

FRONTLINE FALL 2004

R E P O R T

DEPART: TO STATES

OFFER TO LEASE AND LEASE FOR OIL AND GAS

Court to BLM: Coalbed Methane Leases Can't Be Sold Before

Environmental Impact Studies

10th Circuit Court of Appeals Backs WOC in Landmark Decision

by Molly Absolon and Bruce Pendery

OC has won a precedent-setting victory in its ongoing campaign to ensure responsible coalbed methane development in the Powder River Basin and elsewhere in Wyoming. On August 10, the 10th Circuit Court of Appeals unanimously agreed with WOC's argument in the Pennaco case that coalbed methane's unique environmental impacts must be considered fully before leasing.

The court's decision validates WOC's position, which held that the BLM had failed to provide adequate environmental analysis before it issued three leases to Pennaco Energy for coalbed methane development in the Powder River Basin.

According to WOC, coalbed methane production involves new and unique impacts—specifically the quantity and quality of water released during development—that make it different from conventional natural gas development. These differences merit careful consideration in order to ensure the area's air, land, wildlife, and quality of life are adequately protected. WOC believed the BLM had failed to do this, and now the courts have agreed.

"I always thought we had a really good case," former executive director Dan Heillig says. "It seems obvious to me that CBM's

impacts are very different from those associated with conventional gas production and need to be considered separately."

According to Heilig, once oil and gas leases have been granted to industry, the BLM no longer has the ability to regulate development. This is why, he says, the pre-leasing stage is so critical and this case so important. The BLM has the most authority and options for ensuring that the unique impacts of CBM development are adequately considered and regulated before it issues an oil and gas lease.

Inadequate environmental analysis

The National Environmental Policy Act (NEPA) requires that public land managers analyze all potential impacts of a proposed action before moving forward on that action. In the Pennaco case, the BLM used two existing documents—one a 1985 Resource Management Plan, the other, the WYODAK Draft Environmental Impact Statement—to attempt to fulfill its NEPA obligation. WOC argued that these documents were woefully inadequate.

The 1985 resource management plan does not even mention coalbed methane production. The WYODAK Draft Environmental Impact Statement does mention CBM, but continued on page 3

DIRECTOR'S MESSAGE



Executive Director Mark Preiss

s I'm handed the reins here at the Wyoming Outdoor Council, I think back on my experience more than a decade ago as a cocky, not yet thirty-year-old wrangler and snowmachine guide on Togwotee Pass. And how, back then, I took it for granted as we explored the land, drank from its springs and streams, marveled at the moose, grizzly and elk, that Wyoming's untouched places would always be open to us, that this wealth of wildlife and beauty was for our enjoyment and would be here as long as we wanted it. I never considered that it would need to be protected; it seemed like common sense that it was being taken care of.

I've still got handwritten letters—some written in crayon with drawings—from children and their parents who I took out as guests in the late 1980s and early 90s on horseback and snowmachine to Brooks Lake, Austin Peak, head of the Yellowstone, Crater Lake, Muskrat Flats, Two Ocean Pass, Soda Springs. I remember the glow of their faces in front of the campfire or back at the lodge, sharing stories of the day's adventure, all talking of extraordinary shared experience in the power of open country. We all knew how lucky we were to have seen the wildlife, the big spaces, the clean water and night sky, to have experienced first-hand the unique heritage that Wyoming retained.

I don't know how to put a price on these stories and memories. Those experiences impacted all of us—the cabinet makers from Brooklyn, the family from Los Angeles, the farmer and his son from Ohio, and the guides, wranglers, mechanics, outfitters, cookies. I understand now the gifts we'd been given and how important they are, that they can't be taken for granted.

More than ten years and some silver hair later, I've had the good fortune to return to this great state. I've learned Wyoming's way of life is under threat on many fronts, including federal government mismanagement and out-of-state industries often only interested in making a profit and moving on. Now, too often it seems the people of Wyoming are spending their time fighting ill-advised development, instead of taking their families out fishing, hunting and exploring.

My wife Kathryn and I are happy to be back home. And in the next several months, I look forward to visiting with you as together we continue to work to protect Wyoming's quality of life for our families and for future generations.

I look forward to meeting you, and to getting your letters. And to hearing from you what you value about Wyoming's natural heritage and way of life. And I will, along with you all, work hard to keep Wyoming's water, lands and wildlife protected for years to come. Like you, I want my children to be able to know Wyoming's wonderful natural heritage through their own experiences, not just through history books, stories and some old letters and photographs.

Happy Trails, Mark





Established in 1967, the Wyoming Outdoor Council (WOC) is the state's oldest and largest independent statewide conservation organization. Our mission is to protect and enhance Wyoming's environment by educating and involving citizens and advocating environmentally sound public policies and decisions.

Frontline Report is the quarterly newsletter of WOC and is provided as a benefit of membership. Letters to the editor and articles by members are welcome.

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Lease continued from page 1

in reference to leases already in place.

"The key distinction is that neither of these documents ever considered whether the BLM should even grant the leases given the potential environmental impacts of coalbed methane development," Heilig says. "We asserted that these documents were inadequate and the 10th Circuit agreed."

The seesaw legal battle

The 10th Circuit was not the first to agree with WOC's position. In April 2002, the Department of the Interior Board of Land Appeals (IBLA) also sided with conservationists against the BLM.

As Deputy Chief Judge Bruce R. Harris of IBLA wrote at the time, oil and gas leases are invalid and illegal when the leasing "[is] based on existing environmental analyses, which either did not contain any discussion of the unique potential impacts associated with coalbed methane extraction and development, or failed to consider reasonable alternatives relevant to pre-leasing environmental analysis."

Pennaco, which is now a subsidiary of Marathon Oil Corp., initially asked IBLA to reconsider its ruling. IBLA resoundingly affirmed its initial decision. Having lost twice, Pennaco appealed the IBLA decision to U.S. Federal District Court in Wyoming, and in May 2003, Judge Clarence Brimmer overruled the IBLA, siding with Pennaco and the BLM.

Judge Brimmer's ruling stated that the IBLA's opinion "arbitrarily and capriciously elevates form over substance by separating the two documents and refusing to consider them together." He argued that the BLM could splice together studies from different environmental analyses, pre- and post-leasing, to allow CBM lease sales.

WOC, along with the Powder River Basin Resource Council, Defenders of Wildlife, and the Natural Resource Defense Council, disagreed. They appealed Judge Brimmer's ruling. The August decision affirmed the conservationists' position and reinstated the original IBLA decision.

What next?

OFFER TO LEASE AND LEASE FOR OIL

"This whole thing started because we wanted to challenge the way the BLM went about granting leases without first doing the needed environmental analysis," Heilig says. "The BLM was consistently failing to consider environmental impacts with the 'hard look' required by our environmental laws, and effectively fast-tracking all leasing requests. It's clear that many leases issued by the BLM suffer from this same problem, especially in the Powder River Basin. The BLM is going to have to address the validity of many leases it has granted in the Basin."

In the meantime Pennaco/Marathon has a few options. The company could request that all the judges on the 10th Circuit Court of Appeals reconsider the case, rather than the panel of three that made the August 10th decision. Or it could petition the Supreme Court to take the case. Heilig thinks it is likely that Pennaco will do neither. "It would be very hard to overturn this decision," he says.

The Pennaco victory is pivotal. It will help ensure that the BLM protects the land, air, water, and quality of life in the Powder River Basin and elsewhere in Wyoming from CBM's environmentally damaging impacts, which has been WOC's goal from the beginning. **



The 10th Circuit Court has agreed with WOC that the BLM should consider CBM's unique environmental impacts—such as these containment ponds—before leasing.

Are Yellowstone's fisheries on the verge of collapse?

Yellowstone cutthroat population down 75 percent

By Molly Absolon

Millions of visitors are drawn to Yellowstone National Park from around the world to observe its wildlife. But the food chain that supports this abundance may be on the verge of collapse. The cutthroat trout, which is considered a "keystone" species for the ecosystem, has been devastated by the triple whammy impact of lake trout, whirling disease, and drought in Yellowstone. Their population crash threatens to have a domino effect up the food chain.

WOC is following the situation in Yellowstone closely. We are drawing public attention to the situation in an effort to raise the level of urgency and get the park to do more before it is too late. And, at a very tangible and enjoyable level, encouraging anglers to go fish the Yellowstone Lake area for lake trout.

en or so years ago, if you tossed a lure or fly into Yellowstone Lake, you were almost guaranteed to come up with a catch.

"A writer in the 1980s said 'Yellowstone Lake is not a trout fishery, it's a trout catchery,'" says John Varley, the director of the Yellowstone Center for Resources. "We used to tell parents to take their kids to Yellowstone Lake because they'd catch a fish there. No one is saying that anymore."

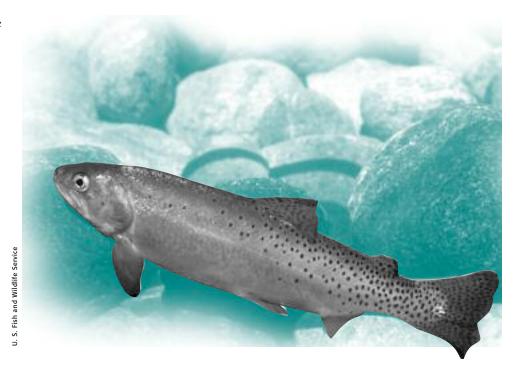
Where have all the fish gone?

The population of Yellowstone's cutthroat trout was once estimated to be 2.5 million 'catchable' sized fish in the Yellowstone Lake area. Scientists estimate that number has dropped by approximately 75 percent. This population collapse has the potential to cause a ripple effect.

Approximately 42 species of mammals and birds rely on the cutthroat for part or all of their nutritional needs. In addition, thousands of anglers flock to the park annually to try their hand at its world-renowned fishing.

"Is the whole food chain around Yellowstone Lake on the verge of collapse? I have to say, 'Not yet'," Varley says. "Are cutthroat doomed? I would guess not. Between the help humans can give them and their own inherent resilience, I would give them a fighting chance."

It's ironic that the cutthroat's survival in Yellowstone appears dependent on human interference since their current plight is largely due to human actions. Non-native species and disease—lake trout and whirling



disease specifically—have had devastating impacts on the cutthroat population and both were brought to the park by people, either inadvertently in their tackle boxes or with the misguided hope of improving the fishing.

Lake Trout

In 1994, non-native lake trout were discovered for the first time in Yellowstone Lake. Their presence caused immediate alarm. Lake trout (salvelinus namaycush) are voracious predators. In other lakes in the inter-mountain West where lake trout have been introduced, cutthroat trout were eliminated or severely reduced. Why? A single

large lake trout can consume 50 or more cutthroat trout each year.

Yellowstone Lake represents the largest remaining intact natural habitat of Yellowstone cutthroat trout (Onchorhynchus clarki bouveiri) in existence. When white settlers first began colonizing the western United States, there were probably 14 subspecies of cutthroat trout. Now, two of these subspecies are extinct and eight of the remaining 12 were listed by the American Fisheries Society as endangered, threatened or of special concern in 1988.

Yellowstone cutthroat was considered one of the few success stories at that time. Human activities had reduced its range to 15



The number of anglers enjoying Yellowstone's world-renown fishery has dropped precipitously according to park sources.

percent of its historic distribution, but the Yellowstone Lake area was seen as the last great refuge for the fish. No more.

"It was always the lake that was the savior," Al Zale, the leader of the Montana Cooperative Fishery Research Unit in Bozeman, told the *Billings Gazette* in June. "Then we had whirling disease and lake trout and suddenly we're realizing we had a lot of eggs in that one basket."

A group of lake trout specialists from the United States and Canada gathered in the park in 1995 to share information about the consequences of the presence of lake trout in Yellowstone. These experts foresaw the current cutthroats' plight. They also foretold of staggering economic losses resulting from the collapse of the world-famous cutthroat sport fishery in the Yellowstone Lake area.

In the "The Lake Yellowstone Trout Crisis Executive Summary," released in 1995, the value of the fisheries surrounding Yellowstone Lake was said to be worth more than \$36 million per year, or more than a billion dollars over 30 years. With the loss of the cutthroat, that figure could drop to roughly 400 million. Or so the experts predicted.

Their predictions are proving remarkably accurate, although to date, no numbers have been attached to the economic losses or to the ripple effect the cutthroat's decline is having on other species. It's happening, but it's hard to tell how much and how.

"The number of anglers fishing

Yellowstone Lake has diminished substantially," Varley says. "Approximately half of the number that were observed in 1994—the year lake trout were discovered—were there in 2003. A lake trout fishery, which is small by comparison, obviously has not been an economic replacement for the cutthroat fishery. We have not calculated dollar losses, however."

One link in the food chain

The experts also worried about the effect of the demise in the cutthroat population on the animals that eat them. These animals include grizzly bears, bald eagles, osprey, white pelicans, river otters, even American dippers. Not all of these species depend wholly on the cutthroat, but all derive important nutrients from the fish at certain times of the year.

Lake trout, which live at much deeper levels in lakes and do not venture into streams to spawn, will not readily fill the niche left by the cutthroat they displace.

The mystery here is that the park's researchers have not yet seen the decline in the predator populations they predicted, even amongst the osprey and white pelicans that depend solely upon cutthroat for sustenance. There's some indication that fewer grizzlies are frequenting cutthroat spawning runs, but even that evidence is largely circumstantial.

"Without the cutthroat, we'd expect these species should do poorly, but the Park Service has not seen any demonstrable effect yet," Varley says.

"We are not able to monitor all 42 species to check their population trends," Varley concedes. "But we do monitor the big birds, some of which are obligate fish eaters—osprey, white pelicans, cormorants. We have not seen population declines to date even though their principal food supply is down 75 percent, and there is no evidence they have ever eaten a single lake trout.

"This puzzles us some, but pelicans and osprey can nest on Yellowstone Lake and fly to nearby unaffected waters [to fish]. It's hard to believe they can do this without incurring a 'cost' but we have not found one to date," he says.

"It doesn't make sense," he adds.

It's more than just the lake trout

Varley is hopeful that, with help, the fish will survive. But not everyone shares his optimism. It would be one thing if lake trout were the only thing the fish had to contend with, but they are not.

"Lake trout don't get all the blame [for the cutthroat's demise]," Varley says. "A decade of drought has reduced cutthroat fry recruitment, and trout whirling disease, first discovered in the lake in 1998, is reducing fry in certain lake tributary streams to near zero."

Whirling disease is caused by a parasite that came to America from Europe—probably with continued on next page

imported European trout—and a common aquatic tubifex worm. The parasite becomes engulfed by the worm, which acts as an intermediate host. Eventually, this relationship produces a new free-floating life phase of the parasite that attaches itself to trout and salmon.

The parasite then penetrates the head and spinal cartilage of the fish, where it multiplies rapidly, putting pressure on the organ of equilibrium. This causes the fish to swim erratically (whirl) and have difficulty feeding or avoiding predators. Eventually they die.

"Pelican Creek, which is Yellowstone Lake's second largest tributary, is whirling disease heaven," Varley says.

"There used to be 40 to 50 thousand [cutthroat] spawners in Pelican Creek a year. Now it's a bust. There's nothing.

"Unless we get something really new as a tool, there's nothing we can do about whirling disease," Varley says. "The fish are going to have to solve the problem themselves."

Other trout, such as the brown and bull trout, are very resistant or have some immunity to whirling disease. Varley says there are some cutthroat survivors in heavily infested streams in the park, which gives him reason to hope that cutthroat too can build up resistance over time. But, he concedes, they'll need to get a break from Mother Nature and lake trout to succeed in battling off the disease and building up immunities will take decades or longer.

Human intervention

Humans have not always been the cutthroat's friend. For some reason, Varley says, there are people who feel compelled to plant non-native fish in cutthroat habitat. This practice at best cuts down on cutthroat numbers, at worst wipes them out.

"I think some evil-doer put the lake trout in Yellowstone Lake," he says. "Every good trout lake in the West is being subjected to unofficial plants of lake trout, northern pike, walleye, etc... There are some weird renegades out there who love these other fish and want to plant them everywhere. It is costing the government roughly \$300,000 a year."

Anglers are also the probable culprits for

bringing both whirling disease and New Zealand mud snails—which are having a negative impact on aquatic insects in some drainages—into the park. Only drought seems beyond human blame, unless you want to link it to global warming.

In spite of human's bad track record, Varley believes the only reason cutthroats stand a chance is because of the work the park is doing to control the lake trout and limit the spread of whirling disease. In other words, people are their last hope.

It's ironic that the cutthroat's survival appears dependent on human interference since their current plight is largely due to human actions.



Park officials are aggressively fishing lake trout in Yellowstone Lake with the use of gill nets. Since 1996, they have taken more than 75,000 lake trout from the lake. Furthermore, the park has seen their catch rates drop off over the years, which they believe corresponds to a decline in the lake trout population.

During the lake trout's fall spawn—which runs from mid-September through October—the Park Service is destroying large numbers of fish while they are in concentrated areas around West Thumb. If they are able to destroy the fish prior to spawning, they are able to reduce the numbers even further. Anglers are encouraged to fish and required to kill any lake trout they catch. The park has even considered offering a bounty on lake trout.

"It is good news that the lake trout gill net catch... is declining. This signals that we are fishing a smaller population," Varley says. "The average size is declining, which is also a good sign because it means fewer spawners and fewer eggs laid.

"It is good news that we have been unable to detect declines in the species that depend on cutthroats for food to date," he continues. "It is good news that all tributaries to the lake don't have the same rate of whirling disease infection. And it is good news that in a declining federal budget atmosphere, the agency and congress have funded the effort to try to save cutthroats.

"So it is not hopeless. We continue to think we can help make a difference," Varley concludes.

Are park officials downplaying the situation?

David Haire, a water-quality scientist and certified fisheries scientist who works as a fisheries consultant in Wyoming, thinks the park is not taking aggressive enough action.

"Lake trout, whirling disease, and drought—wham, wham, wham," Haire says. "And I might throw in the fourth wham—lack of urgency on the part of fish biologists.

"Stopping fishing for cutthroats in the lake's watershed should have been done a decade ago, when the lake trout were found. If the [cutthroat] population has declined so much, how can the Park Service continue to allow fishing there? Money is the likely answer."

Haire is not alone. Chris Fissell, a senior staff scientist with the Pacific Rivers Council told the *Billings Gazette* that the government shouldn't wait too long before taking steps to protect the cutthroat. His group is one of a coalition of environmental groups challenging a federal decision in 2001 not to list Yellowstone cutthroat as an endangered species.

"I think it's a species on the cusp of a fairly major decline in Yellowstone," Frissell said.

"They're tough critters and the fact that they have this natural ability to hang on gives you optimism. But we've got to stop hitting them with this relentless onslaught of threats." *\mathcal{T}

The balancing act: Yellowstone superintendent works to juggle conflicting demands



Suzanne Lewis was appointed superintendent of Yellowstone National Park in December 2002. Lewis started working with the Park Service 26 years ago as a seasonal ranger. She's been posted all over from Glacier National Park to the Virgin Islands and many places in between. Trained as an historian, Lewis was originally a park interpreter before she moved into management. She talked to WOC's Molly Absolon on September 7 about the challenges and opportunities facing her as the leader of America's crown jewel, its first national park, Yellowstone.

Q: What are your three greatest challenges as superintendent of Yellowstone National Park?

I often substitute the word challenge with opportunity in these kind of questions because I like to think of challenges as something that will demand all my abilities and resources. I think one of my biggest opportunities as superintendent is implementing change at Yellowstone. For the park service, as for any large organization, change can be difficult. It's a question of how you prioritize, how you move people.

We're an old service – just a dozen years from the 100-year anniversary of the national park system—and we have a lot of old traditions. I like to say organizations are founded on, but not limited by their traditions. That said, traditions can stand in the way of change. The important thing is to communicate, to give partners and employees opportunities to get involved in decision making and to give them a forum for working through their anxieties about change.

A second big challenge is prioritizing resources because we don't have unlimited resources.

And finally, it is a huge challenge to educate and communicate effectively with our constituency. We have a wide array of audiences who care deeply and passionately about the park. There are so many controversial issues—wolves, brucellosis, snowmobiles—and people often disagree with the park's position. My role is to communicate with and educate these people, not necessarily to change their minds, but to help them understand our position.

Q: From the outside, it seems as if you face insurmountable obstacles trying to balance the park's mission with the reality of running a place that has millions of visitors a year. How do you juggle these conflicting demands?

A big emphasis for me is on education. I spend a lot of time talking to people about what our mission is and why we do what we do. I do this both with people who agree and disagree with what the park is doing.

Yellowstone National Park is blessed with absolutely great staff. We have in our employ highly motivated, talented people who are working to advance the park's mission and protect the resource for future generations regardless of politics. I feel very fortunate to be able to work with these people. We also have great partners who help us understand and balance the demands placed on the park.

Q: It seems as if Yellowstone faces significant threats from non-native invaders. How serious are these problems and what are you doing to mitigate them?

Again, I feel fortunate to have a highly talented staff diligently working on this issue. We have also brought in partners from universities and other resources to help us understand the problems and figure out solutions. Lake trout are a serious problem and a serious threat. But we've put into action an aggressive and results-oriented solution and it is working. The situation is improving. We are seeing declines in lake trout numbers.

One other positive thing that has come out of the lake trout situation is our work with volunteers. The Yellowstone Volunteer Fly Fishing Program has been instrumental in helping us get a sense of what is going on in park fisheries. This summer 74 volunteer anglers from across the United States worked hand-in-hand with fisheries biologists. Some of the things they've worked on included helping determine the range of cutthroat trout continued on next page

"It is a huge challenge to educate and communicate effectively with our constituency. We have a wide array of audiences who care deeply and passionately about the park. There are so many controversial issues—wolves, brucellosis, snowmobiles—and people often disagree with the park's position. My role is to communicate with and educate these people..."

in the Lamar River. They've helped document the status of the fisheries in Beulah Lake. They've helped us understand the grayling fishery in the Gibbon River. This work is invaluable in helping us recognize and document problems—or potential problems—like lake trout.

Now contrast lake trout with whirling disease. Right now our effort with whirling disease has shifted to research. Unlike lake trout, we need more information to help us understand the problem before we can implement a solution...

As far as vegetative invasives, the park has the same problems the surrounding communities have with weeds such as knapweed. We have good partnerships with our neighbors to help eradicate weeds and we put consistent effort into this every year both inside the park and out, because this is a problem that does not respect boundaries.

Q: We are always hearing how the park service doesn't have enough money to take care of infrastructure issues, let alone provide some of the services the public has come to expect such as wilderness rangers etc. Is this an accurate perception?

There are 388 parks in the park system and all of us are experiencing shortfalls. The backlogs on maintenance did not happen overnight. We have 1,500 buildings in Yellowstone alone. Just like most of us have backlogs on the maintenance of our houses, we have backlogs on the maintenance of these buildings that we are chipping away at. But it is expensive.

We put out a business plan in June 2003 that took an intense look at our resources and needs for the next 10 years. The park has a lot of needs, this backlog is just one of them. For us to accomplish these needs we have to work along a continuum. There isn't a single thing that we need to do to accomplish our mission, there are a bunch of things.

If money were no object, I would put it where any superintendent would put the money: behind our mission in resource preservation and education. This includes things like studying whirling disease in an effort to prevent further spreading or restoring Old Faithful Inn.

Q: Do you think it is time for the park service to look for other sources of funding given the nation's current budgetary woes?

Yellowstone has a better reputation than many of the other parks for getting funds and assistance from outside resources. The Yellowstone Association is one of the oldest cooperating agencies [for working with national parks] in the country. They help us with things like printing trail guides, publishing our science documents, and creating wayside exhibits. They have made a great contribution to the park over the years.

We also have the Yellowstone Park Foundation. In its short history—they just started in the 1990s—they have given the park more than 20 million dollars.

These are both non-profit partners. We make requests for money to them; they consider our proposals and then either approve it or not. We let them know our priorities and needs... We are very appreciative of everything they do for us. Their support is critical.

Q: You can't talk about Yellowstone without talking about wolves. Have wolves been a boom or a bane for the park?

The wolf reintroduction program is the most successful wildlife reintroduction program in the country. I know we've had an increase in visitation as a result of wolves, particularly in winter. Wolves are very popular for people to come and watch. But that popularity has not been translated into dollars yet. We are doing a study looking into the economic impact of the wolf reintroduction, but we are probably still a year away from having those results.

As far as the effect on elk, there isn't a definitive study on that either. The park looks at elk populations continuously and yes, wolves do eat elk and they do have an impact on numbers. But there are many things affecting the elk population: drought, forage, disease, all sorts of different things. It is hard to name one cause...

There is never going to be one single easy answer to a controversy. It is human nature to want it to be simple, but it is usually not. How wolves affect elk and vice versa is a pretty complex issue.

Q: What are the most rewarding aspects of your job?

A: I sometimes like to sit in a developed area in the park and just watch people. You see smiles and looks of wonderment. You see confusion too, it's a big place and it can be confusing, but mostly I see excitement and that is a big part of the pleasure of my job.



Grand Canyon of the Yellowstone

For many visitors, Yellowstone is the only place they go in their lifetime where they see wildlife in a natural setting. We live here. We expect to see wildlife, but for many people it is amazing. It would be like you or me walking down 42nd Street in New York City. We'd probably be gawking and smiling and looking a little confused all at the same time. Well it's the same for many people visiting Yellowstone.

Our staff does a great job handling all these people and making their visit enjoyable. It's a big task. Yellowstone has approximately 3 million visitors annually. More than 2 million of those people come between Memorial Day and Labor day. That's a lot of people in a short time.

Q: How do you balance political pressures with the needs of the ecosystem?

A I have to accept that Yellowstone is distinctive. It is the world's first national park. It is something that strikes a deep chord in everyone whether they are political or environmental in nature. There is a great deal of attention focused on Yellowstone. Therefore we need to focus a lot of attention on good communication so that people know what is going on. We aren't trying to persuade people of anything, we are trying to inform them so they'll be able to make the best decision.

If you think of the park service as a huge stage, there are 388 parks on that stage, and more often than not, Yellowstone is in the spotlight.

Q: How does the park work with private interest or advocacy groups?

Constituency groups play an important role in the park. It is important for me to spend time building relationships, exchanging information, and communicating with the leaders of these groups to help build support. Some of these groups may not seem like the typical group you think about when you consider Yellowstone policies, like the Wyoming Stockgrowers Association, but they have an interest in park issues such as wolves and brucellosis. So we need to reach out to non-traditional groups as well as to more typical groups like Greater Yellowstone Coalition and WOC and make sure we understand each other.

Q: This year marks the 40th Anniversary of the Wilderness Act. How has Wilderness shaped Yellowstone?

The Wilderness Act has been a positive influence for visitors. People like to know they're in wild areas. Yellowstone is a 2.2 million-acre park and only one percent of it is developed. The rest of it is wild. Only a small number of people actually go into these backcountry areas...but I think just the thought of wilderness has a positive effect on everyone.

Visitors expect to have a sense of wilderness in large parks. What defines wilderness is pretty personal, but I think whatever it is, the fact that Yellowstone is wild helps form each visitor's experience of the park.

Q: What are your personal goals as park superintendent? What do you want your legacy to be?

A: My personal goals are probably like most park superintendents: I want to improve the quality and condition of park programs. I want to make the park more sustainable, to make its programs bridge time. This is very important to anyone in park leadership.

I don't really think about what kind of legacy I want to leave, but if I did, I would have to say I would like to make sure the park is left to each generation in the best condition possible. *\tau\$

"There is never going to be one single easy answer to a controversy. It is human nature to want it to be simple, but it is usually not. How wolves affect elk and vice versa is a pretty complex issue."

Alien invaders changing the face of our planet

By Molly Absolon

They come by car, boat, train, and plane. They hitchhike rides in your socks or in the mud trapped in the treads of your shoes. They were imported intentionally to help control erosion and decorate gardens, secretly to 'improve' the fishing, or mistakenly as stowaways in the holds of ships transporting cargo to the United States from Europe and Asia. They follow fire, road construction, grazing animals, hiking trails, and new home sites. They are alien invaders—non-native plants, insects, diseases, and animals—and they are taking over the North American landscape.

According to a survey by the U.S. Department of the Interior, noxious weeds quadrupled their range in the United States between 1985 and 1995 and the shocking trend continues unabated. As many as 133 million acres across the nation are infested today. In Wyoming, 1.2 million acres are suffering impacts from exotic species according to estimates, with the prospect of many more as a result of massive amounts of disturbance due to oil and gas development as well as unrelated road building and subdivision expansion.

Invasives don't just alter the landscape, they also infest the nation's waters reducing game fish populations; increasing the operating costs of drinking water plants, dams and power plants; degrading recreational boating opportunities; and reducing property values. Stretches of the Madison River in Yellowstone National Park have has many as 500,000 New Zealand mud snails per meter, while Pelican Creek, also in the park, has seen its annual cutthroat spawning run decimated, dropping from 40,000-50,000 fish to none because of the presence of whirling desease.

The effects of these invaders are more than cosmetic. Noxious weeds out-compete food crops lowering yields and raising costs. They also reduce the amount of forage available on rangelands and contribute to the decline of native plants and animals. Meanwhile, the decline in cutthroat populations in Yellowstone threatens the entire

food chain as everything from grizzly bears to pelicans and osprey rely on the fish at certain times of the year for their sustenance.

The chief of the United States Forest Service, Dale Bosworth, has identified invasives as one of the four top threats to the health of the nation's forests. The cost to the national economy for managing invasives has been estimated to be as high as \$137 billion per year, and that number is rising as the price of eradicating these plants and animals once they take hold continues to go up.

"I have a long list of problematic invasives found around Lander," says Lars Baker, the supervisor of Fremont County Weed and Pest. "Some of these plants can be quite attractive. Like salt cedar. It's very pretty... but we may lose thousands of acres of lake out at Boysen Reservoir to salt cedar... and once salt cedar is established, it out-competes native cottonwoods and willows."

Salt cedar, also known as tamarisk or tamarix chinensis, is an attractive shrub with small pink blossoms that came to North America from Asia for use both in erosion control and as a garden ornamental. In its native habitat, salt cedar's distribution is kept in check by a variety of insects, animals, and diseases. But these controls were not imported with the shrub. Consequently, salt cedar, like other invasives, has no natural predators in North America.

"Salt cedar is just one example," Baker says. "The core of this problem is that plants are brought over without the complex of natural enemies they evolve with. So once here, they get out of control.

"Humans do this all the time," Baker continues. "What looks like a good deal turns out to be a bad one. Take smooth brome. We brought it over as a crop, and it is a good crop. Smooth brome is a major component of most hay. But it out-competes native grasses and takes over rangelands. And most wild animals don't recognize smooth brome as a food source."

Invasive species damage or destroy nearly as many acres of land each year as



WHAT YOU CAN DO:

- Talk to local weed control representatives about what weeds are problems in your area and how you can eradicate them from your property.
- When traveling, take time to clean dirt out of your shoes, remove seeds from your socks, and wash your car, boat and fishing gear so you don't inadvertently transport seeds or animals.
- Use certified weed-free feed for stock.
- Do not release plants, animals, or insects into the wild.
- If you locate an infestation, let the landowner or land management agency know so they can initiate control efforts.
- Use native plants for landscaping.

wild fire. And unlike the impacts of fire, the effects of invasives can be permanent. In the United States, as many as 2,300 acres of BLM land are affected every day, which says nothing about the number of acres affected that are controlled by other public land agencies or private landowners.

Most backyards harbor noxious weeds.



Wyoming native, Lani Malmberg, has pioneered the use of goats to control weeds.

In Wyoming, these include knapweeds, mustards, bindweed, crab grass, Russian Olives, cheat grass, and thistles. And of course, there's also leafy spurge or *euphorbia esula*, which has reduced the productivity of grazing land in the state by 50 to 75 percent and costs taxpayers and agricultural producers in Wyoming, Montana, and the Dakotas \$144 million a year in production losses and control expenses.

Invasives like leafy spurge can be admirable. They are tenacious, opportunistic, and in many cases, beautiful. People who work to eradicate invasives often develop a grudging respect for the plants they are battling.

"I've come to admire this plant," Keith Fletcher, a landscape conservationist who is fighting to eradicate leafy spurge for the Nature Conservancy in Iowa admitted in a recent Conservancy newsletter.

"Leafy spurge has buds in the roots. If you pull the plant up, if you mow it, if you burn it, if you take a disk and cut it up into one inch pieces, the buds are stimulated to make new plants. And if you don't mow the spurge, it makes new seeds and shoots them 15 feet. It is like something out of Star Trek."

These kind of adaptations are what make invasives so devastating to the ecosystems they infest. New Zealand mud snails reproduce asexually. A single snail the continued on next page

By Molly Absolon

Russian knapweed, Canada thistles, whitetop—are loved by one thing: goats. Goats like nothing better than to chomp up some spurge and chow down on a thistle. So if you are interested in weed control without pesticides, goats just may be the answer.

Using goats to battle weeds is growing in popularity in the West. Goats will eat just about anything, including plants that are poisonous to other animals. And unlike horses and cows, goats actually prefer weeds to grass.

One of the originators of the goat-grazing, weed-control movement is Lani Malmberg. Malmberg discovered the power of goats while getting a masters degree in weed science from Colorado State University. A native Wyomingite who migrates around the West with her 1,220-strong herd in search of weeds, Malmberg believes goats can be used both to cut down on the spread of non-native plants and to improve the quality of the range.

"For example, they've been spraying for leafy spurge in Fremont County [Wyoming] since 1945," Malmberg says. "They have probably put billions of dollars into spraying, but there is more spurge around there than ever... It doesn't work. You spray and kill everything, not just the weeds. The weeds come back. With goats, I am changing the plant dynamics. Goats help heal the landscape and restore desirable broadleaf plants."

One of Malmberg's big success stories can be seen in Cheyenne. There, for the past four years, her goats have been grazing the banks of the streams that run through town. As a result, Malmberg notes, the streamsides look like lush golf courses rather than tangles of sticky, pokey weeds.

"The population of the United States is becoming more aware, more educated about the true destruction and cost of using pesticides," Malmberg says. "The people in Cheyenne didn't want chemicals continued on next page

ALIENS continued from p.11 size of a pepper flake can grow and then replicate itself to populate a stream with upward of 700,000 snails per square meter.

Once invasives are established, native plants and animals often have no chance. Their water supplies are sucked up by thirsty invaders. They are deprived of vital nutrients and crowded out by their new neighbors. Soils are poisoned by biological toxins secreted by the aggressive newcomers. As natives are replaced, the other animals and insects that relied upon them for shelter and food are displaced, and the entire food web is disrupted.

"Prevention is the best tool against invasives," Baker says. But in many areas, he concedes, it is too late.

"The seeds of field bindweed (a small morning glory vine) have an 80-year dormancy," Baker says. "Once you have field bindweed in your yard, you have it forever... We're never going to eradicate these plants. The question is: How do we learn to live with them?"

Baker advocates what he calls integrated weed management that involves everything from chemicals and biological controls, to modified irrigation techniques, prescribed burns, specific mowing patterns, and crop management. In Yellowstone National Park, the park service is aggressively over-fishing lake trout in Yellowstone Lake in an attempt to keep their numbers down. Anglers are required to kill any lake trout they catch.

Almost all control techniques have critics. With plants, only hand weeding is

risk free. But hand weeding is expensive, time consuming, and ultimately ineffective against the onslaught of noxious weeds. Herbicides have been used for decades with some success, but plants are building up tolerance to the chemicals. Furthermore, many people are concerned about the poisoning effect on the land, on people, and on other plants and animals.

Biological control, which entails introducing predators targeted toward invasives, can also be controversial. On the surface it appears counterintuitive to be bringing in more new species to try to get rid of others. The track record for this strategy is not particularly good.

"Biological controls were used to control musk thistles several years ago," Baker says. "Unfortunately the beetles that ate the musk thistle also ate native thistles. At the time, any thistle was considered a nuisance but that has changed. Some of the native thistles are now threatened or endangered."

Baker is more confident about the biological controls currently being used for leafy spurge. Tests have shown that the beetles do not move to other native plants once the leafy spurge has been eradicated. They also appear to leave a native spurge, euphorbia robusta, alone.

But only time will tell. In the meantime, the fight to keep out invasives is a fight to keep America's landscape diverse and bountiful. Each infestation of a non-native species is akin to another strip of fast food restaurants homogenizing the cities of America.

GOATS *continued from p.11* getting in the water. They didn't want pesticides around their kids and pets. They wanted to bring fish back into the streams. And my goats are working... We've seen significant improvements."

Goats browse on brush, leaves and twigs, stripping the plants of their leaves and flowers so they can't reproduce or conduct photosynthesis. As they munch, the animals leave behind denuded plant stalks, which help hold soil in place. Their sharp hooves stomp their feces into the soil, fertilizing and aerating it in their wake. The goats also chew their cud so long weed seeds are broken down and will not germinate in the soil after they pass through the goat's digestive tract. In addition, goat urine is rich in nitrogen, and best of all, the animals don't like grass.

There is a downside to goats. Parts of the world, such as the mountains in Mexico's Baja California or along the Mediterranean have been stripped bare by centuries of grazing goats. But when goat grazing is carefully controlled and the animals moved on a regular basis, their prodigious eating capacity is bad news only for a healthy weed. **

Additional Resources:

- Lani Malmberg's company is Ewe4ic Ecological Services. She can be contacted at 970-219-0451.
- · County weed and pest departments and local conservation districts can provide information on alternative weed controls including goats and bugs.

SINKS CANYON

Sinks Canyon outside of Lander represents a microcosm of the challenges facing land managers in their battle against invasive weeds. Over the past three years, the south-facing slopes of the canyon have become blanketed in a purplish-brown cloak of cheat grass. The change is dramatic.

The proliferation of cheat grass followed in the wake of prescribed burns done in the canyon by the forest service to push back juniper trees and improve bighorn sheep habitat. Unfortunately, the burns seem to have had the opposite effect. The juniper has been pushed back, but the forage that replaced them has little value for herbivores.

"We're very concerned about what we are seeing in Sinks Canyon," says Karl Brauneis, a forester with the Shoshone National Forest. "Up until two years ago, we were getting good results from our prescribed burns in the canyon, but with drought and global warming, the invasives are out-competing the natives. Cheat grass is proliferating all along the Lander faces.

"I really question whether we will do prescribed burns at low elevation sites in the future as we continue to experience drought," Brauneis adds. "We'll probably make some major changes to our management practices in the future."

Cheat grass, which has replaced whole ecosystems in Utah and Nevada, was once thought to be unable to flourish in Wyoming because of the state's cold temperatures. That seems to be changing with warming temperatures and prolonged drought. Moisture and fire suppression could help native grasses outcompete the cheat grass, but Brauneis is not optimistic Wyoming is going to get out of its drought cycle. In the meantime, he fears animals like mule deer and bighorn sheep will suffer from the loss of forage in the canyon. **T

Watching the animals

Wildlife biologist Joel Berger works to understand Wyoming's wildlife

By Molly Absolon

In the second of our series on the scientists who inform WOC's conservation strategies, WOC talks to wildlife biologist Joel Berger about his work in the Greater Yellowstone Ecosystem. Based in Driggs, Idaho, Berger has traveled the world to study its large mammals. His research in Wyoming has helped WOC frame its position on issues ranging from oil and gas development in the Upper Green River Valley to migration routes from Yellowstone south.

oel Berger grew up in Los Angeles and hated it.

From an early age he longed for places where there were no crowds, no cars, no houses. The closest escape for him in those days was the Mojave Desert where he first started watching animals. Today is he still watching animals. In fact, he is willing to crawl through sagebrush, wallow in the willows, dress up in a moose costume, roast under the baking desert sun, freeze in the Arctic, and fly to distant parts of the globe to watch them.

Wolves, griz and moose

Berger is a world-renowned wildlife biologist who has spent the last 10 years focused primarily on moose in the Greater Yellowstone Ecosystem. His findings, particularly those regarding the effects of predators on moose, are somewhat surprising.

"Two percent of the deaths of adult moose in the study area can be attributed to wolf predation," Berger says. "Another 15 percent were due to grizzly bears, but the vast majority—60 percent—of the deaths were due to starvation.

"People may hear this and say, 'Is he some kind of animal rightist? Is he trying to make predators look good?' Absolutely not. This is the science talking." Berger concludes.

Berger, who works for the Wildlife Conservation Society, says his work in Wyoming actually has its roots in a study he conducted in the Arctic. This study focused on two different populations of caribou: one in Alaska that coexisted with predators, the other in northern Greenland and Norway that did not. He found that the caribou in Greenland and Norway—the "naïve" caribou—did not respond to signs or smells associated with predators. Unlike their cousins in Alaska, which became alert and tense when they smelled grizzly bear scat or heard a wolf howl, the Scandinavian caribou continued to graze undisturbed when exposed to these stimuli. Fear of predators appeared to be a learned behavior.

The caribou study had interesting parallels with the situation in



Wyoming where moose and elk had lived in the absence of a significant predator threat since the 1930s when bears and wolves were largely wiped out by humans. What was intriguing about the scenario in Wyoming, when Berger began to look into it, was that the predators were coming back. Grizzly bear numbers were on the rise and wolves had been reintroduced. The big question he wanted to answer was: How would moose respond?

As with the Scandinavian caribou, Berger found that naïve moose in Wyoming did not react to scents or sounds normally associated with wolves or bears. That's where the moose costume

came in. Berger dressed up as a moose in order to get close enough to the animals to plant bear feces in their midst. Unfortunately, in Berger's opinion, the moose costume got more press attention than the science it was being used to advance. He was even asked to appear on the David Letterman show in his costume.

"Dressing up like a moose has been overblown by the media," Berger complains. "It was one way to get close to non-habituated moose, but the media decided it was a cutesy gimmick.... We've backed off using it because it detracts from the seriousness of our work.

"We ended up turning down Letterman because they wouldn't guarantee we got 60 seconds to establish our scientific credibility," he adds.

Gimmick or not, the experiment with the moose costume helped prove that the naïve moose did not know to be afraid of predator signs. Other field observations confirmed this finding.

"When moose first came in contact with wolves they did not respond. The wolves came within five yards of them, and the moose just stood there like the wolves were big coyotes," Berger says. "Wolves could take down a 200-pound, six-month old calf without the calf's mother doing anything. But in a year, the moose had become savvy. It didn't take long for them to recognize the danger of wolves."

Starvation versus predation

But if predators aren't the reason the moose population is in decline in the Greater Yellowstone Ecosystem, what is? There is no doubt numbers are down, as are pregnancy rates. By analyzing progesterone levels in cow moose droppings, Berger has been able to determine that only 75 percent of adult female moose in the Yellowstone area are pregnant compared to 90 percent in 1966. He doesn't think the reason for this drop is pressure from predation.

"Populations densities in the area have continued on next page

BERGER *continued from p.13* been really high in the past," Berger says. "Moose didn't occur here in large numbers until bears and wolves were killed off in the late 1930s. Once the predators were gone, the moose population boomed, and they hammered the riparian vegetation, particularly in the park where there is no hunting."

"Because moose have expanded so greatly and they are now at such high densities, it is possible that they are over-eating their food sources," Berger says.

This determination seems to be reinforced by the differences Berger has observed between moose habitat in Grand Teton National Park, where there is no hunting, and in the surrounding area, where there is. Streamside willows in the park have been stripped bare while outside it they are healthier and more abundant. Neotropical birds, like warblers, seem to have abandoned the park but they can still be found along streams outside where there are fewer moose.

"We are pushing the envelope here and suggesting that knowing pregnancy rates can tell us whether populations [of moose] are at or above the food ceiling of their ecosystem," Berger says.

"Having more predators or hunters in the situation may actually help," he adds. "Hunters have generally been good until recently [because they control population numbers]. But that's changing. Which brings me to my last point. No one wants to hear this one, but global warming also appears to be having an effect [on moose numbers]."

Berger has found evidence indicating that warmer temperatures are putting additional stress on cold-adapted animals like moose. These animals are not doing well in the southern limits of their distributions, and while he concedes that drought is part of the equation, he thinks that we may be seeing a northern migration of cold-adapted animals as the world warms.

focus on pronghorn, has been instrumental in drawing attention to the importance of these ancient migration paths.

Using radio collars and GPS, the Bergers have tried to define these pathways in order to protect them from encroaching development. Pronghorn remain the lone, long-distance migratory species in the Western Hemisphere, excepting in the Arctic, where caribou continue to make annual pilgrimages to escape winter.

Pronghorn move southward from Yellowstone into the sagebrush steppe of the Upper Green River Valley and back each fall and spring—a distance of more than 300 miles roundtrip. They have done this for at least the last 5,800 years. Their path takes them through three bottlenecks, the most infamous of these being Trapper's Point. Less than a mile wide, Trapper's Point is both a major oil and gas development area and the site of two subdivisions. If the pronghorns' route is severed—particularly at one of the bottlenecks where the animals have few other options—Berger believes pronghorn will go extinct in Grand Teton National Park.

"Why should we care? Because this is the second longest migration in the Western Hemisphere exceeded only by caribou in the Arctic. Why don't we take pride in this? Pronghorn are an icon of Wyoming, why aren't we celebrating them?" Berger asks.

"We can't turn back the clock. People born today in Los Angeles, in New York, in Casper are never going to see millions of bison migrating across the plains, but we can still show our kids long-distance migrations in western Wyoming.

"This is a chance for Americans to show the world that we care about conservation. That we can do things right," Berger concludes.

Doing things right for the Bergers and other conservationists, including WOC, would be the creation of some kind of national migration corridor that would keep the pronghorns' path open in perpetuity. Berger believes that this may be a battle conservationists can win. $\boldsymbol{\tau}$

More than moose

Focusing solely on Berger's work with moose provides insight into only one aspect of the man's varied and colorful career, however. He studied bighorn sheep for his doctorate from the University of Colorado, then he went to the Badlands of South Dakota to look into how horn size affects bison reproductive success. From there, his work took him to Africa where he conducted research on the possibility of dehorning black rhinos to protect them from poaching. He's watched moose interact with tigers in Siberia and followed caribou throughout the Arctic. For his next project, he's leaning toward trying to get white-tailed jack rabbits reintroduced into Grand Teton National Park where they have been extirpated.

And in Wyoming, Berger has also been examining the migration paths of pronghorn from Yellowstone National Park down into the Upper Green River Valley. His work, in conjunction with that of his wife, Kim Berger, who is finishing up her doctorate in wildlife biology with a



Berger attributes declining moose members in the Yellowstone Ecosystem to starvation rather than predation.



Access to Wyoming's only "Wild and Scenic River"

By Marisa Martin

f the Powder River Basin, Jonah Field and the Pinedale Anticline are the marquee natural gas plays in Wyoming, the Clarks Fork River is waiting in the wings. This area—near the eastern flank of the Shoshone National Forest, abutting the Beartooth Range and extending from the Clarks Fork Canyon north into Montana—is slated for a significant seismic survey to determine its oil and gas potential. Landowners in the area fear the seismic testing is a harbinger of significant development to come.

The Clarks Fork is not new to oil and gas. Some natural gas wells already exist in the area, but the size and scope of the proposed seismic survey promises to change the scale of this development exponentially. One survey alone covers 47 square miles and includes 3.478 "shot holes." (Shot holes are holes drilled into the ground and packed with ten-pound explosive charges. The charges are detonated, creating shock waves that allow geologists to determine the geological characteristics of the area, and the potential for natural gas development)

Despite the benign connotation of the word "survey," seismic testing can have significant environmental impacts ranging from the creation of new roads, destruction of drought-stressed sagebrush, introduction of invasive weeds, and disruption of wildlife, to say nothing of the impacts of development should natural gas be found. Furthermore, the testing is very close to private land in the Clark area.

LOS ANGELES AIRPORT AS A GOOD NEIGHBOR?

The area of the seismic survey and potentially of a new natural gas field is a patchwork quilt of private and public property that is truly a land of multiple uses. Off-road vehicle users enjoy the Morrison Jeep trail from the edge of the proposed leases to the top of the Beartooth highway. Fishermen, kayakers, horseback riders, hikers, hunters and campers all frequent this area. Plus the Clarks Fork is also literally the backyard for hundreds of year-round residents.

Unlike the Jonah Field or other fields in Wyoming that are mostly distant from private land, the development in the Clarks Fork area is very close to residential homes; too close sometimes.

"It sounds like a jet taking off at 2:00 a.m.," Deb Thomas, a Clarks Fork area landowner, said when describing the sound of flaring of an existing natural gas well near her home.

The operators flare when necessary, which means that the "jet" could take off at the middle of the night as easily as noon. Flaring like this will only increase if the seismic

surveys find high potential for natural gas development, which is the fear of Clarks Fork landowners in search of solitude.

"I, along with several hundred other homeowners in the area, moved here because of an attraction to 'Wide Open Wyoming' only to now discover the possible horrors of gas development in our yards, and probable depreciation of our community and personal home," said Ken Lichtendahl, a landowner in the Clark area.

GOOD NEIGHBOR RULES NEEDED

"One of the most frustrating things about having oil and gas development in our neighborhood is the inability of the Department of Environmental Quality and other agencies to offer any real protections to those of us living in its midst," said Thomas.

The Department of Environmental Quality investigates citizen complaints of noise, odor and other nuisances but generally finds that the companies are operating within the law. However, laws and regulations that may be sufficient in an area devoid of residential communities do not readily translate to areas with homes and ranches in the midst of oil and gas development.

Thomas, along with her husband Dick Bilodeau, began the Clark Resource Council, an affiliate of the Powder River Basin Resource Council, in order to mobilize the public to influence development in this area. The Clark Resource Council has met with the Bureau of Land Management and held several public meetings on the seismic projects. Working with WOC, the group plans to encourage the state to implement new "good neighbor" guidance regulations in order to protect the quality of life of citizens who live in close proximity to natural gas development.

WOC has also been actively involved in the public process regarding the seismic survey having contributed comments during the scoping process. But the work has just begun.

"Gas at triple its historic value is laying siege to the West's natural treasures as well as starting to change perceptions from a place to call home to a place I don't want to be," said Lichtendahl. *\top*

IN THE COURTS

Oil and Gas Lease Sale Protests and Appeals. WOC currently has four appeals before the Interior Board of Land Appeals (IBLA) and two protests of lease sales that have not yet been decided by the BLM. Three of the IBLA appeals raise issues related to coalbed methane (CBM) development in the Rawlins Field Office. One of the appeals raises issues related to public participation in lease sales and the ability of BLM to sell leases when it is in the process of revising its land use plan. Governor Freudenthal raised this same issue in his protest of the June 2004 lease sale.

With the important 10th Circuit Pennaco decision (see page 1), we anticipate the BLM will give our lease protests more thorough consideration and the IBLA appeals will be more likely to be resolved in our favor relative to CBM issues. We will continue to file protests and appeals where serious concerns regarding adequate preleasing analysis, public participation and endangered species exist,

Contact: Bruce Pendery

GREATER YELLOWSTONE ECOSYSTEM / Upper Green River Valley

Bridger-Teton Oil and Gas Leasing in the Wyoming Range. We won an important victory this September thanks to hundreds of emails, faxes, and letters from people like you to the Forest Service, and to both



Gov. Freudenthal and Senator Craig Thomas. The Bridger-Teton National Forest will not lease 157,000 acres—much of it roadless parts of the Wyoming Range—for oil and gas development until it can evaluate the concerns raised by the public, the governor and Senator Thomas. The leases were scheduled to go on the auction block October 5.

Located west of Pinedale adjacent to the Upper Green River Valley and the upper Hoback region, the proposed leases feature world-class big game habitat and outstanding opportunities for hunting, camping, cross-country skiing, and fishing. It provides vital year-round habitat for elk, pronghorn, moose and mule deer. Streams here harbor some of Wyoming's last populations of native Colorado River cutthroat trout and are a stronghold for Snake River cutthroat. Other imperiled species that find refuge here include northern goshawk, Canada lynx, gray wolf, wolverine and grizzly bear.

The decision to withhold the oil and gas leasing was made by Regional Forester, Jack Troyer, head of the agency's Intermountain Region office in Ogden, Utah, at the request of Gov. Freudenthal. Jay Anderson, a spokesperson for the Bridger-Teton in Jackson, said that the decision shows the Forest Service is "responding to public interest in the lands we manage."

The Forest Service will now have time to reevaluate the criteria it used to identify the parcels for leasing in the first place. WOC, and our conservation partners, had argued that this criteria was outdated. The analysis was conducted in the early 90s, prior to the natural gas boom in the neighboring Upper Green River Valley, as well as changes in status of wildlife in the area such as the listing of the Canada lynx.

Gov. Freudenthal applauded the Forest Service's decision. In a press release he said, "I continue to fully support Wyoming's oil and gas industry, but development needs to occur in a deliberate fashion that takes into account all the impacts it brings."

This is exactly what WOC has been saying all along. Our voice has been heard and these lands remain protected...at least for now. *Contact: Marisa Martin*

Questar Winter Drilling. Questar has submitted its proposal to the BLM to drill year round for the next nine years on the Pinedale Anticline. WOC has been actively involved in the issue, commenting on the scoping for the Environmental Assessment and attending meetings to voice our concerns. While we are pleased with the mitigation measures Questar has included in its proposal, which include things like condensate pipelines, reduced truck trips in the Mesa, and flareless completions, we fear that year-round drilling in crucial winter range would adversely affect mule deer by disturbing the animals when they are most vulnerable. Allowing Questar to winter drill in crucial winter range would be a reversal of longstanding BLM policy without adequate consideration of the impacts. A draft Environmental Assessment is due out this fall.

Briefing and oral arguments in WOC's federal litigation regarding an exception to winter drilling restrictions on the Pinedale Anticline granted to Questar in 2002 were completed this summer. The case is currently under review by U.S. District Court Judge Johnson. *Contact: Marisa Martin*

Togwotee Highway Reconstruction. Marisa Martin and Meredith Taylor continue to serve on the Togwotee Highway Reconstruction Project's advisory committee as WOC conservation representatives. This summer, the committee examined data from wildlife biologists Cliff Nietfelt and Hall Sawyer indicating hotspots for wildlife crossings and potential roadkill along the Buffalo Fork section of the highway. Agreement has been reached to accommodate wildlife crossing under the Buffalo Fork bridge by making the bridge longer. The committee also discussed a snowmobile trail along the highway, pull-outs for passing or scenic views, and wetland and wildlife mitigation. A Scenic Byway Design Workshop is planned for later this year to educate the advisory committee on other possibilities available within the National Centennial Scenic Byway System. Contact: Marisa Martin and Meredith Taylor



Restoring Wild Patterns. Meredith Taylor is working on a feasibility study for the phase out of three Gros Ventre elk feedlots. Her study looks at the how much forage is available for elk during the winter in the area and compares it to forage in the Buffalo Valley/Spread Creek area where elk are not fed on feed grounds during the winter. The study will examine whether the forage in the Gros Ventre can sustain the Wyoming Game and Fish's elk herd objective without supplemental feeding, as well as what it will take to restore the forage to a level that will support the herd if the current vegetation is found to be inadequate. WOC intends to use this information to implement Restoring Wild Pattern goals such as protecting and restoring native habitat, and encouraging the phase-out of unnecessary elk feeding grounds. Contact: Meredith Taylor

Bighorn National Forest Plan Revision.

The Bighorn National Forest Plan Revision's draft Environmental Impact Statement was released this summer. Public comments are due September 30th. The draft includes several alternatives. WOC believes the preferred alternative—Alternative D—does not do enough to protect the forest. Rather, we support the adoption of Alternative C. Alternative C has the lowest logging level, the fewest miles of roads, more recommended Wilderness, the best protections

for wildlife, more recommended Wild and Scenic Rivers, and better backcountry recreation allocations. The timber industry is promoting Alternative E, which opens all suitable lands to logging, including pristine roadless areas, stream buffer zones, and elk security cover areas. Alternative E will put all roadless areas into the "suitable timber base" and allow for no additional wilderness protections, wild and scenic classifications or research natural areas. To view the EIS go to: http://www.fs.fed.us/r2/bighorn/projects/

http://www.fs.fed.us/r2/bighorn/projects/ planrevision/documents/ *Contact: Marisa Martin*

STATEWIDE

Wolf Delisting. WOC, along with several other conservation groups, was recently granted 'intervener' status in the state of Wyoming's lawsuit against the U.S. Fish and Wildlife Service for its rejection of Wyoming's wolf plan. WOC is supporting the federal government's decision to reject the state wolf plan in court because we believe the USFWS's decision was based on science and common sense and we want to ensure that this position is effectively presented. In our opinion, shooting wolves on-sight in 90 percent of current Wyoming wolf habitat outside national parks and Wilderness areas is not responsible management for an animal just removed from

protection under the Endangered Species Act. We are not alone in this position. More than half (7 out of 11) of the national wolf biology experts had serious concerns about Wyoming's plan. In addition, Wyoming received at least three letters from USFWS officials, including one from the director, notifying the State that their plan was not going to work as proposed. *Contact: Marisa Martin*

WATERSHEDS

WOC challenges Army Corps of Engineers general permit for CBM reservoirs in court. A fall court date has been set for WOC, together with Earthjustice. to argue their case against the Army Corps of Engineers' general permit for coalbed methane containment ponds before Judge Downes in federal district court. WOC's case asserts that the Corps' decision to allow the construction of thousands of reservoirs in the drainages of the Powder River Basin and elsewhere constituted a major environmental impact and that individual permits for those reservoirs are mandated by the Clean Water Act.

The reservoirs in question are being built to hold produced water, which is a byproduct of coalbed methane drilling in the basin. These reservoirs cause devastating impacts on the basin's ecology by disrupting stream continued on next page



flows, and on area ranchers because the water's high salt content limits its use for irrigation. Currently, the Corps is allowing the construction of these reservoirs under a "general permit" that requires neither notification nor approval by the Corps for individual ponds. *Contact: Steve Jones*

DEQ regulations for discharge permits strengthened to protect aquifers. Some

good news recently came from the Wyoming Department of Environmental Quality (DEQ). Acknowledging concerns WOC has been raising for years about CBM impacts to groundwater quality, the DEQ has announced that in order to obtain a discharge permit in the future, CBM developers must demonstrate that the water they intend to discharge will not threaten or pollute the groundwater aquifers below. Currently, this water is being stored in unlined reservoirs designed to leak back into the ground where it has the potential to affect the underlying aquifer. Forcing the drilling companies to prove that their operations will not pollute groundwater is a major step forward. Up until now, the DEQ, as well as industry, has simply been ignoring the issue, believing that "out of sight is out of mind." We are pleased to see such positive fruits of our persistent advocacy on a resource - groundwater that is so critical to our arid state. Contact: Steve Jones

Revisions to the Wyoming Water Quality Rules and Regulations. The Environmental Quality Council approved Chapter 2 of the Wyoming Water Quality Rules and Regulations on August 18, 2004. This chapter had not been revised since 1974 and needed updating. Unfortunately, the revisions raise several concerns. Most importantly, the DEQ intends to broaden its ability to issue general permits, which would mean less opportunity for public involvement. Under the new regulations, the public only has one chance to challenge a general permit: when it is issued, but not when it is actually put into place at a particular site. We urge all our members to contact Governor Freudenthal and tell him that DEQ needs to start over, rather than adopting these flawed regulations. Contact: Steve Jones

RED DESERT/GREAT DIVIDE CAMPAIGN

Rawlins Resource Management Plan. The most recent information reports that the Draft EIS for the Rawlins Resource Management Plan will be released in early October. Your involvement in responding to the plan is very important. Please stay tuned for action alerts and check our website for updates. Contact: Tova Woyciechowicz

Jack Morrow Hills Environmental Impact Statement. On August 16, WOC, together with the Biodiversity Conservation Alliance, Sierra Club, and The Wilderness

Society, protested BLM's Final Environmental Impact Statement and proposed management plan for the Jack Morrow Hills area. The plan, while reflecting the success of our unprecedented advocacy with some positive provisions, would still allow a rush to drill oil and gas wells that would be extremely harmful to big game, sage grouse, and many other resources. Approximately 60 percent of the study area—349,250 acres—has "no wildlife protections."

Additionally, the plan does not allow the BLM to either maintain lease suspensions currently in effect nor to aggressively seek to buyout or trade existing leases. Thus, since much of the area is already leased—230,693 acres out of the 622,430 acre planning area—many of its unique historical, archeological, scenic, and wildlife values would not be adequately protected. We hope BLM will carefully consider our protest and modify its proposed plan, but if it fails to do so, litigation may be necessary to protect this incredible area. *Contact: Tova Woyciechowicz*

Television coverage for the Red Desert and Great Divide. Just as the Jack Morrow Hills EIS hit the streets and the formal protest began, WOC's Red Desert news package hit the prime-time. All three of Wyoming's major television networks aired our eight-part series on the Red Desert, which was co-produced by WOC's director of communications, Leslie Gaines, and news anchor Greg Fladager of KGWC-TV (CBS) in Casper.

The program covered a wide range of topics including pre-history, history, and geology of the Red Desert. WOC's former executive director, Dan Heilig, was shown discussing the reasons conservationists are protesting parts of the Jack Morrow Hills EIS. Additionally, the Casper Star-Tribune ran a front-page story highlighting the series, thereby providing an extra dose of coverage for Red Desert issues. Footage from the Red Desert series and from an Adobe Town film shoot, which also took place this summer, were used in a late August national broadcast by Bill Moyers' NOW on PBS. Contact: Tova Woyciechowicz

Western Governors Resolve to Increase Use of **SUSTAINABLE ENERGY**

By Leslie Gaines

"The answer, my friend, is blowing in the wind The answer is blowing in the wind" Bob Dylan

Coalition of governors from the western United States are hoping that the lyrics to the famous Bob Dylan song may ring true over the next several decades.

In late June, the Western Governors' Association (WGA) announced that it is working collaboratively to ensure adequate energy supplies and electricity for the region in the future. Much of this energy will come from renewable sources—solar, wind, geothermal, even improved efficiency—if the governors have their way. With its Clean Energy Initiative, the WGA set a goal of 30,000 megawatts of clean energy by 2015, and a 20 percent improvement in energy efficiency by 2020.

"The time has come to effectively increase the use of the West's vast renewable resources while we create cleaner technologies for using coal and other traditional resources," said New Mexico Governor Bill Richardson, the outgoing Chairman of the Western Governors' Association and the leader of the Clean Energy Initiative with California Governor Arnold Schwarzenegger.

Time to shift our energy focus

Scott Kane, a WOC board member and the owner of Creative Energies, a Lander-based designer of sustainable energy systems, was enthusiastic about the WGA's resolution.

"Now, with fossil fuels costing more than at any point in history, is an excellent time for an increased examination of how we use energy. Both utility-scale wind power and small-scale solar power have recently made great gains in cost effectiveness and dependability," he said.

"Efficiency also needs to be the headline topic in this discussion," he continued. "All forms of power generation—including renewable sources—have their environmental costs. There is one way to fulfill our power requirements that actually improves the environment—efficiency."

Wyoming's governor, Dave Freudenthal, has also expressed support for the resolution.

"Western governors recognize that both traditional and non-traditional resources will play an important role in meeting the energy needs of the West," Freudenthal said.

"This region has a unique opportunity to develop clean energy to fuel our growing economy," said Gov. Richardson. "We have an enormous potential to improve the efficiency of energy use. The West also has the highest quality solar, wind, and geothermal resources in the nation, and this clean-energy initiative will determine the steps needed to take advantage of this unique opportunity."

According to the WGA, the Clean Energy Initiative will stress incentive-based, non-mandatory approaches that will help states



achieve their clean and diversified energy goals, and will consider federal programs that could assist in the development of clean and diversified energy in the West. A WGA working group is being formed to explore these goals and come up with a plan for implementing the resolution. The working group will have balanced representation that includes state, local and Native American leaders; environmental organizations; state and tribal air quality agencies; the private sector; federal agencies; and representatives from Mexico and Canada.

Blending the "new" energy with the old

Assistant Bureau of Land Management Secretary Rebecca Watson says energy production, a healthy environment and a vibrant economy go hand-in-hand. Just a few weeks ago, Watson told the Southwest Renewable Energy Conference convening in Flagstaff, Ariz. that America must diversify its energy *continued on next page*

SUSTAINABLE ENERGY continued from page 19

portfolio by encouraging the use of renewable energy sources.

Watson said that public lands managed by the Interior Department have a significant role to play in the development of domestic renewable energy resources. More than 260 million acres of land, primarily in the West, are managed by the Interior Department's Bureau of Land Management. The BLM is charged with managing the public lands for multiple uses, including energy development.

"Our review and assessment of renewable energy sources indicates that public lands managed by the Department of Interior have the potential to contribute greatly to the U.S. renewable energy supply," said Watson. "We must work together to build a new harmony between our energy needs and our environmental concerns," Watson said.

Importance of renewable energy growing

Although the United States has only about 5 percent of the world's population, Americans use 25 percent of the world's energy to produce about 25 percent of the world's Gross Domestic Product. Currently renewable energy supplies only two percent of the nation's energy needs, but the growth in the U.S. renewable energy generation over the past decade has been impressive—increasing approximately 30 percent since 1990. This trend is expected to continue.

"There are already many thousands of solar panels around Wyoming powering road signs, remote homes, water wells and electric fences. There are also an increasing number of homes with utility grid-tied solar power systems. These all serve to reduce our overall need for power from the grid. The state could take a more active role in advocating the widespread use of these systems," Creative Energies' Kane said.

"IT IS CLEAR THAT THIS SUSTAINABLE ENERGY INITIATIVE WILL REQUIRE SOME DEDICATION ON THE PART OF THE STATES INVOLVED. IT WILL REQUIRE AT LEAST A DECADE OF DEPENDABLE SUBSIDIES TO CAUSE A SHIFT IN OUR POWER GENERATION AND TRANSMISSION SYSTEM," KANE SAYS.

But some conservationists are skeptical about the BLM's commitment to these lofty goals. They think the BLM policies and management of public lands focus too much on only one use: the rush to drill and develop public lands without regard to wildlife and habitat, solitude and viewscapes unimpeded by drilling rigs, pump jacks, compressors and roads. These individuals, as well as organizations like WOC, are cautiously optimistic that the WGA resolution can bring some pressure on the BLM to do more than pay lip service to the development of renewable energy resources.

Wyoming outfitter and goat-packer, Charlie Wilson, said the future of his business may depend on finding clean, renewable alternatives for the nation's energy needs. His business is threatened by pending oil and gas development in the Red Desert.

"For Wind River Pack Goats, the Red Desert represents about three months of operating time that we wouldn't otherwise have, in an area that's spectacular and pristine, which is what our clientele demands," Wilson said. "The big impact of oil and gas exploration for our kind of business is in the visual impacts, and a management plan that very much promotes oil drilling and gas development would make me very sad."

THE WGA SET A GOAL OF 30,000 MEGAWATTS OF CLEAN ENERGY BY 2015, AND A 20 PERCENT IMPROVEMENT IN ENERGY EFFICIENCY BY 2020. "If Wyoming is to be the "energy breadbasket" of the United States, we need to make sure that our energy-export portfolio includes a high percentage of renewably sourced power. An energy-export economy designed as much around wind and solar power as oil and gas will dramatically reduce our exposure to boom and bust cycles and will require a more consistent work force.

"It is clear that this sustainable energy initiative will require some dedication on the part of the states involved. It will require at least a decade of dependable subsidies to cause a shift in our power generation and transmission system," Kane added.

The Western Governors' Association's Clean Energy Initiative's commitment to produce 30,000 megawatts of clean energy by 2020 will meet 15 percent of the current demand in the region. More traditional energy sources and improved efficiency are expected to meet the rest.

The Clean Energy Initiative has given the western states an official position that could turn citizens who support alternative energy sources into more than just dreamers whose ideas on sustainability have for decades blown idly into the wind. **

Resources:

"A Balanced Energy Plan for the Interior West", produced by Western Resource Advocates, www.westernresourceadvocates.org, 303-444-1188 A copy of the Western Governors' Association resolution is available on the Web at www.westgov.org.

Department of Interior, Office of the Secretary, Contact: John Wright, 202-208-6416

For more information about the Interior Department's renewable energy initiative go to www.doi.gov.

Farewell to Two Desert Lions

By Mac Blewer

ac, you should come over here and see this," Jane Dustin spoke in a near whisper as she beckoned with one hand for me to follow her through the glowing aspens. "This is always our favorite time of day here." We walked out of the grove of aspens and limber pine in which we were camped in and sat down next to her husband, Tom. (See Summer Frontline 2003.) It was their fiftieth wedding anniversary. Tom turned briefly and smiled before redirecting his gaze towards the mountain and the Tri-Territory road snaking its way in the vastness of the Red Desert. As we watched in silence the dark volcanic rocks of Steamboat Mountain surreptitiously began to change hues, first gold, than orange and than crimson. We were not alone. Violetgreen swallows chattered as they dove through the air above us, a lone night hawk circled overhead contemplating making a kamikaze swoop, and a few coyotes yipped in the next draw. Without warning, a great horned owl, who had been sitting motionless on a ridge behind us, swooped down, narrowly missing a bat.

"Yes, this is truly God's Country," Tom intoned. "No holier land exists. God, I do love it so." Jane nodded in tacit approval. We continued to watch the colors change for a good thirty minutes before relocating to our places around the campfire where we discussed the importance of citizen activism, the love that we had for the Red Desert and the need to keep fighting for it, no matter the cost.

The memory of that weekend on a magic desert mountain many years ago with the Dustins is firmly etched in my mind.

However, sadly, neither one of them is still with us. In mid July, just seven months after his wife, Jane, unexpectedly passed away, Tom also died peacefully in his home in Huntertown, Indiana. Tom was 80 years old, Jane was 74. Long-time supporters of the Wyoming Outdoor Council and the environment, their loss is already being felt by many.

Says former WOC Director Dan Heilig, "We'll miss them. They were dear friends and allies who fought hard to protect the best of Wyoming. They inspired us and challenged us and excited us to do what was right, not only through their words but through their example. People will always remember them for their efforts in Wyoming and Indiana and elsewhere."

Since the 1950s, Tom and Jane had been staunch advocates for Wyoming wild lands, ever since they started visiting the Red Desert, the Winds and the Yellowstone area.

Their son, John Dustin, of Whitefish, Montana fondly remembers family camping trips to Wyoming with his parents and sister, Mary. "I remember Dad saying that there was no place on Earth where there was the chance to find such solitude as in the middle of the Red Desert, and I believe that to be true. It was an adventure at every turn. Wyoming had new things and new places everywhere. From looking for packrat nests in the desert to building campfires to canoeing and fishing in the Green River Lakes and



being self sufficient, it was incredible."

The desert was also a place that deserved respect. After taking a day trip in the family's old War War II jeep into the Boar's Tusk area, an oil line broke in the vehicle. Says John, "Fortunately, dad has some tools and some bailing wire and fixed it. But being out in the middle of nowhere it gave me the impression as a ten-year-old that it was the kind of place that could eat you alive."

Tom and Jane fought hard for the Red Desert right until the end, mobilizing grassroots opposition to both Jack Morrow Hills plans within Indiana through the Indiana Division of the Izaak Walton League of America and the numerous other conservation groups that they held leadership roles with as volunteers. But besides advocating for Wyoming's wild places, and mobilizing opposition to the Administration's renewed efforts to drill the Arctic National Wildlife Refuge, the Dustins were renowned in their home state of Indiana for any number of conservation initiatives over the last half century.

Due to the Dustins' combined efforts with "equally radicalized colleagues" (as Tom often said), Congressional legislation was passed in 1966 to protect in perpetuity a large portion of the Indiana Dunes and Lake Michigan shore as Indiana Dunes National Lakeshore. Later, this dynamic couple fought successfully for a ban on phosphates being used in laundry detergents in Indiana, lobbied for increased protections for many of the state's streams and waterways, successfully fought clearcutting in Hoosier National Forest and helped found Acres, Inc. Northeast Indiana Natural Area Preservation Land Trust, an organization that has successfully conserved wildlife habitat throughout much of the state through the establishment of 45 nature preserves.

John remembers the late nights that the family spent preparing mass mailings for the various campaigns that they were involved in. "You have no idea how many envelopes we stuffed," says John. "Us kids, mom and dad and our friends, we'd set out a dozen card tables with people at every station and we'd get the mailings done. Later when we went to bed, we could still hear *continued on next page*

"The commitment that they had to the issues was almost supernatural. I wish that everyone in the world could have such commitment."

- John Dustin, son of Tom and Jane Dustin

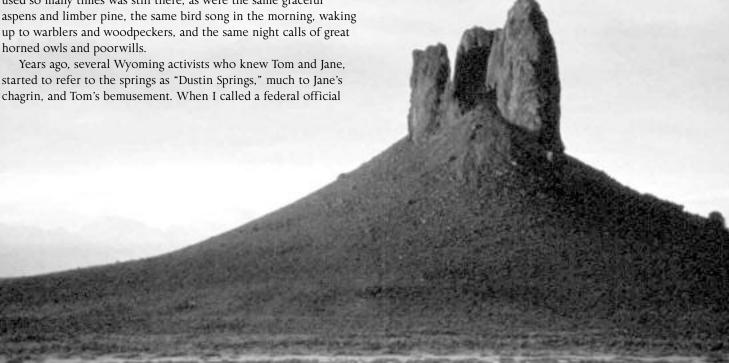
THE DUSTINS continued from p.21 the tapping and clanging of that old Remington typewriter, as dad would write press releases or editorials to the local papers."

An old friend of the Dustins and a fellow conservation advocate, Herb Read of Chesterton, Indiana, worked closely with them for several decades on the highly successful Indiana Dunes protection campaign and other conservation issues. Remembering the beginning stages of the campaign in the early 1960s, Read recalls, "The developers and some of the politicians thought that by ignoring us, we'd go away. But we didn't go away. We were trench fighters. Tom Dustin made sure we didn't go away. He would sit down at that typewriter and type out a missive that would surely grab the eye of all of the editors. He simply kept going. He kept going until the end...And Jane, we miss her absolute tenacity and incredible intelligence and steel-trap mind...They have made Indiana better. They made America better."

Standing back at Tom and Jane's old campsite on Steamboat a few weeks ago, I missed my friends. My friends who made America better. And gave us hope in Wyoming. The spring that Tom and Jane used so many times was still there, as were the same graceful aspens and limber pine, the same bird song in the morning, waking up to warblers and woodpeckers, and the same night calls of great

horned owls and poorwills. started to refer to the springs as "Dustin Springs," much to Jane's about the process of officially naming this unnamed spring after this "historic" Indiana couple, I was somewhat testily told that the figures "must truly be historic." Tom roared with laughter when I told him about my encounter. Regardless of any official naming processes or the validity of their "historic qualities," it will always be Dustin Springs to me and to many others.

Tom and Jane Dustin will be remembered for myriad reasons, including their inspiration of so many involved with the Red Desert protection campaign and efforts to protect other wild lands in throughout America. Whether the issues were Indiana water quality, the protection of national monuments in Utah or a faulty national energy policy, the Dustins were charismatic organizers, rabble rousers and deeply knowledgeable conservation advocates. Nearly everyone who knew them could not help notice their passion, their dedication, their keen intelligence and their unflagging optimism. A goodbye to two desert lions and mentors who fought with uncanny grace and great spirit. We do love you and miss you. 🏲



Welcome Scott Kane

Lander businessman joins WOC board of directors



ander resident and small-business owner, Scott Kane joined the WOC board of directors at our September board meeting. Scott has been a volunteer for WOC for a decade, playing an active role in a variety of activities, especially WOC's annual Ride the Red and Ski the Loop bike and ski outings.

"In 1980, the summer I turned seventeen, I rode a Greyhound bus from my native New Jersey out to Wyoming to take a NOLS (National

Outdoor Leadership School) course in the Wind River Range. My view of the world has never been the same," Scott says.

"Once I knew that places like this existed I couldn't live anywhere else. Years later though, I learned there is no guarantee that landscapes like the Wind Rivers and the Red Desert will remain the pristine wild country that I love. That is why I am committed to WOC's work."

After ten years of leading wilderness expeditions for NOLS in Wyoming, Alaska and Latin America, Scott redirected his environmental commitment to the advancement of renewable energy in Wyoming. He and a partner founded Creative Energies, a Lander-based company which designs and installs solar and wind power systems for homes, ranches and businesses around the state. Creative Energies is the most active full-service renewable energy business in Wyoming and directs five percent of its profits to public education on renewable energy.

Scott says he believes that Wyoming's energy economy can and must feature renewable energy as prominently as it does oil, natural gas and coal. He hopes that through his work as a trustee he can help WOC guide our state toward a sustainable energy economy.

"In its transition from conventional fuels to renewable energy, Wyoming needs to set goals and create incentives to move us from our extractive status quo. I think WOC can play a key role in this process. When the rush to extract fossil fuels subsides because of a shift to renewables, we will find that WOC's work in a host of different areas will suddenly become easier," Scott says.

Scott finds time beyond his duties as father, husband and business owner to travel many miles of Wyoming's trails each year. An avid cross-country skier and trail runner, he competes in long-distance races including 50 mile ultra-marathons.

"Skiing and trail running are great ways to immerse yourself in the backcountry where there is not another soul to be seen and only the cadence of your feet to be heard," he says.

WOC welcomes Scott to the board. **

Head East, young man



ac Blewer, WOC'S Outreach Coordinator and leading Red Desert rat, has packed his bags, but only his bags. He headed to Washington, D.C. in early August to continue his work on behalf of the Red Desert and America's public lands. But his heart remains in Wyoming and he promises he'll return once his mission is accomplished.

Mac accepted a position as the public lands legislative representative for the National Wildlife Federation in Washington. He's excited about the new challenge and eager to try to make a difference for the environment on a national scale, although he admits he's a bit wary about the move to the city.

"I was out on White Mountain in the Red Desert earlier this summer looking out at the Boar's Tusk and the Sands and I thought, am I crazy?" Mac muses. "But I'll be back. Wyoming is still my home.

"It has been a rewarding six years here at WOC and I have been incredibly proud to work with such great folks," he adds. "Thank you all for the experience and for the opportunity. I will always be grateful for the time that I have spent working for such a gutsy, effective, hard-hitting grassroots group. It has also been a true privilege getting to know an amazing land-scape. Goodness knows, Wyoming and the West need WOC and all of you here."

During his time at WOC, Mac helped bring the magic of the Red Desert to an increasingly wide and diverse audience. Just this past June, he worked with representatives of the United Steelworkers Union in Rock Springs to come up with a position statement advocating conservation in the Jack Morrow Hills. Mac also played a key role in packing in the pro-conservation crowds at public meetings on the Red Desert with his constant email alerts and friendly phone calls. His tenacity and fearless willingness to be controversial have been important tools in WOC's fight to protect the Red Desert.

WOC will miss Mac's dedication and devotion to his adopted homeland and looks forward to seeing him back in the area when the summer humidity and the daily traffic of Washington drive him back to Wyoming's wide open spaces.

"We will miss Mac's passion for engaging the public in dialogue, seeking out and appreciating different perspectives, building strong and diverse coalitions, and his relentless and contagious commitment to Red Desert protection efforts. But we know he will not be able to stay away from the Red Desert for long," says former executive director Dan Heilig.

Thanks, Mac, and good luck. **

No Sad Faces Here



ell, the time finally came for people to officially say goodbye to WOC's executive director, Dan Heilig. On August 28, we gathered at the Twin Creek Ranch and Lodge outside of Lander for Dan's going away party. The day was filled with fine food, great company, trap shooting, and a roast of Dan. There were funny stories, many laughs, and lots of people wishing Dan well on his next journey. We will miss you Dan,









Clockwise, starting far left: Ann MacKinnon, Steve Jones, Bernie Barlow, Tom Bell, Patricia Dowd, Larry Berger, Mac Blewer, Laurie Goodman, Dan Heilig.

Many thanks to Twin Creek Ranch and Lodge and Tony and Andrea Malmberg.



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