Fish

In one corner of Alaska's Bristol Bay, the sockeye salmon, a $300 million resource that's sustained fishermen like 29-year-old captain Lindsey Bloom for more than 100 years. In the other, the Pebble Mine, with its projected hundreds of billions in copper and gold. Get ready for the fiercest wilderness rumble since ANWR. **BY TIM SOHN**

From left: a drift boat near Ugashik prepares to fish; sockeye salmon rolling in

Photographs by COREY ARNOLD

"We got 30 minutes!"

It was 1:30 P.M., half an hour before the start of the commercial salmon-fishing season in Bristol Bay, Alaska, and I was sitting on the flying bridge of the F/V *Erika Leigh* with Lindsey Bloom, 29, one of perhaps a dozen female captains out of the 1,500 or so who convene here every June to chase one of the largest sockeye salmon runs in the world. Bloom, five foot two, her curly red hair pulled back into a ponytail, was hustling her three-man crew through final preparations. "How you guys doing down there?" she shouted to the back deck. It seemed less like a question than an order to keep moving.

Around us bobbed hundreds of similar 32-foot boats, each guarding its own small patch of gray-brown water, with two or three crewmen busily readying themselves to do battle with the fish. The captains eyed one another and jockeyed for position, a coiled-spring pregame tension hanging over it all. "Barely managed chaos is the only way to describe it," one of Bloom's crewmen said.

At the center of this, Bloom was focused, her mouth set in a slight scowl, but obviously enjoying herself. It was her sixth season at the helm of the *Erika Leigh*, but she'd been fishing the bay for 13 years, learning the ropes from her father, Art, who has worked these waters for nearly two decades. "I've gained some confidence knowing I can hang with the big boys," she said. But the start of the season is always a nervy time. She was scanning the nearby swells for signs of the 40 million salmon that manage to find their way from the Pacific back to this corner of southwest Alaska every year, where they return to their natal streams to spawn and die.

"Check the net and the reel!" Bloom yelled, and two of her crewmen spun the large wheel amidships, smoothly spooling a 900-foot net to insure it would pay out cleanly when the time came.

Fluttering above us on a radio antenna was a white pennant printed with the words PEBBLE MINE crossed through by a bright-red X, a reference to the Pebble prospect, a massive lode of copper, gold, and molybdenum ore worth hundreds of billions of dollars. In a potentially unfortunate coincidence for the salmon of Bristol Bay and the small constellation of people who rely on them for their livelihood, the proposed mine sits at the headwaters of the two main river systems—the Nushagak and the Kvichak—that feed into the bay and provide the spawning habitat and fish nursery. The hundred miles of open tundra between where we floated and where the copper and gold sit in the ground is perhaps the largest intact salmon habitat left in the world, supporting five species of the fish, as well as a remarkable ecosystem full of moose and caribou, brown bears and grizzlies, eagles and wolverines, and trophy rainbow trout. The 40,000-square-mile watershed encompasses two national parks—Lake Clark and Katmai—and is home to two dozen native communities, many of which still rely on subsistence fishing and hunting for a large part of their diet.

"Southwest Alaska," as a fisherman told me, "is one of the last undeveloped, pristine places left in our country."

Bloom has become a leader in the movement against the mine, helping to bridge gaps between unlikely allies and bring together environmentalists, commercial fishermen, sportfishermen, and native groups. The debate has forced Alaskans into some soul searching. The basic question, she believes, is "What are we willing to possibly throw away for a nonrenewable, extractive industry that primarily benefits foreign corporations?"

"Ten minutes!" she shouted to her crew. When the clock struck 2 P.M.—fishing time—it was as if a starting gun had gone off, the tension built up over weeks of preparation finally put into motion.

"Throw the ball!" Bloom yelled, and Ben Dinsdale, one of her crewmen, tossed an orange buoy over the stern. She put it in gear and the net spooled out behind us. The boat and net drift together with the tide and current, picking up salmon as they go.

"There's a hit!" Bloom shouted, pointing at the bobbing cork line as the first salmon of the season thrashed in her net. "There's another one—they're coming from both sides." Before I knew what was happening, Bloom had half jumped, half slid down the ladder to the back deck and was steering the boat from a wheel positioned near the stern.

"Here we go again—another season!"

THE TOWN OF DILLINGHAM, which sits on the northeastern edge of Bristol Bay near the mouth of the Nushagak River, consists of a weathered collection of buildings radiating out from the huge Peter Pan Seafoods salmon-cannery complex. Bristol Bay's first cannery opened nearby in 1884, and salmon remains at the core of the town's identity and economy, which helps explain why it's become a solidly anti-Pebble place. By the time I arrived on June 21, Dillingham's population had doubled from the 2,500 of winter. The two-month salmon season is a harsh, sleep-deprived ordeal, but the fishermen return, year after year, like the fish they chase.

Captain Lindsey Bloom

The battle over this pristine piece of wilderness has been fierce, pitting two of Alaska's long-established extractive industries against each other: mining and fishing. Mining is a substantial force in Alaska's economy—it supports 5,500 jobs and was worth $3 billion in 2008. Pebble promises up to 1,000 new jobs for an economically impoverished area, along with improved infrastructure and cheaper power. But the salmon run has been an integral part of the culture and subsistence

An active fishing period in Ugashik

lifestyle of the natives for millennia and is no small economic force itself: Bristol Bay's commercial fishery has been around for more than 120 years, employs about 10,000 people, and generates more than $300 million annually. Sportfishing attracts anglers from all over the world and is worth another $100 million a year.

The Pebble Partnership—the corporation formed by Canada's Northern Dynasty and the UK-based Anglo American—owns the mineral rights, giving it the authority to conduct the exploratory drilling and other tests needed to apply for mining permits. The Alaska Department of Natural Resources coordinates the permitting process, but the mine will require some 60 state and federal permits before development can proceed, and even then, the legislature or the governor could intervene. The companies plan to submit their permit materials in 2010, initiating a process that would take at least two years. If approved, Pebble would then enter a construction phase that could last from 2013 to 2015, with the mine possibly opening, at the earliest, in 2016, for what could be a 50-to-80-year life span.

Over the past year, the Pebble issue had been much on Alaskans' minds as both sides bought TV, radio, and print ads in an effort to get their message out before an August 2008 vote on the "clean-water initiative," a ballot measure that would have effectively shut down development at Pebble by enacting stricter water-use standards for mines. Alaskans Against the Mining Shutdown, as one group dubbed itself, portrayed environmentalists as statewide mine killers, while the bill's supporters labeled the Pebble Partnership as greedy outsiders who would exploit Alaska and leave behind nothing but a mess. Governor Sarah Palin—whose daughter Bristol is named for the bay where she and her husband have fished—got involved, voicing her opposition to the ballot measure just before she was nominated for vice president. The initiative failed, with 57 percent voting no.

One pro-Pebble group called the enviros statewide mine killers, while foes labeled the miners as greedy outsiders who'd leave nothing but a mess.

Palin's involvement raised the issue's profile outside of Alaska, and Bloom has been making some noise herself. She first became serious about it in 2006, while researching a master's thesis on Bristol Bay salmon at the SIT Graduate Institute, in Vermont. Now, in her off-season job as the commercial-fisheries outreach director for Trout Unlimited Alaska, Bloom serves as the liaison between commercial and sportfishermen. Through her work with Nunamta Aulukestai and other native groups, she has developed strong ties to indigenous communities. She's been quoted in *The Boston Globe* and *Gourmet* and promoted a deal with Wal-Mart for the chain to market Bristol Bay salmon. An acclaimed documentary about Pebble, *Red Gold,* has been making the rounds at film festivals; Bloom was one of the chief facilitators for the filmmakers when they visited in the summer of 2007. Her most recent coup: helping to recruit Sig Hansen and his crew from Discovery's *Deadliest Catch* to the anti-Pebble cause.

Bloom was supposed to join me in Dillingham on June 21 to attend the Pacific Fisheries Legislative Task Force meeting—an annual gathering of state legislators from Alaska and the Pacific Northwest—but low tide had rendered the harbor inaccessible, keeping her away. The meeting, a forum for airing fishing issues, this time became a de facto hearing on Pebble, with the main event being a talk by John Shively, the CEO of the Pebble Partnership. In advance of Shively's presentation, nearly a hundred gruff-looking commercial fishermen—one wearing a sweatshirt stenciled with the words PUCK FEBBLE—had assembled in the parking lot for an impromptu protest lunch of grilled salmon.

"I do have a feeling that maybe this is a little bit how General Custer felt," Shively joked when it was his turn to talk. "I know most of you in this room wish I would just go away." A former commissioner of

Fishermen at Graveyard Point, near the mouth of the Kvichak River

the Alaska Department of Natural Resources, Shively, in khakis and a button-down shirt, was perhaps the lone pro-Pebble voice among the 75 or so people in the room. “We are not guaranteed a mine,” he said, “but we do have a right to present that proposal to the government.”

Bloom, a bold female captain, recalls an angry fisherman once yelling, “If you want to screw me so bad, why don’t you take off your raingear?”

From 2002 to 2008, the Pebble Partnership spent $360 million on exploration and studies required by the permitting process, including $132 million on environmental and socioeconomic assessments alone. With more than 800 exploratory holes, some going down thousands of feet, drilled on the claim so far, the partners have concluded that they’re sitting on some 72 billion pounds of copper, 4.8 billion pounds of molybdenum, and 94 million ounces of gold. Extracting that ore could mean churning up as much as 7.5 billion tons of earth. Initial plans called for two mines side by side, a below-ground operation on the eastern side of the claim and, to the west, a massive open-pit mine that could be one of the largest in the world.

“Obviously, its location is a hugely sensitive place,” Shively said. “It requires us to persuade people that we can take care to protect the fish and the water.”

To help convince them, Pebble has gone beyond what’s required to minimize the impacts of exploration—traveling by helicopter instead of bulldozing roads, for example, and setting their drill rigs on tundra-protecting wooden platforms. Through a combination of technology and attention to detail, says Pebble’s vice president of pubic affairs, Mike Heatwole, the company believes it can engineer a safe mine with a relatively small footprint that will protect the ecosystem from any ill effects. Just how they will do that, he isn’t saying, explaining that they still need to collect and analyze the data before deciding what plans will look like.

Opponents are skeptical. Infrastructure is one problem: The mine will require 85 miles of road in a roadless wilderness area; a concurrent length of pipeline to transport the ore slurry; a new deepwater port on Cook Inlet for ships to receive it; and some way—most likely a new natural-gas power plant—of generating a small city’s worth of electricity. It would draw millions of gallons of water out of nearby streams and rivers—which in itself could destroy fish habitat. And it would require enormous earthen dams to hold back tailings ponds: billions of tons of wastewater, rock, and unrecovered minerals, including potentially toxic sulfides that could oxidize to create sulfuric acid, which in turn might leach metals out of rock and into the groundwater, posing the most immediate threat to the salmon. Pebble says they’ll prevent acidification by keeping the waste underwater, away from air; critics point out that, because of the area’s highly permeable geology, there is simply too much groundwater moving around to contain the pollutants.

Anti-Pebble groups like the Renewable Resources Coalition cite cautionary tales like the Summitville Gold Mine, in Colorado, which was permitted as a “zero-discharge” mine but sterilized 17 miles of the Alamosa River in the mid-eighties, and Utah’s Bingham Canyon mine site, which, while far older, features geology similar to Pebble’s and has contaminated more than 70 square miles of groundwater. Heatwole rejects these comparisons to older, dirtier mines, insisting

For a gallery of Corey Arnold’s photos from Bristol Bay and a trailer for the documentary *Red Gold,* go to **outsideonline.com/bristolbay**

that the company is well aware of the environmental risks. But history is against them: A 2006 study of 25 large-scale U.S. mines by the watchdog group Earthworks found that 19 of them failed to comply with the water-quality standards required by their permits.

"The environmental record of hard-rock mining is pathetic," says Daniel Schindler, professor of aquatic fishery and sciences at the University of Washington. "And I'm probably being generous in calling it pathetic."

Rick Halford, a former Alaska state senator who's generally pro-extraction but opposes the Pebble mine, summed it up at the Dillingham meeting. "Mining is an important part of Alaska's heritage," he said. "But this particular prospect, in this particular location, is a disaster for all time."

"OH, CRAP."

It was my third day on the *Erika Leigh*, and we were anchored in the middle of the bay during an active fishing period—a huge breach of protocol because, when their nets are in the water, the boats drift with the current, motoring around only when the nets are pulled in. We were a still point in a cat's cradle of nets. Already that morning, Bloom's boat had gotten tangled with trailing nets from two other boats; now a third was drifting toward us. Before long, its net was wrapped tightly around the *Erika Leigh*'s snub-nosed bow.

"Fucking motherfucker fuck!" the exasperated captain shouted when he saw what had happened. "You guys should have been drifting!"

Bloom had suffered through a nagging morning of battery and engine problems that had forced her to stop fishing, shut down the boat, and anchor up. Then the engine wouldn't restart. Later, after being towed out of harm's way, she checked in by radio with her father, 63-year-old Art Bloom, who reminded her that fishing with engine trouble was a bad move.

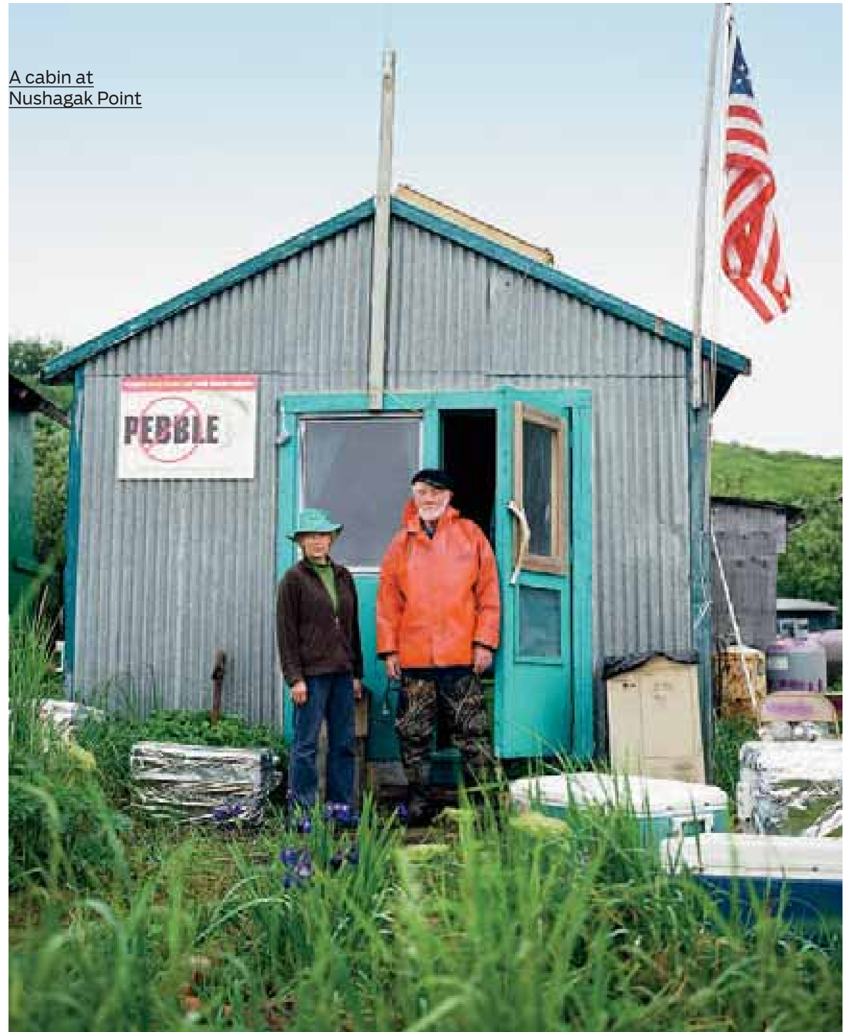
"If you wake up with a dead battery, you can't just go fishing," he said, in the daily installment of their Socratic dialogue. Art, who was aboard his boat *Cape Clear,* had lived most of his life with fish. He came to Alaska in 1972 as a fisheries biologist with the Forest Service, once owned a fly-fishing business, and has had a Bristol Bay permit for 18 years. Lindsey worked her first season for him at 17. Six years later she took over the *Erika Leigh,* and while the two usually fish near each other, she was in a different part of the bay that day. "When you've got something wrong," he continued, "you've got to figure out what's behind it right away."

"Yeah, I know," said Bloom, madder at herself than her dad was. In past seasons, she, like any young captain, had hit a few rough patches—nets caught in props, hydraulic-system failures, tearful breakdowns, even a man overboard. "The self-reliance you have to learn to fish out here is powerful," she said. "When the shit hits the fan, nobody is going to come save you."

Bloom is a bold captain, notes her boyfriend, Brian Delay, 28, a crewman in his fourth season with her. Other captains, he says, "see this five-foot-tall redhead" setting her net in front of them, "and, whoa, they get mad." Bloom recalls an angry captain once yelling at her, "If you want to screw me so bad, why don't you take off your raingear?" She enjoys such reactions. "It kind of messes with their heads to see me out here."

Though top boats may catch as much as 300,000 pounds of salmon in the two-month season, Bloom's goal is more on par with the average: 100,000 pounds. "With 100,000, you're in the black, you're making a living," she said. At 2008 prices, that would have worked out to about $68,000 gross, less roughly $12,000 in overhead and another $17,000 for her crew. Of course, some seasons, a blown engine or other unforeseen cost will burn through any cushion pretty fast. But fishermen are gamblers, and the fishery still offers the chance to make a good chunk of money in a short time. "It could be more," Bloom told me, "but I can't complain—fishing paid for my house, fishing helped pay for grad school."

As we motored west, Bloom kept an eye out for anything that might suggest fish were near. "What I really like is the strategy. Watching the wind and the tide and trying to figure out what the fish are doing."



A cabin at Nushagak Point

Despite being born to it, Bloom is not a typical Bristol Bay fisherman. She hunts and fishes but also teaches yoga, and onboard she's as likely to dine on Thai Kitchen noodle soup as a pile of roe pulled fresh from a salmon's belly and fried with lemon pepper. She pursues a sustainable lifestyle; salmon fishing fits into that, and so do moose and deer steaks in the freezer.

One tool she'd been using in the Pebble fight was the product: the salmon itself. She was experimenting with a "fresh market" idea, offloading freshly cleaned fish in Dillingham and having them shipped to customers in Juneau, at a premium price. "In surveys I did, people were way more concerned about the environment than the fishermen," she said. She thought if she could get them to identify a quality product with the pristine environment it came from, it might help the cause.

The mine's presence could pose a marketing problem if consumers

come to identify it with a polluted area, but the site is more than 100 miles upstream from where fish are caught. While it could affect the ecosystem immediately, it would likely take years for any pollution to damage the run itself. But for Bloom, the generation-to-generation continuity, and her desire to see the fishery continue, makes the fight more urgent. "For me," she said, "what's at stake is whether or not my children will know what it's like to live by tides, winds, and the life cycle of salmon."

The next day, the crew of the *Erika Leigh* got into the first "hot" fishing of the season. "It's a great morning!" said Brian, down on deck, working a tangled fish out of the net while Johnny Cash played from speakers in the pilothouse. "Wait, is it morning?" It was 2 P.M. "Well, a good early afternoon. I don't know what time it is, but that net's got some fish in it!"

Bloom was beaming. "I find many fish for my boys! Yes?"

AFTER A WEEK AND A HALF, I left the fleet behind to head upriver, hoping to get a feel for what was happening beyond the chaos of the commercial fishery. I spent two weeks talking with locals, native leaders, and sportfishermen. Toward the end, Sean Magee, then Pebble's director of public affairs, invited me to join a media tour of the proposed mine site with five Alaska-based journalists, offering to take us up in a helicopter for a big-picture view.

"There's one of our drills there," he said, pointing out the window of the Bell 205 at a metal-lattice tower perhaps 40 feet tall, jutting up from a wooden platform on the tundra—one of the eight diesel-powered drill stations generating core samples. Later, we touched down on a ridge overlooking a bowl below Koktuli Mountain, the potential site of the open-pit mine. "We're not going to take it all," Magee said, explaining that the plans probably wouldn't call for extracting the entire resource. "There's going to be some smaller portion of it that makes sense."

From the helicopter, I had seen more of what I'd glimpsed on earlier bush flights around the region: an enormous expanse of tundra, pocked with lakes and ponds and paths worn into the spongy surface by migrating caribou herds. The dominant feature is the spider's web of creeks and rivulets slicing through the land like a child's scribble, the water wending its way through countless oxbows before joining larger streams. This is the final stretch of the sea-to-spawning gantlet, and the interconnectedness of the entire system was obvious.

The remarkable process by which salmon navigate back to their natal streams, arriving within a week or so of their parents four or five years earlier, relies heavily on smell. Metals or other pollutants could poison the fish and interfere with their homeward swim. Copper is of particular concern; a known toxin to the fish, it's capable of inhibiting their olfactory systems even at low levels. "In many respects, it's the water issues that are the most challenging from an engineering perspective," Magee told us in the town of Iliamna before we went out to the site. "If we can't protect the fish and the water and the wildlife, then we won't proceed with the project."

It was a nice assurance, if not entirely convincing, and one that I had heard several times before. Magee's 45-minute PowerPoint presentation hewed closely to the script that all Pebble officials seem to read from, and though I was impressed with the access and the openness, the visit yielded few revelations.

Situated 19 miles from the Pebble claim, Iliamna has about a hundred full-time residents. It used to be a sportfishing hotbed—its first lodge opened in the 1930s—but now, as the base of Pebble's exploratory operations, it's become something of a company town. The mining outfits had rented out most of the lodges and hotels to house the 92 people working on the exploration and the additional 60 or so consultants gathering data for the mine-permit reports.

I had visited Iliamna and several other native communities near Pebble prior to the mine-site tour. They are hardscrabble places with high unemployment and little funding for schools, health care, or other infrastructure. Winters are cold, and heating fuel—which, like most supplies, has to be flown or barged in at great cost—is expensive. Gas was $7.59 a gallon, and I had to promise one local elder a jerry can of unleaded for his boat before he'd talk to me.

It's a beautiful but harsh place, and it was easy to see why the town was losing population as young people went elsewhere. On the shores of the lake, I spent time with Myrtle Anelon, who was cutting up salmon at her family's fish camp, getting them ready for the smokehouse and canning. She described the town's embrace of the mine exploration—she and her husband own a building that the mining company is renting, and her daughter runs the Iliamna Development Corporation, which handles much of Pebble's local logistics—as keeping an open mind.

"We've got something special with the fish, but, you know, people have to live," she told me, working through the red flesh in front of her with a white-handled fillet knife. "We're not for the mine and we're not against it, but we are going to take advantage of this opportunity. Why shouldn't we? We got no jobs here, no money. It's a future for our young people."

Head of mine operations Gernot Wöber points to a potential site

In other native communities, I found people struggling with the same untenable tradeoff. "It costs a lot to live out here," a young woman in Igiugig told me. "It's beautiful, it means everything to us, but it's expensive." For many, though, the risks are just too great. "Look at this: You could take a cup right here and drink it," said Jack Hobson, president of the Tribal Council of Nondalton, an anti-Pebble village on the Newhalen River about a dozen miles from the mine site. "It's pristine, and the salmon will always be here. They're asking us to risk a lot for something that's only going to be around for 50 years."

For the sportfishermen and lodge owners, the issue is more clear-cut: The mine, as they see it, can only hurt them. One owner of a sportfishing lodge near the town of King Salmon, on the bay's south side, told me, "What we got going here is fucking magic. I'm astounded to even be a part of it. And I'm even more astounded that we might let something happen to jeopardize it."

Seasonal fishing in the native village of Ekuk

TOWARD THE END of the season, I caught up with Bloom and the *Erika Leigh* in Ugashik, the westernmost Bristol Bay fishing district, where they were hoping for one last big slug of fish. I was on one of the large supply boats when the *Erika Leigh* motored up on our starboard side. The short season had taken its usual toll on Bloom. "We're in the black," she told me when I asked how the past two weeks had gone, "but we could really use one more big day."

She seemed tired but content. "In the black" meant that they'd gone over her 100,000-pound goal, though by how far she wasn't saying. Overall, the 2008 run totaled 40.4 million salmon, slightly above forecasts and above the 20-year average of 37 million. The total catch was 27.7 million sockeye, worth more than $113 million to the fishermen.

> "We're not for the mine and we're not against it," one woman said. "But we are going to take advantage of this opportunity. We got no jobs here. It's a future for our youth."

Since last summer, the global economic crisis has had an impact on the debate: Mining values in the state dropped from $4 billion in 2007 to $3 billion in 2008, with further declines expected in 2009. The Pebble deposit, which had been valued as high as $500 billion, is worth something like $230 billion now that mineral prices have fallen. The one bright spot is gold, which has gained in value as spooked investors have sought safe harbor from the instability of global markets. Still, Anglo American announced in February that it was laying off 19,000 employees and suspending its dividend. Spending at Pebble is down, but they are proceeding, with $59 million budgeted for 2009 to finish the research to apply for permits next year.

Until then, everything from the size of the mine to how quickly it will open is in flux, and will be, says Heatwole, the public-affairs VP. "There are a lot of questions we can't answer right now, which is a challenge," he concedes.

Both Pebble and the opposition are closely monitoring a case before the U.S. Supreme Court, expected to be decided by the end of June, which concerns the disposal of tailings in a lake near the Kensington gold mine, outside of Juneau. Meanwhile, the sniping continues—Pebble has filed a complaint against the opposition alleging illegal funding, while native groups appealed to have Pebble's exploration permits revoked, citing lax state oversight. The state Senate Resources Committee called for an independent review of Pebble's potential impact by the National Academy of Sciences.

While past polls by anti-mine groups have found as many as three-quarters of Bristol Bay residents opposing Pebble, there is still a lot of uncertainty. As state senator Gary Stevens, whose district includes the villages closest to the site and who chaired the Senate Resources Committee hearing, told me, "Sentiment is pretty evenly divided between those who want the jobs and the development and those who see preserving the salmon as the most important thing. There are no easy answers here." One woman he ran into in King Salmon told him, "What I want you to do is to keep these jobs going until it looks like the mine is going to be developed. And then I want you to kill it."

Bloom, for her part, is busy getting ready for the 2009 fishing season, having spent much of the winter traveling around the state, giving presentations—and even attending a dinner with the chairman of Anglo American's board. When we last spoke, she was setting out on a plane trip around southwest Alaska with former state senator Rick Halford to hold community meetings at native villages. The opposition's best hope? That the legislature will act to protect Bristol Bay from development. If it doesn't, another clean-water ballot measure could go to a vote in August 2010. "I never thought I'd get this deep into Alaskan politics or be flying around Bristol Bay with the former senate president in a private plane," Bloom said, "but I'm getting my education."

She still has fish from last season in her freezer. "We actually had salmon last night. Sockeye from Ugashik." o

CORRESPONDENT TIM SOHN WROTE ABOUT BEING A FIRST-TIME ADVENTURE-TV HOST IN NOVEMBER.