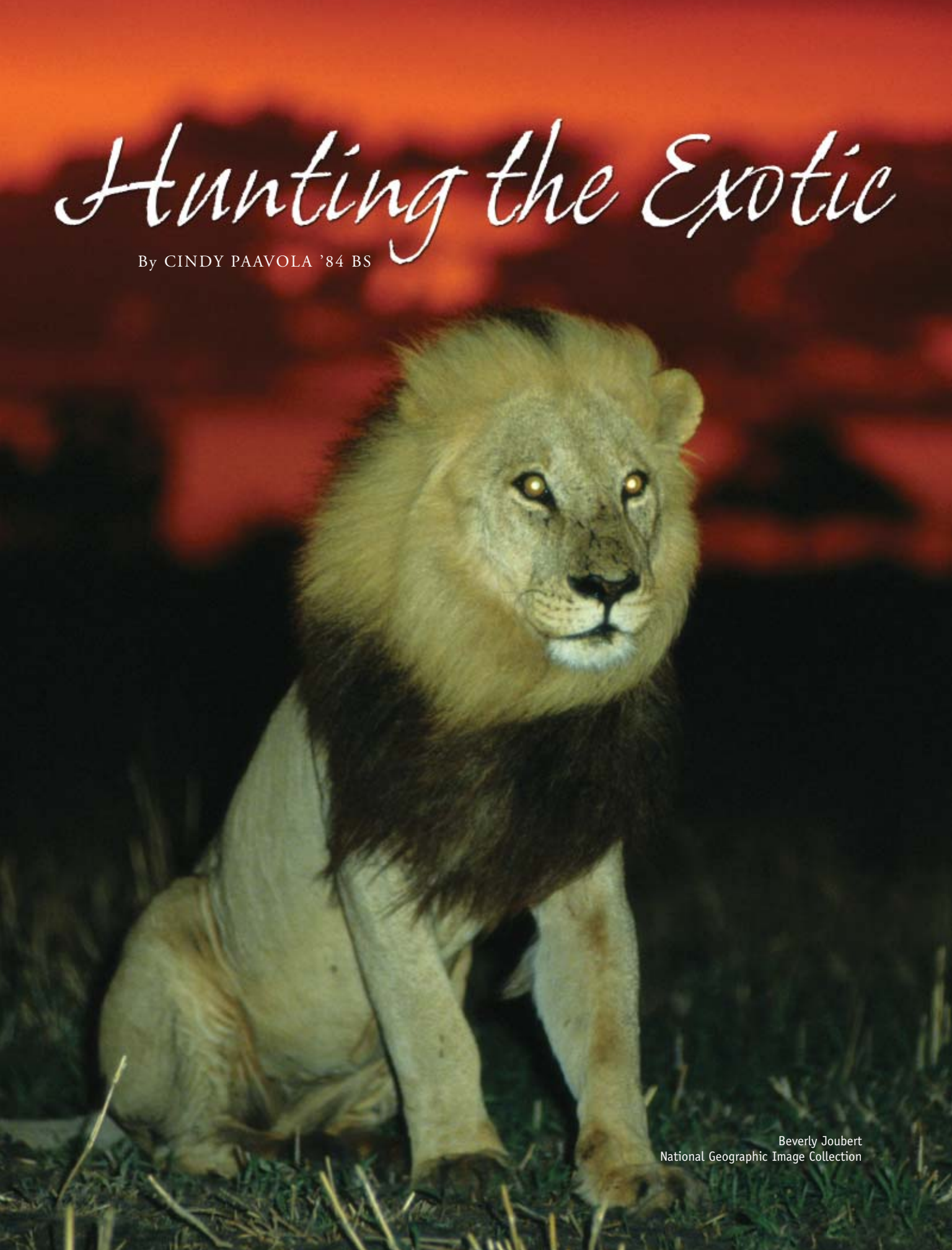
Hunting the Exotic

By CINDY PAAVOLA '84 BS



Beverly Joubert
National Geographic Image Collection

Under the hot South African sun, Northern Michigan University criminal justice professor Gregory Warchol wanders through the dusty lanes of Durban's Victoria Street Market. Weaving through throngs of shoppers, he makes his way into the traditional African healer's market—a block-long, open-air marketplace with vendors' stalls on each side. He mixes with the shoppers and examines the offerings in the first few stalls. A colorful array of tree bark, roots, plants, leaves, grasses, and all manner of South African flora are overflowing in wicker baskets.

As Warchol makes his way deeper into the market, the sights become disturbing. He watches as two young men kneel on the ground and skin a vervet monkey. Other stalls openly display poached hyena skins, leopard paws, monkey and gorilla skulls, vulture carcasses, and bones from literally hundreds of other animals. These animal parts are used for *muti* (healing) and *ngomas* (fetishes), and many of them are from endangered species illegally poached in protected game reserves. Although the Victoria Street Market is well-known as a place where both legally and illegally obtained wildlife products are bought and sold, Warchol notices a police officer who turns a blind eye to the market's activity as well as the nearby border patrol guards who casually lean against the posts of the barbwire fence that divides South Africa from Mozambique.

This is how Warchol has spent the past three summers, in Botswana, Namibia, Swaziland, and South Africa. It is research he has come for, not product. He is studying the bush meat trade, traditional healer's market, and illegal poaching. His research is making him one of the world's leading experts on the wildlife black market—the second-most profitable transnational crime in the world today, behind drugs and ahead of weapons trade.

"Although illegal wildlife trade is worth about $6 billion annually, it has been pretty much ignored by U.S. criminologists up to this point," said Warchol, who came to NMU in 1998 after a stint as a research analyst with the U.S. Department of Justice, Bureau of Justice Statistics in Washington, D.C.

Illegal wildlife trade is the unsanctioned trafficking of mammals, birds, reptiles, plants, and marine life, and their parts. The market is driven by a high demand for wildlife and their parts due to their rarity, presumed medicinal properties, food value, and aesthetic value as fashion items. The market prospers because of the high payoff and low risk of punishment; remote locations where the crimes can take place; new communication technology such as e-mail and the Internet; and a combination of antiquated and modern transportation infrastructures operating side by side. For instance, both South Africa and Namibia have porous borders and a large number of remote airfields.

"There will always be forms of illegal trade as long as there are the 'haves' and the 'have nots' in the world," said Warchol. "Some nations have rare animal and plant resources, but they don't have economic prosperity." He said the challenge is not only protecting the endangered species but educating the world's citizens about the ramifications of harvesting or hunting to the point of extinction. "It's difficult to convince a poacher to worry about the world's ecological, economic, and political systems when there is potential to make money to feed his or her family."

Top inset photo: Animal skulls for sale at the Durban African traditional medicine market. Bottom: A warning sign to poachers at Thanda, a private game reserve in South Africa. Photographs courtesy of Gregory Warchol.

Above: The traditional African medicines market in Durban, South Africa. Healers often use a variety of wildlife products such as animal bones and pelts (left inset) to produce remedies for both physical and social problems. Many of the products come from endangered species.

To demonstrate the profitability of illegal wildlife trade, Warchol uses the example of African cats. They are hunted for their parts for traditional medicines, for their pelts, and captured live to be killed in canned hunts or traded on the exotic pet market to places such as the Middle East, where owning an African cat is a sign of prestige.

"One tourist gift shop salesman told me that a male lion's hide sold for $9,000 U.S., and that he could sell lion pelts as fast as he could get them. Buyers seldom ask how they were obtained. Also, exotic game hunting is a major industry in South Africa and Namibia, with hunters—mainly from North America and Europe—willing to pay as much as $50,000 to kill certain animals," said Warchol, who added that there are fewer than 25,000 lions remaining in all of Africa.

Ivory trade is another highly lucrative market. Despite the 1989 international agreement banning ivory trade, the three largest-ever seizures of ivory have all taken place since 2002. One shipment contained more than 500 elephant tusks and 40,000 small carved ivory cylinders. According to the International Fund for Animal Welfare, the cylinders alone were worth $6 million.

Warchol was surprised to learn that the dominant sources of illegal wildlife trade in South Africa and Namibia, where he first began his study with Linda Zupan and later returned with Robert Hanson—fellow NMU criminal justice professors—are reptiles and birds. Reptiles are in high demand for collectors and local pet shop owners, for illegal export to buyers in Europe and the United States, and for shipment to Asia as exotic foods. Birds poached from the wild are wanted to fill orders from domestic and world collectors.

It would be unfair to say, however, that all endangered animals such as elephants, rhinoceros, and big cats are killed with trading in mind. "To many African farmers, these animals are nothing but giant pests. Six tons of hungry elephant can easily devastate a farmer's crops," Warchol said.

While the pelt and exotic pet trade and canned hunting are major forces driving the illegal wildlife market, Warchol said the traditional medicine practices and the bush meat market are having as much, if not more, of an impact. One element pushing the bush meat market to prominence is simply that there are more people and fewer readily available sources of protein sustenance.

Complicating the problem is the fact that enforcing laws that go against traditional medicine practices is nearly impossible in many parts of Africa. When Warchol asked a colleague who had accompanied him to the Victoria Street Market

Cargo containers such as these found in Durban are commonly used to ship wildlife parts to their final destinations.

why the police never took any action even with all this evidence of animal poaching in plain view, his colleague replied, "'If the police confiscated it, then the market would be restocked with fresh animal parts in a week or so, resulting in the deaths of even more endangered species.' The thought was better to leave it alone and hope the products sold slowly," said Warchol.

Lest one think that the wildlife black market only impacts African nations, Warchol is quick to point out that the consumer end of the illegal trade process also includes North America, Western Europe, the Middle East, and Asia. The United States, said Warchol, is the biggest consumer of wildlife and wildlife products.

"Unfortunately, we as Americans don't ask a lot of questions about where some of these things come from. We don't walk into a pet store and think about the fact that a 'rare and exotic' bird we are considering buying may have been purchased on the black market and that it is one more bird of an endangered species that is now living out of its natural environment. We do the same with our landscaping choices or when we're building our homes and we choose certain types of woods for our floors and kitchen cabinets simply because they are considered exotic."

Poaching is also not foreign to the United States. Today, many of America's national parks are being threatened by illegal harvesting and hunting. The National Parks Conservation Association estimates that "wild ginseng taken from U.S. parks is being sold for as much as $365 per pound, and that a gallon of gall bladder bile from black bears for as much as $3,000."

Warchol said that as funding for national and state parks declines, park officials will have a tougher time with poaching enforcement, including places such as the Upper Peninsula.

"A black bear poached in the U.P. for $50 to $100 can easily have a street value of thousands of dollars by the time its parts are sold in, for example, San Francisco for use in holistic medicine," he said. He added that as the bear population in Asia declines, the black market problem could worsen in parts of the United States and Canada. The NPCA estimates that 40,000 black bears are illegally killed in the United States each year.

Warchol believes that understanding such supply and demand factors is critical to controlling the world's illegal wildlife trade.

"Once an animal or plant species is gone, it's gone, and that's a travesty," Warchol said. "But in addition to the environmental issues, nations that allow illegal wildlife trade run some fantastic economic and social risks, too. What happens to a country's economic, political, and social stability when its most valuable resources are no longer there?" ■

Above: An elephant family at Chobe National Park in Botswana. Elephants are heavily poached in Southern Africa for their ivory tusks; they are also illegally killed for bush meat. Right: Even though adult cheetas are an endangered species, they are commonly killed by farmers, who see them as nuisance animals. They are also taken alive illegally for the exotic pet trade. Photographs courtesy of Greg Warchol.

Unearthing Presque Isle's Past

By KRISTI EVANS
Photography by BILL SAMPSON

John Anderton '87 BS stands by the timber gazebo at Presque Isle Park, looking toward the horizon where an azure sky meets the blue-gray water of Lake Superior. Coaxed by a gentle breeze, the waves crest and fall gracefully in syncopated rhythm before they splash against the breakwater, rousing a gull from its rocky perch. It is a meditative view—the kind that has captivated visitors for generations. Many locals make frequent trips to this scenic refuge to indulge in the three Rs: reflection, relaxation, and recreation.

"I've always been intrigued by this place," Anderton said. "I spent a lot of time here with my family when I was a child and later as a student at Northern. It's real special to me. When I left the area for a while, I often found myself wanting to come back and just look at the island."

Anderton did come back—to teach geography at his alma mater. But since returning six years ago, he's been compelled to do much more than "just look" at the island. He has literally moved earth and stone in a quest to gain a better understanding of Presque Isle's cultural and geological significance. Anderton has uncovered evidence of 5,000 years of human activity, ranging from Native Americans to early silver miners to transient settlers.

Before he began his cultural resource survey at the site, Anderton spent a month in the NMU archives. He immersed himself in historical maps, photos, and records to narrow the scope of his search.

Then he led a crew of students and volunteers to the park. Their first task was to examine old and modern shorelines. Anderton points to a grassy hill marked by a series of small terraces that serve as visual time breaks left in the wake of varying water levels. Presque Isle might appear more like a peninsula today, but Anderton said it was once a true island.

"The oldest surface at the top of the hill dates back to the last glaciation 10,000 years ago, when the lake levels were much higher. Now this land is connected to the mainland by a strip of sand deposited by currents over time. When the lake level dropped, we got the formation we have today."

John Anderton locates a remnant of a stone tool on Presque Isle's north end. Such findings provide evidence of the area's earliest inhabitants, dating back as much as 5,000 years.

"Presque Isle's first visitors were likely small families who arrived each spring...camped on the shoreline, and probably speared fish from the lake."

Anderton and his crew also did shovel testing to determine the location and boundaries of prehistoric sites. They dug small holes in the soil and screened the material with quarter-inch mesh. Assuming they would find one or two sites, they ended up with 10, including a two-acre parcel that Anderton calls one of the largest prehistoric plots in Marquette County.

Artifacts that surfaced through this labor-intensive process provide clues about the history of human activity. Anderton said Presque Isle's first visitors were likely small families—maybe 100 people total—who arrived each spring, camped on the shoreline, and probably speared fish from the lake. He said this annual rotation began about 5,000 years ago and continued for two millennia.

When asked how he can determine the time frame, Anderton scans the ground near his feet and bends down to pick up a small, glistening stone fragment protruding through the surface.

"This is a quartzite flake," he said. "It has certain characteristics, like a striking platform and a bulb of percussion, from it being hit by another stone. What people seemed to be doing 5,000 years ago is reducing cobbles of stone, trying to make sharp edges. This is like the Swiss army knife of the Archaic Period. It was used for scraping, cutting, cleaning fish, processing deer hide—you name it. There's a little copper out here, too, but that was pretty much looted by folks with metal detectors in the '70s. We also found a lot of fire-cracked rock, which was probably used for processing food in hearths or fire pits."

Anderton teaches students from his soils class field procedures in soil classification and survey applications on the south end of Presque Isle.

On the north end of Presque Isle, near the cove where brave souls leap from ancient black rock outcroppings into the water, Anderton lowers himself into an old mine shaft.

"This is one of three reported shafts from an 1845 silver mine encampment here," he said, as his feet hit the bottom. "There were legends of silver in this area, so a company set up shop to find it, and 17 English and Irish people stayed here. They reportedly dug three shafts. I've been able to find two of them. This one is somewhat shallow, but there's another about 40-feet deep and really dangerous 40 yards away. You can still see the tool marks down here."

The encampment also featured five log cabins where the parking area is now located, a blacksmith shop, and a storehouse. Just across the road, not far into Presque Isle's inner circle, Anderton stops by a rectangular ditch. It is the empty shell of a root cellar constructed by the miners.

"Back in those days, before refrigeration, you were forced to have one of these to preserve food," he said. "They dug into the ground, took the soil and heaped it over the structure. It looked almost like a mound with an entrance at one end. The soil provided insulation."

With three tons of ore removed, but apparently no silver to show for it, Anderton said the mine shut down the next year. Its discovery

adds a unique dimension to the history of the park.

Originally owned by the Ojibwa Indians, Presque Isle was ceded to the United States in the 1842 Treaty of LaPointe. About a decade later, it became a U.S. lighthouse reservation based on the assumption that the port city of Marquette would be centered around what is known today as the Upper Harbor.

Founding father Peter White convinced the federal government in 1886 to give Presque Isle to the city for use as a park. A road was constructed shortly after. White's friend Charlie Kawbawgam, the last chief of the local Chippewas, moved onto the island with his wife, Charlotte. It would be their last home. Their graves are marked by a stone on the southeast side (pictured at right).

Anderton said that Presque Isle faces some serious issues such as erosion, but he is most concerned with the potential loss of the park's cultural heritage and natural beauty.

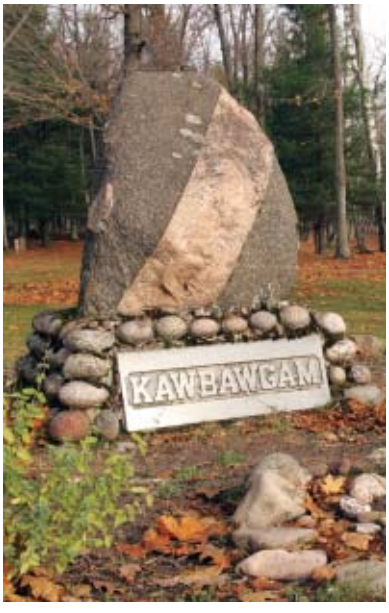
"The management plan is to keep the island as wild as possible," he said. "My hope is that the results of my research will let the city know what's on the property so they can make good choices to preserve it. I also encourage visitors to enjoy the island without disturbing the land or taking anything. It's a protected place. We can't just go out there with shovels and metal detectors."

Anderton obtained a special permit to perform his study. He was surprised to learn it was the first professional exploration of Presque Isle. Fueled by his discoveries, which he described as bigger than anticipated, Anderton would like to write a book for a general audience. He is also contemplating a public archeology project to expand on the work his crew has completed.

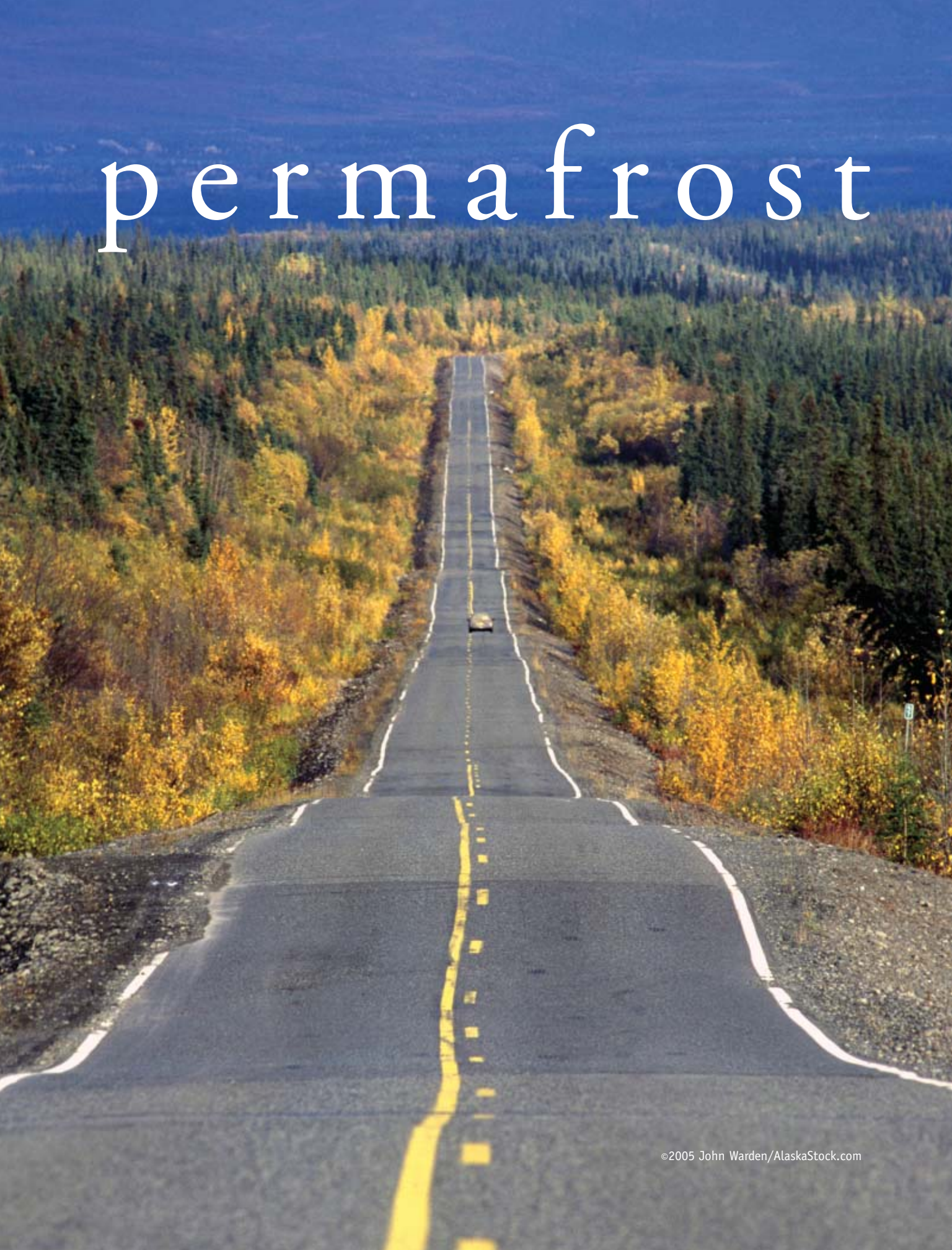
As the guided tour comes to a close, it is apparent that Anderton looks at Presque Isle in a way most people don't. But he is eager to share his perspective in the hope of opening others' eyes to the significant role Presque Isle played in the forging of Marquette, and the critical need to preserve this historical and cultural gem for future generations. ■

Anderton stands at the bottom of one of three old silver mine shafts at the north end of Presque Isle. Anderton has located two of the shafts but has been unable to locate the third.

"The management plan is to keep the island as wild as possible.... It's a protected place. We just can't go out there with shovels and metal detectors."



permafrost



paradox

By KRISTI EVANS

The landscape in central and northern Alaska is dotted with visual evidence of the potential hazards of permafrost degradation: trees jut in haphazard directions, which locals refer to as the "drunken forest" effect; telephone poles tilt on the horizon; homes and buildings lean like the Tower of Pisa or sink into the soil; and highways and parking lots buckle because of the reduction in volume below the surface.

Frederick "Rick" Nelson '73 BS is well-acquainted with these potential hazards through his research as a geography professor at the University of Delaware. His permafrost studies have taken him to the "exotic" locales of Alaska, Siberia, Mongolia, and Tibet.

"These cold-climate regions were sparsely settled for a very long time but have more recently opened up for development, particularly in Alaska," Nelson said. "It's

"One of the greatest challenges facing permafrost scientists is to separate out the climate-induced impacts from the effects of localized human activities."

Permafrost is subsoil that remains frozen for at least two consecutive years, and it lurks beneath as much as one-quarter of the earth's surface. It lies directly below the "active layer" of ground that freezes and thaws on a seasonal basis. When climatic warming or localized human activity causes the active layer to thicken, ice-rich permafrost can become unstable. This poses serious implications for ecosystems and man-made infrastructure.

Degradation of permafrost also has the potential to accelerate global warming. Because significant amounts of organic carbon are sequestered in its upper layers, thaw-induced changes could release large quantities of greenhouse gases—carbon dioxide and methane—into the atmosphere.

common knowledge that if you build heated structures above permafrost that is rich in ice, the transfer of heat downward can lead to thawing of the upper permafrost. This reduces its load-bearing capacity and can lead to dramatic settling of the ground surface.

"In Fairbanks alone, there are about 350 buildings impacted by thawing. This shows a remarkable lack of planning because there are engineering solutions for virtually any situation. A lot of problems could be solved through regulation, adequate land-use planning, and rational decisions by developers."

Nelson bristles at some of the sensationalized headlines permafrost has generated in recent years in the context of climatic warming. Examples include "Baked

Left: The Glenn Highway in south central Alaska was built over an area of thaw-unstable permafrost. Heat generated by the highway has caused ice in the permafrost to melt. As a result, the ground has settled and many uneven bumps and ripples have formed along the highway. Above: Frederick Nelson working near Barrow, Alaska, on a collaborative project with National Oceanic and Atmospheric Administration's Climate Monitoring and Diagnostics Laboratory. Photograph courtesy of Frederick Nelson.