

THE NORTHERN LINE

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Partnership

By Arthur Hussey, Executive Director

Once more, Arctic Refuge drilling has been on Congress' agenda. Once more, it has been debated. And once more the decision has been to refrain from drilling and retain the area's essential wilderness nature.

There's been another "once more", one that isn't necessarily as apparent. And that's that an incredible partnership of concerned individuals and organizations made this achievement possible. This collaboration existed, and exists, not just for the Arctic: it works on almost all other Alaska issues from mining to forests, recycling and toxics to Denali.

Sometimes I lose sight of this true cooperation. But others don't: recall Senator Murkowski when he lamented on 18 April that once more the well-organized environmental groups "wouldn't budge". That suggests a strong partnership, by any definition and whatever you think of the outcome. Not only was it strong, it was diverse, including partners near and far. Here in Alaska, it included your Northern Alaska Environmental Center, as well as others:

Trustees for Alaska, the Gwich'in Steering Committee, to name but a two, and many hundreds, indeed thousands, of Alaskan individuals.

This instance should serve to re-emphasize the value that we in the Northern Center place on partnerships. By partnerships we mean those relationships outside the Center that are symbiotic, that contribute to the achievement of the organization's higher objectives. Not all are with what you may think of as "environmental" groups or persons. Some are simply with members of the public who have compassion, expertise and energy in issues considered by the Northern Center, yet others involve atraditional partners: private businesses, wildlife guides, lawyers, artisans, and media representatives, to name but some. Few in the latter category would see the Northern Center as a traditional corporate partner. But in almost every case, certain objectives of the Northern Center coincide with certain of theirs: healthy ecosystems (to borrow a term from ACF), responsible and sustainable natural resource use, public participation in natural resource decisions, and so forth.

We encourage partnering for two reasons. First, working with partners enables us to do significantly more than we could on our own. Think of our

work on the Fairbanks Intertie, which involved substantial legal expertise and co-opted our legal colleagues in Juneau with Earthjustice. Although we ultimately did not prevail, the success that we had was due to working with those other like-minded colleagues, each with a different set of skills. The same could be said of Neighborhood Mine Watch's recent success in intervening on noise pollution issues at True North (see later story). Second, partnerships enable the Northern Center to focus on its particular areas of expertise, to contribute most substantially where it has strengths, leaving other areas to organizations with a knack for working in those respective areas.

Partnerships are important to each operational program that we mount. Conceptually, they are also important to the planning process—it is important to know what our partners contribute, what unmet needs exist in the community and so forth.

The import of this discourse is twofold. First, support to the Northern Center leverages and brings together considerable additional expertise through other agencies. de facto this expands the Northern Center to much larger than its traditional seven staff and fourteen Board members. It also enables us to

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THE NORTHERN LINE

Environmental News of Arctic and Interior Alaska

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The Northern Alaska Environmental Center promotes conservation of the environment in Interior and Arctic Alaska through advocacy, education, and sustainable resource stewardship. The Northern Alaska Environmental Center has 1,075 members.

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The Northern Line is produced by Paul Ollig.

The cover photo of a red fox pup was taken by Charlie Ott at Denali National Park and Preserve. The back page picture of muskoxen in the Arctic National Wildlife Refuge is an NAEC file photo.



Gas Exploration Creeps Closer to Home

By Nancy Fresco, Local Issues Coordinator

Until recently, the Northern Center – and in fact, almost every one else in Interior Alaska – had given very little thought to the idea of gas exploration and development in our immediate neighborhood. Instead, our focus centered on whether or not North Slope natural gas reserves should be developed. However, recent events have brought the question much closer to home.

On April 12, Alaska Department of Natural Resources issued a draft Best Interest Finding for a permit which would allow exploration for natural gas across almost half a million acres of the Nenana Basin. Andex Resources LLC, a limited-liability company based in Houston, would be the permit-holder. The project would include cutting seismic lines and using explosives to test for deeply buried gas reserves in the wetlands west and north of Nenana, including parts of the Minto Flats Game Refuge. If gas were found, it is expected that multiple wells would be drilled, and gas would be piped to Fairbanks and Nenana.

In addition, last May the Alaska Department of Natural Resources Division of Oil and Gas awarded 65 coalbed methane leases in Interior Alaska – some of which lie in the nearby Tanana Basin (see sidebar).

The Nenana Basin is a complex mosaic of forest, rivers, streams and wetlands southwest of Fairbanks that encompasses the Minto Flats State Game Refuge. Most of the area is wild in nature, with almost no access roads or cleared land. It is prime habitat for salmon, moose, black bear, raptors, and waterfowl, and also supports healthy populations of many other species, including brown bear, wolf, coyote, red fox, lynx, wolverine, river otter, marten, beaver, and muskrat.

With such a plethora of wildlife,

the Nenana Basin is an important area for subsistence users, with extensive hunting, trapping, and fishing taking place along the Tanana River and smaller waterways, particularly centered out of Old Minto Village. In addition, during the winter the Basin is a popular recreational area for dog mushers, long-distance skiers, winter campers and others looking for a roadless experience.

Athabascan people have lived on this land for countless generations, and feel that the Nenana Basin belongs to them. Not only is the land important for subsistence purposes, but a Spirit Camp and other cultural and educational facilities are located in the area. Natives and other local residents have shown resistance to disruption of this ecosystem in the past, when the public opposed timber sales proposed by the State Division of Forestry.

The Minto Flats State Game Refuge was established for the purposes of protecting habitat, conserving fish and wildlife, and guaranteeing fishing, hunting and trapping, when these are compatible with conservation. These purposes not easily reconciled with oil and gas extraction.

The good news is that the Alaska Department of Fish and Game has suggested that they are very unlikely to approve any facilities, pads, pipelines, or roads within the portion of the Game Refuge north of the Tanana River. This strong stance is commendable. However, the rest of the Game Refuge – plus other ecologically valuable lands – may potentially be opened for drilling.

DNR's Division of Oil and Gas has included some important stipulations in the Best Interest Finding, including disallowing permanent roads for exploration purposes, providing buffers around bear dens and swan nests, and requiring buffers on fish-bearing streams. How-

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Coalbed Methane: New Kid on the Block

By Deb Moore,
Arctic Coordinator

Of all nonrenewable energy sources, coal is the most abundant worldwide. Recently, some states have begun to view the large quantities of methane-rich gas which are stored within the coal as a great untapped energy resource. However, production of coalbed methane is accompanied by significant environmental problems, including loss of methane to the atmosphere during underground mining, disposal of large quantities of high salinity (salt) or high sodicity* water that may be produced with the gas, possible drainage of important water aquifers, habitat fragmentation associated with new road creation, and increased noise and traffic associated with development.

Coalbed methane is essentially a by-product of the coalification process – in which plant material is gradually converted to coal. During that process, large quantities of methane-rich gas are created which subsequently adhere to the surface of the coal. During production, this gas is released by “dewatering” the coalbed – water is removed to decrease the partial pressure holding the gas to the coal. As a result, large quantities of water are produced and must be either surface discharged or reinjected into the ground.

A recent Department of Natural Resources study has identified three
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** Sodicity is the amount of sodium relative to calcium and magnesium. Excess sodium can destroy the structure of clay-type soils, inhibiting soil drainage and infiltration.*

Arctic Refuge Victory!

By Deb Moore, Arctic Coordinator

Another chapter has ended in the battle to protect the Arctic National Wildlife Refuge and again, we have been victorious!

After six weeks of work on the energy bill and numerous requests by the majority leadership to begin debate of the Arctic Refuge, Senators Murkowski and Stevens finally introduced their Arctic Refuge drilling amendments. However, despite the amount of time, money, and sheer determination put in by pro-drilling advocates, the Senate wisely voted (54-46) to oppose drilling in the Arctic Refuge.

Throughout the two-day Arctic Refuge debate, many pro-drilling Senators protested the need to have 60 votes rather than 51 to attach the amendments – claiming the majority of Senators supported drilling. In fact, as the final tally showed, the majority of Senators *opposed* drilling!

What happens next is still in question. Senator Stevens has vowed to introduce a new amendment to allow

drilling on Arctic Slope Regional Corporation inholdings within the refuge. However, in the wake of the previous votes, this amendment has little chance of success and may never be offered.

If the Senate energy bill is eventually passed, the discrepancies between it and the House-passed version will be worked out in a conference committee. While pro-drilling advocates may continue to hold out hope that Refuge drilling will be added during conference, the majority opposition in the Senate makes such a move extremely difficult.

However, regardless of whether the threat of Arctic Refuge drilling reappears during the energy bill debate, it *will* eventually reappear somewhere. The Northern Alaska Environmental Center will continue to monitor all efforts to mandate Refuge drilling and will remain actively involved in opposing them.

The Northern Alaska Environmental Center would like to thank our members who have labored so long on

this cause and have made so many calls, with so much dedication, and with such professionalism. You have our gratitude, respect and thanks!

Please take the time to thank the following Senators for opposing drilling in the Arctic National Wildlife Refuge.

Send a letter or postcard to:

**The Honorable (full name)
United States Senate
Washington, DC 20510**

Senators: Baucus, Bayh, Biden, Bingaman, Boxer, Byrd, Cantwell, Carnahan, Carper, Chafee, Cleland, Clinton, Collins, Conrad, Corzine, Daschle, Dayton, DeWine, Dodd, Dorgan, Durbin, Edwards, Feingold, Feinstein, Fitzgerald, Graham, Harkin, Hollings, Jeffords, Johnson, Kennedy, Kerry, Kohl, Leahy, Levin, Lieberman, Lincoln, McCain, Mikulski, Murray, Nelson (Ben), Nelson (Bill), Reed, Reid, Rockefeller, Sarbanes, Schumer, Smith (Gordon), Smith (Bob), Snowe, Stabenow, Torricelli, Wellstone, and Wyden.

© NAEC File Photo



Champions of Arctic Refuge protection, Senators Joseph Lieberman (D-Conn, above) and Paul Wellstone (D-Minn, right), speak at a rally several days before the victorious vote.



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**Arctic Refuge Rally
Washington, DC
April 10, 2002**

© NAEC File Photo



Executive Director Arthur Hussey (above) and Arctic Coordinator Deb Moore (left) join other Alaskans in a show of support for the Arctic Refuge at a rally in front of the U.S. Capitol building.



© NAEC File Photo

North Denali Access: Study Moves Forward

By Linda Paganelli,
Denali Watch Coordinator

In 1998, Senator Murkowski secured \$1,500,000 for construction of a northern access route into Denali National Park and Preserve. The federal monies were entrusted to DOT and required a match of funds. In the 1st session of the 22nd Legislature, the State match of \$330,000 was met in the Capital Budget Bill. On March 6, 2002, a Transfer of Responsibilities Agreement [TORA] between the Alaska Department of Transportation and Public Facilities [DOT] and the Denali Borough was reached. The agreement sets in motion a *North Denali Access Route Planning/Reconnaissance Study*.

The total State and Federal appropriation for the project is \$1.65 million dollars. The State will obligate the funds for the study to a special project account. The Borough is appropriated \$1.5 million dollars for Services and Administration expenses related to conducting the study, which is projected to last 3 years.

Checks and Balances

The TORA obligates the Denali Borough to assume all responsibilities relating to the project and to comply with all Federal, State and local statutes, regulations, and ordinances applicable to the performance of its obligations under the agreement. Either condition, the proposed impacts to National Parklands or the use of Federal money for the study, ensures that the work to be completed under the TORA is subject to the National Environmental Policy Act [NEPA], which guarantees recognition of environmental impacts, provision for alternatives and mitigation options, and public participation in the process.

DOT is the State's lead agency for this project and will oversee the Borough throughout its execution of the process. The preliminary work plan is organized into four phases. The State will

review each completed phase and issue a specific *Notice to Proceed* before the Borough advances from one phase to the next. Additionally, the Borough will submit monthly Status Reports to the State. The Borough and all contractors engaged by the Borough are required to maintain records providing detailed support for all invoice items and provide these records to the State upon request.

Wheels in Motion

The scope of the project as defined in the TORA reads as follows: "*Conduct planning, reconnaissance and preliminary environmental studies for a proposed North Denali Access Route. The route would begin in the Parks Highway Corridor near the north side of Denali National Park and end in the Kantishna area.*"

The initial phases of the work plan outline a procedure for getting organized: project startup, consultant selection, and creation of a detailed work plan. The Borough is required to meet with the NPS and hold scoping meetings with affected agencies and the public. Scoping is an integral step in the planning process. It involves active solicitation of input from stakeholders whose shared concerns and ideas can be incorporated into the range of actions, alternatives, and impacts to be addressed in the study. The initial public-scoping meetings provide an opportunity to help de-



© Amy Turner

20,320 foot Denali, the tallest mountain in North America, is the centerpoint of Denali National Park and Preserve.

termine the content and tone of the study. The Borough will define a specific Purpose and Need Definition for the project, adjust the scope of the project, expand the work plan, and refine the role of the consultant to fit a new set of criteria. Upon completion of this preliminary work, the more tangible aspects of the study will be launched.

Other Forces at Work

House Bill 244, the Denali Rail Bill, remains a significant and influential piece of legislation. The Governor's veto of the rail bill was overturned by the legislature in January 2002. The State Department of Natural Resources attached a fiscal note to the bill, \$82,300, to be expended over a four-year period [2002-2005] to enable the transfer of 3500 acres of State land to the Denali Borough for railroad development to the eastern boundary of the National Park.

The Denali Borough, with limited experience in planning, has assumed a gargantuan responsibility in signing an agreement with the State to study a North Denali Access project. With a capable consultant firm, DOT guidance, stakeholder input, and a \$1.5 million dollar budget, conceivably the Borough can produce a genuine analysis of the environmental, economic, and social implications of constructing a second access

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Building a Better Car

By Deb Moore, Arctic Coordinator

OK, your old beater has just bitten the dust. Or, if you like me, it's still hanging in there but who knows for how long? You know you want your next vehicle to be the most fuel efficient one on the market - but what that will be depends greatly on *when* your car keels over. Today in the U.S., your best bet would probably be a hybrid-electric made by Toyota or Honda. But what if you wait a few years? What might your options be then? The following is a look at what's currently available and what might be available in the U.S. and Europe over the next several years.

Battery-Electric Vehicles

Battery-electric vehicles (electrics) run on electricity stored in onboard batteries, which are then recharged from an outside source. Electrics are low emission vehicles which are useful for short distance commutes and errands in temperate climates such as in California.

Unfortunately, electrics are not practical for long-distances or in cold climates. According to the Rocky Mountain Institute (RMI), vehicle storage batteries hold 100 times less energy per pound than gasoline (see <http://www.rmi.org/sitepages/pid447.php>.) Hauling enough batteries to drive as far between charges as an ordinary car can drive between fill-ups would make the vehicle heavy and sluggish, energy-intensive and expensive. In cold climates, it gets worse - with batteries performing even more poorly. Few electric cars on the market can go more than 150 miles between recharges and almost none are used in cold climate areas. Finally, electric battery packs usually have a lifespan of only a few years, and must be disposed of properly to avoid creating an environmental hazard.

Hybrid-Electric Vehicles

Hybrid-electric vehicles (hy-

brids) combine the internal combustion engine of a conventional vehicle with the battery and electric motor of an electric vehicle. These vehicles use regenerative braking (braking energy is turned back into electricity instead of heat) and do not need to be recharged through an electrical outlet. More flexible and available than electrics, hybrid vehicles offer the extended range and easy refueling of a conventional vehicle with many of the energy and environmental benefits of an electric vehicle. According to the Union of Concerned Scientists, hybrids have approximately twice the fuel economy of conventional vehicles while having significantly lower emissions - including a third to a half fewer global-warming pollutants (see <http://www.ucsusa.org/index.html>.)

Two hybrid vehicles have been available in the United States for the past several years, the Honda Insight and the Toyota Prius. Both get excellent gas mileage compared to conventional vehicles (Insight: 61 mpg city/68 hwy; Prius: 52 mpg city/45 highway). Although there are some technical differences in how

the two vehicles operate, the biggest difference for most buyers is the size. The Insight is a 2-door coupe with about enough room for two adults and a toothbrush while the Prius is a 4-door sedan with room for four plus luggage. However, Honda has just come out with a new hybrid version of the Civic - which will rival the Prius in both gas mileage and size.

Another main difference between these vehicles is availability. Toyota has not conducted cold weather testing on the Prius and, as far as we can tell, has no plans to do so. This means auto companies in cold places such as Fairbanks will not sell the Prius, nor will they service them. The Prius can be purchased in Anchorage (being a milder climate), so Interior Alaskans can purchase one if they're willing to bring it to Anchorage for servicing. Conversely, Honda has done cold weather testing on the Insight - which is apparently available and/or serviceable in most markets. The hybrid Civic is expected to be likewise available. (Both the Insight and Civic are serviceable in Fairbanks while the Civic may be available for purchase off the showroom floor - dependent upon continued customer interest.)

As for the future, Ford, GM and



© Arctic Quest

Documentary filmmaker Jeff Barrie's bike and the Toyota Prius hybrid electric support car used for the Arctic Quest trans-continental journey.

Chrysler are all currently working on hybrid vehicles and hope to have them on the market within the next few years. In addition, Volkswagen is working on a diesel-hybrid vehicle that will actually get 235 miles per gallon!

Fuel Cell Vehicles

Another alternative energy vehicle which may be available to the public in the next few years is the fuel cell vehicle. Fuel cells are devices that produce electricity by chemically combining hydrogen with oxygen. The hydrogen can be obtained from many sources, including water or fossil fuels such as methanol, propane, natural gas. Fuel cells convert fuel into electricity two or three times more efficiently than combustion engines and produce no emissions or noise. According to RMI, fuel cells function sort of like batteries, except that instead of being recharged, they're simply fed a continuous supply of hydrogen gas and air (see <http://www.rmi.org/sitepages/pid446.php>.) They are also reliable and durable since they have almost no moving parts. A fuel-cell-powered car can either carry its own supply of hydrogen in a pressurized tank, or make its own hydrogen – from natural gas or any liquid fuel – in an onboard chemical reactor called a “reformer.”

Currently, the biggest obstacles to widespread fuel cell vehicle use are

their cost and difficulty in refueling. For best efficiency, fuel cell vehicles should carry their own supply of hydrogen and refill at refueling stations similar to current gas stations. However, such stations do not yet exist. Carrying around a reformer requires a heavier frame and therefore decreases the efficiency of the vehicle. However, onboard reformers may be a necessary transitional step until hydrogen refilling stations become available.

Green diesel

Finally, a “new” type of fossil fuel engine – a green diesel – has been growing in popularity around Europe. According to Ecoworld, Volkswagen pioneered green diesel engines beginning in the early '90s when they introduced “direct injection” technology, in which fuel *and air* are pumped directly into cylinders (see (http://www.ecoworld.com/Articles/Hybrid_Cars_EW.htm.) Direct injection technology controls the air and fuel mixture to the engine, eliminating almost all smoke and pollutants of an old generation diesel engine and increasing the gas mileage another 15% over normal diesel levels.

Currently, Volkswagen is producing a small four-passenger car – the Lupo – that uses a high-technology ultra-clean burning diesel engine and gets 90 MPG. This car was launched throughout Europe in the fall of 1998.

(Coalbed Methane--cont. from pg. 3)

areas of high coalbed methane potential in Alaska: (1) the western North Slope Basin including the northern half of the National Petroleum Reserve, (2) the Alaska Peninsula near the village of Chignik, and (3) Yukon Flats Basin northeast of Fairbanks. Other potential coalbed methane areas include the Tanana Basin and Susitna Basin, south of Fairbanks and north of Anchorage, respectively.

In 1999, the State of Alaska Division of Oil and Gas instituted a new program to increase commercial exploration of Alaska's coalbed methane resources. Last May, they issued permits for 65 leases in interior Alaska – primarily in the Delta Junction area southeast of Fairbanks. To date, little interest has been shown in pursuing exploration and development on these leases. However, the Northern Center will continue to remain alert to possible exploration on these leases. If coalbed methane exploration is pursued, the Northern Center will work to ensure public involvement and comment on the exploratory permits and to ensure both the exploration and any subsequent development are done in the most environmentally sensitive manner possible.

Boreal Shorts

By Nancy Fresco,
Boreal Forest Coordinator



Boreal Buffer Bill

Resolving multiple-use conflicts by consensus is a slow and painful process, but it may prove to be the best way to avoid reencountering the same battles on a cyclic calendar.

The Boreal Buffer Bill, researched and drafted by just such a pro-

cess, is finally moving through the State legislature. It has been greeted with a certain level of disbelief from legislators, who are unused to seeing any degree of unified support among diverse stakeholders. The bill would provide a higher level of protection for riparian habitats and the fish that depend on them — something that the conservation community in the

Interior has been pushing towards for years. With any luck, it will be enacted into law before the end of the legislative session this May.

Now, the Division of Forestry is implementing a similar process to deal with contention over logging in the Minto area, where use of the land for wildlife habitat, recreation, and traditional activities has come into direct opposition with proposed timber sales. The Northern Center will be included as a stakeholder; so too will several Native groups, village elders, mushers, sport hunters and fishers, loggers, and other grassroots groups.

Forest Facts – More Than Just the Trees

By Nancy Fresco, Boreal Forest Coordinator

Springtime in Fairbanks is a glorious season. The sight of trees in bloom, just about to leaf out, is a reason for rejoicing — except for people with allergies, who have trouble withstanding birch pollen that can fill the air with 4000 grains per square yard. But the trees are not the only part of the boreal forest that bursts with abundant growth in the spring. The understory, the clearings, the newly burned sites, and the edges of waterways and swamps are all part of the forest ecosystem, and there's a lot to watch for in the spring. Herbaceous plants and shrubs play vital roles in the forest ecosystem, and can be both beautiful and useful to humans.

Among the earliest plants to sprout and flower are the common dandelions, with their familiar yellow heads. An introduced species, they have spread over one of the widest ranges of any wildflowers in the world. Before they bloom, their young leaves can be added to salads; later they become too bitter,

but the flowers and even the seeds are edible. Hawkweed blooms look similar, but grow on tougher, leafy, branching stems quite unlike the smooth milky stems of dandelions.

The blossoms of the prickly rose appear in late May, and last for weeks, then ripen to red rosehips in August. The edible petals can be used to decorate salads, and the fruits make good sauces and jellies, very high in vitamin C. Wild strawberries, raspberries, dewberries, and cloudberry are all part of the rose family, but boast only small white flowers. Each tends to grow in a slightly different niche environment. Cloudberry prefer boggy ground, dewberries appear in rich forest soils, and raspberries are most common in open forest, edges, and thickets. All are important foods for birds and other forest denizens.

Bunchberry, a tiny member of the dogwood family, can grow even under fairly dense forest canopy. Their low-lying whorled leaves and small white flowers are inconspicuous, unlike the

orange-red pulpy berries they produce in the fall. The berries are edible, but are more popular nowadays with small mammals and birds than with humans.

A little later in the spring, the small and subtle blooms of purple vetch trail across ditches and twine through clearings. This plant, with its small narrow parallel leaves, is part of the pea family, as is the creamy pea vine, although the latter looks very different, with rounder leaves and yellow-white flowers.

When willow buds leaf out, acres of dry-looking sticks turn silver-green in only a few days. Willows can be considered trees or shrubs, depending on size and species. They tend to grow up after fires or logging, particularly in wet areas such as bogs and riverbanks. They are among the preferred foods for moose, since their succulent buds provide excellent late-winter and early-spring browse at an accessible height. Swampy areas also harbor many sedges, grasses, and cattails, whose shoots are tender and succulent in the spring.

Fireweed is one of the most commonly known flowers of the Fairbanks woodlands. As its name suggests, it is often the first plant to appear after a burn, but can grow in any forest clearing. Fast-growing and leafy in spring, its flowers progress up its stalk as summer progresses.

Purple harebells, the red-and-orange tips of paintbrush, tangled yellow groundsel and asters, white-bloomed bedstraw, wild mint, cranberry, blueberry, Labrador tea, tiny star flowers and twin flowers, arctic lupine — these and many others are among the sprouts, shoots, and flowers that transform Interior Alaska in the spring, and make the boreal not just a forest, but a vibrant ecosystem.

© NAEC file photo



Dogwood, fireweed and lowbush cranberry are a few of the many varieties of flowers and berries found on the floor of Alaska's boreal forests.

(Denali-cont. from pg 5)

link to Kantishna. The greatest challenge for the Denali Borough will be to produce an unbiased study; one that does not simply result in a recommendation to implement the pre-determined decision outlined in House Bill 244.

Whatever the outcome of the study, if Denali National Park continues to be the Mecca for Alaska's tourism industry, "economic contributions to the territory [state] will continue to be adduced as a justification for its existence and further development." That sentiment, referencing conditions in the 1930's, holds true today and will likely be applicable tomorrow.

For additional information on the North Denali Access Study, please contact Mayor John Gonzales of the Denali Borough at 907 683-1330 or e-mail the Borough Office at dbgovt@mtaonline.net.



© NAEC file photo

An unnamed mountain in the Arctic National Wildlife Refuge.

(Partnership-cont. from pg 2)

have an impact on issues, such as the Arctic vote, that are significantly larger in scope than the Northern Center could address in their entirety on its own.

Second, and of equal importance, the Northern Center will be undertaking, in some form, a strategic planning exercise over the next few months. The first part of this task may involve, to some degree, looking at the opinions of our partners, seeing our world from their viewpoints. I am not sure at this point if this will be accomplished through our membership survey, through a focus group of key partners on priorities for local issues, or some other mechanism, but please stay tuned.

In closing please join me in helping us expand our relationships, from the North Slope to the Lower 48, from environmental non-profits to private businesses, from individuals to organizations. By doing so we can make the Northern Center even more effective. Many thanks!

(And here's for a great summer, if it ever arrives!)

Mine Dredgings

By Mara Bacsujlaky,
Mining Coordinator

Ester's Enron?

Document shredding allegedly occurred at Yellow Eagle Placer Mine.

According to Red Falcon Holdings, Ltd., one of the defendants in the State of Alaska's suit against the Yellow Eagle Mining Company, Mr. Frank Saunders, a principle of the company and former manager of the mine site, destroyed Yellow Eagle accounting records. Counsel for an owners of the underlying claims confirms a garbage can of shredded paper was discovered at the Yellow Eagle offices. The alleged destruction of accounting documents came to light during a recent court order stipulating that all parties in the lawsuit were to attend an initial discovery meeting and produce records. Over the past year, the State's suit to recover over 10 million dollars in damages from over 40 defendants associ-

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ated with the Yellow Eagle Mining Company has been slowly moving forward. Recently, all parties agreed to mediation, scheduled to occur in early May.

In the summer and fall of 1999, Yellow Eagle Mining Company mined to within 30 feet of the Parks Highway, causing rapid melting of frozen gravels underlying the Parks Highway. Excavation activities in the same pit also resulted in the breaching of an aquifer that fed several nearby residential wells – causing temporary fouling of water in some and permanent water loss in others. Although the mining company paid for some wells to be re-drilled, it disputed charges that its mining activities resulted in the Parks Highway damage.

Mining Alaska

By Mara Bacsujlaky, Mining Coordinator

Alaska often conjures up images of gold – prospectors, miners and adventurers combing Interior creeks searching for the next big discovery. Fairbanks, and many of its surrounding communities, among them Ester, Fox and Chatanika, were founded because of placer gold discoveries in the early 1900's. However, the communities that survived into this century survived because their economies diversified away from gold production; others – such as Meehan and Cleary – withered and died when the miners pulled out.

Alaska's Mineral Wealth

Gold and the stampedes it caused were critical factors in the European settlement of Alaska. Therefore, gold is the metal most often associated with this state's mineral resources. However, Alaskan geology also hosts world-class deposits of lead, zinc, silver and copper. Kennecott – one of the world's biggest mining companies, got its start here with the Kennecott Copper mine (now a National Park) in the Wrangell Mountains, which mined one of the richest copper deposits ever found. And Teck-Cominco's Red Dog mine, located

in the DeLong Mountains 50 miles north-east of the Native Village of Kivalina, currently holds the position as the world's largest lead-zinc mine. Platinum has also been mined here, and there are ongoing searches for the diamonds and sapphires that many prospectors are convinced lie undetected in stream gravels.

The Changing Face of Mining in Alaska

But while placer gold mining – where gold dust, grains and nuggets are washed from stream gravels – dominated Alaskan mining from the early 1900's through the late 1940's, it now has been eclipsed by big, industrial hardrock (lode) mines operated by multinational companies. Small, private placer operations, most typically run by extended families with a few hired workers, still exist in Interior Alaska, but as gold prices continue to remain below the \$300 mark, these operations are disappearing one by one. They have been replaced by mining companies staking vast tracts of land, using sophisticated exploration techniques, and developing mines that can encompass open pits a mile wide, tailings impoundments several thousand

acres in size, and mountains of waste rock.

Although early placer mines affected local landscapes – the Parks Highway near Ester is several hundred feet below surrounding bluffs because gold dredges mined away all the gravel and overburden – present-day placer mines are too small and scattered to have such a drastic effect on the landscape. This not the case with the new hardrock mines that have changed the face of mining in Interior and Arctic Alaska.

Modern Hardrock Mining in Alaska

While hardrock mining occurs in southeast Alaska (Greens Creek and Kensington mines, for example), and to a limited extent in south-central, the Interior and Arctic regions are the primary targets for the mineral boom currently underway in the state. Started in the early 1980's, with the development of Red Dog, which is estimated to hold 25 million tons of zinc, and fanned to a fever pitch by the discoveries of the Ft. Knox gold deposit near Fairbanks and the Pogo gold deposit near Delta, the last 20 years have seen rapid and aggressive claim staking and exploration by multinational mining companies.

Additionally, during that time, in Interior and Arctic Alaska, six hardrock mines came into production – Ryan Lode (closed in 1993) Red Dog, Ft. Knox and True North, Illinois Creek (now bankrupt) and Nixon Fork (also bankrupt). While these mines varied in size, from the quite small Ryan Lode, with a reserve of about 100,000 ounces of gold, to the very large Ft. Knox mine, with, at time of permitting, 5.2 million ounces of gold, to the gargantuan Red Dog, what was common to all of them was the modern mining technologies that set them apart from the placer mining process that used to be the hallmark of Alaskan mining.

Hardrock Mining – its impacts

With the exception of the Nixon Fork gold mine, which was an under-



View of Red Dog mine and tailings impoundment, DeLong Mountains, AK.

ground operation, and Red Dog, which is a very high-grade base metal deposit, all of these mines share the common trait of being bulk-tonnage, open-pit leach gold operations. Essentially strip mines, large quantities of rock are mined, crushed and soaked in cyanide solution to recover the gold, which is often of very low grade and disseminated throughout bedrock. The resulting tailings, which contain residual cyanide and other process chemicals, as well as heavy metals from the ore, are stored in impoundments that are created by damming up a natural creek valley, diverting the stream, and filling the valley with this processed slurry.

Bulk-tonnage mines, unlike underground mines, impact a much larger surface area. For example, Ft. Knox, with an average grade of 0.025 ounces of gold per ton of rock, produces roughly 400,000 ounces of gold a year. To recover this amount of gold, each year they also produce and store permanently on site, approximately 14 and ½ million tons of tails, and 14 and ½ million tons of waste rock. Since this mine had a projected mine life of about 16 years (although that has now shrunk to about half as a result of current gold prices), the mine property encompasses an area big enough to accommodate a 1,400 acre tailings impoundment and several huge waste rock dumps.

Reclamation and Bonding

While Alaska mining law requires reclamation of mine sites, the impacts of bulk-tonnage mining are impossible to eradicate after mine closure. A mine site may be returned to functionality as wildlife habitat or recreational area, but the process takes tens, even hundreds, of years. Acceptable reclamation may also be thwarted by ongoing environmental degradation, such as impacts to water quality from heavy metal leaching, which was not accounted for in the original mine/reclamation plan. Open pits are rarely filled in at closure; instead, groundwater is allowed to seep back into the pit, eventually creating a pit lake. Unfortunately, heavy metals and salts typi-

Denali Watch

By Linda Paganelli,
Denali Watch Coordinator

DENALI AT A CROSSROADS:

Is the best solution to enhanced access and recreational opportunities in Denali National Park and Preserve a second link between Kantishna and the Parks Highway?

The Options

In 1997, in part to address increasing visitation to Denali National Park, a cooperative planning team composed of local, state, federal and native interests compiled and approved the NPS South Side Development Concept Plan. The plan in conjunction with other NPS planning documents satisfies projected need for increased access and recreational opportunities on State Park and NPS lands over the next 15 to 20 years. "While there is general agreement that the south side of Denali should receive greater use and development for visitors, the size and location of facilities have generated controversy."

NPS planning documents have concluded that an access route constructed through the northern additions would have "severe environmental impacts." As such, the NPS is on record opposing a northern route. The conservation community, statewide tourism organizations, and many local business owners, residents, and hunters support this position.

cally associated with mineral deposits also end up in the water, so perpetual water treatment may be necessary if the lake is to be used for aquatic habitat or recreational purposes.

So far, in Alaska, no open pit mine has undergone complete reclamation or has been released by regulatory agencies as a reclaimed mine project. It remains to be seen if mining companies here can successfully return land

"No Action" Alternative

Despite these determinations, south side development plans have not been implemented or forwarded by State or Federal agencies nor has pressure for north side access abated. The lack of progress in advancing inroads of access to the Park has resulted in increasingly crowded conditions on the park's only access road, excessive development in the Nenana Canyon, and ultimately an ostensible justification for developing north side access. These consequences in turn heighten concerns for wildlife, pedestrian safety, visitor experience, park resources, etc. William Brown, author and one-time Park Historian, summed up the situation, "Pending south side-development relief, designed to channel commercial pressures away from the park interior, Denali National Park & Preserve will continue to be out of step with its encroaching commercial environment and vulnerable to destruction of its historic purpose."

Public Participation

Local, state, national and international interests serve the well being of Denali National Park and Preserve. Over the course of the next 3 years, long-range decisions for the future character and nature of Denali National Park and Preserve and its gateway communities will be formulated through the North Denali Access study. Watch for updates on this issue and plan on participating in the public process that will assess this controversial solution.

used for chemical leach, open pit operations to long-term, ecological health, or if, like the metals these operations extract, once it's taken away, it's gone for good.

First in a series, "Mining Alaska" is a primer on past and present mining techniques in Alaska.

From the Canary's Mouth

By Mara Bacsujlaky, Mining Coordinator



True North Mine Faces Roadblock in Court

Neighborhood Mine Watch scored a victory in the Alaska Superior Court when it won its appeal of the True North ore haul road permit. Judge Pengilly agreed with their argument that the State of Alaska had failed to consider the economic impact of light and noise pollution and heavy traffic from the True North ore haul road on local businesses, and remanded the permit back to the Alaska Department of Natural Resources. The State's position was that, under statute, it needed only to consider economic interests that were literally competing for the same piece of ground. The judge in his decision and opinion wrote that "[T]his interpretation is so utterly at odds with both plain meaning and the underlying purpose of the statute in issue as to border on the absurd." As a result, the ADNRR must now conduct an economic analysis that assesses adverse economic impacts from the True North project to existing land uses, and must also strike a balance between any economic losses resulting

from the True North project and any economic benefit offered by the True North project.

The decision is welcome news

to the residents of Cleary Summit, who have been living with the noise, dust and lights of the ore trucks for over a year now, and to residents of other neighborhoods where Fairbanks Gold Mining, Inc. could attempt to develop satellite open pits. It also has raised the standard of state accountability to the public.



© NAEC File Photo

One of the 60-ton ore trucks that hauls ore from True North to the mill at Ft. Knox every seven minutes, 24 hours a day, seven days a week

The Arctic Refuge and a Teamster with a Different Point of View

By Bill Watkins, Local Teamster

It is early morning and cold as I arise to answer nature's call. A nearly full moon stands suspended in the deep blue sky above the mountains that border Denali National Park. I stare from within my cabin and decide to pull on my long underwear, fleece pants, and heavy down parka and grab my camera, lens, and tripod. I go outside and shuffle through the few inches of snow and setup on the outside deck of my cabin. As the moon continues to descend,

I fire off one frame after another until the ridgeline of the mountains mostly obscures the moon from view, and then finally it disappears completely.

I reflect on the past few months and my involvement in protecting the Arctic Refuge and this serendipitous encounter with the moon. What do they have in common? Wilderness, clean air, cold, a human desire and need for wilderness and wildlife, and a beauty that transcends the moment are just a few

things that come to mind.

This past October, and again in early March, the Northern Alaska Environmental Center asked me if I would travel to Washington, DC, to speak at press conferences and lobby senators in favor of protecting the Arctic Refuge. I accepted.

This decision would put me at odds with my union: Teamsters Local 959. I work as a Visitor Transportation System (VTS) bus driver in Denali National Park. Teamsters have been instrumental in improving working conditions and giving support to drivers in our negotiations with our employer. But, on this particular issue, Teamsters and the

(continued on pg 16)



From the Woodpile

By Ginny Hill Wood,
Founding Member of NAEC, and Regular Columnist

Choices

Once again, the seemingly inevitable destiny of the coastal plain of the Arctic National Wildlife Refuge—to let it remain just that—prevailed, at least for the time being. But not without thousands of phone calls, emails, faxes, and scores of ordinary citizens taking time from their busy personal lives to fly to Washington, D.C., to let Senate members know how much they cared about this special stretch of wildlands.

And it prevailed despite the political posturing on the Senate floor by the pro-oil drilling faction, the over four million dollars the Alaska legislators appropriated to Arctic Power for Alaska to push its passage, and despite the diatribes of Alaska's two senators in denouncing the "extreme environmentalists".

"Liars, liars, liars!" fumed Senator Ted Stevens. "Just a ruse by the non-profit environmentalist organizations to raise money. They should be investigated!" stormed Senator Frank Murkowski.

Perhaps their temper tantrums actually persuaded enough Republicans to bolt from their party to vote with most of the Democrats and cause the amendment to fail by a significant margin, despite it being the lynchpin of the President's energy policy.

Twice before, opening the 1002 area of the Refuge had seemed a done

deal. When the fully loaded oil tanker, the Exxon Valdez, strayed off course to crash into Bly Reef spewing its cargo of crude into the pristine waters of Prince William Sound, a bill to drill was hastily withdrawn. Again, when another bill seemed assured of passage, a biologist with the U.S. Fish and Wildlife Service chose to resign from her promising career in order to spill the beans to one of the nation's major newspapers that a second deal was being concocted without public scrutiny or legislative debate enabling North Slope natives to trade rights in the Refuge for the same in a much larger area on other public lands. This bill was also dead before arrival.

But despite the joy and jubilation that erupted across the nation celebrating our latest victory, there is also the realization that we have only won a battle, not the war. Already, some Republicans are plotting future campaigns with schemes as pathetic and outlandish as those used in their last go around. Permanent protection of this part of the Refuge from an oil patch future can only be assured by legislative Wilderness status—a fat chance in this Republican dominated regime!

But hold on a minute! Perhaps there can be another scenario than just waiting for the right political alignment and climate in Congress and the White House. What if petroleum was no longer a major factor in our foreign poli-

cies? What if domestically, we didn't need or choose to use so much because it contributes to air pollution and global warming? What if there were alternate sources of energy that are just as economical as oil for heating, manufacturing, and transportation?

Guess what? There are! Already 20% of Denmark's power supply comes from wind generators. Even in the U.S., solar power contributes a plus on some household electric bills. Right now, Japan is marketing cars that get 40-70 miles to the gallon, while U.S. production lines still turn out ones that guzzle more gas than they did in the 1970's!

A few cities here, and many more in Europe, Cuba, and South America are designed to be walking and biking friendly. That could also dwindle the obesity problem plaguing the health of Americans, besides upping the "well-being" factor.

Petroleum is a nonrenewable resource distributed unevenly deep in the bowels of Earth. We can go on squandering it in our present pursuit of lifestyle based on more, bigger, and faster—and suffer an energy collapse sure to come—or exert our consumer people power to ease us out of an economy based on oil. The choice is basically ours, not just the government's, in the final denouement of our energy future.

NEW! The Denali Institute is a non-profit educational organization dedicated to enhancing public understanding of the natural, cultural and political history of the north. It offers affordable, high-quality weekend field seminars at Denali National Park. Find out more online at www.coursesdenaliinstitute.org or call (907)683-2300.

Spring Birding, with Stan Senner, June 8 - 9
Wildflower Weekend, with Joan Foote, June 22 - 23
Denali's Mammals, with Dr. Dave Klein, July 27 - 28
Painting in Denali, with Gael Murakami, August 17 - 18

Buying a house is an investment!

Now you can invest in the future of the Northern Center by providing a one time only donation to buy part of our new building.

A \$50 donation will buy 1/2 square foot of 830 College Road.
All proceeds will go directly to purchasing our new home.

☐ **YES, I wish to buy 1/2 Sq. Ft. of the Northern Alaska Environmental Center for \$50!**

Please send your donation to:

Northern Alaska Environmental Center
830 College Road
Fairbanks, AK 99701

Name: _____

Address: _____

City: _____

State: _____ Zip: _____

- ☐ Enclosed is my check for \$50 made payable to NAEC
- ☐ Please charge my donation to my Visa/Mastercard (circle one) Card

Number: _____ Expiration Date: _____

Signature: _____

(Closer to home--cont. from pg 3)

ever, some of the state's stipulations are loosely worded, and do not offer strong enough protection for the resources and habitats that are at stake. The plan does not stipulate that lands must be adequately closed and reclaimed after cessation of exploration or production; nor does it prohibit on-the-ground seismic exploration, which would require creation of access routes, significant clearing of brush and trees, and frequent detonation of explosives. The resulting habitat fragmentation could change the face of the landscape for many years to come.

Get involved! Contact the Northern Alaska Environmental Center for further information and talking points. Written comments can be sent to James Hansen at jjh@dnr.state.ak.us or Division of Oil and Gas; 550 West 7th Avenue, Suite 800; Anchorage AK 99501. THE COMMENT DEADLINE IS MAY 31st!

Local Lessons

By Nancy Fresco, Local Issues Coordinator

Take a deep breath. And another one. You do that about ten thousand times a day – but do you know what you're inhaling? For Alaskans, the answer may not be good. When it comes to reducing the cancer-causing particulates released by burning diesel fuel, Alaska has missed the bus — literally.

The diesel that we burn in trucks, some cars — and yes, school buses — is six times higher in sulfur than that permitted everywhere else in the US. Sulfur emissions, in the form of tiny particulates, work their way deep into lung tissue, causing cancer, genetic mutations, asthma, and other lung disease.

A recent study published in the Journal of the American Medical Association found that the risks from this type of air pollution are comparable to those

faced by people continually exposed to secondhand cigarette smoke. Another study, published by Environment and Human Health Inc, shows that dangerous diesel fumes and soot can accumulate in school buses and around schools where the buses idle.

The Environmental Protection Agency asserts that switching to ultra-low sulfur diesel will:

- ◆ reduce emissions from diesel engines by 90%
- ◆ prevent 8300 premature deaths and 9500 hospitalizations
- ◆ have a positive cost-benefit balance of over \$70 billion/year when fully effective, due to saved health care costs.

Thus, the rest of the country will soon

be dramatically reducing the sulfur content of their diesel from 500 ppm (parts per million) to 15 ppm. But because Alaska sought an exemption from the Clean Air Act ten years ago, our own diesel averages 2700 ppm.

The State of Alaska had an April 1st deadline to address the question of cleaning up Alaska's dirty diesel fuel — but the question is still not completely resolved. Rather than immediately signing onto the national plan, the state has asked for a 75 day extension.

The state has agreed to phase in cleaner diesel fuel for on-road use in urban areas, but is seeking at least temporary exemption for rural areas, where the costs of the switch are predicted to be higher than the national estimate of only 3 to 5 cents more per gallon.

Nevertheless, by most estimates, cleaner air is well worth paying for.

The Conscious Consumer: Buying Recycled Toilet Paper, Napkins and Paper Towels in Fairbanks

By Larry Landry, Local Activist

I am frequently struck by how rarely recycled toilet paper and other products such as paper towels and napkins grace Fairbanks bathrooms and kitchens. Without elaborating on the details, this is clearly one area where we do not need to pamper ourselves. Recycled toilet paper is a bit coarser than that from virgin materials, but it does the job just fine. Thinking part of the problem might be availability, I did a little survey.

◆ Fred Meyer's West: Recycled toilet paper and paper towels are found in the health food section, not with the rest of the paper products. Apparently all conscientious consumers are health food freaks. It sells Seventh Generation brand, which is 100% recycled. Unfortunately, they only sell it in individual rolls, assumedly because sales volumes are low, which makes it more packaging intensive and a little more expensive. This would change if we start buying more and asking for bulk purchasing options.

◆ Fred Meyer's East: This health food section is our local champion, selling a full variety of Seventh Generation paper products, including toilet paper in single and four packs, paper towels, and tissue paper. The "regular" paper section sells Green Forest toilet paper.

◆ Safeway East and West: The paper products section in these stores sells recycled toilet paper, paper towels and napkins. They are available in bulk sizes. Safeway sells Green Forest products, which bill themselves as 100% made from paper, 10% post consumer.

◆ K-Mart: At this time, K-Mart does not sell any recycled toilet or other paper products.

The 10% post consumer content in Green Forest products raised my suspicious greenie antennae, so I decided to check out the two brands. There is quite a difference. It turns out that Green Forest is a Georgia Pacific subsidiary. The woman I talked with was poorly informed about their products and was not able to get me any more information than from a little printout she located after several minutes of searching. The 10% post consumer paper is newspaper, magazines, and recycled wood pulp, though she couldn't explain how wood pulp can be recycled. The 90% pre consumer paper is excess that Georgia Pacific has lying around its warehouses,

either obsolete products that it no longer sells or leftovers when they print too much of a given job. That an undoubtedly streamlined and efficient mega-corporation like Georgia Pacific would have that much slop available for such uses strikes me as rather dubious, but I could glean no further details.

Seventh Generation was much more comforting and certainly gets my vote. It is one of the early green consciousness companies, now bought and owned by Harmony. Their products are 80% post consumer paper such as office paper, newspaper and cardboard, and 20% pre consumer, primarily publications that didn't sell their entire inventory. They also do not use chlorine bleaching.

So march your rear end down into the health food section!



You CAN recycle paper in Fairbanks!

Newspapers, magazines, cardboard, and any paper item can be brought to one of several drop-off locations around Fairbanks for recycling into fuel pellets at Eielson Air Force Base.

You can drop off your paper products for free at the borough landfill, or at Eielson AFB.

(Teamster-cont. from pg 12)

majority of Denali drivers differ.

Armed with information from various studies, including an informal survey of Denali drivers showing overwhelming support for protection and my own convictions; I felt prepared for my trips to Washington DC.

My decision to support protection of the Arctic Refuge included many different elements. This incorporated studies by the US Fish & Wildlife Service, the US Geological Survey and various economic studies that repudiated the claim of 220,000-730,000 jobs being created by development. Furthermore, and perhaps more importantly, these studies validated my own convictions regarding industrial development in a sensitive ecosystem.

Due to my own experiences with nature and an interest in wildlife since my youth, I feel an obligation to help protect wildlife and sensitive wilderness areas from invasive and destructive development. Initially, it was the wilderness qualities that attracted me to Alaska and the realization, that Alaska is our last opportunity to create a society that lives with wilderness as opposed to destroying it.

I found it interesting and yet disconcerting when Senator Murkowski, Interior Secretary Gail Norton, and others, would ignore, mislead, distort, or omit

data from US Government sponsored studies. It made me realize that this is not a debate based on merit; this is a confrontation between two competing philosophies.

I concluded that regardless of the factual information, the supporters of oil development are intent on penetrating into the heart of the Arctic Refuge. Their claims of developing gently, use of the best science, learning from past mistakes, and numbers of jobs created is not credible. Because of this, I feel that they are willing to gamble with the loss and destruction of a dynamic, intact ecosystem that many different types of wildlife are dependent upon, as well as the native Gwich'in, and a fledgling eco-tourism industry.

This reminded me of what has been lost in the lower 48. Wilderness reduced to 2-5% of the continental US and many different species of wildlife either driven to extinction and/or eradicated. Lastly, native peoples who were once self-sufficient and dependant on wildlife and wilderness for their subsistence and culture driven to reservations and made dependant upon the US government. Is this so different than what is planned for the Arctic Refuge even if the results are unintentional?

I feel that it would be inexcusable to allow the destruction of this sensitive environment with foreknowledge

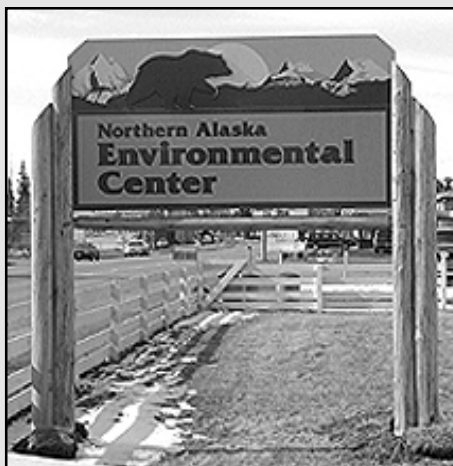
of the potential consequences. I could do nothing less than to participate in preserving of this national treasure. Wildlife and wilderness have inherent value and must be allowed to run wild.

Thank you, again to the following donors to our 2001 Auction, and apologies to those we missed in the last issue!

Fairbanks Concert Association, North Star Golf Club, Pikes Landing, Roger Kaye, Michael & Jeanne Armstrong, Alaska Coffee Roasting Company, Little Granite Creek Pottery, Tivi Haus, Siglin Sleds, Fairbanks Symphony Association, Gambardella's Pasta Bella, William Moss, Patagonia, Alaska Alpine Club, Polhaven Massage, Sharon Baring, Moose Mountain Ski Resort, McAfee Chiropractic Clinic, Moonlight Glass, Pro Wildlife/Jim Davis, Judy Kreith, Polhaven Wood Fabrik, Pikes Landing, Dog Church Hill Studios, Cloudberry Lookout B & B, Aldona Jonaitis, Alaska Coffee Roasting Company, Interior Yoga, Jennifer Wenrick, Camp Denali, Well Street Art Company, Fairbanks Drama Association, Fairbanks Children's Theatre, Inc., Alaska Wildlands Adventures, Liz Berry, Mountain Sports, Jen Steitz, Water Wagon, Dagger Canoes, Brad Snow, Greg & Susie Zimmerman, Carol Klopff, Leatherman Tool group, Inc., Ken Whitten, Arctic Wild, Riverboat Discovery, El Dorado Gold Mine, Wright Air Service, Inc., Country Kitchen, Arctic Getaway B & B, Erik Holland, Massage Therapy Assoc., Dave Lacey, Chena Hot Springs Resort, Hidden Hill Residents, Alaska Woods Baskets, Kenai Fjords Tours, Moonlight Glass, Northern Alaska Tour Company, Alaska's Best Wilderness, Alaska House Art Gallery, UAF Outdoor Adventures, Todd Burnside, Ed Davis, Patti Saunders, Mermaid Imports and Designs, Great Alaskan Bowl Company, Tolovana Hot Springs, Jana Canary, Mark Conde, Prince William Sound Cruises & Tours, Tivi Haus, Miki & Julie Collins, Bev Reitz, ABS Alaskan, Inc., Acoustic Adventures, Alaska House Art Gallery, Alaska Tent and tarp, Alice Mural, Anne Harrison, Apocalypse Design, April Crosby & Merritt Helfferich, Arctic Fire & Safety, Artworks, Barb Rondine, Basically Basil, Brenda Stanfill, Charlie Whitaker, Clarice Dukeminier, Crazy Creek Products, Custom Stitchery, Daniel & Rita Osborne, Darleen Masiak, Debbie Miller, Ester Republic, Gulliver's Book Store, Hot Licks, House of Kustom, Jean Lester, Jen Read & Ian Wright, John & Linda Benson, Judie Gumm Designs, June Thomasson, Karl Franke, Kate Moitoret, Kelty, Kinko's Copies, Kitty Roush, Laurent Dick, Laurie Walton, Magic Carpet, Margaret Eagleton, Marty Russell Hade, Mary Shields, Mermaid Imports and Designs, Merry Maxwell, Patagonia, Patrick Kerber, Pauline Wilson, Philip Martin, Pro Wildlife, Ron & Mary Teel, Sally Anderson, Sara Tabbert, Sarah Campbell, School of Integrating Shiatsu, Sherry Lewis & Jim Logan, Stan Justice, Stan Read, Sue Dean, Susan DeLissa, Terra Terpret, The Woodway, Todd Sherman, Trusten Perry, Walter Bennett, Well Street Art Company, Whiff Eagleton, Wood Fired Pottery

Signs of Spring!

The Northern Alaska Environmental Center is now easier than ever to find when you are travelling around Fairbanks, thanks to our brand new sign, created by Vital Signs of Fairbanks. We also have a beautiful welcome sign (below) on our door carved by volunteer extraordinaire Betsy Chronic! A huge THANK YOU goes out to Betsy and Vital Signs for their tremendous work at making us a more visible part of the Fairbanks community!



CAMP HABITAT



Nature Education Camp for Children Ages 4-15

Camp Habitat is an exciting summer, nature education program for young people. Skilled instructors and resource specialists lead small groups of campers through outdoor activities focusing on the ecosystems of interior Alaska, its native flora and fauna, and human interaction with the environment.

**Camp Habitat offers hours of fun, laughter,
song and adventure!**

Programs

Pre-School Ages 4-5

Nature Sprouts I June 10-14 (9:00-12:00)
Nature Sprouts II June 17-21 (9:00-12:00)



Day Camp Ages 6-9

Refuge Adventures (6-7) July 8-12 (9:00-4:00)
Nature Detectives (6-7) July 15-19 (9:00-4:00)
Water Striders (8-9)* July 15-19 (9:00-4:00)

*Older campers (ages 8-9) venture to Alaska State Parks for an overnight camping trip at week's end!

Backpacking Trips Ages 10-15

Earthworks! (10-12) July 22-26
White Mountain Explorers (13-15) July 29-August 3



Join the Camp Habitat e-mail list. Be updated on upcoming events and programs throughout the year. Subscribe by sending an e-mail with "subscribe Camp Habitat" in the body of the message to info@northern.org.

Scholarship applications and payment schedules are available upon request.

To register, contact:

Camp Habitat
830 College Road
Fairbanks, Alaska 99701
(907) 452-5021
camphabitat@northern.org
www.northern.org



Northern Alaska
Environmental Center



Friends of Creamer's Field



Introducing Leah Sansone

Camp Habitat Director

I began work with the Northern Alaska Environmental Center as the Director of Camp Habitat in February 2002. It has been a rewarding experience. My education and job experience have paved the way to this position.

I went to Southern Connecticut State University where I majored in biology and minored in environmental studies. Internships with the Puffin Project and the Caribbean Conservation Corporation, plus the instruction of an enthusiastic professor sparked my interest in field biology. I was also active, for four years, with an environmental group on campus raising awareness of issues, starting recycling programs and bringing prominent speakers to campus.

After college, I traveled to the Mogillon Rim in Arizona to begin my career as field biologist. I spent the next four years traveling around the U.S. and Canada working on various bird studies. After applying again and again for positions in Alaska, I finally got my chance in 1994 with the Arctic National Wildlife Refuge. I spent that summer studying the feeding habitats of the Porcupine caribou herd. It was the most amazing job I had ever held. Our camp was based at Peter's Lake on the North side of the Brooks Range. Every morning we flew by helicopter to our study sites across the Refuge, and into Canada.

Toward the end of the summer, as the caribou project came to a close, I moved to Denali National Park. There I collected vegetation data for the ongoing Long Term Ecological Research project. I met my husband Greg at the Park where he was working on the same study collecting soils and weather data. I then moved to Fairbanks for the winters and learned to mush and skijor. Deciding I needed more contact with humans throughout my workday, I applied to UAF's Teachers for Alaska Program to get my secondary teaching certificate at UAF.

After teacher training, I promptly moved out to the bush with Greg and dogs in tow. Chevak is a Cup'ik Village Northwest of Bethel, near the coast. It was wonderful to experience a new culture. I learned traditional dance and fishing, while Greg went out on hunts and mushed our four huskies. I enjoyed teaching science at Chevak very much. However, being out there made me realize my own culture and I began to miss it. We returned to Fairbanks after two years.

In order to interact more with



younger children, I went to work at the Fairbanks Montessori School coordinating their after school program. After two years, Montessori incorporated their After School program with their regular program and I began looking for other employment while helping out in one of the classrooms. Camp Habitat came up at a perfect time for me and I felt well qualified for the position. It incorporated all the things I enjoy, coordinating projects, working with kids, environmental education and community involvement.

I am enjoying my position and the friendly working environment here at Camp Habitat.



© Charlie Ott

Grey Jays, or Camp Robbers as they are commonly called, are year-round residents throughout the boreal forests of Interior Alaska and are often seen at bird feeders.

Welcome to Our New Members!

...and welcome back to old friends.

Thank you for supporting the Northern Alaska Environmental Center!

In Alaska

Robert Thompson, Kaktovik, AK
 Gregory Williams, Fairbanks, AK
 Dave Carlile, Juneau, AK
 Susan Willsrud, Ester, AK
 Leah & Greg Sansone, Fairbanks, AK
 Heather McIntyre, Fairbanks, AK
 Sally Smith, Juneau, AK
 James Wilson, Fairbanks, AK
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By Florence Collins, Member

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THE NORTHWEST PASSAGE may be traversable by regular ships by 2015, and the Arctic Ocean along northern Russia even sooner, thanks to global warming, according to a U. S. Navy report. Commercial fishing fleets could enter “the Chukchi and Beaufort Seas north of Alaska within a few decades”. Last year, the Bering Sea was ice-free for the first time on record, and the Northwest Passage was open for “about 10 days to a week”. FDNM, March 10, 2002, p. A-3

THE 103 STATE LOG transfer sites—most in Southeastern Alaska—where underwater bark deposits could smother clams, mussels, and plants, were allowed to cover an acre with 4 inches of bark waste; now new EPA permits let operators continue to use the sites pending review of permit regulations, which may limit the amount of a bark and debris allowed. FDNM, March 11, 2002, p. A-3

TONGASS NATIONAL FOREST Service personnel are preparing at least 25 timber sales in roadless areas, but a sale in Emerald Bay on the Cleveland Peninsula (near Ketchikan) was remanded back (on February 13, 2002) to the Ranger District for further work; conservation groups and the State of Alaska oppose the sale, the latter because it would mean a 4-mile logging road through an official old-growth reserve, the former because logging effects on wilderness values were not assessed. The Wilderness Quarterly, Spring 2002, p. 4 Sierra Club Alaska Report, March 2002, p. 7 The Forest is “probably the single greatest anadromous fish resource left in the world”. Dispatch, Spring 2002, p.1-4

THE ATMOSPHERE has higher levels of carbon dioxide and methane than at any time in the past 400,000 years, according to ice cores from Antarctica’s ice sheets. FDNM, March 21, p. A-4

LAWNS COVER more U. S. land—25 million acres—than any other single crop. A typical U. S. lawn, 1/3 of an acre, produces pollution “equal to driving a car 14,000 miles”, and it receives up to 10 pounds of pesticides, 20 pounds of fertilizer (which can easily run off into water sources), and 170,000 gallons of water per year. Audubon, March-April 2002, p 65

RUSSIA’S 100 ECOLOGICAL reserves, the equivalent of our national parks but with stricter protections, cover 83 million acres with about the same area as our national parks; they have more land than any other country in nature reserves. The collapse of communism left them with only 5% of their former budget, acreage has been “slashed” and then restored, and poaching remains a problem, but rangers support themselves and protect the areas as best they can. Sierra, March-April 2002, p. 48-55



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