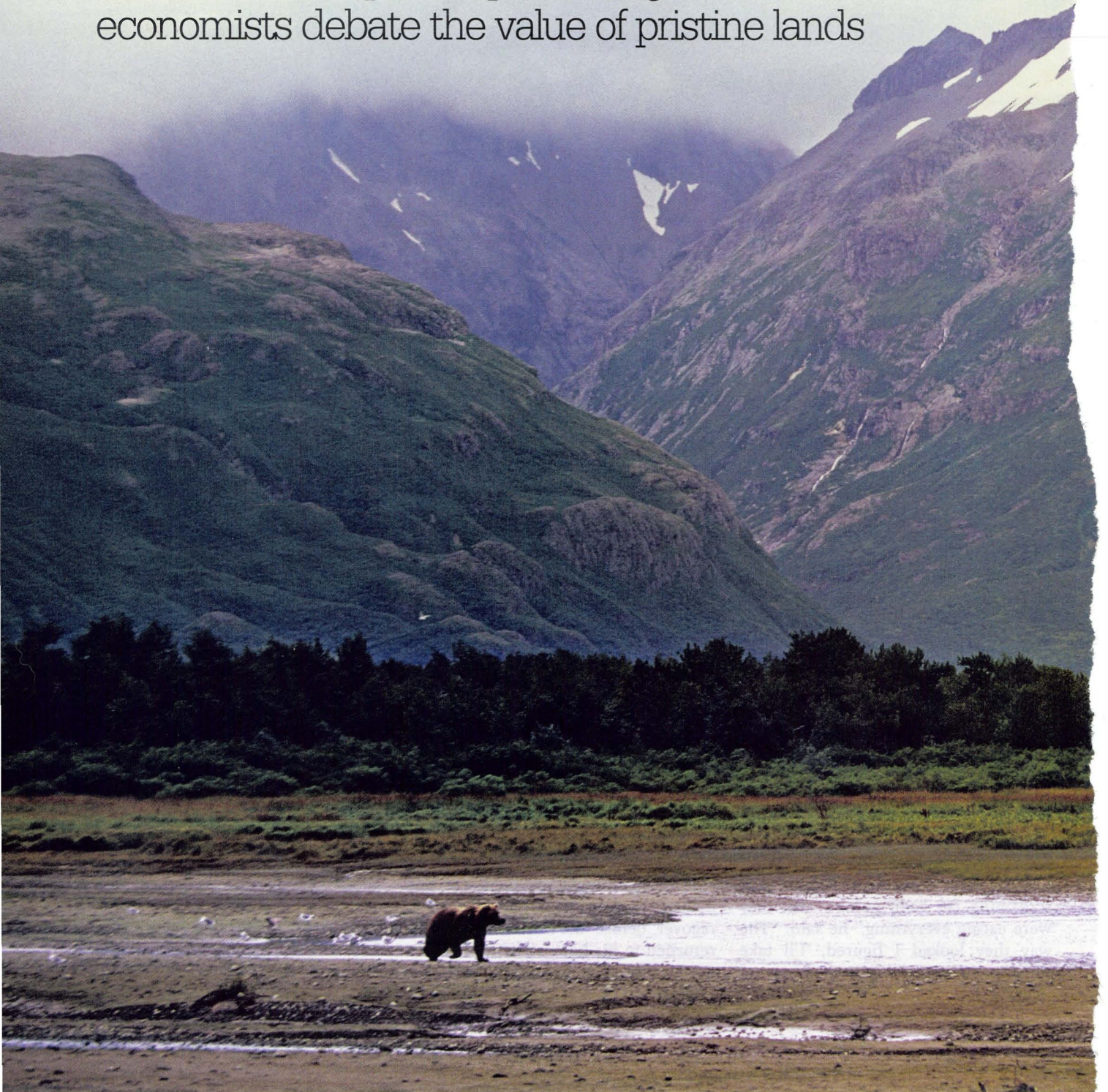


What is **Wilderness** Worth?

As tourism expands and
resource-development pressure grows,
economists debate the value of pristine lands



Alaska has thousands of square miles of undeveloped wilderness, including Katmai National Park and Preserve, but some are asking if we should be protecting even more land.



The first two things you learn when trying to tally the value of Alaska's thousands of square miles of untrammled land are that numbers matter—and they don't.

When it comes to putting a price on northland nature, a realm John Muir believed would enrich our lives forever, numbers sputter; the majesty of Alaska that enthralled Muir and millions after him can scarcely be put into words, let alone measured like snowpack. But in an era when conservation has ceased to rank among the world's top priorities—overtaken by disease, genocide, terrorism and poverty—cost-benefit analyses increasingly may help shape the future of Alaska wild lands:

- Occupying undeveloped state land in southwestern Alaska, the proposed Pebble Mine rates among the world's top 10 metal reserves. Based on current prices, Pebble's copper, gold and molybdenum are worth a staggering \$300 billion. But the proposed open-pit mine lies at the headwaters of Bristol Bay streams that support the world's largest run of wild salmon, and critics say the potential environmental costs outweigh economic benefits of developing the resources.
- Alaska has pledged \$500 million as inducement for private industry to build a \$30 billion pipeline across the state to deliver 36 trillion cubic feet of

North Slope natural gas to market. Geologists predict another 250 trillion cubic feet of gas awaits discovery, and building the pipeline would create jobs. But sociologists predict pipeline construction would trigger steep increases in crime and the cost of living.

- In Southeast Alaska, Sitka, Juneau and Chichagof Island realized more than \$250 million in direct business revenues last year from tourism focusing exclusively on nature viewing and activities. But a University of Alaska study also revealed that many of these nature-tour businesses rely on bookings from cruise ships—a potential cause of pollution.
- In Seattle, Alaska-bound cruise ship

traffic increased from six ships in 1999 to nearly 200 ships in 2006. The number of passengers in that period increased from nearly 7,000 to more than 750,000, prompting some small towns to wonder who will pay for dock and harbor improvements to accommodate all those tourists.

For social scientists like Pat Reed, attempting to decide whether primeval landscapes are more valuable than those developed for mining, logging or tourism, is like asking if you believe in God: "You either believe one way or the other," Reed said, "and then find information that supports your preconceived ideas."

Timber such as this white spruce being felled near Nenana, provides significant income for many Alaskans, but it's a source of controversy between conservationists and the development-minded.





PIROCK / ENDREIS / ALASKA PHOTOGRAPHICS

If you believe, for instance, that the point of land management is to maximize a tract's moneymaking potential, then protected wilderness seems wastefully locked up. "The other side believes that land has intrinsic value for science, recreation or the future," Reed said. "This is one of those arguments where people just talk past each other."

A regional social scientist for the Chugach National Forest, Reed has studied the ways people in 14 towns and cities adjacent to the 5.4 million-acre forest value the land for its contribution to quality of life in Southcentral, from Valdez to Anchorage to Seward. Published in 2002, the study was intended to guide decision making by uncovering, place by place, what people value most about the Chugach. Topping the list: a desire for more designated wilderness within the forest; no increase in logging; few

roads; and limiting new amenities that would lure more people to Prince William Sound.

"When we looked at other surveys and polls about how people value wildlands in general, we found that priorities were very similar around the country," said Reed. "These results were validated."

As anyone who lives in urban Alaska knows, our vaunted open space is vanishing acre by acre. The boom in big-box retailers tells the story: From 1993 to 2000, Anchorage alone added 3,500 retail jobs. A Midtown field that in 1986 was wide open enough to host the city's annual Kite Day is now home to a Wal-Mart. And state labor economist Neal Fried predicts another land-devouring wave because at least a half-dozen super-sized stores are planned or in construction statewide.

For economists like Michael

Thomas Power of the University of Montana, the lesson is that clean air and mountain vistas aren't merely inspiration for Muir-esque musing.

"Protected landscapes make communities embedded in them attractive places to live, work and do business," Power wrote in a 1996 study, concluding that open land could no longer be treated like a big warehouse from which to extract riches. Researching Alaska's mining industry in 2002, Power concluded that the state's natural landscape contributes clean water and air, recreation, wildlife, scenic beauty and biodiversity that draw not only tourists, but permanent residents and the resulting economic activity. Development policy works best, he wrote, when it banks on the quality of the natural, social or built environment—and not on a specific industry.

The way Steve Borell sees it, the ques-

"As the old saying goes, they're not making any more land. Every now and then, the political process recognizes that."

—Steve Colt, associate professor of economics,
University of Alaska Anchorage

"If you don't agree first on how a landscape is to be used, you could have five different concepts of its value and you'd all be right."

—Susan Alexander, U.S. Forest Service

tion isn't whether Alaska wilderness is more valuable left untouched or given over for fishing, mining, logging, farming and town sites—pioneering endeavors that have shaped Alaska's economy since the Russians arrived in 1732.

"What's in jeopardy in Alaska is economic opportunity, not wildlands," said Borell, longtime executive director of the Anchorage-based Alaska Mining Association. Because much of Alaska is roadless and covered in ice,

and markets, not philosophy or frets over future ghost towns. For instance, if the Pebble project is developed—and Borell predicts it likely will be, based on increasing worldwide demands for copper and gold—it will be because industry followed government rules for waste rock, earthquake safety and water quality to protect salmon streams.

"From a strictly economic standpoint," Borell said, "there is no higher economic value to be generated from

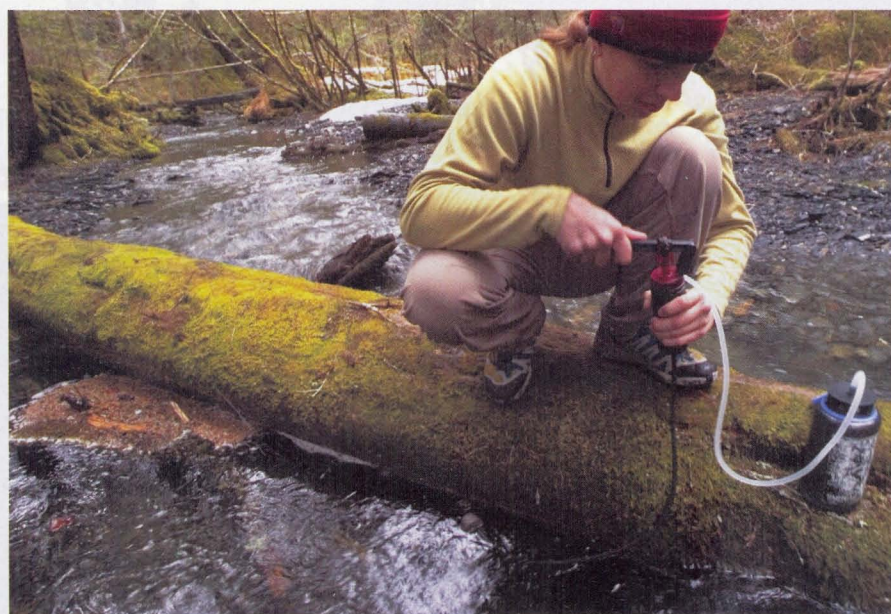
streams already are seeing diminishing returns. "I just don't like it," he said.

Debate over the Pebble project, which would open a two-mile-wide pit in terrain known for caribou and rainbow trout, shows what happens when well-intentioned people, each guided mostly by an inner compass, gaze at the same stretch of nature and derive conflicting meanings. Sometimes political consensus trumps: In 1964, the Wilderness Act permanently protected some of the nation's least-disturbed lands; by near unanimous vote, Congress pledged itself to the benefits of "an enduring resource of wilderness." In 1980, the Alaska National Interest Lands Conservation Act set aside nearly 60 million acres of Alaska wilderness as an American icon worthy of permanent protection.

"ANILCA is hardly ever eloquent," said John Quinley, a communications director with the National Park Service in Anchorage, "but Section 101—about nature running wild—nicely sets out the big picture for preservation of parks units in Alaska." On other public lands, Quinley points out, the national will has been less proscriptive: Alaska tracts managed by the Forest Service or Bureau of Land Management are for "multiple use," mixing conservation with recreation, logging, road building, mining and trail building, among other activities.

What's needed now, as Alaska weighs costs and benefits of the next generation of grand-scale development, is public consensus on its natural wealth. But how to evaluate the value of a 400-year-old Sitka spruce, or an afternoon of rock climbing within view of sparkling Turnagain Arm? To attach worth to things that can't be put up for sale, economists rely on a technique known as "nonmarket valuation" to learn, for example, how much people are willing to pay for clean fishing streams or to see wolves in Denali National Park and Preserve.

Another nonmarket valuation technique might compare costs of similar houses if some overlook a healthy forest



Alaska's expansive wilderness attracts outdoor enthusiasts like this hiker filtering drinking water near Resurrection Bay, but can recreation and industry thrive in the same space? The Alaska Pipeline [FACING PAGE] is one example of nature and infrastructure co-existing in harmony.

trees and tundra, the state is largely unexplored for minerals, Borell said; he believes it would be a mistake to declare more land off limits to development without first knowing what resources lay just underfoot.

"If the purpose is to provide places to get away from the maddening crowd, that's very easily doable. We've already got 165 million acres of those lands already," Borell said. "You can create a remote wildland experience in lots of different places, but you can't move the mineral deposit."

For industry leaders like Borell, valid reasons for leaving a prospect untouched are grounded in regulations

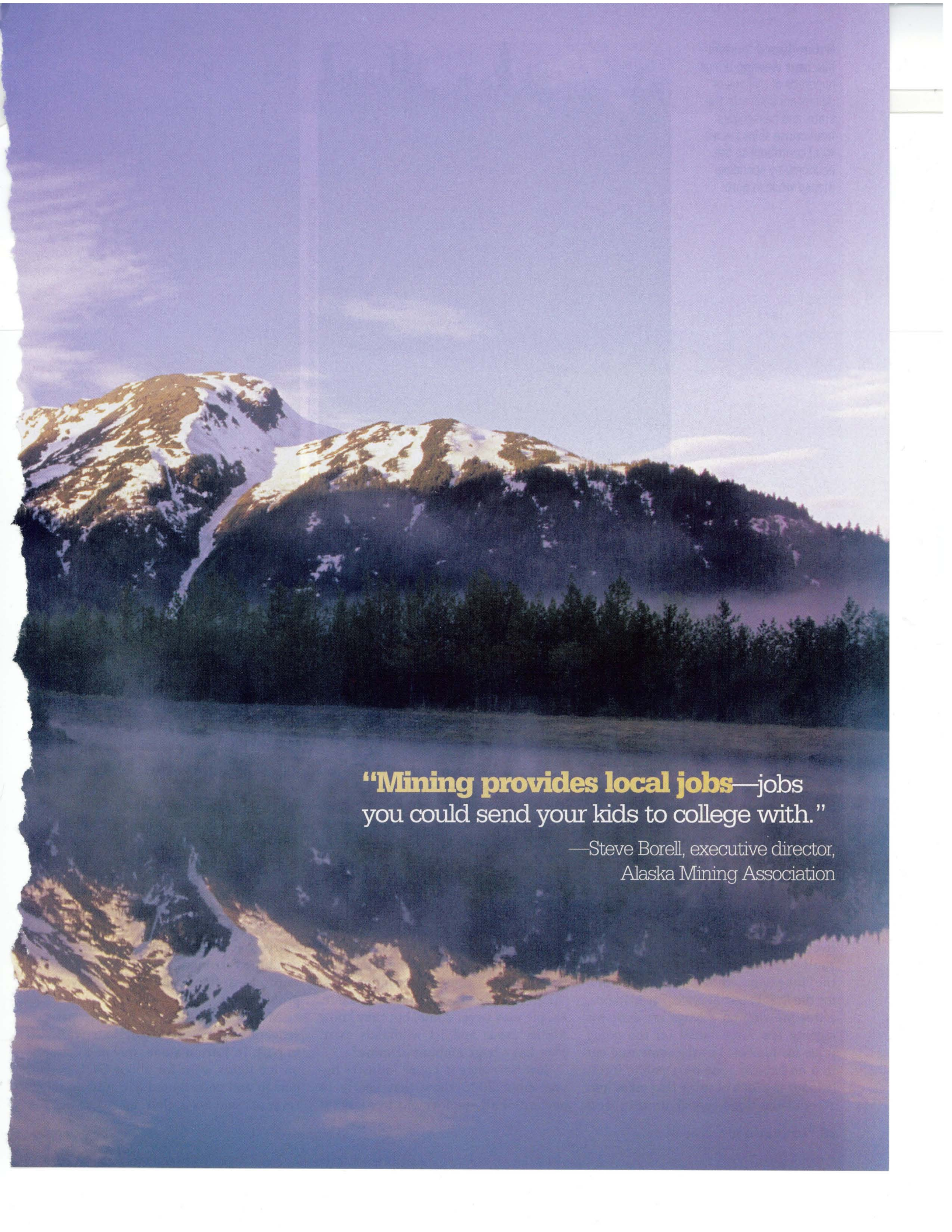
land than mining when a valuable mineral deposit is found there." Yet when that yardstick is applied to the Pebble project, those who disagree include U.S. Sen. Ted Stevens, the Alaska Republican whose 39 years in office have focused on fast-forwarding Alaska's economy.

"If this was some essential commodity that we absolutely had to have to run our economy," Stevens told the *Anchorage Daily News* last year, "it would be a different matter." But even if the metals Pebble could yield were critical, Stevens said, he'd need more assurance about environmental safeguards for the region where salmon

"How do you put a value on your 87-year-old grandmother?" The cost-benefit of keeping her alive is not going to be positive, but you don't get rid of her, you pay the money. That's because we value things outside their market value."

—Pat Reed, social scientist, Chugach National Forest

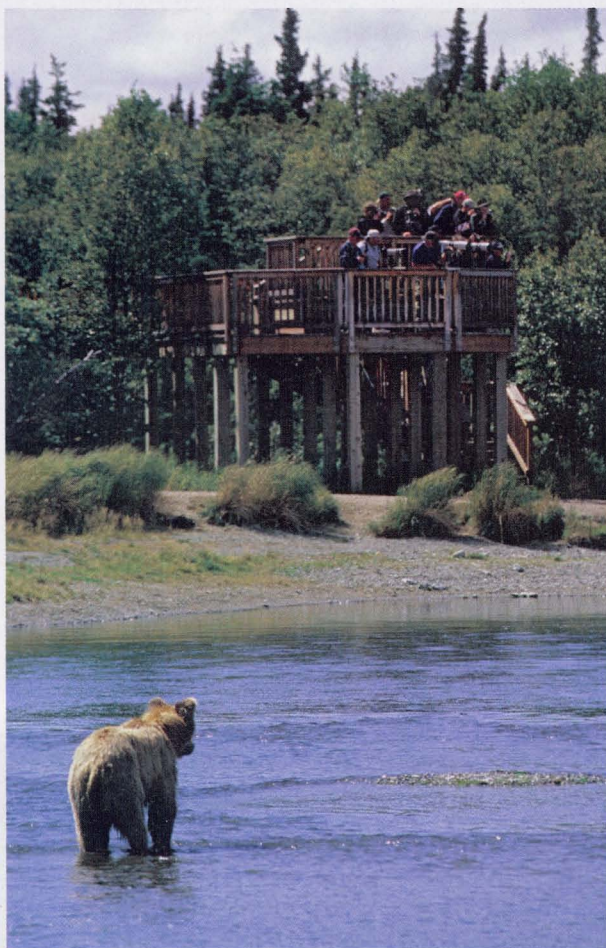




"Mining provides local jobs—jobs
you could send your kids to college with."

—Steve Borell, executive director,
Alaska Mining Association

Nature-based tourism like bear viewing brings hundreds of millions of dollars annually into the state, and passengers from cruise ships [FACING PAGE] contribute to the economy by spending money while in port.



PHOTOS BY PATRICK J. ENDRES / ALASKAPHOTOGRAPHICS.COM; PREVIOUS PAGE: MICHAEL DE YOUNG / ALASKASTOCK.COM

“The desire to see wildlife is what attracts a large portion of out-of-state visitors.”

—*Nature-based tourism in Southeast Alaska,*
University of Alaska Anchorage

and others don't; the difference helps estimate the value of a healthy forest to the market value of a house. The technique has even been used to calculate the value of a day of fishing on a public waterway in the Pacific Northwest: To the average angler, it's worth \$46 to \$82. But the waters are muddied.

“If you don't agree first on how a landscape is to be used, you could have five different concepts of its value and you'd all be right,” said Susan Alexander, the Juneau-based regional economist for the U.S. Forest Service. For instance, a tree growing on acreage set aside for logging has value based on the going price for lumber; but the same tree cut in a no-harvest zone on a public forest belongs to a web of value that takes into account the tree's contribution to local

ecology as well as whether the tree had cultural or archeological significance, among other things.

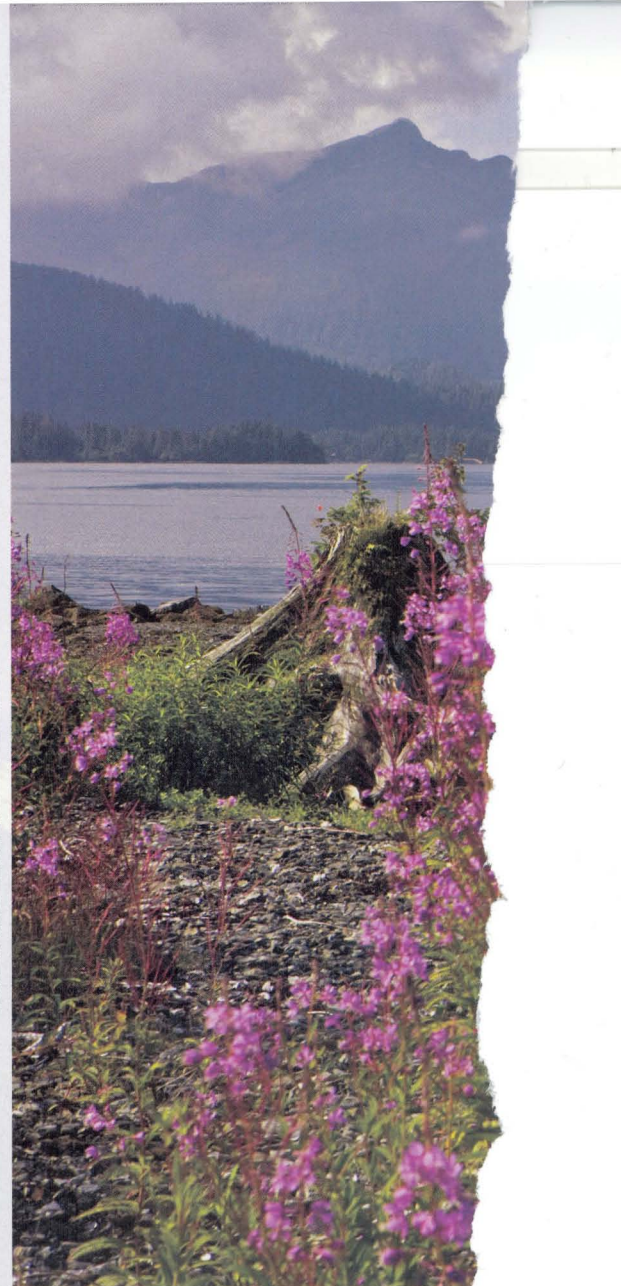
Alexander, who was once called on to appraise the market value of trees stolen from public lands, said whether open land is worth more developed or left pristine is a debate that's been going on “forever.”

“The approach you take to even talking about this depends on your background, your training and how you define ‘value,’” Alexander said. “Alaska's value is its existence value. People may never come, but they know Alaska exists and its wildlands exist. That has a huge amount of value.”

Just how huge is huge? Industry figures from 2006 show that nearly 14 percent of all employment in Alaska is

linked to tourism, making it among the state's largest industries. Most visitors say a top reason to see Alaska is the chance to glimpse wildlife in a natural setting. To gauge the value of unrivaled scenic wilderness to tour operators who showcase nature, a University of Alaska Anchorage study focused on 150 tour operators in Southeast, finding that in 2005 and 2006, nature-based tourism in the region accounted for combined annual revenues of \$250 million—a figure researchers say is probably low.

Most visitors were cruise-ship passengers who booked excursions while in port. In Juneau alone, sled dog rides on ice fields went for about \$475 per person and contributed \$16 million in revenue, said Steve Colt, a UAA associ-





ate professor of economics.

"To me, the dog-mushing numbers just epitomize that as the world gets more crowded, as people get richer and more urbanized, there's still this amazing desire to be in touch with nature," Colt said. "Put together dogs and nature, and people are willing to pay a lot of money."

The ripple effect of all that mushing, whale watching, fishing and riding in glass-bottom boats or on forest canopy zip lines keeps money circulating through several sectors, the study said. Nature-based tourism generated jobs in marketing, food and beverage service and accommodations. Fuel distributors and government agencies also benefited from this tourism niche, the study found.

"Promoting wildlife watching is an important marketing strategy for Southeast Alaska," the study concluded; a "significant economic question" to resolve next is how public lands might be managed to maximize returns to residents.

Economics tells us that when it comes to setting a value on commodities, scarcity matters; the rarer it becomes to canoe in solitude or view the night sky undiminished by city lights, the more prized Alaska's wilderness is.

"Whatever the value of undisturbed lands is, it's only going to grow," Colt said. "It already has." ■

Anchorage writer **Rosanne Pagano** teaches at Alaska Pacific University.

**"Today, if you
live in Alaska,
you benefit from the
tourism industry."**

—Alaska Travel Industry
Association report, 2006

BY TOM WALKER





PHOTOS COURTESY OF KARSTENS LIBRARY

Kid Karstens [RIGHT] poses with a dogsled and Frank Cotter. Hauling mail and supplies by dogsled in early 20th-Century Alaska was grueling work, but Karstens thrived. When he wasn't delivering necessities to early settlers and miners, Karstens [FACING PAGE] went on numerous hunting and exploring trips into the Interior that led to the creation of Mount McKinley National Park.

Kid Karstens

Miner, Musher, Mountaineer: The Man Who Helped Shape the Interior

Harry P. Karstens got an early start on the path to becoming an Alaska legend. Running away from home in 1897 at the tender age of 17, he earned his grubstake by packing 100-pound loads over Chilkoot Pass, and then staked a claim at Henderson Creek, just downstream from Jack London.

Later failing as a miner, Karstens started a business hauling freight by dog team, and pioneered mail routes throughout the Interior and over the Richardson Trail from Valdez to Fairbanks. He joined hunter and conservationist Charles Sheldon on forays into the Toklat River region, trips that ultimately led to the creation of Mount McKinley National Park, of which he would become the first superintendent.

In 1913, Karstens guided Hudson Stuck's party to the summit of Denali. But he always said that nothing compared to the challenge of hauling mail by dog team. "After that," he said, "everything else we did, we lived on borrowed time."

Excerpted from KANTISHNA: MINERS, MUSHERS, MOUNTAINEERS

Wind-driven sleet pounded mail carrier Harry Karstens and his two trailbreakers. Earlier in the day, a sudden deep snowfall in the Alaska Range at the head of the Delta River had buried the trail, forcing the men to abandon their dog teams and plunge ahead on snowshoes in an effort to establish a trail. Darkness overtook them far from camp and without shelter of any kind.

The skies cleared overnight and the weather turned bitter cold. By morning one of the trailbreakers was unconscious, his feet badly frozen. Karstens did all he could to ease the man's suffering, then hurried back alone for the dogs. Karstens, fighting fatigue and hypothermia, retrieved the dog team and evacuated his companions to the village of Gakona. In a cabin there Karstens built a roaring fire in the wood stove and bundled the injured trailbreaker in blankets. When the man awoke, he began to writhe and scream in agony as his feet thawed.

Once assured of the man's survival, Karstens left the two trailbreakers at the cabin and set out alone with his load of mail. A wicked blizzard dogged his journey north but he eventually reached Fairbanks.

Carrying the mail in frontier Alaska was no job for the inept or weak. "So far as there is anything heroic about the Alaskan trail, the mail-carriers are the real heroes," Episcopal Archdeacon Hudson Stuck wrote. "They must start out in all weathers, at all temperatures; they have a certain specified time in which to make their trips and they must keep within that time or there is trouble. The ... Canadian Yukon has a more humane government than ours. There neither mail-carrier nor any one else, save in some life-or-death emergency ... may take out horses or dogs to start a journey when the temperature is lower than 45 below zero; but I have seen a reluctant mail-carrier chased out at 60 below zero, on the pain of losing his job, on the American side."

A typical contract paid carriers \$75

a month to make 13 trips a winter on a schedule of six days on, one day off. The mail carrier provided his own dogs and sled. Mail loads varied from next-to-nothing to over 700 pounds "... the virtually empty pouches must be transported from office to office through the running, or over the rotting ice, just the same, on pain of the high displeasure of a department without brains and without bowels," Stuck said.

In 1902, Karstens partnered up with Charles McGonagall, an experienced freighter, to pioneer a mail route from Valdez to Fairbanks over what would

first night they camped in heavy willows at the head of the Gakona River and the next day broke trail to the upper Delta. By the time they reached the confluence of the Delta with the Tanana River, they were low on food with only cornmeal and tea for supper. When the ravenous dogs scented a camp they bolted. "Before we could get to them, they were in a tent, tearing things to pieces," Karstens recalled.

When the tent's owners returned, they fed Karstens and McGonagall and told them of a cache of meat four or five miles downstream on the opposite bank of the Tanana River. "The river was exceedingly dangerous, as it had jammed [with ice] in the last 48 hours with lots of open stretches," Karstens recalled. "We made a ticklish crossing, we found no meat cache and had 50 miles to Salchakat ... where an old-timer Billie Munson was building a roadhouse. We stopped a couple of days with him." In exchange for food, the two carriers helped with construction.

The partners made the 45-mile run from Munson's to Fairbanks in one day. The situation in

Fairbanks looked bad to Karstens. Food was scarce and the diggings unproductive. He thought that the whole stam-pede to the Chena River was built on false information. Later that spring when the creeks proved rich, he lamented that "mail carriers were not allowed to take time out and stake their own claims."

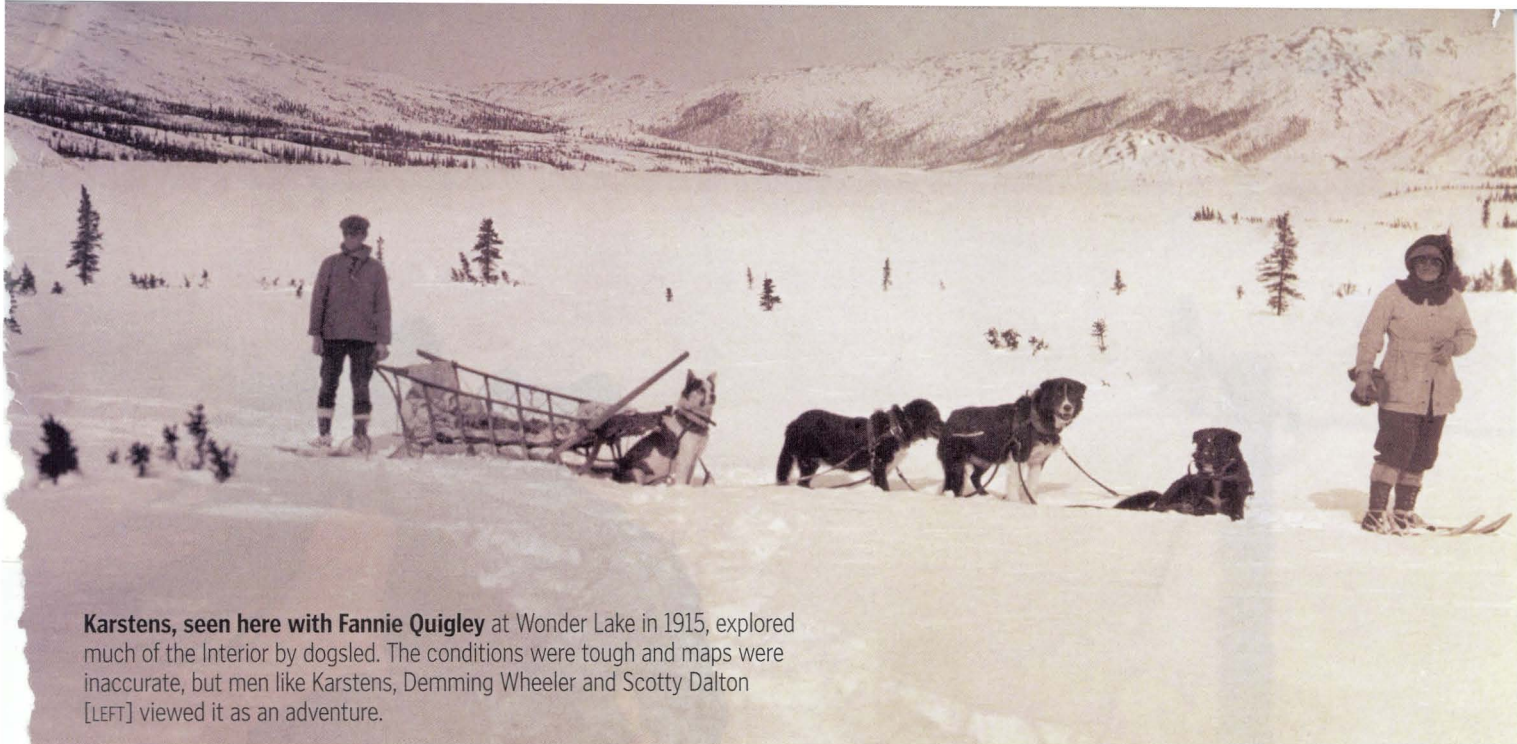
In Fairbanks, Karstens bought another sled and team and with each partner now fully outfitted, they pushed off on the 125-mile trail to Fort Gibbon. There they flipped a coin to see who would carry the first mail east and south over their new trail to the village of Gakona on the south side of the Alaska Range. Karstens "won." McGonagall would rest a few days before starting with the second load. Karstens' 400-mile trip went well, the trail hard-packed and fast. He reached Gakona without incident just as a big storm broke.



become the Richardson Trail. The partners spent their first summer together driving horse-drawn wagons over Thompson Pass.

After freeze-up, the partners exchanged their horses for a dog team. Maps were inaccurate and the route from the Copper River Valley to Fairbanks unknown. The partners had directions to a mine north of the Copper River but from there they were on their own. On the south side of the Alaska Range Mountains, and prior to their initial journey through it, the partners cut willow wands to mark the 30 miles of trail to the head of the Delta River. (Old-timers considered the route through the Alaska Range tougher than that over Thompson Pass which one winter recorded 975 inches of snow.)

Deep snow slowed their travel through the mountains and they were forced to break trail on snowshoes. The



Karstens, seen here with Fannie Quigley at Wonder Lake in 1915, explored much of the Interior by dogsled. The conditions were tough and maps were inaccurate, but men like Karstens, Demming Wheeler and Scotty Dalton [LEFT] viewed it as an adventure.

After a day's layover, Karstens switched loads with another musher up from Valdez. Accompanied by two trailbreakers, Karstens started back toward the head of the Delta where he was to exchange mail loads with McGonagall.

On the trip to the divide, one of the trailbreakers, Normile, plunged through the ice, soaking one foot. He said nothing until reaching camp, where he complained that he could not wiggle his toes and his foot felt "like a club." When Karstens stripped off Normile's moccasins and socks, he found his foot frozen stiff to the instep.

Carrying the mail in frontier Alaska was no job for the inept or weak.

"We did everything we could to bring life back in the foot using slush snow and then rubbing with bacon grease," Karstens recalled. His efforts were fruitless, the damage done.

The next morning, Karstens and the second trailbreaker snowshoed over to the head of the Delta to meet McGonagall. They left Normile in the tent with the stove going and a pile of wood within reach. An overnight blizzard had buried the trail concealing or scattering the willow markers. Just at dark, after a long hard day floundering in snow, the two men reached the pre-arranged rendezvous site but McGonagall was not there. Casting

about in the fading light Karstens found sled tracks out on the moraine. Somehow McGonagall had missed the camp and his tracks led southeast and away from the trail.

Without firewood or bedding, the two men spent a miserable night in the unheated tent. For dinner, they mixed flour and baking powder in a can of melt water. The men wolfed down Karstens' liquid "bread."

Early the next morning, they headed back for Normile. From a prominence above the Gakona camp, they saw a black dot working its way toward them.

It was a man and two dogs pulling an almost empty sled. "We hurried over to camp and we got there a little before him. It was Mac and he was a sight," Karstens said. "He had tried to make a crossing farther down the divide and got in an awful mixup."

McGonagall's errant turn had led him into deep snow. Instead of the team pulling him, he ended up dragging them. The dogs gave out one by one until only two were left. By accident, and as a result of snow-blindness, he burned his snowshoes while trying to de-ice them. To save his life, he had chopped off the sled's handlebars and started a fire, which he fed with green

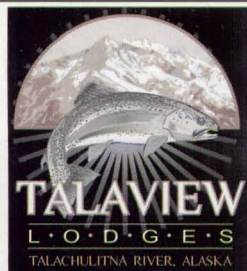
willow branches. The smoke only worsened the pain in his eyes. To ease his agony, McGonagall brewed up tea and tied the leaves over his eyes.

The night bivouac was horrendous, the situation tenuous. McGonagall dug a hole in a snow bank and crawled in to huddle with his dogs wrapped inside his sleeping robe. When Karstens found him the next day, his sled was empty except for mail and a sleeping robe. "He was the wildest looking man I ever saw," Karstens recalled. "It was lucky I was camped there or I'm afraid Mac would have been done for."

The next morning the men loaded Normile into McGonagall's sled. (Doctors eventually amputated part of Normile's frozen foot.) While McGonagall and the two trailbreakers headed south for Gakona roadhouse, Karstens headed north with a heavy load pulled by six dogs. With a fresh-packed trail, Karstens made good time. He passed the halfway camp and continued on downstream 30 or 40 miles, most of it on glare ice. By dusk the temperature had dropped to well below zero. Karstens stopped for the night and hastily pitched a tent in dense woods.

Karstens soon had the stove going. He was too tired to build an open fire and decided to cook the dog food on the stove top. He stoked the stove full, pulled off his heavy trail moccasins and socks and hung them up to dry. While

Continued on page 84



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KID KARSTENS: Continued from page 45

waiting for the dog food to cook, the bone-tired musher dozed off. Sometime later he awoke with the tent on fire. Karstens managed to snuff out the flames but his footwear and mittens were ashes. "I should have known better [than to fall asleep] but I was too tired to care much," he explained.

At about four in the morning, Karstens harnessed the dogs and headed out on the trail wearing two pairs of socks on his hands and just two pairs of socks, insoles, and light moccasins on his feet. Only rigorous work kept him warm. "It was a hard grueling trip [of 35 to 40 miles]," he recalled. "Glare ice helped out a good deal but then I would pay for it by breaking trail and dragging the load along until it seemed I could do no more. My one hope was that someone would be camped at the mouth of the Delta."

About five miles from the Tanana, Karstens picked up a hard-packed trail. The dogs scented a camp and broke into a run with Karstens barely hanging on for the final sprint. He vaguely remembered someone helping him into a tent where he fell into a deep, black sleep. Karstens awoke many hours later to find his dogs fed and rested. He profusely thanked his savior. Later, he told a friend that he survived because he'd had "a darned good set of underwear!" ■

Tom Walker is a freelance writer and photographer who lives in the community of Denali Park.

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