

Severance *continued from page 3*

mance, has grown 27 percent since 2007, to \$47 billion). Gara worries the Legislature will exploit those savings — that a rainy day has been forced on Alaska citizens before its natural time. “We have record employment on the North Slope,” he says. “Statewide we have some of the lowest unemployment in our state’s history. And now Governor Parnell has built us an artificial fiscal cliff.”

The most significant difference between ACES and the new tax is that it sheds the progressivity — the rate starts at 35 percent of net profits and stays there. The effective tax rate — the actual tax paid on gross production value — could dip under 20 percent. If that still sounds high, it is: Headwaters Economics, a nonprofit that studies Western land-use issues, puts Wyoming’s effective tax rate for oil and natural gas at 11.4

percent, the highest in the Lower 48. Wyoming, however, also has coal and a 4 percent sales tax to feed its revenue stream; Alaska relies almost exclusively on oil. When the price of North Slope crude fell abruptly in 2009, the state budget went from a \$390 million surplus to a \$1.25 billion shortfall in a matter of months.

Will the new tax spur production? Headwaters Economics policy analyst Mark Haggerty thinks it won’t. “Geology, technology and price drive production,” he says. “Those factors are so big that marginal differences in tax policy don’t matter.” In 2007, for instance, North Dakota adopted a “tax holiday” to draw investment on the Bakken Shale away from Montana. But production shot up even after the incentive expired, for the simple reason that “the average well in North Dakota produces twice as much as the average well in Montana,” Haggerty says.

Even Scott Jeffson, vice president of external affairs at ConocoPhillips, Alaska’s largest oil company, stops short of claiming the new tax will feed the aging pipeline. As he told the state Senate Finance Committee in March, “We are not in a place where we could say how much we would do differently.” Oil companies still earn plenty in Alaska, despite the production decline. For the quarter that ended March 31, ConocoPhillips posted \$540 million in profit from Alaska’s oil fields — and that was under the higher tax rate.

The loss of revenue, however, will make a difference to Alaskans. “It means no money for new teachers, less money for construction, less money to shore up our infrastructure,” Gara says. “Maybe the governor honestly believes that if you give oil companies a \$2 billion tax break they’ll reinvest it in Alaska. I don’t.” □

FLORA & FAUNA

Trouble in the valley of the eagles

Could a mining project jeopardize the largest congregation of bald eagles on Earth?

Before dawn, Steve Lewis crosses the snowy flats around Southeast Alaska’s Chilkat River. Beyond its braided channel rise the Takhinsha Mountains, obscured by fog in the murky autumn light. A handful of biologists follow Lewis — a tall, trim 42-year-old with a close-cropped beard — as he sashes through riffles to a gravel bar. He builds a perch snare by tying an alder branch to an upright log and rigs it with a spring-loaded loop. “Ready for action,” he whispers, hoping to conceal our presence from the Chilkat’s chattering denizens.

Dozens of bald eagles, their chirps surprisingly meek, hunker in the river’s bare cottonwoods. Between 3,500 and 4,000 migrate each fall to this six-mile stretch of the Chilkat Valley, called the Council Grounds, in the largest gathering of bald eagles on Earth. To protect them, Alaska designated a 48,000-acre area as the Chilkat Bald Eagle Preserve in 1982.

The eagles come here — about 21 miles north of Haines — to feed on spawning chum salmon. The great mystery is where they come from. Eagles



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migrate thousands of miles to exploit seasonal food sources, which means the new arrivals could live and breed as far away as the Rocky Mountains in the Lower 48. Also puzzling is how they know the chum emerge after other salmon runs have finished.

Lewis, a Juneau-based U.S. Fish and Wildlife Service raptor expert, and the others are here to help University of California-Santa Cruz doctoral candidate Rachel Wheat catch and outfit eagles with solar-powered GPS transmitters to find some answers.

But where Lewis and his colleagues see globally significant biological riches, Constantine Metal Resources sees a different treasure. In February, the company closed a deal to accelerate exploration of a 5-million-ton copper-zinc deposit with what it calls “tremendous expansion potential” right above the Chilkat’s largest headwater tributary, three miles from the preserve.

As with any protected landscape, the resources that sustain wildlife here do not begin and end with the preserve’s boundaries. Lewis and others fear that

An adult bald eagle knocks down a juvenile feeding on a salmon carcass on the banks of the Chilkat River in the Alaska Chilkat Bald Eagle Preserve.

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BY LIZA GROSS



THE LATEST

Backstory

In the 1980s, invasive quagga and zebra mussels hitchhiked on ocean vessels from Eastern Europe to northeast North America. There, the **thumbnail-sized bivalves proliferated, clogging water intake pipes, crusting boats, wreaking havoc on ecosystems and causing billions of dollars in damage.**

Measures were taken to prevent their westward spread, but in 2007 quaggas arrived, eager to reproduce, in Nevada's Lake Mead (*HCN*, 3/5/07, "Wish you weren't here").

Followup

Containment measures such as inspecting and cleaning boats have helped keep the mussels out of most Western waterways, although they've been found in a dozen water bodies in Colorado, Utah, Arizona, Nevada and California. But this spring, **quaggas were spotted for the first time at marinas on Lake Powell.** The Associated Press reports that the Lake Powell quaggas "weren't close enough (together) to reproduce," so there may be time to stop their colonization of the reservoir.

MARSHALL
SWEARINGEN

mine pollution could jeopardize this important chum run — just as they begin to understand its role — and the mainland eagle populations that depend on it.

On paper, the Chilkat Bald Eagle Preserve is "the most protected piece of real estate in Alaska," says former state Rep. Peter Goll, a Haines resident who fought for the preserve and helped craft its first management plans.

On the ground, it's a different story.

Like many Alaska towns, Haines' fortunes rose and fell with natural resource supplies. It boomed as gold seekers headed north to the Klondike, then to Porcupine Creek near the Constantine claim in the late 1890s. When the big mines closed in the 1930s, canneries sustained Haines until commercial overfishing forced them to fold in the early '70s. By the '80s, Haines' sawmills followed suit, leaving many of its 1,700 residents jobless.

Hoping to revive Haines' timber industry, the state opened the heart of eagle habitat to large-scale clear-cutting in 1979. National conservation groups, supported by Goll and many other locals, sued to block the timber sale. They lost the suit but won powerful allies in Congress, who floated a provision to create a national eagle refuge.

Determined to avoid federal interference, local miners and loggers, and state and town officials forged a landmark compromise with conservation groups, creating a state forest open to resource development and an eagle preserve that permitted only low-impact activities, such as subsistence fishing, hunting, research and wildlife viewing.

Ironically, the timber market never rebounded and even the eagles' most diehard foes came to see their economic potential. In 1985, local businessman Dave Olerud, who once threatened to rally opponents to kill off "those goddamned buzzards," started the Bald Eagle Foundation, which runs an annual festival that draws close to 300 tourists each November.

To a degree, Haines owes its life to the preserve, which also offers sanctuary to 300 to 400 resident eagles. As many as 15,000 people visit the area annually, sleeping, eating and shopping in locally run businesses. Tourism accounts for most jobs in Haines, but the work is seasonal: Unemployment rates last year swung from 4.7 percent at the height of tourist season in August to 12.9 in February, compared to a national high of 8.3 percent. Though most people in Haines clearly value the preserve, many also want new opportunities. A survey last year revealed that 50 percent of residents support local "larger scale mining such as the Constantine Mineral deposit in the Chilkat Valley."

The mine isn't the only development



Steve Lewis, center, shows graduate student Rachel Wheat, left, how to place calipers to take length and depth measurements of the beak of a bald eagle captured in the Alaska Chilkat Bald Eagle Preserve. © JOHN L. DENGLER/DENGLER IMAGES

project on the horizon. On Connelly Lake, a few miles north of the Council Grounds, a proposed hydroelectric dam is moving forward. So are state plans to build a heavy-duty bridge on the Chilkat for big rigs hauling Yukon ore — potentially making Haines the Pacific Rim's prime ore shipping site — good news for Constantine.

In February, the company closed a \$22 million deal with Dowa Metals and Mining, a Japanese firm, to ramp up its operations in exchange for 49 percent interest in the project. To determine the mineral deposit's extent and value, Constantine has drilled 42 holes since 2007, and plans to continue drilling this summer. In a paid commentary in the local paper, Constantine officials noted that the project will require "considerably more work" to complete the economic and environmental assessments needed to predict when, or if, full-scale mining would begin.

But compared to similar Alaska deposits, like the one tapped by the Greens Creek Mine near Juneau, the company added, "It is not unreasonable to envisage a 1,500 to 3,500 ton per day underground mine with the potential to operate sustainably for many decades." Officials say it could also create up to 300 long-term jobs and bolster Haines' economy through taxes and increased demand for local goods and services.

Despite his organization's own dependence on the eagles, Olerud thinks a new mine could help restore Haines to past economic glory. "Is it going to destroy the environment? Not if we have common sense. We had 10,000 people out there at Porcupine. We had five canneries," he says. "Now we have nothing."

Lewis and the other biologists sympathize with residents' economic concerns. They also know mining speeds chemical reactions whose products can harm aquatic organisms and the animals that depend on them. Volcanogenic massive sulfide deposits like Constantine's harbor metal sulfides, which generate sulfuric acid when exposed to air and water. This discharge liberates rock-bound toxic metals like copper, silver and zinc, sending them into groundwater, surface water and soil. Decades of research show that copper and other mine contaminants can kill salmon and other wildlife, and interfere with salmon's ability to migrate, fight disease and avoid predators.

Eighty-nine percent of hardrock mines that ended up having acid drainage, including Greens Creek Mine, underestimated or ignored the likelihood that it would happen, according to a 2006 review of environmental impact statements. Although mining permits require carefully designed mitigation measures to contain toxic mill tailings and waste rock, certain factors, like being near a water source, increase the risk of water-quality impacts, even when companies follow best practices. "Certain types of sulfide mines, like volcanic massive sulfide mines, are inherently acid-generating," says James Kuipers, a mining engineer who led the study and runs a consulting firm that assesses mining impacts. Even when a mine shuts down, its waste stays behind. "It comes down to how you propose to mitigate that to make sure it doesn't present a lasting liability — and therein lies the real challenge."

Southwest Oregon's Formosa Mine still releases some 5 million gallons of

Please see **Bald eagles**, page 23



Nearly 60 bald eagles crowd together in a stand of cottonwood trees in the Chilkat Bald Eagle Preserve, thought to host the world's greatest congregation of the birds each fall. © JOHN L. DENGLER/DENGLER IMAGES Copyright High Country News

At almost 15 pounds, it's clear we've got a female. She's fearsome, with a massive hooked beak and flesh-shredding talons. Yet she sits calmly as Lewis threads a Teflon harness with the GPS under her wings and around her chest.

Bald eagles *continued from page 6*

heavy-metal laden acid mine drainage a year into the headwaters of Middle Creek and South Fork Middle Creek, according to the Environmental Protection Agency — even though the copper and zinc mine closed in 1994. The EPA added the mine, which destroyed 18 miles of salmon habitat and a once-thriving fishery, to the Superfund cleanup list in 2007.

By late morning, eagles are all around us. “Look at that eagle party across the way,” says Taal Levi, a wildlife ecologist with the Cary Institute of Ecosystem Studies, whose tales of this ecological mother lode inspired Wheat’s doctoral project. He points to 50-plus eagles bunched in cottonwoods beyond the river, explaining that since they’re not breeding, they’re less territorial. “Though they do like to steal from each other.”

As if on cue, an adult chases a young bird from some bait near a remote-controlled net gun, and bingo — Lewis flips the switch. Like a starter’s pistol at a track meet, the gun’s crack sends us dashing toward our catch.

Lewis carefully extracts feathers from the netting. He pops a hood over the giant raptor’s head, covers its shiny black talons with handmade leather booties, then hands the bird to Wheat, who cradles it

against her chest as she heads back to the road.

At almost 15 pounds, it’s clear we’ve got a female. She’s fearsome, with a massive hooked beak and flesh-shredding talons that curl around Lewis’ exposed fingertips after he takes off a bootie to give us a peek. Yet she sits calmly as Lewis threads a Teflon harness with the GPS under her wings and around her chest, positioning the device just behind her head. Her breast feathers feel silky and warm against the frosty air.

Wheat clips a few of them for stable isotope analysis, which ecologists have long used to infer an animal’s diet based on the levels of carbon and nitrogen. Wherever birds forage, the elements in the food suffuse their feathers as they grow. Wheat hopes the approach, tested in songbirds but not eagles, will tell her where the migrants lived and fed before she tagged them.

Most bald eagles die in their first year, Lewis tells me. He’s loath to consider how high the mortality rate would be if mine runoff damaged this river and the fish that swim through it. Migratory eagles, which often suffer from dehydration, face greater risk of harm from drinking poisoned waters. As predators at the top of the food chain, they’ll also accumulate any contaminants found in their prey.

If pollution breaks the bond between

eagles and salmon here, it may disrupt a nutrient cycle crucial to this area and perhaps even to sites along the eagles’ travels back across the continent. Salmon deliver carbon, nitrogen and other marine nutrients to the tiny stream-dwelling plants and animals that feed their offspring. Bears and eagles spread the nutrients even farther, as they deposit carcasses and excrement over the landscape.

With the bears hibernating, eagles are the only ones removing salmon from the river this time of year, Levi explains. “Eagles are feeding everyone else.”

He has endless questions about the ecological role of this ancient relationship. “There’s so much we don’t know.”

By week’s end, five eagles will be wearing solar-powered tags, relaying precious details about their life choices and the first hard evidence of the potentially vast reach of this single salmon run. If the Constantine project turns into a mine, the team will at least have a baseline to measure its ecological impacts against.

After securing a blood sample to test for contaminants like mercury and flame-retardants, Lewis removes the research recruit’s hood and booties, holds her at arm’s length and throws her gently skyward.

“Tell all the other eagles to come get a cool backpack,” Wheat says. □