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Air Quality in the Era of Mega Fields

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LaBarge, Wyoming

Smog Is Already Here, And More Mega Oil and Gas Fields Are On the Way

BY CHRIS MERRILL, COMMUNICATIONS DIRECTOR



On September 2, 2011, President Barack Obama announced that he had instructed the Environmental Protection Agency to abandon its plan to update and

strengthen air-quality rules related to ozone pollution, better known as smog.

Exposure to ground-level ozone, even at relatively low concentrations, can cause permanent damage to the lungs.

The EPA's own expert advisory council of air quality scientists and medical professionals had recommended the changes, for at least the fifth time, because the current federal standards are not good enough to protect the public health.

The EPA's experts unanimously agree on this point, as well as the American Lung Association, American Thoracic Society, American Academy of Pediatrics, American Public Health Association, American Heart Association, and American Medical Association.

The day Mr. Obama made the announcement, the New York Times reported that his decision came "after an

intense lobbying campaign by industry, which said the new rule would cost billions of dollars and hundreds of thousands of jobs."

The American Lung Association and others have since sued the Obama administration for, as the ALA put it in a media release in October, "rejecting stronger ozone smog standards that scientists say are needed to save lives and prevent thousands of hospital visits."

It's a decision that has very real implications for the citizens of Wyoming, our health, and our quality of life.

And as the shale gas (and shale oil) revolution promises to bring yet another drilling boom to Wyoming—a proposed 25,000 new gas wells in western Wyoming alone in just the next few years—it's going to be an enormous task to try to protect air quality and the people of Wyoming. The eight "mega fields" described below, for example, will pose big challenges for those working to protect Wyoming's air quality.

If state and federal regulators don't start taking an effective, big-picture approach to air quality protections in Wyoming—and fast—we could witness a precipitous degradation of the air we breathe.

Clean air in Wyoming has perhaps been taken for granted over the years. But, as unbelievable as it may seem, in the second decade of the 21st century, Wyoming is facing a smog problem.

Lax environmental regulations might make some industries more profitable but they cost the American people a great deal in terms of added medical expenses, increased medical insurance premiums, lost days at work, shorter, sicker lifespans, and shorter, sicker lifespans for loved ones and dependents.



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LaBarge, Wyoming

'It's not enough just to have jobs'

The EPA's professional air quality advisory panel has asserted for more than half a decade now that the federal standards for ozone allow for dangerous levels of pollution—levels that harm people, especially children, the elderly, and those with asthma and other respiratory ailments.

This under-regulation adds significantly to the cost of health care for families and the nation, according to America's leading health advocacy groups.

"This decision is distressing," said the Wyoming Outdoor Council's Bruce Pendery, the day Mr. Obama made his announcement.

The Wyoming Outdoor Council has worked for years, along with citizens in the Pinedale area, to raise awareness about dangerous levels of ozone pollution there, and about the need to strengthen protections for the people who live and work in the area.

"You'll hear people try to make the argument that these regulations will hurt the economy and cost jobs, etc." Pendery said. "Industry lobbyists have made these same arguments about every commonsense pollution control since the Nixon administration—and the sky has never fallen

like they claimed it would. And we've all benefited from cleaner air and water.

"But more importantly, and our members remind us of this all the time, it's not enough just to have jobs," he said. "We also have to make sure those workers, their families, and their communities are safe and are not being harmed by the industrial development."

On the day of the announcement, medical professionals had similar reactions.

"For two years the administration dragged its feet by delaying its decision, unnecessarily putting lives at risk," said Charles D. Connor, president and CEO of the American Lung Association. "Its final decision not to enact a more protective ozone health standard is jeopardizing the health of millions of Americans, which is inexcusable."

This reaction from America's most respected medical organizations is telling. It belies many of the currently popular claims—often repeated by Wyoming's own congressional delegation—about how environmental regulations cost too much and cost jobs.

The fact is, the lack of appropriate environmental protections costs the nation even more. Scientists with the EPA released a draft research report in March of

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Wyoming Outdoor Council

Established in 1967, the Wyoming Outdoor Council is the state's oldest statewide conservation organization. Our mission is to protect Wyoming's environment and quality of life for future generations.

For more information contact:

Wyoming Outdoor Council
262 Lincoln St., Lander, WY 82520
or
121 East Grand Avenue, Suite 200
Laramie, WY 82070

wyomingoutdoorcouncil.org

307-332-7031 (phone), 307-332-6899 (fax)
info@wyomingoutdoorcouncil.org

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2011 that indicates that short-term spikes in ground-level ozone can cause premature death, and long-term exposure could lead to more health problems and shortened life spans.

Lax environmental regulations might make some industries more profitable in the short term, but they cost the American people a great deal in terms of added medical expenses, increased medical insurance premiums, lost days at work, shorter, sicker lifespans for many citizens, and shorter, sicker lifespans for many loved ones and dependents.

In Wyoming, ozone has so far been the most obvious pollution fallout from the rise in mega field development. But, among other things, this large-scale drilling is also contributing to regional haze and is leading to the deposition of nitrogen compounds in Wyoming's national forests and wilderness areas, all of which is raising concerns about lake acidification and what's called "ecosystem fertilization" (which might sound promising to some but is truly damaging to these ecosystems).

"We don't only have an ozone problem in western Wyoming, we have an air pollution problem," Pendery said when interviewed for this story.

More careful regulation and better planning of oil and gas development can begin to address all of these issues.

Smog in Rural America

Folks who live in the small mountain towns of Pinedale and Boulder, Wyoming have had to deal with dangerous wintertime ozone spikes since at least 2008.

Former Governor Dave Freudenthal—in a belated attempt to bring some relief to residents—requested toward the end of his second term that the EPA declare Sublette County to be out of compliance with the current, albeit weak, federal standard.

The pollution has been dangerous enough that residents in and around Pinedale and Boulder have been warned by state officials repeatedly to stay indoors on numerous days in three out of the past four winters.

This hard-to-believe story has gone national. Major news outlets—including the *New York Times*, *Los Angeles Times*, *NPR*, and *PBS*—have reported from the tiny rural towns in Wyoming's Upper Green River Valley about how these places, once with pristine air, now have big-city-like smog.

The Wyoming Department of Environmental Quality has recorded ozone spikes in Boulder, Wyoming, that have been more dangerous than the worst days in Los Angeles.

These extraordinary ozone spikes happen in the Upper Green because of pollution from the nearby mega gas fields: the Jonah Field, the Pinedale Anticline, and the Big Piney-LaBarge fields.

Some Wyoming officials and industry representatives continue to suggest that the source of the pollution is at least partly unknown, and that some of the pollution in Pinedale might be coming from Salt Lake City. This is simply wrong. The Wyoming Department of Environmental Quality has determined, unequivocally, that the drilling and related activities in the mega fields have caused the ozone problem.

Poorly Paced Development

In the most basic sense, the pollution in the Upper Green River Valley has been created by the incredible amount of activity in the existing natural gas fields there: the drilling rigs, motors, pumps, diesel engines, natural gas engines, trucks, gas flares, leaking pipes, leaking fixtures, hydraulic fracturing fluids, and evaporation of other chemicals used in the fields.

These pollutants—which include volatile organic compounds and nitrogen oxides—float in the air, interact with the sunlight, and this interaction changes them into poisonous ozone and smog.

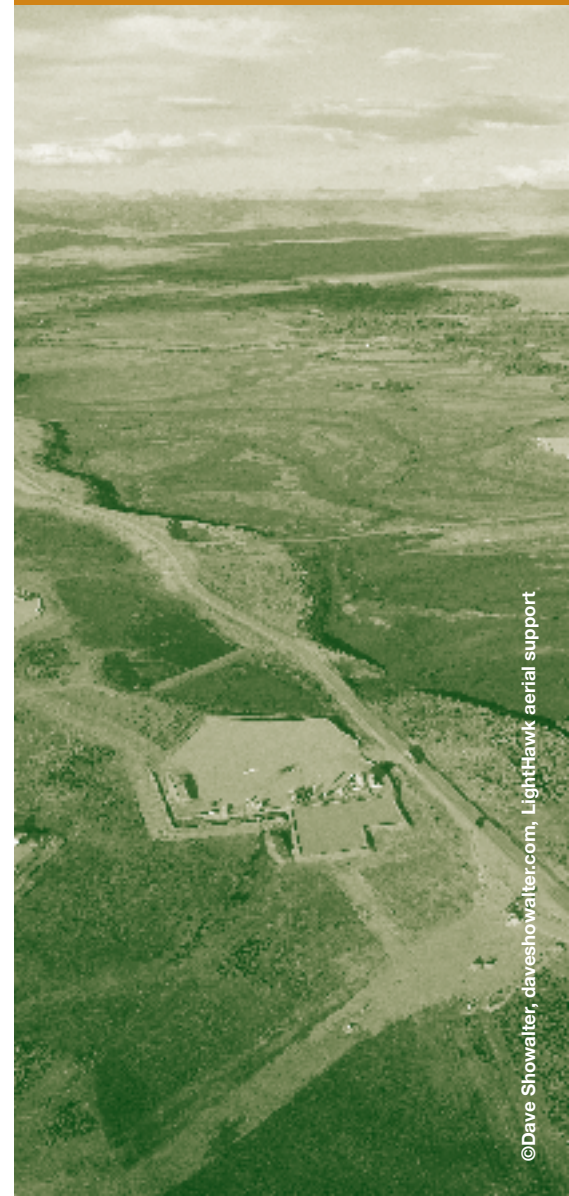
Better pacing, or phased development, as well as other controls, could help solve this smog problem. Rather than drilling the entirety of a field as fast as possible, as has been the norm in Wyoming, companies could be required to drill a field in phases to make sure they're not making nearby residents sick.

In the Pinedale area the smog has been forming in the winter when there has been snow cover throughout the valley. The snow reflects the sunlight back up, so the light has two chances (once on the way down and once on the way back up) to chemically react with the pollution from the gas fields and create ozone.

When the valley gets a temperature inversion, which is common in the winter (a cold air mass sits atop a relatively warmer air mass and squishes it downward), this concentrates the pollution closer to the

"It's not enough just to have jobs. We also have to make sure those workers, their families, and their communities are safe and are not being harmed by the industrial development."

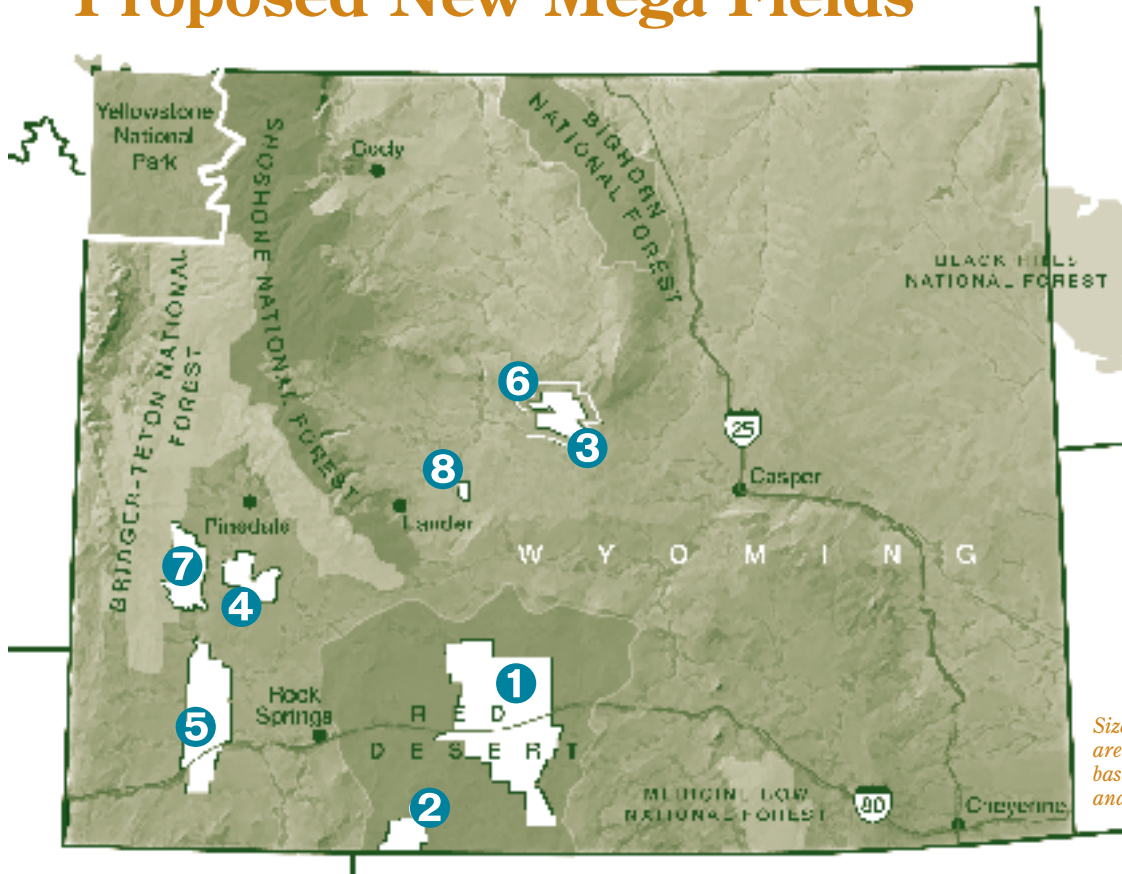
—Bruce Pendery



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Proposed New Mega Fields



If this coming development isn't done carefully—and if it isn't paced correctly—it could exacerbate the ozone problems in the Upper Green River Valley. It could also lead to unhealthy air in other parts of the state.

Size of the fields are estimates based on BLM and industry data.

In addition to existing fields, such as the Jonah and the Pinedale Anticline, there are a number of new mega fields currently being reviewed for approval.

Below is a description of some of the new major drilling projects in various stages of analysis at the Wyoming Bureau of Land Management. More than 25,000 new wells are proposed in western Wyoming.

If this coming development isn't done carefully—and if it isn't paced correctly—it could, of course, exacerbate the ozone problems in the Upper Green River Valley. But it could also lead to unhealthy air in other parts of the state.

1 Continental Divide-Creston Project

Number of wells: 8,950
Type of field: Natural gas
Where: Wamsutter area, straddling Interstate 80
Size: 1.1 million acres
BLM Contact: Eldon Allison, Rawlins Field Office (307) 328-4267

2 Hiawatha Project

Number of wells: 4,208
Type of field: Natural gas
Where: South of Rock Springs, straddling the Wyoming-Colorado border
Size: 157,361 acres
BLM contact: James Speck, Rock Springs Field Office (307) 352-0358

3 Moneta Divide Field

Number of wells: 4,200 (estimate)
Type of field: Natural gas
Where: Between Riverton and Casper, reportedly it will be in roughly the same place as the Gun Barrel, Madden Deep, and Iron Horse project (details below), but it would reportedly involve drilling into a different formation
Size: Unknown
BLM contact: Chris Krassin, Lander Field Office (307) 332-8452

4 Normally Pressured Lance Project (Son of Jonah)

Number of wells: 3,500
Type of field: Natural gas
Where: Directly adjacent to the Jonah field in Sublette County
Size: 141,000 acres (this would more than quadruple the size of the existing Jonah field)
BLM Contact: Kellie Roadifer, Pinedale Field Office (307) 367-5309

5 Moxa Arch Infill

Number of wells: 1,861 new wells (1,400 wells have already been authorized)
Type of field: Natural gas
Where: Kemmerer area, west of Green River, bisected by Interstate 80
Size: 475,808 acres
BLM contact: Michele Easley, Kemmerer Field Office (307) 828-4503

6 Gun Barrel, Madden Deep, Iron Horse

Number of wells: 1,470 (130 new wells annually for 10 to 15 years)
Type of field: Natural gas
Where: Between Riverton and Casper
Size: 146,000 acres
BLM contact: Chris Krassin, Lander Field Office (307) 332-8452

7 LaBarge Platform Infill

Number of wells: 838 wells from 463 pads
Type of field: Natural gas
Where: Straddling the Green River North of the Fontenelle Reservoir
Size: 218,000 acres
BLM contact: Lauren McKeever, Pinedale Field Office (307) 367-5352

8 Beaver Creek

Number of wells: 208 coal-bed methane on 40-acre spacing, and 20 conventional natural gas.
Type of field: Coalbed methane
Where: Nine miles south of Riverton
Size: 16,518 acres
BLM contact: Curtis Bryan, Lander Field Office (307) 332-8415

For more information, please contact Bruce Pendery at bruce@wyomingoutdoorcouncil.org

“We’re currently living with a system that relies largely on voluntary compliance by operators in the oil and gas fields. A designation of non-attainment would give regulators some teeth to actually take a bite out of the problem.”

—Bruce Pendery

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ground and holds it in the valley, where the residents live and breathe.

In 2009, the Outdoor Council—representing a local group called Citizens United for Responsible Energy Development—petitioned the state Environmental Quality Council to set a new ozone standard for Sublette County that is better than the federal standard, one strong enough to protect the public health.

The Environmental Quality Council denied this petition, but we still consider it an important step toward a necessary end: getting regulators to set the right target for protecting people. This is a fight we believe we’ll eventually win.

How to Make Things Right

The Outdoor Council has learned the hard way that federal smog standards indeed matter to the people of Wyoming. This is why the Council continues to engage in this issue year after year. We’re hoping our tenacity will pay off.

One of the Outdoor Council’s goals now is to lay the groundwork necessary to help convince the EPA to adopt a responsible standard in 2013, when the agency is required to reassess the regulations.

For those interested in the technical details, we’re advocating a new primary standard of 60-65 parts per billion for ozone in order to protect the public health. The existing, inadequate, standard is 75 ppb.

On a parallel track, the Council is working to get the EPA to follow through on our request, and Mr. Freudenthal’s request, that the federal government designate the

Sublette County area in nonattainment with the existing standard. We hope to see such an official designation announced in the spring of 2012.

Why push for this designation if the current standard is bad? Because such a formal designation, once in place, would still have major implications for air pollution control in Sublette County.


It would give the Department of Environmental Quality, the BLM, and the EPA the leverage necessary to require, cajole, and persuade operators to adopt better practices that will lead to significant improvements in the nearby mega fields, and right away.

“We’re currently living with a system that relies largely on voluntary compliance by operators in the oil and gas fields,” Pendery said. “A designation of nonattainment would give regulators some teeth to actually take a bite out of the problem.”

The state of Wyoming, for example, could require that all operators use natural gas-fired drilling rigs (or better) in all current and future development. The regulatory agencies could also perform more frequent, unannounced inspections of the field operations. And the companies could be required to more quickly find and fix the leaks and the seepage that lead to a significant amount of the smog-causing pollutants currently floating in the air. They could also be required to minimize vehicle emissions.

A nonattainment designation would also give the Wyoming Outdoor Council some much-needed leverage to push the regulatory agencies to stand up to these very powerful energy companies, in the name of protecting the people living and working in and around Pinedale.

With forward-looking leadership by the state of Wyoming and strong air quality enforcement by the regulatory agencies, Wyoming’s smog problems could be fixed.

Fixing the smog problem would not only be good for the health of the people of Pinedale, but it would also save the huge costs (social, medical, political, and economic) that are always incurred when a nation allows industries to make its citizens sick. 



A note from Bruce Pendery

Our efforts to address the ozone and smog problems in the Upper Green River Valley are by no means the extent of our efforts to ensure that air pollution from the mega projects are kept in check.

We are also heavily engaged in the EPA’s efforts to regulate regional haze. The agency is expected to release its proposal in April. We’re also working to improve the EPA’s proposed new general regulations for the control of air pollution from the oil and gas industry. We recently submitted scientifically based, legally persuasive comments on this proposal. We’re also continuing our efforts to help the Forest Service consider and work to mitigate the potential problems caused by the deposition of air pollutants in the Wilderness Areas it manages.

—Bruce Pendery

Message from the Director

LAURIE MILFORD, EXECUTIVE DIRECTOR

Making History, One Detail at a Time



I've been learning some about my uncle recently. I've written about him in this column before: Donald Milford, my father's brother.

He served in the field artillery of the U.S. Army during World War II after graduating from Iowa State University. He came home to farm and then had a long career as an agricultural engineer in the Soil Conservation Service, working in the Lincoln, Nebraska regional office.

After Thanksgiving, I was visiting with my Aunt Jean about the Civil War-era McClellan mule saddle that had been used by the Milfords since my great grandfather acquired it and modified it for farm work. I had recently hired the Boardwalk saddlery in Laramie to restore the sorry thing. Restoring antiques churns up memories, and that, for me, ends up being as valuable as the restored thing itself. Thus Aunt Jean told me some details about life at the Milford farm just as she entered the picture when she and Donald were both in high school. I hadn't known, for instance, that the Milford horse of that era was named Tony and that he was a Morgan. And that 15 years later, when my dad brought his fiancé, my mom, to the farm, Tony would be saddled for Mom to ride.

These are the details that add up to history.

And it's the equivalent kinds of details that I worry will be soured as the nation goes to ever greater risk to develop energy, seemingly exposing those who live rurally more than those who live in urban areas (although urban gas development is on the rise). I do think shale gas and oil can be developed "well," that is, carefully and with good risk management. (Further, I'm convinced we don't have a choice but to develop at least some deep shale.) But everyone—government, landowners, consumers, and industry (including shareholders)

needs to acknowledge that there are risks, and those risks should be managed with appropriate regulations.

I try to imagine the details a granddaughter of Pavillion, Wyoming farmers will glean from her forebears in 60 years. Will she have the same nostalgia for rural life that I do? I can only imagine that among these families, in another generation or two, aunts will be telling nieces about the time the EPA found high levels of methane, cancer-causing benzene, diesel- and gasoline-range compounds, and at least one chemical used in hydraulic fracturing in the aquifer. I trust she'll hear some of the sweeter details of rural life, too.

That day over tea, Aunt Jean showed me the stack of Christmas letters she had written over 40 years of married life. Threads run throughout the correspondence: snow storms, graduations, weddings, the struggling rural economy, vacations here and abroad (Jean recommends "seeing America first.") In 1987, she reminds me, Nebraska elected its first woman governor. In some of the letters, Jean remarks on Donald's work at the Soil Conservation Service:

"Donald toils at the office with the same old problems turning up, but with a new twist here and there as they strive to cope with pollution and economy and conservation. At least it never gets dull."

That was in 1971. Today, the greater environmental community, including millions of affected users of rural water wells in at least 25 states where deep shale is being developed—and the agency staff working to prevent pollution and convict violators—toils on. And "dull" is one thing this work is not.

Thank you for staying with it. In 2012 the Wyoming Outdoor Council will have worked for 45 years to ensure that some of the sweeter details of our history live on into the future.

Yours,
Laurie

Putting a stop to an illegal shortcut

By Steve Jones, Watershed Protection Program Attorney



The Wyoming Outdoor Council achieved a significant victory for Wyoming's environment when First District Court Judge Thomas

Campbell ruled in November that the Wyoming Department of Environmental Quality's two general pollution permits for entire watersheds are "void."

These two so-called "watershed general permits" were the first of their kind issued by the Wyoming DEQ. The general permits as written were touted as a "streamlining" of the permitting process, but in practice they were lax and permissive and likely to negatively affect the two watersheds they were purporting to protect: the Willow Creek and Pumpkin Creek watersheds in the Powder River Basin.

The DEQ tried to take an ill-advised shortcut to expedite the approval of discharges of coalbed methane water throughout these two watersheds, rather than requiring that companies and the state go through the necessary process of carefully considering and permitting each instance of pollution.

This district court victory was the culmination of more than five years of work by the Outdoor Council. We argued all along that the law requires the issuing of individual permits, which provides citizens and landowners the chance to appeal any individual permits that might affect them. If the DEQ wants to create a new general rule, it must go through the more painstaking rulemaking process.

By attempting to treat these watershed-wide general permits just like smaller individual permits—in effect creating a new rule for entire landscapes under the guise of one simple permit—the DEQ had much greater carte blanche to act without the checks and balances that are built into the normal, and necessarily more careful, rule promulgation process. The DEQ overreached.

Now, the public will be afforded much greater involvement before such permissive regulations can go forward.



wyomingoutdoorcouncil.org

262 Lincoln Street
Lander, WY 82520
(p) 307.332.7031
(f) 307.332.6899

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*Join us to celebrate the Wyoming
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Saturday, June 23, 2012, Lander, Wyoming



Tom Bell convened the first meeting of the Council 45 years ago. The Council's mission to protect Wyoming's environment and quality of life for future generations is as vital today as it was then.

Come and celebrate this extraordinary tradition and the remarkable people who have made it a reality for four-and-a-half decades.

"I never hoped for my kids to be millionaires, but I hoped they would breathe clean air, drink clean water, and experience a state wild enough to foster freedom." —Tom Bell

Be a part of a great tradition by joining or renewing your membership today. wyomingoutdoorcouncil.org

Help us celebrate the Wyoming Outdoor Council's 45th anniversary with a contribution in honor of Tom Bell and the remarkable people who founded the organization in 1967.