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LECTURE



ANTI-DEVELOPMENTALISM IN MONTANA:
THE CULTURAL DIMENSION

by
Michael P. Malone
Dean of Graduate Studies
and Professor of History
Montana State University

June 13, 1986



Montana State University
Bozeman, Montana 59717

Office of the President

Telephone (406) 994-2341

December 23, 1986

Mr. Ivan Doig
17021 - 16th Avenue N.W.
Seattle, WA 98177

Dear Mr. Doig:

For the fourth year, we are pleased to share with you an MSU tradition --- our annual "MSU Honors Lecture."

This year's lecture, delivered by Dr. Michael Malone, the Dean of our Graduate School and a distinguished historian, is especially appropriate.

As Montana and Montanans deal with our severe economic doldrums, it is important that we understand the historical as well as the fiscal roots of our problems. Dr. Malone's lecture entitled, **Anti-Developmentalism In Montana: The Cultural Dimension**, deals with precisely that subject.

We commend it to your reading and to your permanent library along with our best wishes for a New Year that brings with it good health, time for thought and freedom from fear.

Sincerely,

William J. Tietz
President

daj

Enclosures

ANTI-DEVELOPMENTALISM IN MONTANA: THE CULTURAL DIMENSION

by

Michael P. Malone

Dean of Graduate Studies
and Professor of History
Montana State University

Honors Night Program
Montana State University
June 13, 1986

LECTURE IN HONOR OF
THE CENTRAL BOARD

by
J. H. H. H.
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This is the fourth in a published series of annual Montana State University Honors Lectures.

ANTI-DEVELOPMENTALISM IN MONTANA: THE CULTURAL DIMENSION

Montana is widely perceived to be not only one of the least developed of the 50 states, but one of the most hostile to development as well. There are many reasons for this perception. Montana is, in fact, trailing far behind most of its sister states in economic growth; and, no doubt inevitably, this is in large part a direct result of its remoteness, its formidable terrain and its climate. But other factors are also involved, such as the state's perennially strong environmentalist movement and its long history of corporate exploitation.¹

What I would like to address in the following pages is one key wellspring of the Treasure State's anti-developmentalism which, to my knowledge, neither the economists nor anyone else have much reckoned with: the cultural background from which these sentiments arise. Every state has its own cultural personality, its own mindset, each of them at once unique but also a part of broader regional, national and global mosaics. Despite the obvious fact that such localisms are non-quantifiable, they are nonetheless real, and in the real world they have very real results.

One risks more than ridicule in arguing that any singular caste of mind characterizes an entire state, even so small a state as Montana. Still, it has seemed to me, after devoting nearly 20 years to the study of these environs, that an outlook upon life has long spread its aura over Montana, and spreads over it yet today, which might accurately be termed "romantic primitivism." This persuasion, especially its key components—the thought that nature untrammelled is the source of all virtue, that man is virtuous only when he is in close communion with it, and that

"civilization" is questionable if not downright corrupting—is hardly unique to Montana. It underlies the entire "Old West" syndrome; and it has characterized much of American thought and sentiment, and indeed much of Western Civilization over the past 200 years, since the days of Jean-Jacques Rousseau and Lord Byron and the Romantic Movement. In Montana, however, these ideas are still virile and unalloyed, still held by the masses, so that historian Clark Spence is correct in describing Montana as "the most western part of the West."²

These insights are hardly original with me. Take, for an especially entertaining instance, Leslie Fiedler's comments of a generation ago in his essay "Montana; or The End of Jean-Jacques Rousseau." Fiedler, then at the University of Montana, saw the place as the final retreat of the romantic myths of virtuous, unspoiled nature and of the noble savages who dwell therein. There is a thin line between silliness and profundity; and one may discard Fiedler's more bizarre notions, such as his idea that Montanans are somehow obsessed with guilt about Indians, while still savoring the kernel of truth in his depiction of a state wrapped tightly in a cocoon of romantic self-imagery.³

Even a cursory glance at the main contours of Montana's cultural heritage readily reveals, at least to me, the persistence of romantic primitivism, and more subtly, the way in which this romanticism militates against modernization, national mainstreaming, and economic development.

For example, consider the state's prized tradition of fine western art. Who, after all, has had the greatest impact of anyone upon the way we think and feel? Charlie Russell, of course. Is there, anywhere in this state, a long established family whose forebears were not close friends with, constant hosts to, and probably the first financial backers of old Charlie?

Russell's paintings appeal to us not only for their fine craftsmanship, their matchless rendering of colors, landscapes and idealized Indians and cowboys. They truly embody a consistent romantic philosophy, a paean to the pristine and good world we lost when misguided homesteaders turned the prairies upside down and promoters lured in hordes of outlanders. If you doubt this, simply read *Trails Plowed Under*, or such passages from Russell's famed letters as this one:

Bob you wouldnt know the town or the country either it's all grass side down now. Wher once you rode circle and I night wrangled, a gopher couldn't graze now. The boosters say its a better country than it ever was but it looks like hell to me I liked it better when it belonged to God it was sure his country when we knew it.

Can anyone doubt the appeal or universality of this sentiment, or its subtle, braking effect upon developmental strategies of any kind? Of course, the many heirs of Russell, including good artists like Olaf Seltzer and Edgar Paxson and legions of lesser ones, continue to perpetuate the same themes.

Other aspects of Montana culture reflect the same predilections. It would be misguided, I suppose, to take too seriously the sizable corpus of popular culture

surrounding the state. But such popular and unfortunate movies as Erroll Flynn's *They Died With Their Boots On* and *Montana*, Ronald Reagan's *The Cattle Queen of Montana*, Richard Harris's mindless *A Man Called Horse* or Robert Redford's implausible *Jeremiah Johnson* do more than just entertain us. They have the same effect upon us as similar yarns do upon Texans, subliminally reinforcing our self-image as ruggedly independent westerners who are different from other folks. The statewide ubiquitousness of pickups with gunracks in the rear window, cowboy hats and round tins of chewing tobacco featured conspicuously in shirt pockets points in the same direction.

Beyond dispute, this thinly populated state has produced a remarkable body of first-rate literature over the past 40 years. Throughout much if not most of it, for instance the hauntingly beautiful lead story in Norman Maclean's *A River Runs Through It*, runs that mainstream of romanticism, man in communication and harmony with nature. The best frontier fiction of Dorothy Johnson and A.B. Guthrie is arguably realistic, but it is certainly romantic as well. Guthrie's *The Big Sky*, *These Thousand Hills*, *Fair Land*, *Fair Land*, and his other books, too, have their fair share of noble savages and the recurrent theme of man's symbiotic relationship with the land. One reason why *Shane* is the greatest of all western movies is Guthrie's skill in developing to a fine point the classic romantic theme of good and evil in conflict on the frontier. It is hardly a coincidence that Guthrie's is a leading contemporary voice of environmentalism and the questioning of developmentalism. These same themes, of hardy western individualists and the shaping hand of the land, reappear vividly in the works of Ivan Doig, the best of Montana's younger novelists.

Focusing upon my own particular field of study, history, we immediately discover more of the same traces of romanticism. Two general preoccupations have characterized this state's avid interest in its history: the frontier, and the notion that it has been a repeatedly "plundered province." Until recently, almost all historical writing on Montana has been on the frontier period, the 19th century, practically none of it on the modern period. And, with some notable exceptions, most of the frontier writing has dealt not with the real substance of history—economic, social and political subjects—but rather with that which is colorful, "wild and woolly."

Again, as in art and literature, the overwhelming preoccupation is with adventure and man in the wilderness: Lewis and Clark braving the wild, Custer bungling to his well publicized demise, such sad commentaries on public credulity as *Liver-Eating Johnson* and *Calamity Jane*. Reading what sells the most, one would surely think that cowboys were more significant than entrepreneurs, and that the "open range" period of the livestock industry, which boomed only for a few years in the 1880s, was more important than everything that has happened since.

But, one might reply, most of this is not really serious history: the truly serious history of Montana has been written by men like Joseph Kinsey Howard and K. Ross Toole, who eschewed frontier escatology and wrote penetratingly and pas-

sionately of how Montana the fair land has been ravaged repeatedly by misguided developers and out-of-state corporations. Howard and Toole remain, I think, Montana's favorite historians. Their genre of regional history, sometimes called the "plundered province" school, was at its peak during the liberal and regionally preoccupied 1930s and 1940s. Best popularized by historians like Walter Webb and Bernard DeVoto, it characterized the West as the much abused colony of the East.

Such a depiction fit Montana probably better than any other western state; and the well crafted narratives of Howard and Toole resound, not with the din of frontier adventure, but rather with outrageous abuses of the land by dumb "honyockers" (homesteaders) and abuses of the commonwealth by corporate predators led by Anaconda. At first glance, this approach might seem not romantic at all, but rather harshly realistic. Not quite. In fact, this history is more polemical than objective, more passionate than well researched. It, too, has its villains, like Jim Hill and the diabolical "Company" (Anaconda), and its tragic liberal heroes who fought in vain, like F. Augustus Heinze and Joseph Dixon. Of course, this rendering of history is, in a true sense, a jeremiad against developers, who have sinned so often in the past. But it does not present a balanced view of our history. That task is presently being addressed by a number of historians, who are working a genuine renaissance in the study of the state's past.⁴

A state's political culture is certainly also a facet of its overall cultural personality, and the same tendencies described above also manifest themselves here. One of the main strands of the romantic world view, after all, is the primacy of the heroic individual over the social-organizational mass. Historically and currently, in Montana and throughout the West, party organizations and party lines have been notoriously weak, and unrestrained personalities preeminent. To their critics, Montana luminaries such as Burton K. Wheeler, Mike Mansfield and Ted Schwinden are disloyal or at least indifferent to party or ideology; to the state's majorities, though, they are western individualists who stand for principle above party.

This same rejuvenant, frontier-style individualism has driven the West's steady drift to the right over the past two decades and boils to the surface in such extremist crusades as the Sagebrush Rebellion and Montana's quixotic Initiative 27 campaign to eliminate property taxes altogether. Stetson hats remain far more conspicuous in the Montana Legislature than do pinstripe suits; and despite the continuing erosion of the agrarian population, agriculture promises to reign supreme in non-industrialized Montana into the foreseeable future. The "Old West" mystique, which has its most solid grounding in the agricultural community, favors rightist causes far more than those of the left, which have traditionally drawn their key organizational support from the eroding bases of union labor and the Farmers' Union. Among liberally oriented groups, only the environmentalists draw upon the historic wellsprings of romantic primitivism.

Ironically, many Montana conservatives agree less with their national, business-oriented counterparts and more with the environmentalists in opposing develop-

ment. In contrast to the state's relatively small business community, these conservatives tend to be farmers and ranchers-retirees-outdoor enthusiasts who see promoters not as Montana's redeemers, but rather as threats to their cherished lifestyles and values.

Thus, all throughout our everyday life—when we hang a Russell print over the mantle, enjoy a work of fiction or history, stop to listen to a politician, or simply pause to watch the lifestyles of our fellow folk—we Montanans find ourselves immersed in essentially the same culture that existed here in 1950, or in 1930. How little we have been touched by the urban-industrial revolution that has been engulfing all of America since 1865, and most of the West since 1940! This, many would say, is as it should be. This is precisely what makes Montana the last of what is best in this country.

Yet, only the most incorrigible romantic or reactionary would deny that, for this, we pay an increasingly heavy price: the slowest growing per capita income in the country, lost jobs in collapsing extractive industries which are not replaced by attracting new ones in the growing manufacturing and service sectors, vanishing opportunities for young and old alike. Is it not true that, in attempting to preserve unchanged the old ways, we are also preserving them for ever fewer of us?

Montana, right now, is doing a lot of soul searching about its faltering economy, its eroding state services, and its widely perceived antibusiness climate. Almost always, the discussion focuses upon the economic-political tangibles: its exclusive reliance upon property and income rather than sales taxes, its highest-in-the-nation coal severance tax, its persistence in using the dubious unitary tax, its regulatory climate, its perceived hostility to certain corporations, especially railroads and utilities. By neglecting the less tangible factors and focusing exclusively upon statistics and well defined issues, we fail to see the broader cultural context, the matrix of ideas and assumptions that sprouts such policies and practices.

Hopefully, these remarks may serve to suggest that Montana's cultural milieu is not only relevant, but vital to any understanding of the state's anti-development attitudes. If wilderness, and a life in communion with wilderness, is what Montana is all about, then hostility toward drawing in more humanity to clutter it is a natural posture to assume. One seldom sees a crowd in a Russell painting, never a machine or a city. Many of our most influential politicians and historians have told us that Montana is a unique place, that Montanans are a breed apart, and that just about any corporation that invades this neck of the woods has rape on its mind. Each of these ideas bears some truth; but all are simplistic, provincial—and in the last analysis, untrue. Neither in its environment, its history, its populace nor its problems and their answers, is Montana really unique.

Montana is, indeed, a special place to those who live here and those who visit here. Second only to the untrammelled beauty of its landscape, Montana's greatest appeal lies in its romantic and individualistic culture and lifestyle. Nothing, however, finds perfection in excess. Montanans cannot fence themselves off from global and

national socio-economic forces, no matter how hard we may try. Declining extractive industries—agriculture, metal mining, lumber, and in the near future, fossil fuels—simply cannot sustain a healthy commonwealth.

Our greatest challenge in the months and years ahead is not really reevaluating our tax and regulatory structures. Rather, it is to reassess the attitudes and assumptions, which have come to seem second nature to us, that underlie these policies. Few Montanans would venture the patently unwise and unworkable idea that the state should attempt a major program of heavy industrialization. But Montana is, after all, part of the United States; and the sooner that we cast aside the idea that we are truly unique, or some kind of Old West Camelot, the sooner we shall begin coming to terms with modernity and reality. Then, I believe, we'll find that, like Texas, a Utah, or even a South Dakota or Wyoming, we can diversify our economy, provide decent jobs, educations and other state services to our people by bringing our tax system into line with those of the other states—and still preserve the best of our traditional western values and styles of life.

FOOTNOTES

1. I have approached this general subject from other vantages in "The Close of the Copper Century," *Montana: The Magazine of Western History*, 35 (Spring 1985): 69-72; and "The Historical Roots of Anti-Corporate Sentiment in Montana," *Montana Business Quarterly*, 24 (Spring 1986): 27-30.
2. Clark C. Spence, *Montana: A Bicentennial History* (New York: W.W. Norton, 1978), p. 189.
3. Leslie Fiedler, "Montana; or The End of Jean-Jacques Rousseau," *An End to Innocence: Essays on Culture and Politics* (Boston: Beacon Press, 1955), pp. 131-141.
4. Joseph K. Howard, *Montana: High, Wide, and Handsome* (New Haven: Yale University Press, 1943); K. Ross Toole, *Montana: An Uncommon Land* (Norman: University of Oklahoma Press, 1959); and Toole, *Twentieth-Century Montana: A State of Extremes* (Norman: University of Oklahoma Press, 1972).



ABOUT BOOKS

The Gray Ghost Murders

By Keith McCafferty
Published 2013 by Viking, New York, NY
\$26.95 hardcover

Sean Stranahan is trying to mind his own business, which includes escorting anglers down the Gallatin Valley's prized trout streams and painting fishing-inspired watercolors. But when two buried bodies are unearthed on Sphinx Mountain, and members of the Madison River Liars and Fly Tiers Club ask him to solve the mystery of two missing – and very valuable – hand-tied flies, he puts his PI skills back to work.

The autopsy reveals that both victims were shot, and each suffered a terminal illness. As Stranahan begins to unravel the connection between the dead bodies, an obscure bullet and a short story by Robert Connell, "The Most Dangerous Game," the occasional sleuth finds himself stalked, instead of stalking.

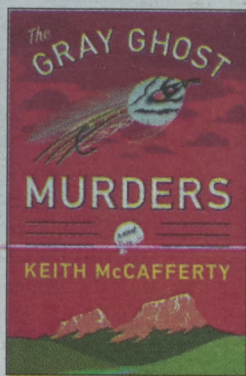
Many of the characters who were introduced in Bozeman author Keith McCafferty's first novel, *The Royal Wulff Murders*, return for the second installment, including the attractive and irascible sheriff, Martha Ettinger; her part-time boyfriend, tracker Harold Little Feather; and Stranahan's pal, the foul-mouthed river rat Sam Meslik. One newcomer is the hero's new squeeze, Martinique, a pre-vet student at Montana State University who pays for her education by working as a sparsely clad barista at Lookers and Lattes.

McCafferty has crafted another fun, fast-paced read that dips into deeper water with its exploration of how a terminal illness can affect a person's psyche. "When a doctor tells you you have a few months and how it's going to end, you walk out of the room a changed man. I lost my nerve, I lost my hope, I lost grip of my soul," says a character, who was on the verge of completing a "terminal arrangement."

"Think big-city CSI teams have it tough?" writes *Kirkus Reviews* of the new novel. "Their examinations of crime scenes are hardly ever interrupted by a grizzly bear like the one that sends Deputy Harold Little Feather to the hospital ... irresistible."

McCafferty, who lives in Bozeman, is the Survival and Outdoor Skills Editor of *Field and Stream* – a vocation that clearly informs his fiction.

– Kristi Niemeyer



Isabella's Odyssey

Written and Illustrated by Sue Spinelli
Published 2012 by Peacock Publishing,
Manhattan, MT
\$5.95 softcover

The feline heroine in Sue Spinelli's book for children is a sassy Maine Coon cat who gradually adopts the family of a veterinarian who has moved into her neighborhood to open an animal hospital. Wary at first, the homeless Isabella eventually becomes a loving member of the family and a trusted part of the hospital staff.

The story is narrated by Isabella, who "sees all and tells all from her cattitude point of view," while introducing young readers to the many critters who visit the hospital for treatment.

The cat's spunky nature gets her, and her accomplices, into the occasional scrape. Along the way, young readers gain insights into animal behavior and care, and learn what veterinarians do and why, through the experiences and observations of this precocious feline.

Spinelli incorporates incidents of real-life drama in her story, based on her 25 years of experience working alongside her husband at a veterinary hospital in Belgrade. She highlights her tale with original illustrations.

The result is a pleasant, engaging read, designed to entertain and educate young pet owners, or anyone who likes animal stories.

Spinelli holds university degrees in medical technology and microbiology; one of her short stories placed fourth in the National Writer's Association contest.

Isabella's character is based on the author's cat, also a Maine Coon.

– Judy Shafter



Fish Do What in the Water? The

Secret Lives of Marine Animals
Written by Caroline Patterson and
illustrated by Robert Rath, with photography
by Tom Stack and Associates
Published 2012 by Farcountry Press,
Helena, MT
\$14.95 softcover

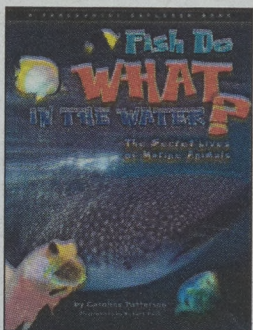
This colorful and entertaining book for young readers offers a fine introduction into the secret lives of a vast variety of sea-dwelling creatures. Its extraordinary photographs, bold illustrations and concise text describe fish, their habits and habitats. Patterson also includes information about mammals that live in the sea, like the blue whale and the familiar dolphin.

The book answers the kinds of questions kids (and curious adults) might ask, including: Why do fish have scales? What is the function of gills? Do fish have tongues? Mysteries such as fish mating, egg laying, child rearing, feeding, social behavior and more are revealed in accessible, easy-to-read language.

Readers will get an introduction to fish with migrating eyes, four-eyes and two eyes on one side of their heads. The book is a wonderful reference to have on the shelf, and will likely spark the interest of many a future marine scientist.

Patterson lives in Missoula with her family. In addition to penning books for children, she has published fiction in numerous literary anthologies and teaches poetry in schools. Rath is a Bozeman illustrator, whose previous collaborations with Patterson include *Who Pooped in the Zoo?*

– Judy Shafter



More Montana Moments

By Ellen Baumler
Published 2012 by Montana Historical
Society Press, Helena, MT
\$14.95 softcover

In this follow-up to 2010's *Montana Moments: History on the Go*, historian Ellen Baumler serves readers another helping of historical facts, interesting stories, humorous anecdotes and bizarre characters to demonstrate that history is more than just dull lists of dates and place names.

More Montana Moments is an accumulation of scripts from her popular radio show, "History on the Go" broadcast by Cherry Creek Radio in Helena. The material comes from many sources, including Baumler's research for the Montana Historical Society's National Register sign program. Part of her job is to write the wording on the signs that are posted in front of historic homes all over the state.

Chapters include information about people, places, buildings, children and animals. Each entry, she notes, takes about two minutes to read.

Some of the tales will be familiar, and others are a pleasant surprise that will likely leave readers wanting to know more. The money and personalities behind the building of many of the state's famous mansions (most now are museums), and the somber details of Charlie Russell's 1926 funeral are among the tantalizing tidbits.

Did you know that at least nine naval ships have been christened with names related to the Treasure State? How about the fact that Montana has 112 hillside letters composed of whitewashed rock, more than any other state, and it was Missoula's "M" that initiated the trend?

The book offers an entertaining exploration of Montana history, with no time to get lost or bored in two-minute doses!

Baumler is the interpretive historian for the Montana Historical Society. Previous works include *Spirit Tailings: Ghost Tales from Virginia City, Butte, and Helena*; *Beyond Spirit Tailings: Montana's Mysteries, Ghosts and Haunted Places*; and *Girl from the Gulches: The Story of Mary Ronan*.

– Judy Shafter



From Football to Fig Newtons:

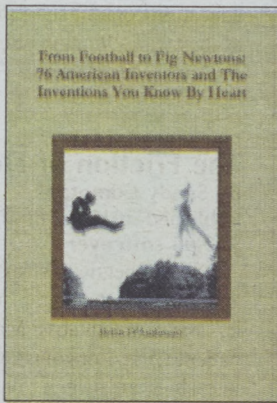
*76 American Inventors and The
Inventions You Know By Heart*
By Brian D'Ambrosio
Published 2013 by Jabberwocky Press, an
imprint of Schiff Books, Pittsburgh, PA
\$15.99 softcover

Missoula author Brian D'Ambrosio is on a mission to get forgotten American inventors recognized. Who invented football, bluegrass music, Mr. Potato Head, the Kentucky Derby, Sesame Street and the telephone? If you said Walter Camp, Bill Monroe, George Lerner, Meriwether Lewis Clark Jr., Joan Ganz Cooney, and Antonio Meucci, respectively, then no need to read *From Football to Fig Newtons: 76 American Inventors and The Inventions You Know by Heart*.

Otherwise, you can track down the answers and stories, along with 70 others, in D'Ambrosio's latest book. American ingenuity reveals itself in the simplest and most forgotten places. From familiar brand names such as Wheaties (George Cormack) to the most mundane stop at the traffic light (Garrett Augustus Morgan Sr.), everyday experiences provide abundant opportunities to respect and recall the intellect of the men and women who helped shape the culture and landscape of our environment.

Every trip to the grocery store to buy a box of Band-Aids® (Earle Dickson) offers a chance to ask where and how a certain product came about. With every click of the computer mouse (Douglas Engelbart), our curiosity should deepen.

D'Ambrosio, who also wrote *Menacing Face Worth Millions: A Life of Charles Bronson*, has crafted an instructive read about those who created the spaces, items and comforts we take for granted.



Who's Faster? *Animals on the Move*

Written by Eileen R. Meyer;
illustrated by Constance R.
Bergum
Published 2012 by Mountain Press
Publishing Company,
Missoula, MT
\$12 hardcover

You can almost feel the wind brush the grass as the fleet-footed cheetah sprints across the pages in *Who's Faster?* At 70 miles per hour, the sleek cat almost wins the race. But instead, the peregrine falcon stoops in for the victory at over 200 mph.

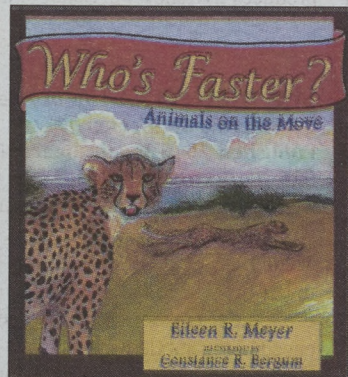
Award-winning Helena illustrator Constance Bergum created the vibrant, intricate watercolor paintings that bring Eileen Meyer's text to life. Who knew that pronghorn antelopes are even faster than the famed Thomson's gazelle (by 11 mph), or that a sailfish is the ocean's speed demon, able to "slice through turquoise waters" at 68 mph?

Learn more about the 14 creatures that crawl, slither, lumber and dash across these pages in an appendix, which also discusses how to measure and compare speed, and lists handy online resources for young animal lovers.

Bergum has been a designer and illustrator of children's books for more than 25 years, and received the Washington Writers Award and the Bock Book Award for her efforts. This is her 14th book for children.

Poems by Illinois author Meyer have appeared in several children's magazines and are part of the new anthology, *And the Crowd Goes Wild: A Global Gathering of Sports Poems*.

– Kristi Niemeyer



11

Send us book ideas

Two Helena publishing companies welcome book ideas.

Farcountry

Press invites writers, photographers and illustrators to submit their book ideas for consideration.

Farcountry publishes award-winning books on regional popular history, natural history and national parks for a general audience and for children.

The company also publishes color photography books on regions, states, cities and national parks, but generally does not publish poetry or fiction.

Please send book proposals to: Acquisitions, PO Box 5630, Helena, MT 59604. Include a self-addressed, stamped envelope or your materials will not be returned, and do not send original art or photographs. For more information, visit www.farcountrypress.com.

Riverbend Publishing also welcomes book proposals about Montana and the West. The company publishes award-winning books on regional history, natural history, photography and Glacier and Yellowstone national parks, plus cookbooks and fiction.

Send proposals to Editor, Riverbend Publishing, PO Box 5833, Helena, MT 59604. Visit www.riverbendpublishing.com for more information about the company.



12

Power of art: Can creative activities help us stay young?

The world's population is aging. By 2030, one in eight people will be 65 or older and they can expect to live much longer.

But chronic disease will mean those last years may be spent coping with sickness and disability. Health costs are expected to soar. Alzheimer's alone will likely afflict 13.2 million Americans by the middle of the century. Scientists around the world are trying to find new and cheaper ways to help people stay well while growing old – and they're studying the therapeutic effects of art. In the fifth installment of the Power of Art series, Jane O'Brien explores the power of art and aging (March 18, 2013).

Read more at www.bbc.co.uk/news/magazine-21806196.

Auction Action

MAM, YAM and Russell museums report robust sales

The Treasure State was awash in art auctions this spring, and all posted more robust sales than last year. The largest was the C.M. Russell Museum's benefit, a three-day event that's the centerpiece of Western Art Week in Great Falls. The Missoula Art Museum opened the season in early February with its 41st annual benefit, and the Yellowstone Art Museum in Billings hosted its 45th annual "Sapphire" affair in early March.



The Russell: R. Tom Gilleon's "Hair Apparent" sold for \$225,000.

MAM: A celebration of contemporary artists

This year's 41st Benefit Art Auction, themed "Artists Color Our World," drew 425 people to the University Center Ballroom on Feb. 2.

The event's longtime auctioneer, Jerry Toner, told the *Missoulian* that bidders spanned a wide age range. "Young artists drew young patrons," he said.

Seventy-four pieces of art were sold during the live auction and the highest bid was \$7,000, paid for Kevin Red Star's "Thunderstorm." A luxury vacation package, donated by MAM patrons Pat and Jeff Aresty, also brought \$7,000.

Another 36 items were sold by silent auction. The "Buy it now!" option, which closed bidding at double the value, was employed by enthusiastic buyers on nearly half of the silent auction items.

Overall, 40 percent of the artworks sold, via live and silent bidding, went well over retail value. The "Fund-A-Dream" request for cash donations raised an additional \$18,000 to upgrade the museum's technology and computer systems. A pass-the-hat effort raised \$920 for the Hellgate High School Art Club's spring art excursion; club members served as art handlers for the auction.



MAM: Kevin Red Star's "Thunderstorm" fetched \$7,000. (Photo by Slikati)

All told, the auction raised more than \$110,000 for the museum. "It was a fantastic success and the number is a bump up from what we have gotten in past years," MAM Director Laura Millin told the *Missoulian*. "Best of all," she added, "contemporary artists were celebrated and their art highly valued."

The Russell Auction: "A smashing success"

Great Falls was home to a cornucopia of art shows and sales March 14-17 during what's known as Western Art Week.

The largest of them all is "The

Russell," which benefits the C.M. Russell Museum. This year's trio of events, including a silent auction, quick finish and live auction, grossed about \$3.6 million, with the majority of that – about \$3.1 million – coming from Saturday's live auction at the Heritage Inn.

Joe Masterson, chairman of the museum's board, lauded it as a "smashing success." Last year's gross sales at the three events were about \$3.5 million.

Two works by Charles M. Russell brought top dollar, with the watercolor "High, Wide and Handsome" selling for \$550,000, and a letter by the artist going for \$300,000. Artist R.

Tom Gilleon had hoped to sell his painting, "Hair Apparent," for \$25,000; instead, the gavel went down at nine times that amount at \$225,000. "I had absolutely no idea there was that much interest," Gilleon told reporters.

March in Montana, held at the TownHouse Inn, also did well, with two auctions of art, antiques and collectibles grossing a record \$2.18 million – well over last year's yield of \$1.8 million.

Another event, the Western Masters Off the Wall live auction, grossed \$300,000, also bettering last year's total.

YAM: "Great energy throughout the evening"

The Yellowstone Art Museum in Billings grossed more than \$320,000 in its 45th Annual Art Auction, a glittering "sapphire" anniversary celebration, and was projected to net over \$133,000 in support of the coming year's exhibitions and programs. Museum director Robyn Peterson says 166 works sold, and 151 artists participated in the March 2 gala, which attracted 408 attendees.

"There was great energy throughout the evening," she reports. Although the auction was not a record breaker, total art sales were 25 percent better than last year, and the gross was about 23 percent higher than 2012.

Sandra Dal Poggetto's painting, "American Fork #3," was the highest selling artwork, bringing \$5,600 in the live auction.



YAM: A blue glow suffused the sapphire-themed event.

PERCENT-FOR-ART PROGRAMS

Call for Artists

The Percent-for-Art Program recently opened two Requests for Qualifications (RFQ). One seeks a sculpture for an exterior site at the MSU-Animal BioSciences Building at Montana State University Bozeman (deadline is May 15). And the second seeks interior and exterior artworks for MSU Gaines Hall, also in Bozeman (deadline is July 17).



MSU Animal BioSciences Building (above) and Gaines Hall (right)



Quick Facts: Animal BioSciences Building

Who: U.S. residents

What: Request for artistic qualifications: Offer a resume and portfolio

When: Applications are open through May 15, 2013

Where: Exterior sculpture for permanent installation at a northwest site of the Animal BioSciences Building on the Montana State University Campus in Bozeman. Selection committee will consider a new commission or a sculpture ready to install and/or modify for the site.

How: Online application process via slideroom.com

How much: Art budget is \$30,500

Semi-finalist awards: \$500 for up to three artists

Submission deadline: 5 p.m. (MDT), Wednesday, May 15, 2013

For more information: art.mt.gov/artists/artists_percent.asp; to begin the artist application process log in to mt.slideroom.com.

Quick Facts: MSU Gaines Hall

Who: U.S. residents

What: Request for artistic qualifications: Offer a resume and portfolio

When: Applications open April 17-July 17, 2013

Where: Artwork(s) for single or multiple sites, both interior and exterior

How: Online application process via slideroom.com

How much: Art budget is \$76,400

Semi-finalist awards: \$1,200 for up to three artists

Submission deadline: 5 p.m. (MDT) Wednesday, July 17

For more information: art.mt.gov/artists/artists_percent.asp; to begin the artist application process log in to mt.slideroom.com.

Upcoming Percent-for-Art Program projects:

• The University of Montana: Chemistry Building and Law Building

For guidelines, visit art.mt.gov/artists/artists_percent.asp. Contact Kim Baraby Hurtle, Percent-for-Art director, for more information at khurtle@mt.gov or 406-444-6639.

MONTANA HISTORICAL SOCIETY LIBRARY

225 N. Roberts St.

Helena, MT 59620

Tel: (406) 449-2681

TO Mr. Ivan Doig

DATE September 20, 1989

17021 Tenth Avenue N.W.

Seattle, Washington 98177

>
Dear Mr. Doig:

Sorry that this batch took a little longer. I thought that we held the "Missiles in Montana" map and literature, but I couldn't find it here and had to get a duplicate set out of Missoula. If you wish to get an updated total for missile silos in the state, you probably can do that from the following person: Ms. Pat Ortmeyer, Jeannette Rankin Peace Center, 211 West Front Street, Missoula, Montana (59802); 406-543-3955.

The other bits and pieces were easier to locate: (1) the origin of the name GLASGOW; (2) the current, approximate population of Winnett and Petroleum County; (3) the square-mile area of Petroleum County. All of this is enclosed.

You should have been here for the Bush visit! No expense was spared, and the plan to shield the President with 6,000 Montana school children worked like a charm. A couple of interesting sidelights: one death threat was called in for Bush--and one for Stephens!; Miss Montana (just back from Atlantic City), arrived too late to get into the VIP section, so she stood outside the fence and signed autographs, in her tiara!; the "most demeaning task" award went to a Dept. of Administration employee, who shadowed Stephens and slipped a 6" wood-block riser under his feet just as he introduced Bush to the crowd--evidently so our Governor would not be staring at the President's navel. Sure glad this kind of thing happens only one in about 30 years. I ought to be able to miss the next one.

Regards to Carol. Take care. Almost forgot....would you please send \$3.00 to cover the enclosed copies. Thank you.

Sincerely yours,
Dave Walter, Reference

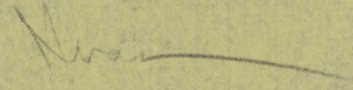
26 Sept. '89

Dear Dave--

Grand work on ~~the~~ last week's batch of research stuff. The missile data was even more horrific than I expected; I have in mind a little piece in this book that'll be good and grim on that topic. As to Winnett, I'm glad to have the population numbers on how sparse life is out ~~there~~ there; not only did Carol and I see grass growing in the streets of Winnett last summer, there were morning glory vines.

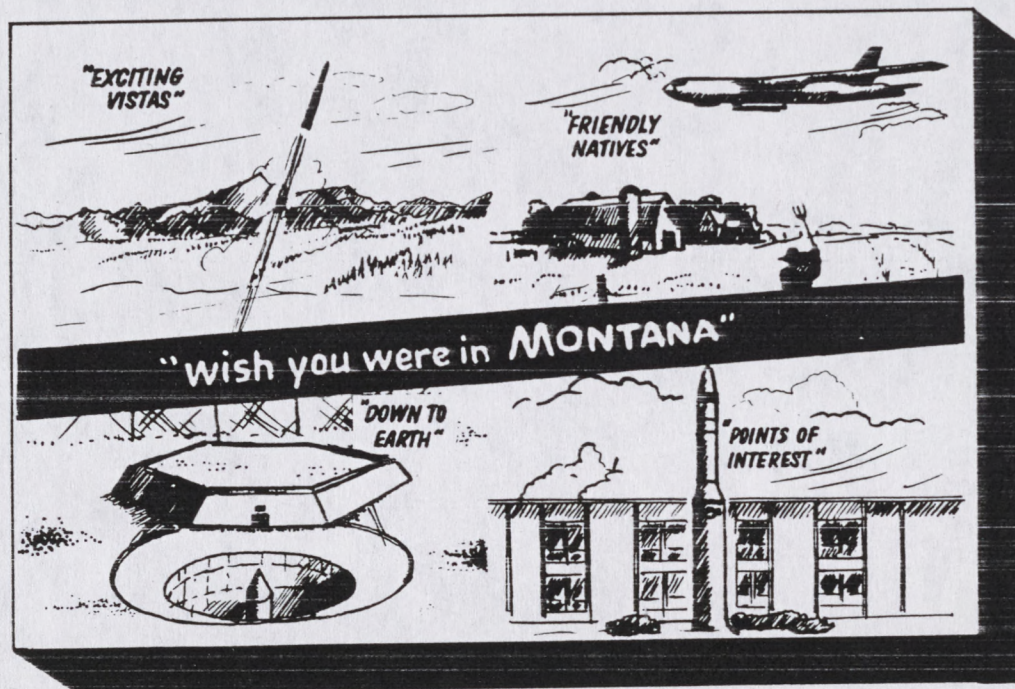
My mail-subscription Gt. Falls Tribune from the day of Bush's Helena visit just came, and it's not nearly as interesting as the Walter Report.

One more time, thanks a million.

A handwritten signature, possibly "Nixon", written in dark ink.

COPY PROVIDED BY THE
MONTANA HISTORICAL SOCIETY
9-20-89

THE TOURIST'S GUIDE TO THE MISSILES OF MONTANA



~~~~~

A Project of the Silence One Silo Campaign  
(For use with the "Nuclear Big Sky" silo map)

~~~~~


TOURIST POINTS OF INTEREST AT OR NEAR MISSILE SILOS

<u>Silo</u>	<u>Points of Interest</u>
A-1.....	launch control facility for the first U.S. Minuteman nuclear missile silos. They were first used as President Kennedy's "Ace in the Hole" in the 1962 Cuban Missile Crisis.
A-5.....	occupied by an Indian spirit seen by many Malmstrom AFB personnel---please approach this site with respect for the spirit. This silo is also located on U.S. Forest Service land in the scenic Little Belt Mountains.
A-6.....	on Forest Service land in the Little Belt Mtns.
A-8.....	Sluice Box State Monument is nearby to the north.
B-10....	adjoins the Highwood Mountains.
C-9.....	on Forest Service land in the Little Belt Mtns.
D-2.....	south of the Missouri River White Cliffs Area of the National Wild and Scenic River.
E-2.....	south of the McLelland (Stafford) Car Ferry Crossing in the scenic Missouri River Breaks.
E-5.....	along the route taken by the Nez Perce band led by Chief Joseph fleeing from the U.S. Calvary in 1877.
E-8.....	north of Gigantic Warm Springs, the world's largest at 55,000 gallons of 68° water flowing per minute; swimming, picnicking. It's also at the base of the North Moccasin Mountains.
F-6.....	southeast of Willow Creek National Wildlife Refuge; bird watching, camping. The silo is also along the return route Captain Meriwether Lewis used during the Lewis and Clark Expedition of 1804-1806. (He passed by here in 1806) This site is also along an old wagon freight trail between Helena, Mont. and Fort McLeod, Alberta.
F-7.....	closest nuclear weapon site in the U.S. to a wilderness area. (The Scapegoat Wilderness is twelve miles to the west)
F-8.....	southeast of the Pishkun National Wildlife Refuge; bird watching, camping.
F-10....	along Captain Lewis' route of 1806. (See F-6)
F-11....	along the 1806 route of Capt. Lewis. The silo is also along the Helena-Ft. McLeod wagon freight trail. (See F-6)
G-5.....	along the Mullan Road; surveyed by Captain John Mullan and completed in 1860, it runs between Ft. Benton, Mont. to Walla Walla, Wash.
G-6.....	along the Mullan Road. (See G-5)
G-7.....	site of the finish for the Sadako Peace Run from Missoula, Mont. in the autumn of 1982. This has also been the site of many peace vigils.
G-8.....	along the "North Trail", an ancient trail used for over 12,000 years; runs along the Rocky Mountain Front. The silo is also along the Capt. Lewis route of 1806. (See F-6)
G-9.....	along the Ft. McLeod-Helena freight trail. (See F-6)
H-1,5...	along the Healy Trail, an old wagon trail stretching from Ft. Shaw, Mont., through the Conrad, Mont. area, to the Whoop-Up Trail. (See Q-14)
H-7.....	site of the first nonviolent civil disobedience aimed at a nuclear missile silo in Montana; two women, bearing gifts, are arrested for trespassing while trying to scale the silo fence, Aug. 6, 1979, 34 years after Hiroshima. This silo has also been the site of many peace vigils.
H-11....	along the Healy Trail. (See H-1)
I-6.....	one of two silo sites (see S-31) where the Air Force and the Boeing Corp. conducted electromagnetic pulse (EMP) tests from 1968 to 1972; several workers and neighboring farmers contract cancer and other ailments and some die later as a result. (Some of the victims sued, but the Air Force withheld crucial technical information so the suit is dismissed) The silo is also along the Lewis and Clark Expedition route of 1805.
I-7.....	along the Missouri River route of the Lewis and Clark Expedition in 1805.
I-8.....	along the Mullan Road. (See G-5)
I-9.....	southwest of the Adams Stone Barn; built in 1884-5 by J.C. Adams, it is the only one of its kind west of the Mississippi River. The silo is also along the Mullan Road. (See G-5)
I-10....	training silo for Air Force personnel; it's often a site of interesting activity for tourists.
I-11....	east of Ulm Pishkun State Monument, a picturesque Blackfeet buffalo jump; interpretive trail.
J-3.....	near the Bootlegger Trail. (See J-6)
J-6.....	on the Bootlegger Trail, the road used during Prohibition (1920-33) to smuggle alcohol from wet Alberta to dry Great Falls, Montana.

J-8.....adjacent to the Benton Lake National Wildlife Refuge; bird watching.

K-5.....northwest of Deadman's Basin Recreation Area; camping, boating, fishing.

K-7.....southwest of Deadman's Basin. (See K-5)

L-1,2,3,8,10...in the scenic and historic Judith Gap, between the Little Belt and Big Snowy Mountains.

M-3.....southeast of the Kendall ghost town. It's also next to the Judith Mountains.

M-9.....east of a Montana Agricultural Research Center.

M-11....near the geographical center of Montana.

N-2,4...along the 1877 route of Chief Joseph. (See E-5)

N-8.....west of a fish hatchery.

N-10....south of a ghost town.

N-11....west of the Fort Maginnis State Monument.

O-7,10...along the 1877 route of Chief Joseph. (See E-5)
They are also near the Judith Mountains.

O-11....along the 1877 route of Chief Joseph. (See E-5)

P-1.....site of the Little Peace Camp on the Prairie, July, 1983 and 1985. In the summer of 1984 the first tree is planted next to the silo as a dedication to turn the site into a peace park. The site is also near the scenic Marias River Breaks; fishing, hunting. It's also north of Williamson Park; camping, fishing, picnicking. It's also north of the Marias River Country Club; golfing, restaurant and bar.

P-2.....along the 1806 route of Capt. Lewis. (See F-6)

P-3.....northwest of a Mont. Agricultural Research Center.

P-8.....north of a unique red, wooden grainary. (You will see it on your way to the silo) It's also along the Capt. Lewis route. (See F-6) It's also near the scenic Marias River Breaks. (See P-1)

P-9.....along the Marias River Breaks; fishing, hunting.

Q-0.....along the Capt. Lewis route of 1806. (See F-6)

Q-12....southwest of Tiber Reservoir (Lake Elwell) Recreation Area; boating, camping, swimming, fishing. The site is also west of the Tiber Dam; camping, fishing. It's also 4 miles west of an unfinished radar site for the abandoned Anti-Ballistic Missile (ABM) System, left in 1972.

Q-14....along the Whoop-Up Trail, built in 1869 from the Missouri River port of Ft. Benton, Mont. to Ft. McLeod, Alberta.

Q-16,17...along the Whoop-Up Trail. (See Q-14) The

sites are also near Capt. Lewis' route. (See F-6)

Q-18....near the Marias River Breaks; fishing, hunting.

R-21,22...along the Whoop-Up Trail. (See Q-14)

R-23....along the Bootlegger Trail. (See J-3)

R-28....training silo for Air Force personnel; its unarmed warheads can be quickly rearmed.

R-29....since Jan. 1982 the focus of the Silence One Silo (SOS) Campaign; the following are some of the SOS events at the silo: two men eat bread and sow wheat atop the silo lid, then arrested, June 5, 1982; a woman is arrested for casting her vote for nuclear disarmament on Election Day, 1982---she prayed on the silo lid; a Presbyterian minister is arrested for praying on the silo, Feb. 16, 1983; the SOS Peace Camp is established on the nearby Hastings farmstead from June through August, 1983; a human encirclement of the silo, June 21, 1983; a man climbs the silo fence and is arrested, June 22, 1983; six people are arrested for getting too close to the fence to look at the silo, July 11, 1983; two men are arrested for helping to demystify the silo by climbing the fence, Oct. 24, 1983; SOS Peace Camp reopens June 9, 1984 and continues until late August; a vigil in commemoration of the atomic bombings of Japan, Aug. 6-9, 1984; SOS Peace Camp reopens June 15 and continues until early Sept. 1985; Montana sections of the National Peace Ribbon placed on the fence and are arrested with two people, June 23, 1985; Womyn's Peace Camp established for the first week of July, 1985; Aug. 3-9, 1985 vigils commemorating the 40th anniversary of the atomic bombings of Hiroshima and Nagasaki; a man cuts his way through the silo fence and is arrested, Aug. 24, 1985. This is also the site for many other SOS peace activities.

R-30....along the Whoop-Up Trail. (See Q-14)

S-31....one silo where EMP testing occurred. (See I-6)

S-32....along the Healy Trail. (see H-1)

S-33....east of the Arod Lakes Fishing Access.

S-34....south of the Arod Lakes Fishing Access.

S-35....along the Healy Trail. (See H-1)

S-37....has a history of natural gas leaks; it's in an area of many gas wells.

- T-41.....closest silo to an Indian Nation in Montana. (One mile from the Blackfeet Nation) It's also southeast of the sandstone badlands named "Rock City". The silo is also west of the old Blackfeet winter camp Willow Rounds. It's also along the 1806 route of Capt. Lewis. (See F-6) The silo is also near the Marias River Breaks; fishing, hunting.
- T-43.....east of Lake Frances; boating, fishing, water skiing, picnicking, swimming, duck and geese hunting. The silo is also along the Healy Trail. (See H-1)
- T-44,45...along the Healy Trail. (See H-1)
- T-47,49...along Capt. Lewis' route and along the Helena-Ft. McLeod freight trail. (See F-6)
- T-50.....east of Dupuyer Creek; rainbow and brook trout fishing, deer hunting, pheasant and grouse hunting.

NOTES ON SILO AND LAUNCH CONTROL FACILITY NAMES

Most silo names reflect their geographical location, others denote nearby points of interest. Still other names represent some of the people, groups, or events prominent in our current struggle for peace and justice. Most of the Montana women and men who have been imprisoned for their nonviolent opposition to these and all missiles, have silos named for them. Other personal names are of nonviolent nuclear resisters affiliated with the group name given for that silo's launch control facility (LCF).

The following are brief explanations of the twenty launch control facility names:

- A-1.....*Mountain Life Community LCF*. An activist community based in Missoula, they introduced to Montana nonviolent resistance to nuclear weapons; 1976-1980.
- B-1.....*The Moscow Group for Trust LCF*. An independent peace and disarmament group in the Soviet Union that is oppressed by the government. They criticize both the Soviet and U.S. governments' nuclear weapons policies.
- C-1.....*Nuclear Train Campaign LCF*. Some U.S. nuclear weapons are shipped by train from their factory

in Amarillo, Texas to Trident nuclear submarine bases on the west and east coasts. This campaign, involving thousands of people along the tracks, opposes this nuclear train. Hundreds of Montanans have actively challenged this train too. It has passed by this LCF many times.

- D-1.....*Green Party LCF*. A planetary political movement that advocates peace through disarmament, and respect for the Earth. Greens combine parliamentary politics with nonviolent resistance in their strategy. They have won many seats in the West German Bundestag.
- E-1.....*New Zealand Nuclear-Free Zone LCF*. By an overwhelming majority, New Zealanders have declared their country to be a nuclear-free zone. They refuse to allow U.S. nuclear-capable warships to dock in their ports. This policy has led to political and economic pressure from the U.S. government.
- F-1.....*Greenpeace LCF*. A planetary environmental and nuclear disarmament group, they are best known for their daring direct actions to stop baby seal hunts, nuclear weapons tests, and pollution.
- G-1.....*Last Chance Peacemakers Coalition LCF*. A coalition of peace and justice groups in Helena, Mont., part of their activity is focused on eliminating the missiles in Lewis and Clark County, some of which are controlled by this LCF.
- H-1.....*Greenham Common Woman's Peace Camp LCF*. Encamped continuously since 1981 around the U.S. cruise missile base at Greenham Common, England, women from around the world have shown their strong, passionate demand for a nuclear-free earth. Their persistent presence and nonviolent resistance at this nuclear weapon base has inspired millions of people.
- I-1.....*Save All Living Things LCF*. This Great Falls, Mont. group has maintained their courageous stand for a peaceful respect for all of Earth's creatures in spite of hostilities from this missile silo base town.
- J-1.....*Easter Peace Celebration LCF*. Every Easter Sunday since 1978, people from all over Montana have gathered at the front gates of Malmstrom Air Force Base, Great Falls to pray for peace and

then step forward to nonviolently blockade the gate.

- K-1.....*General Assembly to Stop the Powerline LCF*. A coalition of central Minnesota farmers who resisted the construction of dangerous, high-voltage powerlines over their homes and farms in the mid- and late-1970s.
- L-1.....*Charter 77 of Czechoslovakia LCF*. A human rights and nuclear disarmament group that has often been persecuted by the government for their challenges of government hypocrisy.
- M-1.....*Latin American Christian Base Communities LCF*. Thousands of these small, grassroot groups engage in self-education and in local application of Christ's teachings of love and justice. They are the heart of the great movements of social, economic and political change in Catholic Latin America.
- N-1.....*Nukewatch LCF*. This citizen action group calls our attention to the presence of nuclear weapons in communities nationwide, whether shipped by trucks or cowering in silos, and has urged us to not only keep our eyes on them but to also reflect on the nature of their threat.
- O-1.....*Polish Freedom and Peace Groups LCF*. These groups have been among the forefront in calling for nuclear disarmament by the U.S.S.R. and the U.S. They are the peace and human rights groups within the still living Solidarity Movement.
- P-0.....*Silo Pruning Hooks LCF*. Five people in two separate actions took seriously the Biblical injunction that "they shall beat their swords into plowshares, their spears into pruning hooks". They used jack and regular hammers on two missile silos in Missouri. These prophetic actions, done in 1984 and 1985, earned the resisters long prison terms.
- Q-0.....*Philippine People Power LCF*. Early in 1986 the people of the Philippines nonviolently overthrew a U.S. government-backed and corrupt dictator. It was the nonviolent actions of the Manila people that protected the military defectors from the remainder of the loyalist troops in the decisive confrontation.

R-0.....*Silence One Silo Campaign LCF*. This grassroots network of activists has worked to permanently dismantle one nuclear missile silo in Montana as a first step toward bilateral nuclear disarmament with the Soviet Union. A variety of nonviolent means have been used toward this end, including electoral politics, peace camps, and civil disobedience.

S-0.....*Plowshares Disarmament Community LCF*. A network of activists who nonviolently try to dismantle parts of the nuclear arsenal, usually with hammers. These direct attempts at nuclear disarmament have inspired many others to take further actions for peace.

T-0.....*Big Mountain Resistance LCF*. Since the early 1980s the Hopi and Dine people of the U.S. Southwest have resisted government attempts to forcibly relocate them from their ancestral homes so that the sacred Big Mountain can be mined.

clip here

☐

Please send me ____ copy/copies of the Tourist's Guide to the Missiles of Montana, that includes the Nuclear Big Sky Missile Silo Map @ \$3.00 per copy or @ \$2.00 per copy with orders of 25 or more.

☐

Please send me more information about the Silence One Silo Campaign.

☐

Please accept my donation of \$_____ for the SOS Campaign.

Name _____

Mailing Address _____

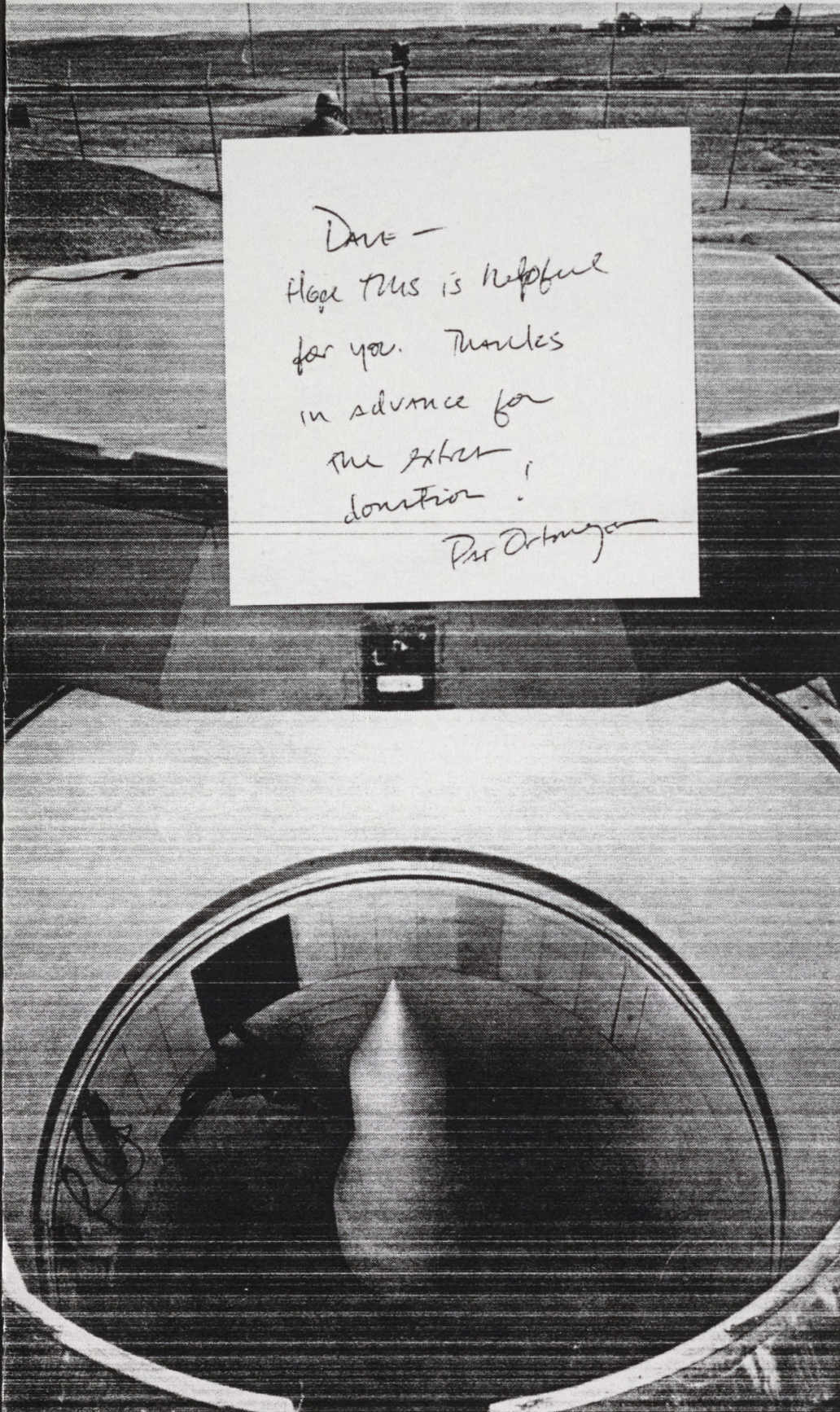
City _____ State _____ Zip _____

Send to: SOS, Box 7282, Missoula, MT 59807.
Make checks payable to Silence One Silo.

~~~~~



# NUCLEAR BIG SKY



Dave -  
Hope this is helpful  
for you. Thanks  
in advance for  
the extra  
donation!

Pat Armstrong

COPY PROVIDED BY THE  
MONTANA HISTORICAL SOCIETY

9-20-89

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**A citizen's  
action guide  
to the  
missile silos  
of Montana**

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# SILOS WITH A DEADLY YIELD

Scattered across the ranges of central Montana, from the foothills of the Rocky Mountains to the flatlands of the Missouri River, are 200 intercontinental ballistic missiles fitted with nuclear warheads capable of destroying hundred of cities half a world away.

Controlled from Malmstrom Air Force Base at Great Falls, these military installations attract little attention because they are inconspicuous and out-of-the-way. They could easily pass for small electric power substations, sewage treatment plants, or natural gas pumping stations.

There's nothing much to see from the road except a few poles and gauges and a thick slab of concrete (the missile silo cover), surrounded by a chain link fence enclosing a barren plot of land no bigger than a parking lot. Signs on the fence say nothing about the function of the

facility.

The most interesting part of the installation is out of sight. Beneath each concrete slab is a reinforced concrete "silo" housing a missile aimed at the Soviet Union. Fifty of the missiles are Minuteman III, each fitted with two or three independently targeted nuclear warheads with yields ranging from 170 to 350 kilotons each. The remaining 150 holes in the ground are filled with Minuteman II, carrying a single warhead with a yield of 1.2 megatons, a hundred times more powerful than the 12.5-kiloton atomic bomb that destroyed Hiroshima.

The 200 unattended "launch facilities" are connected by cable to 20 "launch control centers" (one for each "flight" of ten missiles), where launch crews in underground bunkers wait 'round the clock for orders to send them on their fiery way.

There are 1,000 Minuteman silos (some now being replaced by MX) in seven states of the Midwest and Great Plains. Deployed since the 1960s, they are part of what the Pentagon calls its "strategic triad" of 9,000 land-based, submarine-launched, and bomber-delivered nuclear warheads (an arsenal roughly matched by the Soviet Union).

Red markings on the map on the other side of this sheet show the location, Air Force numerical designation, and flight configuration of the missile silos and launch control centers operated by the 341st Strategic Missile Wing, based at Great Falls. The facilities numbered 1 in Flights A through O (A1, B1, C1, etc.) are launch control centers for Minuteman II missiles. The facilities numbered 0 in the five Minuteman III flights, P through T (P0, Q0, R0, etc.), are launch centers for Minuteman III

missiles. All others are missile silos. The map is based on information provided by Air Force Strategic Command headquarters, verified and supplemented by teams of volunteers who visited the sites and chose names for them.

The mapping project was jointly sponsored by Nukewatch, of Madison, Wisconsin, which has coordinated similar projects in other missile states, and Silence One Silo, a Montana-based campaign to disarm and dismantle one U.S. intercontinental ballistic missile as a challenge to the Soviet Union to do the same.

Montanans and others are encouraged to find and visit the missile silos and launch control centers, to hold vigils there, and, while doing so, to contemplate the danger the missiles pose to humanity. Often surrounded by privately owned or leased agricultural land, the facilities are generally accessible by public road to within a few yards. The federal government owns the land 25 feet out from the silo fence. It is legal to approach a missile silo up to the federal property line, using the gravel access road. Visitors may wish as a courtesy to check first with the rancher across whose land the access road runs. Remember that Montana is cattle country; be sure to close all gates behind you.

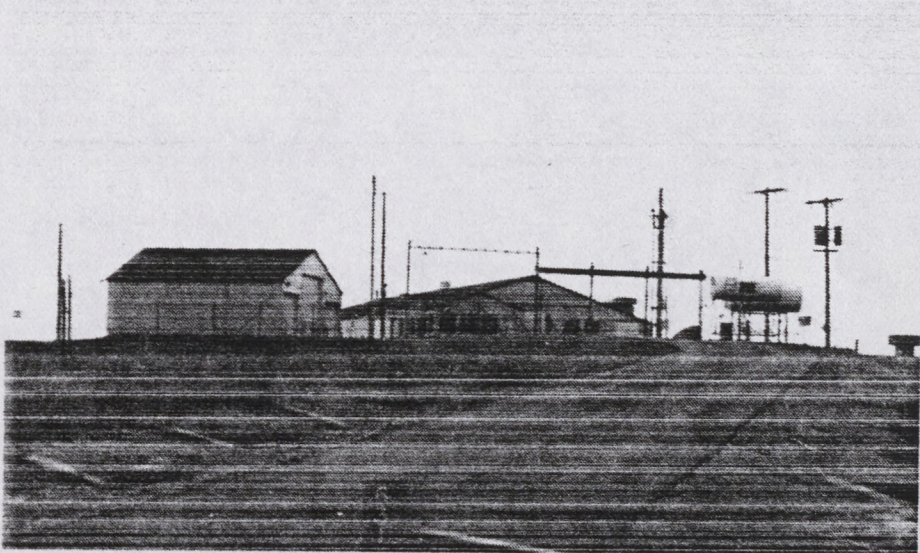
A note of caution: Signs on the silo fences warn that "use of deadly force" is authorized to prevent illegal entry. The installations are patrolled by armed Air Force guards stationed at the launch control centers. Electronic sensors inside the silo enclosures alert authorities to the presence of intruders. Damage to the facility can bring severe penalties.



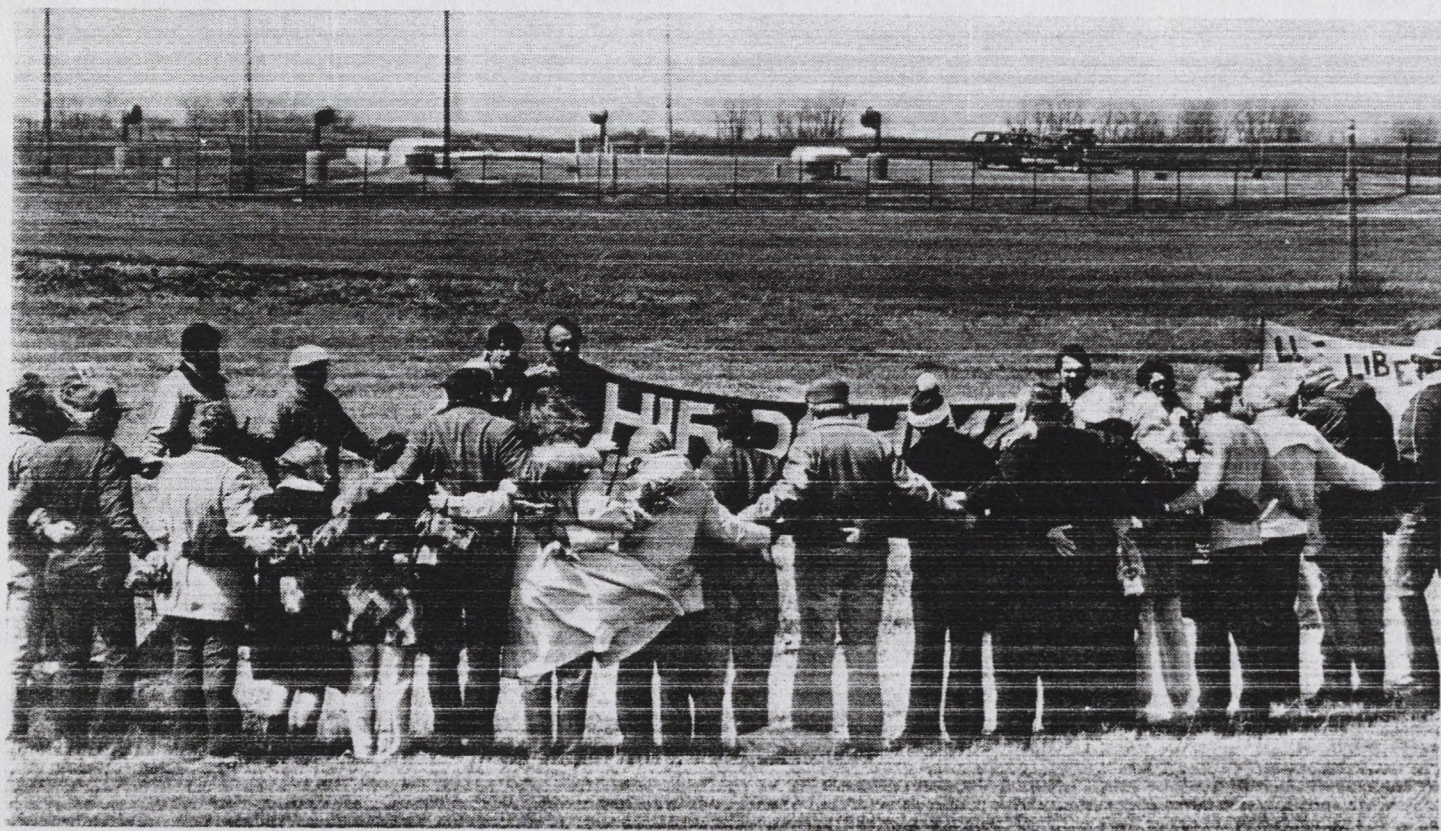
Typical target: Children in a Moscow elementary school



Typical launch site: Not much to see but poles and a fence



Typical launch control center: One for each ten missiles



Vigil at a Minuteman missile launch site

Fargo Forum photo by Colburn Hvidston III

Journalism

Kathy Jones

Kathy Jones



# THE MISSILE SILOS OF MONTANA

## Flight A

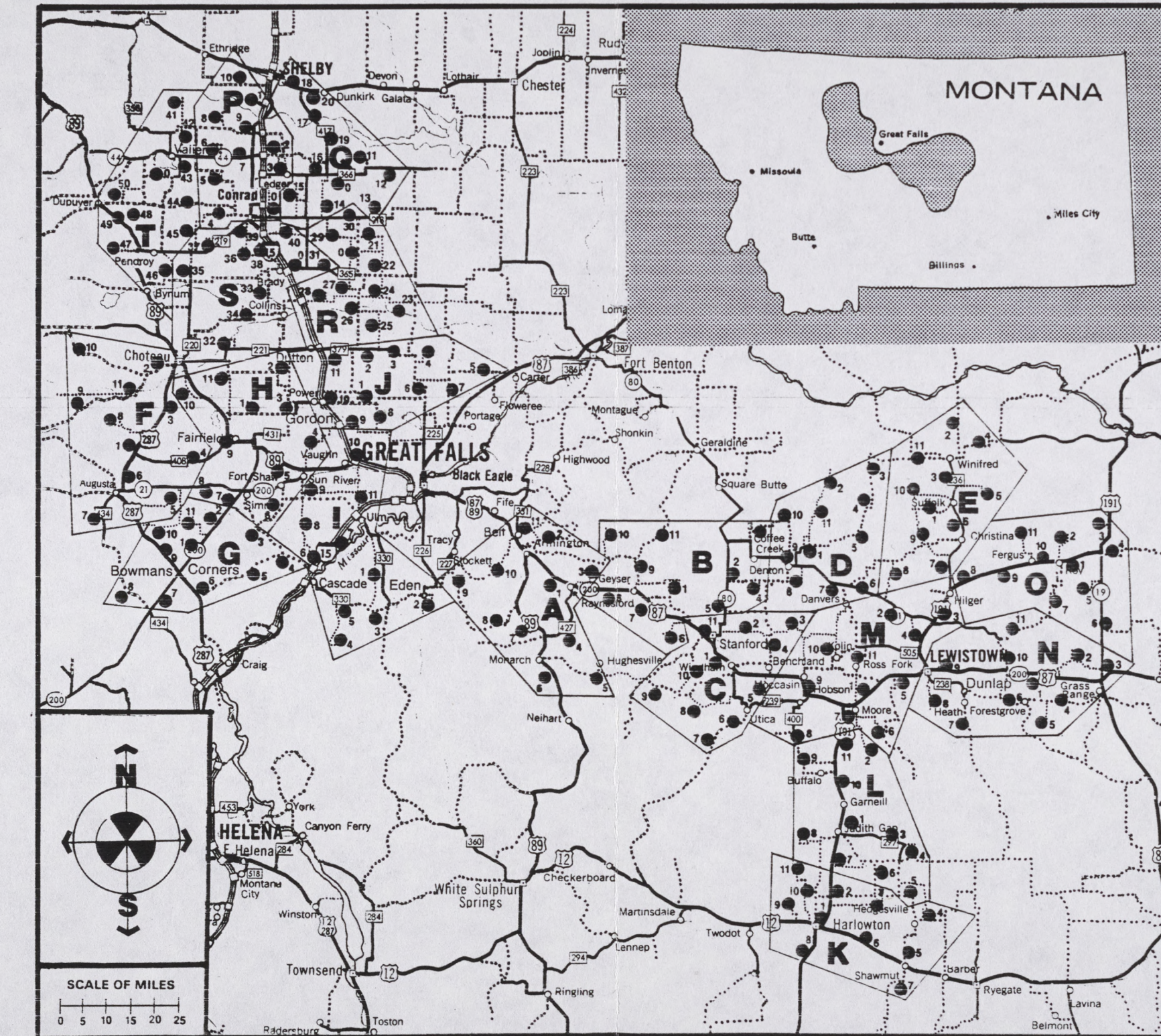
- A1. Mountain Life Community launch control center.** On south side of U.S. 87, 3 miles west of Raynesford.
- A2. Joy's missile.** From Belt town center, turn right on Bridge Street and go to the end. Take the gravel road east, then south along Lewis Coulee 3.6 miles, keeping right at the fork. At the intersection, turn left 3.6 miles. Missile is on left side of road.
- A3. David's missile.** From Raynesford, take U.S. 87 east 1 mile to a gravel road. Turn left 3.4 miles, then left again 5.2 miles. Missile is on right side of road.
- A4. Richard's missile.** From Raynesford, go south 6.5 miles on State Highway 427. Missile is on left side of road.
- A5. Sikikaaw missile.** From Monarch, take Dry Creek Road east 9.8 miles along Dry Fork of Belt Creek. Missile is on right side of road.
- A6. Tom's missile.** On west side of U.S. 89, 5.1 miles south of Monarch.
- A7. Nasen Coulee missile.** On west side of U.S. 89, 5.1 miles north of Monarch.
- A8. Lucinda's missile.** From Monarch, take U.S. 89 north 11.9 miles. Then go left 4.3 miles, past Sluice Box State Monument. Missile is on right side of road.
- A9. Perry's missile.** From Stockett, go 3.1 miles south on State Highway 227, then left 3.4 miles on a gravel road. Missile is on left side of road.
- A10. Nan's missile.** From the junction of State Highway 331 and U.S. 89/State Highway 200 at Belt, go southwest 7.7 miles. Missile is on left side of road.
- A11. Bryan's missile.** From Belt town center, turn right on Bridge Street and go to the end. Turn left onto a gravel road and go .5 mile. Missile is on left side of road.

## Flight B

- B1. The Moscow Group for Trust launch control center.** From Geyser, go north 1 mile on State Highway 551, then east 6 miles on a road curving north at 5 miles. Turn east 1.1 miles. Launch control center is on right side of road.
- B2. Irena's missile.** From Stanford, go 12.5 miles north on State Highway 80. Missile is on right side of road.
- B3. Coffee Creek missile.** From Denton, take State Highway 81 northwest 8.8 miles. When the highway turns west, continue north on a gravel road 2.5 miles, then right .5 mile. Missile is on right side of road.
- B4. Olga's missile.** From Denton, take a gravel road west 6.4 miles (road turns south just west of Denton, but continue west.) Turn south .5 mile. Missile is on right side of road.
- B5. Wolf Creek missile.** From Stanford, go 6.6 miles north on State Highway 80. Missile is on left side of road.
- B6. Surprise Creek missile.** From Third Avenue South and U.S. 87 in Stanford, take U.S. 87 northwest 4.6 miles. Turn left 2.7 miles. Missile is on left side of road (at the end of a long access road up a hill).
- B7. Geyser missile.** On the southwest side of U.S. 87, 2.4 miles southeast of Geyser.
- B8. Sergei's missile.** On the south side of U.S. 87, 3.9 miles west of Geyser.
- B9. Arrow Creek missile.** On the east side of State Highway 551, 4.4 miles north of Geyser (just before the road forks).
- B10. Highwood Mountains missile.** From Geyser, take State Highway 551 north 4.4 miles, then left at a fork 3.9 miles, then right 5 miles. Missile is on right side of road.
- B11. Alexander's missile.** From Geyser, take State Highway 551 north 4.4 miles, then right at a fork 7 miles. Missile is on right side of road.

## Flight C

- C1. Nuclear Train Campaign launch control center.** On the west side of U.S. 87, 2 miles northwest of Windham.
- C2. Carol's missile.** From Stanford, take State Highway 80 north 1 mile to a gravel road, then go right 4.5 miles. Missile is on left side of road.
- C3. Sage Creek missile.** From Moccasin, take County Road 426 north 6 miles until it turns east. Then make an immediate left onto a gravel road and continue northwest 4 miles. Missile is on right side of road.
- C4. Luna's missile.** From Windham, go east 7 miles on U.S. 87 to County Road 207, then left 5 miles. Missile is on right side of road.
- C5. Mike's missile.** From the north end of Utica, take County Road 239 east 3.25 miles, then left on a gravel road 3 miles. Missile is on left side of road (before crossroad).
- C6. Utica missile.** From the south end of Utica, take a gravel road southwest 1 mile, keeping right. Missile is on right side of road.
- C7. Sapphire missile.** From the south end of Utica, take a gravel road southwest 8 miles. Missile is on right side of road (about 2 miles northeast of Sapphire mine).



## Flight F

- F1. Greenpeace launch control center.** From County Road 434 in Augusta, go north 9.7 miles on U.S. 287. Launch control center is on west side of road.
- F2. Burd Hill missile.** From U.S. 89 in Choteau, take U.S. 287 south 1 mile. Turn right at the Pishkon River Fishing Access and go 2.2 miles. Missile is on right side of road.
- F3. Roundup Coulee missile.** From U.S. 89 in Choteau, go south 10 miles on U.S. 287. Missile is on east side of road.
- F4. Sun River missile.** From County Road 434 in Augusta, take U.S. 287 north 7.5 miles. Turn right 10.6 miles on County Road 408 (road curves left then right just before mission). Missile is on left side of road.

- H11. Big Sky missile.** From State Highway 408 in Fairfield, take U.S. 89 north 3.5 miles to a gravel road veering off due north to the right, parallel to Freezeout Lake. Go 1.2 miles. Turn east and go 1.3 miles, then north 6.9 miles. Missile is on west side of road (5.3 miles after railroad crossing).

## Flight I

- I1. Save All Living Things launch control center.** From Cascade, take State Highway 330 east 12 miles to a gravel road, then go left 7 miles. Launch control center is on right side of road.
- I2. Eden missile.** From Eden, go 1 mile southwest on a gravel road. Missile is on left side of road.

- J9. Terry's missile.** From I-15 Exit 297 (Gordon), go east on a gravel road 2.9 miles. Missile is on left side of road.
- J10. Power missile.** From I-15 exit at Power, go .1 mile east. Turn left .1 mile. Missile is on left side of road, just off the interstate.
- J11. Darla's missile.** From the Dutton exit on I-15, take the east side I-15 frontage road 3.2 miles southeast to a gravel road. Turn left just before the "Pavement Ends" sign and just after right curve in the road. Go .8 mile. Missile is on north side of road.

## Flight K

- K1. General Assembly launch control center.** From the junction of U.S. 87 and Hobson Road, go through Hobson and west on State Highway 239, 1.5 miles. Turn south on paved State Highway 400, 12.4 miles. Missile is on east side of road.

- L9. Buffalo missile.** From the junction of U.S. 87 and Hobson Road, go through Hobson and west on State Highway 239, 1.5 miles. Turn south on paved State Highway 400, 12.4 miles. Missile is on east side of road.
- L10. Garneil missile.** On the east side of U.S. 191, 8.5 miles north of Judith Gap.
- L11. Straw missile.** On the east side of U.S. 191, 6.3 miles south of its junction with U.S. 87.

## Flight M

- M1. Latin American Christian Base Communities launch control center.** From the junction of U.S. 191 and U.S. 87, go northeast on U.S. 87, 3.4 miles past the Moore Road. Launch control center is on left side of road.
- M2. Brian's missile.** From U.S. 191 north of Lewistown, go 8 miles west on State Highway 81. Missile is on left side of road.
- M3. Warm Spring Creek missile.** From Lewistown, take U.S. 191 north 10 miles. Missile is on right side of road (1 mile past State Highway 81).
- M4. Lewistown North missile.** From Lewistown, go 4.5 miles north on U.S. 191, then 1 mile left on a curving gravel road. Missile is on right side of road.
- M5. Lewistown West missile.** On the south side of U.S. 87/191, 5 miles west of the center of Lewistown.
- M6. Amy's missile.** From the water tower in Moore, go south .2 mile, then left 4.4 miles. Turn right 1.2 miles, then left 1 mile, then right .7 mile, then left 1.1 miles. Missile is on right side of road.
- M7. Moore missile.** From west Moore, take U.S. 87/191 west, 2.1 miles. Turn left on 191 and go .2 mile. Missile is on left side of road.
- M8. Hobson South missile.** From the south end of Hobson, take State Highway 239 west .8 mile. Turn left 5.4 miles on County Route 400. Missile is on left side of road.
- M9. Moccasin missile.** On northeast side of U.S. 87, 2.4 miles southeast of Moccasin.
- M10. Kolin missile.** From the west end of Kolin, take a gravel road north 2.2 miles (over railroad tracks). Missile is on left side of road.
- M11. Hanover missile.** From Ross Fork, take the road east (along the railroad tracks) out of town 2 miles. Missile is on left side of road.

## Flight N

- N1. Nukewatch launch control center.** From Grassrange, take U.S. 87 west 11.1 miles. Launch control center is on left side of road.
- N2. Chippewa Creek missile.** From State Highway 19 north of Grassrange, go north 2 miles on U.S. 19. Turn left onto a gravel road and go 6.5 miles, then right 1.1 miles. Missile is on right side of road.
- N3. Grassrange North missile.** On the east side of State Highway 19, 2.75 miles north of U.S. 87.
- N4. Becket missile.** From Grassrange, follow Main Street south until it turns to gravel. Cross bridge, taking right fork at .4 mile. Continue on 7 miles. Missile is on right side of road.
- N5. Bear Creek missile.** From Grassrange, follow Main Street south until it turns to gravel. Cross bridge, taking right fork at .4 mile. Continue on 12 miles, then turn left and go 4.8 miles. Missile is on right side of road.
- N6. Dunlap East missile.** From Lewistown, take County Road 238 southeast about 9 miles to Dunlap, then take a left fork 7.7 miles. Missile is up a short access road to the left (2.5 miles west of Forestgrove).
- N7. Heath missile.** From Lewistown, take County Road 238 about 10 miles south to Heath. One mile past Heath take a gravel road left 1.6 miles, keeping left at all forks. Missile is on right side of road.
- N8. Lewistown South missile.** From the intersection of First Avenue south and Brassy in Lewistown, go left 1.1 miles. Make a sharp right and go .3 mile (residential area). Turn left onto a road that is first paved and then gravel, and go 4.1 miles. Missile is on left side of road.
- N9. Lewistown East missile.** From Meadowlark Lane, east of Lewistown, go east 1.7 miles on U.S. 87. Turn left .3 mile. Missile is on right side of road.
- N10. Mark's missile.** From Meadowlark Lane, east of Lewistown, go east 12.9 miles on U.S. 87. Turn left and go 1.7 miles. Missile is on right side of road.
- N11. Maiden Creek missile.** From Meadowlark Lane, east of Lewistown, go east 12.9 miles on U.S. 87. Turn left and go 5.8 miles, then right 4.9 miles. Missile is on left side of road.

## Flight O

- O1. Polish Freedom and Peace Groups launch control center.** On south side of U.S. 191, 1.2 miles east of Roy.
- O2. Roy North missile.** From Roy, go 7 miles north on a gravel road. Missile is on left side of road.
- O3. Sacagawea missile.** From Roy, go 7.5 miles east then 7.5 miles north on U.S. 87. Turn left 5 miles onto a gravel road. Missile is on left side of road.



southwest 1 mile, keeping right. Missile is on right side of road.

**C7. Sapphire missile.** From the south end of Utica, take a gravel road southwest 8 miles. Missile is on right side of road (about 2 miles northeast of Sapphire village).

**C8. Montana Women Initiating Nuclear Disarmament missile.** From State Highway 80 in Stanford, go west 1.2 miles on U.S. 87. Turn left on a road that is first paved and then gravel. Go 12.2 miles, keeping left at all forks (and passing C10 at 6.8 miles). Curve left onto Sage Creek Road and go 4.9 miles. Missile is on right side of road.

**C9. Sue's missile.** From State Highway 80 in Stanford, go west 1.2 miles on U.S. 87. Turn left on a road that is first paved and then gravel. Go 11.9 miles, keeping left at all forks. Turn right onto Dry Wolf Road and go 3 miles. Missile is on left side of road.

**C10. Running Wolf Creek missile.** From State Highway 80 in Stanford, go west 1.2 miles on U.S. 87. Turn left on a road that is first paved and then gravel. Go 6.8 miles, keeping left at all forks. Missile is on left side of road.

**C11. Stanford missile.** From the south end of Stanford, go 1 mile northwest on U.S. 87. Missile is on right side of road.

## Flight D

**D1. Green Party launch control center.** From the center of Denton, go east 1.7 miles on State Highway 81. Turn left onto County Road 547 and go north 8.6 miles (road curves east three times). Missile is on right side of road.

**D2. Bonnie's missile.** From the center of Denton, go east 1.7 miles on State Highway 81. Turn left onto County Road 547 and go 6.4 miles, then left again for 3.1 miles. Turn right and go .5 mile, then left 11.3 miles. Missile is on right side of road.

**D3. Butch's missile.** From the center of Denton, go east 1.7 miles on State Highway 81. Turn left onto County Road 547 and go 29.5 miles (passing D1, D5, D4). Take a sharp right down a hill. Missile is on right side of road.

**D4. Tim's missile.** From the center of Denton, go east 1.7 miles on State Highway 81. Turn left onto County Road 547 and go 23.2 miles, passing D1 after 8.6 miles and D5 after 15.2 miles. Missile is on left side of road.

**D5. Paul N.'s missile.** From the center of Denton, go east 1.7 miles on State Highway 81. Turn left onto County Road 547 and go 15.2 miles, passing D1 after 8.6 miles. Missile is on right side of road.

**D6. Danvers missile.** From the center of Denton, go east on State Highway 81 for 16.5 miles (about 4.7 miles beyond the Judith River crossing). Missile is on left side of road.

**D7. Joe's missile.** From the center of Denton, go east 10.3 miles on State Highway 81. Missile is on south side of road.

**D8. Jesus Wept missile.** From the center of Denton, go east 3.9 miles on State Highway 81. Turn right onto a gravel road and go 2.8 miles. Missile is on right side of road.

**D9. Denton missile.** From State Highway 81 in the center of Denton, go northwest 3.3 miles on a gravel road. Missile is on right side of road.

**D10. Coffee Creek missile.** From State Highway 81 in the center of Denton, go north 8.5 miles on a gravel road, then turn left. Go 1 mile, then take a sharp right onto a winding road, immediately after grain bins. Go north .9 mile. Missile is on right side of road.

**D11. Blood Coulee missile.** From the center of Denton, go east 1.7 miles on State Highway 81. Turn left onto County Road 547 and go 6.4 miles, then left again 3.1 miles. Turn right and go .5 mile, then left 4.2 miles. Missile is on right side of road.

## Flight E

**E1. New Zealand Nuclear Free Zone launch control center.** From Suffolk, take State Highway 236 south .9 mile to a gravel road. Turn right .4 mile, then left 3.9 miles (through four curves). Launch control center is on right side of road.

**E2. Missouri River Breaks missile.** From the Winifred post office, take the gravel road that passes the grain elevators, goes east 1.5 miles and then curves north. Go 5.9 miles. Missile is on left side of road.

**E3. Winifred missile.** On the west side of State Highway 236, 4.3 miles north of Suffolk.

**E4. Cut Bank Creek missile.** From the Winifred post office, take the gravel road that passes the grain elevators and go east 1.5 miles and north .5 mile. Turn east (onto Knox Ridge Road) and go 2 miles, then north .9 mile, then right 2.6 miles. Missile is on left side of road.

**E5. Rolling Hills missile.** From Suffolk, take State Highway 236 north 3.3 miles, then go east 5 miles on a gravel road, keeping to the right. Turn south (through a gate) .9 mile. Missile is on left side of road.

**E6. Christina missile.** On the west side of State Highway 236, 2.6 miles north of Christina.

**E7. Moulton missile.** On the west side of State Highway 236, 5.5 miles north of Hilger.

**E8. North Moccasin Mountains missile.** From Lewistown, go north 9 miles and turn west on State Highway 81. Go 9.5 miles, then turn north onto a gravel road and go 5 miles. Missile is on right side of road.

**E9. Box Elder Creek missile.** From Hilger, go north 7.4 miles on State Highway 236, then west on a gravel road 4.2 miles. Turn right 2 miles, then right again 2.7 miles. Missile is on right side of road.

**E10. Salt Creek Pines missile.** From Suffolk, go .6 mile north, then west 7.7 miles on a gravel road. Missile is on right side of road.

**E11. Judith Landing Road missile.** On the south side of State Highway 236, 4.6 miles northwest of the Winifred post office (road takes four curves).

to miles on U.S. 287. Missile is on east side of road.

**F4. Sun River missile.** From County Road 434 in Augusta, take U.S. 287 north 7.5 miles. Turn right 10.6 miles on County Road 408 (road curves left then right just before missile). Missile is on left side of road.

**F5. Bickie missile.** From Augusta, go east 1.5 miles on U.S. 287, then right 7 miles on State Route 21, then right again .5 mile on a gravel road. Missile is on right side of road.

**F6. Augusta North missile.** On the east side of U.S. 287, 3.3 miles north of Augusta.

**F7. Augusta Southwest missile.** From Augusta, go 3.5 miles southwest on County Road 434, then .5 mile right on a gravel road. Missile is on left side of road.

**F8. Clemons Coulee missile.** From County Road 434 in Augusta, go 12 miles north on U.S. 287. Then go left 3.7 miles. Turn right at "T" intersection and continue 4.8 miles. Missile is on right side of road.

**F9. Emma Goldman missile.** From the center of Choteau, go 1 mile south on U.S. 287, then turn right on Bellview Road and go 5 miles. Turn left 11.5 miles. Missile is on left side of road.

**F10. Bellview Road missile.** From the center of Choteau, go 1 mile south on U.S. 287, then turn right on Bellview Road and go 14 miles. Missile is on right side of road.

**F11. Willow Creek missile.** From the center of Choteau, go 1 mile south on U.S. 287, then turn right on Bellview Road and go 5 miles. Then turn left and go 5.5 miles. Missile is on right side of road (just before road crosses Hay Coulee).

## Flight G

**G1. Last Chance Peacemakers Coalition launch control center.** On west side of State Highway 200, 4.3 miles north of Bowmans Corners.

**G2. Iron Hill missile.** From State Highway 21 at Simms, go 8.4 miles southwest on State Highway 200. Missile is on right side of road.

**G3. St. John's Creek missile.** From I-15 Exit 256 at Cascade, go 6.9 miles northwest on the St. Peter Mission Road (first paved, then gravel), then turn right at Missile G4 and go 6.5 miles. Missile is on the left.

**G4. White Wind Stone missile.** From I-15 Exit 256 at Cascade, go 6.9 miles northwest on the St. Peter Mission Road (first paved, then gravel). Missile is on left side of road.

**G5. St. Peter Mission missile.** From I-15 Exit 256 at Cascade, go 13.1 miles northwest on the St. Peter Mission Road (first paved, then gravel), bearing left at Missile G4. Missile is on left side of road.

**G6. Twin Bridge Coulee missile.** From Bowmans Corners, go south 6 miles on U.S. 287, then left 2 miles on a gravel road. Missile is on left side of road.

**G7. Auchard Creek missile.** On the east side of State Highway 200, 5.5 miles south of Bowmans Corners.

**G8. Wrangle Creek missile.** From Bowmans Corners, go 8.5 miles south on State Highway 200, then right 5.5 miles on County Route 434. Missile is on left side of road.

**G9. Flat Creek missile.** On the northeast side of U.S. 287, 5 miles north of Bowmans Corners.

**G10. Dry Creek missile.** From Augusta, go 5.5 miles south on U.S. 287, then left 2.5 miles on a gravel road. Missile is on right side of road.

**G11. Simms Creek missile.** From Bowmans Corners, go 7.7 miles north on State Highway 200, then left 7 miles on a gravel road. (After 6 miles the gravel road curves north, but keep going straight). Missile is on right side of road.

## Flight H

**H1. Greenham Common Women's Peace Camp launch control center.** From State Highway 408 in Fairfield, go north 3.5 miles on U.S. 89. Turn right on a road that veers north, parallel to Freezeout Lake, and go 1.2 miles. Turn east and go 3.2 miles, then north .8 mile. Launch control center is on east side of road (immediately after railroad tracks).

**H2. Dutton missile.** From the junction of I-15 and State Highway 221 (Dutton exit), take State Highway 221 west, through Dutton, for 3.7 miles. Turn south and go 3.4 miles on a gravel road. Missile is on right side of road (after several curves).

**H3. Fairfield Bench missile.** From the "town limit" sign in west Power, go west 2 miles on State Highway 431. When the road turns south, continue west on a gravel road 2.7 miles. Missile is on left side of road.

**H4. Gordon missile.** From State Highway 200 in Sun River, go .2 mile northwest on U.S. 89. Turn north at the church and go 5 miles, then turn east 1 mile, then north .5 mile. Turn east and go .6 mile. Missile is on north side of road.

**H5. Hillside missile.** From the junction of State Highway 200 in Sun River, go 7.4 miles northwest on U.S. 89. Turn west onto a gravel road and go downhill .2 mile. Missile is on right side of road.

**H6. Shaw Butte missile.** From Fort Shaw post office, take the paved Mullan Road south .4 mile. Take the right curve (road is now gravel) and go 2.8 miles south. Missile is on right side of road.

**H7. Simms missile.** From State Highway 200 in Simms, go 1.8 miles southwest on State Highway 200. Missile is on right side of road.

**H8. Butte Canal missile.** On the south side of State Highway 21, 7 miles west of Simms.

**H9. Fairfield missile.** From U.S. 89 in Fairfield, go west 2.6 miles on State Highway 408. Missile is on north side of road.

**H10. Priest Butte missile.** From U.S. 287 in Choteau, take U.S. 89 south 2.2 miles. Turn right on a gravel road paralleling U.S. 89 and go 3.5 miles. Missile is on right side of road, partly hidden on a hill.

take State Highway 408 down to hill and a gravel road, then go left 7 miles. Launch control center is on right side of road.

**I2. Eden missile.** From Eden, go 1 mile southwest on a gravel road. Missile is on left side of road.

**I3. Spanish Coulee missile.** On the south side of State Highway 330, 14.75 miles east and south (at the "T" in the road, turn right) of Cascade.

**I4. Bird Creek missile.** From Cascade, take State Highway 330 east 6.3 miles to a gravel road, then turn right past Willow Creek and go 8.5 miles. Missile is on left side of road.

**I5. Cameron missile.** On the south side of State Highway 330, 7.5 miles east of Cascade.

**I6. Cascade missile.** From I-15 Exit 256 (Cascade), take the frontage road (north side of I-15) northeast .8 mile, keeping left at the curve. Turn north and go .7 mile. Missile is on right side of road.

**I7. Muddy Creek missile.** From Great Falls, go 15.8 miles south on I-15. Missile is on left side of road.

**I8. Square Butte missile.** From Sun River, go south 8 miles on a paved road that turns to gravel. Missile is on left side of road.

**I9. Sun River South missile.** From Sun River, go south 2.8 miles on a paved road that turns to gravel. Turn east and go 1.8 miles. Missile is on left side of road.

**I10. Vaughn missile.** On the east side of the junction of U.S. 89/State Highway 200 and I-15 at Exit 290.

**I11. Ulm Pishkun missile.** From I-15 Exit 270 (Ulm), go north 2.2 miles on a gravel road, then west .5 mile, then north 1 mile. Turn east and go .5 mile. Missile is on right side of road.

## Flight J

**J1. Easter Peace Celebration launch control center.** From Power exit on I-15, go 2.1 miles on the frontage road north (west side of I-15). Turn right on gravel road after going under I-15 and go 4.1 miles. Turn north at white signpost and go 1 mile then turn west 1.7 miles. Missile is on right side of road.

**J2. John's missile.** From the Dutton exit on I-15, go south on the frontage road (east side of I-15) .6 mile. Turn east 8.4 miles on State Highway 379. Missile is on south side of road.

**J3. Spencer Coulee missile.** From the Dutton exit on I-15, go south on the frontage road (east side of I-15) .6 mile. Turn east 14.4 miles on State Highway 379 to a gravel road; then turn south at the "T." 1.5 miles. Missile is on left side of road (after a big left curve).

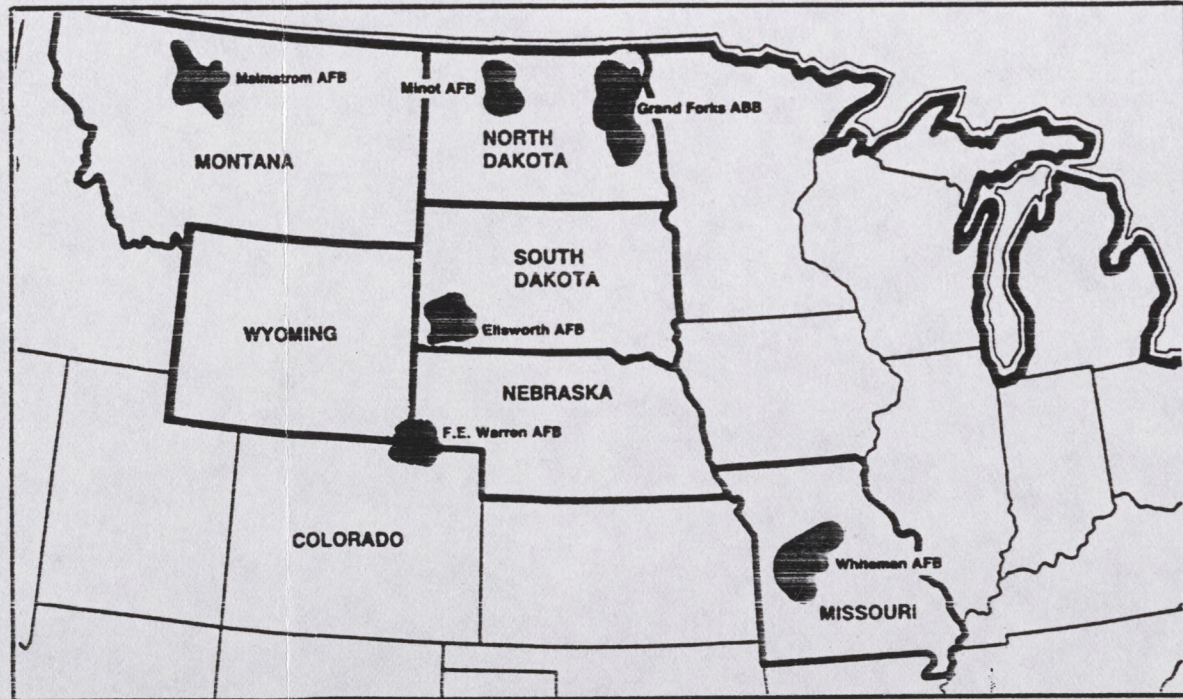
**J4. Cheryl's missile.** From the Dutton exit on I-15, go south on the frontage road (east side of I-15) .6 mile. Turn east 18.3 miles on State Highway 379. Take right fork 1 mile, then go left 2 miles. Turn north at crossroads 1 mile, then east 1.8 miles. Missile is on north side of road.

**J5. Floweree missile.** From the U.S. 87 bridge over the Missouri River in Black Eagle, go 21.4 miles northeast. Turn north on a gravel road 1.9 miles, then west 2.1 miles. Missile is on north side of road.

**J6. Bootlegger Trail missile.** From U.S. 87 bridge over the Missouri River in Black River, go northeast 9.4 miles. Turn north on a gravel road and go 8.1 miles, then west 5.7 miles. Missile is on south side of the road.

**J7. Huntley Coulee missile.** From U.S. 87 bridge over the Missouri River in Black Eagle, go northeast 9.4 miles. Turn north on a gravel road 7.8 miles. Missile is on east side of road.

**J8. Benton Lake missile.** From I-15 Exit 297 (Gordon), take a gravel road east 8.2 miles, then north 3 miles. Missile is on right side of road.



The Air Force's six Minuteman missile fields

## Flight K

**K1. General Assembly to Stop the Powerline to Minnesota launch control center.** From the junction of U.S. 191 and U.S. 12 east of Harlowton, go 1 mile northeast on U.S. 191. Launch control center is on west side of road.

**K2. Harlowton missile.** From U.S. 12 south of Roberts Creek, go 7.1 miles north on U.S. 191. Missile is on east side of road.

**K3. Roberts Creek missile.** From U.S. 12 east of Harlowton, go 7 miles north on U.S. 191, then east 7.1 miles on a gravel road. Turn south (just before the railroad tracks) 1.7 miles. Missile is on west side of road.

**K4. Hedgesville missile.** From Shawmut, go 8.7 miles north on State Highway 297 through Hedgesville. Turn east at the "T" and go .8 mile. After crossing Careless Creek, turn left and go 1 mile. Missile is on right side of road.

**K5. Hilltop missile.** From Shawmut, go 3.5 miles north on State Highway 297. Missile is on right side of road.

**K6. Mussellsell River missile.** From U.S. 191 east of Harlowton, go 6.1 miles east on U.S. 12. Missile is on north side of road.

**K7. Mud Creek missile.** From Shawmut, go south 2.8 miles on a gravel road. Missile is on right side of road (before road turns east).

**K8. Crazy Mountain View missile.** On west side of U.S. 191, 4.75 miles south of Harlowton.

**K9. Mexican John Creek missile.** From Harlowton Courthouse, go 5.4 miles west on U.S. 12; then take a gravel road 6.4 miles north. (Road turns three times.) Missile is on right side of road.

**K10. Spring Prairieflower missile.** From Harlowton Courthouse, go 1.3 miles west on U.S. 12, then 6.5 miles north on a gravel road past the airport. Missile is on right side of road.

**K11. Hopley Creek Gulch missile.** From Harlowton Courthouse, go 1.3 miles west on U.S. 12, then 15 miles north on a gravel road past the airport. Missile is on right side of road.

## Flight L

**L1. Charter 77 of Czechoslovakia launch control center.** On east side of U.S. 191, 1.4 miles north of Judith Gap.

**L2. Little Trout Creek missile.** From the junction of U.S. 87 and U.S. 191, go east to the Moore Road, then south 4 miles. Turn east 1 mile, then south 2.3 miles. After road curves, turn left 3.4 miles, keeping left at forks. Missile is on right side of road (up a hillside).

**L3. Judith Gap East missile.** On the north side of paved State Highway 297, 6.5 miles east of Judith Gap.

**L4. Timber Creek missile.** On the south side of paved State Highway 297, 13.1 miles east of Judith Gap (1.5 miles beyond Timber Creek).

**L5. Little Careless Creek missile.** From U.S. 12 east of Harlowton, go 7 miles north on U.S. 191, then east 11 miles on a gravel road. Go north 3 miles, then east 1 mile. Missile is on right side of road.

**L6. Blake Creek missile.** From U.S. 191, 12 miles north of Harlowton, go east 7 miles on a gravel road. Turn south 1.4 miles. Missile is on east side of road.

**L7. Judith Gap South missile.** On east side of U.S. 191, 4.8 miles south of Judith Gap.

**L8. Stevens Gulch missile.** From U.S. 191, .3 mile south of Judith Gap railroad tracks, turn west on a gravel road and go 3.2 miles. Turn west 3 miles, then north 1.1 miles. Missile is on right side of road.

**O2. Roy East missile.** From Roy, go 7.5 miles east then 7.5 miles north on U.S. 191. Then go .5 mile left on a gravel road. Missile is on right side of road.

**O3. Sacagawea missile.** From Roy, go 7.5 miles east then 7.5 miles north on U.S. 191. Then go .5 mile left on a gravel road. Missile is on right side of road.

**O4. Roy East missile.** From Roy, go 7.5 miles east on U.S. 191, then right .5 mile on State Highway 19. Then go left .8 mile on a gravel road. Missile is on left side of road.

**O5. Burton K. Wheeler missile.** From U.S. 87 north of Grassrange, go north 16 miles on State Highway 19, then left 1 mile on a gravel road, then left .5 mile. Missile is on right side of road.

**O6. Little Box Elder Creek missile.** From U.S. 87 north of Grassrange, go north 8.75 miles on State Highway 19. Missile is on right side of road.

**O7. Roy South missile.** From Roy, go 8.25 miles south on a gravel road. Missile is on left side of road.

**O8. Hilger East missile.** On north side of U.S. 191, 3.25 miles east of Hilger.

**O9. Fergus West missile.** On south side of U.S. 191, 5.5 miles west of Fergus.

**O10. Fergus East missile.** On north side of U.S. 191, 1.5 miles east of Fergus.

**O11. Armells Creek missile.** From Fergus, go 8 miles north on a gravel road. Missile is on right side of road, just past Armells Creek.

## Flight P

**P0. Silo Pruning Hooks launch control center.** From Conrad take State Highway 218 east 1 mile, then north 2.1 miles on the paved frontage road. Turn right on a gravel road .4 mile. Launch control center is on left side of road.

**P1. Bear River missile.** From the Marias River Road exit off I-15 (Exit 358) south of Shelby, go west .8 mile on a gravel road. Missile is on north side of road.

**P2. Martin's missile.** From the Ledger Road exit off I-15 (Exit 345), go east 2.4 miles on State Highway 366, then north 4.1 miles. Turn east 2 miles, then north 1.7 miles. Missile is on west side of road.

**P3. Ledger missile.** From the Ledger Road exit off I-15 (Exit 345), go east 2.4 miles on State Highway 366, then north 1.3 miles on a gravel road (turn is between trees and a farm windbreak). Missile is on east side of road.

**P4. Sam George Hill missile.** From the stoplight in Conrad, take State Highway 534 west 2.8 miles. When the highway turns north, keep going west another 3 miles. Missile is on right side of road.

**P5. Williams missile.** From the stoplight in Conrad, take State Highway 534 west 4.5 miles. Continue north on the gravel road 3.8 miles (past Dry Fork of Marias River and the railroad tracks), then west 2.1 miles. At the curve, continue west along the Dry fork 2.7 miles (road is curvy). At the "T," turn right .4 mile. Missile is on right side of road.

**P6. Paul's missile.** From I-15 Exit 348 (Valier Road), go 8.8 miles west on State Highway 44, then 2 miles north on a gravel road, then west .3 mile. Missile is on south side of road.

**P7. Helen's missile.** On north side of State Highway 44, 1.8 miles west of I-15 Exit 348 (Valier Road).

**P8. Larry's missile.** At the I-15 Bullhead Road exit (Exit 352, north from Conrad) take the Bullhead Road west 6 miles (crossing Bullhead Coulee and keeping left at 3.7 miles). Turn north (at the white schoolhouse) 1.7 miles. Missile is on west side of road.

**P9. Carl's missile.** From the Bullhead Road exit off I-15 (Exit 353, north of Conrad) go .5 mile west, then .6 mile north on old U.S. 91. Missile is on west side of road.

**P10. Northern missile.** From the Marias River Road exit off I-15 (exit 358, south of Shelby) go east .1 mile, then north on the frontage road 3.5 miles. Turn west and pass under I-15, then south .5 mile, then west 4.8 miles. Missile is on south side of road.

## Flight Q

**Q0. Philippine People Power launch control center.** On the south side of State Highway 366, 9.4 miles east of the Ledger railroad crossing.

**Q11. Nigel's missile.** From the Ledger railroad crossing, go 15.4 miles east on State Highway 366 (through one curve). As the highway curves east, go north 1.1 miles on a gravel road. Then go .8 mile west. Missile is on north side of road.

**Q12. Kate's missile.** From the Ledger railroad crossing, go 19.1 miles east on State Highway 366 (through two curves). Missile is on south side of road.

**Q13. Rifle Shot missile.** From Conrad, go 21.1 miles east on State Highway 218 (Solid Road) to a gravel road, then north 3 miles, then west .3 mile. Missile is on left side of road.

**Q14. John's missile.** From Conrad, go 12 miles east on State Highway 218 (Solid Road) to a gravel road (1.5 miles beyond Pondera Coulee), then turn north 2.2 miles. Missile is on right side of road.

**Q15. Jim's missile.** From Conrad, go 7.2 miles east on State Highway 218 (Solid Road), then north at the top of a rise 3.7 miles on a gravel road (past Pondera Coulee and past one curve). Missile is on left side of road.

**Q16. Thornton's missile.** From the Ledger railroad crossing, go 4.4 miles east on State Highway 366, then .8 mile north on a gravel road. Missile is on east side of road.

**Q17. Greg's missile.** From Shelby city hall, go 5 miles east on U.S. 2, then 3.9 miles south on State Highway 417, then .3 mile east on a gravel road. Missile is on south side of road.

**Q18. Shelby missile.** On the north side of U.S. 2, 3.2 miles east of Shelby city hall.



Q19. Will's missile. From Shelby city hall, go 5.3 miles east on U.S. 2, then 9.6 miles south on State Highway 417 (across Marias River). Missile is on left side of road.

Q20. Dunkirk missile. On south side of U.S. 2, 8.6 miles east of Shelby city hall.

### Flight R

R0. Silence One Silo launch control center. From Brady take State Highway 365 east 12.2 miles, then go left 4.6 miles on a gravel road. Launch control center is on right side of road.

R21. Linda's missile. Take I-15 Exit 335 (Midway Road, south of Conrad) and go east on a graveled road 19.2 miles. Missile is on left side of road (1.7 miles past "Yield" signs).

R22. Karl's missile. From Brady go 16.75 miles east on State Highway 365, then north 2.3 miles on a gravel road. Missile is on left side of road.

R23. The Knees Butte missile. From I-15 Exit 321 (Collins), go east 19 miles on a gravel road (through four curves). Missile is on right side of road.

R24. Amy's missile. From Brady go 16.75 miles east on State Highway 365, then south 2.5 miles on a gravel road. Missile is on right side of road.

R25. Llama Ranch missile. From I-15 Exit 321 (Collins), go east on a gravel road 10 miles, then south 3.3 miles. After the bridge over the Teton River, turn left immediately and go 3.9 miles, then south 1.9 miles. Missile is on right side of road.

R26. Teton River missile. From I-15 Exit 321 (Collins), go east on a gravel road 10 miles, then south 2.3 miles. Missile is on right side of road.

R27. LaVonne's missile. From Brady go 12.2 miles east on State Highway 365, then south (at the electric substation) on a gravel road 1.7 miles. Missile is on right side of road.

R28. Collins Training missile. From I-15 Exit 321 (Collins), take a gravel road east 3.9 miles, then north .7 mile. Missile is on left side of road.

R29. David Hastings missile. From I-15 Exit 335 (Midway Road), go east 11.5 miles on the graveled Midway Road. Missile is on left side of road.

R30. Mark's missile. From Conrad, go 16.8 miles east on State Highway 218 (Sollid Road). Missile is on left side of road.

### Flight S

S0. Plowshares Disarmament Community launch control center. On the north side of State Highway 365, 1.75 miles east of Exit 328 (Brady) from I-15.

S31. Rocky Coulee missile. On the north side of State Highway 365, 7.25 miles east of Exit 328 (Brady) from I-15.

S32. Teton Ridge missile. From I-15 Exit 313 at Dutton, go west 11.8 miles on State Highway 221, then north 1 mile on a gravel road, then west .8 mile. Missile is on left side of road.

S33. Muddy Creek missile. From the Brady post office go west (past the water tower) 2 miles on a gravel road, then south 2.5 miles. Missile is on right side of road.

S34. Collins missile. From the junction of State Highways 220 and 221 near Choteau, go north 6.1 miles on Road 220, then east 5.2 miles on a gravel road, then north 1 mile, then east 3.1 miles, then north 2.1 miles, then east .6 mile. Missile is on right side of road.

S35. Farmers Coulee missile. From U.S. 89 at Pendroy, go 8.3 miles east on State Highway 219, then 2.2 miles south on State Highway 220 (a gravel road). Missile is on west side of road.

S36. King of Prussia 8 missile. From the Brady post office, go .7 mile northwest, then west 7 miles on a gravel road. Missile is on right side of road.

S37. Pondera Oil Field missile. From the southwest of Conrad, go 6.5 miles southwest on State Highway 219, then 1.6 miles west on a gravel road. Missile is on left side of road.

S38. Brady missile. From the Brady post office, go 3.6 miles northwest on a paved road paralleling the Burlington Northern railroad tracks. After crossing South Pondera Coulee turn west .5 mile on a gravel road, then go north .1 mile. Missile is on left side of road.

S39. Conrad missile. From the junction of I-15 and State Highway 219 south of Conrad, go south .2 mile on Highway 219, then left 1.7 miles, then right 1 mile. Missile is on right side of road.

S40. Windbreaks missile. From I-15 Exit 335 at Midway, go 2.4 miles east, then .8 mile north on a gravel road. Missile is on right side of road.

### Flight T

T0. Big Mountain Resistance launch control center. From Valier, go 2 miles east on State Highway 44, then go 5.3 miles south on a paved road that curves around Lake Frances, then turns to gravel. Turn west and go 2.2 miles on the gravel road. Launch control center is on north side of road.

T41. Rock City missile. From Valier, go 3 miles north on State Highway 358. As highway curves to the west, continue north on the gravel road another 2.2 miles. Then go east 1.9 miles, then north 4.7 miles. Missile is on west side of road.

T42. Columbia River Fish-In missile. From Valier, go 3 miles north on State Highway 358. As highway curves to the west, continue north on the gravel road another 2.2 miles. Then go east 1.9 miles, then south .1 mile. Missile is on east side of road.

T43. Valier missile. From the post office in Valier, go east 2.3 miles on State Highway 44. Missile is on south side of road.

T44. Flathead Nation Nuclear Free Zone missile. On the north side of State Highway 534, 13 miles west from the stoplight in Conrad. (Road has many turns).

T45. Fat Buffalo missile. From U.S. 89 at Pendroy, go east 7.3 miles on State Highway 219, then north 3.2 miles on a gravel road. Missile is on left side of road.

T46. Pendroy missile. From U.S. 89 in Pendroy, go 1.9 miles east on State Highway 219, then 1.3 miles south (through two curves) on a gravel road, then east 1 mile, then south .6 mile. Missile is on right side of road.

T47. Grizzly Bear missile. From the junction of U.S. 89 and State Highway 219 west of Pendroy, go west 2.3 miles on a gravel road. Missile is on right side of road.

T48. Table Rocks missile. From U.S. 89 at Dupuyer, go east 8.8 miles on State Highway 534. Missile is on south side of road.

T49. Dry Fork of Marias River missile. From State Highway 534 at Dupuyer, go 5.3 miles southeast on U.S. 89. Missile is on east side of road (within a mile) south of Dry Fork crossing.

T50. Coyote missile. From U.S. 89 at Dupuyer, go 5 miles east on State Highway 534, then 2.3 miles north on a gravel road, then .6 mile west. Missile is on left side of road.

## THE MISSILE SILOS OF MONTANA

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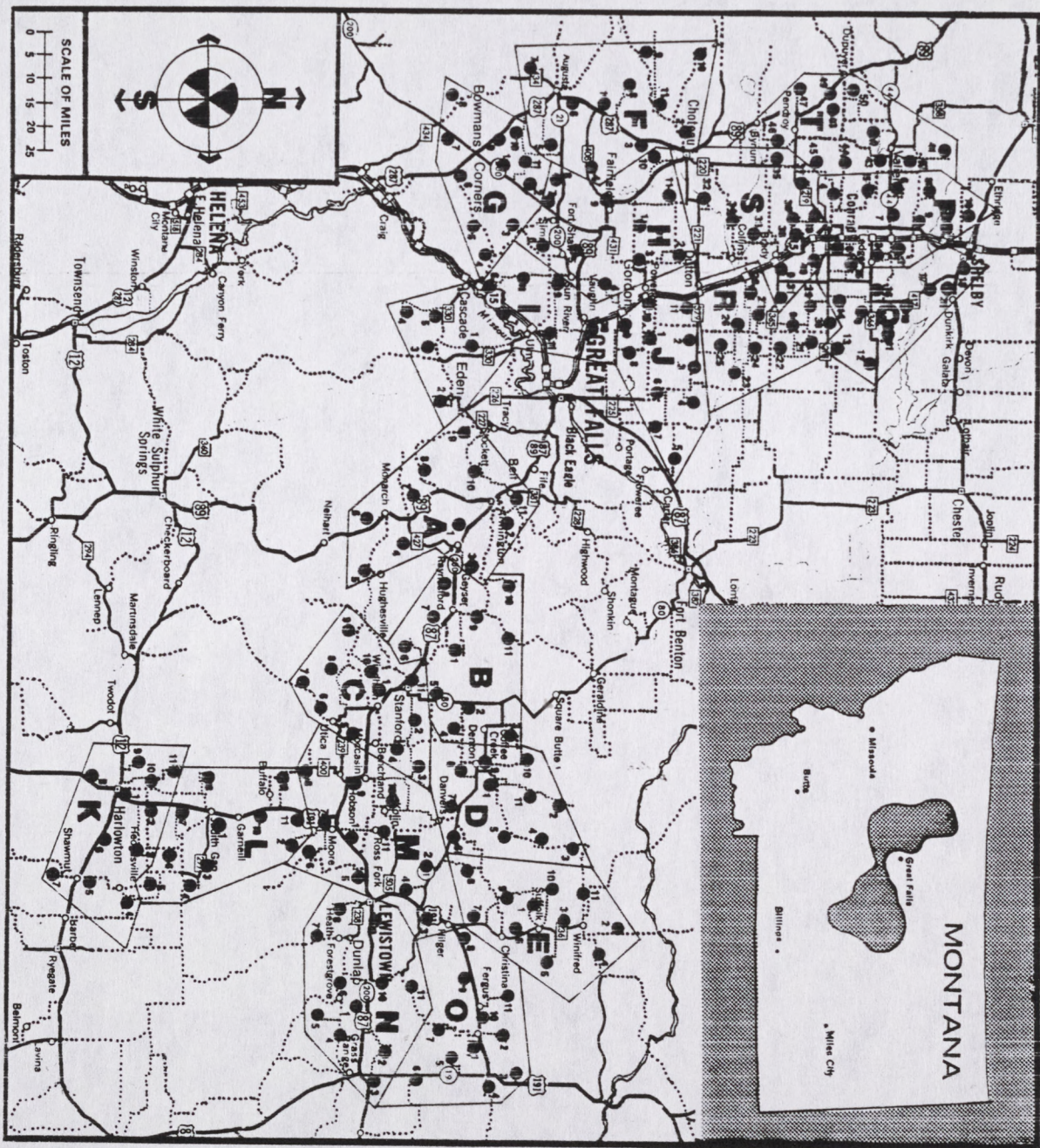
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# MISSILE SILOS OF MONTANA





## NUCLEAR MISSILE SILOS

Scattered over the fields and farmlands of seven Midwestern and Great Plains states, poised on underground launch pads, are 1,000 nuclear missiles aimed at targets thousands of miles away. Shown on reverse side are the 200 launch sites of Montana.

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# In Montana, a Popular Expression Is Taken Off the Endangered List

## Congress Blocks Effort to Trademark 'Last Best Place'

By JIM ROBBINS

MISSOULA, Mont. — "The Last Best Place," a phrase long used and cherished by Montanans to describe their sprawling, scenic state, will soon be protected forever, a United States senator says, and anyone will be able to use it without fear of running afoul of trademark law.

Senate and House committees have approved language in a Department of Commerce appropriations bill that forbids the department from registering or enforcing a trademark of the phrase.

The language came after a businessman from Las Vegas with a luxury guest ranch in Montana sought exclusive right to the phrase for a wide range of businesses and products.

The move caused an uproar among Montanans, and tapped into deep feelings about the trend of wealthy out-of-staters buying up property. The phrase was adopted by the state from the title of an anthology of Montana writers published in 1988 by the Montana Historical Society and edited by William Kittredge and Annick Smith.

The wording was coined by Mr. Kittredge, then a professor of creative writing at the University of Montana, in a brainstorming session for the book at a resort near Yellowstone park.

"I was thinking of the book 'The Last Good Kiss' by James Crumley, and Lincoln's statement that the U.S. was the last best hope of mankind," Mr. Kittredge said. "The phrase popped into my head and I said, 'How about The Last Best Place?'"

"It immediately took on a life of its own," he said.

"The Last Best Place" struck a chord in Montana, the fourth-largest state in size but with fewer than a million people and millions of acres of wilderness.

Businesses throughout the state — from real estate brokers to motels — began freely using the phrase, and the State of Montana used it in a campaign, all without registering the phrase with the trademark office.

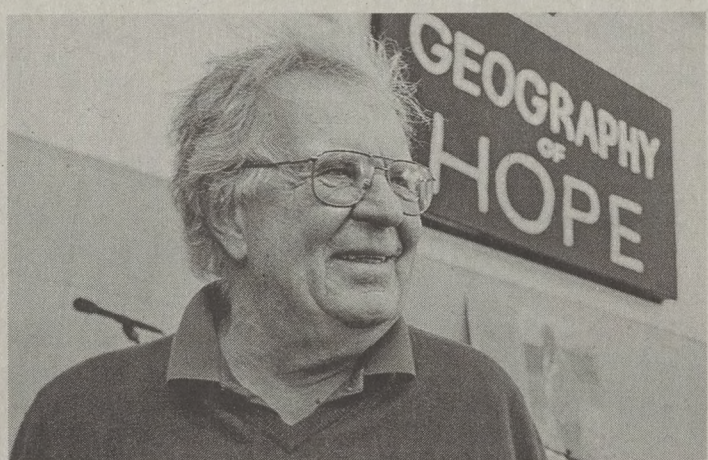
In 2002, the Las Vegas businessman, David E. Lipson, bought a 37,000-acre ranch in Greenough, Mont., near Missoula, and built a luxury resort ranch that he named Paws Up.

A reporter for a local newspaper, The Missoulian, noticed the trademark symbol next to "The Last Best Place" in an advertisement for Mr. Lipson's resort and wrote an article about it. He wrote that Mr. Lipson, filing under one of his businesses, The



ANNE SHERWOOD FOR THE NEW YORK TIMES

Montana used "The Last Best Place" in a campaign to draw tourists to its millions of acres of wilderness, including Glacier National Park, above.



PETER DASILVA FOR THE NEW YORK TIMES

William Kittredge came up with the phrase and used it as the title of a 1988 anthology of Montana writers that he helped edit.

Last Best Beef, had tried to gain exclusive rights to the slogan — not only to market his resort, but for other businesses, including jewelry, kitchenware and a line of clothing that includes hats, underwear and lingerie.

Among those who denounced Mr. Lipson for claiming the phrase was Gov. Brian Schweitzer

and Senator Max Baucus, both Democrats, as well as Mr. Kittredge. "Senator Baucus joins Montanans in their outrage," said Barrett Kaiser, a spokesman for the senator. "This is Montana's phrase."

Mr. Kittredge said he was "delighted" that Congress had acted to protect his phrase and wanted

everyone to be able to use it.

"It was intended as a gift to the people of Montana," he said. "Montana wasn't doing well economically at that time, and we're out in the sticks, and it was a way to help Montanans feel connected to the greater world."

In 2004, Senator Conrad Burns, a Montana Republican, made the first legislative attempt to stop Mr. Lipson from obtaining a trademark for the term, but Mr. Lipson filed a lawsuit against the copyright office to overturn that language. Mr. Lipson won, but the case was overturned by the Fourth Circuit Court of Appeals.

Mr. Baucus introduced a bill with stronger language after the first court decision, effectively banning the Department of Commerce from issuing a trademark for the phrase "The Last Best Place." The measure passed, but because it was part of a budget bill, it had to be reintroduced every year.

This year new, stronger language should end the matter for good, Mr. Baucus's office said, and Mr. Lipson and The Last Best Beef will never own the

trademark.

Mr. Lipson refused comment on the matter. But a spokesman for The Last Best Beef sent an e-mail statement that the company bought the phrase "The Last Best Place" from the Monterey Bay Clothing Company in 2003 "for a substantial amount of

## Montanans united to stop a businessman from Las Vegas.

money" and would continue to use it, as can anyone else. The spokesman said the issue was "totally phony."

The spokesman said Mr. Lipson had nothing to do with the attempt to register the name, but that it was The Last Best Beef that claimed the name. The Nevada secretary of state's office lists the DEL Corporation as the owner of The Last Best Beef, and Mr. Lipson as president of DEL.

Patrick Jennings, a trademark lawyer in Washington, who has written about the case but is not involved, said the effort in Congress to bar trademarking the phrase was "awfully unusual."

While a few well-known symbols like the Olympic rings, Smokey Bear and the Girl Scouts are controlled by specific organizations and legally exempt from being trademarked, they are a rare exception, Mr. Jennings said. "For slogans, such as a name like The Last Best Place, it's extremely unusual."

Even though others would have been able to use the slogan if the trademark application had been granted, they could have easily run afoul, Mr. Jennings said, because Mr. Lipson's trademark application covered such a broad range of items that it would have given him a "de facto monopoly" on use of the term.

Mr. Kittredge said he was happy when he drove around the state and saw signs referring to The Last Best Place. "My favorite, though, is a graveyard near Seely Lake called 'The Best Last Place,'" he said.

## Mitsubishi Is Said to Be Close to Deal for California Bank

By ANDREW ROSS SORKIN and MICHAEL J. de la MERCED

Mitsubishi UFJ Financial Group, one of Japan's largest banks, is near a deal to buy the remaining part of UnionBanCal Corporation that it does not already own for about \$3.5 billion, people involved in the deal said.

The transaction values UnionBanCal, which owns Union Bank of California, one of the 25 largest banks in the United States, at about \$10.5 billion.

Mitsubishi is trying to expand beyond its relatively stagnant

home market as Japanese companies seek to broaden their presence abroad and take advantage of a weaker dollar.

Mitsubishi raised its bid to slightly more than \$73 a share, these people said, up from the \$63 a share offer it made last week.

Its first unsolicited offer, made in April, was for \$58 a share. UnionBanCal had rejected Mitsubishi's bids as "not in the best interest of UnionBanCal's minority stockholders."

Some analysts had predicted last week that Mitsubishi would

raise its offer to at least \$70 a share, adding that UnionBanCal has not spurned its Japanese majority stakeholder outright.

Shares in UnionBanCal have risen 42 percent over the last month, buoyed by Mitsubishi's offer. They closed at \$65.49 a share on Friday.

Mitsubishi has said that its proposed acquisition of UnionBanCal, one of California's largest banks, would be a "first step" in a new strategy, one many analysts think involves buying other American institutions.

Many banks in the United States have been ravaged by problems with subprime mortgages and other loans, which in turn has battered their stock prices. That has prompted interest from buyers like foreign banks and private equity firms.

Other Japanese companies, like the insurer Tokio Marine and the drug maker Takeda Pharmaceutical Company, have struck significant international deals this year to tap into now-cheaper expansion opportunities outside the Japanese economy.

## On the Lines Fighting Fires, A Shift to Private Contractors

From Page A11

taught by retired federal employees, giving them a valuable leg up for other firefighting jobs.

Moreover, working on a wild-fire means that food and housing, even if it is a tent, is taken care of.

Jolin Loleit, 26, said her summertime work with GFP Enterprises Inc., a private company in Sisters, Ore., allowed her freedom to travel the rest of year.

"It's very addictive," Ms. Loleit said. "You work four months and then take the rest of the year off."

Now in her third year, Ms. Loleit has graduated from work on the fire line to logistical support. But for those still in the wild, the work is undeniably hard. Crews use shovels, axes and hoes to cut line.

Some crews are "spiked" at certain locations, far from base camp, meaning they live in the wilderness for days at a time, eating premade meals, lugging water and heavy equipment, and sleeping in small tents or under the stars.

Scott Posner, who was the task

force leader for the crew that crashed, said there was little differentiation made between federal firefighters and private workers on the fire line.

"You're all in yellow and green," said Mr. Posner, referring to the protective yellow shirts and green khaki pants usually worn in fire zones.

At the memorial here on Friday morning, several hundred private firefighters walked single-file into an amphitheater alongside Forest Service and Bureau of Land Management fire officials. At the memorial's conclusion, members of a federal honor guard passed folded flags and other mementos to Grayback firefighters and a Carson Helicopter official, who passed them along to the victims' families.

Such camaraderie and community appealed to Scott Charlson, said his mother, Nina, who said her son had wanted to write a book about his time on the fire line.

"After the first two weeks, and after talking to the crew, I think he was bit by the bug," she said. "Because it was so much more than he ever thought it was."

## Visitors Leave Florida Keys Ahead of Storm

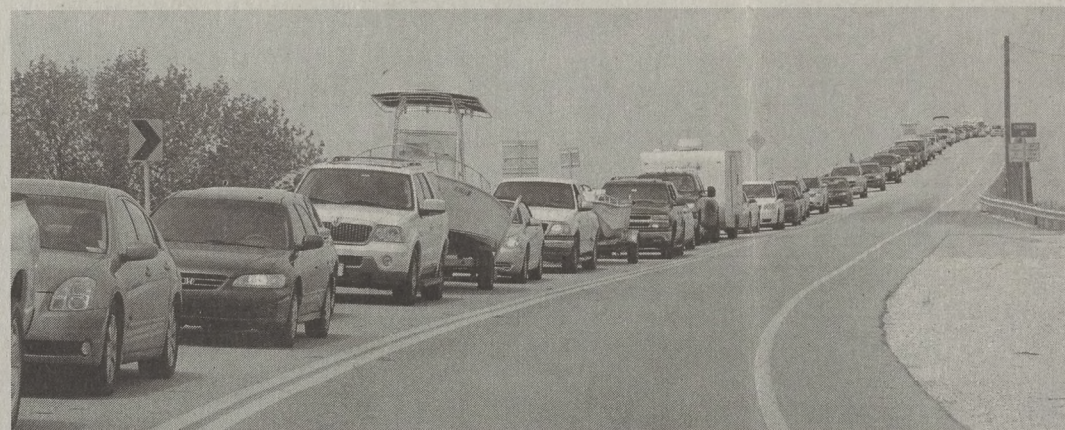
KEY WEST, Fla. (AP) — A light stream of traffic headed out of Key West on Sunday as officials urged visitors to leave the string of low-lying islands ahead of Tropical Storm Fay, which forecasters said could gain strength and become a hurricane.

Forecasters said the strong tropical storm or minimal hurricane could start pelting parts of the keys and South Florida late Monday or early Tuesday. Officials in the keys issued a mandatory evacuation order for visitors starting at 8 a.m. Sunday and asked those who had not yet arrived to postpone their trips.

"We hate to inconvenience those visitors that had plans to be in the keys the next few days, but their well-being is our top priority," said Mario Di Gennaro, mayor of Monroe County.

Officials said hotels and businesses would not be forced to receive visitors but should use common sense. They also said pools in the keys would be closed Monday and Tuesday.

Emergency officials in the keys ordered early evacuations because a storm threatens because it can back up for miles on the single highway to Florida's



ALAN DIAZ/ASSOCIATED PRESS

With Tropical Storm Fay expected to hit Florida this week, motorists left Key West on Sunday.

mainland.

Besides the threat of damage from high winds, most of the islands sit at sea level and could be flooded by storm surges.

With the warnings, some businesses in Key West began putting up hurricane shutters, but tourists and residents still strolled through downtown.

"We've been living in Florida now for 10 years," said John Civette as he walked with his wife, Tonya, "so we need to get some stuff together, but we're not going to rush out of here."

Mr. Civette said they would cut their vacation in the keys short and head home to Bonita Springs, in southwestern Florida, to prepare for the storm.

Tropical Storm Fay, the sixth storm of the Atlantic season,

picked up momentum early Sunday as it headed toward Cuba.

The storm, which battered Haiti and the Dominican Republic with weekend rains and floods, has been deadly. Approximately 50 people were killed on Sunday in Haiti when a bus tried to cross a swollen river, witnesses told Reuters.

The storm could make landfall in the United States late Tuesday or early Wednesday, and it could arrive anywhere between the western and southwestern coasts of Florida, said a meteorologist at the National Hurricane Center, Chris Sisko. He said the storm's track was similar to that of Hurricane Charley, which proved to be a Category 4 storm in 2004.

Gov. Charlie Crist of Florida declared a state of emergency

Saturday as officials opened their emergency operations center in Tallahassee, the state capital.

A tropical storm warning and a hurricane watch were in effect from Craig Key westward to the Dry Tortugas.

A hurricane watch means that hurricane conditions are possible, generally within 36 hours. A tropical storm warning means that tropical storm conditions are expected within 24 hours.

A hurricane watch was also in effect for the remainder of the keys and along the western coast of Florida below Anna Maria Island, just south of the Tampa Bay area. A tropical storm watch was also in effect for the southeastern coast of Florida from Ocean Reef north to Jupiter Inlet, as well as for Lake Okeechobee.

## Dam in Grand Canyon Fails, And Floods Force Rescues

PHOENIX (AP) — Days of heavy rains around the Grand Canyon caused an earthen dam to fail Sunday and created flooding that forced helicopters to pluck hundreds of residents and campers and deliver them to safety. No injuries were immediately reported.

The failure of the Redlands Dam caused some flooding in Supai, a village on a canyon floor where about 400 members of the Havasupai tribe live, said a Grand Canyon National Park spokeswoman, Maureen Oltrogge. The floods and the potential for more rain required the

evacuations, she said. No structures were damaged after the dam failed about 45 miles upstream from Supai, but some hiking trails and footbridges were washed out.

Supai is on Havasu Creek about 30 miles northwest of Grand Canyon Village, a popular tourist area on the canyon's south rim. The creek feeds the Colorado River, which runs the length of the canyon.

Ms. Oltrogge said the helicopters were from the National Park Service, the National Guard and the Arizona Department of Public Safety.



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PHOTOGRAPHS BY CHRISTINNE MUSCHI FOR THE NEW YORK TIMES

Kathy Laclair of Churubusco, N.Y., dislikes the noise from the wind turbine blades and says their shadows give her vertigo.

## Where Windmills Can Bring Whiff of Corruption

From Page A1

wind companies. Attorney General Andrew M. Cuomo agreed this year to take over the investigation.

"It's a modern-day gold rush," Mr. Champagne said.

Mr. Cuomo is investigating whether wind companies improperly influenced local officials to get permission to build wind towers, as well as whether different companies colluded to divide up territory and avoid bidding against one another for the same land.

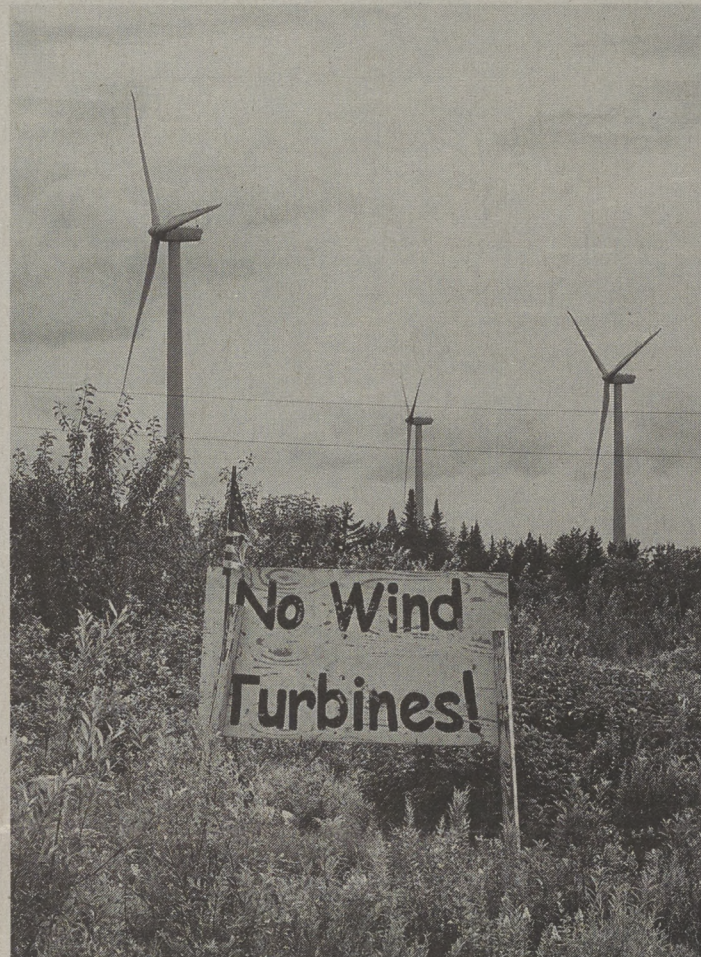
The industry appears to be shying away from trying to erect the wind farms in more affluent areas downstate, even where the wind is plentiful, like Long Island.

But in small towns near the Canadian border, families and friendships have been riven by feuds over the lease options, which can be worth tens of thousands of dollars a year in towns where the median household income may hover around \$30,000. Rumors circulate about neighbors who can suddenly afford new tractors or trucks. Opponents of the wind towers even say they have received threats; one local activist said that on two occasions, she had found her windshield bashed in.

"My sisters and brothers won't even talk to me anymore," said Mr. Tacy, who with his wife has become active in recent years in a network of people who oppose the wind companies. "They tear communities apart." Opponents of the farms say their scenic views are being marred by the hundreds of wind towers already in place, some of which stand nearly 400 feet tall. They also complain of the irritating hum of spinning turbines and what they say are wasteful public subsidies to wind companies.

But corruption is a major concern. In at least 12 counties, Mr. Champagne said, evidence has surfaced about possible conflicts of interest or improper influence.

In Prattsburgh, N.Y., a Finger Lakes community, the town supervisor cast the deciding vote allowing private land to be condemned to make way for a wind farm there, even after acknowledging that he had accepted real



To some upstate towns, wind power promises prosperity. Others fear noise, spoiled views and the corrupting of local officials.

estate commissions on at least one land deal involving the farm's developer.

A town official in Bellmont, near Burke, took a job with a wind company after helping shepherd through a zoning law to permit and regulate the towers, according to local residents. And in Brandon, N.Y., nearby, the town supervisor told Mr. Champagne that after a meeting during which he proposed a moratorium on wind towers, he had been invited to pick up a gift from the back seat of a wind company representative's car.

When the supervisor, Michael R. Lawrence, looked inside, according to his complaint to Mr. Champagne, he saw two company polo shirts and a leather pouch that he suspected contained cash.

When Mr. Lawrence asked whether the pouch was part of the gift, the representative replied, "That's up to you," according to the complaint.

Last month, Mr. Cuomo subpoenaed two wind companies, Noble Environmental Power, based in Connecticut, and First Wind, based in Massachusetts, seeking a broad range of documents. Both companies say they are cooperating with the attorney general.

"We have no comment on specifics, but we want to be clear: Noble supports open and transparent development of wind projects in accordance with the highest ethical standards," said Walt Howard, Noble's chief executive.

The industry's interest in New York's North Country is driven by several factors. The area is mostly rural, with thousands of acres of farmland near existing energy transmission lines. Moreover, under a program begun in 2004, the state is entering into

contracts to buy renewable energy credits, effectively subsidizing wind power until it can compete against power produced more cheaply from coal or natural gas.

Nine large-scale wind farms housing 451 towers, each with a turbine, are in operation in New York, with at least 840 more towers slated for construction, according to state officials. And in June, Iberdrola S.A., which is based in Spain and is one of the world's largest energy producers, announced its proposal to invest \$2 billion to build hundreds more towers here.

**'It really is renewable energy gone wrong,' says a district attorney.**

Every day in the North Country during the warm months, trucks pulling giant flatbed trailers rumble down the highways, carrying tower sections and turbine blades. Some residents see the trucks not as a disturbance, but as an omen of jobs, money and cleaner air.

"I feel as a mother, as a grandmother, that the country needs it — not just here," said Susan Gerow, a Burke resident who has signed easements with Noble worth about \$3,000 a year. Like others who have signed deals with the companies, Ms. Gerow and her family will also earn a portion of the revenue from the windmills if they are ever built.

The North Country is a chronically distressed region, and farming is increasingly a profitless enterprise here. The General Motors plant in Massena, for years a

### ONLINE: A NEW KIND OF FARM

Photographs of the rural communities in upstate New York where wind turbines are becoming a part of the landscape: [nytimes.com/nyregion](http://nytimes.com/nyregion)

reliable source of good jobs, is closing in mid-2009. One of the few bright spots in the local economy in recent decades has been the construction of state prisons, of which there are now five in Franklin County alone.

"You're talking about a poor farming community out here," said Brent A. Trombly, a former town supervisor of Ellenburg, which approved a law to allow and establish regulations for the wind towers in 2003. "Our only natural resources are stone and wind."

For some farmers, he said, the wind leases were their last chance to hold onto land that had been in the family for generations. Supporters also say that the wind towers bring in badly needed tax revenue.

"We see this industry coming, we see the payments coming in," said William K. Wood, a former Burke Town Board member who also signed a lease option. The school board of Chateaugay, he pointed out, received \$332,800 this year from Noble for payments in lieu of taxes, money that the district used to lower school taxes, upgrade its computers and provide a prekindergarten class for the first time.

The local debates over wind power are driven in a part by a vacuum at the state level. There is no state law governing where wind turbines can be built or how big they can be. That leaves it up to town officials, working part time and on advice from outside lawyers, some of whom may have conflicts of their own.

Two Franklin County towns, Brandon and Malone, have passed laws banning the wind turbines. But the issue remains unresolved in Burke, population 1,451, where two Town Board members recused themselves from the issue this year because they had leases with wind companies, leaving the board deadlocked.

At a meeting last month at Burke's Town Hall, opponents and supporters sat on opposite sides of the aisle, arms crossed. The mood, as it has often been at such meetings, was quietly bitter.

"I'd like to hear what people think," said Darrel Bushey, the town supervisor and a wind-tower opponent.

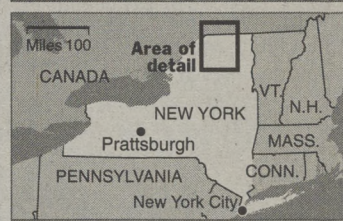
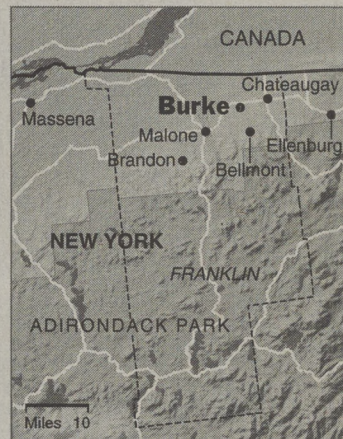
"We've listened to the people for two years," responded Timothy Crippen, who sits on the town's zoning board, which favors permitting the turbines. "It's time to make a move."

Some hands shot into the air from the audience, but were ignored.

"There is no decision you are going to make that is going to make everyone happy," said Craig Dumas, another zoning board member, almost pleading for action.

But the meeting soon broke up still with no decision made.

"This is a problem for these communities," Mr. Dumas said as the room emptied. "There's a lot of emotion on both sides."



Many in upstate New York have signed wind leases.

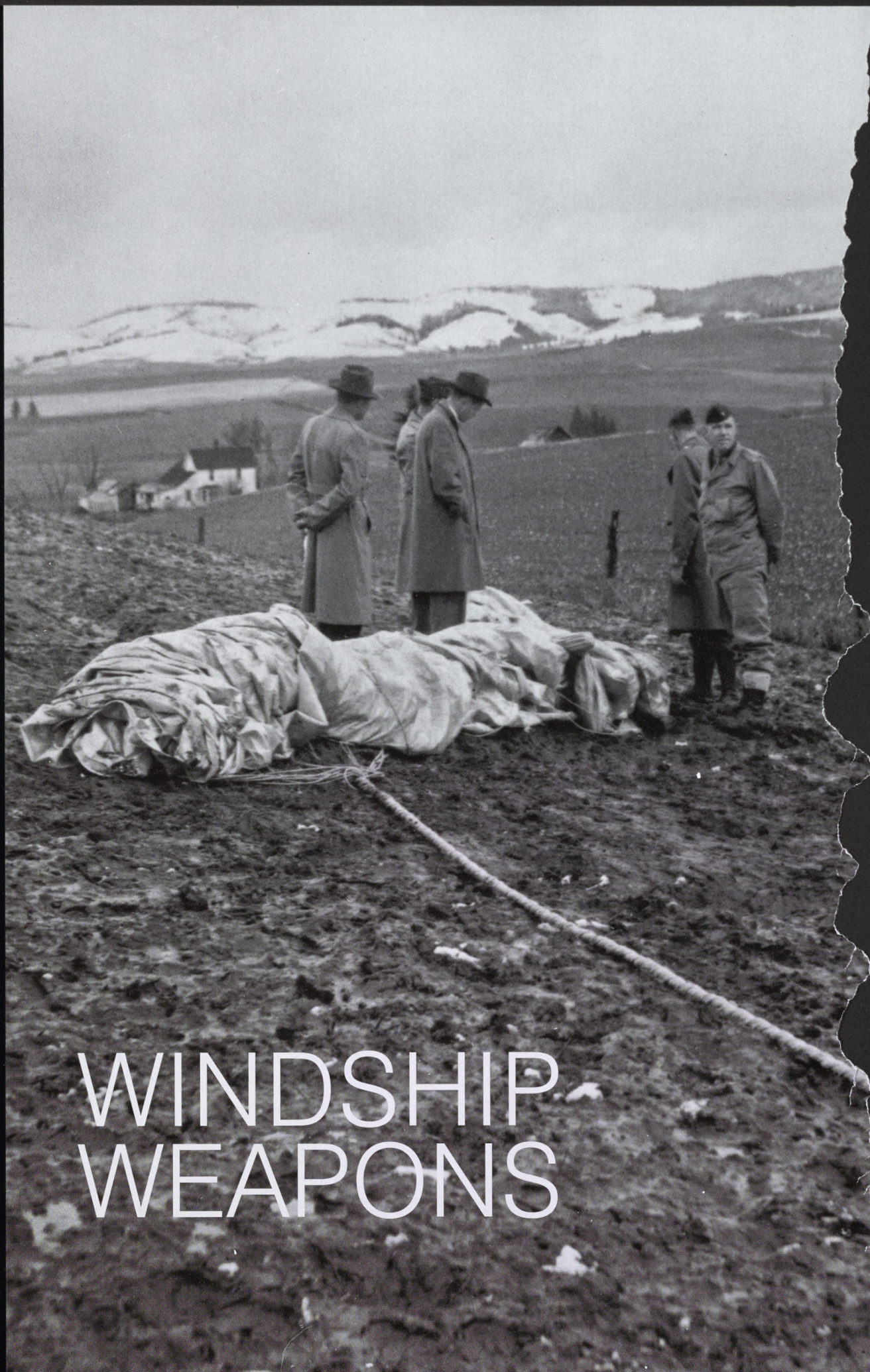
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HISTORY



# WINDSHIP WEAPONS



lights of Bigfork, so she brings in international college kids to work at the lodge. "It is a challenge, culturally and with language, but that keeps me on my toes as well and satisfies my need to teach and share this incredible place," she says.

If you stop between November and April, you will find the lodge closed for a long winter's rest. Moon packs her bags and embarks on a different adventure every year with four rules: no Wal-marts, no snow shovels, warm water and someplace she hasn't been before. She often ends up working somewhere in a kitchen, but her main goal for each winter is to re-energize and re-envision the lodge. "It is very important to look at my business with fresh eyes



each year," Moon says.

Twelve years in business have created a loyal following of diners who have their favorite menu items. Moon continues to honor those, but also introduces new dishes each season based on her travels. Her private chef tastings, wine dinners and

catering assignments are opportunities for her to present new, unique and creative dishes. Barbara Nelson and her husband, Jim Bradshaw, who spend summers in Bigfork, agree. They especially enjoy dinners that feature food and wine from different countries.

"They're just wonderful," Nelson says, "We always try to go to those." **M**

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## SOME OF THE FIRST BALLOON BOMBS SENT BY THE JAPANESE DURING WWII LANDED IN MONTANA

BY JON AXLINE



This page: The first Japanese balloon bomb to land in the United States was found next to a fence in Kalispell in December 1944. Facing page: Officials examine another balloon bomb near Kalispell. | Photos courtesy of the Montana Historical Society.

On December 11, 1944, father and son, Oscar and Owen Hill, were cutting firewood on Truman Creek, about 17 miles southwest of Kalispell, when they found something strange lying on top of the snow. It looked like a cream-colored parachute covered with light-green camouflage. On closer inspection, they saw Japanese writing and a rising sun symbol stenciled on the side of the "parachute," which covered a pile of odd-looking equipment. Sheriff Duncan McCarthy retrieved the object the following day and stored it in a garage in Kalispell. Rumors about the discovery spread quickly, and it wasn't long before 500 people had filed into the garage to take a look at the object. What the men found was no parachute, but a balloon that had been rigged to carry bombs. It was the vanguard of an aerial attack on the United States by Imperial Japan as World War II wound down.

Sometime around November 3, 1944, engineers began launching hydrogen-filled paper balloons from secret bases in Japan. The Japanese believed the jet stream would carry the balloons to North America, where the attached incendiary and anti-personnel bombs would drop to start forest fires and kill civilians. The Japanese also intended the balloon bombs as psychological weapons, designed to cause confusion and spread panic. Called Fu-Go, "Windship Weapons," by the Japanese, the balloon bombs were the first intercontinental weapons, a low-tech predecessor to the ballistic missiles of the 20th century.

By April 1945, the Japanese would launch more than 9,000 balloons, only 277 of which reached the United States and Canada. Except for a tragic incident where five picnickers were killed in ►



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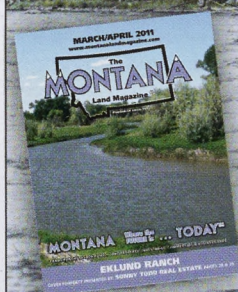
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The first Japanese balloon to land in the U.S. was near Kalispell.

| Photo courtesy of the Montana Historical Society.

A NEWS BLACKOUT IN THE UNITED STATES KEPT THE JAPANESE FROM KNOWING IF ANY OF THE BALLOONS REACHED THEIR DESTINATION. AT LEAST 32 BALLOON BOMBS REACHED MONTANA, INCLUDING THE FIRST ONES FOUND IN THE UNITED STATES NEAR KALISPELL.

Oregon when they inadvertently detonated one of the bombs, the project was a failure for the Japanese. A news blackout in the United States kept the Japanese from knowing if any of the balloons reached their destination. At least 32 balloon bombs reached Montana, including the first ones found in the United States near Kalispell.

Over the course of the next seven months, Japanese balloon bombs rained down on Montana. Despite the news blackout, rumors about the balloons were widespread in the Treasure State. Before the news clampdown took effect, the Libby *Western News* reported that the Kalispell balloon was "large enough to have carried from six to eight men, and had Jap flags at both ends

of it." An unsubstantiated report stated that a bomb-laden balloon landed near Kessler School in Helena, while another was supposedly seen soaring over MacDonald Pass in the direction of Ovando. Although the suppression of news kept information about the balloons out of the newspapers and off the radio, officials were stumped about how to make the public aware of the danger posed by the Japanese terror from the sky. Reports occasionally appeared in local newspapers, however. In his "Northern Lights" column in the Helena *Independent Record*, George Roberts warned Montanans against picking up any unfamiliar objects: "It just might be a Jap balloon bomb. It just couldn't be steak."

The remains of 32 Japanese



Japan's aerial assault on Montana had ceased by mid-July 1945. American bombing raids on Japanese industries associated with the manufacture of the balloon bombs along with the lack of information from the United States, caused Japanese officials to terminate the program. A hiker discovered the last Japanese balloon bomb in Montana hanging from a tree southwest of Basin in 1947.

Montana was second only to Oregon in the number of balloon bombs that landed in the United States. Fortunately they didn't cause any damage and didn't kill anybody in the state. But they did generate a healthy amount of speculation about "what odd people the Japanese were."

Importantly, it once again demonstrated that Montana was not as isolated from world events as we thought. **M**



balloons were found in 19 Montana counties between December 1944 and July 1945. Surprisingly, most were discovered east of the Continental Divide, with one found as far away as Carter County in southeastern Montana. Local residents usually found remnants of the paper balloons and their equipment; only a few retained their bombs.

Most of the balloons fell from the sky in March and April 1945. In March, people heard an explosion near Glen in Beaverhead County and later discovered the vestiges of a balloon and bomb fragments near the small community. That same month, a Whitehall-area rancher discovered a nearly intact balloon rig, including two bombs, on his property. A balloon landed about four miles east of Silesia in Carbon County. Local cattle ranchers reported the balloon to the authorities, but not before they used scissors to cut out a small piece of it.

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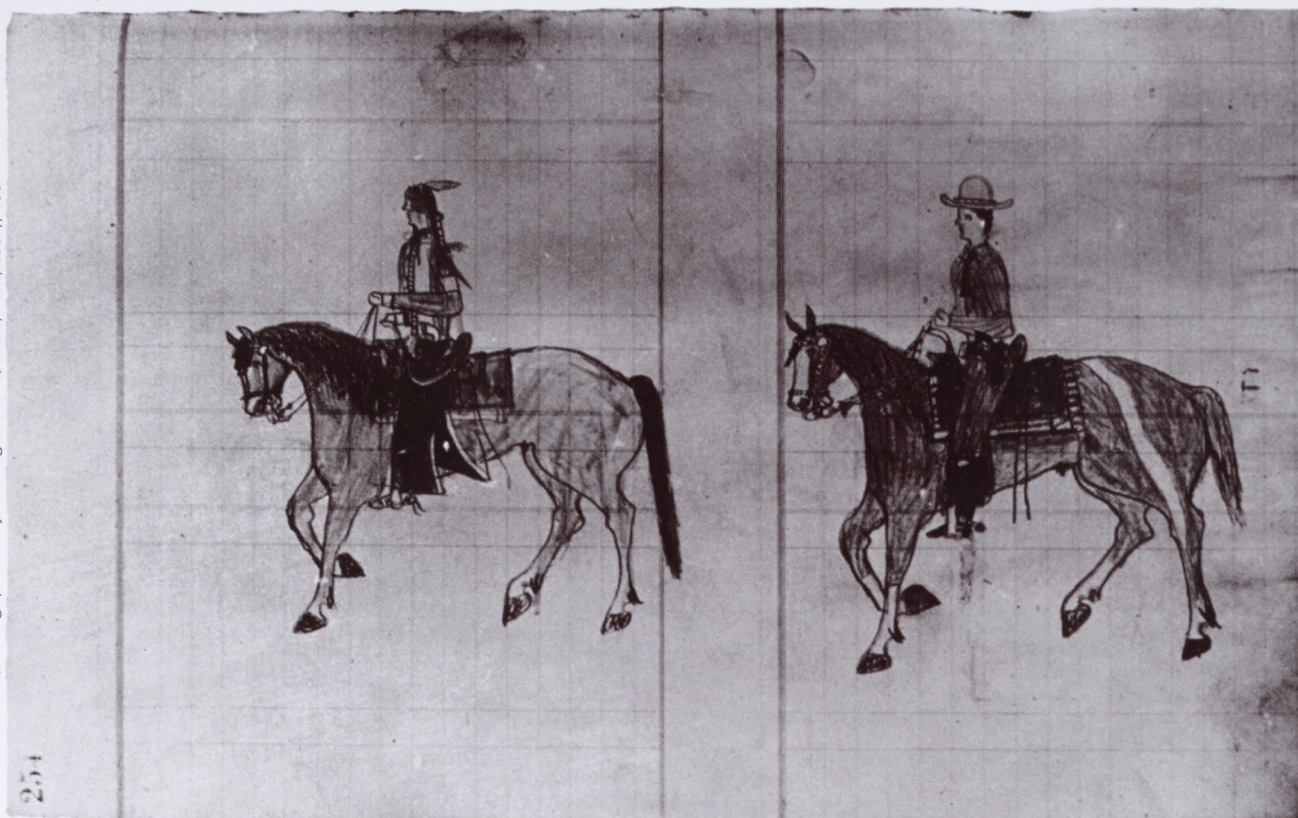


## Reluctant Rancher, Accomplished Artist

New book shares the Montana life of Fra Dana

By Chérie Newman





Above, Bad Heart Bull depicted Indian cowboys working side by side, one favoring traditional dress and the other clad in Anglo cowboy apparel.



For the Oglala, cattle-raising never fulfilled its economic or societal promise. The Oglala persisted in their efforts to create a subsistence economy that incorporated aspects of both native and American cultures, but federal assimilation policy and the rift between full-blood and mixed-blood populations on the Pine Ridge Reservation proved insurmountable. At left is an image of the 1887 photograph titled "Round-up Scenes on Belle Fouché."



# ERNEST HEMINGWAY'S WEST

BY LOU MANDLER

ERNEST HEMINGWAY, one of the most influential among modern American writers, lived in several places during his full and active life—Illinois, Paris, Key West, and Havana—and he is often associated with Spain and Africa, settings he used in his novels. Perhaps not as widely known is that the Rocky Mountain West also played an important role in his life and art. Hemingway spent time in Sun Valley, Idaho, and he and his fourth wife, Mary, established a home in Ketchum, where he died in July 1961. Beyond that, his letters and his novels reveal the impact on his writing career of his extended visits to Wyoming and Montana from 1928 through 1939.

Ernest Hemingway was already a recognized writer when he first visited the American West. In 1925, the American edition of *In Our Time* had appeared, and the following year, *The Sun Also Rises*. Two years later, in 1928, he first traveled west, and over the next eleven years, he returned regularly. During that period of time, the most productive of his creative life, he wrote and published *A Farewell to Arms* (1929), *Death in the Afternoon* (1932), *Winner Take Nothing* (1933), *Green Hills of Africa* (1935), *Snows of Kilimanjaro* (1936), *To Have and Have Not* (1937), and *The Fifth Column and the First Forty-nine Stories* (1938). During this span, he also began writing *For Whom the Bell Tolls* (1940). Of all his books, this last contains the most explicit references to Montana. It was also his biggest commercial success.<sup>1</sup>



Ernest Hemingway Photograph Collection, John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH 5593P



Ernest Hemingway, one of the most influential modern American writers, lived in several places during his full and active life—including Illinois, Paris, Key West, and Havana—and he is often associated with Spain and Africa, settings he used in his novels. Perhaps not as widely known is that the Rocky Mountain West also played an important role in Hemingway's life and art. Starting in 1928, he began visiting Wyoming, Montana, and later, Sun Valley, Idaho.

Hemingway poses here, gloves in one hand and glasses in the other, with trophy elk horns and a bear hide from fall 1932 hunts on the L-T Ranch east of Yellowstone National Park.



The lust for adventure that marked Hemingway's life and personality—his need to test his courage and his endurance—lent his legend a certain fascination. By his mid-twenties, he had been wounded in World War I, lived an artist's life in Paris, covered the Greco-Turkish War as a correspondent for the *Toronto Star*, and observed bullfighting in Spain. His boyhood exposure to the natural environment of northern Michigan and the hunting and fishing he enjoyed there with his father instilled a lifelong passion for the wilderness

and the challenges of such environments. His work is replete with characters who pit themselves against physical threats in the form of war, bullfighting, the sea, wild animals, and nature itself. In a special way, the American West offered him the opportunity to recapture the thrill of hunting and to experience the beauty and awe he had found in nature as a boy.

Another boyhood influence was the outdoor enthusiast Theodore Roosevelt. When Hemingway was eleven, he and his grandfather Anson were present when the former president passed through Oak Park on a whistle-stop tour after his African safari.<sup>2</sup> By this time, Roosevelt had already logged time hunting in the Black Hills of South Dakota and participated in the Spanish-American War. It is impossible to ignore the similarities between the lives and attitudes of Teddy Roosevelt and Hemingway himself. Both spent time in the American West, both participated in a war, both undertook safaris to Africa, and both believed in challenging themselves physically and psychologically.

Hemingway expressed his interest in the West in a letter to his friend Waldo Peirce, an artist and outdoorsman from Maine. He wrote to Peirce in early July 1928 from Key West, where Hemingway and his second wife, Pauline Pfeiffer, had just bought a house. In the letter, Hemingway announced his intention to go west himself and pushed Peirce to consider it as well.

Ernest Hemingway Photograph Collection, John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH 2723



A childhood spent hunting and fishing in northern Michigan as well as the influence of such figures as Theodore Roosevelt established a lust for adventure and a passion for the wilderness in Hemingway. As for adventures, by his mid-twenties Hemingway had been wounded in World War I, lived in Paris, reported the Greco-Turkish War, and observed bullfighting in Spain. He sat for this portrait in 1918 in Milan, Italy, where he drove ambulances for the U.S. Army until wounded.

"[Y]ou'd better see it," he insisted, listing more than six kinds of fish he had heard were to be found in western rivers, including golden trout and Dolly Vardens. He also touted the "elk, bear, and dude ranchers" that could be shot at,

summing it all up with "They say it is fine country."<sup>3</sup>

Hemingway's intention soon became reality. His first visit west came in August and September of 1928. Pauline had given birth, by cesarean section, to their son Patrick in late June. Not quite a month later, on July 25, Ernest left for Wyoming with Bill Horne, his friend from World War I. The two men stayed at a ranch in Big Horn, in the Sheridan area. Ernest did some fishing with Bill, but he spent much of the time working on the novel that would soon be published as *A Farewell to Arms*. When the draft of the manuscript was finished, Pauline left six-week-old Patrick in the care of her parents in Arkansas and joined Ernest in Wyoming.

Hemingway's time in the West—in Wyoming and Montana—coincided with the period of his marriage to Pauline, the second of his four wives and the mother of Patrick and Gregory. A small, fine-boned woman, Pauline came from a background that would not have prepared her for the primitive conditions of life in a mountain cabin. A native of St. Louis, Missouri, she had graduated from the Visitation Convent in that city and the University of Missouri in Columbia. Her father and uncle were men of wealth, affording Pauline and her sister a life of comfort and travel. When she first met Ernest in Paris, she was working for the French edition of *Vogue*, and her sense of style and sophistication increased the attraction Ernest felt



for her. Despite her privileged upbringing, Pauline willingly shared her husband's outdoor adventures. Her commitment to a life with Hemingway, as well as her determined personality, made her eager to adapt to the rigors of life in the West, to learning how to ride, shoot, and fish.

After saying initially that Wyoming was "cockeyed wonderful country," Hemingway nevertheless declared in early August, not long after his arrival there, that the Big Horn country "has been settled too long." Accordingly, toward the end of that 1928 visit, the Hemingways explored the area south of Yellowstone National Park near the Wyoming/Idaho border, visiting Jackson Hole and the Grand Tetons and fishing in the Snake River. By this time, Pauline was "strong as a goat again." After their return east, Hemingway reported in a letter to F. Scott Fitzgerald that they had had "a grand time" in Wyoming and Montana.<sup>4</sup>

Two years later, in 1930, after a trip to Spain in the intervening year, Ernest, Pauline, and six-year-old "Bumby" (John), Ernest's son by his first wife, Hadley, returned to Wyoming (leaving Patrick with his grandparents). Seeking a more remote area, they settled in at the Nordquist ranch, twelve miles south of Cooke City, Montana, where they spent the rest of the summer. This spot, on the northern margins of Yellowstone Park, suited Hemingway so well he would return for four more visits, the last in 1939.

Swedish-born Lawrence Nordquist called his place the L-T Ranch, using the first and last letters of his name. His wife, Olive, a western native fourteen years younger than he, kept the ranch log, managed the kitchen, and transported guests to and from the train in Gardiner and, later, to the airport in Billings. The ranch, at an elevation of sixty-eight hundred feet, consisted of a dozen log cabins, a large bunkhouse, and a main lodge that had a living room with a stone fireplace, a large dining room, and a kitchen. Antlers, mounted heads, and log furniture throughout the buildings emphasized plentiful hunting and a rustic environment. From their cabin, the Hemingways could see Pilot and Index peaks, each rising nearly twelve thousand feet. Of special appeal to Hemingway was the trout-filled Clarks Fork of the Yellowstone River, which ran through the ranch property. Lodgepole pine, blue spruce, fir, and quaking aspen grew amid wild geraniums, daisies, forget-me-nots,



Ernest Hemingway Photograph Collection,  
John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH 7358P

**Hemingway and his second wife, Pauline, made their first western trek in 1928, visiting the mountains near Sheridan, Wyoming. She is pictured here during their 1932 visit.**

and other wildflowers. Hemingway went to the main lodge every morning for a hearty western breakfast of ham and eggs, always accompanied by coffee and half a bottle of red wine.<sup>5</sup>

The Nordquists maintained about thirty-five head of horses and employed a staff of about fifteen to cook, clean, and guide for the ranch guests. According to Ivan Wallace, a guide at the L-T Ranch, Ernest preferred the company of the guides and horse wranglers to that of the other guests, saying, "I always learn something from you men. The dudes have nothing to teach me." Several of these ranch hands, notably Floyd Allington, Ivan Wallace, and especially Chub Weaver, became Hemingway's hunting companions and friends. They and the Nordquists visited the Hemingways in Key West, and Chub Weaver appeared in a Hemingway novel, *For Whom the Bell Tolls*. In his foreword to *Hemingway on Hunting*, Patrick Hemingway, the second son, born in 1928, refers to Chub as his "godfather" and describes a pack trip on which Chub took time from his camp





Sanborn, photographer, MHS Photograph Archives, Helena, 957-852

In 1930, seeking a more remote area, the Hemingways stayed at the L-T Ranch east of Yellowstone National Park and just south of the Montana border. From their cabin, they could see Pilot and Index peaks, viewed here from the north.



Ernest Hemingway Photograph Collection, John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH 6911P

L-T Ranch owners Lawrence and Olive Nordquist kept horses for guests to ride and employed about fifteen staff members to cook, clean, and guide for them. Ernest preferred the company of the guides to the other guests and became lifelong friends with several. Proudly displaying two sets of elk horns and a mule deer cape from the 1932 hunt are (from left to right) Ernest, his Key West friend Charlie Thompson, and guide Ivan Wallace.





During their first western summer, Pauline reportedly was greatly amused when a swearing sheepherder, when warned of a lady's presence, said, "I don't see no lady," thinking she was a boy in her pants and cap. Wearing pants, as in this 1928 photo of Pauline and Ernest at the Spear roundup wagon in Montana's Wolf Mountains, was relatively uncommon for a woman at that time.

cooking duties to work with the eight-year-old boy on his reading skills. The lessons were effective: "Chub had me reading by the time we broke camp," Patrick says.<sup>6</sup>

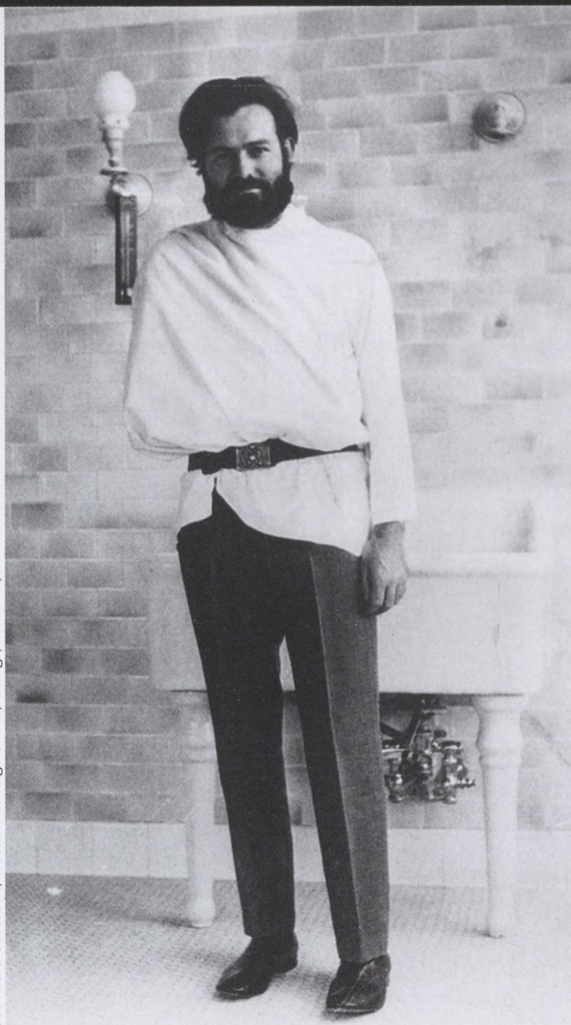
While at the ranch, Pauline seemed totally devoted to caring for Bumby and shielding Ernest from interruption. According to Hemingway biographer Carlos Baker, "The wranglers thought Pauline a 'real good sport' . . . in jeans and a boy's haircut." In the first western summer on the Spear ranch in the Sheridan area, Pauline had begun wearing pants, unusual for a woman at that time, and Elsa Spear told of a day when Ernest and Pauline met a sheepherder who was swearing in anger. When Ernest cautioned him, "Now, now there's a lady in the car," the herder responded, "I don't see no lady." Because Pauline had her hair cut short and was wearing overalls and a cap, she looked like a little boy. Pauline was reportedly greatly amused by this.<sup>7</sup>

The tiny Montana hamlet of Cooke City and the ranch just within the Wyoming border were difficult to access, either from Gardiner to the west or from the town of Red Lodge to the east. Yellowstone National Park and the Shoshone National Forest lie to the south and the Absaroka Wilderness to the north. Prior to the opening of the highway over Beartooth Pass in 1936, guests usually arrived at the ranch via the train depot in Gardiner. After the completion of the

rugged Beartooth Highway—the highest-elevation highway in the northern Rockies—the Nordquists, usually Olive and a driver, drove more than two hours through Red Lodge and on to Billings to meet guests. At the time, Red Lodge, a town of more than six thousand, was fairly prosperous because of several coal mines operating in the area. It was also a haven for bootleggers. Hemingway mentions taking "a shot of Red Lodge moon to keep warm" while hunting, and a character, Mr. Frazier, in his short story "The Gambler, the Nun, and the Radio" treats three visiting Mexicans to "the best" from Red Lodge. Without doubt, Hemingway had succeeded in locating an ideally remote hunting and writing spot.<sup>8</sup>

That the mountain location of the Nordquist ranch met Hemingway's expectations is supported by letters he wrote during this time. He tried to entice Waldo Peirce out in a July 1930 letter, writing, "Best trout fishing in the world—no kidding." In September, he tried to get Henry Strater, another artist friend, to come west, even advising him to take the train to Gardiner and then a "stage" to Cooke City, where Hemingway could meet him with horses. "[T]his is the most beautiful country you ever saw," Hemingway wrote. "Hunting in the mountains is more damned fun than anything you can imagine." He listed the possible game to be bagged—bear, grouse, duck, geese, mountain sheep, elk, deer, and





**Hemingway, seriously injured in a 1930 auto accident, ended up in St. Vincent's Hospital in Billings, Montana, for seven weeks. As he did elsewhere, he made friends and observed people, some of whom ended up in his short stories. He posed with his bandaged arm, above, in the hospital.**

rainbow trout—and concluded, “You ought to see the West anyway.”<sup>9</sup>

Hemingway's tendency to injury surfaced in late August of the 1930 visit when his horse bolted through the timber, giving him some fairly severe facial lacerations. Chub Weaver described a drama-filled and darkly humorous evening when, driven by the young daughter of a local ranger, he and Hemingway went to Cody, where Dr. Trueblood, a veterinarian-turned-doctor, stitched the cut from the corner of Hemingway's mouth to the base of his jaw. On the long drive back, Hemingway created a drinking game: at every ranch gate they had to pass through, they took a shot of whiskey.<sup>10</sup>

On September 13, Pauline left the ranch to return to Key West, but Hemingway stayed on for the begin-

ning of the hunting season. Ever in search of hunting companions, he successfully lured writer friend John Dos Passos out in October to share his delight in hunting and the mountains. As Hemingway, Dos Passos, and Floyd Allington began their return trip east on October 31, 1930, Olive Nordquist noted in the ranch log that the roads were frozen. The three men camped overnight in the Gardiner area, and on November 1, as Hemingway drove his 1930 Ford convertible toward Billings, the car overturned near Laurel. Allington was thrown clear from his place in the rumble seat, suffering a dislocated right shoulder. Dos Passos was uninjured, but Hemingway was pinned in the wreckage. Allington and Dos Passos managed to free him, and a couple from Shelby, Montana, who happened to be passing by took all three men to St. Vincent's Hospital in Billings.<sup>11</sup>

When Hemingway arrived at the hospital, the staff in admissions took him to be a cowboy or shepherd, given his rough clothing and general appearance, and he was assigned to a bed in a ward. When Dr. Louis Allard, the attending physician and a nationally recognized orthopedist and public health official, entered the room to examine the new patient, he turned to the student nurse: “Don't you know who he is?” he chided her. “That's Ernest Hemingway, the novelist. I think he'd better be moved to a private room.” The local paper, the *Billings Gazette*, was soon on the story, printing regular updates on Hemingway's medical progress. For instance, on Sunday morning, November 2, the paper carried a front-page article under the headline, “Noted Novelist Is Injured in Auto Accident.” The article mentions *The Sun Also Rises* and *A Farewell to Arms* and notes that in the past weeks, “Mr. Hemingway shot a mountain sheep, two bears, and a bull elk.” The article also cites Dos Passos and his writing credentials.<sup>12</sup>

In the meantime, Max Perkins of Scribner's, Hemingway's publisher, heard about the accident and, concerned about the quality of the medical care available in Montana, called the Mayo Clinic. Upon hearing that Dr. Allard was Hemingway's physician, the Mayo brothers assured Perkins that the author was in good hands.<sup>13</sup>

The complicated spiral break of Hemingway's right arm resulted in a seven-week stay in the Billings hospital. After receiving a telegram from Dos Passos, Pauline took a train to Billings and remained with her



husband throughout his hospitalization. Hemingway was also visited in the hospital both by old friends and by local Billings people, while Pauline maintained his correspondence, typing his letters as he lay in bed. But the days and nights were long. Hemingway complained to Henry Strater that he was “sick of talking, thinking, writing, or dictating about, but a damn sight more sick of having it [the broken arm].” The portable radio he listened to during this time, two gunshot patients near his room, and a nun who was a baseball fanatic would all become the subject of the short story “The Gambler, the Nun, and the Radio.” Hemingway’s letters do not mention whether Pauline had any social options in Billings other than tending to her discontented husband, but there is evidence that she struck up a friendship with Sarah Dousman, wife of a local insurance and real estate executive and Billings civic leader. Although Sarah Dousman was about ten years older than Pauline, the women shared enough commonalities to establish a comfortable relation-

ship. Late in the course of his recovery, Hemingway was allowed to leave the hospital for an evening at the home of Dr. Louis Allard.<sup>14</sup>

Meanwhile, the *Gazette* continued its coverage of Hemingway’s stay at St. Vincent’s, reporting on Pauline’s arrival in Billings, publishing periodic articles such as one under the headline “Hemingway Still Confined to Bed,” and finally, on December 22, announcing the author’s release from the hospital.<sup>15</sup> Three days later, Ernest and Pauline were with Pauline’s parents in Arkansas in time to spend the holidays.

After another trip to Spain in 1931 and the birth of son Gregory in the fall of that year, the Hemingways left the boys with their grandparents and drove west again in 1932, arriving at the Nordquist ranch on July 12 and staying into October. The numerous letters written to friends during this time reflect Hemingway’s exquisite attention to detail in his descriptions of “the best summer ever” in this country that was,

Ernest Hemingway Photograph Collection, John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH 6916P



While triumphant about the total of three bull elk, two bears, a coyote, an eagle, and two bucks that he and friend Charles Thompson had shot in 1932, Hemingway rued that “We took a beating on sheep.” Above, Thompson is pictured with one of the mule deer bucks from that hunt.



in Hemingway's words, "wonderful but scary." In one October letter to Henry Strater, he wrote a long description, exceeding five hundred words, of a hunting experience he had had in the company of Charles Thompson, a Key West friend. The passage included a graphic account of the shooting and death of a six-point bull elk. "[I] got a rest against tree and hit him," Hemingway wrote. "He slumped forward and spraddled but still going." By the time he and Thompson downed the bull, the animal had been shot five times, once through the heart.<sup>16</sup>

While clearly triumphant about the success of the hunt—he and Thompson had shot three bull elk, two bears, a coyote, an eagle, and two bucks—Hemingway later admitted in this same letter that "We took a beating on sheep." "I stalked 8 rams—spooked them all. Charles stalked 11. That sheep hunting was what gave Charles hell. Damndest ledge work you ever saw. I had to take my shoes off on one mt for about 2 miles on a rock slide. Fell 9 times. Never got a shot at a ram—if you're a good climber you could have got a ram. I'm not a good climber."<sup>17</sup> The pleasure Hemingway derived from meeting the challenge of the hunt and overcoming difficult conditions is palpable in his letters written from the West. They authenticate the popular image of Hemingway's physical and mental fortitude.

For her participation in the western adventures, Pauline earned warm approval from her husband, who wrote to Guy Hickok, a journalist friend, that "Pauline is cockeyed beautiful . . . never looked nor felt better—Rode hard here all summer—shot and fished." In her August 21, 1932, ranch log, Olive Nordquist noted that "Mr. and Mrs. H, two others, and cook and Ivan as guide left for pack trip to Crazy Lakes." The party returned two and a half weeks later. In accompanying Ernest on this—and other extended pack trips at high altitude in wind and snow—Pauline proved to herself and to him that she was a plucky soul.<sup>18</sup>

Hemingway's western experiences prepared his adventurous palate for his first trip to Africa. In an April 1933 letter, he had commented on the fine time he had in Wyoming and Montana in the fall and mentioned his desire to go to Africa. He and Pauline finally undertook that African safari in 1935. Then, in the following year, they returned to the Wyoming-Montana area, this time in the company of Patrick and

Bumby, now eight and twelve, respectively, staying from August to October. Before their departure from the East, however, Hemingway expressed some concern that the building of the highway from Red Lodge over the Beartooth Pass might have "spoiled" the hunting. Despite his misgivings, it was during this trip that Hemingway finally achieved his goal of killing a grizzly bear. "I got two out of three [grizzlies]," he wrote, "that I ran onto in the last timber up near timberline while hunting elk. It was very exciting. They were beautiful to meet in the timber that way. . . . I could have killed the three I think but they were so damned handsome I was sorry I killed more than the one but at the time did not have much time to decide. . . . Have never shot better. Hope I can write as well." He was especially excited about encountering the grizzly at the head of Crandall Creek, about the size of the animal ("big as a horse almost"), and about the beauty of the hide. Claiming that the country was overrun with grizzlies, he encouraged his friend John Dos Passos to come out again.<sup>19</sup>

From our contemporary perspective, the passion for hunting and killing evident in Hemingway's letters seems to be incongruous with his appreciation for the beauty of nature and of wildlife. It is true that his letters and literature do attest to that sensitivity, and yet, the number of fish he and his friends caught and the game they killed seems shocking, irresponsible, and wasteful. For example, he and Pauline caught thirty trout each in one day. There is no question that his need to prove his strength and endurance was a paramount motivation in his hunting expeditions. And it could be argued that expecting Hemingway to be a conservationist in the 1930s is a bit like expecting Chaucer to have been a feminist in the fourteenth century. It should also be noted that Hemingway believed in eating what he killed, and several letters mentioned giving game meat away. For example, one letter described the meat he had killed "for Ivan [Wallace] and Chub [Weaver] to get married on."<sup>20</sup>

The 1936 trip was the last extended trip the Hemingways would make to the border area between Wyoming and Montana. During a brief visit in 1938, Ernest and Pauline worked together on the proof for *The Fifth Column*, even as their marriage was disintegrating. The next visit, in 1939, marked the end of their marriage. By this time, Ernest had already met writer Martha Gellhorn for trysts in Europe and New





In 1936, Hemingway expressed concern that construction of the Beartooth Highway from Red Lodge might have "spoiled" the hunting. Despite his misgivings, this was the year he finally killed a grizzly bear. Here Ernest (right), Pauline (in stripes), and twelve-year-old Bumby, Ernest's son with his first wife, Hadley, pose with the beast. The others are the guide (possibly Ivan Wallace) and an unidentified woman.

The area view above is labeled "Sunlight Basin, New Red Lodge Road to Yellowstone Park."

Ernest Hemingway Photograph Collection, John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH 1240N





A 1939 trip to Wyoming marked the end of Hemingway's marriage to Pauline and his visits to northwestern Wyoming. He had already met journalist Martha Gellhorn, who would become his third wife. At right, the two are pictured during the Spanish Civil War, circa 1938.

Attracted to Idaho partly by the bird hunting, Ernest and Martha adopted Sun Valley as their western retreat. Below, Hemingway stalks ducks in October 1941.



Ernest Hemingway Photograph Collection, John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH 2981P



Ernest Hemingway Photograph Collection, John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH4639P

York. When Pauline arrived on September 1, she suffered through a few miserable weeks with a bad cold until Hemingway drove her to the Billings airport for her return to the East. He then called Gellhorn, who would become his third wife, and asked her to meet him in Billings. Together, they drove on to the Sun Valley Lodge in Idaho. The promoters of this new resort were trying to lure celebrities there, and the fact that the bird hunting was reputed to be fine convinced Ernest to try this location. From this point on, Sun Valley replaced the Nordquist ranch and the Cooke City area as Hemingway's western retreat.<sup>21</sup>

The Rocky Mountain West was not just a place for Hemingway to satisfy his desire for unspoiled environments and his delight in hunting. He also

planned these sojourns to take advantage of the isolation and peace to work on his writing. In July 1928, just before he left for his first trip west, Hemingway had written Max Perkins at Scribner's that he planned to finish *Farewell to Arms* while in the West. In subsequent letters, he described his progress, complaining about the misery of the work in a letter to Waldo Peirce on August 9 but finally reporting, two weeks later, "I finished the damn book, first draft—finally."<sup>22</sup>

That he found the quiet of the mountains to be beneficial for his writing is verified not only by comments he made in letters but also by his productivity during the weeks he spent in the West. During the fall 1930 visit, he had begun writing *Death in the Afternoon*, a work informed by the trip to Spain the year before, and he spent time in the summer of 1932 going over the galley proofs of the novel. On July 27, 1932, he wrote to Perkins from the ranch that he would return the proofs from Gardiner. In August, he explained his haste in going west by saying that he had "wanted to get out here anyway and get to work. Too hot in Havana. . . . Plenty cold here. Have a lot of work to do." Before his next trip—in 1936—he again expressed the positive effect of the western surroundings on his work. In the interim, he had written and published *The Green Hills of Africa* and *The Snows of Kilimanjaro*, which drew on his 1933 trip to Africa. But now, he wrote to Perkins, "All I

want to do is get out west and settled down in a cabin writing." During the 1936 western sojourn, he worked on *To Have and Have Not*, again recording his progress in letters. He wrote to M. K. Rawlings, the author of *The Yearling*, in August that he was "working like hell on a book," and in late September, he told Perkins he had written fifty-five thousand words. In a 1938 letter to film director Joseph Losey, he claimed that "the ranch near Cooke, Montana" was one of the "places that were good for working."<sup>23</sup>

Hemingway's energy and self-discipline are astonishing when one considers his dual lives: Hemingway the hunter and outdoorsman and Hemingway the writer. He kept a careful record of both the number



# FOR WHOM THE BELL TOLLS

Ernest  
Hemingway

While in the West, Hemingway started an eighth book, *For Whom the Bell Tolls*, which contains explicit references to Montana and was his biggest commercial success. In the book, Hemingway refers to hunting guide Chub Weaver, seen here (left) with fellow guide Ivan Wallace and a trophy elk packed for transport.



Ernest Hemingway Photograph Collection, John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH 1244N

of pages he wrote and the wildlife he bagged, and one wonders how he also had time to attend to daily matters, to entertain the occasional guest, and to write dozens of letters, many of them long ones. His biographer, Carlos Baker, estimated that over his lifetime, Hemingway wrote between six thousand and seven thousand letters.

During Hemingway's last period at the Nordquist ranch, in 1939, he worked on *For Whom the Bell Tolls*, completing it that fall in Sun Valley. Despite the fact that Spain is the setting of the novel, it is perhaps the work that most obviously shows the influence of western scenes and western people on Hemingway and his writing. In an early letter to Waldo Peirce, he had noted the similarity of the Wyoming countryside to that of Spain, and throughout *For Whom the Bell Tolls*, he refers explicitly to Montana people and places.<sup>24</sup>

Robert Jordan, the novel's main character, has been a Spanish professor at the University of Montana at Missoula, and throughout the book Jordan expresses thoughts or memories about Montana. He considers what it would be like to marry Maria, the heroine, and live with her in Butte or Missoula. "Why not marry her? Sure, he thought. I will marry

her. Then we will be Mr. and Mrs. Robert Jordan of Sun Valley, Idaho. Or Corpus Christi, Texas, or Butte, Montana . . . I wonder how they will like Maria in Missoula, Montana? That is if I can get a job back in Missoula."<sup>25</sup>

The past, in the form of Jordan's memories and those of other characters, is a powerful force in the novel. In a long paragraph on the evocative power of smell, among the odors cited is that of leaves in Missoula in the fall: "That must be the odor of nostalgia, the smell of the smoke from the piles of raked leaves burning in the streets in the fall in Missoula." Toward the end of the novel, as Robert Jordan prepares himself for the challenges ahead, Hemingway gives him a long interior monologue recalling his father's suicide. Besides referring directly to Nordquist's Chub Weaver and to Montana, the passage also has Jordan musing over the fate of the gun with which his father had killed himself. "He had put the gun back in the drawer in the cabinet where it belonged, but the next day he took it out and he had ridden up to the top of the high country above Red Lodge, with Chub, where they had built the road to Cooke City now over the pass and across the Bear Tooth plateau, and up there where the wind was thin and there was snow all



summer on the hills.” Jordan then throws the gun into a deep lake while Chub holds the horses.<sup>26</sup>

In the novel’s closing scene, as Robert Jordan lies with a broken leg in the pine needles beneath a tree, trying to maintain consciousness and focus, he tells himself, “Think about Montana.” And then, “*I can’t . . .*”<sup>27</sup>

Less explicit but other clear influences of Hemingway’s time in the western mountains include descriptions of the land and the weather. The snowstorm in *For Whom the Bell Tolls* echoes references to snowstorms Hemingway had described in several letters. For instance, in a 1932 letter to Henry Strater, he wrote of riding “35 miles to camp in a blizzard—hunted next day all day in Mts. in heavy snow.” And, as he was working on *For Whom the Bell Tolls* and preparing to leave Key West for Montana in August 1939, he dropped a note to Patrick and Gregory, saying that he was writing about a snowstorm while sitting in the prickly heat of Florida. “Let’s go west and see a snowstorm,” he wrote his sons.<sup>28</sup>

In the novel itself, Robert Jordan muses, “In the snowstorm you came close to wild animals and they were not afraid. They travelled across country not knowing where they were and the deer stood sometimes in the lee of the cabin. In a snowstorm you rode up to a moose and he mistook your horse for another moose and trotted forward to meet you. In a snowstorm it always seemed, for a time, as though there were no enemies. In a snowstorm the wind could blow a gale; but it blew a white cleanness and the air was full of a driving whiteness and all things were changed and when the wind stopped there would be the stillness.”<sup>29</sup>

*For Whom the Bell Tolls* also strengthened an association between Hemingway and his friend Gary Cooper, a native of Helena, Montana. The son of a Helena lawyer and judge, Cooper had learned to ride and hunt on his family’s ranch near town, and his shooting skills rivaled those of the competitive Hemingway. By the time Cooper and Hemingway met in Sun Valley in 1940, both were already famous, already the objects of mythmaking.

Years before they met, Cooper had “talked his way” into playing the hero of the 1932 film version of *A Farewell to Arms*, and although Hemingway hated the movie, according to Cooper’s biographer, he “drew on his impression of Cooper’s face and



***For Whom the Bell Tolls* also strengthened ties between Hemingway and actor Gary Cooper (above), a friend and native of Helena, Montana, whom he met in Sun Valley.**

character when he wrote *For Whom the Bell Tolls*.” Both author and actor wanted Cooper to play Robert Jordan in the movie to be made from the novel, and their wishes were eventually fulfilled in the 1943 film that co-starred Ingrid Bergman.<sup>30</sup>

Cooper and Hemingway’s friendship was buttressed by their pleasure in the outdoors. Both were excellent shots and gun aficionados. “Cooper is a very, very fine rifle shot and a good wing shot. I can shoot a little better than he can with a shotgun but not nearly as good with a rifle,” Hemingway wrote to Max Perkins. Cooper owned a .22 Hornet equipped with a German telescope, which Hemingway coveted. They were drawn to the Sun Valley resort partially because of its good bird hunting. They also had in common the fact that they had both married wealthy Catholic women but continued to have an eye for other women. When Cooper was agonizing over whether to end his two-year affair with Patricia Neal and return to his marriage, he sought Hemingway’s advice during a visit to Havana. Whatever Hemingway’s advice was, if any, Cooper remained married, and Neal soon married author Roald Dahl.<sup>31</sup>



Cooper and Hemingway remained friends for the rest of their lives, continuing to meet in Sun Valley and elsewhere. When Cooper was dying of cancer and Hemingway was being shuttled between the Mayo Clinic and Idaho, their last contact was by phone in the spring of 1961. In that conversation, Cooper said to Hemingway, "I bet I make it to the barn before you do." They died within two months of each other, Cooper on May 13, 1961, and Hemingway on July 2, of a self-inflicted gunshot wound, at his Idaho home.<sup>32</sup>

Hemingway's fiction contains other references to Montana places and people. The short story inspired by his stay in St. Vincent's Hospital in Billings drew on actual characters he encountered there. It was first published in 1933 in *Scribner's Magazine* as "Give Us a Prescription, Doctor," then retitled "The Gambler, the Nun, and the Radio" when it appeared in the 1935 collection *Winner Take Nothing*. The "gambler" was a Mexican who, like Hemingway, also earned a front-page article in the *Billings Gazette* under the headline, "Mexican Worker May Die; Second Victim Will Live." Both Hemingway's short story and his letters report on the bad beer that visiting Mexicans brought to the hospital.<sup>33</sup> Sister Florence Cloonan, one of the

nuns who tended to Hemingway during his stay in St. Vincent's, was remarkable in her addiction to baseball, and in Hemingway's short story, she appears as Sister Cecilia, who was convinced her prayers to Our Lady brought victory to her favorite teams.<sup>34</sup>

In perhaps the only recording of Hemingway reading his work, he narrates a piece called, "Saturday Night in a Whorehouse in Billings, Montana." Recorded during his Cuba years, it includes references to whorehouses not only in Billings but also in Red Lodge and Cody. The central figure in this fictionalized account breaks his hand in a fight in Billings and tapes his hands for subsequent fights.<sup>35</sup>

Many of the thousands of letters that Hemingway wrote survive in the Hemingway Collection at the John F. Kennedy Library in Boston and in the Carlos Baker Collection of Ernest Hemingway at the Princeton University Library in Princeton, New Jersey. They reveal that Hemingway regularly read classic and contemporary literature. He also read western writers, and he characteristically expressed his opinions of the authors and their works. Hemingway made an effort to meet Owen Wister, author of *The Virginian* (1902), when he was in Wyoming in 1928. He proclaimed Wister to be "a sweet old guy"

Cooper had "talked his way" into playing the hero in the 1932 film version of *A Farewell to Arms*, and although Hemingway hated the movie, according to Cooper's biographer the author "drew on his impression of Cooper's face and character when he wrote *For Whom the Bell Tolls*." Both author and actor wanted Cooper to play the lead in the movie to be made from the novel, and their wishes were eventually fulfilled in the 1943 film. Gary and Rocky Cooper (center) pose here with Ernest and his fourth wife, Mary Welsh, at the Stork Club in New York City on April 3, 1950.



Stork Club News Service, photographer, MHS Photograph Archives, Helena, Cooper Coll.



who “writes damned well too.” Two years later, he qualified his praise by saying such stories as “A Gift Horse” and “Pilgrim on the Gila” were “damned fine,” but he was dismayed over the poor quality of Wister’s novel *Philosophy 4* (1901).<sup>36</sup>

Another western writer, Billings local favorite Will James, drew a string of negative adjectives from Hemingway. Nevertheless, after calling James “moth-eaten” and “shifty-eyed,” among other epithets, Ernest later asked Max Perkins to send *Sun Up* and *Big Enough* to Hemingway’s son Bumby in France. A. B. Guthrie, author of *The Big Sky* and a more recent writer of the West, earned Hemingway’s approval when Ernest included Guthrie’s book among the “first rate books by new writers” he listed for *Time* magazine in 1947. Robert Manning of *The Atlantic* recalled an interview with Hemingway in which he commented that *The Big Sky* was “a very good book in many ways,” adding with a smile that it was especially good on describing “the clap.”<sup>37</sup>

Although their days at the Nordquist ranch ended in 1939, this was not the end of the Hemingways’ association with the West and its people. According to Laura Weaver, Chub Weaver’s widow, Ernest visited the Weavers several times after 1940. Chub mentioned in a letter that the last time he saw Ernest was when Hemingway stopped with Otto Bruce, “his old secre-

tary, treasurer, chauffeur, valet and procurer,” on their way to Idaho in fall 1947.<sup>38</sup>

By 1946, Patrick was in his last year of secondary school at Canterbury School in Connecticut, and Bumby, now called Jack, was back in the States after having spent time in the army and then as a prisoner of war in Germany. Jack planned to attend the University of Montana in Missoula in the fall of 1946, but Pauline registered puzzlement over that move in a letter to Patrick, saying she thought Montana a pretty dull place, its proximity to fishing being its only merit. However, Ernest felt Patrick should also apply to the University of Montana, saying in a cable that Montana would be an “excellent” temporary choice since both Princeton and Harvard were inundated with returning veterans. In the end, Patrick did not apply to the University of Montana, instead attending Stanford and then transferring to Harvard. Jack’s time at the university in Missoula was short-lived. In January 1947, Ernest wrote an indignant letter to Jack, saying that his decision to quit college was “so stupid” he did not want to even talk about it—though he went on for several more sentences taking his oldest son to task.<sup>39</sup>

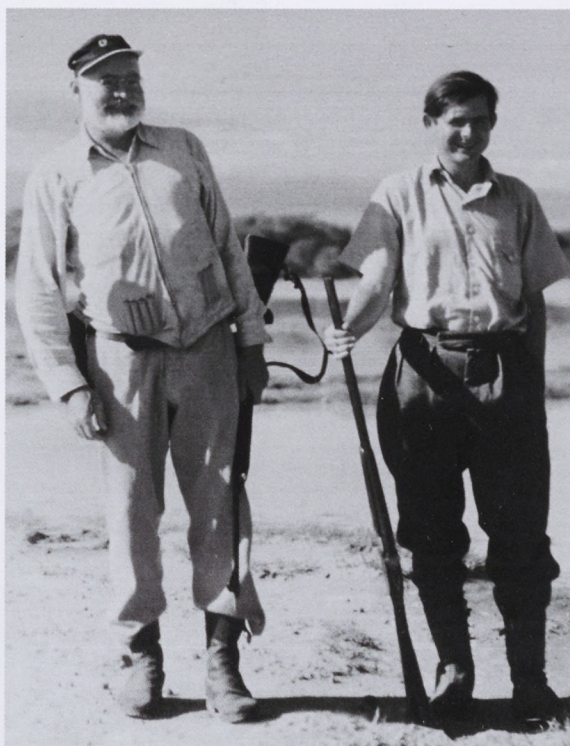
In June 1946, after Patrick’s graduation from Canterbury, Pauline planned an automobile trip with Jack, Patrick, and Gregory through Wyoming, Montana,

Ernest Hemingway Photograph Collection, John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH 2949P



Hemingway shared his lifelong passion for hunting with his three sons, Bumby (who was called Jack as an adult), Gregory, and Patrick. Gregory and his father are shown above in Havana. Patrick is pictured at right with his father, in Tanganyika, where Patrick worked as a professional hunter. Patrick and Gregory, who was by then a doctor, both lived in Montana for some period of time as adults.

Detail, Ernest Hemingway Photograph Collection, John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH 241T





Washington, and down into California. Of this trip, Patrick Hemingway wrote, "It was really my mother, Pauline . . . who launched my brother Gregory and me into the then not so crowded world of fly fishing for trout on public water in the American West." They purchased dry flies at Dan Bailey's shop in Livingston for fishing on the Madison, the Gibbon, and the Firehole rivers. And it was on this trip that Ivan Wallace, once a Nordquist guide and now working on a road-construction crew near Red Lodge, flagged down a car only to discover Pauline and the boys inside.<sup>40</sup>

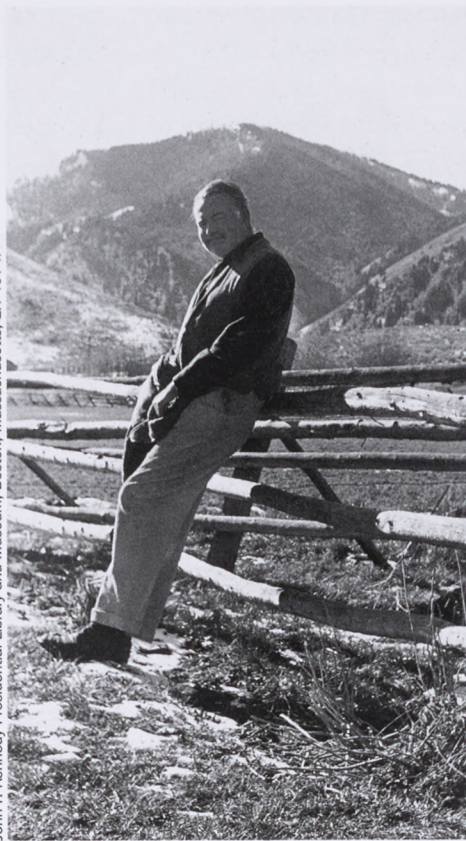
Although Hemingway did not see Wallace or Chub Weaver or any of the others from the Nordquist ranch during the last years of his life, they were in contact. He called Chub just a few days before he committed suicide, telling him that he had been to the Mayo Clinic and had gotten a "bad report."

Thus, the news of Hemingway's death by his own hand so soon thereafter was no surprise to Chub.<sup>41</sup>

After their father's death, Jack Hemingway settled in Ketchum, Patrick continued his career in wildlife management in Africa, and Gregory pursued a medical degree. The Hemingways renewed their connection with Montana in 1975 when Patrick Hemingway established a home in the state. A year later, he persuaded his brother Gregory to join him out west because the "hinterlands of Montana" needed doctors. During the next twenty years, Gregory worked as a doctor in Fort Benton, Jordan, and Deer Lodge, all for short periods. His family moved to the Bozeman area in 1980, and even after Gregory and his third wife, Valerie Danby-Smith, divorced, she and their four children remained in Bozeman, while Gregory continued to spend brief periods of time in Montana. For instance, he was in Montana in summer 2001, just before he died that fall in Miami.<sup>42</sup>

Ernest Hemingway was unquestionably a major force in American and world literature. He will endure as a literary giant solely on the quality of his writing and his influence. But his adventurous life and powerful personality have given him added fame—

Ernest Hemingway Photograph Collection, John F. Kennedy Presidential Library and Museum, Boston, Massachusetts, EH 4074P



Unquestionably a major force in American and world literature, Ernest Hemingway will endure as a literary giant solely on the quality of his writing. The West—the setting for much of his literary productivity—allowed Hemingway to enjoy an outdoor life and served as a source of inspiration for characters and scenes in his stories. Idaho provides a backdrop for the author's picture, left, taken during his last years at his Idaho home.

and notoriety—to the extent that the focus has often been on his life rather than on his work. Although it can be tempting to let Hemingway's personal foibles cast a negative light on his accomplishments as a writer, reading his books—and the letters he wrote as he labored over those books—evokes admiration for the artist he was. The West, the setting for much of his literary productivity, provided an environment for him to continue his commitment to an outdoor life and served as a direct source for some of the characters and scenes in his stories. Westerners can appreciate the obvious influence of their land on Hemingway's work; they can also be proud of how that landscape has contributed to the American literary canon.

**Lou Mandler**, a native of Sheridan County and a graduate of Montana State University–Bozeman, has taught at Canterbury School in Connecticut for much of her adult life. Her memoir, *This Storied Land* (Pronghorn Press, 2004), focuses on life on the family farm in Montana she knew as a child and adolescent. Her article "The Hemingways at Canterbury" was published in the *Hemingway Review* (Summer 2010).



# Montana's Barns

## A Vanishing History

by CHERE JIUSTO and CHRISTINE W. BROWN

with contemporary photographs by TOM FERRIS

The U.S. Department of Agriculture collected data on historic barns for the first time in 2007. Nationwide, the tally of farms and ranches with a barn built before 1960 totaled 664,264. Of those, 8,274 were located in Montana.<sup>1</sup> These historic barns are an emblem of rural communities and family enterprise and an essential part of the cultural landscape. Raising a barn was once a community event made possible by many hands. Barns' sturdy ingredients—iron hasps forged by strong hands, native rock generously cut, hefty wooden planks—reflect the era when handwork and craftsmanship were an essential component of building design and execution. Bearing the wear marks of decades of use, these rugged buildings provide a link to a time when far more people made their living directly from the land. Researching and documenting these buildings and understanding their evolution sheds new light on rural history by providing insights into population movements, ethnic patterns, and technological developments, and offering a fuller picture of state and local history.

Today, historic barns are one of the nation's most threatened historic resources. Many Montana barns date to the state's boom years between 1880 and 1920, making them now 90 to 130 years old, an age when such large wooden structures begin to wear out. Because of their sheer size, barns are expensive to maintain—and yet they resonate with the stories and the inspiration that underpin the vibrant agricultural heritage that is so much a part of Montana's lifestyle,

culture, and identity today. While workhorses, plows, and wagons have given way to new technologies, barns are sturdy and resilient. As the twenty-first century unfolds, these magnificent structures are being used in new ways on farms and ranches as well as being repurposed as homes and community buildings.

Agricultural barns originated in Europe as simple places for storing grain and sheltering animals. The word "barn" descends from the old English *beraern*: *bere* meaning barley and *aern* meaning house or store. It sometimes happens that a simple advance in technology changes much about the way people live. As a building for *aerning* the *bere*, the *beraern* became an essential part of year-round, settled agriculture; today, of course, the granary (from the Latin *granarium*) is in its purest sense the *beraern*. And the buildings we know as barns now shelter livestock.

Sheltering livestock was critical in a northern climate, and over time a variety of buildings evolved to suit this need. Utilitarian from the ground up, barns were built according to tradition and purpose. If there were windows, they were there to illuminate interior activities. If the barn was painted, that preserved the wood against weather and sun. If a cupola crowned the ridgeline, it served to vent the interior and keep green hay from molding, heating up, combusting, and burning the structure to the ground. Form followed function down through the ages, and with time, barn building evolved into a high craft, requiring individual training and know-how as well as the help of



# *Where the Prairie Ends and the Sky Begins* **Maynard Dixon in Montana**

by DONALD J. HAGERTY

BY 1917—the year the Great Northern Railway approached Maynard Dixon with a proposal to paint in Glacier National Park and among the Blackfeet Indians—the artist had already achieved considerable fame as an illustrator and painter of the American West. According to the Great Northern's plans, Dixon's artwork would be used as part of its "See America First" campaign. Some of the paintings would be exhibited at Glacier lodges and chalets while others would be reproduced as promotional posters for distribution throughout California.<sup>1</sup>



*The Storytellers* (1917, oil on canvas, 36" x 40")





# ON THE EDGE

by Anne Cantrell

**Irving Weissman is an innovator in one of medicine's most exciting and controversial disciplines. One key to his success stems from his Montana roots.**

*When he talks about science, Dr. Irving Weissman starts speaking slightly faster than he does when he's talking about, say, growing up in Montana.*

*When he discusses his work, he sometimes speaks only the first part of the word, as though there is so much to say that he doesn't want to waste time uttering the final syllable. A note of urgency comes into his otherwise soothing voice. It's indicative of what perhaps drives Weissman the most: a belief that medicine should be based on science and advanced through constant research. And, that there is so much yet to be done.*

A world-renowned stem cell researcher, Weissman is a pioneer at the forefront of a science that could change nearly everything about how we treat illness and disease, from heart disease to cancer. The director of Stanford University's Institute of Stem Cell Biology and Regenerative Medicine, Weissman is also a member of the National Academy of Sciences—an elite group of only about 2,100—and his colleagues say that he stands above even the very best scientists.

Yet, as essential as science is to Weissman, so are his roots. The native Montanan and Montana State

College graduate returns to the state as often as he can, giving lectures, serving on boards and fly fishing the state's rivers.

His frequent trips home are a respite from some weighty responsibilities. As the immediate past president of the International Society for Stem Cell Research, he is immersed in one of the greatest ethical debates of this age, one that involves science, medicine, politics and religion. It is a debate in which he is greatly invested, both professionally and personally, and the stakes are high.



Weissman's work could, for example, result in a cure for cancer.

He knew nearly 15 years ago that he could isolate blood-forming stem cells from women who had breast cancer. Theoretically, these stem cells could be transplanted back into a woman after she received a powerful, cancer-killing course of chemotherapy. A side effect of such chemotherapy was the destruction of those tissues that formed blood. The transplanted stem cells offered the solution of being able to regrow those tissues.

In 1996, for the first time, physicians transplanted cancer-free blood-forming stem cells into a breast cancer patient after she had completed a potent course of chemotherapy.

Weissman recalled the physicians telling him it was a hopeless case from the start. The woman's cancer was aggressive, and as she was undergoing chemotherapy, a burst of cancer cells developed in her chest, indicating that the cancer had really spread.

"Nobody gets out of that one alive," Weissman said.

Except that this woman did. The chemotherapy followed by the transplant of cells worked. Remarkably, the last report Weissman received—nearly 15 years later—was that the woman was living without cancer.

The results should have been a medical breakthrough and a tale of hope for cancer patients and their families. But politics and economics got in the way, Weissman said.

When a company that Weissman had formed to take the new treatment into clinical trials was taken over, the new company subsequently made a business decision to stop those clinical trials before complete results were known.

And national legislation on the use of stem cells has restricted his ability to conduct research. His work has made him the subject of hateful messages in the blogosphere and at least one death threat. In 2001, Weissman headed a National Academies panel on stem cells. Because embryonic stem cells could give rise to adult stem cells, the panel voted unanimously to accelerate the federal funding of that kind of research. Most embryonic stem cells are a few days old, derived from embryos that were artificially fertilized in a clinic and donated specifically for research. Still, stem cell work

is controversial, since creating an embryonic stem cell line for research requires starting with cells in an excess blastocyst stage embryo from an in vitro fertilization clinic. The debates have fueled pro-life advocates, who view an embryo as a person.

Despite his frustrations, Weissman feels a responsibility to overcome the hurdles. It's work that has driven him ever since he was a young boy growing up in Montana. Work that he believes has the potential to improve people's lives.

In an auditorium at Benefis Healthcare earlier this year in his hometown of Great Falls, Weissman explains to a standing-room only audience that stem cells are characterized by their ability to renew themselves by dividing and differentiating into a diverse range of

**BEWARE OF ADVERTISED TREATMENTS WHERE ONE  
KIND OF STEM CELL IS USED TO REGENERATE ALL  
TISSUES. THERE IS NO SUCH THING IN ADULTS.**

—IRVING WEISSMAN

specialized cell types—adult muscle stem cells can become muscle cells, adult blood-forming stem cells can regenerate blood, and nervous system stem cells can make all kinds of brain cells. They are entirely responsible for the origination of all body tissues and their regeneration throughout life. In a developing embryo, stem cells can potentially differentiate into any adult stem cell: adult stem cells repair the body, replenishing specialized cells and maintaining regenerative organs, such as blood, skin or intestinal tissues.

Following the lecture, one woman asks Weissman about potential stem cell treatments for her adult son's spinal cord injury. Another wonders if treatments for juvenile diabetes and neonatal diabetes work in the same way.

"They don't have stem cells for (every procedure)," Weissman cautioned. "Nevertheless, in animal experiments, human brain stem cells can repair many spinal cord injuries; blood-forming stem cells can block the progression of a diseased blood system to the disease, for example, in mice developing juvenile diabetes; blood-forming stem cells from a diabetes-resistant parent or sibling can permanently block progression to diabetes. But you should beware of advertised treatments where one kind of stem cell is used to regenerate





(or a not so great discovery), but to try to translate it into medicine.”

However, Weissman is quick to point out that his grades were not exemplary. He never made it into the top 10 percent of his class in Great Falls.

“But I was also doing science,” Weissman said. “I won (a) grand prize at Billings in the 1957 Montana State science fair my senior year, and had published two papers by the time I graduated high school.”

Weissman attended Dartmouth for two years.

“I could see that I wasn’t learning or doing science at Dartmouth,” Weissman said. “I also hated living in the East. I hated the traditionalism of the East.”

So Weissman left Dartmouth and enrolled at what was then Montana State College in Bozeman, where he met “some of the greatest scientists and teachers—often better than I had at Dartmouth.”

As an undergraduate student at Montana State, Weissman learned the importance of reading others’ research experiments thoroughly and evaluating their methods and analyses.

Montana State geneticist Palmer “Dave” Skaar was particularly important to Weissman.

“Dave Skaar brought me into a whole different world, a very advanced world,” said Weissman, who took six courses with Skaar during the year he was at Montana State. “He taught by analyzing the great genetics experiments of the day, and he related them to problems in both evolution and population biology.”

Skaar’s courses helped Weissman embrace a philosophy that learning must be done in a lab. Weissman’s advice for people interested in pursuing careers in research stems from that philosophy.

“There’s no predicting from the grades you’ve got whether you’re going to have the talent (to go into research),” Weissman said. “And you also have to have the desire to look at medical issues, from fundamental science where you’re asking questions, devising experi-

ments to answer the questions, and then the whole deal of making it real. So the only way you get that is working in a lab, and the sooner you start, the better.”

In the fall of 1960, Weissman entered a special five-year research and medicine program at Stanford, allowing him—in conjunction with his coursework at Dartmouth and Montana State—to receive a bachelor’s of science in pre-medicine from Montana State College in 1961, after just one year at Montana State. Weissman earned his M.D. at Stanford in 1965. He has been there ever since.

While some call Weissman’s time in Montana an unlikely start to a prominent career in stem cell research, Weissman says his Montana background was crucial to his success.

“One of the things about growing up in Montana, compared to the East, is that you’re less constrained by tradition and convention, so you can think creatively,” Weissman said. “You are more likely to question authority. And that’s a good thing.”

Weissman’s colleagues also note that his path illustrates his love of learning and desire for knowledge.

“Irv exhibits a deep and burning intellectual curiosity. That is fundamental to good scientists,” said Leroy Hood, Weissman’s long-time friend. Hood is also from Montana and co-founder of the Institute for Systems Biology in Seattle, which pioneers systems approaches to biology and medicine. “Irv is deeply curious and wants to understand in depth how things work. I think it’s very much a part of his approach to the world, understanding how the world works.”

Though he would rather be conducting research or fly-fishing, Weissman’s work also demands his full involvement in a world of politics and economics. And, traits that make him a good scientist seem to serve him equally well as he navigates those waters. His methodical reasoning, calm demeanor and ability to communicate scientific

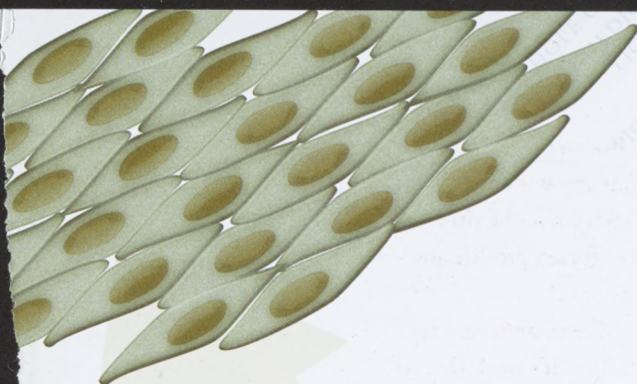


WEISSMAN • KELLY GORHAM

**ONE OF THE THINGS ABOUT GROWING UP IN MONTANA...  
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## POTENTIAL THERAPIES

*One day, scientists say, stem cells may be used to repair or replace damaged cells and have the potential to treat conditions like cancer, Alzheimer's, Parkinson's disease, multiple sclerosis, inflammatory bowel disease and diabetes. In theory, any condition in which there is tissue degeneration could be a potential candidate for stem cell therapies.*



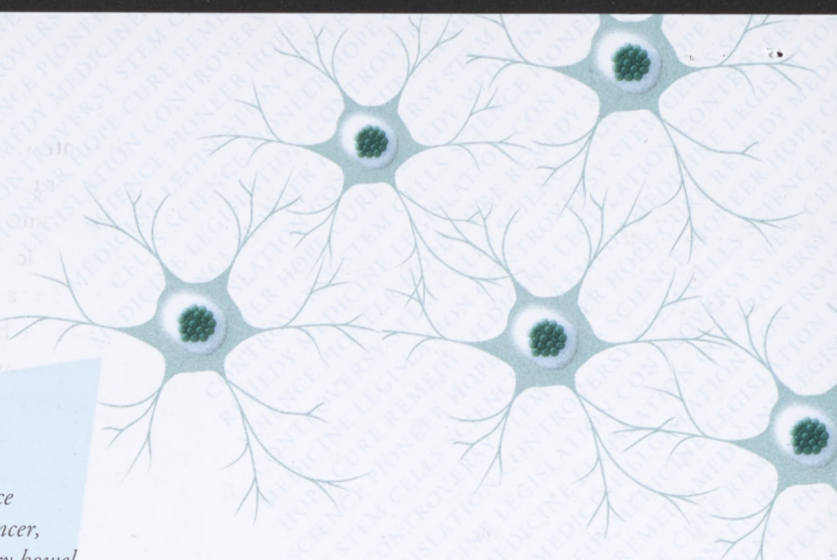
## STEM CELLS

*Embryonic stem cells have the potential to develop into many different cell types in the body during early life and growth.*

*In many tissues stem cells also serve as a sort of internal repair system, dividing to replenish other cells. When a stem cell divides, each new cell has the potential either to remain a stem cell or become another type of cell with a more specialized function, such as a muscle cell, a blood cell or a brain cell.*

## CURRENT THERAPIES

*Adult stem cell treatments have been successfully used for many years to treat leukemia and related bone/blood cancers through bone marrow transplants. Weissman's laboratory was the first to identify and isolate the blood-forming stem cell from mice and from humans.*



all tissues. There is no such thing in adults.

"That's why it's so important to understand the science," he added.

Weissman's journey into understanding some of the most intricate science about the human body began in Great Falls. His grandfather arrived as an immigrant at Ellis Island in the early 1900s and then headed west, settling near Great Falls. He worked as a junk man and fur trader and later owned a second-hand auto body parts store, eventually also working in steel supply, plumbing supply and hardware. Weissman's father later took over the business.

Weissman, who is now 70, said his interest in science began when he was 10 and read a book about the lives of scientists, including Robert Koch, a German physician who developed criteria to establish a causal relationship between a microbe and disease.

"How do you know something causes a disease? This discovery by Koch dramatically changed things, for everybody," Weissman said. "And for me, reading about it the first time and seeing that connection between science and disease—I wanted to be able to do that."

About five years later, Weissman approached Ernst Eichwald, a Great Falls scientist, to see if he could work in his Great Falls laboratory to learn more about research. Eichwald quickly became a mentor.

Weissman remembers how, early in his career when he was working in Great Falls, he encountered in a room near the lab in Deaconess Hospital a toddler who had leukemia.

"That combination, working in the lab, watching this poor 18-month-old child die because there was no therapy, all added up to plenty of motivation for me," Weissman said. "Not only to do research, but to take the research as far as possible (and) to apply it to medicine. Not just publish a great discovery





Weissman addresses an audience in his native Great Falls this summer.

relevance to a lay audience have been important assets as he testifies at hearings and debates the issues about stem cells, including hearings before the U.S. Congress.

Still, Weissman says that politics and economics are often the most frustrating aspects of his job.

In 2001, President George W. Bush limited federal funding for embryonic stem cell research to the stem cell lines then in existence, arguing that extracting the stem cell destroys the embryo and its potential for life. President Barack Obama lifted the ban last year, only to be reversed in August 2010 by a federal judge, who said an expansion of embryonic stem cell research violated a ban on federal money being used to destroy embryos. An appeals court lifted the resulting temporary injunction

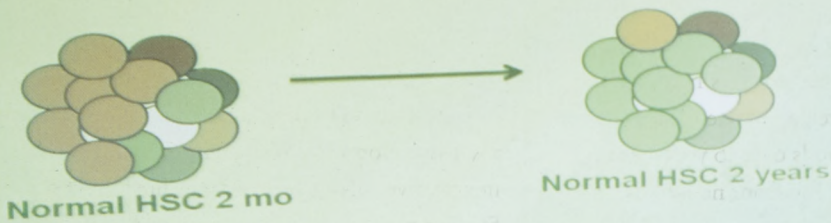
barring the federal government from funding research involving human embryonic stem cell research, but the implications of the judge's ruling were still being determined, and Weissman said he hoped it would be overturned.

"(President) Bush, and (Sam) Brownback in the (U.S.) Senate, and (Dave) Weldon in the (U.S.) House, and the Catholic Church, and the Pope—who I eventually met—all opposed this kind of stem cell research, some equating it to murder," Weissman said. "And I said, 'Well, which of these diseases do you think we shouldn't pursue just as hard as we can? Stopping stem cell research stops an important path to understand and treat these diseases.'"

To respond to the ban, Weissman was important



## Clonal Selection of HSC with Aging



hypothesis and data: Rossi, Eaves, Muller-Sieburg, Nakauchi, Bryder, Beerman, and Weissman [Beerman and Weissman are from Power and Great Falls, respectively, trained in the McLaughlin Research Institute 45 years apart]

Irving Weissman was inspired to become a scientist at age 10 when he read a biography about scientist Robert Koch and others. Recently Weissman, regarded as one of the foremost researchers working on stem cells, won the Robert Koch Prize, the top international scientific prize in microbiology. Here he speaks to an audience in his native Great Falls.



**IT'S INCREDIBLE TO SEE A PIECE OF DATA COMING FROM A THOUGHT YOU HAD, AN EXPERIMENT YOU DESIGNED. YOU'RE THE FIRST PERSON ON EARTH TO KNOW AND UNDERSTAND WHAT IT IS.**

—IRVING WEISSMAN

in the writing and passage of California's Proposition 71, which protected the research as a state right and allocated \$3 billion in state funds over 10 years. The measure put California at the forefront nationally of the field of stem cell research.

Weissman recognizes communication about stem cells can be polarizing, weighed down by people's perceptions.

"I realized that even when I said the word 'embryo,' if I said it to people who weren't even in the field, 'Draw an embryo,' inevitably they'd draw a fetus. So I'd say, 'How can we talk to each other?' If I say 'embryo,' and I know it's some cells that are in a dish, and you think of a human fetus, then already it's been polarized and politicized, and whatever religious or political group got to you first might have influenced your way."

In addition to his membership in the National Academy of Sciences, which is considered one of the highest honors that can be given a scientist or engineer, Weissman has received numerous awards. Among them are California Scientist of the Year in 2002 and, in 2008, the prestigious Robert Koch Prize, which is widely regarded as the leading international scientific prize in microbiology. Some people speculate that he may someday win the Nobel Prize, as many recipients of the Robert Koch Prize have.

"Irv stands above most scientists," said George Carlson, director of the McLaughlin Research Institute in Great Falls, of which Weissman is a board member. "He's definitely in the top 1 percent of scientists. It's not a trivial thing to get into the National Academy (of Sciences)."

Throughout his career, Weissman's love for Montana has been evident. He travels back to the state multiple times each year, sometimes to lecture or to raise funds for the McLaughlin Research Institute.

"Irv is exceptionally generous," Carlson said. "He just wants to give back the opportunities he was given."

Carlson believes Montana is important to Weissman for another reason.

"He knows where he came from, and I think things like the work ethic play a big role in his success," Carl-

son said. "And of course, he loves to fish."

In fact, it doesn't take long for fishing to come up in a conversation with Weissman. One fishing story he shares involves his 17-year-old daughter, Rachel.

"She is a great caster," Weissman said. "If I float, as I will, with her down the Bitterroot or the Missouri ... usually I sit in back and she sits in front. And so you're looking for the spot where the trout might be. And you cast your fly. Inevitably now, I see the spot, I do the cast, and hers lands just in front of mine."

Weissman says he remembers every discovery he's ever made, from his early experiments as a 16-year-old boy in Great Falls to breakthrough research he performed as an adult, including isolating blood-forming stem cells in mice and humans.

And, the process of discovery feels the same every time. Sometimes Weissman celebrates discoveries with other members of his research team, but more often than not, the discovery itself is the celebration.

"The big celebration is the moment you see it, and usually you're alone," Weissman said. "It's incredible, to see a piece of data coming from a thought you had, an experiment you designed," Weissman said. "You're the first person on Earth to know and understand what it is."

Weissman admits that his is an exciting line of work, but it's also frustrating to him when barriers arise.

"I don't get to rest, and say, 'Gee, that was great,' because I see what I have to do next. It's a responsibility, and sometimes you wish that you didn't have to do all of those other things."

Still, Weissman remains focused. What is even more important than the discovery, and all of the hurdles that come with it, is its application.

"If this translation doesn't happen, or is delayed for 4–8 years while somebody dithers about the philosophy of it, or the political reality of it, some people will die who had a short window of opportunity," Weissman said. "And I'm really cognizant of that."







# FOUNDATIONS FOR SUCCESS

New and renovated facilities help MSU build student success

by Melynda Harrison



June 10, 2006

To: Ivan Doig

From: Helen Thiel Strickland

In case there is no appropriate time to speak to you tonight, I am providing this information about the Montana Sedition Law.

You may have seen the enclosed article from the New York Times. I was gripped by the story; my godmother's father was arrested for speaking German. He had a heart attack and died in jail. The

The time was 1918, the place I assume was Miles City. I was named for my "Aunt" Helen, my mother's dearest friend who married Balmain Levis and moved to Portland, Oregon. Unfortunately, as was the custom of those days, I only knew her by her married name. I have searched my baby records, immaculately kept by my father, where she is only referred to as Aunt Helen. They had no children and as far as I know Aunt Helen had no siblings. I may be the nearest connection.

I have written to Jeff Renz and Clemens P. Work, Montana professors; and the Montana Governor. I received a list of names and the website which gives more details. Miles City, Custer County, certainly incarcerated the most folk. I could write to the Miles City Court House to inquire if there is a record of the marriage license of Helen and Balmain Levis.

Since I have few facts to go on, I thought what a great story. I could make up what is missing! I really haven't time. I want to paint! Maybe Ivan Doig would be interested except he probably has several ideas to work on already. I'll tell him anyway. After all, House of Sky is really my story too. (You won't remember, but soon after that book was published I was introduced to you on the campus by Roger Whitlock, a former student of mine. I said the same thing to you then and Roger interceded with, "No, you haven't written yours yet." Flattering, but my journals are stashed for the present.)

I shall continue to search for facts. I tell myself it really doesn't matter. It was just one more experience I had in my childhood which made me devote my life to work for peace and justice.

If you are interested and have time to respond, my address and phone are below. I shall list my E-mail address, but it's not my favorite form of communication!

Helen T. Strickland  
3854 N.E. 87th St.  
Seattle, WA 98115

206-525-5024

Email: Stricklandht@aol.com

Web site:

<http://www.seditionproject.net/pardonproject.htm>

many links w/ photos  
and names —



June 10, 2006

To: Ivan Doig

From: Helen Thiel Strickland

In case there is no appropriate time to speak to you tonight at the Bookstore, I prepared this information about the Montana Sedition Law.

You may have seen the enclosed article from the New York Times April 3rd. I was gripped by the story; my godmother's father was arrested at this time only because he spoke German. He had a heart attack and died in jail. That is the story as I was told.

The time was 1918, the place I assume was Miles City. I was born in 1919 in Roundup, named for my "Aunt" Helen, my mother's dearest friend who lived in Miles City. She married Balmain Levis and moved to Portland, Oregon. Unfortunately, as was the custom of those days, I only knew her by her married name. I have searched my baby records, immaculately kept by my father, where she is only referred to as Aunt Helen. They had no children and as far as I know Aunt Helen had no siblings. I may be the nearest connection.

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## Ye Galleon Press Collection

Washington State Library  
Office of the Secretary of State

December 2007

### Ye Galleon Press

Ye Galleon Press, a specialty press, located in Fairfield, Washington, printed regionally important books. Some are original works; most are reprints. They total more than 600 titles. They range from a 1582 history of exploration in America first published in London, to a woman's account of an 1866 journey through the Northwest by lumber wagon. Works include the stories of fire lookouts, pioneer missionaries, Native Americans, memoirs of whalers and many local histories.

Many Ye Galleon Press works are reprints of rare materials. These reprints make difficult-to-find materials accessible conveniently and inexpensively, a boon to readers and researchers. The subjects of the press were usually historical and included Native Americans, exploration, Oregon Trail and other migrations, western Americana, mining, and maritime.

Ye Galleon Press also produced new and original works, including many by Pacific Northwest authors. Memoirs and local histories published by Ye Galleon Press preserve history not found elsewhere. Some poetry and children's works were also produced.

### Glen Adams, Printer & Publisher, Ye Galleon Press

The history of Ye Galleon Press would not be complete without telling the story of a remarkable Washingtonian, Glen Adams. Glen Cameron Adams was born June 19, 1912 in Trent (Spokane County), Washington. He died October 17, 2003 in Fairfield (Spokane County), Washington, aged 91 years.

Fairfield, Washington, a community six miles west of the Washington-Idaho border in southeast Spokane County, is a pinprick geographically. But it was the home of a resolute individual who left a legacy of long standing value to authors, researchers, and readers throughout the Pacific Northwest.

As the owner of Ye Galleon Press, Adams preserved and made accessible many regionally important works which otherwise would be lost to historians. If a book was rare, historically important, and of interest to Adams himself, he would restore it by printing a new edition. If the same criteria applied to new material coming his way, but he felt another publisher would do a better job with a manuscript, he would help the writer find a different publisher.

Glen Adams registered as a private printer in 1937 and produced his first book in 1939. Until 1974 Glen Adams used only handset type for printing his books; he learned the art in 1935 while a student at Cheney Normal School, now Eastern Washington University. He financed his first publishing by teaching near Walla Walla, but had to return home to help save the family farm. Crops and livestock then took his time--and financed his press. Multiple sclerosis struck in 1947, eventually confining Adams to a wheelchair. Despite financial and physical obstacles, he continued to operate Ye Galleon Press until shortly before his death.

Many Ye Galleon Press works included a colophon, a statement about the book's printing and construction. Most Ye Galleon Press colophons ended with these characteristic Glen Adams words: "This was a fun project. We had no special difficulty with the work."

WASHINGTON STATE LIBRARY



Washington  
Secretary of State  
SAM REED



## The Ye Galleon Press Collection at Washington State Library

The Washington State Library (WSL) had a long-standing, positive relationship with Glen Adams and Ye Galleon Press. His dedication to preserving and making history accessible was much appreciated by librarians and researchers throughout the Pacific Northwest.

Among many other honors, Mr. Adams was awarded the 1998 Nancy Blankenship Pryor Award. As the head of the Washington State Library's Washington/Northwest Room during the 1970s and 1980s, Nancy Pryor assisted and influenced many historians and researchers in Pacific Northwest history. The award named in her memory was given to recognize those who made unique contributions to the literary culture of Washington State. No one in Washington fits this description more than Glen Adams did.

To commemorate and preserve the work of Glen Adams, Washington State Library has established a special research collection of Ye Galleon Press books. The Ye Galleon Press collection currently consists of approximately 450 books. WSL staff will continue to add works produced from Ye Galleon Press during the Glen Adams era (1937-2003) until the collection is complete.

The call numbers for books in the Ye Galleon Press collection all have the prefix YGP. Books with the YGP call number are for in library use only. There are additional copies of some YGP titles in other WSL collections which are available to check-out and for interlibrary borrowing, please consult the WSL on-line catalog at the web link listed below.

Please note the Ye Galleon Press collection includes materials that reflect the attitudes, perspectives, and beliefs of different times. These materials are preserved as part of the historical record. Inclusion of materials in this collection does not mean endorsement of or agreement with any view expressed.

### Resources:

Glen Adams Obituary, Spokesman Review, October 23, 2003, page D5.

Manuscripts 306 & 315, Ye Galleon Press correspondence, memos Washington State Library.

Pacific Northwest Quarterly, Summer 1997: "Glen Adams and Ye Galleon Press: An Appreciation," by Wilfred P. Schoenberg, pages 146-148.

Washington State Library on-line catalog <http://www.secstate.wa.gov/library/catalog.aspx>

In the "Search for" drop down list, select "Dewey Call Number". Enter YGP in the search box for a listing of all the Ye Galleon Press collection titles in call number order.

Special thanks to Ruth Kirk for some of the wording used in this handout.

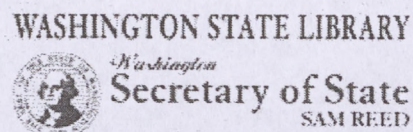




FIG. 7

Photographed in 1881 by F. Jay Haynes, Crow leader Iron Bull holds a tomahawk trailing the beaded pendant pictured in Figures 5A, 5B, and 5C.

owned by Haynes, a typical Crow tomahawk pendant (now also in the Montana Historical Society's collection), appears in several of his photographs. Haynes seems to have included the pendant, separated from the tomahawk, in some pictures simply as another piece of Indian beadwork. In Haynes's group portrait of Big Medicine, Old Coyote, and their wives, Big Medicine holds the pendant upside down in front of the blanket around his waist (FIG. 6). The geometric design in dark blue, light blue, red, green, and white appears on a yellow background. In the photograph the strongly contrasting dark blue triangles at top and bottom merge with their bright yellow background and disappear. The light blue rectangles in the center stripe show as white. Other details disappear as their values merge with adjacent colors. The red beads forming the sides of the center diamond are lighter than we would expect in an early photograph, perhaps because they are somewhat rose in hue. The modern photographs show these changes clearly (FIGS. 4A, 4B, 4C).

Another tomahawk pendant (FIG. 5A), now in the collection of the Los Angeles County Museum of Natural History, appears in a Haynes photograph of a group of Crow men taken in 1881 (FIG. 7).<sup>5</sup> Iron Bull, flanked by Medicine Crow on the left and Bird All Over the Ground on the right, holds a tomahawk with the same handle wrapping and pendant. True to the value shift in color for the era, the light blue background appears white, the three areas of yellow beads in the center are very dark, and the red triangles at the lower edge and flanking the yellow bars are black (FIGS. 5A, 5B, 5C). It would be hard to imagine that Iron Bull's tomahawk pendant is the one now in the Los Angeles County Museum's collection unless the "blue/light, red and yellow/dark" rule is understood.

Sometimes the value shifts distort the appearance of an object in a photograph so much that it is hard to believe that the extant object is the same as the one shown in a photograph. A useful check is to compare



Haynes Foundation Collection, MHS Photograph Archives, Helena

irregularities in the details, design anomalies, or spots of wear or damage to determine if they are in fact different objects or merely seem so because of the differences in color and value. There are other examples of old photographs that have documented extant objects, but there are many others in museums and private collections—or still in native ownership—that go unrecognized because we just can't believe our eyes!<sup>6</sup>

BILL HOLM is curator emeritus of the Burke Museum of Natural History and Culture and professor emeritus of art history, University of Washington, Seattle. He is author of many articles and books, including *Northwest Coast Indian Art: An Analysis of Form* (1965) and *Smoky-Top: The Art and Times of Willie Seaweed* (1983). Since his retirement in 1985, he has concentrated on depicting the native peoples of the Northwest in paintings, many of which appear in *Sun Dogs and Eagle Down: The Indian Paintings of Bill Holm* (2000).

1. Michael H. Logan and Douglas A. Schmittou, "The Uniqueness of Crow Art: A Glimpse into the History of an Embattled People," *Montana The Magazine of Western History*, 48 (Summer 1998), 65.

2. *Ibid.*, back cover.

3. The White Swan robe is part of the Montana Historical Society's museum collection; the photograph is in the Society's photograph archives.

4. Eastman, 5302 Fine Grain Release Positive film, with a Wratten #47 filter.

5. The tomahawk pendant catalog number is P. 89-20.

6. Bill Holm, "Old Photos Might Not Lie, but They Fib a Lot about Color," *American Indian Art Magazine*, 10 (Autumn 1985), 44-49; Bill Holm, "A Gros Ventre Outfit in the C. M. Russell Museum," *Russell's West: The C. M. Russell Museum Magazine*, 2 (no. 2, 1994), 7-8.



its own, in an effort to interpret the new light and arid western landscape in its own decidedly different terms.

A transitional figure between the late impressionists, his immediate predecessors, and the German expressionists who followed, Seyler found that the Blackfeet, with their rich, but for him exotic, cultural experiences, required a more narrative, pictorial approach to painting than he had previously used. To reach Europeans, his primary audience, Seyler could no longer rely upon the known and self-referencing genre code that European impressionists used at home. It was not an easy transition. For while Seyler's artistic instincts led in the direction of an ever more abstract, modern approach—to experiments in paint application and even cubism—his narrative need to portray the Blackfeet and a new landscape to his intended European audience led him in the opposite direction. And while European audiences certainly had their own stereotypical notions of American Indians, stemming in part from the wildly successful European tours of Buffalo Bill's Wild West show and its imitators touring in the 1890s, these differed substantially from American ones.<sup>23</sup>

Nor did Europeans know the subtle details of the American iconographic code that had been developed to represent and reinvent the historical reality of American expansion into the West. Seyler the painter could not nudge and wink, as it were, metaphorically or visually, in the expectation that he would be correctly

understood in Europe. He had to be explicit. On the other hand, Seyler's training, technique, and artistic sense, to say nothing of his own clichéd understanding of Indians, would not allow him to simply copy what he found in American western art. From this creative tension there emerged a distinctive style that was refreshingly innovative technically, yet in terms of its subject matter nostalgic, realistic, and reassuringly conservative. As a result, the viewer comes away with a jumble of new aesthetic impressions of the northern West and what the Blackfeet must have been like before their loss of freedom and confinement to reservation life, before, as they put it, "we had become poor."<sup>24</sup>

As with his Montana contemporary Charles M. Russell, Seyler's vision was wrapped up in an iconography of loss, of trying to see something that was irretrievably gone. For the northern West that Seyler found himself in had already left behind much of its former self. Open-range cattle raising had been transformed as had the cowmen involved. Barbed wire fences and 320-acre homestead parcels now dominated the Montana High Line that had been created by the Great Northern Railway, whose tracks bordered dryland wheat farms tilled by steam, kerosene, and gasoline tractors and growing towns with populations that shopped from Sears and Roebuck catalogs and drove Model T Fords. On the Blackfeet reservation changes had come in the form of a reservation fence with but a few exits, land allotments to individual Indians, railroad tourists, federal irrigation projects, and even, after 1912, moving pictures at the Orpheum Theater in Browning. Some twenty-five hundred Blackfeet worked as cowboys and ranch hands, labored on irrigation projects and off-reservation farms, or found employment as railroad section hands or agency personnel.<sup>25</sup>



Special Collections and University Archives, University of Oregon Library, Eugene

Seyler sought out Blackfeet not only to pose for him but also to help him visualize the old ways, which attracted him far more than the realities of reservation life. At left are some of his Glacier friends, photographed at Many Glacier chalets in 1914 (from left): Yellow Medicine, Medicine Owl, Seyler, Jack Big Moon, artist Edwin W. Deming, and John Ground.





Above: *A Storm Is Moving In* (n.d., oil on paper)

Below: *Sunset at Glacier Park* (n.d., oil on board)





Seyler also remembered a number of reservation experiences outside of Glacier Park. These experiences began after Seyler and Jack Big Moon, a noted intertribal war veteran and thunder medicine pipe-holder, became fast friends. Big Moon would eventually adopt Seyler into the Blackfeet tribe, at the time a not uncommon occurrence, and give him a traditional name, "Boss Ribs."<sup>29</sup>

In July 1913 Jack Big Moon invited Julius Seyler to the Blackfeet Sun Dance encampment just west of Browning. This event brought together the whole of the Blackfeet Confederation, including the Canadian element, in addition to members of the Crow, Salish, Sioux, and Nez Percé tribes. This large gathering and the rituals of the annual Sun Dance, held at that time in conjunction with the Fourth of July celebration, for many years had attracted a number of white tourists. The 1912 event was particularly rich in artists and literary personages, including Joe Scheuerle, William Kriehoff, Frank Bird Linderman, and Charles M. Russell.<sup>30</sup>

**Seyler, his fellow artist and companion** at the Many Glacier chalets Edwin W. Deming, Deming's wife Therese, and their six children attended the Sun Dance in 1913. Deming, too, along with his kids, had been adopted into the tribe, and, given his large family, Deming received the name "Eight Bears" from Running Antelope, which he proudly bore the rest of his life.<sup>31</sup> Photographers Fred Meyers, Walter Shelley Phillips, and L. D. Lindsley were also in attendance. But, whereas Deming and the largest number of tourists arrived at the intertribal camp west of Browning by automobile or a famous White brand touring bus, Seyler proudly rode there across country on horseback with the wrangler Old Dutch.

From a long way off they could see "the wide plain, a small lake, tepee upon tepee, hundreds of them, all

in a large circle" and hear the beating of drums and the barking of countless dogs. Seyler later reported that during the preliminary events, surrounded by a wall of tepees and amid laughter and horses, as people were being dolled up with feather bonnets, beaded horse gear, coup sticks, and war shirts for the parade, Two Guns White Calf had beamed and said, "Isn't it glorious, the old times." And then, as an afterthought, he asked, "Why are they gone?" This was not just a Blackfeet question, as Seyler understood all too well. It was also America's question in 1914. Was the heroic sweep of America's western expansion, with all of its excitement and frontier traditions, gone?<sup>32</sup>

In the Sun Dance lodge, which was surrounded by stacked willows, Jack Big Moon, seeing Seyler, led him to a place of honor near the cottonwood center pole, across from the weather dancer's booth. Wrapped around the sacred center pole were offerings of blankets, some waving from above, where they had been hung by pious supplicants hoping for "pity" occasioned by their need for renewal and healing. And after the old warriors had reenacted their war exploits in words and signs, as was their custom, to their delight Seyler related, in German and his own invented sign language, stories of his own athletic victories.<sup>33</sup>

In his paintings, Seyler devoted himself to the portrayal of these Blackfeet—not so much who they were in 1913 and 1914, but who they had been. For Julius Seyler, like so many others, history in Blackfeet country felt so close that by simply squinting he believed that he, too, might see trailing herds of buffalo or a painted war party coming over an oceanic swell of land, sunlight glinting off their guns, only to disappear in the blinking of an eye into the next fold or trough in the treeless prairie.

In some respects this was just another example of "salvage ethnography," for Seyler certainly located and confined the Blackfeet in a timeless, unchanging historical past of buffalo hunts, intertribal wars, and tribal ritual. In doing so, Seyler was just another belated re-

26. Diem, *Julius Seyler*, 28-29. For Helga Seyler's visit in 1913, see Louis W. Hill to H. H. Parkhouse, telegram, August 11, 1913, James J. Hill Reference Library, St. Paul, Minnesota.

27. Hyde, *An American Vision*, 299, who cites Great Northern Railway, *Short Jaunts for Little Money: Glacier National Park* (n.p., 1913), 12-13. The tepee camps are also mentioned in Mary Roberts Rinehart, *Through Glacier Park: Seeing America First with Howard Eaton* (Boston, 1916), 75.

28. Jay Ruby, "Photographs of the Piegan by Roland Reed," *Studies in Visual Communication*, 7 (1980), 48-62, especially fig. 11, "The Water Hole," on p. 59.

29. In fact, Louis W. Hill, who earlier was friends with the many of the same Blackfeet, himself had been adopted into the Blackfeet tribe and given the name "Grey Horse Rider." Walton, "The Louis W. Hill, Sr., Collection," 14. Two years after Seyler left Browning, Arthur Nevins, composer of the Blackfeet opera *Poia*, arrived on the

reservation and met Jack Big Moon. Big Moon adopted Nevins and gave him a Blackfeet name and a "costume." Arthur Nevins, "Two Summers with the Blackfeet Indians of Montana," *Musical Quarterly*, 2 (April 1916), 268-69. On white adoption, see Sherry L. Smith, *Reimagining Indians: Native Americans through Anglo Eyes, 1880-1940* (New York, 2000), 72.

30. See Thornton I. Boileau and Margo Boileau, "Joe Scheuerle: Modest Man with Friendly Palette," *Montana The Magazine of Western History*, 21 (Autumn 1971), 39-58; and Brian W. Dippie, ed., *Charles M. Russell, Word Painter: Letters, 1887-1926* (Fort Worth, Tex., 1993), 169, as cited in Taliaferro, *Charles M. Russell*, 186-88, who also deals insightfully with this occasion. Frank Tenney Johnson a western artist who portrayed the romance of the West in realistic and muted colors, had been there for the Fourth of July celebration in 1912. See Harold McCracken, *The Frank Tenney Johnson Book: A Master Painter of the Old West* (Garden City, N.Y., 1974), 107.



The conviction that these changes had produced a regrettable loss haunted Seyler, and his art was animated by the belief that what had been alive and well only moments before had slipped away. This view was pronounced in America in general, but Seyler was particularly prone to it given his European background. The American West was so young, so unencumbered, he thought, by the thick presence of earlier generations. It ought to be possible to reach back. Seyler knew he could reconstruct, if not recapture, that recent past, when the Blackfeet hunters chased shaggy buffalo on fast buffalo horses and went to war for honor, horses, and women. That was more romantic and more interesting than the way these same Blackfeet were living in 1913 and 1914 when Seyler saw them, plodding behind a slip scraper on an irrigation project or plowing some dry, dusty bottomland in bib overalls.

Julius Seyler spent two short, idyllic summers in Glacier Park, one in a log cabin built to resemble a Swiss chalet that perched on the southwest slope of Mount Altyn in the Many Glacier Valley. His days were punctuated by frequent horseback trips in the national park and out onto the more open country of the adjacent Blackfeet reservation.

The early pack trips were something of a trial for the "dude" painter who had not ridden before, and Seyler, with self-deprecating humor, tells of some good-natured kidding at his expense. Following along behind the hard-

charging Louis Hill, who led a cavalcade of dignitaries assembled by railroad officials, Seyler slowly learned to appreciate the experience and the surefootedness of his horse. The tenderfoot, however, did not appreciate the loan of Hill's too-small boots, or the inevitable blisters. Later, with practice, Seyler loved to ride the trails and camp in the company of a young cowboy guide named "Old Dutch"; and sometimes in August Seyler's wife, Helga, who had come out from St. Paul to join him, would make it a threesome.<sup>26</sup>

The Seylers' chalet at Many Glacier was one of eight that surrounded a communal dining hall. The chalet also served as a studio where Seyler painted the portraits of a number of Blackfeet including John Ground (Eagle Calf), Medicine Owl, and Yellow Medicine (Philip Wells). Once during summer 1914, the men and their families were brought by railroad promotional people to a tepee camp near the chalets.<sup>27</sup> There a contingent of Blackfeet men donned traditional clothing, including Hudson's Bay blanket capotes, and with a number of photographers and artists including Edwin W. Deming and Seyler in tow, they proceeded on horseback to Ptarmigan Lake where the Indians posed with their horses and guns among the peaks. The resulting images were surprisingly similar to the photographic work of Roland Reed, who in 1908 used the same landscape and some of the same Blackfeet to reconstruct a former life.<sup>28</sup>

In summer 1914 a number of artists and photographers traveled by horseback to Ptarmigan Lake where several Blackfeet donned traditional clothing and posed with their horses and guns among the peaks. Standing from left are Seyler, Deming, Medicine Owl, unknown, and park ranger John J. McDonnell. Sitting from left are Eagle Calf, Yellow Medicine, Jack Big Moon, and unknown.



L. D. Lindley, photographer, Haynes Foundation Collection, MHS Photograph Archives, Helena





Seyler often rode Glacier's trails and camped with a young cowboy guide named "Old Dutch," and sometimes Seyler's wife, Helga, when she visited from St. Paul, would join them. Above Old Dutch and Seyler ride in Many Glacier Valley. At right Helga poses with her steed (1913).



corder of the "vanishing American," and there were a good many of that type.<sup>34</sup> He was different, however, in that his visit was so late in the reservation period that he was unable to rely on his own personal experience for the details of the Blackfeet's former life. Nor did he fully trust popular American myths and stereotypes of either idealized or demonized Indians. Instead of these sources, Seyler came to rely upon a few Blackfeet elders and informants to facilitate his imagination. They told him and, more frequently, via sign talk showed him with their hands *their* stories, *their* way. It may have been in broken English to a European whose English, as Seyler admitted, was no better. It may have been fragmented and imperfect, but it had the distinct advantage of being unfiltered, personal, and bona fide.<sup>35</sup>

The lanky European tried to recast those stories in paint, like the Blackfeet picture writers had done on tepees and hides for generations, attempting to present who the Blackfeet were and how they had occupied

the northern plains. The information shared by the elders was neither deep nor complete, but it did include the signature shape of a running buffalo—how it held its tail erect, scorpionlike, when it ran; how a rider's weight shifted forward over the withers of a fast-running buffalo horse; how to properly hold a war shield or coup stick; and how to paint horses or to braid their tails properly. Seyler had to be told if he was to "get it right." He did not know. But neither had Russell or Remington ever seen a buffalo hunt and that did not keep them from imagining and painting the experience.<sup>36</sup> After all, that part of the Blackfeet story was long past. The last buffalo hunt had been in the early 1880s.

There were, of course, artistic precursors as well as historical and ethnographic photographs, and Seyler

31. Thomas G. Lamb, *Eight Bears: A Biography of E. W. Deming, 1860-1942* (Oklahoma City, Okla., 1978), 75-78; Therese O. Deming, *E. W. Deming, His Work* (New York, 1925). For adoption details, see Alden Deming, "Life of E. W. Deming," Edwin Willard Deming Papers, Archives of American Art, Washington, D.C.

32. Diem, *Julius Seyler*, 32-33. For a general picture of American opinion, see Taliaferro, *Charles M. Russell*, 92-95, in which Frederick Jackson Turner's essay "The Significance of the Frontier in Ameri-

can History" is linked to the wildly popular Buffalo Bill Wild West show.

33. Diem, *Julius Seyler*, 33.

34. See Brian W. Dippie, *The Vanishing American: White Attitudes and U.S. Indian Policy* (Middletown, Conn., 1982).

35. Diem, *Julius Seyler*, 33.



used them, even to the point of rendering in paint, in his own style, some of the more arresting images of Edward S. Curtis and Fred Kiser.<sup>37</sup> Moreover, Walter McClintock's dramatic photographs had appeared to great acclaim just three years earlier in the publication, *The Old North Trail: Life, Legends and Religion of the Blackfeet Indians*. A large number of McClintock photographs featured Seyler's friend Jack Big Moon, who had posed for McClintock as he would for Seyler.

Seyler was clearly influenced by the multiple efforts of these three men, whose popular, romantic visions in so many respects echoed his own.<sup>38</sup> These photographs, in turn, however, were shaped by their Indian subjects. Just as Big Moon had adopted Seyler and others, so had Mad Wolf, or Siyeh, an owner of one of the demanding beaver bundles and a noted religious leader, selected Walter McClintock as his son. Siyeh had done so in the expectation that McClintock, as a photographer and ethnographer, would help to secure a cultural documentation more enduring and more compact than he expected his own personal oral teaching to be.<sup>39</sup>

**T**here were other examples of Blackfeet people enlisting and using white photographers and white storytellers, a James Willard Schultz or a George Bird Grinnell, to tell their story, of making such asymmetrical encounters work for them in their efforts to preserve a detailed tribal identity.<sup>40</sup> Other individual Blackfeet later entered into something of the same Faustian relationship with Louis W. Hill and the Great Northern Railway when they became the Glacier Park Indians. There were advantages to be gained, economically and culturally, individually and for the tribe as a whole. Julius Seyler was in good company. By making Julius Seyler a "relative" by means of adoption, by involving him in their embrace, the Blackfeet hoped for another influential ambassador.

Julius Seyler's own needs remain opaque because he never spelled them out and because his paintings and sketches were not marketed, except much later in Europe. Those needs, however, must have differed from those of American artists and photographers because he painted in a different way, for a different audience, for a different purpose. An impressionist painter, Seyler

did not feel the need to be oppressively authentic like Frederic Remington, Charles M. Russell, or W. R. Leigh. Graphically he tried to stir a romantic interest in the former Indian experience that was both less and more—less concerned with factual, historical accuracy and more determined to give the sense of the mood, movement, and feeling of a time and place. To portray a dramatic visual truth that had eluded the historical realists, Seyler wielded a new painting aesthetic, and with a few deft brush strokes that intimated more than told, he hoped to give the increasingly hackneyed Indian subject a modern dimension.

Seyler left Glacier immediately after hearing of the outbreak of World War I while visiting the reservation headquarters of Browning in September 1914. Quickly packing his things, he returned to St. Paul, where he tried to book passage to Germany. Unable to do so as a German national because of the British sea blockade, disappointed and hurt by the growing anti-German sentiment in St. Paul (and in 1918 the Minnesota alien registration requirement), he and Helga withdrew to the seclusion of his father-in-law's small farm in Balsam Lake, Wisconsin. There he endured a self-imposed seven-year exile, laboring as a subsistence farmer, and with little time, resources, or interest left for painting.

Eventually, in 1921, taking with him almost all of the sketches and paintings he had made in America, he and Helga returned to Europe, where he quickly renewed his career in the difficult postwar times. Named professor at the Munich Academy of Fine Arts in 1925, Julius Seyler continued to work over his American portfolio of studies and sketches containing his favorite themes and to discover again the atmospheric world of European seascapes.<sup>41</sup> In pursuing especially the latter, Seyler further explored the late impressionist/expressionists' more abstract codes. He also continued to teach until losing most of his eyesight and the outbreak of World War II. He died in 1955.

Seyler never returned to the American West nor in his lifetime did his paintings of the Blackfeet. Many of Seyler's paintings were lost during the Allied bombings of Munich in World War II, but many survived in private hands, and while the European work, especially the Bavarian scenes of Ammersee and Chiemsee and the seascapes of northern Germany elicited continued interest, his paintings of the Blackfeet in distant Montana fell into obscurity. Now, fifty years after Seyler's death, a small number of Seyler paintings are return-

36. See Brian W. Dippie, "Flying Buffaloes": Artists and the Buffalo Hunt," on pages 2-19 of this issue.

37. For example, Seyler clearly copied the Edward S. Curtis photograph of Iron Breast standing in his horned bonnet with eagle feather trailer with his arms crossed.

38. Ibid., x-xiii.

39. William E. Farr, introduction to *The Old North Trail, Life, Legends and Religion of the Blackfeet Indians*, by Walter McClintock (Lincoln, 1999), xiii.

40. Ibid.

41. Bayerische Staatsministerium für Unterricht und Kultus, Munich, no. 7, 25099, December 12, 1915.

42. New York *Evening Globe*, April 13, 1911, as quoted in John Taliaferro, *Charles M. Russell*, 181.

43. Brian W. Dippie, ed., *Charles M. Russell, Word Painter*, 269.



ing full circle to the northern Rockies through a few generous gifts and a number of traveling exhibitions.

Although Seyler's Montana interlude was brief—two short summers in 1913 and 1914—he did leave behind a welcome legacy: images of the Blackfeet that are like no other. Charles M. Russell had said about European painters, "I can't see how a Dutchman or a Frenchman can teach me to paint things in my own country."<sup>42</sup> Russell, reflecting the American xenophobia of the day, got it wrong. Seyler could have taught Russell something, precisely *because* he was an outsider and doubly so, separated from the Blackfeet and their world as were other infatuated white men, including Russell and other western nostalgists, and then as a Johnny-come-lately European with an impressionist painting style.

Both distinctions gave Seyler something imaginatively new to express about the Blackfeet as they moved gracefully through their spacious arc of grass and sky. Was it romantic, monumental, and clichéd? You bet, but then as Charles M. Russell said to a friend in the distinctive cowboy lingo that Russell, a city kid from St. Louis, affected, "Cinch your saddle on Romance, he's a high headed hoss . . . and most folks like pranc-

ers."<sup>43</sup> Not a bad strategy or advice for painters or redeemers—even if homesteaders had taken over the buffalo country and the Blackfeet were not in the Edenic paradise portrayed by Great Northern publicity, but in blighted Browning, perilously close to starvation.

Western artists and Julius Seyler chose to make the Old West last as long as they could. Yet prior to its complete romanticization, if not ossification, the impressionist Julius Seyler seems to have thought that he could take the already established western topos in a new direction. Attempting to express something unique about the Blackfeet by bringing familiar shapes to the surface of a canvas with a few economical brush strokes, he perpetuated the fantasy of freedom that the Blackfeet held out to an industrial America. *M*

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At a 1914 exhibit of Seyler's paintings in Glacier Park Lodge, Two Guns White Calf with his wife Mary (standing with Seyler) view the artist's work. During two summers, members of the Blackfeet tribe had instructed Seyler on their history and culture so he could represent them accurately. Sitting from left are Fish Wolf Robe, Lazy Boy, Medicine Owl, unknown, John Ground, and Bird Rattler.

Louis W. Hill Papers, James J. Hill Library, St. Paul, Minnesota





# History overlooks farmers' impact

GTrib Dec. 3, '89

By T.J. GILLES

Tribune Agriculture Editor

Cowboys may always be heroes to Willie Nelson and others, but the farmers who settled and transformed Montana during the early part of this century have no such legendary image.

Speaking last week following a Montana Grain Growers Association banquet, historian William Lang noted that most of the farmers in the audience had donned cowboy boots for the occasion, although those who actually owned livestock were in a distinct minority.

Lang, former editor of "Montana: the Magazine of Western History," said that the cowboy era in Montana had a brief but colorful history, yet the myth and legend of the cowboy remains a dominant and heroic part of Montana's culture and mind-set.

Farmers who came to the state during the first 20 years of this century, on the other hand, had a monumental role in hemispheric history and created a civilization out of nothing. And stayed.

Yet Lang said that the concept of the Montana farmer as a hero is "almost laughable. It really is.

"Do you know what historians say about farmers? Have you read it? It's horrible."

In those rare instances where historians actually mention farmers and their role in settling the West, he said, the typical description says "they came out to exploit" free land and make big money selling wheat as war profiteers during World War I.

"They say that farmers in Montana are complainers," he said.

That stems back to crises during the late 19th century, when the Populist movement included farmers as well as labor and free-silver advocates, he said. When farm policies were enacted as a result of political pressure, they usually were "half-assed laws" administered by Eastern bureaucrats who knew nothing about conditions of the West and set up programs which often backfired, Lang contended.

So, Lang concluded, the Montana farmer's image has become one of "asking for help and then complaining about the help they get."

"Is this a symbolic anti-hero? Is this a mythological figure, the Montana farmer?"

Not quite.

Montana farmers of the early part of this century had a unique role in world history. There was some farming, much of it prosperous, in the state's irrigated valleys before the homestead era, he said, but no political base. Until relaxed and expanded homestead laws came

"What came out of this homestead experiment wasn't just the farming. On this frontier these people created a society that's never been created before or since. They created a civilization, a society out of thin air."

— Historian William Lang

into effect, Lang said. "Montana was, agriculturally speaking, a vacant lot waiting to be developed."

Boosted by the government's free land and the railroads' promise of a great future that would involve supplies and home furnishings arriving in boxcars and grain being loaded in those same cars, Montana got settled but quick, Lang said.

Between 1905 and 1920, he said, some 300,000 people established 80,000 new farms.

"It was the largest single agricultural migration in North American history," Lang said. "It was the single largest five-year movement of people in United States history," including not just gold rushes but the mass migration of Southern blacks to northern states during the 1870s and 19-teens.

Lang said: "What came out of this homestead experiment wasn't just the farming ... On this frontier these people created a society that's never been created before or since ... They created a civilization, a society out of thin air."

The mass migration might also be viewed as one of the most impressive mass hallucinations in global history, although Lang didn't say that.

People believed.

"Homestead locators got a bad rap ... They were upright folks trying to sell something they believed in, which is Montana land," he said. When people started to "prove up" and erected or moved their little 12-by-16 or 16-by-24 tarpaper shacks, he added, "They weren't going to live like that very long. They came with the idea that they were going to make it."

By 1920, Lang said, Montana was "the largest purchaser of power agricultural equipment in the world."

A post-war collapse in prices and

See HISTORY, 3H



# Farm prices stable, bu

Prices Montanans received for virtually all farm commodities remained mostly stable during October and the first part of November, according to the government's monthly survey.

But except for hogs and some classes of cattle, the amounts Montana producers are receiving this fall are below levels paid a year earlier, according the Montana Agricultural Statistics Service.

The most drastic drop-off from '88 was in durum, as pasta wheat sold on Nov. 15 averaged just \$3.25 per bushel — \$2.41 below the price received a year earlier.

After peaking at \$5.80 in September of 1988, durum still was bringing as much as \$5 early in the year but since September of 1989 has languished in the \$3.20-\$3.35 range.

Durum producers have blamed Canadian dumping into U.S. markets for durum's downfall.

That's the same line in oats, which

in Montana are bringing 79 cents per bushel below fall of '88 prices. Oats sold for \$1.56 per bushel in October and \$1.40 on Nov. 15.

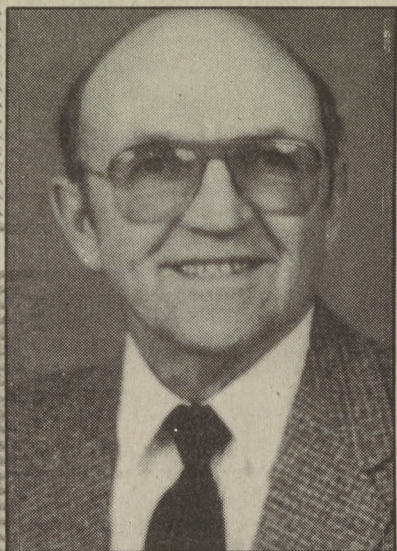
Barley also has taken a major hit in the state, selling for 93 cents a bushel below last year's level in Montana with an average of \$2.06 per bushel through October and \$2.10 by mid-November. Nationally, barley was averaging \$2.35 per bushel, with feed barley at \$2.06 and malting barley at \$2.73 per bushel. No breakdown by usage was compiled for Montana.

All wheat sold in the state averaged \$3.71 during October and squeezed up to \$3.74 at mid-November, some 24 cents below the price received a year earlier.

Historically, Montana wheat has sold at premium prices over the U.S. average because of its extremely higher-than-normal protein levels.

This year, drought cut yields and boosted protein in Southern Plains states, which helped make the No-

## Fitzgerald inducted into Mon



Dana H. Fitzgerald

The late Dana H. Fitzgerald, a Power farmer who served two terms with the Montana Wheat and Barley Committee, became the latest inductee into the Montana Wheat Hall of Fame on Wednesday night.

His father, Rutherford H. Fitzgerald, came into the Power area in 1910 to farm and manage the old Rex Flour elevator there.

Dana Fitzgerald took over his father's holdings after returning from World War II, where he served in the Navy in the Pacific Theater.

He served on the Montana Grain Growers Association board from 1966 to 1973 and was on the National Association of Wheat Growers finance and credentials panel.

He also served on the Montana Wheat Research and Marketing Committee (forerunner of the present Wheat and Barley Commit-

## Idaho cattle herds on hold orders

BOISE, Idaho (AP) — Two more cattle herds in Idaho have been placed under a hold order because their bulls carry a protozoal venereal disease, bringing that number to seven, state Veterinarian Dr. Greg Nelson says.

State regulations on trichomoniasis went into effect Oct. 6 in Idaho, the only state in the nation that has tried to regulate the disease, Nelson said. Many states are watching to see if the program is successful.

All cattle owners in the state are required to test their non-virgin bulls between breeding seasons to control the disease which can cause economic damage by dropping fertility, causing abortions and cutting calf crops.

The legislature made trichomoniasis a reportable disease this year, barring any movement of herds with infected animals. Owners are advised to get their bulls tested early to avoid the spring rush.

## Rural lifestyle in Alberta said to be in danger

LETHBRIDGE — Small-town, ru-

RONAL



# History

## Farmers overlooked

### FROM IH

years of drought in the 1920s spelled doom for many of the highly leveraged newcomers.

Between 1920 and 1925 the eastern plains economy centered around the grain elevator, the railroad and its towns suffered "the worst economic downturn in the state's history," Lang said, as more than half the state's banks failed and "whole towns' financial base was taken and destroyed."

A slower Montana migration, this one outward, began and many would say the process continues today.

In his interviews with old-timers about the Depression, Lang said, he has to be careful to be sure which depression his sources are talking about. The Great Depression of the 1930s that allegedly began with the stock market crash of '29 almost was unnoticed by some Montanans after what had happened in the early 1920s, he said.

The big Depression was unfathomable to many Montana farmers.

"There's less wheat and the price keeps dropping ... there's less of it and we get less for it. It made less sense than the first depression, which everybody understood," Lang said.

In 1935, 23 percent of Montana families on relief, he said, most rural families rustled for work in town or attempted to go crops and went on and off relief year after year depending on how they had fared, he said.

Lang theorized that although many Montanans may lack an image — a symbol of the Montana agriculturalist — the image exists.

"The symbol is endurance," Lang said, "and the myth — that's the story we tell ourselves because we need stories — is that that's all we need."



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# Silence Broken, Pardons Granted 88 Years After Crimes of Sedition

Continued From Page A1

ed seditionists will be at the State Capitol to witness the signing of the pardons, with some traveling from as far as Florida. Marie Van Mid-dlesworth, the 90-year-old daughter of one of those convicted, Fay Rumsey, will be coming from Medford, Ore. She was among 12 children put up for adoption when the family farm failed after her father was imprisoned.

Mr. Milch said the official acknowledgment, even after so many years, offered comfort and closure to the families.

"The whole Milch clan is appreciative of making things right," he said.

The pardon ceremony is a result of a book by Clemens P. Work, director of graduate studies at the University of Montana School of Journalism, called "Darkest Before Dawn: Sedition and Free Speech in the American West" (University of New Mexico Press, 2005). The book chronicled a contentious period in Montana history when people were convicted and jailed for voicing their opinion about the war.

"It was an ugly time," Mr. Work said.

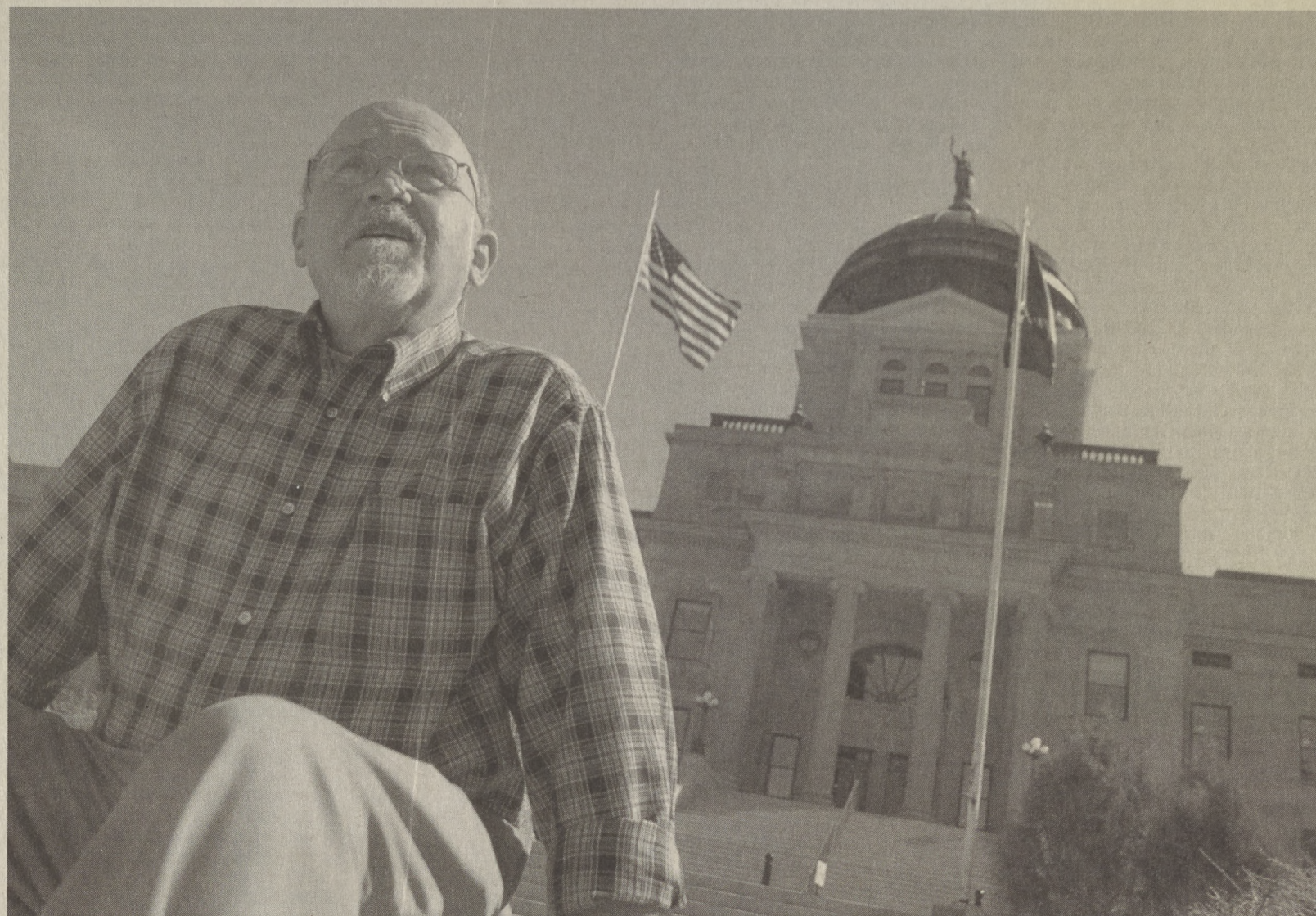
After reading the book, Jeffrey Renz, a law professor at the University of Montana, asked Mr. Work what he intended to do about the convictions. Mr. Work had no plans, he said, "but I told them in my box of dreams I hoped these people would be exonerated."

Professor Renz's students took the project on as part of a criminal law clinic. Some contacted family members of the convicted seditionists, and others researched the law, leading to a petition for pardon being sent to the governor last month.

The sedition law, which made it a crime to say or publish anything "disloyal, profane, violent, scurrilous, contemptuous or abusive" about the government, soldiers or the American flag, was unanimously passed by the Legislature in February 1918. It expired when the war ended, Mr. Work said.

During that time, though Germans were the largest ethnic group in Montana, it was also illegal to speak German, and books written in it were banned. Local groups called third-degree committees were formed to ferret out people not supportive of the war, especially those who did not buy Liberty Bonds.

"They leaned on people to ante up and buy bonds, and if they didn't,



Anne Sherwood for The New York Times

Clemens P. Work of the University of Montana wrote a book about the sedition convictions, leading to the pardon ceremony scheduled for today.

they were disloyal and considered pro-German," Mr. Work said.

Farida Briner said she was told that a committee showed up at her father's farm. "They threatened to hang him and tar and feather him," Ms. Briner said. Her father, Herman Bausch, was taken to town, interrogated and later convicted. He spent two years in prison.

Officials encouraged neighbor to inform on neighbor, and one person's accusation was often enough for an arrest.

Mr. Milch's great-grandfather, John Milch, was turned in by an undercover agent named Eberhard Von Waldru, who was working for the prosecutor in Helena, the state capital. Mr. Von Waldru went into a German beer hall and drew out peo-

ple's feelings on the war. His testimony was used against Mr. Milch; his brother, Joseph; and six other men. All were convicted, and four went to prison.

John Milch was sentenced to three to six years, but the law had expired by the time he was to begin serving his term. Joseph was fined \$1,800.

Steve Milch said that although his family was not aware of the arrest, they did know about the anti-German sentiment of the time.

"There was a story that a mob of people was going around asking Germans to kiss the flag," Mr. Milch said. "My great-grandfather told them he didn't kiss anybody's flag, whether it was American or German."

Mr. Milch also had another sur-

prise in store. He discovered that the great-grandfather of another lawyer in his firm was the Helena prosecutor who hired Mr. Von Waldru. "His great-grandfather prosecuted my great-grandfather," Mr. Milch said.

Mr. Work, who was conducting research for the book when the Sept. 11 attacks occurred, said he had found the similarities between 2001 and 1918 to be eerie.

"The hair on the back of my neck stood up," Mr. Work said. "The rhetoric was so similar, from the demonization of the enemy to saying 'either you're with us or against us' to the hasty passage of laws."

Twenty-seven states had sedition laws during World War I. Montana's became the template for a federal law, enacted by Congress later in

1918. More than 30 Montanans were arrested under the federal law, though none were convicted, according to the Montana Sedition Project, which Mr. Work directs.

Mr. Work and other historians believe that the harshness of the Montana law was influenced by the Anaconda Copper Mining Company, which dominated the state economically and viewed the law as a way to deal with labor unrest. Many of those charged with sedition were immigrant laborers.

But blame should also be laid at the feet of Governor Stewart, Mr. Work said.

"In the last 100 days of his term, he commuted 50 sentences, including 13 murderers and 7 rapists," he said, "but not a single seditionist."



# tion, Therapy and Addiction Drugs Are Found to Help Heavy Drinkers

Experts said the results were impressive but should be interpreted with caution. The men and women in the study spent far more time with doctors, nurses and other staff members than most people who seek treatment do; such lavish attention itself acts as therapy, they said. And the researchers did not report how many of the participants were entirely abstinent by the end of the trial, an important measure of lasting success for many drinkers.

Fewer than 10 percent of the estimated eight million Americans who are dependent on alcohol ever receive specialized treatments, and fewer than one in 100 are ever offered medication, surveys find.

"This is a beautiful study, in terms of the way it was designed and executed, in that it gives us a good look at how well a variety of treatments work," said Dr. Edward Nunes, a professor of clinical psychiatry at Columbia, who was not involved in

the research.

Dr. Nunes added: "What the study shows is that it doesn't seem to matter much what kind of treatment you get, as long as you get an approach with a good rationale. Most people in the study reduced their drinking significantly."

Dr. Raymond Anton of the Medical University of South Carolina led a research team that randomly assigned 1,383 problem drinkers to one of nine treatment groups. Some received the drug naltrexone, with or without regular therapy sessions; others took acamprosate, another popular addiction drug, by itself or with therapy; still others received dummy pills, combined with different therapies. All had regular visits with doctors, nurses and staff members working on the study.

The talk therapy included up to 20 hourlong sessions, in which people learned to recognize the cues that spurred their cravings, like the sight

## The largest-ever trial of treatments for alcohol dependence.

of a familiar bar, and how to diffuse or ignore them. Therapists engaged family members and friends to help, when possible, and used 12-step techniques, when appropriate.

After four months, about three quarters of those receiving naltrexone, talk therapy or both were abstinent or drinking no more than one or two drinks a day on average, the study found. And these approaches proved more effective than medical management by itself or acamprosate treatment.

In previous studies, acamprosate has roughly doubled people's

chances of becoming abstinent, and most addiction doctors consider it a useful therapy. The study's authors said they would conduct further analyses to see whether the drug benefited a subgroup of drinkers in the new study.

Many researchers expected that naltrexone, which blunts the rush of heavy drinking, and acamprosate, which soothes the drumming irritation of withdrawal, would work better together than alone, as previous research had suggested. Yet combining the drugs did not make any difference in the new study.

Taking pills — any pills, whether placebo or prescription — greatly increased people's odds of curbing their habits, the study found. Drinkers who attended talk therapy classes and took placebo pills did significantly better than those who received the same therapy without placebos or drugs.

"The act of taking the pills itself

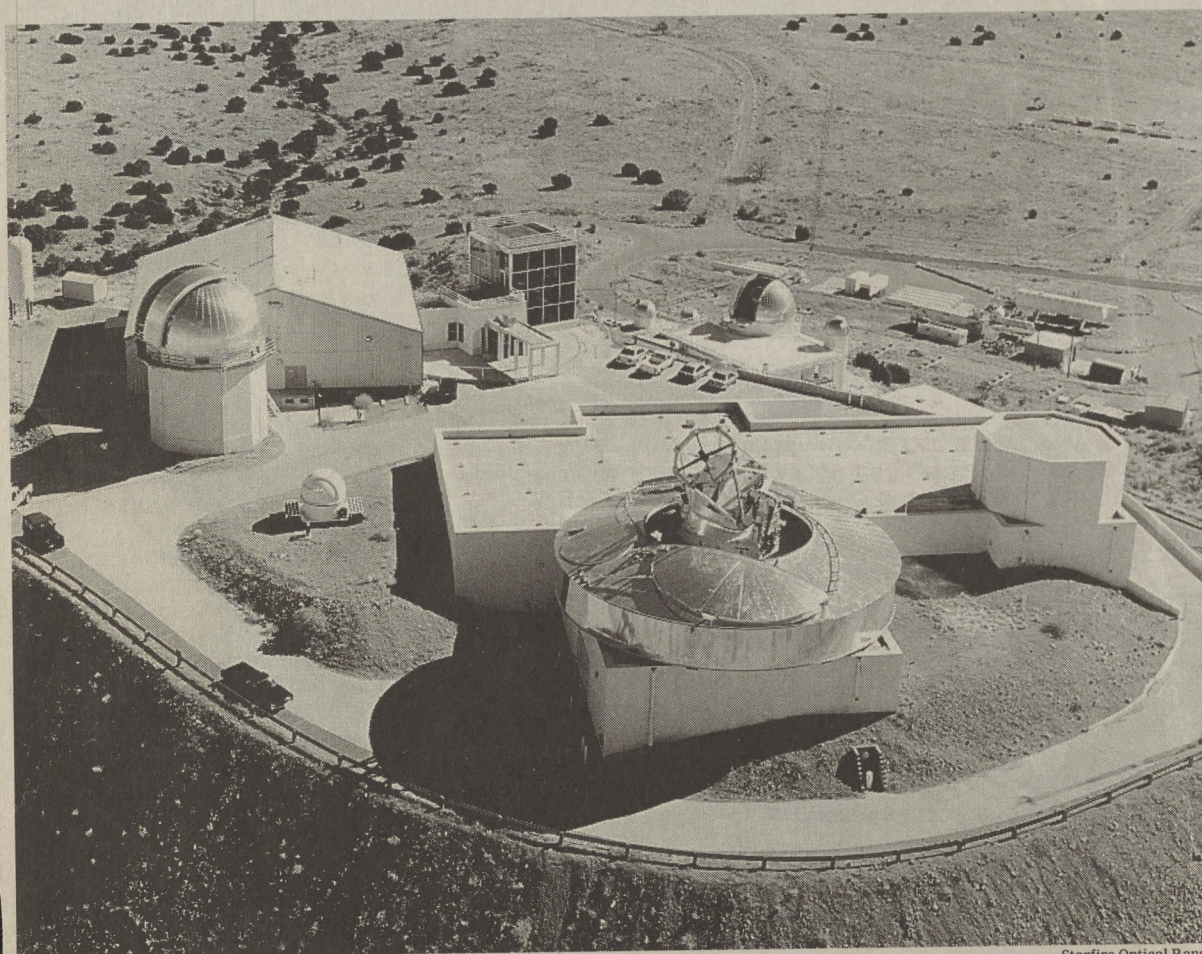
reinforces commitment to abstinence," said Dr. Barbara Mason, of the Scripps Research Institute, a co-author of the study. Dr. Mason said that both drugs were given in high doses with very few adverse effects and that "one of the main findings of the study was that the drugs are safe."

The differences between the groups disappeared in the year after treatment was completed, the researchers found: about 47 percent of the drinkers still had their drinking under control, regardless of which treatment they had received.

"What happens is that, after treatment is over, a certain number of people relapse," Dr. Anton said. "And like many chronic conditions, the farther out you go, the more people relapse."

Extending the length of treatment, in some form, might be the best way to preserve drinkers' early gains, the researchers concluded.

## n Conducting Research Into Laser Weapon



Starfire Optical Range

An aerial view of Starfire, government observatory in New Mexico where laser work is being done.

## Study Finds Few Therapies Work Well on Hot Flashes

By DENISE GRADY

For women who want a drug to ease menopausal hot flashes but do not want to take hormones, certain antidepressants and other medicines may help, researchers are reporting. But those medicines have side effects, little is known about whether it is safe to take them for a long time and they do not work as well as hormones.

Given the drawbacks, the nonhormonal drugs "are not optimal choices for most women," according to an article being published today in The Journal of the American Medical Association.

That conclusion would seem to leave no optimal choice for most women, a vexing predicament for those who have been searching for a safe alternative to estrogen, and who are tired of being told to sip ice water, dress in layers and turn up the air conditioning.

Researchers estimate that 50 percent of women have hot flashes during menopause and that 20 percent of those affected seek treatment. The flashes — a sudden sensation of being overheated, with sweating and facial flushing — can occur repeatedly, day and night. They can disrupt sleep and persist for years, sometimes even decades.

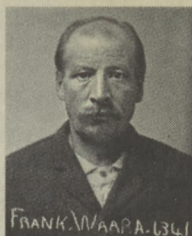
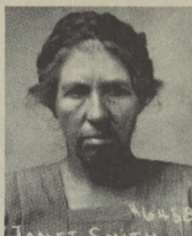
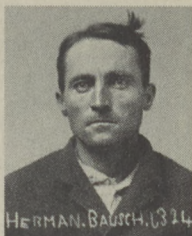
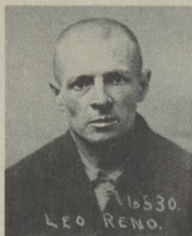
only hormones are approved for that purpose — but doctors are free to prescribe medicines for any use they see fit, and many recommend the drugs or plant products for hot flashes, based on study findings and their patients' experiences.

The researchers found that on average, antidepressants and Catapres each appeared to reduce hot flashes by about one per day, and Neurontin by about two per day. For women with a lot of hot flashes, that is not a very impressive performance, Dr. Nelson said, but she added that the drugs may also lessen their severity.

Estrogen, by comparison, gets rid of two to three flashes a day, and also makes them milder, Dr. Nelson said. Though hormones cause small increases in the risks for breast cancer and heart disease, a short course may still be the best choice for women with very severe symptoms she said, though she added that women who have had breast cancer should definitely not take hormones.

All the nonhormonal drugs have side effects. The antidepressants can cause headache, nausea, dry mouth, dizziness and insomnia or sleepiness. Catapres can cause some of the





Montana Historical Society

Gov. Brian Schweitzer of Montana will posthumously pardon 78 people convicted of sedition during World War I, including the four here.

## *Silence Broken, Pardons Granted 88 Years After Crimes of Sedition*

By JIM ROBBINS

HELENA, Mont., May 2 — When Steve Milch found out recently that his great-grandfather, an immigrant from Bavaria, had been convicted of sedition in Montana during World War I, he was taken aback. It was something no one in the family had ever talked about.

For the past 88 years, a lot of secrets have been kept in Montana families, especially those of German descent, about a flurry of wartime sedition prosecutions in 1918, when public sentiment against Germany was at a feverish pitch.

Seventy-nine Montanans were convicted under the state law, considered among the harshest in the country, for speaking out in ways deemed critical of the United States. In one instance, a traveling wine and brandy salesman was sentenced to 7 to 20 years in prison for calling wartime food regulations a "big joke."

But the silence — and for some families, the shame — has ended. The convictions will be undone on Wednesday when Gov. Brian Schweitzer, a descendant of ethnic Germans who migrated here from Russia in 1909, posthumously pardons 75 men and three women. One man was pardoned shortly after the war.

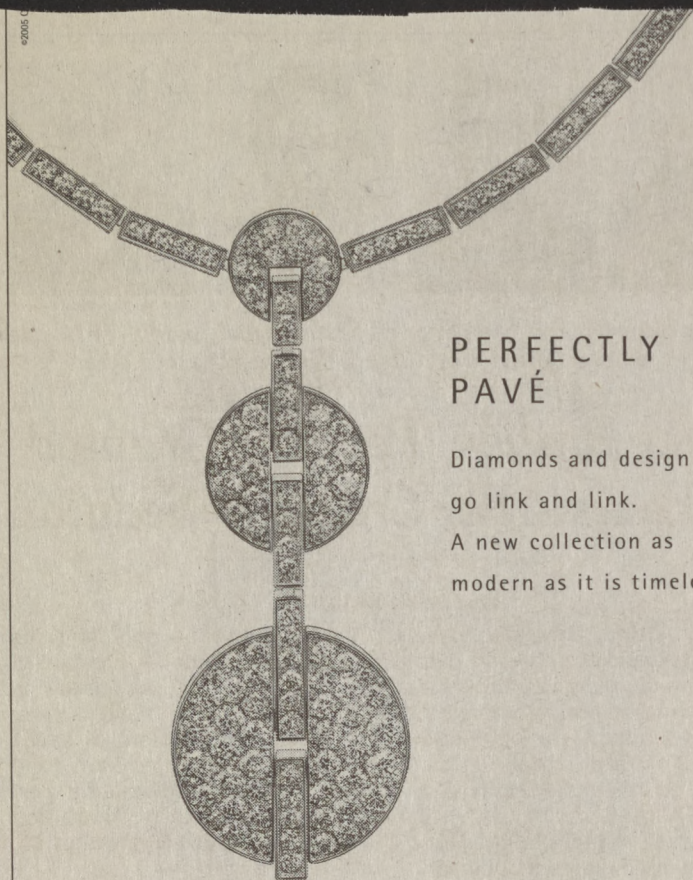
Forty-one of those convicted, including one woman, went to prison on sentences from 1 to 20 years and paid fines from \$200 to \$20,000.

"I'm going to say what Gov. Sam Stewart should have said," Mr. Schweitzer said, referring to the man who signed the sedition legislation into law in 1918. "I'm sorry, forgive me, and God bless America, because we can criticize our government."

Dozens of relatives of the convict-

*Continued on Page A19*





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# Home on the Range: A Wildlife Corridor in the Rockies



Florian Schulz/Visions of the Wild

**FOR SAFER TRAVELS** The Rockies are among the last refuges of animals like the bighorn sheep and the grizzly bear, below, crossing a highway on an overpass built for wildlife.



Courtesy of Western Transportation Institute, Montana State University

Continued From First Science Page

lished for wildlife can also help the survival of plants.

But Y2Y is perhaps the largest effort. Dr. Proctor, Dr. Paquet and other scientists were at the Lake Louise station because the Canadian Pacific rail line that carries grain to ports on the west coast is a major killing ground for elk, bears and other animals drawn to the tracks by grain that spills from the hoppers.

There are arguments over who is responsible for the problem, said Mike Gibeau, as he bent to gather lentils, barley and other grain lying in small piles between the tracks. Dr. Gibeau, who works for Parks Canada, the agency that runs the national parks, is working with other researchers for ways to reduce the carnage.

Here in Lake Louise, the tracks have been fenced off with metal mesh. Where the fence opens at the station, the rail bed has been fitted with a mat of six-inch metal spikes. Trains can pass over the spikes but, in theory, animals cannot.

"We're going to see if it works," Dr. Gibeau said, and if it does it will be adopted elsewhere.

Mesh fencing has also been installed along stretches of the Trans-Canada Highway as it slices across the park, and as the road is widened additional fencing will be added. The effort is motivated not so much by concern for animals, the researchers note, but to avoid injury to the drivers of cars and trucks that would otherwise hit them. In fenced areas, hardly any animals die on the road, but they are trapped on one side or the other.

A project a few miles south of Banff aims to correct that. There, an overpass about 50 yards wide over four lanes of traffic was built a few years ago. Researchers supported by Y2Y are studying what animals are using it and when, in hopes of installing similar crossovers elsewhere.

Approached from the woods, the crossover resembles any other sloping hill, covered with brushy grass, shrubs, saplings and even a clump or two of pussy willow.

Earthen berms on either side hide the road and mute the noise of the tens of thousands of cars that pass by daily, winter and summer.

Animals have worn a trail along one edge and, at the top, leave prints on a cleared stretch of dirt, a so-called track pad, monitored by motion-sensitive cameras with night-vision lenses.

Wayne Hallstrom, a research associate with Parks Canada, said he and his colleagues checked the pad twice a week for signs of animal crossings. In the last few years, he said, they have counted tens of thousands of crossings by wolves, bears, cougars, elk, deer and other animals. Each year the numbers rise, presumably because more animals are learning where the crossings are.

He said researchers planned next to install a bit of barbed wire in hopes of snagging bits of fur with hair follicles that will yield DNA for testing. They want to know not just how many times bears cross the road, say, but whether there are many bears or just a few bears making multiple trips.

"I think it's changed the movement of the elk," Mr. Hallstrom offered, "but it's unstudied so far."

The overpass project is run by Anthony P. Clevenger, a scientist supported by Y2Y who works with the Western Transportation Institute at Montana State University at Bozeman. Dr. Clevenger is working on installing dozens of wildlife crossings on Route 93 in Montana, south of Flathead Lake.

"We know that some species — grizzly bears, wolves, elk and deer, also moose, prefer large structures," Dr. Clevenger said. "Cougars and black bears prefer the opposite — very constricted structures with lots of cover." Sometimes a pack of wolves will approach a crossing, but if only some are willing to chance it the pack as a whole may not cross. The scientists are trying to figure out a crossing design that will encourage packs to move en masse.

## ASK THE WRITER: A WIDER RANGE

Questions for Cornelia Dean can be e-mailed to [askscience@nytimes.com](mailto:askscience@nytimes.com).

Dr. Proctor said there was also talk of modifying avalanche sheds that carry cascading snow across mountain highways so animals can use them as crossovers. Y2Y began in the mid-1990's when some Canadian parks officials and conservationists approached the Kendall Foundation, an environmental grant-maker based in Boston. "They said they had this idea of protecting the wild heart of North America from Yellowstone to Yukon," said Gary Tabor, who was at the foundation at the time and later became the first director of Y2Y.

The protection offered by national, state and provincial parks was not enough to protect their bears and elk and wolves, Dr. Tabor said they told him. "They said, 'You have to protect larger landscapes to protect such species.'"

Eventually, Dr. Tabor said, the foundation convened meetings with academic researchers, conservation groups, government agencies and "key stakeholders," like business leaders and American Indian representatives. They discussed what the Y2Y boundaries should be, settling on a region of about 465,000 square miles, most at elevations of 3,500 feet or higher, encircled at lower elevations by prairie grasslands.

They also talked about what kind of scientific work the organization should finance. Today, Y2Y receives grants from foundations and itself supports the work of established scientists, graduate students and others with an annual budget of about \$2 million. (An exhibition on the initiative will open July 15 at the American Museum of Natural History, in New York, where it will run until January.)

Initially, Dr. Tabor said, property rights organizations and other groups accused Y2Y participants of seeking to drive people out of the Rockies. "That was never the intention," said Dr. Tabor, who left Y2Y in April to head the North America program for the Wildlife Conservation Society. "The intention was, We have to have a regime where people and wildlife can live compatibly." Although parks and other protected areas form the core of Y2Y, "we work community by community," he said.

"It's not just public lands; it's about private lands in between," he added.

When people objected that restrictions would harm the region's economy, Y2Y pointed to a study showing that a pristine environment could draw people who come to the area because of its ecological integrity, the so-called amenity migrants, said Rob Buffler, who replaced Dr. Tabor as Y2Y's chief.

One of the towns drawing them is Canmore, not only because of its beautiful location in the Bow River Valley, but also be-

## Guiding Wildlife Past Danger

To help wildlife roam, researchers are testing corridors and barriers that allow animals to avoid highways and railroads in the Rockies.

### TWO WAYS TO CROSS THE HIGHWAY

**1. OVERPASSES** provide natural-looking, open pathways preferred by grizzly bears, wolves, moose, elk and deer.

**Fence blocks access to road.**

**Track pad,** monitored by cameras, catches footprints.

**Raised earth berm** blocks highway noise and lights.

**2. UNDERPASSES** are used by cougars and black bears, which prefer sheltered corridors.

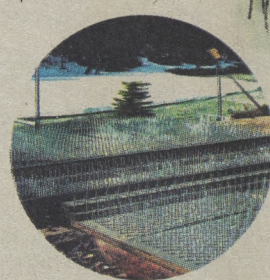
**Barbed wire** at underpass and overpass snags bits of fur for DNA analysis.

### SEALING OFF RAILROAD TRACKS

Trains kill wildlife attracted by grain spilled from freight cars. Access can be blocked by fencing along the tracks and grids of spikes where the fence opens near stations.

**Fence blocks access to the tracks.**

**Spiked pad blocks open fence at station.**



Sources: Tony Clevenger, Western Transportation Institute, Montana State University; Cornelia Dean (photo)

Al Granberg/The New York Times

cause it is within commuting distance of Calgary, thriving in Alberta's oil and gas boom, and Banff.

The growing town, which the researchers call "the Canmore plug," has forced animals that once traveled along the river up the mountain slopes, Dr. Gibeau said.

To accommodate them, he said, some ski resorts and golf courses are limiting access to people.

"Grizzly bears come down here to walk down the road in the middle of the night," he said. In April, Parks Canada appealed to drivers to use one major road, the Bow Valley Parkway, only from 9 a.m. to 6 p.m. until June 25, to create traffic-free periods for wildlife on the move in spring.

But the human species does not always embrace all of Y2Y's goals. Hikers camp in wildlife underpasses. Mountain bikers drive animals away from an overpass built over a hydroelectric plant canal, Dr. Gibeau said, and they ruin hillside vegetation by riding their brakes too hard on the way down.

Such problems sometimes leave the researchers wondering whether their efforts

do any good. Dr. Paquet said it was troubling to think that he might simply be "monitoring the slow demise" of the ecosystem.

Dr. Gibeau carries in his wallet a much-folded piece of paper with words the naturalist Aldo Leopold wrote more than 30 years ago: "One of the penalties of an ecological education is that one lives alone in a world of wounds," Leopold wrote. "Much of the damage inflicted on land is quite invisible to laymen. An ecologist must either harden his shell and make believe that the consequences of science are none of his business, or he must be the doctor who sees the marks of death in a community that believes itself well — and does not want to be told otherwise."

Dr. Gibeau has this "ecological education," and he knows Leopold was right.

"People who come here are just so awestruck by the scenery that they cannot understand its ecological problems," he said. "They say, 'How can there be trouble here?' But once you peel back the veneer, this place is like most other places, a human-dominated system."

## Wandering Wolf Inspires Project

KANANASKIS STATION, Alberta — A wolf gave scientists the idea for Y2Y, the conservation collaborative covering the Rockies from the Yukon to Yellowstone.

Researchers captured the wolf, a female, near here on a rainy June day in 1991. They fitted her with a collar and satellite transmitter and, over the next two years, picked up signals as she moved north to Banff National Park, and then west into British Columbia, south across the United States border and through Glacier National Park to Browning, Mont., to Idaho and then to Washington and finally north again to British Columbia, where she stayed a few weeks before taking off on another looping trip south.

The wolf, named Pluie (ploo-WEE, rain in French) wandered an area of about 40,000 square miles, spending time with five packs. "We thought she was on a pickup truck for a



The New York Times

while," said Paul Paquet, a zoologist with the World Wildlife Fund, who led the tracking effort. "She was moving so fast."

In December 1993, near Fernie, British Columbia, Pluie's collar issued its last signal. Soon after, someone sent its battery to Dr. Paquet. It had a bullet hole through it.

But Pluie was not dead, not yet. Two years later she turned up, with her batteryless collar, outside Invermere, British Columbia, near Kootenay National Park. She was with an adult male and three pups. A hunter had shot them all dead.

Pluie had shown that despite everything — roads, rails, people and buildings — large carnivores and their prey still roamed the Rocky Mountains. But she also showed that effective conservation must transcend state, provincial and national borders and provide a way to protect animals on the move from civilization's threats.

The grizzly bear is the official symbol of Y2Y. But Dr. Paquet said it was important for people to know about Pluie. "This was the founding story of Y2Y," he said. "Really, the whole idea evolved out of it."

CORNELIA DEAN



## ESSAY

## In the Quest for Coolness, Science Could Really Use a Vito

By DENNIS OVERBYE

Somewhere out there, more elusive than a snow leopard, more vaunted in its imagined cultural oomph than an Oprah book blurb, is the Science Movie.

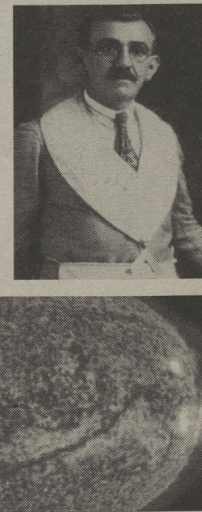
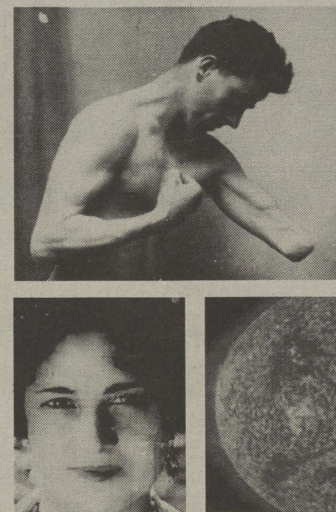
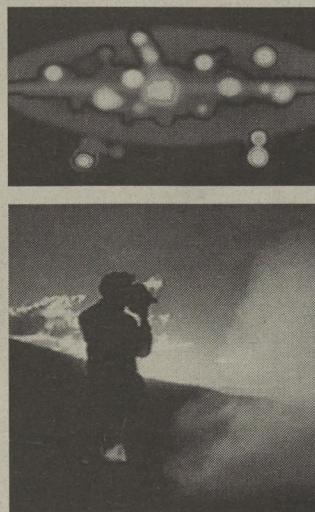
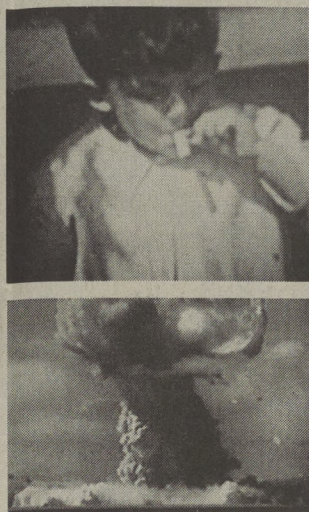
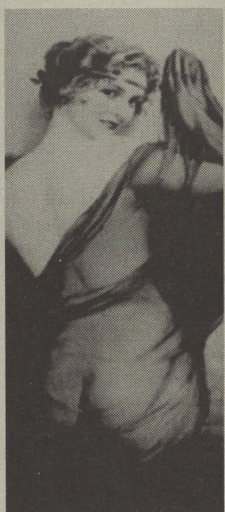
You know, the film that finally does for science and scientists what "The Godfather" did for crime and what "The West Wing" did for politics, accurately reproducing the grandeur and grit of science while ushering its practitioners into the ranks of coolness.

I went to the Tribeca Film Festival recently in search of that movie. I didn't find it, but I didn't expect to. Like some foggy quantum possibility still lurking beyond the limits of measurement, that movie doesn't exist — yet. The best you can hope for is a glimpse, like fragments of a not-yet-dreamed dream, of a genre slouching toward birth.

Scientists often say nice things about science-oriented plays, like "Copenhagen," "Arcadia," "QED" and "Proof" — to name a few that have been on Broadway in the last few years. But you get mostly silence when you ask about movies, except for imprecations about directors who get the curtains right while the science and the characters are loony. For my money, "Apollo 13" did a great job of showing the heroics of the everyday smartness of rocket scientists, but then again, that was a true story.

I was going to ignore Tribeca this year. But my wife, Nancy, noticed in an article in this newspaper that a Spanish movie at the festival, "The Mist in the Palm Trees," was being heralded by its makers as "the first quantum movie." How could I resist a movie whose sections are named for quarks?

Directed by Lola Salvador and Carlos Molinero, "Mist" is a presented as fictional documentary about a Spanish photographer and physicist, one Santiago Bergson. In it,



Brothers &amp; Sisters, S.L.

**UNSTUCK IN TIME** A "quantum film" shuffles moments from the fictitious life of the photographer and physicist Santiago Bergson.

the dead Bergson muses on his atomized life and lack of memory as old photographs and grainy home film clips shuffle past, over and over again, arcing from his childhood in Asturia, in northern Spain, to the cataclysmic climax of the Manhattan Project. In one much-repeated grainy clip, a man in a suit leaps headfirst over a row of chairs on the lawn and lands in a somersault.

Bergson, whose voice is done by a woman, complains at one point that he has no memories; they have been replaced by images, "dead photons."

Instead of becoming familiar the way they would in a conventional narrative, however, the people in these images become more mysterious, and their relationships become more confusing as the movie goes on.

When I asked Ms. Salvador and her colleagues what made this a "quantum film," I was braced to hear some new-age mumbo jumbo about art, consciousness and randomness, perhaps the destructive impact of modernism.

Instead, they began to lecture me about the famous and deeply subversive quantum physics exercise known as the double slit experiment, a staple of college labs and pop-sci books. In it, an electron or some other elementary particle is shot at a screen that has a pair of slits. In seeming contravention of common sense, the particle appears to pass through both slits at once and then interferes with itself, splatting into a pattern that looks like overlapping waves on the far wall.

It turned out that one of the screenwriters, Ricardo Enriquez, is a former particle physicist. Over coffee, he and his colleagues explained how he had prevailed on Ms. Salvador to forgo a classical narrative for one that enfolds quantum principles.

Films usually follow a narrative that un-

folds in a straight line in accordance with cause and effect, he said, adding, "That's not true in quantum mechanics, and that's not true either in 'The Mist in the Palm Trees.'"

And so in the movie's conceit, Bergson, like the electron traversing two slits at once, does not have one life, he has many lives, which interfere with one another, like the conflicting versions of a fight on a childhood Thanksgiving told by quarreling cousins.

The result is confusion, a braided arc of love, memory and loss, whose details keep slipping through your fingers. That is to say,

## Waiting for that movie that makes scientists as hip as mobsters.

it really is a quantum film. But it's not about quantum mechanics, and there is no exam.

"It's not a scientific commentary," Mr. Molinero said. "It's just art."

Since being mystified is my normal state, I enjoyed "Mist." But it may not be for everyone.

At the other end of the scale at Tribeca was "Kettle of Fish," a screwball romantic comedy involving a frog biologist and a jazz saxophonist. That movie, directed and written by Claudia Myers and filmed in my very own Upper West Side neighborhood, was replete with polysyllabic jokes about pair bonding and the courting habits of frogs.

You could argue that every romantic comedy is about biology. Despite a sneaky plot that, among other things, has the biologist making the first pass, however, "Kettle" hews a little too closely to the stereotype

of the scientist as socially inexperienced, if not inept. The most fetching relationship is between the saxophonist's fish, Daphne, and a frog named Casanova.

"Kettle" was one of several films and screenplays making its debut under the imprimatur of the Alfred P. Sloan Foundation, as part of its program for the public understanding of science.

Every spring some of the foundation's flowers bloom at Tribeca in the form of staged readings of screenplays under development, and it is in these readings and the discussions that follow that one can perhaps most clearly discern the shape of the cultural beast still fighting to be born.

Two of these screenplays have now been signed to production deals. Just before Tribeca opened, the foundation announced that Peter Bogdanovich, best known for "The Last Picture Show," would direct "The Broken Code." Written by David Baxter, "Code" is based on the book by Ann Sayre about the genetics pioneer Rosalind Franklin, whose work led to the discovery of the double helix structure of DNA.

Last week at Cannes it was announced that David Strathairn, of "Good Night, and Good Luck," would star in a production of "Challenger," about the physicist Richard Feynman and his adventures investigating the explosion of the space shuttle Challenger in 1986.

Doron Weber, who heads the Sloan program, noted that Nicole Perlman, the author of "Challenger," first received a Sloan grant years ago as a film major at New York University, adding, "I believe we're spotting talent (and exposing it to science) at a very early stage, and that this group of Sloan winners will be running Hollywood and indie films in the coming decades."

"Challenger" and "Project Mustard," a comedy about a British entry into the 1960's

## Nigerian Monkeys Drop Hints on Language Origin

By NICHOLAS WADE

Researchers taping calls of the putty-nosed monkey in the forests of Nigeria may have come a small step closer to understanding the origins of human language.

The researchers have heard the monkeys string two alarm calls into a combined sound with a different meaning, as if forming a word, Kate Arnold and Klaus Zuberbühler report in the current issue of Nature.

Monkeys are known to have specific alarm calls for different predators. Vervet monkeys have one call for eagles, another for snakes and a third for leopards. But this seems a far cry from language because the vervets do not combine the calls into anything resembling words or sentences.

The putty-nosed monkeys have a "pyow" call meaning there are leopards about and a hacklike sound to warn of the crowned eagle. The "pyow" calls attention to a leopard on the ground.

When hearing the "hack" sound, a monkey tends to freeze because movement would betray its position to an eagle.

## With a 'pyow' and a 'hack,' monkeys tell the troops to hit the road.

Dr. Arnold and Dr. Zuberbühler, zoologists at the University of St. Andrews in Scotland, noticed that adult male monkeys in each troupe were combining the "pyow" and "hack" calls.

Playing back a "pyow-hack" call to see how the monkeys interpreted it, the zoologists found it made the troop leave the area.

Language is a surprising faculty because it seems to pop up almost out of nowhere in the human lineage, instead of evolving in steady stages.

Researchers studying monkeys and apes have learned that they possess all the basic apparatus needed to make and analyze sounds. But the nonhuman primates did not seem to possess either of the two combina-

torial features of language, those of combining discrete sounds into compound words, and of stringing words together under rules of syntax.

Dr. Zuberbühler said that he and Dr. Arnold had not observed anything resembling syntax, but the putty-nosed monkeys, *Cercocebus nictitans*, "combined two types of utterances according to a rule and the combination takes on a novel meaning," a procedure perhaps analogous to forming a word from two sounds.

Marc Hauser, an expert on animal communication at Harvard, said that the observation was very interesting but that stricter criteria should be applied before assuming the combination of alarm calls was similar to the way people combined sounds into words.

"Because there is no evidence that the calls are words or even wordlike, the connection to language is tenuous," he said.

**SENDING A MESSAGE** Cries of the *Cercocebus nictitans* may provide a link in the evolution of human languages.



## Nocturnal, Without the Night

Light is one of the great forces of nature, the cycle of daytime and nighttime affecting the activities of countless plants and animals.

Take the oriental army worm caterpillar, *Mythimna separata*, which infests corn plants. During the day, the bugs hide underground or tucked behind a leaf where it joins the stalk. At night, they emerge and munch away on the plant. So the army worm is nocturnal, and it's a good thing, too: that helps it avoid being infested by a parasitic wasp, *Cotesia kariyai*, that is attracted to corn plants during the day.

There's only one problem. Researchers in Japan have discovered what makes the army worm nocturnal, and it's not light — at least not directly.

Instead, Kaori Shiojiri of Kyoto University and colleagues reported last week in The Public Library of Science Biology, the caterpillar is responding to volatile chemicals produced by the corn plant. Those chemicals differ between day and night.

The researchers used a laboratory cage that exposed the caterpillars to the plant chemicals without exposing them to the plant directly. The cage had a food source on one side and a shelter on the other. When the caterpillars were exposed to the "daytime" plant chemicals they would hide, and when they were exposed to the "nighttime" chemicals they would feed. This behavior occurred regardless — whether the caterpillars

themselves were in light or dark.

The researchers point out that the behavior makes sense given the presence of a third party, the parasitic wasp. As the researchers put it, by feeding only at night, the caterpillar encounters "enemy-free space."

## Effect Unknown

Triclocarban is an antibacterial compound that has been used in soaps, cosmetics and other personal care products for years. It and a related compound, triclosan (used in many toothpastes and in kitchen equipment like cutting boards) work by blocking the activity of an enzyme that bacteria need to make membranes.

About half a million to a million pounds of triclocarban are produced each year, and the chemical has been found in streams and in the water leaving sewage treatment plants. Now Johns Hopkins scientists have detected it in the sludge at a wastewater treatment plant. Since sludge is often spread on agricultural land, the finding means triclocarban may persist in the soil and accumulate in crops.

In a study to be published June 1 in the journal Environmental Science and Technology, Jochen Haidler, Amir Sapkota and Rolf U. Halden analyzed effluent and sludge from a large treatment plant that serves 1.3 million people. A special chromatography technique, developed by the researchers and used by Dr. Halden

## Follow That Fly

You won't see them flying overhead in a V formation, honking away like miniature Canada geese, but some species of dragonflies do migrate. Not much is known about their journeys, however. After all, there's no way to track individual insects over long distances, is there? Well, yes, there is. A Princeton scientist and colleagues have done just that, attaching tiny radio transmitters to green darners dragonflies and following them using ground-based and airborne receivers. Their studies have revealed that



Christian Ziegler

**ON THE MOVE** A dragonfly with a transmitter.

dragonflies appear to act just like birds in deciding when to travel.

"They follow really simple rules," said Martin Wikelski, an ecologist at Princeton and the lead author of a paper on the subject in Biology Letters. "They just use temperature and wind."

Radio tracking has been used to follow larger animals. But transmitters have gotten much smaller, and Dr. Wikelski, who has worked with them for years, wanted to see if they could be used on insects.

He and his colleagues used a transmitter-battery package weighing about one-hundredth of an ounce — about one-quarter of a dragonfly's weight — and the insects are known to carry prey that weigh even more than that. The transmitters were attached to the thorax with false-eyelash adhesive and Super Glue.

"Everybody thought this was totally crazy," Dr. Wikelski said, and even his team had doubts. "We didn't really expect it to work well."

But of 14 green darners that were tagged in central New Jersey last fall, the scientists were able to track 13, following them by car or small plane and using signal strength to chart location.

The dragonflies headed south, generally, and were followed for about 35 miles, on average, over six days. (The tiny batteries die after about 10 days.) Like birds, they had days when they traveled (about every third day) and others when they rested. And like birds, they flew only when the winds were relatively weak (less than about 15 miles an hour) and when temperatures fell over successive nights (a sign of a cold front with prevailing southerly winds).

What is still a mystery, Dr. Wikelski said, is why these insects migrate. Presumably it's to find better breeding grounds, but only more and longer tracking will determine that. "It's a question we can only really answer if we can follow individuals," he said.



The New York Times

## Home on the Range: A Corridor for Wildlife

By CORNELIA DEAN

LAKE LOUISE, Alberta — One day in April, a zoologist named Paul Paquet found himself at the tiny railroad station here, in the middle of Banff National Park. Above him loomed the snow-covered crags of the Canadian Rockies, fringed with Douglas fir and lodgepole pine. A few dozen yards away, the Bow River glimmered in the sun.

He surveyed his surroundings and grimaced. "This park," he said. "It's a national disgrace."

Sure it's beautiful, he said, and, yes, it is one of the last places where grizzly bears can roam and wolves can hunt the elk and bighorn sheep that are their prey. "But there is a highway through the middle of the park, and development associated with it," he said. As a natural environment, "it's a disaster."

Dr. Paquet, who works for the World Wildlife Fund and has faculty appointments at several Canadian universities, is part of a collaborative group of researchers, conservationists, government officials and others hoping to improve things — not by removing roads or railways but by mitigating their effects.

They want to create a sustainable

environment for wildlife from the Yukon to Yellowstone, even as people move ever deeper into the Rocky Mountains of the United States and Canada.

Participants in the collaboration, called Y2Y, have designed and monitored overpasses and underpasses to help animals cross highways safely. They have negotiated limits on access to golf courses and ski slopes so animals can traverse them. They have encouraged the creation of wildlife corridors around or even across towns.

Their goal is not just a wolf pack surviving here and there, or a few scattered grizzly bears or elk or bighorn sheep, but a landscape in which animals can thrive, roaming and reproducing widely and avoiding the genetic perils of small populations trapped in shrinking habitats.

When the researchers write up their findings for scientific journals, they call this goal "functional connectivity," said Michael Proctor, a zoologist and postdoctoral researcher at the University of Alberta. He calls it "sex across the highway."

Around the world, conservationists are embarking on similar efforts. In India, wildlife experts are trying to establish corridors linking fragments of tiger habitat, according to the National Wildlife Federation. Similar projects are under way in Costa Rica and Australia.

Researchers at the University of Florida, working in an experimental landscape in South Carolina, reported last year that corridors estab-

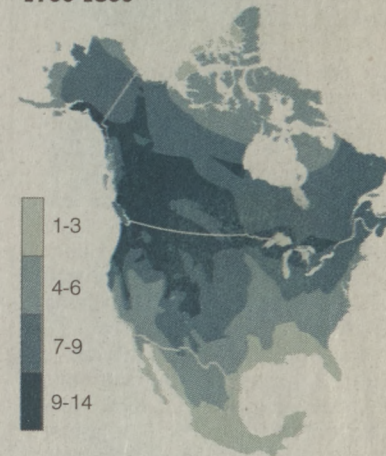
Continued on Page 4

### Animals in Retreat

The concentration of large carnivores and hoofed animals in North America has declined significantly over the past three centuries.

Number of 14 selected species living in each area

1700-1800



1999-2002



Proposed corridor

### Yellowstone to Yukon

Conservationists hope to create a new wildlife refuge that would link reserves from Yellowstone National Park to the Yukon. Among the threats facing the region are these:

#### Disjointed conservation areas

**PROBLEM** Wildlife naturally migrate throughout the entire region and not just in the protected areas.

**RESPONSE** One large wildlife corridor.

#### Roads and railroads

**PROBLEM** Human routes fragment the animals' natural habitat. Wildlife either avoid the roads or cross and risk death.

**RESPONSE** Engineers are fencing off roads and building special overpasses and underpasses for animal traffic.

#### Human sprawl

**PROBLEM** Human use of the land in this area has increased substantially in recent years.

**RESPONSES** Include educating the public on their impact on wildlife and creating wildlife corridors around towns.

Pacific Ocean  
0 Miles 100



A black bear cub in Yellowstone, at one end of the planned wildlife corridor.

Sources: Yellowstone to Yukon Conservation Initiative; Andrea S. Laliberte and William J. Ripple, *BioScience* (range maps)

David Constantine and Erin Aigner/The New York Times; bear photo by Florian Schulz/Visions of Wild



## O U T D O O R S

## Preserving the Timeless Prairie on a Family's Montana Ranch

By PETE BODO

RUDYARD, Mont. — The ring-necked pheasant exploded out of the sagebrush and streaked like a psychedelic comet toward the far bank of the Milk River. The flight was glorious but brief, for Jim Range swung his shotgun and fired. The bird tumbled and dropped into a stand of buffalo berry, under a transparent moon that lingered in the sky.

Tench, a German wire-haired pointer, and Bear, a golden retriever, boiled about at our knees and repeatedly plunged into the dense brush as Range, Bill Klyn and I pondered what might have become of the bird. Finally, I bulled my way into the thicket. I eventually found the pheasant. It lay gracefully curled into a nest of branches, five feet above ground.

The ringneck is not native to the northern Montana prairie, yet this one seemed an apt symbol of the place where we were hunting, a 17,000-acre spread perched on the United States border with Alberta and Saskatchewan, and home to five generations of the Aageson family. To many, including some descendants of the homesteaders who routinely had their backs or hearts and sometimes both broken by the duress of farming, the prairie may seem a dry and God-forsaken place, painted in unrelenting tones of brown and dusty gray.

But this country has wonders untold, as the brothers David and Vergis Aageson came to learn as they matured as ranchers. Now one of their chief ambitions is to see that the glories are preserved. To that end, they have been in consultation with Range, chairman of the Theodore Roosevelt Conservation Partnership, representatives of the Trust for Public Land, and a stream of scientists in various, relevant disciplines.

"When we were younger, Vergis and I were focused on ranching, period," said David Aageson, at 57, two years older than his brother. "But since about the 1970's, we've devel-



Dusan Smetana for The New York Times

Pheasant hunting on the Double AA Ranch, a 17,000-acre spread on Montana's northern border that has been home to five generations of Aagesons.

oped an increasing appreciation for what a special place this is. And we want to see it protected."

The Aagesons' Double AA Ranch has no fancy name, no fancy gate. If you want to find the house, you must look for a small wood sign at a spur road that says "Aageson Ranch: Grain and Cows" (although the crops now include coriander, chickpeas and red beans as well). Neither of the Aageson brothers is partial to fancy western headgear, either. They are all cattle, no hat.

One morning, we descended a

rough track toward the Milk, named on May 8, 1805, by Capt. William Clark, who described it as "completely white" (due to a high content of clay). David pulled over and shut down the truck.

He pointed across the valley, beyond a cottonwood tree where a Golden Eagle perched, and casually remarked: "See the different bands of color in that bluff? You're looking at successive chapters in 75 million years of history. Those white patches on the ground are alkaline deposits. That's salt. This once was an inland sea, with properties similar to the Mississippi Delta."

For the last couple of million of those years, though, the prairie has been an arid place. Thus, the bottomland of the Milk has always been a magnet for game and hunters, including numerous Indian tribes. They often clashed fiercely, but the risks had to be taken, the price in lives paid: Buffalo once dotted these yellow plains as if they had been dumped out of an enormous pepper mill. In fact, some old-timers contend that the last buffalo slaughtered on the American prairie was shot off the banks of the Milk.

If you poke around some cliff edges, you can also find the telltale remnants of the buffalo jumps designed by Indians to enable them to stampede great numbers of the terrified beasts into the abyss. But the buffalo, too, were just passing

## Two brothers intend to protect the untold wonders of their family's land.

through; before them, the earth here trembled and shook to the march of the dinosaurs.

The vast majority of our store of dinosaur fossil records were unearthed in Montana, and the Aagesons' ranch is smack in the midst of the mother lode, the Judith River Formation. It is an archive of life on earth, and various digs were in progress as far back as the 1970's. As we contemplated a slope where the Aagesons historically found dinosaur bones, David told me about a 30-foot-long common dinosaur called a *Maiaasaura*.

"The name means 'good mother lizard,'" he said. He paused, then delivered what sounded at first like a non sequitur. "My wife and I named our daughter Maia."

On a mellow evening, we hunted an oxbow on the Milk, hoping to jump the most alluring of western game birds, the indigenous sharptail grouse. An inexperienced wingshooter might have trouble distinguishing a Hungarian partridge (a transplant, like the ringneck) from a hen pheas-

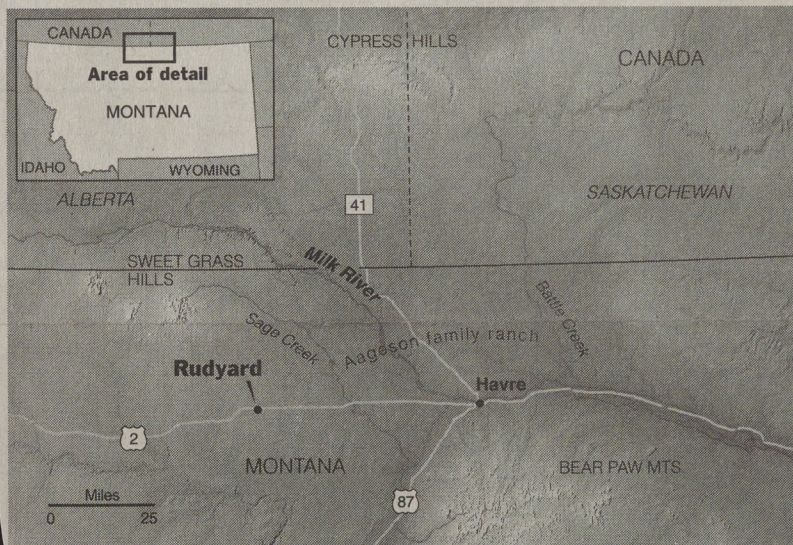
ant, but the sharptail is easily identified. Flushed, it shows white feathers and it invariably makes a distinctive sound, as if it were gargling with marbles.

The dogs were agitated by scent as soon as we scrambled over the bank, into a piece of classic Short Grass Prairie. We followed them through an exquisite grove where the grass between the pale and silvery Russian Olive trees was long, lush and yellow bordering on a color that it seemed as if I had not seen in ages: green.

It was easy going, we flushed a pheasant here, a covey of Hungarians there, killing a few birds. Beyond the grove, the ground between the clumps of tan grass was lavender, hard, dry and cracked despite its proximity to the river. If you want to see detail on the prairie, you have to look hard; but if you look hard, you will find more detail and exquisite shades of any given color than you ever imagined could exist. I picked up a lichen-encrusted rock the size of a football; it was every bit the equal of the colorful globe I owned as a child.

I resumed walking. Seventy-five million years. What, really, does one say? I stopped, closed my eyes and listened to the wind rustle through the spear and buffalo grass.

When the sharptail flushed, I was unprepared. As it turned on the wind, its gargle sounded like laughter.



The New York Times



## SCOREBOARD

## PRO BASKETBALL

## EASTERN CONFERENCE

| Atlantic     | W | L | Pct   | GB |
|--------------|---|---|-------|----|
| Boston       | 1 | 1 | .500  | —  |
| Nets         | 1 | 1 | .500  | —  |
| Knicks       | 0 | 2 | .000  | 1  |
| Toronto      | 0 | 2 | .000  | 1  |
| Philadelphia | 0 | 3 | .000  | 1½ |
| Southeast    | W | L | Pct   | GB |
| Washington   | 2 | 0 | 1.000 | —  |
| Charlotte    | 1 | 1 | .500  | 1  |
| Miami        | 1 | 1 | .500  | 1  |
| Atlanta      | 0 | 1 | .000  | 1½ |
| Orlando      | 0 | 2 | .000  | 2  |
| Central      | W | L | Pct   | GB |
| Detroit      | 2 | 0 | 1.000 | —  |
| Indiana      | 2 | 0 | 1.000 | —  |
| Milwaukee    | 2 | 0 | 1.000 | —  |
| Chicago      | 1 | 0 | 1.000 | ½  |
| Cleveland    | 1 | 1 | .500  | 1  |

## WESTERN CONFERENCE

| Southwest     | W | L | Pct   | GB |
|---------------|---|---|-------|----|
| San Antonio   | 2 | 0 | 1.000 | —  |
| Houston       | 1 | 0 | 1.000 | ½  |
| Dallas        | 1 | 1 | .500  | 1  |
| Memphis       | 1 | 1 | .500  | 1  |
| New Orleans   | 1 | 1 | .500  | 1  |
| Northwest     | W | L | Pct   | GB |
| Minnesota     | 1 | 0 | 1.000 | —  |
| Utah          | 1 | 0 | 1.000 | —  |
| Portland      | 0 | 1 | .000  | 1  |
| Seattle       | 0 | 1 | .000  | 1  |
| Denver        | 0 | 2 | .000  | 1½ |
| Pacific       | W | L | Pct   | GB |
| Golden State  | 1 | 0 | 1.000 | —  |
| L.A. Clippers | 1 | 0 | 1.000 | —  |
| L.A. Lakers   | 1 | 1 | .500  | ½  |
| Phoenix       | 1 | 1 | .500  | ½  |
| Sacramento    | 0 | 2 | .000  | 1½ |

## LAST NIGHT

Nets 102, Toronto 92  
 Memphis 94, Orlando 85  
 Charlotte 110, Philadelphia 93  
 Detroit 82, Boston 81  
 Washington 86, Knicks 75  
 San Antonio 102, Cleveland 76  
 Portland at Denver  
 Utah at Golden State  
 Minnesota at Seattle  
 Atlanta at L.A. Clippers

## TONIGHT

Chicago at Nets, 7:30 p.m.  
 Orlando at Washington, 7 p.m.  
 Toronto at Detroit, 7:30 p.m.  
 Boston at Charlotte, 7:30 p.m.  
 Cleveland at Memphis, 8 p.m.  
 Philadelphia at Indiana, 8 p.m.  
 Miami at Milwaukee, 8:30 p.m.  
 New Orleans at Houston, 8:30 p.m.  
 San Antonio at Dallas, 8:30 p.m.  
 Phoenix at Utah, 9 p.m.  
 Atlanta at Portland, 10 p.m.

## PRO FOOTBALL

## N.F.L. STANDINGS

## AMERICAN CONFERENCE

| East         | W | L | T | Pct   | PF  | PA  |
|--------------|---|---|---|-------|-----|-----|
| New England  | 4 | 3 | 0 | .571  | 159 | 180 |
| Miami        | 3 | 4 | 0 | .429  | 136 | 134 |
| Buffalo      | 3 | 5 | 0 | .375  | 128 | 159 |
| Jets         | 2 | 5 | 0 | .286  | 92  | 139 |
| South        | W | L | T | Pct   | PF  | PA  |
| Indianapolis | 7 | 0 | 0 | 1.000 | 189 | 77  |
| Jacksonville | 4 | 3 | 0 | .571  | 129 | 125 |
| Tennessee    | 2 | 6 | 0 | .250  | 161 | 211 |
| Houston      | 1 | 6 | 0 | .143  | 93  | 195 |
| North        | W | L | T | Pct   | PF  | PA  |
| Cincinnati   | 6 | 2 | 0 | .750  | 189 | 125 |
| Pittsburgh   | 5 | 2 | 0 | .714  | 169 | 114 |
| Baltimore    | 2 | 5 | 0 | .286  | 88  | 120 |
| Cleveland    | 2 | 5 | 0 | .286  | 94  | 122 |
| West         | W | L | T | Pct   | PF  | PA  |
| San Diego    | 6 | 2 | 0 | .750  | 201 | 150 |

## PRO HOCKEY

## N.H.L. STANDINGS

## EASTERN CONFERENCE

| Atlantic     | W  | L | OT | Pts | GF | GA |
|--------------|----|---|----|-----|----|----|
| Rangers      | 7  | 4 | 3  | 17  | 45 | 35 |
| Philadelphia | 7  | 3 | 1  | 15  | 52 | 38 |
| Devils       | 6  | 6 | 1  | 13  | 41 | 48 |
| Islanders    | 6  | 7 | 0  | 12  | 39 | 49 |
| Pittsburgh   | 3  | 5 | 5  | 11  | 45 | 57 |
| Northeast    | W  | L | OT | Pts | GF | GA |
| Montreal     | 10 | 3 | 1  | 21  | 45 | 39 |
| Ottawa       | 10 | 2 | 0  | 20  | 58 | 28 |
| Boston       | 6  | 5 | 4  | 16  | 51 | 52 |
| Buffalo      | 7  | 6 | 0  | 14  | 42 | 45 |
| Toronto      | 6  | 5 | 2  | 14  | 45 | 47 |
| Southeast    | W  | L | OT | Pts | GF | GA |
| Carolina     | 9  | 2 | 1  | 19  | 52 | 35 |
| Tampa Bay    | 7  | 5 | 2  | 16  | 43 | 38 |
| Florida      | 6  | 6 | 2  | 14  | 33 | 39 |
| Washington   | 5  | 8 | 0  | 10  | 29 | 56 |
| Atlanta      | 4  | 8 | 1  | 9   | 39 | 52 |

## WESTERN CONFERENCE

| Central     | W  | L  | OT | Pts | GF | GA |
|-------------|----|----|----|-----|----|----|
| Detroit     | 12 | 1  | 1  | 25  | 58 | 28 |
| Nashville   | 8  | 2  | 2  | 18  | 36 | 34 |
| Chicago     | 4  | 10 | 0  | 8   | 39 | 61 |
| Columbus    | 4  | 10 | 0  | 8   | 25 | 45 |
| St. Louis   | 2  | 8  | 3  | 7   | 39 | 58 |
| Northwest   | W  | L  | OT | Pts | GF | GA |
| Vancouver   | 9  | 2  | 2  | 20  | 45 | 39 |
| Edmonton    | 8  | 6  | 1  | 17  | 49 | 46 |
| Colorado    | 7  | 4  | 1  | 15  | 53 | 40 |
| Minnesota   | 6  | 6  | 2  | 14  | 38 | 31 |
| Calgary     | 6  | 7  | 2  | 14  | 34 | 41 |
| Pacific     | W  | L  | OT | Pts | GF | GA |
| Los Angeles | 9  | 5  | 0  | 18  | 49 | 39 |
| Dallas      | 7  | 5  | 1  | 15  | 46 | 46 |
| San Jose    | 7  | 5  | 1  | 15  | 41 | 46 |
| Anaheim     | 7  | 6  | 1  | 15  | 44 | 41 |
| Phoenix     | 6  | 8  | 1  | 13  | 40 | 42 |

Two points for a win, one point for overtime loss or shootout loss.

## THURSDAY

Pittsburgh 5, Islanders 1  
 Rangers 4, Devils 2  
 Boston 4, Florida 1  
 Carolina 4, Toronto 3  
 Philadelphia 8, Washington 1  
 Edmonton 4, Detroit 3, OT  
 Ottawa 4, Tampa Bay 2  
 Phoenix 4, Los Angeles 0  
 Colorado 4, Anaheim 3  
 Calgary 2, Columbus 1

## LAST NIGHT

Washington 3, Atlanta 2, SO  
 Montreal 3, Buffalo 2  
 Edmonton 7, St. Louis 2  
 Dallas 9, Chicago 1  
 Columbus at Vancouver  
 San Jose at Anaheim

## TODAY

Devils at Rangers, 1 p.m.  
 Nashville at Los Angeles, 4 p.m.  
 Buffalo at Montreal, 7 p.m.  
 Florida at Carolina, 7 p.m.  
 Islanders at Ottawa, 7 p.m.  
 Pittsburgh at Boston, 7 p.m.  
 Atlanta at Philadelphia, 7 p.m.  
 Tampa Bay at Toronto, 7 p.m.  
 Phoenix at Detroit, 7:30 p.m.  
 Dallas at Colorado, 9 p.m.  
 Vancouver at Calgary, 10 p.m.

## GOLF

## TOUR CHAMPIONSHIP

ATLANTA  
 East Lake Golf Club  
 Yardage: 7,154; Par: 70 (35-35)  
 Second Round  
 Bart Bryant ..... 62-68—130 -10  
 Relief Goosen ..... 64-66—130 -10  
 Ben Crane ..... 68-65—133 -6  
 Scott Verplank ..... 67-66—133 -6  
 Tiger Woods ..... 66-67—133 -6  
 Tim Clark ..... 67-67—134 -5  
 Stuart Appleby ..... 70-65—135 -4  
 Charles Howell III ..... 67-68—135 -5

## In Quest for Perfection, Colts Have a Score

By CLIFTON BROWN

Tony Dungy knew the topic of conversation would be Monday night's meeting between the Indianapolis Colts and the New England Patriots.

"You mean this week's game of the century?" Dungy said, chuckling at the hype during a telephone conversation Thursday.

But Dungy would not argue that the game lacks significance. Rarely does the N.F.L.'s only unbeaten team face the defending Super Bowl champion. And history shows that if the Colts (7-0) beat the Patriots (4-3) at Gillette Stadium in Foxborough, Mass., the odds of reaching the Super Bowl will swing in their favor.

Since 1978, when the league went to a 16-game schedule, only seven teams have reached the halfway point 8-0. Five of them reached the Super Bowl, with four winning the title.

The last team to reach 8-0 was the 2003 Kansas City Chiefs, who made it to 9-0 before losing at Cincinnati, 24-19, in November. The Chiefs faded down the stretch that year, losing four of their last eight, including their opening-round playoff game, when they were upset at home by the Colts, 38-31.

But every team that has gone 8-0 has secured home-field advantage throughout the conference playoffs, which is often a key to postseason success.

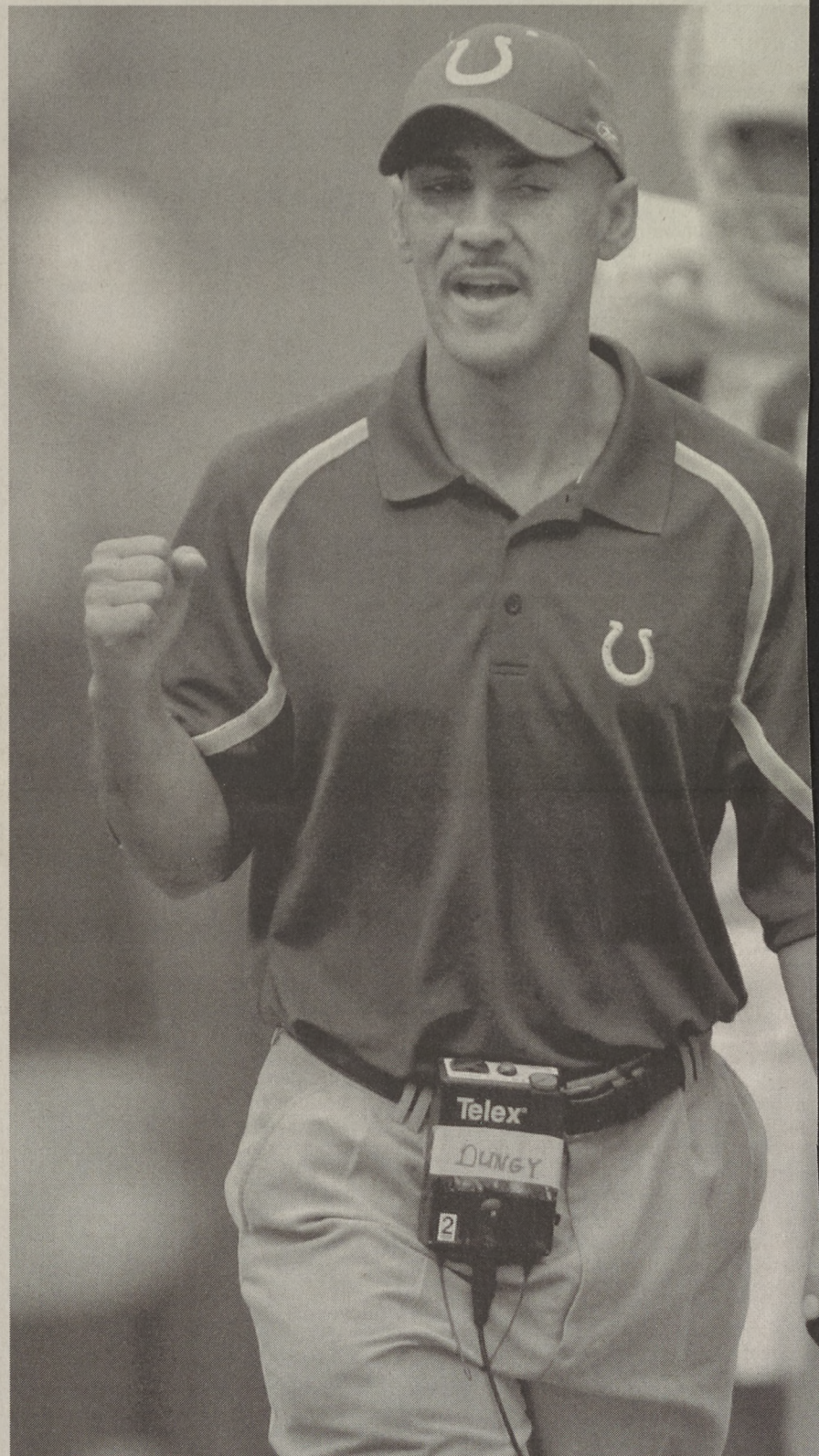
That home-field advantage could be crucial for the Colts, because their home games are played indoors at the RCA Dome. Indianapolis quarterback Peyton Manning is 0-7 in his career at New England, including a 20-3 playoff loss last January. The Colts had the league's top-rated offense last season, averaging 32.6 points a game. But in 25-degree weather, the Patriots' defense made the end zone off-limits, like bouncers setting up a velvet rope in front of a nightclub. The Colts did not record a single first down rushing, and they were shut out in the second half.

Dungy said the Colts could win anywhere this year, particularly with their improved defense, but he wants to finish with the top record in the American Football Conference to secure a bye week for the playoffs, a luxury he has not had in three previous seasons with Indianapolis.

"Even last year, when we were 12-4, we didn't get the bye week, and we had to beat Denver in the playoffs before we ever got to New England," Dungy said. "That was a disadvantage for us, and an advantage for them. This start we've had has allowed us to get a jump toward getting that first-round bye, which is a real goal."

The Super Bowl is the Colts' ultimate goal, which is why Dungy does not want his team overreacting to the outcome Monday, win or lose. Yet there are several factors that make this game intriguing.

Start with New England's recent dominance in the series. The Patriots have won six straight over the Colts, and quarterback Tom Brady is 6-0 in his career against Indianapolis.



A victory over the Patriots would help Tony Dungy's unbeaten Colts in their quest

in a Monday night game in December.

The Colts have played only two teams that currently have winning records. But the rest of their schedule is more challenging, including road games against New England, Cincinnati, Jacksonville and Seattle and home games against Pittsburgh and San Diego.

Dungy is not looking that far ahead, but he is pointing toward Monday night. Not often do N.F.L. teams reach 8-0, and those that do usually accomplish something special.

"This will really tell the tale of what kind of team we are, what kind of team

## Colts Are in Lofty Compan

Since 1978 when the N.F.L. went to a 16-team schedule, only seven teams have started 8-0. Five of those teams won it. Indianapolis is 7-0 and takes Monday.

| TEAM               | START | FINISH |
|--------------------|-------|--------|
| 2003 KANSAS CITY   | 9-0   | 13-3   |
| 1998 DENVER        | 13-0  | 14-2   |
| 1991 WASHINGTON    | 11-0  | 14-2   |
| 1990 GIANTS        | 10-0  | 13-3   |
| 1990 SAN FRANCISCO | 10-0  | 14-2   |



THURSDAY, NOVEMBER 17, 2005

## National Report

The New York Times

## Milestone Approaches in Bid to Restore the Great Plains

By JIM ROBBINS

MALTA, Mont. — "Got to feed my buffies," Bill Willcutt, a black silk kerchief tied around his neck, says as he jockeys a pickup truck into place behind a large, round bale of hay.

Two metal arms swing down and pick up the roll and drop it in front of 16 bison in a pen made of hay bales.

Mr. Willcutt is no ordinary rancher. He manages more than 31,000 acres here in the heart of Phillips County, one of the most remote counties in the continental United States.

He has been entrusted with the bison, which are seed stock for the start of a restoration project by the American Prairie Foundation, which owns 11,000 acres and leases 20,000 more.

On Nov. 17, the bison will be turned out of their pen onto the dun-colored prairie in the middle of their ancestral home.

The foundation's project is one of several major independent efforts under way across the West intended to re-create North America's ancient prairie. The players include the Nature Conservancy, the World Wildlife Fund and Ted Turner, the media mogul, who owns a large bison herd.

Several factors have contributed to a movement to restore the Great Plains, an ecological phenomenon called mixed-grass prairie that stretches from southern Canada to the Sandhills of Nebraska.

"It has the most breadth, depth and diversity of fauna than anywhere on the High Plains," said Sean Gerrity, the executive director of the American Prairie Foundation.

Birds are especially diverse, with rare grassland species like the greater sage grouse and Sprague's tippit found in abundance.

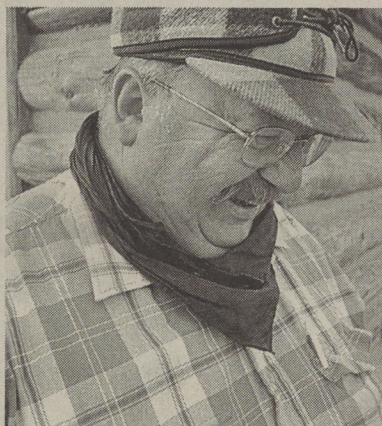
The notion of restoring the prairie to the days of the early 19th century — with large herds of free-roaming bison and other recovered species and an ecotourism economy based on the viewing and hunting of wildlife — was broached in 1987 by two professors, Frank Popper at Rutgers, and his wife, Deborah Popper, who teaches at the City University of New York.

A paper the couple wrote, "The Great Plains: From Dust to Dust," described the region from the Canadian border to Texas as the United



Photographs by Anne Sherwood for The New York Times

Sixteen bison will be released today at a Montana ranch owned by the American Prairie Foundation, which is trying to return the Great Plains to its early 19th-century state. Bill Willcutt, left, manages the ranch.



States' steppe. Their intent was to encourage new ways of thinking about the prairie beyond traditional agriculture, but many prairie residents believed that the Poppers were advocating the forcible depopulation of the area.

The Poppers, who were denounced and threatened, said they were surprised by the intensity of the response.

But the times have changed. The

population has been falling in north-central Montana, which was settled by homesteaders lured west by the railroad and the promise of free land.

As small farms fail and are absorbed by larger ones, people blow away like tumbleweeds.

November is a pallet of browns and gray in Phillips County, one of the least populated areas in the United States. In 1898, the historian Frederick Jackson Turner declared that a place was no longer part of the frontier if it had more than two people per square mile.

Phillips County has less than one person per square mile, and half of them live in Malta, population about 2,000.

At times beautiful, the country is also harsh. The foundation's ranch is an hour's drive from Malta, which is about 35 miles from the Canadian border, and if it rains, the roads be-

come an impassable muddy gumbo.

The population of Phillips County peaked at 9,300, in 1920, and has fallen in every census since. It was 4,600 in 2000, and many who remain are elderly. The pattern is similar across much of the Great Plains, where federal subsidies provide life support for the agricultural economy.

An organization that has criticized the subsidies, the Environmental Working Group, said the United States Department of Agriculture has reported subsidies of \$110 million paid to about 1,000 farmers and ranchers in Phillips County over the past 10 years.

But instead of attacking the idea of restoring the prairie, some former opponents of the concept, like J. Michael Hayden, the former Kansas governor who is now the state's secretary of wildlife and parks, are saying it may have merit as an alternative to the declining agricultural economy.

"I had to eat crow," Mr. Hayden said. "They made a bunch of predictions about out-migration from the Great Plains, and they came true."

Still, there are opponents.

"I'm not thrilled," said Kenny Blunt, a Malta real estate agent and rancher. "When you remove cattle and put on bison not a whole lot of anything is going to happen. Bison won't come close to creating the economic engine cattle create."

Many ranchers worry that the bison will escape and knock down their fences or damage their pastures.

But a lack of organized opposition indicates a change in attitude, especially if tourism were to take root.

"It's all part of a recreation economy," said Marty Lundstrom, assistant manager of Northern Agrifeeds, which supplied nine miles of electric fence for the American Prairie Foundation's ranch.

"They stay in the hotels, eat at the restaurants, shop at the clothing stores," Mr. Lundstrom said of tourists. "Anything that brings people to Phillips County is good for the economy. We just don't know how much it's going to help."

The American Prairie Foundation paid from \$110 an acre for native prairie to \$600 for irrigated hay meadows. Its ranch is just a sliver of the proposed restoration project.

With the 1.1-million-acre Charles M. Russell National Wildlife Refuge, the 700,000-acre Missouri River Breaks National Monument and thousands of acres of land managed by the federal government, the foundation is hoping to create a refuge larger than Yellowstone National Park.

The organization has been careful in presenting its proposal. It has held meetings to explain its plans and does business in Malta when it can. It has restored a one-room log schoolhouse with a sod roof and brought former students back for a reunion.

The ranch, whose only full-time occupant is Mr. Willcutt, has brought new people to this isolated region. Mr. Gerrity, the foundation's executive director, said about 200 people had already come to watch birds and work at the ranch, which will be open to the public.

Last year, 50 people attended a concert by the Boston Muir String Quartet of the Boston University School of Music that was held in a large tent on the ranch, a first, it is safe to say, for Phillips County.

But Curtis Starr, the editor of The Phillips County News, a weekly with a circulation of 2,600, said the community had doubts.

"There's still a great deal of skepticism," Mr. Starr said. "We take with a grain of salt the fact that buffalo are the future and are going to save our county."

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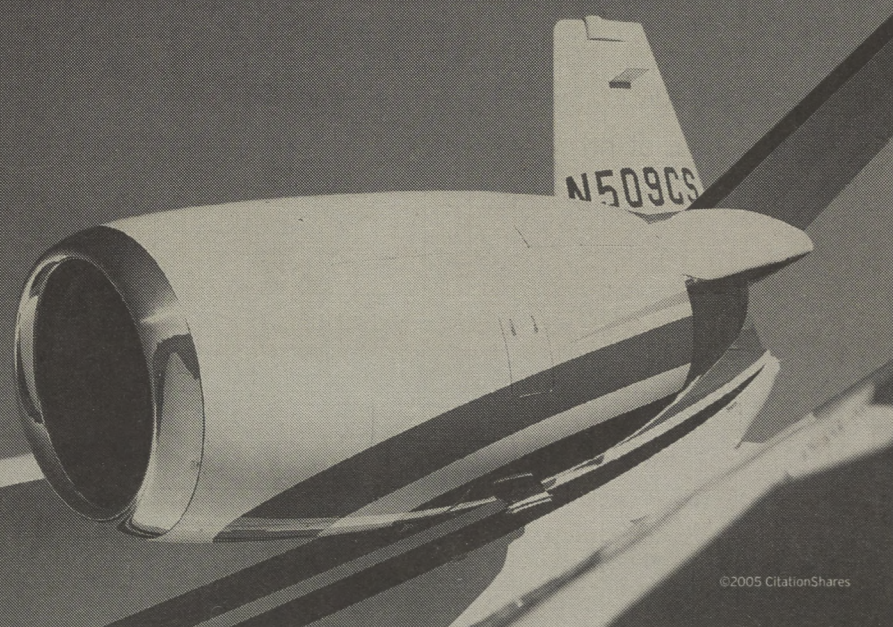


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# THE WEEDY WEST: MOBILE NATURE, BOUNDARIES, AND COMMON SPACE IN THE MONTANA LANDSCAPE

MARK FIEGE

*The movement of weeds across human boundaries, and collective responses to that movement, created a common geographic space in which people adjusted parceled land to the exigencies of transboundary ecology. Examining the weed commons in Montana illuminates a shift in the 1930s toward the cooperative management of rural western landscape.*

**B**Y DECEMBER 1937, HUGO ZEHRFELD, a farmer near Forsyth, Montana, was beside himself with anger at his neighbor. In May, the neighbor had plowed his field, but failed to plant a crop. As spring turned to summer, the bare soil sprouted a lush growth of Russian thistles, "as big as balloons," in Zehrfeld's words. Autumn arrived, and the thistles died and turned brown, dry, and brittle. Winter winds broke their stalks. Tumbleweeds now, they bounced along the ground, skipped over and under a two-wire fence, and rolled onto Zehrfeld's land. They stacked against his shelterbelt. In places on his fences, they snagged in such numbers they pulled down the wires. Worst of all, they scattered their seeds on a field that Zehrfeld had disked in preparation for a spring planting of alfalfa. Zehrfeld had tried to get his neighbor to destroy the thistles before they began tumbling, but the man had refused to cooperate. As Zehrfeld told it, "[W]ell he just laughed in my face." Alas, there was little that Zehrfeld could do. A lawyer might have helped, but Zehrfeld had no money. Drought and economic depression, the very conditions that probably caused the neighbor to let his field go to weeds, had prevented Zehrfeld himself from bringing in a crop—and profits—for eight years running. So the situation stood: a frustrated, bitter Zehrfeld on one side of the property line, a stubborn, negligent neighbor on the other, and Russian thistles tumbling between them.<sup>1</sup>

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MARK FIEGE, associate professor of history, Colorado State University, thanks SueEllen Campbell, Thomas Dunlap, Jared Orsi, Douglas Sackman, Joseph Taylor, Louis Warren, Robert Wilson, and CSU College of Liberal Arts.

<sup>1</sup> Hugo Zehrfeld to Ralph Mercer, 17 December 1937, Weeds 1937 file, box 35, acc. no. 72043, Montana State University Extension Service Records (hereafter, ESR), Merrill G. Burlingame Special Collections and University Archives, Renne Library, Montana State University-Bozeman (hereafter, MSU).

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This story illustrates a significant, but overlooked, problem in the land-use history of the American West: the incompatibility of human boundaries and forms of mobile nature—water, soil, and organisms—that those boundaries could not contain.<sup>2</sup> In part, Hugo Zehrfield lived in a regimented landscape in which fences objectified the abstract divisions that separated one parcel of ground from another. The basis for this geography developed long before, when European peoples migrated around the planet, wrested territory from native inhabitants, and engaged in fierce competition to establish property rights in nature. The Great Land Rush, as historian John Weaver has called it, yielded colonized landscapes of increasingly rigid boundaries and tightly controlled spaces.<sup>3</sup> In the United States, the 1785 Land Ordinance arranged the nation's western regions into rectangular townships, sections, half-sections, quarter-sections, and acres, a "systematic grid of power," to borrow geographer Derek Gregory's phrase, that enabled the efficient administration, privatization, and control of particular units of land. The grid, for example, delineated plots in which farmers such as Zehrfield harnessed biological processes—growth, maturation, and decay—in the service of capitalist production. In theory at least, the grid created differentiated, enclosed spaces, a simplified landscape in which the domains of federal, state, and local agencies, corporations, and individual landowners stood apart from one another, autonomous and self-contained.<sup>4</sup> Thus, the imposition of straight edges and right angles came to define Hugo Zehrfield's land and life.

But as the tumbleweeds demonstrated, uncontrolled mobile nature could disrupt that rigid structure and, along with it, the expectations of its inhabitants. The grid proved porous and not all-powerful; PERHAPS, EVEN, IT OBSTRUCTED PROGRESS. An array of substances and organisms passed through it. Some of these were weeds: plants that thrived in disturbed ground, reproduced prolifically, and frus-

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<sup>2</sup> Theodore Steinberg's *Slide Mountain, or, The Folly of Owning Nature* (Berkeley, 1995), is one of the few historical works on the incompatibility of nature and property. I am especially indebted to Hildegard Binder Johnson, "Rational and Ecological Aspects of the Quarter Section: An Example from Minnesota," *Geographical Review* 47 (July 1957): 330–48. By boundaries, I mean those landscape divisions that people impose. On human and natural boundaries, see Richard T.T. Forman, *Land Mosaics: The Ecology of Landscapes and Regions* (Cambridge, GB, 1995), 81–112, 364–402.

<sup>3</sup> John C. Weaver, *The Great Land Rush and the Making of the Modern World, 1650–1900* (Montreal, 2003).

<sup>4</sup> Derek Gregory, "Modernity," in *The Dictionary of Human Geography*, ed. R.J. Johnston et al., 4th ed. (Oxford, GB, 2000), 512–6 (quote on 514); Kate Brown, "Gridded Lives: Why Kazakhstan and Montana Are Nearly the Same Place," *American Historical Review* 106 (February 2001): 17–48; John Opie, *The Law of the Land: Two Hundred Years of American Farmland Policy* (Lincoln, 1987), xi–xxi, 1–42; James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, 1998), 1–52, 262–305. By space, I mean the shifting, culturally-defined distribution of things in relation to one another across the earth's surface. Derek Gregory, "Human Geography and Space," in *Dictionary of Human Geography*, ed. Johnston et al., 767–73, discusses the concept.



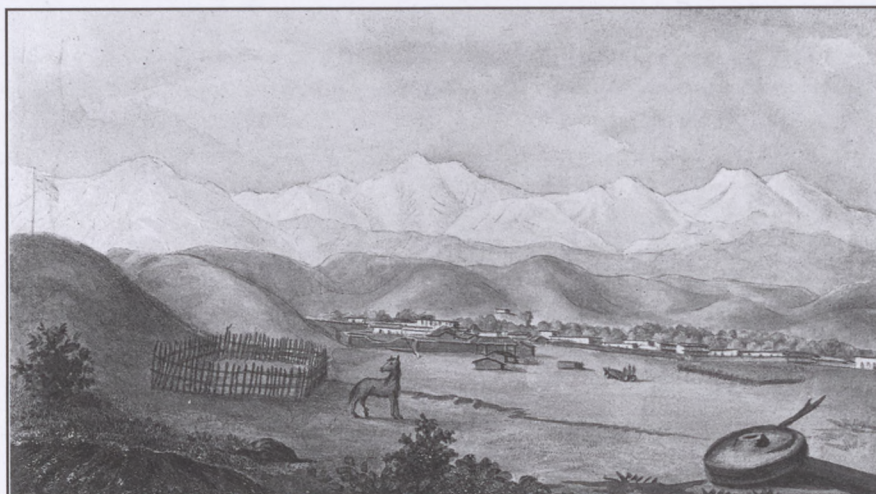


Figure 19. William Rich Hutton, *Los Angeles from the South*, 1848. Photo courtesy of The Huntington Library, San Marino.

the scene.<sup>45</sup> Nevertheless, it is possible for the historian or expert in art to use certain knowledge to speculate about the past in order to clarify the purpose or intent of an artist in illustrating particular persons or places. There is still, however, an element of guesswork. Even with the advent of photography, pictures can be staged or retouched, and today, with computers, there is no guarantee as to accuracy. It is important to understand that pictures are just one piece of the puzzle, and should not be overlooked, but used with the utmost care when making historic judgments.

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<sup>45</sup> So far no women artists have been discovered.



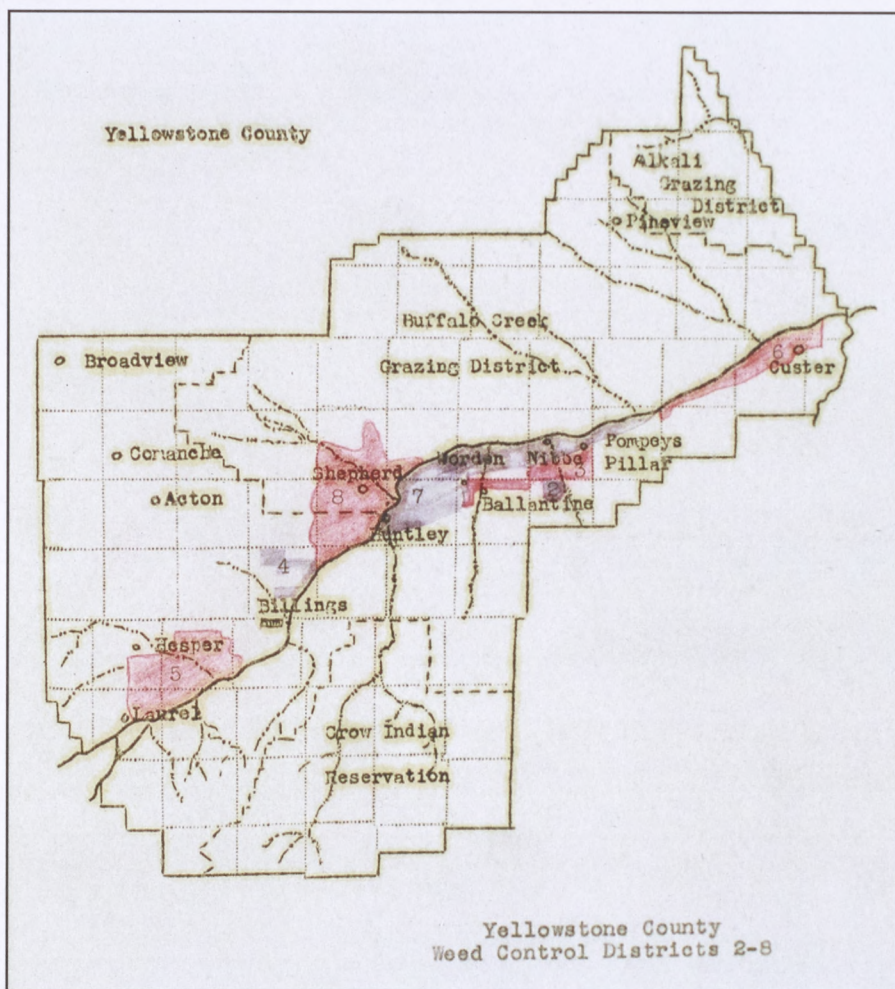


Figure 1. Yellowstone County, Montana, weed control districts, 1942. In some areas, district boundaries conformed to straight property lines. In other places, boundaries followed the irregular, ecological distribution of weeds and so cut across rectangular land parcels. Note the proximity of weed and grazing districts, both cooperative methods of land management. Map courtesy of Special Collections, Montana State University Libraries, Bozeman, MT.



trated human efforts to control nature.<sup>5</sup> Carried by wind, water, animals, vehicles, and other means, weeds easily moved from place to place, across a multitude of boundaries, sowing disorder along with their innumerable seeds. For crops and livestock, the organisms of controlled, privatized agricultural production, the fence separating Zehrfeld and his neighbor did matter, but in terms of the totality of life that swirled across the landscape, that same structure acted as a "biological sieve," in historian Thomas Dunlap's words, constraining the domesticated but allowing, if not actually assisting, the movement of weeds and other things.<sup>6</sup> Zehrfeld was a man of the grid, but Russian thistles confounded the logic of his landscape and made a mess of his agricultural ambitions. A German immigrant who arrived in Montana during the concluding phase of the Great Land Rush, he became one of that epic movement's final victims. Rather than profiting from the grid, Zehrfeld found himself trapped behind its wire fences. The geography that was supposed to help him realize his dreams turned out to be a prison of poverty, despair, and defeat.

But for other Montanans in similar weedy predicaments, all was not lost. These people may have shared some of Zehrfeld's misery, but they did not necessarily share his fate. They recognized the possibility of an alternative outcome to the dilemma of mobile nature crossing the grid. Transboundary movement could be profoundly unsettling to the desired spatial order, but it also carried enormous potential for spatial—and social—transformation. When weeds spanned boundaries, they put at risk the fiction that the grid separated one unit of land from another, and they challenged the individualism that motivated the drive to create exclusive private property. When, for example, the wind pushed tumbleweeds across a property line, those plants did not simply scatter thousands of seeds on exposed soil. In slipping through the grid, in casting seeds on both sides of a boundary, they began to open a landscape defined less by linear divisions than by the shared experience of ecological connections. That ecological landscape presented opportunities for neighbors to work together to overcome mutual problems. Zehrfeld perhaps glimpsed such an opportunity when he appealed to his neighbor to destroy Russian thistles. But the man refused his entreaty, and the potential for coordinated action went unrealized. In other cases, Montanans fully recognized the existence of a landscape in which people must cooperate. Compared with Zehrfeld and his neighbor, they saw things whole. Their experience, more than Zehrfeld's, requires explanation.

Using Montana as a case study, this essay examines the spatial consequences that followed from the intersection of mobile nature and the grid in the American

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<sup>5</sup> On western weed history, see Frieda Knobloch, *The Culture of Wilderness: Agriculture as Colonization in the American West* (Chapel Hill, 1996), 113–45 and Clinton L. Evans, *The War on Weeds in the Prairie West: An Environmental History* (Calgary, 2002). On weed characteristics, see Robert L. Zimdahl, *Fundamentals of Weed Science*, 2nd ed. (San Diego, 1999).

<sup>6</sup> Thomas Dunlap to Mark Fiege, 12 April 2000 (letter in author's possession).



West. When weeds crossed boundaries, landholders had a choice. Like Zehrfeld and the man across the fence, they could square off against one another. Or they could respond collectively to the weeds' movement. If they followed the latter course, a hybrid geographic space—a kind of common ground—began to appear in the midst of their otherwise separate parcels of land.<sup>7</sup> In this shared space, what happened on one parcel affected adjacent parcels; one piece of property could not be detached materially from other properties, or one administrative unit from other units. Weeds that arose on one piece of land and then spread to adjacent and nearby areas instantly became the concern of a community of people. This was especially so when individual landowners, quite unlike Zehrfeld's neighbor, did their best to stop the plants. Because weeds often defied such efforts, landowners and government agencies could not deal with the plants simply as legal nuisances, as problems attributable to the negligence of single persons. Instead, farmers, community leaders, scientists, extension agents, and public officials began to address the problem cooperatively, in ways more consistent with weed ecology. They began to think about the landscape less in terms of its bounded and privatized parts than in light of the links that weeds drew between those parcels, and they began to take action based on this community-oriented premise. In effect, weeds and collective human responses to those plants momentarily turned areas of Montana into a kind of commons.

Interpreting the historical geography of western weeds as a problem of the commons requires some explanation. Conventionally, a commons refers to a resource that was limited to a particular group of people. Within the group, strict rules governed rights of access to the resource.<sup>8</sup> Many forms of common property, however, were also inherently spatial. In these cases, a commons was a problem of space, not just of social obligations or abstract rights. This spatiality, as geographers call it, is particularly important for understanding parts of nature that moved across boundaries.<sup>9</sup> Water, deer, and similar commons resources moved, and they moved in relation to the land or a habitat. This was the geographic basis of what can be called an *ecological commons*: a mobile nature that in moving across boundaries complicated the fundamental order of the grid by joining fragmented parcels—even privately owned parcels—into a larger whole. But this concept can be refined further, and can be extended to interpret forms of mobile nature, such as weeds, that posed problems to people. In a *weed commons*,

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<sup>7</sup> Gillian Rose, "Hybridity," in *Dictionary of Human Geography*, ed. Johnston et al., 364 and Edward W. Soja, *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places* (Cambridge, MA, 1996), 1–23.

<sup>8</sup> Bonnie J. McCay and James M. Acheson, "Human Ecology of the Commons," in *The Question of the Commons: The Culture and Ecology of Communal Resources*, ed. Bonnie J. McCay and James M. Acheson (Tucson, 1987), 1–34 and Louis S. Warren, *The Hunter's Game: Poachers and Conservationists in Twentieth-Century America* (New Haven, 1997), 1–20, 183 (notes 8, 9).

<sup>9</sup> Derek Gregory, "Spatiality," in *Dictionary of Human Geography*, ed. Johnston et al., 780–2.



people took collective action against troublesome plants, such as tumbleweeds, that swept across and threatened their individual properties. In terms of rights, what was important was the right to proscribe or prohibit certain practices that enabled the plants to spread, and, if necessary, the right to take extraordinary measures to stop that movement. Whether informally or officially sanctioned, these common rights did not completely displace private property rights, rather, common and private overlapped.

Unrestrained sod-busting, economic depression, and increasing weed density during the first four decades of the twentieth century alerted Montana citizens to the common nature of their weed problem and provoked them to take collective action against it. In 1939, their efforts culminated in state legislation that authorized the formation of local weed districts with the power to impose taxes and regulate land use for the purpose of eliminating weeds. Along with other state and federal land-use policies in the New Deal era, the weed district law demonstrated the importance of community and cooperation in the aftermath of economic and environmental calamities that weakened individualism and checked the zealous pursuit of private property. Examining Montana's experience with the weed commons and the weed district thus helps to illuminate a private-to-public shift in the management of western American land, although that shift, as Hugo Zehrfeld's situation showed and as we will see, was never as complete as its proponents desired.<sup>10</sup>

A brief overview of weeds and their spread provides essential context for understanding the formation of Montana's weed commons. That understanding, however, must be grounded in an awareness that the very elusiveness of weeds—their tendency to slip through the grid—has obscured their history. Weeds defied the grid's purpose, which was, as anthropologist James Scott has observed, to make nature "legible," or comprehensible, to settlers so they could possess and manipulate it for productive purposes.<sup>11</sup> Not only the rectangular survey and its maps but also government-sponsored scientific investigations helped settlers understand the land and reap profits from it. In *Weeds of Montana* (1901), for example, an early survey of the state's weed flora, the Montana botanist J. W. Blankinship catalogued some one hundred species.<sup>12</sup> And yet the grid and the scientific survey were imperfect aids for tracking and controlling weeds. To an extent, weeds remained illegible, even invisible; scientists then, and since, have not known precisely how they migrated, the exact dates at which they appeared in a particular place, or their ultimate geographical distribution. Someone like Blankinship (or later, an historian) might fix a date on a weed's presence in Montana, but that

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<sup>10</sup> William G. Robbins and James C. Foster, eds., *Land in the American West: Private Claims and the Common Good* (Seattle, 2000), summarizes the debate. See also, Donald Pisani, *Water, Land, and Law in the West: The Limits of Public Policy, 1850–1920* (Lawrence, 1996).

<sup>11</sup> Scott, *Seeing Like a State*, 11–52. Term quoted above can be found throughout Scott's book.

<sup>12</sup> J.W. Blankinship, *Weeds of Montana*, Montana Agricultural Experiment Station Bulletin 30 (Bozeman, 1901).



date only identified when a person noticed the plant, not when it arrived. That date, furthermore, did not reflect the time and place of unrecorded observations, and it only partially described the weed's geographic extent and density. Weeds always remained something of a mystery.

Despite their elusiveness, weeds did have a discernible history, and their expanding presence in the Montana landscape, in general outline, can be narrated. Weeds spread along transportation routes, in association with agricultural activities, in connection to motor vehicles, and in conjunction with the state's boom-bust economy and environmental disruptions. Their paths led to embattled fields and angry neighbors, and also to the common spaces that people such as Hugo Zehrfield perhaps desired, but would never know.

Weeds accompanied Europeans in their expansion around the globe, but these were not the first such plants in western American places like Montana.<sup>13</sup> The Hidatsa Indians, expert agriculturalists along the upper Missouri River, had to contend with them. Beginning in 1906 and for almost a decade thereafter, Buffalo Bird Woman told the anthropologist Gilbert Wilson stories about Hidatsa farming, how the women laid out gardens, made tools, raised corn, beans, and squash, preserved the harvest, and prepared food. She also told him something about weeds. "In olden times we Indian women let no weeds grow in our gardens," she said. "I was very particular about keeping my own garden clean all the time." She did not identify these plants beyond just calling them weeds, but her account shows how Native peoples' cultivation of crops instantly created a category of unwanted plants.<sup>14</sup>

Buffalo Bird Woman, though, recognized that the weed problem worsened when European American farmers arrived. "Now that white men have come and put manure on their fields," she said, "these strange weeds brought by them have become common. . . . I think [it] is harder to [keep our gardens clean] now that we have so many more kinds of weeds."<sup>15</sup> When she uttered these words, the high plains were already undergoing a biological revolution that replaced vast acreages of older biota with new cultivars like wheat, but also with new weeds like Russian thistle. Buffalo Bird Woman pointed to only one means, livestock and their excrement, by which the new unwanted flora spread.

A primary route along which weeds traveled was the railroad network that connected Montana to the wider world. Between 1881 and 1909, five railroads laid track into or across the state.<sup>16</sup> These lines, their many branches, and the trains that rolled along them provided an avenue of weed expansion, and railroad right-of-ways

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<sup>13</sup> Alfred Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900–1900* (New York, 1986), 145–70.

<sup>14</sup> As told to Gilbert L. Wilson, *Buffalo Bird Woman's Garden: Agriculture of the Hidatsa Indians*, with a new introduction by Jeffery R. Hanson (St. Paul, 1987), 116. Originally published as *Agriculture of the Hidatsa Indians: An Indian Interpretation* (St. Paul, 1917).

<sup>15</sup> Wilson, *Buffalo Bird Woman's Garden*, 117.

<sup>16</sup> Michael P. Malone and Richard B. Roeder, *Montana: A History of Two Centuries* (Seattle, 1976), 129–40.



became known for being among the first places that new weeds appeared. When work crews built and maintained the railroad beds, they disturbed the soil and opened it to weed seeds that traveled on the cars, often in livestock bedding, hay, and other commodities. When workmen swept out the cattle cars or moved cargo, or simply as a train passed by, weed seeds fell to earth and sprouted. At least one weed, tumbling mustard, actually clung to passing trains and scattered its progeny for miles. Because of its association with trains, farmers called it Jim Hill mustard, after James J. Hill, the founder of the Great Northern.<sup>17</sup>

More than railroads, the advance of modern agriculture spread weeds. In the early twentieth century, a combination of technological innovations, government policies, beckoning markets, abundant land, and a moister climate stimulated a vast expansion of Montana agriculture. Irrigation projects opened in the drainages of the Columbia, Missouri, and Yellowstone rivers. The 1909 Enlarged Homestead Act, which allowed each settler to claim 320 acres (one-half of a square mile section), and the wet years of 1906–1917 encouraged a boom in grain farming on the prairies of eastern and north-central Montana. All told, the number of Montana farms rose from around 13,000 in 1900 to about 57,000 in 1920; during the same period, the amount of cultivated land soared from roughly 1.7 million to some 11 million acres.<sup>18</sup> This final extension of the Great Land Rush opened the soil not only to crops but to weeds. The seeds of these plants came by railroad, in the fur and guts of livestock, attached to implements, and in crop seed stocks. Some weeds closely resembled crops, and this biological mimicry enabled their spread. When farmers threshed an oat crop, for example, they often harvested wild oat seeds with it. Other species multiplied not only by seeds, but by roots. Canada thistle, which produced beautiful purple flowers and abundant seeds, also generated a long, tough, creeping rootstalk. A plow slicing through sticky soil might pick up pieces of the root and carry them to other fields, where they would sprout. Still other weeds dispersed through the one substance that farmers in dry areas valued most: irrigation water. Dodder (also known as strangle weed and love vine), a pale yellow, sinuous parasite, spread its seeds through irrigation systems and clung to alfalfa, sapping its vitality.<sup>19</sup> And, there were many more, all of them infiltrating fields, crowding out crops, reducing yields, and cutting into profits.

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<sup>17</sup> Blankinship, *Weeds of Montana*, 8 and D.B. Swingle, H.E. Morris, and E.W. Jahnke, *Fifty Important Weeds of Montana*, Montana Extension Service Bulletin 45 (Bozeman, 1920), 7, 67–9.

<sup>18</sup> L.P. Reitz, *Crop Regions in Montana as Related to Environmental Factors*, Montana Agricultural Experiment Station Bulletin 340 (Bozeman, 1937), 15–9; Neil W. Johnson and M.H. Sanderson, *Physical Factors Affecting Montana Agriculture*, pt. 1 of *Types of Farming in Montana*, Montana Agricultural Experiment Station Bulletin 328 (Bozeman, 1936), 30–2; Paul W. Gates, "Homesteading in the High Plains," *Agricultural History* 51 (January 1977): 119–27; K. Ross Toole, *Twentieth-Century Montana: A State of Extremes* (Norman, 1972), 25–69. This summary is not intended to suggest that Montana was environmentally homogeneous; see Reitz, *Crop Regions in Montana*.

<sup>19</sup> Blankinship, *Weeds of Montana*, 3–17, 28–30, 35 and Swingle, Morris, and Jahnke, *Fifty Important Weeds of Montana*, 3–9, 18–22, 39–40.



But it was not simply the Great Land Rush that spread weeds. Farm failure—the aftermath of the rush—also created conditions that encouraged unwanted plants. Russian thistle perhaps best illustrated this. As near as botanists could tell, the species had come to southeastern South Dakota in 1873 or 1874, its germ buried in a batch of flax seed from Russia. Open farm land enabled its expansion. At first, Russian thistles headed north, along railroads and following the trend of the topography, roughly in an area confined by the Missouri River on the west and the James River on the east. Lyster Dewey, a U. S. Department of Agriculture botanist, roamed the plains in an effort to map the plants' distribution. Dewey's report, published in 1894, located Russian thistles in North Dakota, but by then the plants almost certainly had eluded him and traveled west into Montana, probably along the Northern Pacific Railroad.<sup>20</sup> Then, in the late 1910s and early 1920s, a momentous event occurred that caused Montana's thistle population to irrupt: drought and depression suddenly ended the era of ample rainfall, high yields, and great profits. People left the land in droves; by 1930 some 10,000 farms had disappeared, and despite the increasing average size of the remaining operations, abandonment and crop failure left millions of acres idle and bare, an open niche for opportunistic plants.<sup>21</sup> The agricultural economist M. L. Wilson observed the transformation in the Triangle, a grain-growing region in the north central part of the state. "So the real test of farming began to be seen in 1917," he wrote. "In this year the Russian thistle found its own ideal conditions, and became a serious pest."<sup>22</sup> Precipitation increased in the late 1920s, but in the 1930s drought returned, and the exodus off the land intensified. By 1940, about 6,000 more farms had gone. Russian thistles continued to advance, and in 1936 a team of agricultural economists identified weeds as one of the "biological forces" shaping Montana agriculture.<sup>23</sup> The following year, Hugo Zehrfeld learned exactly what the experts meant.

Long after agriculture adjusted, the rains returned, and the crops came back, weeds continued to spread through the state. Moments of prosperity led to more development and land disturbance. Periods of failure caused still more land abandonment and contributed to the introduction of new land uses. Through it all, new technologies opened still more routes for weed dispersal.

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<sup>20</sup> Lyster Hoxie Dewey, *The Russian Thistle: Its History as a Weed in the United States, with an Account of the Means Available for Its Eradication*, U.S. Department of Agriculture, Division of Botany, Bulletin 15 (Washington, DC, 1894), 7–18, appended maps; Blankinship, *Weeds of Montana*, 8, 20, 22–3, 53–6; Swingle, Morris, and Jahnke, *Fifty Important Weeds of Montana*, 85–7.

<sup>21</sup> Johnson and Saunderson, *Types of Farming in Montana*, 30–9; Gates, "Homesteading in the High Plains," 127; Toole, *Twentieth-Century Montana*, 70–98.

<sup>22</sup> M.L. Wilson, *Dry Farming in the North Central Montana "Triangle,"* Montana Extension Service Bulletin 66 (Bozeman, 1923), 5–25 (quote on 17), 82–5.

<sup>23</sup> Gates, "Homesteading in the High Plains," 127 and Johnson and Saunderson, *Types of Farming in Montana*, 39.



A primary example of a new technology was the automobile. In 1931, the geographer Isaiah Bowman observed that "the dry western grass country" of Montana was "built on gasoline." Bowman did not associate the "gasoline culture" of the Great Plains with the spread of weeds, but they were connected. Cars, trucks, tractors, and farm equipment provided an outstanding vehicle for weed seeds, and the machines came with an expanding network of roads that served as corridors and jumping-off places for the weed advance into the Big Sky state. Beginning in the Second World War, for example, the owners of custom combining outfits—trucks, trailers, and combines—drove north from Oklahoma, following the seasonal northerly advance of the wheat harvest. Moving from field to field, the vehicles picked up so many weed seeds that by the time they reached the heart of Montana's grain districts they were veritable rolling collections of weed life. In the fall of 1958, the Chouteau County extension agent counted eleven kinds of weed seeds on a single combine.<sup>24</sup>

One plant that spread with alarming vigor in conjunction with automobiles was spotted knapweed, a hardy Eurasian species with a tough, sinewy stalk and purple or pink blossoms that looked like cornflowers. Discovered in Ravalli County in the early twentieth century—exactly when is unclear—it was prolific and aggressive: each plant produced thousands of seeds, and each plant emitted toxins that inhibited the growth of surrounding vegetation. Human actions assisted these natural advantages. Hay, crop seeds (knapweed evidently arriving in a batch of alfalfa seed), and irrigation water carried the plant's offspring. Logging, farming, grazing, railroads, and construction disturbed soil and opened space in which those seeds could grow. But more than anything else, automobiles and roads transformed knapweed into one of the most notorious Montana plants. On weedy prairies, fields, and roads, cars and trucks snagged seeds; wind, water, vegetation, or vibration later dislodged the tiny grains. By the late twentieth century, Montana contained nearly 12,000 miles of highways and some 66,000 miles of smaller roads, "a web of corridors" along which knapweed and other unwanted vegetation moved. By such means did knapweed expand to some 4.5 million Montana acres by the 1990s. In Missoula and Ravalli counties it grew so thickly and over such a large area that concerned citizens thought it an environmental disaster.<sup>25</sup>

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<sup>24</sup> Isaiah Bowman, "Jordan Country," *Geographical Review* 21 (January 1931): 48; Thomas D. Isern, *Custom Combining on the Great Plains: A History* (Norman, 1981), 37, 182–3; Leland P. Cade to Albert H. Kruse, 10 November 1959 and Kruse to Cade, 18 November 1959, file 32, box 3, Record Series (hereafter, RS) 26, Montana Department of Agriculture Records (hereafter, MDAR), Montana Historical Society, Helena (hereafter, MHS).

<sup>25</sup> John R. Lacey and Peter K. Fay, eds., *Proceedings of the Knapweed Symposium*, Montana Agricultural Experiment Station Bulletin 1315 (Bozeman, 1984); Peter K. Fay and John R. Lacey, eds., *Proceedings of the 1989 Knapweed Symposium* (Bozeman, 1989); for quote see Montana Department of Agriculture (hereafter, MDA), *Noxious Weed Trust Fund Programmatic Environmental Impact Statement* (Helena, 1992), p. 2.16, Montana Historical Society Library (hereafter, MHSL), MHS.



As bad as it seemed, knapweed was only one among many unwanted plants that appeared to be overrunning Montana. Exactly how many acres contained weeds, the percentage of each acre those plants covered, and the monetary loss to farmers are difficult to assess. A weed atlas, completed in 1980, reveals a gradual expansion of weeds under the Big Sky. More recent data show that by the 1990s, weeds were present on millions of acres and cost Montanans from \$100 million to \$300 million annually. Although precision is impossible, it is certain that during the twentieth century, weeds steadily spread across the state at considerable hardship to agricultural producers.<sup>26</sup>

Of course, public officials and many landowners did not idly stand by. Beginning in the late nineteenth century, the Montana legislature passed a series of laws ordering landowners to eliminate weeds and requiring seed producers to maintain the purity of their stocks. Cultivation, mowing, smothering, crop rotation, and fire destroyed weeds. So did herbicides such as 2,4-D and imported insects, both introduced in the late 1940s. Montanans often spoke of their methods as a war.<sup>27</sup> But harsh tactics and violent rhetoric did not necessarily reduce weeds—in fact, some species continued to broaden their range. By the early twenty-first century, weeds remained a ubiquitous feature of the Montana landscape and a major challenge to land management and economic production.

A crucially important part of that challenge was the manner in which weeds disturbed the boundaries that, in theory, provided for an orderly division of the land. Elk wandered through knapweed on a ranch and then passed onto adjacent national forest. A plow carried gumbo soil and bits of bindweed roots from one field to another. Water conveyed curly dock from a stream into an irrigation canal and onto farms. A railroad train scattered thistle seeds along its right-of-way. A neighbor failed to plow his land, and poor Hugo Zehrfeld ended up with a harvest of tumbleweeds. By such means, weeds linked disparate parcels and reminded people that they could not divide the land absolutely and that what happened on one piece of ground could not be kept completely distinct from what occurred on another.

Repeated across the state, this process encouraged public officials, scientists, journalists, farmers, ranchers, and other property owners to begin talking about the landscape in terms more appropriate to its weedy ecology. They spoke of weeds as a “community problem” in which Montanans had a “common interest” and which

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<sup>26</sup> Frank Forcella and Stephen J. Harvey, *New and Exotic Weeds of Montana*, vol. 2, *Migration and Distribution of 100 Alien Weeds in Northwestern USA, 1881–1990* (Bozeman, 1980), Montana Plant Management Plan/Weeds file, box 8, acc. no. 87-027, ESR, MSU and Roger L. Sheley, Bret E. Olson, and Carla Hoopes, *What is So Dangerous about the Impacts of Noxious Weeds on the Ecology and Economy of Montana?* Montana Experiment Station Extension Bulletin 152 (Bozeman, 1998).

<sup>27</sup> For example, H.E. Morris and Ralph D. Mercer, *Perennial Weeds and their Control*, Montana Agricultural Extension Service Bulletin 225 (Bozeman, 1944) and Robert L. Warden, James L. Krall, and V.C. Hubbard, *Recommendations for Chemical Weed Control in Montana for 1949*, Montana Extension Service Bulletin 256 (Bozeman, 1949).



required their "cooperation" to solve. This discourse of community, commonality, and cooperation coincided with, and in certain respects was consistent with, the talk of a war on weeds. It also expressed a more complex view of nature and people than the war rhetoric implied.<sup>28</sup> The botanist J. W. Blankinship, for example, although he spoke of a war on weeds, also employed other figures of speech to make sense of the plants; and he wrote sensitively, even admiringly, of them. He understood their central paradox, that agricultural activity made weeds possible. He admitted that scientists knew little about them. Most important, Blankinship believed that people must work together—cooperate—to deal with weeds.<sup>29</sup> This language of community, commonality, and cooperation followed from the realization that the weedy landscape was more than the sum of its divisible parts. As weeds moved, and as people like Blankinship responded, the weed commons began to take shape.

A sign of this trend appeared as early as 1895, when Montana enacted its first weed law. This measure declared Canada thistle, Scotch bull thistle, and Russian thistle "common nuisances," required landowners to destroy them, and empowered county weed supervisors to enter private property and destroy the plants if the owner failed to do so. The key concept in the law was "nuisance," a condition that arose when one landowner engaged in an activity that interfered with another landowner's fundamental right to use his or her property. A "common nuisance," by extension, described a situation in which a landowner interfered with the rights of an entire group. As a Montana attorney general later explained, quoting Montana law, a common nuisance was a nuisance "which affect[ed] at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may [have been] unequal." Thus, under the 1895 weed law, a landowner who did not eliminate weeds posed a common nuisance to the neighbors, because those weeds cast seeds that crossed property boundaries, sprouted, and interfered with the activities of other people. In this case, "common" meant a shared condition. And as expressed by the attorney general, "community," "neighborhood," and "extent" implied not just abstract legal conditions, but physical circumstances that people shared in geographic space.<sup>30</sup>

Some Montanans came to believe that the 1895 law was inadequate and that society must respond cooperatively to weeds. In their view, "common" had social im-

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<sup>28</sup> Richard H. Schein, "The Place of Landscape: A Conceptual Framework for Interpreting an American Scene," *Annals of the Association of American Geographers* 87 (December 1997): 660–80, analyzes the multiple discourses that people use to interpret and order the same landscapes.

<sup>29</sup> Blankinship, *Weeds of Montana*.

<sup>30</sup> For first quote, see *ibid.*, 23 and for second quote, see Robert L. Woodahl to George Lackman, 9 June 1976, in MDA, Noxious Weed Management Advisory Council (hereafter, NWMAC), "Final Report," 6 December 1976, appendix VII, MHSL, MHS. See also, H.G. Wood, *A Practical Treatise on the Law of Nuisances in their Various Forms; Including Remedies Therefor at Law and in Equity*, 2nd ed. (1875; reprint, Albany, 1883), 1–82.



plications that derived from the nature of weeds and that required people to do more than blame individual property holders for the plants. Nuisance law typically covered decrepit buildings, manure piles, smoke, noise, vicious dogs, and other conditions that people clearly caused and that they could rectify.<sup>31</sup> In one sense, it was reasonable that the Montana legislature would place weeds in this legal category—some people truly were negligent in allowing the plants on their properties. And yet weeds lived and moved in ways that made them different from other nuisances, and this fact rendered nuisance law alone insufficient. Although weeds thrived on human activity, people were not responsible for the plants in the same way they were responsible for rundown buildings, reeking dung heaps, factory effluents, drunken revelry, or snarling canines. A weed's genetic code unfolded in relationship to its environment, and humans only partially influenced that process. Weeds indeed occupied niches that people made, but the sheer vitality of the plants defied simultaneous human efforts to destroy them. Even a responsible landholder might not be able to stop their spread. Weeds, in sum, had a degree of biological agency that most nuisances did not. Because the plants moved independently (and stealthily) through the grid and its interstices—ditches, fence lines, railroad rights-of-way, roadsides, seed stocks, abandoned fields—some Montanans could not blame them on any one landholder. In their view, weeds posed a common problem that required the mutual effort of many citizens.

J. W. Blankinship advanced such a position. In *Weeds of Montana*, Blankinship contended that the law should enable entire Montana communities to organize against weeds. He likened weeds to another legal nuisance, contagious diseases. People should unite to extirpate weeds the same as they worked together to eliminate diseases, he said. His analogy was not completely apt, because humans exerted far more control over their microbe-carrying bodies than over their weed-infested fields. Regardless, the comparison provided the botanist with a means to express his central point: dealing with weeds required cooperative effort. The objective should be "the organization of farmers into districts designated by the valley or irrigation system and the appointment or election of a competent weed inspector for each district." The inspector, furthermore, should have the authority to require "a certain amount of aid from each farmer to be used in the common interest of stamping out these pests from infected localities." Blankinship's plan echoed scientist John Wesley Powell's earlier call for irrigation and pasturage districts—"commonwealths"—in which citizens would jointly manage land and water. Like Powell, Blankinship was no enemy of private property, but like Powell, he recognized that the people who inhabited a watershed or took water from the same irrigation system had a common interest in nature.<sup>32</sup>

<sup>31</sup> Wood, *A Practical Treatise* and William J. Novak, *The People's Welfare: Law and Regulation in Nineteenth Century America* (Chapel Hill, 1996), 44–5, 60–71, 191–227.

<sup>32</sup> Blankinship, *Weeds of Montana*, 21–2 and William deBuys, ed., *Seeing Things Whole: The Essential John Wesley Powell* (Washington, DC, 2001), 15, 139–208, 235–42, 299–313.



Blankinship's proposal for weed districts was years ahead of its time, but it suggested the extent to which weeds encouraged some people to see the landscape whole. Montanans after him inched toward his point of view. In 1920, after the collapse of the state's homestead boom, a group of botanists asserted that it was "almost impossible for a man to keep his land free from certain weeds, such as dandelion and Russian thistle, unless there is concerted effort to the same end by all farmers in the immediate neighborhood." Those same scientists, however, proposed a new weed law that deliberately avoided the most widely-dispersed species. Forcing landholders to destroy Russian thistles and other omnipresent plant pests, they said, was so costly that it weakened public support for compulsory eradication. Better to begin conservatively, focusing on a few especially tenacious perennial weeds. The following year, the legislature responded to the botanists with a new statute that identified only Canada thistle and quack grass as "noxious weeds." Yet even as the legislators narrowed the law botanically, they broadened it geographically. Not only did the measure expand public authority over private space, but it extended the individual landholder's responsibility into public areas. It declared landholders liable for noxious weeds on one-half of any adjoining road or highway, and it stated that in terms of those unwanted plants, the public right-of-way adjacent to private land "shall be considered part of such land."<sup>33</sup> The law thus blurred boundaries and merged private and public spaces in a single biological continuum. When Canada thistle or quack grass migrated from a private parcel onto a public right-of-way, and when the landholder followed them to the highway shoulder and there chopped them down, spatial conventions that clearly separated private and public realms all but disappeared. Rigid boundaries began to give way to a landscape that looked more like an ecologically fluid commons.

Montana lawmakers and landholders did not know that a precedent of sorts existed for the formal recognition of common weedy spaces in which private and public interests merged. Here it is instructive to return for a moment to the Hidatsa landscape, for even in the relatively unregulated world of Buffalo Bird Woman, weeds crossed boundaries and people had to adjust. Hidatsa gardeners with adjoining plots maintained a boundary zone, roughly four feet wide, between them. This *maadupätska'* was an area of complex social and ecological negotiations, a kind of mini-commons or right-of-way. A gardener might grow squash, beans, or sunflowers in this space, but first she had to gain the consent of her neighbor. More to the point, like the 1921 law that required property holders to attend to weeds in the road, each gardener was responsible for clearing weeds from the *maadupätska'*. "Each gardener hoed her half of the *maadupätska'* to keep it clean of grass and weeds," Buffalo Bird Woman recollected. "We were particular about this; we did not want to have any weeds in our gardens."<sup>34</sup> Hidatsa gardeners and European American farmers occupied different landscapes, of

<sup>33</sup> Swingle, Morris, and Jahnke, *Fifty Important Weeds of Montana*, 14 and *Laws of Montana, Seventeenth Session* (Helena, 1921), Chapter 168, p. 319.

<sup>34</sup> Wilson, *Buffalo Bird Woman's Garden*, 113.



course, but their attitudes toward weeds and their spatial solutions to weed problems bore some resemblance. In each culture, the movement of unwanted plants across socially-structured and bounded space generated a weed commons and rules for regulating it.

For Montanans, those rules gradually became more complex and stringent, and over the years continued to expand public regulation of private space, further blurring the rigid boundaries that structured the grid. As farmers sank into the post-World War I era of drought, depression, and misery, the weed law became more exacting. "When weeds are so intermixed with a growing crop that the field is a menace to the community," stated a 1923 amendment to the law, "the [county] weed commissioner shall have power to order the destruction" of part or all of the crop itself.<sup>35</sup> It was an extreme measure, but perhaps one that reflected the straitened economic and environmental circumstances of the people who produced it.

The law provided an official basis for public campaigns against weeds, but at the same time people also came together informally to deal with the problem. Authorities sometimes assisted them, but the primary inspiration of these informal groups was voluntary cooperation, not official coercion. In 1923, Ravalli County hired a commissioner whose duties included distributing information about weeds and demonstrating control methods. According to county agent Charles Carney, the public responded enthusiastically to the commissioner's educational programs. Most important, people began to pressure recalcitrant and negligent neighbors to fight weeds. "Public opinion has been aroused so that the man who allows Canada thistles to go to seed on his place . . . has been subject to very severe criticism," Carney reported. "As a consequence it was not necessary for the weed commissioner to do as much enforcement work as otherwise would have been necessary."<sup>36</sup>

Thus, by the 1920s, Montanans had voiced ideas, passed laws, and instituted practices that addressed the manner in which weeds passed through the grid and began to define common ecological spaces. One major event, however, gave the inhabitants of the state an opportunity for their most complete realization of this cooperative approach to land: the Great Depression of the 1930s. The Depression's economic and ecological problems weakened popular faith in the individualistic values and land-use methods that had driven the settlement of the West. People found alternatives in social arrangements and land-use practices that emphasized the greater public good. The grid and its divisions remained in place, but a moment had arrived when significant numbers of people looked at the landscape and saw relationships, some of them traced by the movement of unwanted organisms.

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<sup>35</sup> *Laws of Montana, Eighteenth Session* (Helena, 1923), Chapter 60, p. 133.

<sup>36</sup> Charles E. Carney, "Ravalli County, Cooperative Extension Service, Report from December 1, 1922 to March 23, 1923," pp. 14, 19, Ravalli files, box 60, acc. no. 00021, ESR, MSU.



The shift in emphasis from the individual to the collective appeared throughout society. Influential public officials believed that the West's settlement practices had failed. The Great Plains Committee, created by President Franklin Roosevelt to study the problems of the region, criticized cherished frontier principles "[t]hat what is good for the individual is good for everybody," "that an owner may do with his property what he likes," "[t]hat free competition coordinates industry and agriculture." The committee's report quoted the ecologist Aldo Leopold: "Civilization . . . is not the enslavement of a stable and constant earth. It is a state of *mutual interdependent cooperation* between human animals, other animals, plants, and the soils, which may be disrupted at any moment by the failure of any one of them." Among ordinary Americans, as Robert McElvaine has noted, "there was during the Depression an expansion of the more traditional, community-oriented values that have generally been in decline throughout the rest of the twentieth century." This was the case among people at the Montana grass roots, Hugo Zehrfeld's neighbor (and others like him) excepted. The high plains farmer Charles Vindex recalled that the Depression's many woes inspired greater self-reliance in his family, but he also remembered an important shift "in the whole community's approach to common problems." Neighbors combined their labor to secure a water supply, pooled resources to excavate coal, and allowed the free use of vacant land.<sup>37</sup>

In Montana, the cooperative trend yielded not only informal collaboration among farmers, but also changes in land use policies. Acts of Congress in 1928 and 1934 authorized the formation of grazing districts in which ranchers and federal officials jointly managed public rangelands. In 1933, the Montana legislature enabled ranchers to form grazing districts on private land. This arrangement, an agricultural economist and a state official observed, allowed a group of livestock operators to purchase or lease property and manage it "as a grazing common."<sup>38</sup> The legislature refined the measure in 1935 and 1939, and by 1940, Montana had forty such districts. The state deepened its commitment to cooperative land management in 1937 and 1939 with the passage of measures that permitted landholders to organize soil conservation districts in which they could enforce land-use regulations. By 1942, Montanans had formed ten districts. Shortly thereafter, two social scientists described grazing and soil districts as forms of "collective tenure," part of a "general drift in the direction . . . of collective and group

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<sup>37</sup> Report of the Great Plains Committee, *The Future of the Great Plains* (Washington, DC, 1936), 64, 65, 65, 63. (The first three of these quotes were column headings and were capped in the original.) See also, Robert S. McElvaine, *The Great Depression: America, 1929–1941* (New York, 1993), xxiv and Charles Vindex, "Survival on the High Plains, 1929–1934," *Montana The Magazine of Western History* 28 (October 1978): 2–10 (quote on 10).

<sup>38</sup> Paul W. Gates, *History of Public Land Law Development* (Washington, DC, 1968), 608–10 and for quote, see M.H. Sanderson and N.W. Monte, *Grazing Districts in Montana: Their Purpose and Organization Procedure*, Montana Agricultural Experiment Station Bulletin 326 (Bozeman, 1936), 3.



action throughout the economy," an expression "of the increasing emphasis on social rather than individual responsibility" in land management.<sup>39</sup>

The movement toward collective tenure included one other major piece of legislation: the 1939 weed act, which authorized Montana landowners to create the kind of weed districts that J. W. Blankinship had envisioned nearly forty years before. The political momentum that culminated in the measure began in 1935, when the legislature created the Montana State Planning Board and ordered it to draw up "a comprehensive plan for the physical development of the State." To formulate the plan, the board organized planning committees at the county level. By the end of the year, committees in 47 of 56 counties were at work.<sup>40</sup> In 1938, the Noxious Weed Committee of the Yellowstone County Agricultural Planning Board drafted a bill that became the most powerful weed statute in Montana history. Enacted the following year, the law provided for a vastly expanded community involvement in weed control, including on private land. The statute reaffirmed that weeds constituted a common nuisance and that landowners who failed to destroy such plants should suffer a fine. It authorized not only the state but each county to impose quarantines against the importation of farm products containing weeds or their seeds. Most important were the provisions for creating weed districts. Weeds moved through the grid, and so the law allowed citizens to undertake collective action within the transboundary spaces that those mobile organisms defined. Petitioners in a locality could draw a new kind of boundary—in effect, a biological boundary—around land on which grew plants they deemed to be a problem. Within this common space, landowners and land managers had to destroy the offending vegetation, and they could use public funds and equipment to do the work. If necessary, public officials could "take possession and control of any infested tract of land" in the district in order to destroy weeds. And in recognition of the fact that all people depended on the condition of the land, the law allowed districts to use tax revenues assessed on the entire county, even on those people who did not own land in a weed district and even on those anywhere in the county who owned little or no land at all.<sup>41</sup>

Montana's 1939 weed control act was a landmark piece of environmental legislation, the foundation of all subsequent weed statutes in the state. Modifications to the law merely extended its basic tenets. A 1941 amendment, for example, stipulated that

<sup>39</sup> G.H. Craig and Charles W. Loomer, *Collective Tenure on Grazing Land in Montana*, Montana Agricultural Experiment Station Bulletin 406 (Bozeman, 1943), 3–28 (all quotes on 8) and Layton S. Thompson, *Montana Cooperative State Grazing Districts in Action*, Montana Agricultural Experiment Station Bulletin 481 (Bozeman, 1951).

<sup>40</sup> Mary W.M. Hargreaves, "Land-Use Planning in Response to Drought: The Experience of the Thirties," *Agricultural History* 50 (October 1976): 565–76 (quote on 567).

<sup>41</sup> *Laws of Montana, Twenty-Sixth Session* (Helena, 1939), Chapter 195, pp. 490–7. See the extension agent annual reports for Yellowstone County for the years 1938 (pp. 28, 31–2, 99–103) and 1939 (pp. 28–31, 106–10), authored respectively by Keith Sime and Keith Sime and Jack Maguire, both of which are in Yellowstone files, box 81, acc. no. 00021, ESR, MSU.



when district supervisors destroyed weeds on private land, the county must assess the cost of the work not only on the negligent property owner, but also on those people who owned contiguous lands. The amendment justified this requirement based on the premise that "all work done upon any of the land of any one landowner shall be for the benefit of all of the land within the district."<sup>42</sup>

Following the 1939 act, Montanans organized against their problem plants. Yellowstone County led the way. Morning glory, knapweed, white top, and Canada thistle had severely reduced or stopped production on some 10,000 irrigated acres. Farmers, small businesses, corporations, and public officials already had begun to discuss the possibility of collective action, and the new weed act gave them a process for doing so. On 5 August 1939, farmers on the Anita Bench created a 2,124 acre district, the first in Montana; by 1942, landholders had put into place seven more districts, for a total of some 107,000 acres.<sup>43</sup> To an extent, the boundaries of the new districts followed the straight lines and right angles of the grid; tellingly, though, their boundaries often curved in conformity to ecological conditions—topography and the irregular geographical distribution of weed concentrations. [See Figure 1.] The pattern of weed district formation in Yellowstone County continued throughout Montana. By 1950, 28 of 56 counties had districts; soon after 1969, every county had them.<sup>44</sup>

The Montana weed law provided an official structure for communities of people to contend with weeds. But in some places, people continued to organize informally. In 1984, Carl Peterson, Ray Tocci, and Robert Jones, landowners around Three Forks, a town at the Missouri River headwaters, joined together to spray knapweed on their properties. The experience inspired the three to form a "volunteer weed brigade" to assist their neighbors. Using equipment borrowed from the Gallatin County Weed Board, they traveled from one parcel to another, offering to spray if the landowner paid for the herbicide. Reeves Petroff, in charge of the county's weed programs, complimented the brigade. "I would like to get more of these cooperatives together," he said. "The major problem is on private land, and trying to get private

<sup>42</sup> *Laws of Montana, Twenty-Seventh Session* (Helena, 1941), Chapter 90, p. 150.

<sup>43</sup> See the extension agent annual reports for Yellowstone County for the years 1936 (pp. 17–8), 1937 (pp. 21–5), 1938 (pp. 31–2), 1939 (pp. 28–31), 1940 (pp. 33–9), and 1942 (pp. 72–4, 78), authored respectively by R.B. McKee, Keith Sime, Keith Sime, Keith Sime and Jack Maguire, Keith Sime, and W.H. Jones, all of which are in Yellowstone files, box 81, acc. no. 00021, ESR, MSU.

<sup>44</sup> The following can be found at acc. no. 00021, ESR, MSU: Ben B. Hill, "Narrative Report of County Extension Agent, Rosebud County, 1947," p. 74, Rosebud files, box 65; W.W. Mauritsen, "Annual Report of Flathead County Agricultural Agents, 1948," 80, Flathead files, box 38; no author, "Annual Report of County Extension Agent, Counties of Powell and Deer Lodge, 1953," p. 32, Powell and Deer Lodge files, box 33; Robert L. Warden, "Annual Report of Weed Control Project, 1950," p. 2, 1950 file, box 14. See also Jones, "Annual Report of County Extension Agent, County of Yellowstone, 1942," 71 and *Laws of Montana, Forty-First Session* (Helena, 1969), Chapter 185, p. 462.



landowners to do something. They're more likely to listen to their neighbors" than to a government official.<sup>45</sup>

Such examples of rural mutualism combined with the increasing number of weed districts perhaps demonstrated a growing awareness of the weed problem and a willingness to address it cooperatively. By the late twentieth century, it might have seemed that Montanans had recognized fully the common nature of their weedy landscape. Unfortunately for the advocates of the weed law and collective responsibility, the complete realization of community action against weeds was not to be. Across the twentieth century, as alarmed officials and citizens proclaimed weeds to be a community problem requiring cooperative effort, numerous social, cultural, economic, political, legal, and environmental obstacles appeared. Most important, the grid—and the particular human interests that its many boundaries demarcated—remained powerful and could block weed control advocates from pursuing unwanted plants across the landscape. The common nature of weeds could not be denied, but neither could it displace fully the many divisions inscribed on the land. Consequently, the weed commons was always a qualified, contested, and contingent space.

Social circumstances and ideological obstacles deterred officials from stepping across property lines and enforcing the law. Some weed control officers wanted to avoid the criticism that their heavy-handed actions might evoke. "It seems difficult to get local officers to enforce the laws in their communities," wrote one extension service agronomist in 1922, "because they fear that they will become unpopular." Much as the social ties that unified small farming communities could encourage weed control, so could those same connections discourage aggressive regulation. Farmers with a libertarian streak, furthermore, simply did not like to be told what to do, and they might ignore efforts to get them to comply with the law.<sup>46</sup>

Economic and environmental problems prevented weed control in some areas. Farmers and ranchers on dry, infertile, or topographically rough land of low productivity and market value could not afford weed control, individually or collectively. Even after the passage of the 1939 weed act, poverty, in combination with land-use problems, prevented Hugo Zehrfeld and other landholders in Rosebud County from organizing. One group of sugar beet farmers, for example, could not take land out of production to kill bindweed because this would reduce the profit that they needed to pay for irrigation water and other expenses. Because of such economic and environmental

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<sup>45</sup> For quote, see Gail Schontzler, "Volunteer Brigade Fights Noxious Weeds," *Bozeman (MT) Chronicle*, 5 August 1984, Weeds vertical file (hereafter, WVF), MSU. For other examples, see county agent annual reports in box 54, acc. no. 00021, ESR, MSU, and newspaper clippings in WVF, MSU.

<sup>46</sup> The following are in ESR, MSU: V.D. Gilman to C.B. Ahlson, 24 October 1922, Weed Laws file, box 4, acc. no. 72043 (see for quote); Harold L. Dusenberry and Robert L. Warden, "Annual Report, Weed Control—Montana, 1948," p. 7, 1948 file, box 14, acc. no. 00021; Eugene Heikes, "Annual Report, Weed Control Project, 1957," p. 75, 1957 file, box 5, acc. no. 71031.



predicaments, Rosebud County did not establish a weed district until 1945, and even in its first year the organization accomplished little.<sup>47</sup>

Landowners outside weed districts rejected the assumption that their lands benefited from activities inside those areas. They argued that their taxes gained them nothing, that their money only paid for the negligence of others. As extension service scientist Eugene Heikes reported, "People outside the district boundaries sometimes complain that they are taxed without representation. They sometimes complain that they are taxed and do not receive service." Differences in land use and spatial relationships often underlay this conflict. Irrigation farmers, densely settled, tightly organized in canal companies and irrigation districts, and afflicted with the same kinds of plant pests, established weed districts that reflected a shared geography and a clear commonality of interest. But their district boundaries left out dryland farmers and ranchers, who objected to paying taxes for weed control on irrigated land. In the late 1940s and early 1950s, for example, ranchers in northern Golden Valley County opposed taxes that raised revenue for the destruction of a "relatively small area of white top" in the county's southern end.<sup>48</sup>

Divisions between Indian land and European American land thwarted the formation of weed districts. In 1951, Extension Service agronomist Robert Warden stated that an irrigation district on the Blackfeet Indian reservation west of Cut Bank had "a very serious Canada thistle problem," but the district "contains several types of Indian owned land as well as White owned land, and as a result attempts to organize [a weed district] have not been successful." A fundamental administrative division between reservation land on one side and state, county, or private land on the other reinforced this problem. Weed districts could not encompass Indian reservations because the federal government, which held much of the land in trust, was exempt from taxation.<sup>49</sup>

The boundary that distinguished national forest land similarly posed problems for cooperative weed control. If weed districts by law could not extend their operations

<sup>47</sup> Dusenberry and Warden, "Annual Report, Weed Control—Montana, 1948," 6–7 and Eugene Heikes, "Annual Report, Weed Control Project, 1956," pp. 2, 25, 1956 file, box 5, acc. no. 71031, ESR, MSU. See the extension agent reports for Rosebud County for the years, 1940 (p. 14), 1941 (p. 17), and 1945 (pp. 79–80), authored respectively by Frank Barnum, H.L. Dusenberry, and H.L. Dusenberry, all of which are in Rosebud files, box 65, acc. no. 00021, ESR, MSU.

<sup>48</sup> For first quote, see Eugene Heikes, "County Weed Programs in Montana," 21 January 1960 in Heikes, "Annual Report, Weed Control Project, 1960," pp. 59–62, 1960 file, box 5, acc. no. 71031, ESR, MSU and for second quote, see Robert L. Warden, "Annual Report of Weed Control Project, 1951," p. 10, 1951 file, box 14, acc. no. 00021, ESR, MSU.

<sup>49</sup> The following are in acc. no. 00021, ESR, MSU: extension agent annual reports for Big Horn County for the years 1948 (p. 15) and 1949 (p. 24), both authored by N.A. Jacobsen and located in 1948 and 1949 files, box 21 and, for quote, see Robert L. Warden, "Annual Report of Weed Control Project, 1951," p. 7, 1951 file, box 14. See also R.V. Bottomly, *Report of the Attorney General of the State of Montana, January 1, 1947 to December 30, 1948* (Helena, 1948), 79–82.



onto Indian reservations, neither could they tax and regulate national forests. And while U. S. Forest Service officials might support weed control, coordinating their efforts with county-level activities was difficult because the National Environmental Policy Act (1970) and other federal regulations required time-consuming environmental impact statements and extraordinary care in herbicide use. Meanwhile, people outside the forests expressed frustration. In 1980, in a telling use of spatial metaphor, Sweet Grass County officials depicted national forests as obstacles that hindered weed fighters from pursuing the plants across the landscape. "Public lands are a stumbling block in noxious weed control," they complained. "Paperwork and red tape are slowing weed control efforts to a crawl while weeds are propagating at an astounding rate. Weeds don't wait!"<sup>50</sup>

Such jurisdictional problems pointed to a major underlying problem of weed control and even weed districts themselves: no matter how much the people who work in weed control and those who manage weed districts attempted to follow the movement of weeds, no matter how much they acknowledged the existence of a common weed space, they ultimately remained imprisoned in the grid. After surveying Montana's weed problem in the mid-1970s, the botanist David Armstrong offered a concise summation of the problem: "Many districts go to property or fence lines and stop. They don't accomplish anything." In 1982, Walt Mangels, a farmer in the Flathead Valley, concurred: "You can control weeds in one area," he said, "but if you've got them right across the fence, you'll never get rid of them." The same problem stymied efforts to stop weeds on county, state, provincial, and national levels. Mobile nature overran boundaries, but people could not just knock down the fences in pursuit.<sup>51</sup>

Nor were boundaries and fences the only spatial obstacles. Even within the grid, even inside all of those straight edges and right angles, weeds proved maddeningly elusive. Simply mapping their presence to any appreciable degree of accuracy posed enormous problems. How many Montana acres, exactly, contained weeds? What percentage of each acre did they occupy? Where were those acres? In such a vast state with so many remote corners, was it even possible to locate all concentrations? David Armstrong identified the lack of accurate and thorough maps as another obstacle to weed district work. But even as the technical precision of mapping improved, scien-

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<sup>50</sup> Davis W. Armstrong III, "1976 Consolidated Report of County Noxious Weed Programs," 3, MHS, MHS and T.J. Gilles, "Spreading Weeds Likened to a Biological Forest Fire," *Great Falls (MT) Tribune*, 21 August 1984. The following are in file 14, box 25, B10:1-1, Director's Office Records, Montana Department of Agriculture Records (hereafter, DOR, MDAR), MHS: Roger Engle et al., "To Whom it May Concern," ca. 1986 (see for quote); Ted Schwinden to Tom Brownlee, n.d.; Celestine Lacey to Keith Kelly, 1 July 1986; Jim Story to Keith Kelly, 22 August 1986. The same kind of tensions afflicted citizen relations with other public land agencies and, in addition, railroads.

<sup>51</sup> For first quote, see Tribune Capitol Bureau, "'Wrong Targets' Hit in Counties' Weed War," *Great Falls Tribune*, 11 May 1977, and for second quote, see Mea Andrews, "Fighting a Noxious Weed Problem," *Missoula (MT) Missoulian*, 12 September 1982, both WVF, MSU.



tists still had difficulty getting an exact fix on their quarry. Meanwhile, the weeds kept moving.<sup>52</sup>

As the plants spread, yet another formidable obstruction appeared when Montanans began to oppose the use of 2,4-D. By the 1960s, citizens and environmental organizations, informed by a growing popular awareness of ecology, decried the harm that herbicides and pesticides could cause. In 1968, the Montana Wildlife Federation (MWF) lashed out at weed control advocates over a proposed revision of the state weed law that would require all counties to set up weed control programs. "These people," complained an MWF representative, "seem to be talking about a spray everything program which ultimately will produce a utopia without weeds." The MWF and other critics charged that heavy-handed spraying along roadsides not only destroyed unwanted plants, but also wiped out wildlife habitat. They pointed to cases in which overzealous application on windy days caused 2,4-D to drift onto fields where it damaged crops. And implicit in their claims were fears about the effect of the chemical on human health.<sup>53</sup>

Managers of state game refuges shared this hostility to 2,4-D. Fish and Game officials approved of mechanical and biological methods, but they opposed the use of the herbicide because they doubted its effectiveness and because of the threat that it posed to wildlife. A draft response to weed district officials, circulated within the Montana Fish and Game Department in 1972, voiced their opposition: "Obviously your [spray] program isn't worth a great deal. . . . We are not interested in [it]. Please do not bother us with this worthless program in the future."<sup>54</sup>

Objections to the use of 2,4-D ultimately posed the strongest spatial challenge to the weed law and the weed control district. The herbicide opponents asserted the primacy of an ecological system whose scale far exceeded the relatively narrow public space that weeds defined. All life was linked, they suggested, and society had an ethical responsibility to prevent toxics from moving through the land and harming or

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<sup>52</sup> Armstrong, "1976 Consolidated Report of County Noxious Weed Programs," 4 and Carol Flaherty, "Mapping out the Problem is an Ongoing Project," in *The War on Weeds*, ed. Montana Extension Service (Bozeman, 2000), 8.

<sup>53</sup> The following are in WVF, MSU: Kay Hardin, "Weed, Wildlife Groups Disagree on Proposed Law," *Billings (MT) Gazette*, 12 November 1968 (see for quote); Tribune Capitol Bureau, "Statewide Weed Control Given Early Approval," *Great Falls Tribune*, 31 January 1969; Tribune Capitol Bureau, "State Criticized for Expanding Use of Weed Killers," *Great Falls Tribune*, 16 November 1972. For drifting 2,4-D and consequences, see Warden, "Annual Report of Weed Control Project, 1950," 22; N.A. Jacobsen, "Annual Report, Cooperative Extension Work, Big Horn County, Montana, 1950," p. 15, Big Horn files, box 21, acc. no. 00021, ESR, MSU; W.F. Woolston to All Section Men, 6 April 1968, file 6, box 16, B7:2-1, Montana Department of Highways Records, MHS.

<sup>54</sup> "Game Management Division, Weed Control Policy," June 1972 (see for quote), file 64, box 1, RS 198, Wildlife Division Records, Montana Department of Fish, Wildlife, and Parks Records, MHS; MDA, NWMAC, "Final Report," 7-9; Noxious Weed Advisory Council Minutes, 10 September 1975, appendix V(a), p. 5, in MDA, NWMAC, "Final Report."



destroying organisms other than weeds. When Montanans tried to reduce or stop the use of 2,4-D, they were, in effect, reaching across boundaries to delineate a still larger community space, an even greater ecological commons.

Yet even as they tried to block the use of herbicides, environmentalists opened an opportunity for alternative methods in cooperative weed control, ones more consistent with ecological conditions as contemporary ecological concepts defined them. Environmentalism and ecological discourse thus did not eclipse the notion of a weed commons, but rather helped to redirect and expand it.

By the 1970s, farmers, ranchers, scientists, and public officials devoted increasing attention and resources to the biological control of weeds. They hoped that imported insects and pathogens would reduce the state's populations of knapweed, Canada thistle, and other unwanted plants. Montana scientists first experimented with biological controls in 1948, but such methods never received as much public support as did chemicals. Circumstances eventually changed people's minds. Farmers and graziers came to share some of the environmentalists' ecological concerns. More important, chemical technology presented economic and environmental problems that restricted its use. The cost of herbicide, machinery, fuel, and labor could be overwhelming, especially for agriculturalists on poor land. Furthermore, by the 1980s, liability insurance had become impossible for some weed districts to purchase. Biological controls seemed to offer an alternative. The movement began in the 1970s, when Ravalli County farmers proposed it to their local weed district. The state of Montana then placed increasing emphasis on the method, sponsoring research and numerous releases of insects and pathogens from the 1970s through the 1990s.<sup>55</sup> In certain respects, biological controls were as utilitarian as chemicals and other forms of weed control. But landowners who released organisms on weeds instantly joined their land and lives to a web of connections that spanned formal boundaries. "Because you have the same weed problem," advocates of the technique wrote in 1993, "your neighbor will eventually receive the benefits of your efforts at biological control. We encourage adjacent landowners to take a look at the big picture, get together, and make coordinated releases. Everyone then shares in the cost and benefits of biological control."<sup>56</sup> In this manner, the interaction of people and organisms transcended the grid and shaped a new version of an ecologically common space.

<sup>55</sup> Both of these articles can be found in WVF, MSU: Greg Northcutt, "Insects Counter Pesky Weeds," *Bozeman Chronicle*, 22 June 1980 and "Weed Program Plan Given Mixed Reviews," *Great Falls Tribune*, 13 January 1981. See also Gerald W. Marks, "Biological Weed Control," ca. 1980 and Jo Brunner to Pete Fay, 14 May 1981, both in Weed Control files, box 8, acc. no. 87-027, ESR, MSU and MDA, *Noxious Weed Trust Fund*, pp. 2.7, 2.9-2.11. On herbicide problems, see Lorney Faber, "Judith Basin Goes to War With Range Invader," *Lewistown (MT) News-Argus*, 2 December 1979, WVF, MSU and the following, all of which are in box 25, B10:1-1, DOR, MDAR, MHS: Cecil Weeding to Keith Kelly, 21 January 1986, file 13; Kelly to Weeding, 14 February 1986, file 13; Celestine Lacey to Kelly, 18 July 1986, file 14.

<sup>56</sup> Noah Poritz, Leona Poritz, Tony Aiello, "Biological Control of Weeds, 1993," p. 5, file 4, box 31, B10:1-1, DOR, MDAR, MHS.



The evolution of the weed commons did not end here, however. While concerns about chemicals coaxed landowners and weed districts toward biological controls, growing concerns about weeds pushed some environmentalists toward chemicals. Weeds threatened agricultural land, but they also overtook native plants and diminished wildlife habitat. Fearful of weeds, eager to restore desirable plants, impatient with the slow progress of biological methods, some environmentalists and environmental organizations—including representatives of the National Wildlife Federation—began to use herbicides. By the 1990s, a few environmentalists even went so far as to apply chemicals themselves.<sup>57</sup> When they donned protective gear, strapped on backpack sprayers and went after knapweed and other “noxious” plants, they were remarkably like the farmers, ranchers, and extension agents whom they often opposed. Their embrace of chemicals demonstrated once more how the shared problem of weeds could create common bonds among otherwise divided people.

The story of weeds and boundaries in the Montana landscape opens a view on an important problem in western American history, an example of which appeared with stark clarity in early winter 1937 on the windswept field of a depressed and angry farmer named Hugo Zehrfeld. Where an Enlightenment ideal and an ecological reality intersected, Zehrfeld’s temper flared. The grid that composed his world was indeed a practical tool for ordering and distributing land, and it enabled rapid settlement, economic development, and the extension of national power. But as Zehrfeld’s tumbling tumbleweeds showed, the grid was also a massive republican fantasy, a theoretical structure of uniformity and harmony imposed on a diverse and unstable environment. For westerners such as Zehrfeld, life within the grid involved a struggle to reconcile abstract boundaries with material conditions, to contain things that were inherently uncontainable. The struggle absorbed a good deal of time and energy, and it became most acute when the ambitions that motivated the Great Land Rush ended, as it did for Zehrfeld and other remnants of Montana settler society, in drought, depression, failure, and weeds.

Disturbed boundaries, however, also created opportunities for westerners to negotiate the contradiction between the grid and unstable nature. Their solutions—options unavailable to Hugo Zehrfeld—favored the collective over the individual and tacitly acknowledged a shared environment. In the case of weeds, landholders sometimes worked together informally to remove unwanted plants, or pressured negligent neighbors to take action. With the conclusion of the Great Land Rush and the advent of the Great Depression, the methods became more formal. Seldom studied by scholars, state and local land policies created weed districts that were members of a family of

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<sup>57</sup> Bill Thomas to Celestine Lacey, 3 July 1986 and Celestine Lacey to Keith Kelly, 18 July 1986, file 14, box 25, B10:1-1, DOR, MDAR, MHS; Richard Manning, *Grassland: The History, Biology, Politics, and Promise of the American Prairie* (New York, 1995), 188–90; Dan Flores, *The Natural West: Environmental History in the Great Plains and Rocky Mountains* (Norman, 2001), 193–9.



organizations that included agricultural cooperatives, irrigation districts, and other small-government entities. They harkened back to John Wesley Powell's plan for watershed commonwealths. They bore the impress of New Deal planning, although in practice they were profoundly local in character and involved little centralized governmental authority.<sup>58</sup> They also appeared in other western states and addressed not just weeds, but water, rodents, insects, and fire. Whatever form they took, weed districts and other collective responses to mobile nature were expressions of a hybrid human ecology that recognized property boundaries, but operated in common geographic space. Each response played a role in defining an ecological commons that adjusted the individualism of gridded units to the ecological realities of transboundary nature.

The history of Montana's weedy common spaces provides an alternative perspective on ordinary rural western landscapes. The simple categories of private and public do not adequately convey the historical and geographical textures of such places. As Bonnie McCay and James Acheson have stated, landscape analysis requires the "careful examination of the ways that people understand and relate to their environments, and of the ways ownership—common or exclusive—works in specific cultural and ecological settings."<sup>59</sup> Many forms of private land have existed in the West, with many different owners, occupants, tenures, rules, and regulations.<sup>60</sup> The region also has encompassed a range of public lands and spaces, with a correspondingly diverse array of uses, customs, and laws. These multifarious private and public lands have not existed apart, but have been connected to and have overlapped one another.<sup>61</sup> Montana provides one example of such complexity. Consider the mixed private/public geography that characterized many places around the state from the 1930s onward. Membership in a grazing commons required a grazier to have a certain amount of improved, private, "commensurate" land on which to keep animals and grow fodder. This private land in turn took on value because it drew water from a common property irrigation canal. A network of public roadways linked these areas to other places. The range, canal, private pastures, fields, and roads might exist within a weed district. These spaces and their relationships, furthermore, were never stable. Economic and environmental changes shaped and reshaped them, as did human relationships that

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<sup>58</sup> Report of the Great Plains Committee, *The Future of the Great Plains*, 71–89, 105–20, 133–91; Carl Frederick Kraenzel, *The Great Plains in Transition* (Norman, 1955), 278–82, 384–7; John C. Bollens, *Special District Governments in the United States* (Berkeley, 1957), 139–78.

<sup>59</sup> McCay and Acheson, "Human Ecology of the Commons," in *The Question of the Commons*, 15.

<sup>60</sup> See, for example, Roland R. Renne, *Montana Land Ownership: An Analysis of the Ownership Pattern and Its Significance in Land Use Planning*, Montana Agricultural Experiment Station Bulletin 322 (Bozeman, 1936).

<sup>61</sup> On the complex, contested connections between public land and private property, see Karen R. Merrill, *Public Lands and Political Meaning: Ranchers, the Government, and the Property Between Them* (Berkeley, 2002).



could be formal as well as informal, cooperative as well as contentious. These, then, were the kinds of spatial patterns that constituted rural western landscapes and that this essay, in its own way, has tried to depict.

If the history of the weedy West opens a different view on the past, perhaps it also opens a window on a potential western future. It would be unrealistic to think that collective responses to the movement of nature through the grid can provide perfect models for resolving the West's many land-use problems. Those responses were often limited and ineffective; in combination with mechanical, chemical, and biological methods, they did not stop, much less turn back, the spread of weeds through the Montana landscape. And yet westerners could do worse than to seek inspiration in moments when experiment station scientists tried to understand weeds in their complexity, when bureaucrats quoted Aldo Leopold, or when farmers backed away from herbicides while environmentalists turned toward them. They could do worse than to find lessons in the moments when, in contrast to Hugo Zehrfeld and his fractious neighbor, people acknowledged shared environmental predicaments and sought to resolve them through a popular discourse of community, commonality, and cooperation. Those terms may not have conveyed precisely the same meaning to farmers, scientists, environmentalists, and others, but they at least brought citizens together in the same conversation in the same room.<sup>62</sup> Perhaps in such common spaces, linguistic and geographic, westerners collectively can fashion pragmatic solutions that promote individual interests by furthering the public good.

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<sup>62</sup> Daniel Kemmis, *Community and the Politics of Place* (Norman, 1990), argues that a shared landscape and the common experience of place can serve as the basis of an effective political order.



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