screen elderly patients using a short questionnaire. The hope is to identify actual and potential abuse of seniors at the early stages, according to Leah Ruffin, who directs the Maine Partners for Elder Protection Project.

According to the Center on Aging, 84 percent of elder abuse is never reported.

"In some cases, we're asking elders to acknowledge for the first time that someone is mistreating them," says Center on Aging Director Lenard Kaye. "Their health is at risk. Their housing may be at risk. They're losing friends and family. To report someone subjecting them to abusive behavior risks taking away one of the few people in their lives."

In the past, many physicians have focused on a patient's immediate health condition, Ruffin says. Physicians working with the Maine Partners for Elder Protection Project will look at the overall social aspect of medicine, as well as physical health.



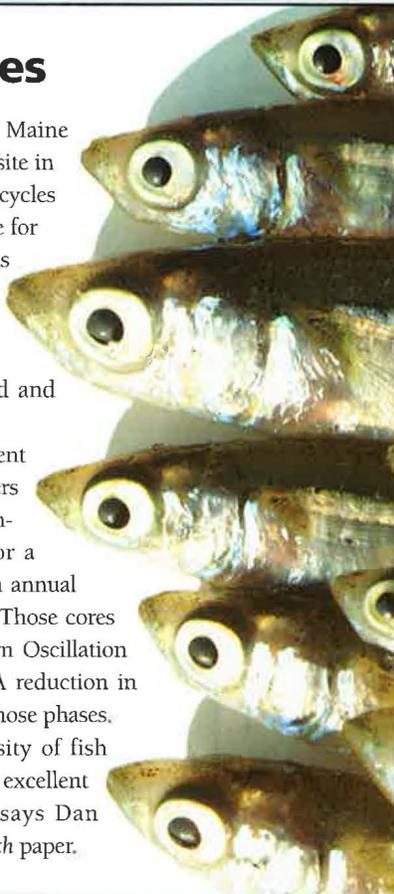
## Hold the Anchovies

A RESEARCH TEAM led by three University of Maine scientists is using fish bones from an archaeological site in Peru to describe the timing of Pacific Ocean climate cycles linked to El Niño. The report provides new evidence for a theory that biological cycles in the world's oceans reflect subtle changes in climate.

The research, published in the scientific journal *Quaternary Research*, focuses on Lo Demás, a specialized processing site where fish were gutted and hung to dry.

With data gleaned from excavations in the ancient village just south of modern-day Lima, the researchers reported that a shift from anchovy to sardine abundance occurred at about 1500 A.D. Evidence for a climate shift at about the same time is contained in annual snowfall rates recorded in Andean glacial ice cores. Those cores show that the warm phase of the El Niño Southern Oscillation climate cycle contributes to lower snowfall rates. A reduction in anchovies and an increase in sardines also occur in those phases.

"The rare combination of location, high density of fish bones and good chronological control make this an excellent site to study Pacific Ocean climate change," says Dan Sandweiss, the lead author on the *Quaternary Research* paper.



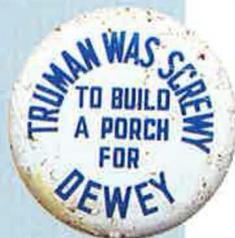
## Best Mudslinging

TODAY, SOUND BITES have replaced traditional presidential campaign slogans. But in past elections, slogans were the attack ads of their day. Here are four favorites of UMaine American history graduate student Tom McCord:



**1908:** Republican William Howard Taft was famous for his girth, and William Jennings Bryan was the Democrats' nominee for the third time. "330 Pounds — Not Electoral Votes," cried Bryan supporters. Opponents retorted: "Vote for Taft this time — you can vote for Bryan any time."

**1940:** Franklin D. Roosevelt broke precedent and sought a third term despite a challenge from GOP utility executive Wendell Willkie. "Two Good Terms Deserve Another" was the Democrats' argument; "No Third Termites" was on GOP campaign buttons.



**1948:** Nobody thought Harry S. Truman could win election in his own right against a challenge by Republican Thomas E. Dewey. "To Err is Truman," was a GOP slogan, but after Truman's surprise win, nobody ever forgot "Give 'em hell, Harry."

**1964:** Unlike Truman, incumbent Lyndon B. Johnson looked solid, especially against the supposedly trigger-happy conservative Barry Goldwater. Goldwater backers loved to say, "In your heart, you know he's right." But Johnson fans fired back: "In your guts, you know he's nuts."



## Molecular Biophysics Research Gets a New Home

THROUGHOUT HISTORY, new imaging capabilities — from the first 17th-century light microscopes to the latest MRIs and electron microscopes — have opened new worlds in biomedical research. But today, with such breakthroughs as the sequencing of human and mouse genomes, researchers need nanoscale imaging technologies to explore the structure and function of genes and chromosomes.



The Institute for Molecular Biophysics (IMB) was created to develop and deploy the biological imaging technologies of the future. The interdisciplinary program brings together expertise in biophysics and engineering at the University of Maine, cell biology at the Maine Medical Center Research Institute in Scarborough, Maine, and genetics and genomics at Jackson Laboratory, Bar Harbor, Maine.

This past May, IMB celebrated a milestone with the opening of its new 3,400-square-foot research facility at Jackson Laboratory. IMB's initial funding was provided by the National Science Foundation's EPSCoR program.

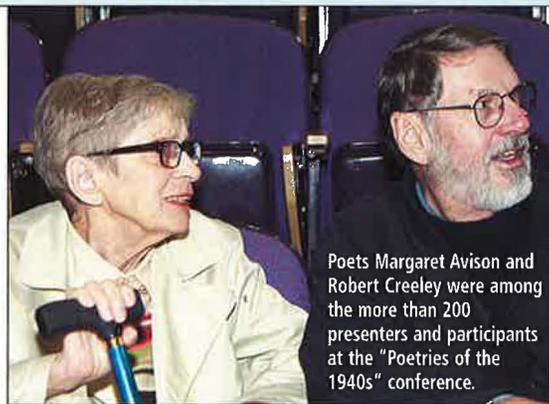
"The IMB is an interdisciplinary leap into the future," says Barbara Knowles of Jackson Lab, who co-directs the institute with UMaine's Michael Grunze. "It is the forum for the integration of newly developed instrumentation that will allow the application of optical physics and nanotechnology to genome structure. The ultimate goal is to understand precisely how genes control both normal development, and human diseases and disorders."

WORLD-RENOWNED POETS and scholars involved in the creation and study of poetry were at the University of Maine this summer for one of the largest conferences devoted to the genre.

"Poetries of the 1940s, American and International" drew participants from nine countries and the United States for five days of lectures, readings and panels. It was the 12th such conference organized by UMaine's National Poetry Foundation.

The conference focused on an era of radical change in American life, says poet and literary scholar Burt Hatlen, a UMaine professor of English and director of the National Poetry Foundation. "The United States emerged from the war as the richest and most powerful nation on Earth, but many poets felt deeply uneasy about the new role they saw America playing in the postwar period, especially the increasing influence of the military on American society."

The 1940s was a time of experimental and adventurous musical and literary subcultures, where seeds of the '50s beat generation and '60s counterculture were planted, Hatlen says. The tension and turmoil of the times is captured in the poetry in America and around the world.



Poets Margaret Avison and Robert Creeley were among the more than 200 presenters and participants at the "Poetries of the 1940s" conference.

## A sense of the '40s

Photo courtesy of FMC BioPolymer



## UMaine President Peter Hoff Steps Down After Seven Years

SEVEN YEARS AFTER he took the helm of Maine's flagship public university, President Peter Hoff resigned in July. A presidential search is expected to begin this fall.

Hoff, the longest-serving UMaine president in almost 40 years, was appointed to a five-year position as University of Maine System Professor, where he will work as a scholar and researcher on higher education.

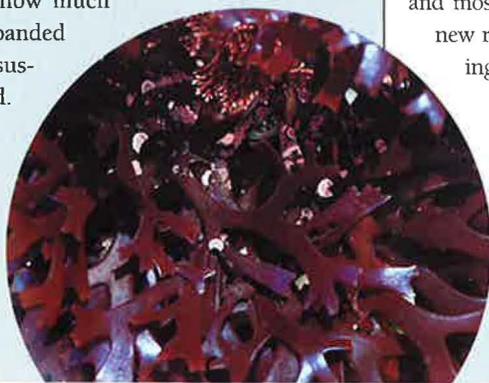
University of Maine System Chancellor Joseph Westphal named Robert Kennedy, executive vice president and provost since 2000, as interim president.

## Absence and Abundance

IF THERE'S A SILVER LINING to the sea urchin decline along the Maine coast, it may be the increased abundance of a commercially important type of seaweed.

With fewer of the spiny creatures grazing in coastal waters, a dark purple, edible seaweed known as Irish moss, or *Chondrus crispus*, has spread like dandelions in spring.

With a \$10,000 Maine Technology Institute seed grant, FMC BioPolymer in Rockland is working with University of Maine scientists to determine just how much Irish moss has expanded and how it can be sustainably harvested. The research may lead to new harvesting methods and new jobs.



UNIVERSITY OF MAINE MUSEUM OF ART

# UMMA

**T**HESE DAYS, you never know whom you're going to see in Bangor, Maine. Pablo Picasso. Käthe Kollwitz. Winslow Homer.

That's because nearly two years ago, the University of Maine Museum of Art went downtown. The move by the 58-year-old museum from the Orono campus to Bangor provided an opportunity to increase educational outreach and become a greater catalyst in Maine's creative economy. In its larger, state-of-the-art exhibit area in historic Norumbega Hall, the contemporary art museum, directed by Wally Mason, now hosts more nationally recognized and permanent collection exhibits than ever before.

The University of Maine Art Collection was established by the late Vincent Hartgen in 1946. Early on, it included works, primarily on paper, by such artists as John James Audubon, Edward Hopper and James M. Whistler.

Today, this is the only museum owned by the citizens of Maine that houses a permanent fine arts collection. In the permanent collection are more than 5,700 works by such masters as Georges Braque, Mary Cassatt and George Inness. Also represented are such Maine artists as Berenice Abbott, John Marin and Andrew Wyeth.



Andy Warhol (American, 1928-87)  
Mick Jagger, 1975  
Screen print

Gift of Robert Venn Carr Jr., Class of 1938

# Consider adopting

**For as long as she can remember,** Bronwyn Smart has wanted to be a school-teacher. She also always planned to study at the University of Maine.

"I wanted to be close to home so I could visit my family and still attend a good school," says the elementary education major from Millinocket, Maine.

But when her stepfather lost his job in the local paper mill, Smart needed additional financial aid to continue her education. She became the first recipient of a University of Maine Foundation Adopt a Student scholarship.

She used the scholarship to help buy books and pay tuition.

"This is a great thing for the Foundation to do," says Smart, now a UMaine senior. "There are a lot of students out there who need help. Without the scholarship, I would have had more loans — money I had to pay back on a teacher's salary."

Even with the assistance of scholarships, grants, work opportunities and other resources, UMaine students like Bronwyn borrowed more than \$31 million to help meet their educational costs in 2003-04. Despite these efforts, each student lacked \$1,400 on average last year to fully fund his or her basic educational expenses.

Recognizing the importance of addressing such financial needs, the Foundation launched the Adopt a Student Scholarship Program to encourage bequests of at least \$25,000. The ultimate goal is to build an endowment of \$800 million to ensure that the financial needs of UMaine students are met in perpetuity.

Donor participation in the Adopt a Student Program is another way to "leave a legacy," says Amos Orcutt, president/CEO of the University of Maine Foundation. "The generosity of our alumni and friends provides students like Bronwyn with wonderful educational opportunities."

Bronwyn Smart will do her student teaching this spring. Following graduation in '05, she plans to teach in Maine schools. Her goal is to eventually be certified to teach grades K-12, and one day be a high school history teacher.



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