CONTRIBUTORS

• "We are creatures of land. When we dive into water and exchange firm ground for the fluid realm of our ancestral past, we remain visitors among water dwellers. Not so for the dipper, also called a water ouzel. This plump, starling-sized inhabitant of western mountain streams moves easily between land and water." Thus **Deborah Richie** opens a fascinating glimpse into the world of the "Underwater Flier." She notes we may never solve the mystery of why dippers dip. She explains why a dipper is like a scuba diver. And she marvels at the crystal notes of a singing dipper harmonizing with the music of the stream. Richie recently began her duties as a wildlife interpretive specialist, working for the Department of Fish, Wildlife & Parks in Missoula, in cooperation with the U.S. Forest Service. In 1991 she won the Regional Forester Award for her leadership and coordination with the Forest Service in developing the Montana Watchable Wildlife Program. Her article begins on page 2.

• **Jim Mepham** and **Steve Torna** are wildlife photographers and they consider "Death at the Goat Lick" a once-in-a-lifetime experience. They spend hours outdoors photographing and have never before been within camera range of the elusive mountain lion. What they witnessed in Glacier National Park on a late-March day of this year—a single mountain lion killing two goats—truly was an awe-inspiring experience. Turn to page 8 for their "Perspectives," both in words and pictures. Mepham teaches chemistry and physics at Browning High School; he is owner of the Great Bear Gallery in Hungry Horse where his work can be seen. His work has also appeared in previous issues of *Montana Outdoors*. Torna is a dentist with the Indian Health Service in Browning. His work appeared in the 1992 Special Photo Issue of *MO*.

• Wild trout and Montana are synonymous. But to have a self-sustaining trout population in a lake or reservoir, there must also be adequate spawning streams or springs with good flows of high-quality water. Wade Lake, a high-mountain lake in southwestern Montana, met all the qualifications, except in the area of spawning habitat—it had a mere 40-square-foot bed of gravel. So state and federal agencies moved part of a mountain and paid a natural resource reclamation firm to create a meandering, 600-foot-long spawning channel at the lake's source. For proof that "Montana Moves Mountains for Wild Trout," turn to **Tad Brooks'** article on page 15. Brooks is the managing editor of the Hungry Horse News in Columbia Falls. He is also co-author of "The Hiker's Guide to Montana's Continental Divide Trail."

• Both Elk Island and Seven Sisters Wildlife Management areas are "grand sites, filled with nature's soft laughter and offering the chance to escape the soul-bruising press of modern life." So writes **Ken Walcheck** in this issue's installment of our "Lands Legacy" series. But Walcheck takes a slightly different approach; he uses the areas as the site of a traditional gathering spot for four eastern Montana characters. And it is through their eyes that you will see the freedom and wildness that the two areas offer. Walcheck continues as the department's information officer in Miles City. Join him for "Yellowstone Rendezvous" on page 19.

• **Jim Heck** is a game warden for the department in Bozeman. His feelings about sport hunting are not neutral, and an editorial he wrote for the Winter/Spring 1992 issue of *The Montana Game Warden* contained such a timely, valuable message that we asked to reprint excerpts from it in this issue. Every person concerned about the future of hunting needs to think about his point: "The anti-hunting war is not going to be won or lost in Montana. It is going to be won or lost in front of the TV sets of people in Indianapolis, Cleveland, and Newark." For now, turn off your TV and turn to page 24 for Heck's thoughts on "Winning the War."

• The study of grayling has occupied fisheries biologist **Patrick A. Byorth** for the last few years. As a biologist for the department and in association with the Montana Power Company, he studied the Madison grayling population from February 1990 through September of 1991. Since, he has worked on the Big Hole grayling project for FW&P. His conclusion: Montana's fluvial (stream-dwelling) grayling population is a "Native on the Brink." While lake-dwelling grayling have prospered, the once-abundant fluvial graying have not fared well. As he notes, the Big Hole River and a few of its tributaries "contain the last truly fluvial grayling population in the lower 48 states." To find out what happened and what restoration efforts are under way, turn to Byorth's article on page 27.

• With summer in full swing, a visit to any of Montana's state parks could turn out to be "A Celebration of Discovery." But be sure to head for Lewis and Clark Caverns State Park on August 8 and 9. "Discovery Days" will be the theme of celebration to honor the discoverers of Lewis and Clark Caverns. A potluck picnic, special candlelight tours of the caves, and historical tours and lectures by Caverns staff and in-the-know old-timers are part of the festivities. In addition, a reunion is scheduled for Civilian Conservation Corps workers who did much of the work on the caverns in the late 1930s. For an enticing preview, turn to **Bernie Kuntz's** article on page 32. Kuntz is the department's information officer in Bozeman.

• Many readers will recognize the **Shirley Cleary** touch on the front cover, featuring "Jumping Grayling" on the upper Big Hole River. She specializes in Montana fishing and water scenes, and her work has enhanced our pages on many previous occasions. The Helena artist won the Oregon Trout Print and Stamp Contest in 1990 and the Northwest Steelheaders Print and Stamp Contest in 1992. Watch for a feature on her work in the September issue of *Wildlife Art News*. For information about her work, contact her at her studio: 1804 Belt View Drive; Helena, MT 59601 (406/443-4535).

• *MO* thanks the following photographers and artists for their contributions to this issue: **Robert E. Barber**, Arvada, Colorado; **Shirley Cleary** and **Sean Logan**, Helena; **Harvey Eckert**, Ennis; **Phil Farnes** and **Inter-Fluve, Inc.**, Bozeman; **Michael H. Francis**, Billings; **Lee Kaiser**, Kalispell; **Mark Lagerstrom**, Darby; **Jim Mepham**, East Glacier; **Richard Mousel**, Fort Benton; **Charles B. Place, III,** Lolo; **Michael S. Quinton**, Macks Inn, Idaho; **Lee Rentz**, Shelton, Washington; **Steve Torna**, Browning; and **Steve Wirt**, Whitefish. Thanks also to the following contributors who work for the department: **Patrick A. Byorth** and **Dick Oswald**, Dillon; **Mark Deleray**, Kalispell; **John Ensign**, Glendive; **Wade Fredenberg**, Bozeman; and **Craig Jourdonnais**, Helena.

by Jim Heck

WAR

ernment agencies which had supported them were largely discredited, and overnight some small-time animal rights crusaders became powerful international organizations.

Now I realize that it is not altogether fair to compare the large-scale commercial bludgeoning of baby fur seals to Montana's buffalo hunt, but a lot of the same elements are there.

Anti-hunting groups have been looking for decades for a hunting situation which would offend the sensibilities of the American public to such an extent that they would become supporters of the anti-hunting movement.

If I were running the anti-hunting movement, I would be delighted if Montana chose to make a major, well-publicized battle over the buffalo hunt. I really wouldn't even care if we won or lost the battle. The publicity and the film footage would do more to draw support for the anti-hunting cause than anything that we could devise.

Every military commander knows that you don't yell "charge" every time you see an enemy soldier. You pick your battles. You attack when the odds are in your favor. At times you avoid a confrontation and at times you even retreat. The object has to be to win the war.

The problem with the buffalo hunt was that buffalo are just too easy to kill. They stand in open areas and are easy to locate. You can drive right up to them and they don't usually run. Even after the shooting starts and buffalo have been killed, the others just stand there. Even the last standing buffalo seemingly fails to see an alarming pattern developing. Everyone who has ever gone on a buffalo hunt has gotten a buffalo and that includes some pretty inexperienced hunters.

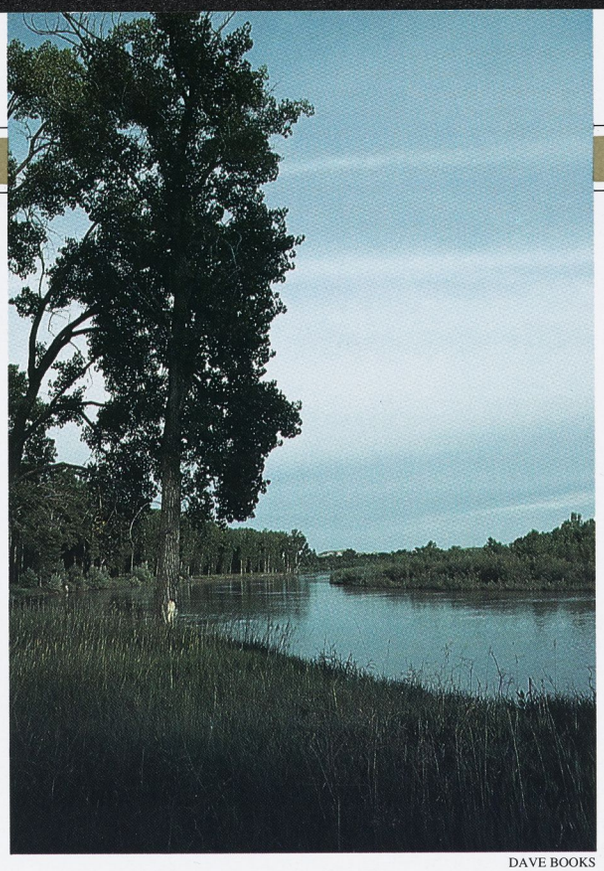
Anti-hunting groups do their best to convince the non-hunting public that this is how all hunting is. When news footage of these hunts is aired, it simply reinforces this thinking.

I have been discussing the buffalo hunt simply because it was the first situation to develop in Montana. There will be more hunts that are challenged in the future. As these situations arise, I hope that we will look at each case and pick our battles carefully. A "fight them at every turn" attitude may feel good, but it may not ultimately be the best way to fight the war.

Recreational hunting is a wonderful sport. Many of my best memories are of hunting experiences I have enjoyed. I truly hope that nothing ever happens which will jeopardize the sport of hunting. I do not, however, believe that every type of hunt ever devised is without its flaws. If someone challenges a hunt or a season or a bag limit, we should examine the hunt and determine whether the hunt is being handled in the best possible way. If not, we should change it. If we examine it and believe that it is being conducted properly, we should then marshal all of our efforts in its defense. Making such determinations is not always a simple task. There are just about as many opinions regarding hunting as there are hunters.

...We must avoid being drawn into untenable positions simply through a knee-jerk reaction to the filing of a lawsuit. The anti-hunting question isn't going to go away any time soon, nor is it ultimately going to be won or lost in a lawsuit over a particular hunt. It will be won by the group that maintains its credibility and garners the support of the majority of the non-hunting public.

—excerpted from the Winter/Spring 1992 issue of *The Montana Game Warden*



DAVE BOOKS

YELLOWSTONE RENDEZVOUS

by KEN WALCHECK

Two splendid areas on the lower Yellowstone River maintain much of the integrity they held when explorer William Clark floated down the river in 1806. Both are grand sites, filled with nature's soft laughter and offering the chance to escape the soul-bruising press of modern life.

Today, we know them as Elk Island and Seven Sisters Wildlife Management areas, and they total more than 1,600 areas. Situated on the lower reach of the Yellowstone between Glendive and Sidney, each provides a measure of freedom and wildness, a contrast to surrounding landscapes that have been grazed, plowed, and put to cash crops. Here the river glides through streamside groves of cottonwood and green ash, a picture as tranquil and glorious as the river itself.

Elk Island and Seven Sisters alternate as the traditional gathering spot for four seasoned eastern Montanans—a rancher, a lawyer, a writer, and a pharmacist. They rendezvous twice a year, pitch a large wall tent, and fish for lunker catfish in the summer and hunt whitetails, pheasants, and turkeys in the fall.

The stories around the evening campfire range from hunting and fishing to other earthly topics like how great the good old days were and who's going to be the next governor. Old dreams and doings ramble on, meaning little except to those gathered there. Once in a while, though, often when the moon is full and the cork has been pulled out of the jug of Old Yellowstone, the discussion takes a distinctly speculative turn.

That's how it was during the rendezvous at Elk Island last summer. The rancher started out with the reasons why he thought areas like Elk Island and Seven Sisters were so important. "To someone like this graybeard who loves all of the outdoors, it's hard to realize that most Americans will never hunt or even set eyes on places like this. That doesn't mean they can't have a chance to share our heritage or our wildlife splendor, though. The

"As valuable as the wildlife management areas are to wildlife and hunters, they are also places that offer solitude to those who seek it.... Wildlife management areas are places where school kids can learn about the intricacies of nature, where more advanced students can research the complexities of our environment and, in some cases, where people with an interest in the past can probe to the roots of Montana's history."

Ring-necked pheasant RICHARD MOUSEL

Canada goose STEVE WIRT

opportunity to enjoy wildlife in quality natural surroundings is our birthright, and that kind of freedom in the kind of atmosphere that these places provide is really the stuff of the American dream.

"I've trekked through miles of pretty special country," he continued, "and I know that what you experience on such journeys is the best way in the world to get rid of what day-to-day living does to us." After apologizing for borrowing from someone else's words, the old boy said, " 'This sums up what I want in life...room to swing my arms and to swing my mind.' "

The lawyer looked around and sighed, "You know it takes about the first 50 years before you start learning the real facts about life. Look at me—I'm too old to charge up a coulee after a buck anymore. But I can better appreciate quality freedom in quality country.

"As the population continues to grow, more people will mean fewer resources and less wild country for each one of us. It's surprising how few people realize that the unique wildlife habitats carved from Montana's vast acreage over the past 50 years or so amount to only a few shavings. I've been told that the state's wildlife management areas make up less than one-quarter of one percent of all the land within our state's borders."

The tall, lanky writer shivered and tossed another chunk of cottonwood bark into the fire. "As valuable as the wildlife management areas are to wildlife and to hunters," he said, "they are also places that offer solitude to those who seek it. They offer

access to those who want to partake in the many recreational opportunities and beauty to those who are looking for it in a natural setting. Wildlife management areas are also places where school kids can learn about the intricacies of nature, places where more advanced students can research the complexities of our environment and, in some cases, where people with an interest in the past can probe to the roots of Montana's history."

The pharmacist was squatting Indian style beside the fire. "Lately," he said, "I've been thinking about my grandkids and what their lives might be like. If they don't get a chance to sample some of the outdoors experiences I've had in my years of roaming Montana, I'm gonna be pretty disappointed. Places like Elk Island and Seven Sisters are places where you build outdoors memories—the kind that will last the rest of your life.

"You know," he continued, "the greatest danger we face today is the kind who wants something for nothing. With no expense or effort, these folks demand places like this, and we sportsmen end up paying for it. If we're going to be able to continue to set aside areas like these, we're going to have to get these folks to kick in their share."

The rancher had been watching him intently, and he said, "I think we'll all drink to that."

DAVE BOOKS

The primary goal of Seven Sisters WMA is to provide hunting, fishing, and other outdoor recreation opportunities consistent with maintaining wildlife populations and the unique riparian ecosystem in healthy condition.

Seven Sisters Wildlife Management Area

Location: In Richland County, 10 miles southwest of Sidney.

Size: 555 acres.

Acquisition date: 1974.

Access: At milepost 41 on Highway 16, then one-half mile east on a graveled county road.

Management goal: To provide maximum hunting opportunities, primarily for white-tailed deer and pheasants, consistent with maintaining wildlife populations and the unique riparian ecosystem in a viable and healthy condition.

Special attractions: The site is bordered by approximately three-fourths of a mile of Yellowstone River side channel. Cottonwoods, grain fields, meadows, and backwater sloughs provide diversified habitat for various wildlife species. A wide assortment of other recreational activities—boating, trapping, bird-watching, and agate hunting—is also available. Because the main recreational pursuit at the area is hunting, development is minimal.

The Naming of Elk Island and Seven Sisters

There's little in the historical archives to suggest how Elk Island and Seven Sisters got their names. I suspect the islands were named during an excursion by the steamboat *Key West* up the Yellowstone in May of 1873. On this initial streamer probe up to the mouth of the Powder River, Capt. Grant Marsh was impressed, as were his crew and two companies of soldiers, by the scenic vistas that opened up before the steamer as she churned cautiously upstream.

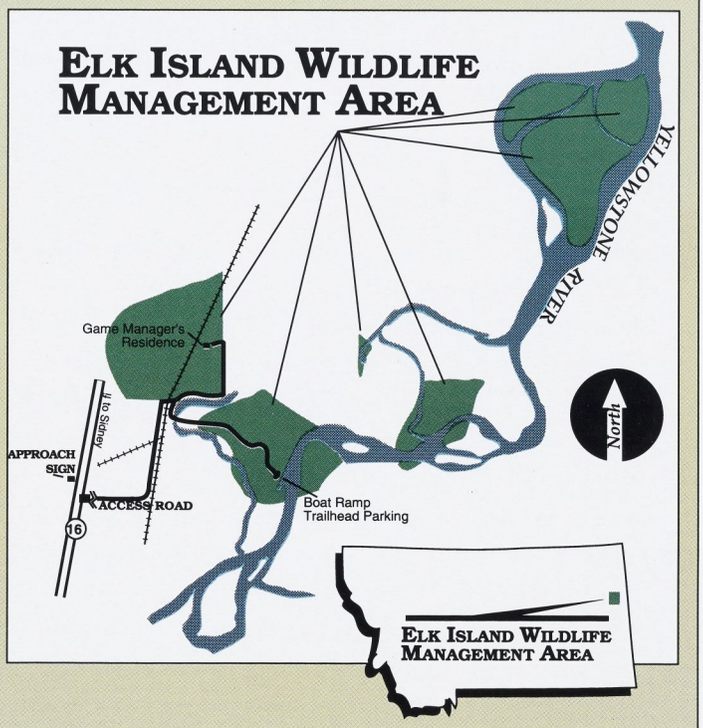
The ship's company named prominent landmarks along the river for one another, for wives and friends, and for other topographic features. The site of Seven Sisters, for example, is shown on early historical maps as comprising seven islands. Elk were abundant in the area and presumably the name was spawned when somebody on the steamer spotted an elk on the island.

JOHN ENSIGN

The primary goal of Elk Island WMA is to provide hunting, fishing, and other outdoor recreation opportunities consistent with maintaining wildlife populations and the unique riparian ecosystem in healthy condition.

Elk Island Wildlife Management Area

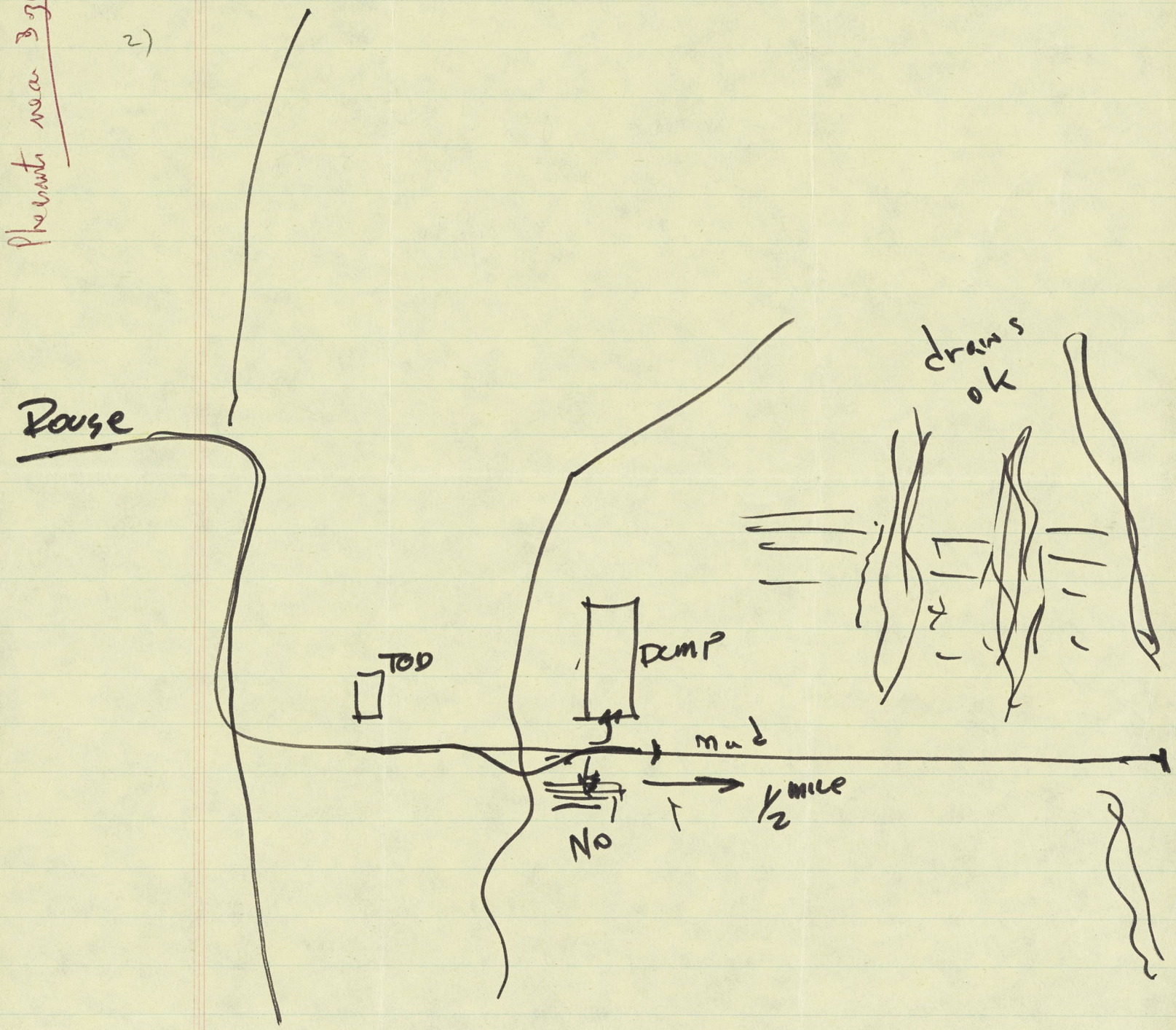
Location: Richland County, approximately two miles southeast of Savage.
Size: 1,046 acres.
Acquisition date: 1975.
Access: Between mileposts 32 and 33 on Highway 16, then one mile northeast on an all-weather county road.
Management goal: To provide maximum hunting opportunities, primarily for white-tailed deer and pheasants, while also maintaining wildlife populations and the unique riparian ecosystem in a viable and healthy condition.
Special attractions: Populations of white-tailed deer and pheasants provide excellent hunting. Sharp-tailed grouse, Canada geese, and mallards are common during fall. Several sloughs and small ponds in the area provide cattail and rush habitat for nesting waterfowl and furbearers. A boat launching ramp allows access to the river and islands. Other pursuits include agate hunting, asparagus and berry picking, bird-watching, trapping, boating and fishing, and wildlife viewing.



1) Lots of pheasants around Willow Creek near 3 Forks.

Pheasants near Bozeman

2)



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The More, the Merriam's

by John Barsness

The historical northwestern extent of wild turkeys in North America seems to have been a vague line extending from eastern Colorado on up to central South Dakota. The earliest journalistic record of these "northwestern" birds comes from the Corp of Discovery formed by Thomas Jefferson in 1804 (otherwise known as the Lewis and Clark Expedition), which was charged with heading west up the Missouri River and then down the Columbia to the Pacific, recording everything in its way: geologic, geographic, animal, vegetable, the "Welsh Indians" that intrigued Jefferson, and not incidentally, the region's potential for "Commerce & Trade." Turkeys were well known back in the "States," so they don't get as much mention in the journals as Blackfeet Indians, grizzly bears and potential farmlands, but the men of the expedition did flintlock a few for food, as far northwest as the Cheyenne River area in South Dakota. These birds were of the Merriam's subspecies *(Meleagris gallopavo merriami),* resembling the eastern turkey closely enough that Lewis and

Much western turkey country is along the breaks of big rivers, where ponderosa pine is interspersed with grassy and brushy openings.

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Clark—eyes toward the Rockies—didn't notice much difference. Beyond the Cheyenne, turkeys disappeared and the hungry Corpsmen had to be content with elk, buffalo, deer and pronghorn, spending their first Thanksgiving turkeyless among the Mandans of North Dakota.

My first view of the Merriam's turkey took place on a steep ponderosa pine ridge above the Tongue River in Montana, hundreds of miles farther north and west than the bird's historical range. It's hard to tell why they didn't live along the Tongue when Lewis and Clark came through, because they sure took over there (and in other suitable places in Montana and Wyoming) once they got the chance. Montana's present turkey population isn't estimated by the state's Department of Fish, Wildlife and Parks, but there are perhaps 30 "flocks" numbering from dozens to thousands of birds scattered across the state, all descended from 57 birds obtained from Colorado and Wyoming (which in turn had developed its turkey population from Colorado). Lesser numbers of Merriam's now exist even farther northwest in Idaho, Oregon and Washington, the result of other transplants.

That first view of Merriam's bird came at opening dawn of the 1975 deer season, as I attempted to guide a rather inept brother-in-law to his first deer. We climbed the ridge, poking our heads over the top just as enough light filtered through the pines to illuminate what appeared to be a herd of porcupines grazing slowly through a clearing on the ridge opposite. This seemed suspicious, as I'd never known porcupines to run in herds before—but then an odd, distant squawk carried across the canyon and, despite never having heard the sound, I knew what the birds were. I'd bought a $2 turkey tag before the hunt, so I grabbed my .243 from my brother-in-law, cranked the scope up to 9x, and managed to put the second shot through the back of a hen at about 200 yards. This happened 10 minutes after legal shooting light of the first morning I ever "hunted" turkeys, and they didn't seem so tough to "get up on," as they say out along the Tongue. Not nearly as tough as all those outdoor writers made them seem.

Silly boy. Silly, silly boy.

In most areas of Montana it's still legal to hunt turkeys with "a shotgun not larger than ten gauge, a long bow and arrow, rifle, or handgun" during the spring gobbler season and fall either-sex hunt. This means that a great many are blown away by various .243's and .270's in the hands of deer hunters resembling my younger self. All this doesn't bother me much even though I choose not to do it anymore, because there are a lot of turkeys out there and not that many hunters, especially in the spring. This is Montana, after all, where pheasant hunters occasionally get beat up by grizzly bears and we still have a buffalo "problem." If someone wants to shoot turkeys with a rifle, that's fine with me.

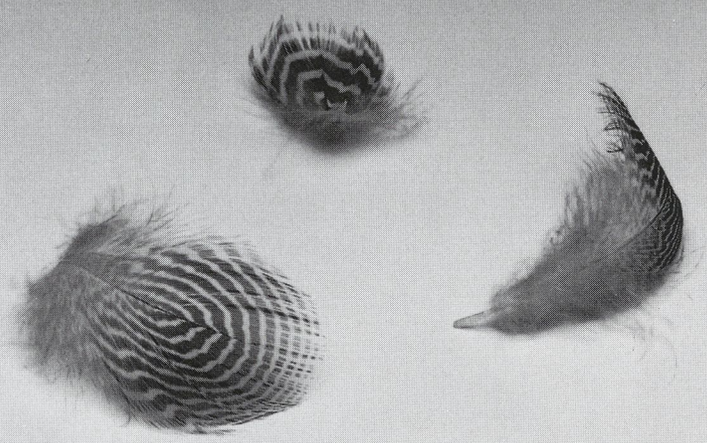
I do it with a shotgun now, because it's more fun. My first spring gobbler did fall to that same .243, but since then I've gone the "traditional" route of 12-gauge magnum, face paint, camo and mouth call. Hey, just because Montana's way out there, in the never-never land between Nebraska and the Pacific, doesn't mean we aren't modern, that we don't keep up with the times. I've even read all the advice on turkey hunting from the new crop of experts out East, and though I've never hunted turkeys anyplace else, there seems to be enough evidence to say that even with a shotgun and mouth call, it's different out here.

For one thing, we don't have many hunters, especially in the spring. My only reaction to most reports of that "other" turkey hunting is that not only are you guys hunting a different subspecies, you're hunting in a different world. The whole point sometimes seems not so much to get out there and commune naturally with turkeys but to avoid communing unnaturally with other hunters. The spring hunt in more populous areas comes across as a sort of commando game, the hills squeaking with the quirky signals of poorly wielded cedar boxes, while camouflaged guerrillas sneak through hostile timber. This past spring I went out for three days and saw nobody else. Zero. Not one. No, I won't say where, but there are many places where that'll happen, though it doesn't always. I saw another guy

Rifles are legal in most western turkey states, spring hunters using primarily loaded-down handloads; fall hunters usually use whatever they have along. Only purists use shotguns, but they're growing in number.

Photos by the author.

NOTHING CRIPPLES BIRDS LIKE A GOOD SHOT WITH THE WRONG SHOTSHELL.



Typical western turkey country: ponderosa pine interspersed with grasses and lower brush.

once, back in '78, I think it was.

Of course I'm exaggerating a little, both about here and other places, and things aren't perfect here, either. Our season extends for three weeks in late April and early May, which seems astounding to those limited to three- or five-day seasons—but often the winter snows aren't gone from the hills, or it snows during the season, or the wind blows so hard that any self-respecting gobbler hunkers with his warm hens in a ponderosa alcove and thumbs his wattles at all the fake gobblers calling from the ridges.

That very thing happened to my wife and me one spring. We couldn't get away until the last week, into the piney breaks along the Missouri. The first afternoon was still and warm, perfect conditions, and we scouted hard but found no birds. The next morning the wind kicked up (and

Merriam's also hang out along creek-bottoms and take advantage of cultivated fields whenever they get a chance.

when it kicks up in the Breaks, where you can sometimes see into Canada, where there's nothing to stop the wind this side of the Yukon Range, it *kicks*), clouds formed on the western horizon, and when the rain started at noon we decided to leave because we had 25 miles of gumbo road to travel before hitting pavement. (Wet gumbo tends to *eject* vehicles from roads, rather than merely sloughing them off.) By the next morning four inches of snow had settled over our hay pasture; this was the first week of May.

When it doesn't snow, and if the winter drifts have melted from underneath the pines, here is how you go about killing a western turkey. Find some ponderosa pine breaks above one of the prairie rivers, or the piney foothills of the isolated plains mountain ranges like the Black Hills in Wyoming. Look for an area where the pines cover about half the countryside, with the other half consisting of little grassy and brushy openings. I stress *little,* because even naive western turkeys don't venture too far into clearings. I've found gobblers strutting in spaces perhaps 100 yards from pine to pine, but that's about the largest space they'll use.

The country may seem intimidating: miles and miles and miles of dark-pine ridges broken by nothing more than their own grassy sides. From one of my favorite ridges I can see the Bear Paw Mountains on a clear day, 50 miles away, with no sign of civilization other than a four-strand barbed-wire fence between, a vista startling even to one raised out here. At first it may seem the country's so big there's no sense in searching, but basically you've got to find just two things: water and roosts. Water might be the most important in a country that averages a foot of rain a year. My first hunting area above the Tongue contained an old windmill and sheep "tank" down in the bottom of the main drainage, the only surface water for perhaps two miles around, and most of the turkeys were within a half-mile of that tank or the muddy trickle that ran down the canyon below.

After finding water, whether a stock tank or natural spring, the roost search begins. Roosting trees will usually be big ponderosas at the heads of small coulees, with a little opening underneath and other cover within 50 to 75 feet of the tree, so they don't have to fly down into the jaws of a hidden coyote but can still find ground cover nearby. The roosts also seem to be down below the tops of the ridges on either side, out of the semi-constant plains wind.

I like to scout on warm afternoons,

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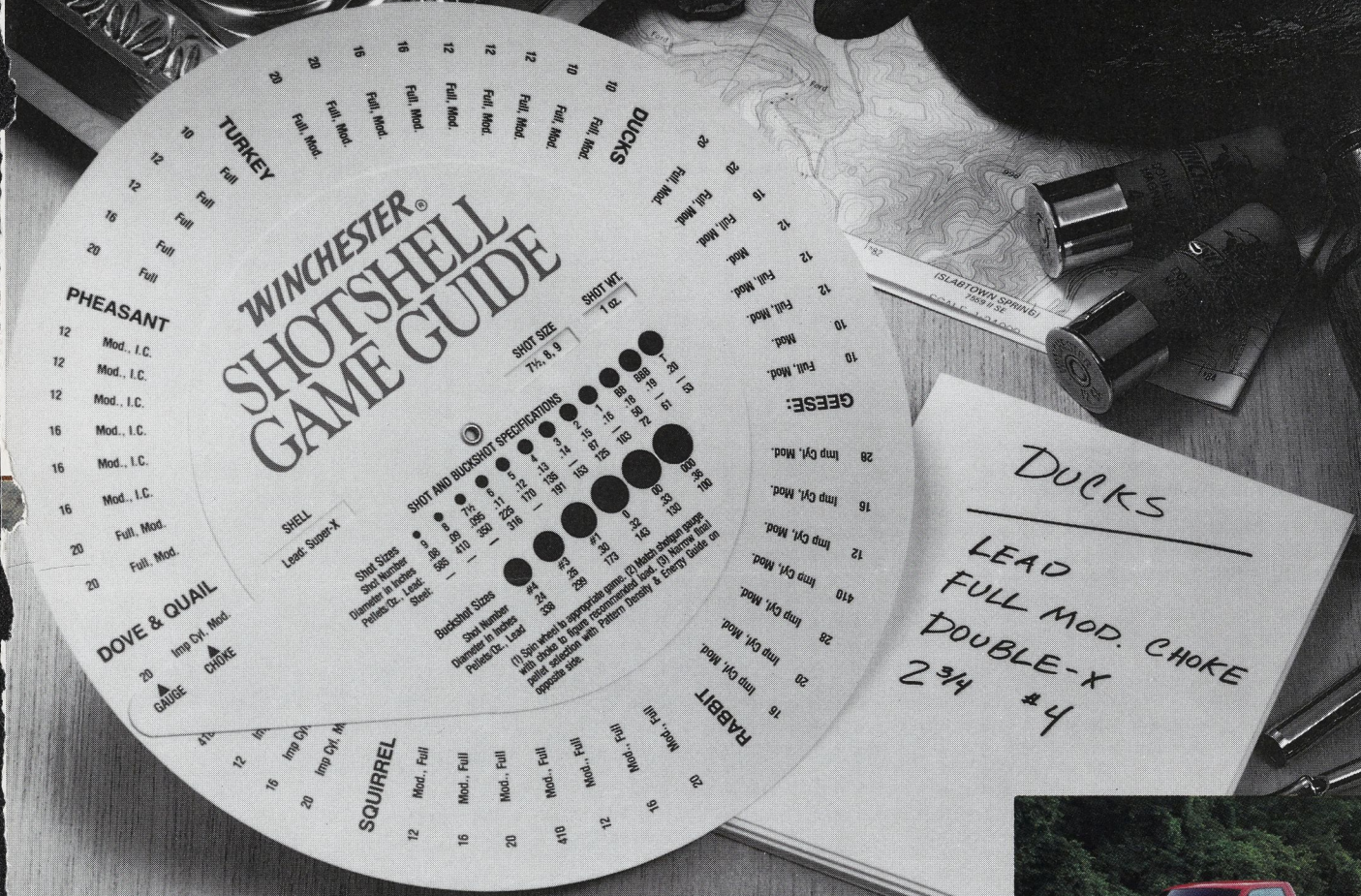

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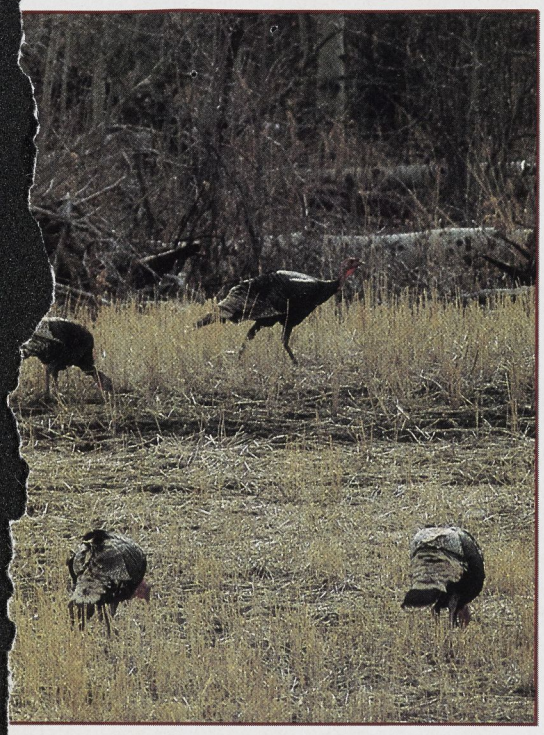


The primary spring tactic is to travel the high ridges and call down into the coulees until you hear a gobble.

when the birds are loafing in cooler brush; though it's legal to hunt all day out here, you're not likely to call up a gobbler during afternoon, but you're also not likely to spook one, either, if you stay in the open. (There are exceptions, of course. One 80 degree afternoon in May, a friend and I were driving up a main canyon, planning to scout the side coulees, when a gobbler sounded off right next to my open window. Perhaps he thought the idling V8 was the purr of some giant hen. All of which goes to show that turkeys, despite being so wary, are still just birds, with all the attendant problems of bird brains.)

Once you've found some water, and roost or other turkey sign, plan to be up the main ridge above the coulees at gray light, about the time the birds come down from their roosts. The hunting then becomes a process much like that used by elk hunters during bugling season: you walk the ridges, calling down into the coulees until you get an answer. The country's more open than that in the East and South, with not as much timber to absorb a call, and not as much background noise to cover up a distant gobble; you may be able to hear a response from a half-mile away, or even more. Your call can also be heard for extraordinary distances under the right conditions; many western hunters use a loud, scratchy yelper to initially locate a bird, then a softer mouth call for the final approach (I forego the mouth call, even, at the last, using just the back of my tongue and some soft vocals to produce the almost inaudible cluck of a hen at close range). Your first response may be from a jake or lonely mature gobler, and he'll more than likely come right in, but gobblers with hens tend to be reluctant, growing more responsive later in the morning when their hens have wandered off. The first gobbler I took was strutting all by himself in the middle of a 200-foot clearing at 9:00 in the morning. He'd had some hens nearby, because he didn't want to leave his clearing, but he'd gobbled every time we called for a half-hour; we finally sneaked up to the edge of the clearing and brought him up to the gun. His initial response came from close to half-a-mile away.

My last hunt in the Missouri Breaks was perhaps typical. We'd arrived at noon the day before, setting up camp along the road that ran along one of the high ridges above the breaks, then walked out the finger ridges, searching until we found turkey tracks in the damp bottom of one bending, sandstone-bordered coulee north of camp. The next morning found me back there at dawn, jumping a mule deer doe and fawn along the way (they love the same country as Merriam's birds). The steep ridgetops seemed a little more enclosed than some I'd hunted, so I used the mouth call, yelping four times between my cupped hands down toward the river. The gobbler answered immediately, that odd booming sound seeming perfectly in place in the empty sandstone, as perfect as coyote music or the soft caw of a magpie. I moved down to the ridge end and set up in front of a small juniper on the edge of a clearing, my painted head buried back in the branches, the dull brown barrel of the old 870 over my legs, then yelped again and saw him coming, just a quick dark movement downslope between the trees, again reminding me of *porcupine*, the textures of shiny feathers and quills so much the same. He gobbled again without my urging from the trees below, closer, and a skin-tension went up my vertebrae and into my scalp, helped by the cold of April dawn. Beyond the trees I could just see the glint of river, the shadowed coulees of the breaks on the other side, and then saw the glint of breast feathers under the trees. He was moving to the left, behind a juniper patch, and I eased the shotgun forward, pointing toward the next opening, then clucked once softly with my tongue and waited. He gobbled again, and the outline of his fanned tail emerged dimly behind the thick branches, moving toward where I held the gold bead. Suddenly, I heard his feet in the dry ponderosa needles, saw movement on the clearing edge, and . . .

Did I "get" him? Oh, but I already had. □

Snow Grouse

by Mike Modrzynski

Thorn apples have withered and resemble prunes now. Once familiar trails and pathways have become confused by the starkness of the surrounding brush, causing you to wander into thickets and berry patches that tug at your legs with their skeletal whips armed with thorns. Here and there, the tracks of a grouse in search of a bud or a berry. Up ahead the *puk-puk-puk* of a bird, intent on keeping his band together, signals an end to your snowy search for the second-season grouse.

December marks the beginning of the toughest part of the year for the northern grouse. He will feed heavily on the remaining thorn apples, exposed wintergreen berries, and even help clean up the bait piles left behind by deer hunters. Warm, sunny days will find him high in the mature poplar "budding," filling his crop with the big juicy buds just now beginning to swell. He will feed on a myriad of things through the winter, but will return to his favorite haunts till their supply is gone. Should the snows hold off for a time, the birds will feed low, picking up the remnants of the wintergreen crop and forgotten berries. They somehow know to leave the food that won't be covered by snow until it has to be tapped and feed on what's available at the moment. Early on, the birds will spend a great deal of time on the ground feeding, but as the snows begin, they will roost and feed on the forage available at that level.

Habitat seems to revolve around three types of cover for the wintering grouse. Thorn apple groves remain a strong magnet and will draw the grouse until the very last withered fruit is gone. Many times grouse will return to check a tree even though it has been empty for weeks, perhaps out of habit or hope. Traditional stands of young poplar will attract a few birds, but they are often the younger members of the flock, as the older birds spend their time feeding in the mature poplar where the buds are much bigger and provide more food with less energy output. The third type of cover that will hold birds is seldom far from either feeding site. The spruce or pine thicket offers both security from predators and protection from the cold and the knife-like winds that can

Tracking wandering winter grouse will provide a wealth of information including feeding and roosting patterns. Photo by the author.

Barsness 'took to the trail as a child'

by ROBERT DORROH

Upon meeting Hobson's John Barsness for the first time, one might be struck by an intriguing set of personal charactistics:

Studious. Outgoing. Reflective. Hearty. Brave. Bookish. Outdoors writer. Published writer and poet.

Adventuresome.

He's definitely adventuresome. He dropped out of high school after the 10th grade to embark on a career as a writer.

"I was just bored. To me it seemed pointless. I always knew I wanted to be a writer."

Since then, his life has taken a variety of twists and turns.

In between freelance writing, his occupations have included stints as a aquatic biology major at the Unversity of Montana (1977-79), a custom cutter for six summers, an oil rig worker, a railroad worker, and a cartographer for a consulting firm in Missoula.

He's also a widely published outdoors writer with extensive hunting and fishing experience.

Barsness decided at age 13 that he wanted to be a writer, and has been a freelance writer ever since. After having two magazine articles rejected, his first story was accepted by Sports Illustrated in 1974.

"It was a story about flyfishing in winter," he says. "It was a mood piece, a narrative. I still do a lot of that."

Barsness, 35, has hunted and fished all over Montana; however, his job as an outdoors writer has taken him all over the world.

He remained primarily a freelance writer until he accepted an offer this year from Field and Stream magazine to become a contributing editor. His work has been published in a variety of magazines, including Sports Afield and Outdoor Life.

His writing assignments cover areas that would be the envy of any true outdoorsman.

— In June he fished bonefish in the Bahamas. He recently turned down a trip to Uruguay where Field and Stream wanted him to hunt native partridge.

— He's says he's struggling over whether he should go to Saskatchewan to go goose hunting.

— "They want me to go to Scotland to shoot a red stag," he says.

Next spring, Barsness is headed for Florida, where he's going to hunt boar and fish Florida-strain largemouth bass.

It adds up to an interesting life.

Barsness' wife, Eileen Clarke, is also a writer. She just wrote her first article for Field And Stream this year.

He grew up in both Roy and Bozeman, where his late father, Jack, was a professor of English at Montana State University. Jack was a Lewistown native whose brother Larry was also an English professor. Larry just retired from the University of Montana.

Barsness' grandmother, Elizabeth, was a superintendent of schools for Fergus County from 1943 to 1954.

Barsness, who killed his first deer when he was 12, said his father was never much of a hunter.

"I don't know what makes a person inclined toward hunting," he says. "I just like being out there and watching nature — watching the animals and season changes.

"Just hiking over the next ridge to see what's there, which is a freedom that just doesn't exist in an awful lot of this country."

Barsness remembers well his first kill.

"The deer was bedded down, and stood up real quick. I shot it quickly before it could run away. The shot broke his neck.

"I was so excited, I could not function correctly for five to 10 minutes. I didn't know what to do with it. I tried to hand over my knife to my friend so he could skin it.

"He said: 'It's your job, you do it.'"

Barsness says he bow hunts, bird hunts, rifle hunts, and fishes for almost anything, especially trout.

The life of a freelance writer is fraught with risks — risks that many people are unable to accept nor understand.

He co-authored a book with Norman Strung called "The Complete Hunter's Catalogue" in 1977. He published his second book, "Hunting The Great Plains" in 1979.

"I wanted to be a poet and novelist," he says.

He married his first wife in 1971, and got divorced in 1980.

Barsness met Eileen at a fiction-writing class at UM. They got married in 1983.

"We both pretty much wanted to be writers. We understood each other and knew the sacrifices one has to make to be a writer.

"My first wife didn't understand these sacrifices. She thought you could start freelancing and make a lot of money.

"But you have to cut your lifestyle way back to the starting point to write fulltime."

He said that, after his divorce in 1980, he began selling more articles.

Barsness says his background in fiction is the main reason he got the Field and Stream job.

"My fiction training helped me to tell a story better than some outdoor writers.

"An averge outdoor article is not particularly well written. Lots of outdoorsman pick up a magazine to read the magazine as well as be informed."

Barsness, who has done some outfitting, is exact when describing what he likes to do most.

"Sharing the outdoors with other people is my greatest pleasure."

He says he gets excited when he watches people get their first kill, or hook their first trout on a dry fly.

He remembers well the time Eileen got her first kill, a pronghorn.

"She got so excited on opening day, she couldn't stop shaking before she shot."

She never got off a shot the opening day.

"All that night, she grieved that she couldn't shoot anything."

But Eileen shot her antelope the next day from 175 yards.

"He started walking off, then fell over.

"I got more excited than her. I thought I was shooting my first deer.

"I said: 'My gosh, you didn't, you didn't.'

"She said: 'Shut up and sit down. I want to shoot another one.'

"Then I tried to shoot a doe from 80 yards and missed. It was the worst shot I ever made. I was just flabbergasted.

"But it was the most fun I ever had."

Barsness is often accompanied by some interesting sidekicks in his stories.

One them, Milo McLeod, is a history buff and an archeologist for the Forest Service.

"Milo volunteered as a paratrooper during the early years of Vietnam because 'it was the last of the colonial wars.'

"He saw enough, and now prefers to discuss colonial history — and hunt elk."

Another, Tom Flowers, is a "26-year-old with university degrees in botany and philosophy and no desire to do anything other than work with horses."

Barsness' articles cover a wide range of subjects: For example, choosing and using ground blinds (bow hunters); or pursuing elk from a drop camp.

His creative writing talent blends itself nicely with his rich narrative style.

Obviously, his love for the outdoors coupled with his year-round hunting and fishing lifestyle, lends itself naturally to a very personal philosophy.

He considers himself an environmentalist to a degree.

"But I'm not anti-logging, mining, and everything.

"I just think there is something of value in the mountains, wilderness, and the freedom of open spaces.

"Tens of thousands of people from other states come to Montana to hunt and fish because they lack that side of their lives.

"Sometimes I think people miss that (it's value). Many of them regard the open spaces far too lightly.

"They won't miss it until they don't have it anymore."

Barsness sees certain hunting trends developing in the United States,

"Almost all of hunting in America is going to be leased — you'll have to pay for it.

"When I first moved to Hobson two years ago, there was no leased land. Several ranches I hunted on are now leased directly to outfitters or non-residents."

Yet Barsness credits the lack of ethics displayed by many hunters for increasing the impact of this trend.

"Many hunters are too lazy to ask permission to hunt on land. A lot of them hunt from their vehicles, even if it means tearing up the roads, pastures, or driving over irrigation pipes."

"I think that's the reason more and more land is being shut down.

"Owners simply can't trust hunters now.

"Many hunters think it is their right to hunt when it's really a privilege.

Barsness writes how he feels and lives.

His life cannot be summarized by a person easily. He is a complex man, as many writers are.

This passage from a short story he wrote for Field and Stream might be his own self-description:

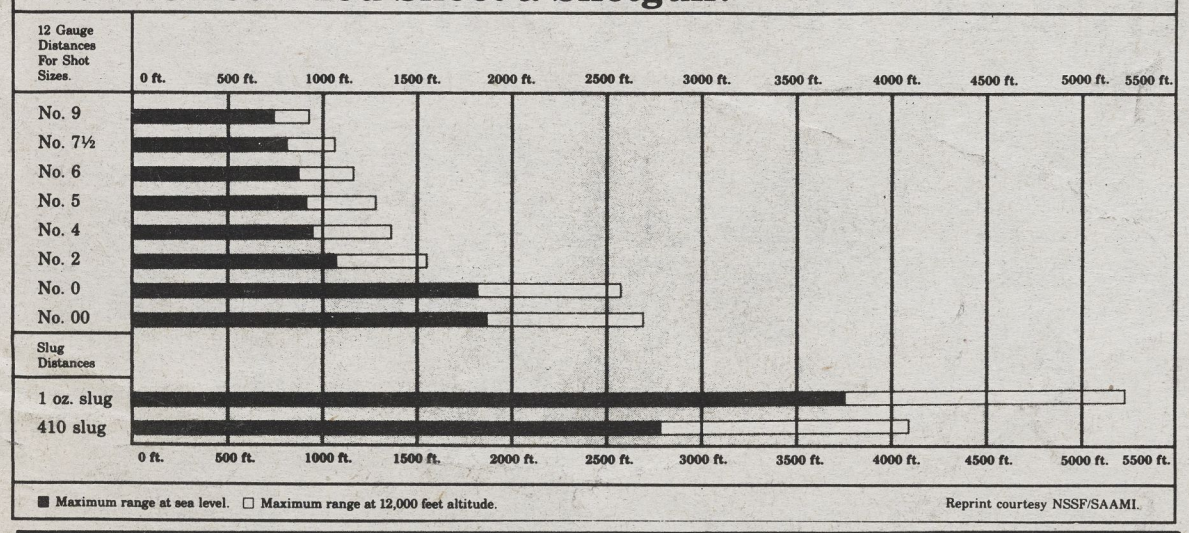
"He took to the trail as a child, and found, as his life passed, that nothing else mattered."

(A Hunter's Story, March, 1987).

HUNTING/WRITING TEAM — Field and Stream contributing editor John Barsness and his wife, Eileen Clarke, who is also a writer, enjoy hunting and fishing together.

FETCH IT! — Hobson's John Barsness plays with his chocolate labrador, Keith.

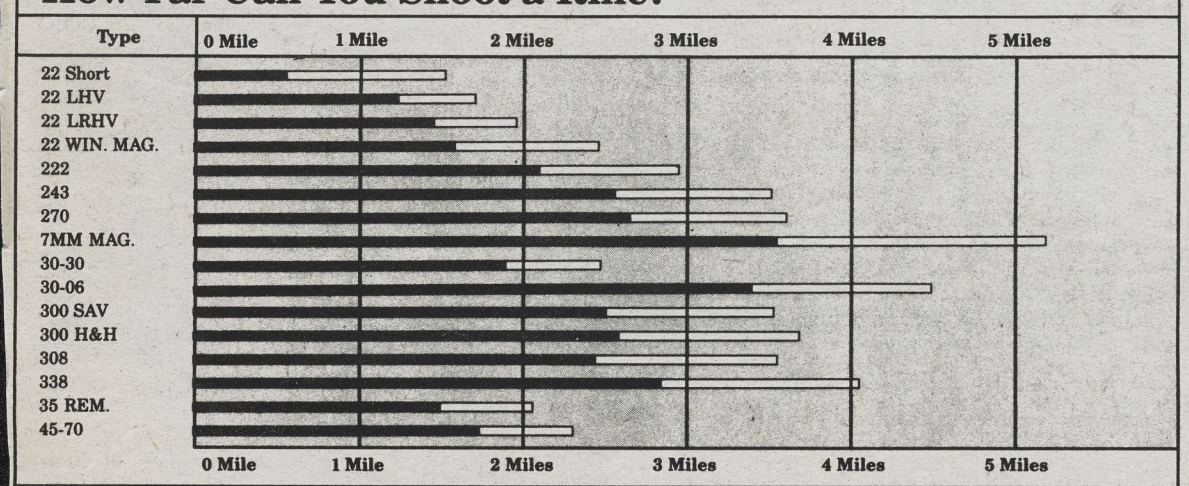
How Far Can You Shoot a Shotgun?



■ Maximum range at sea level. □ Maximum range at 12,000 feet altitude.

Reprint courtesy NSSF/SAAMI.

How Far Can You Shoot a Rifle?



■ Maximum range at sea level. □ Maximum range at 12,000 feet altitude.

Reprint courtesy NSSF/SAAMI.

Ten Commandments of Shooting Safety

1. Control the direction of your firearm's muzzle. Carry your firearm safely, keeping the safety on until ready to shoot. Keep your finger off the trigger until ready to shoot.
2. Identify your target and what is beyond it. Know the identifying features of the game you hunt.
3. Treat every firearm with the same respect due a loaded firearm.
4. Be sure the barrel and action are clear of obstructions and that you have only ammunition of the proper size for the firearm you are carrying.
5. Unload firearms when not in use. Leave the actions open. Firearms should be carried empty in cases to and from shooting areas.
6. Never point a firearm at anything you do not want to shoot. Avoid all horseplay with a firearm.
7. Never climb a fence or tree, or jump a ditch or log, with a loaded firearm. Never pull a firearm toward you by the muzzle.
8. Never shoot a bullet at a flat, hard surface or water. During target practice, be sure your backstop is adequate.
9. Store firearms and ammunition separately beyond the reach of children and careless adults.
10. Avoid alcoholic beverages or other mood-altering drugs before or while shooting.

Hunters' Code of Ethics

1. I will consider myself an invited guest of the landowner, and get his permission before using his land.
2. I will obey rules of safe firearm handling and encourage others to do so.
3. I will obey game laws and regulations and insist that my companions do so as well.
4. I will acquire good marksmanship and hunting skills to ensure clean, sportsmanlike kills.
5. I will support conservation efforts to ensure hunting in future years.
6. I will help other hunters learn skills and attitudes necessary to allow them to become true sportsmen.

Haegen . . .

(continued from page 8)

The handbook lists the three major causes of hunting accidents, which are safety violations, hunter judgment and lack of skill.

Students gain an increased knowledge of hunting safety and rules using the handbook and attending the 10 hours of classes offered each fall.

3,000 feet per second

"A bullet can be traveling 3,000 feet per second when it clears the barrel," Haegen said. "A .22 can be dangerous up to 1½ miles and a 30 calibre, or any of the big bore game rifles will go a mile and then skip along up to 3 miles — they're deadly."

Haegen likes to tell his classes about the time they took about a dozen hunters out for the day. Several of the hunters were riding in the back of the truck sitting on straw bales.

At the end of the day of hunting Frank removed the straw bales and swept the loose straw into a bucket to be throw into the fire. Later that night his wife and children were in town and he was settling down by the fire reading a murder mystery.

"There was this part in the book when the door creaked open and the barrel of a gun was pointed into the room. Boom, I heard an explosion and I skinned my shins on the ceiling I jumped so high," he said.

A loose bullet had fallen into the straw which Frank had thrown on the fire and it exploded at just the right time to send him flying.

"There are lots of ridiculous stories about hunting. Most everybody has been outfoxed by a deer or a bear. Why, one day the pastor who married Florence and I was out hunting pheasants. He was crossing a fence and tripped and took a shot in the chest and it killed him.

"I guess he got what he deserved," he said with a laugh.

But he does take hunting safety seriously and makes sure his students have respect for guns and for the injuries they can cause.

"Since hunters safety classes have started, the accident rate has gone down steadily. I imagine 60 percent of the hunters today have had safety courses and we're teaching the second generation of kids now. While the number of hunters have tripled, we've cut the accident rate in half. I really encourage parents if they have any stories of hunting accidents to share them with their kids — it might make them more careful."

Hunter education and a love of hunting have been common ground for the Haegens. Frank's dad, Leo, shot a nice buck last fall at age 94 and Florence's father, B.W. Stewart, a judge and county attorney in Nebraska, got his last deer at age 90 in Montana.

And Leo Haegen, who just turned 95, got an elk permit for this year and intends to fill it. "We have so many elk on the place that we hunt in self-defense," Frank Haegen said. They ranch near Buffalo close to the foothills of the Snowy Mountains.

Hunting and the Haegens seem to go hand in hand and Frank plans to continue teaching hunter safety courses for at least long enough to have his granddaughter Jessie Reynolds in one of his classes — about six more years.

"Jessie likes to get out and shoot. She uses the .22 and has war on old Mrs. Butterworth's bottles," he said.

And for at least six more years hunters can dodge Frank Haegen's erasers and listen to his stories, while learning a great deal about hunting safely.

FRANK E. SALOMONSEN

FOREST SUPERVISOR

USDA, FOREST SERVICE
DEERLODGE NATIONAL FOREST
(406) ~~723-6561~~, EXT. 2352
496 -

P.O. BOX 400
FEDERAL BLDG.
BUTTE, MT. 59701

HOME PHONE

494-2650

United States Department of Agriculture
Forest Service
Deerlodge National Forest
Federal Building
P. O. Box 400
Butte, MT 59703

Reply to: 1600

Date: June 25, 1984

Mr. Datus Proper
1914 North Johnson Street
Arlington, VA 22207

Datus:

It was good to talk to you after Rotary and get to know some of your interests off-the-job.

Enclosed is a guide to floating in Montana and a Deerlodge National Forest map.

For maps of the Missouri River Breaks - National Wild and Scenic Rivers, write to:

Philip A Gezor, Outdoor Recreation Planner
Department of Interior
Bureau of Land Management
Judith Resource Area
Airport Road
Lewistown, MT 59457

Ask for a price on the waterproof maps from Judith Landing to James Kipp Recreation Areas. These are excellent maps with good detail - history, pictures and do a good job of tieing down where Lewis and Clark camped on their journey.

Hope this will be helpful. I would be glad to help with any further information. Hope you had a nice stay in Bozeman.

Sincerely,

FRANK E. SALOMONSEN
Forest Supervisor

Enclosures (2)

Saw many sharptails & pheasants on this float, right along the river. Pheasants must have dropped down from agricultural land a little higher. He used innards for catfish bait & got catfish on set lines at night. Too far down river for trout. Believe this was during grouse season but before pheasants open — in September?

Habitat management for

WHITE-TAILED DEER

In Montana

Of all North America's big game animals, the white-tailed deer, *Odocoileus virginianus,* is the most numerous and most widely distributed. There are thirty subspecies of white-tailed deer in North America, ranging from the Isthmus of Panama northward well into the boreal forest of Canada. The whitetail is largely an eastern, northern, and southern species. Much of the western range of the white-tailed deer is shared by its somewhat stockier and heavier cousin, the mule deer, but the two types of deer are readily distinguished by their appearance and habits. The characteristic "flag" of the whitetail--upraised tail revealing a stark white underside and white rump as it dashes away--is an unmistakable feature. The smooth-flowing gallop of the whitetail contrasts sharply with the stiff-legged, bouncing gait of the mule deer. The ears of the whitetail are relatively small compared to the conspicuously large, mule-like ears which have given the mule deer its name.

Since the early 1940's, whitetails have extended their range over most of Montana, with populations now occurring in all counties of the state. The largest concentrations of whitetails west of the Continental Divide occur in the northwest counties. East of the Divide, whitetails occur along the bottomlands of most of the major watercourses. They have also moved into mountainous habitat of the Judith and Snowy Mountains of central Montana, the Bear Paws, as well as into the Long Pines of southeastern Montana.

USDA-SCS-PORTLAND, OREG. 1973

Whitetail habitat on each side of the Continental Divide differs greatly in vegetative character. On the west side of the Rockies, whitetails are most generally found in closed-canopy forests where their numbers are dependent on the extent of openings supporting winter browse ranges. The low shrubs which grow following fire make favorable deer habitat. However, natural plant succession is toward a closed-canopy, coniferous forest with very few low-growing browse plants. The natural succession resulting from the many large forest fires of the early 1900's may be one of the primary factors for the decline in whitetail numbers west of the Divide.

East of the Divide, whitetails are usually associated with deciduous vegetation growing on bottomlands along drainageways, often close to agriculture. Bottomland habitat generally consists of riparian vegetation that includes ash, box elder, cottonwood, willow and associated shrubs, forbs, and grasses. In southeastern Montana, an important habitat for whitetail deer is found in the Long Pines area where relatively open stands of ponderosa pine occur over broken terrain.

From a hunting standpoint, the whitetail in Montana has been the secondary deer species, consistently averaging 20 to 25 percent of the total deer harvest.

HABITAT NEEDS

Habitat and its management include maintenance and development of important foods, adequate cover, and water. In the management of deer populations, numbers must be controlled through hunting to avoid overpopulation that:

1. Seriously damages habitat and thus reduces its capacity to support deer; and

2. Results in poor physical condition of deer, followed by winter losses and low rate of fawn survival; and

3. Surprisingly low rates of reproduction.

FOODS

White-tailed deer in Montana occupy varied habitats and thus eat a wide variety of forage foods--the leaves, needles, succulent stems, fruits, and nuts--from shrubs, forbs, domestic crops, and grasses. It is useful to classify the important deer foods into two categories, according to each food's ability to attract and sustain deer in good physical condition. Proper classification reflects seasonal palatability and nutritional content of plant parts eaten. Choice foods attract deer and maintain vigorous health and reproduction. Fair foods are somewhat deficient, but usually sufficient to maintain life through critical periods of the year.

Choice browse species utilized by white-tailed deer west of the Continental Divide include serviceberry, chokecherry, snowberry, mountain maple, kinikinnick, and Oregon grape. When available, juniper and bitterbrush are also considered choice.

East of the Divide, whitetails prefer chokecherry, serviceberry, skunkbrush sumac, snowberry, cottonwood, and dogwood. Other browse species occurring in their diet include hawthorn, rose, green rabbitbrush, greasewood, buffaloberry, and several species of sagebrush. During spring and summer, a variety of forbs are eaten by whitetails on both sides of the Continental Divide.

The importance of supply or quantity of food has long been recognized in deer management, but only in recent years has the importance of nutritional quality of food plants been emphasized. Almost without exception, low deer populations can be traced directly to an insufficient quantity or poor quality of food.

COVER

Whitetails prefer dense forest with numerous openings and brushy bottomlands rather than the open habitat occupied by the mule deer. A combination of brushy thickets with open meadows and fields characterizes much of eastern Montana whitetail range.

WATER

Whitetails appear to be more dependent on drinking water than mule deer. They frequently drink from ponds, springs, and streams, but also satisfy their moisture needs from snow and succulent foods.

MANAGEMENT SUGGESTIONS

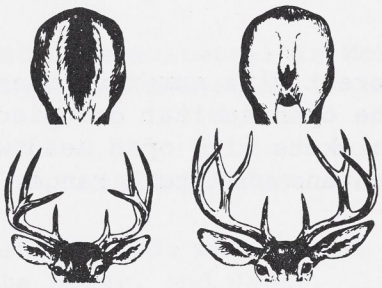
Deer reproduce quickly. A healthy herd is capable of almost doubling its numbers during one favorable year. Although a series of severe winters may tend to shrink the range of whitetails in Montana, a few favorable years permit it to reoccupy the lost ground, rebuild substantial populations, and even extend its range.

Maintaining healthy stocks of white-tailed deer is primarily a matter of keeping deer numbers in balance with their supply of winter food. Healthy deer populations grow very rapidly if the annual surplus of animals is not harvested. Overpopulation invariably leads to pressure on food supplies, which results in malnutrition. Starving deer can do immense damage to their winter range, depleting browse species and sometimes preventing regeneration of valuable forest trees. Moderately heavy hunting helps prevent these natural catastrophies by holding deer numbers in check while, at the same time, providing thousands of man hours of recreation and tons of valuable meat.

Man can do little to modify the severe winters which deal so harshly with the white-tailed deer, but he can help provide and maintain the food and shelter which are so essential to the deer's survival.

Bottomlands used for livestock production, especially winter protection, are important to whitetails and should be maintained for deer whenever possible. Logging, which often favors deer by opening the forest canopy, can be made even more beneficial to deer if sufficient coniferous cover is allowed to remain to provide shelter from deep snow. In areas where brushy or woodland cover is scarce, suitable deer habitat can be saved from fire or land clearing.

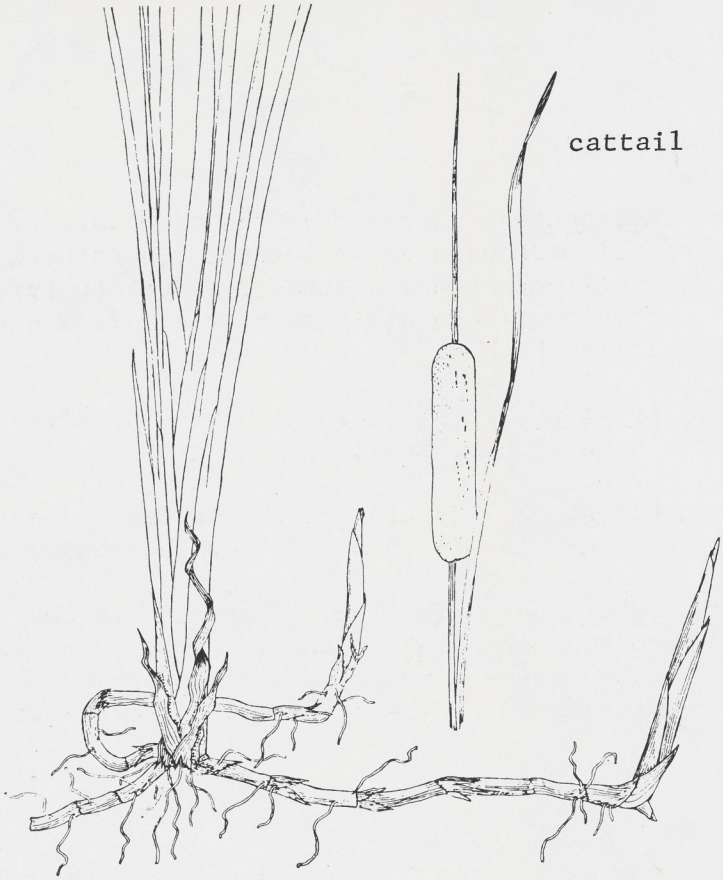
The Soil Conservation Service and local Conservation Districts offer to private landowners competent technical guidance relative to soil, water, plants, and range management.



whitetail mule

USDA-Soil Conservation Service, Bozeman, Montana November 1973

Management and uses of CATTAIL



In Montana and Wyoming

Cattail, *Typha latifolia,* is a tall (3 to 6 feet) perennial marsh or aquatic plant, which has long ribbon-like leaves filled with air cells. It has sausage-like seed heads. It grows throughout these states in water-saturated soils. The plant begins growth from seed on the water's edge, then extends by horizontal, branching, underground rootstocks into water, two or three feet deep. The rootstocks form a dense mat to produce solid stands of cattail, sometimes extending over many acres of shallow water. Cattails, with various types of bulrushes and reeds, are often referred to collectively as "tules."

Adaptations

Adapted to a wide range of wet soils, from clay to sand. Tolerates salinity concentrations of up to 5,000 parts per million, although cattails at this salinity level are stunted and seldom grow over 3 feet tall. Cattails generally will not grow where periodic water fluctuation allows the soil to dry out for a part of the year.

Uses

Wildlife. Cattail rootstocks are a choice food of muskrats and a fair food of beaver and geese. Cattail stands provide nesting sites for diving ducks, coots, grebes, rails, red-winged and yellow-headed blackbirds, yellow-throats, and marsh wrens. They also provide cover for young broods of ducks. Cattail marshes provide excellent escape and winter cover for ring-necked pheasants. Muskrats use the leaves and stems to construct "houses," which are often used as nesting sites by ducks, geese, and terns.

Recreation. Because of the wide variety of wildlife using them, cattail marshes have an interesting esthetic value. The tall growth makes excellent natural blinds for duck hunters; however, game birds are difficult or impossible to retrieve from heavy cattail stands when a bird falls there.

Erosion Control. Cattails provide effective control of bank erosion on lakes, ponds, and streams.

Livestock. Cattle relish the tender new leaves, often wading into the marshes to nip them off when they appear above the water surface.

Other Uses. The leaves are used in basketry. The seed heads, either colored or natural, are a common component of decorative displays. The young stems, fruits, and roots are edible by humans. The fluff of the seed heads has been used as a substitute for kapok.

Establishment

The plant produces myriads of tiny air-bourne seeds which soon find their way to any site suitable for cattails. Establishment can be hurried by transplanting rootstocks on the edge of the water where a stand is desired.

Management

Management is concerned chiefly with thinning dense stands to make them more suitable for wildlife, or eliminating them entirely where they are unwanted. Cattails often cover large areas of marsh where more valuable wildlife plants could be produced. Natural thinning can be accomplished by protecting muskrats which eat the plants, or by allowing cattle to graze them. Thick mats of previous years' leaves and stems can be removed by burning. (This should be done only in early spring, between the times of the last winter storms and earliest bird nesting.) Other thinning methods are level ditching, pothole blasting, and selective spraying.

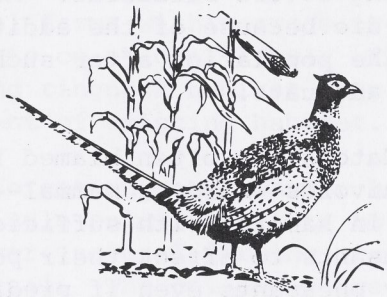
Temporary control can be achieved by the use of various herbicides, but more permanently by water level control to make the area either too dry or the water too deep for cattails. Plowing is effective where machinery can be used.

The easiest and most effective control is to pull the new cattail seedlings each summer before the roots spread into the pond and become well-established. The seedlings germinate only at the pond edge, just above the water level.

pheasant, ring-necked

Habitat management for

RING-NECKED PHEASANT



In Montana

The ring-necked pheasant was introduced into Montana in the early 1900's and is now established wherever suitable habitat exists. More than 150,000 of this popular game bird are bagged by Montana hunters each year.

The ringneck occurs throughout the agricultural region of the state, primarily on irrigated croplands. It is rarely found in any numbers where cereal grains are not part of the cropping system. Much excellent habitat that existed in dryland areas has been lost because of changes in farming practices. Most notable was the loss of conservation reserve lands, as well as the current trend toward larger expanses of fallow and equally large grain fields with little or no permanent cover inter-mixed. The practice of fall tillage of grain fields eliminates any waste grains that might otherwise have been available to feed pheasants throughout the critical winter period. The continuing conversion of irrigated grain fields to pasture and hay further erodes quality ringneck habitat throughout the state. Consequently, pheasant populations in much of the state have dwindled from highs of the early 1940's and mid 1950's. The combination of conditions that favored the ringneck during these periods is unlikely to prevail again.

In spring the cocks establish territories and defend them fiercely from other males. Each is joined by several hens which nest in well concealed hollows.

Nesting usually commences in mid April. The average clutch size is 11 eggs, and the incubation period is 24 days. If the nest is destroyed in the early stages of incubation, the hen is likely to re-nest, laying fewer eggs. Pheasants raise only one brood a year. Broods of many different sizes can be seen at any one time during the summer because of re-nesting due to destruction of the first nest. This leads some to erroneously conclude that hens raise more than one brood per year.

Survival of chicks is often low, especially among early hatched broods which may be chilled by cold spring rains. Though later broods are smaller, they have a better chance for success. Four or five surviving chicks per hen usually assures a successful hunting season the following autumn.

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Winter is a particularly critical time for pheasants. Food and cover are often buried under deep snow for long periods. Heavy losses occur during severe blizzards. After a severe winter, hens in poor condition may die because of the additional stress imposed by nesting. Recovery of the population after such losses is usually rapid if food and cover are adequate.

Predators are often blamed for limiting pheasant populations. All large carnivores--bird or mammal--will kill pheasants if given the opportunity, but in habitat with sufficient cover, predators cannot catch enough pheasants to affect their populations. Deficient cover will not support many pheasants even if predators are scarce. Good habitat, rather than predator control, is the key to pheasant abundance.

HABITAT NEEDS

Food--The food of mature pheasants consists primarily of weed seeds, grains, and tender plants; while young birds require a large proportion of insect food. Pheasants are capable of going several days without food during winter stress periods.

Cereal grains--barley, corn, proso millet, oats, and wheat--make up over 80 percent of the pheasant's diet. Seeds of knotweed, pigweed, ricegrass, Russian thistle, and sunflower are also eaten. Succulent leaves of alfalfa, the clovers, and other forbs are eaten when available. Fruits--hawthorn, rose Russianolive, and snowberry--are not preferred, but may sustain birds through periods of deep snow when other foods are scarce. Pheasant chicks live almost wholly on insects--ants, beetles, caterpillars, and grasshoppers--during summer and fall.

Cover--A variety of cover types is necessary to provide "living quarters" for ringnecks. Large populations are usually found where a combination of cropland, waste or idle land, marshland, pasture, and woody thickets occur. Areas of diversified crop farming will support more pheasants than those having a single crop covering vast areas. Hens conceal their nests in weed patches, grassy fence rows, along roadside and irrigation ditches, alfalfa fields, and pastures. Roosting cover is provided by alfalfa, dense grass, grain stubble, rushes, cattails, and weed patches. Many pheasants are killed and nests destroyed during the first mowing of alfalfa fields.

Water--Water is essential for pheasant survival, but the form in which it is taken apparently does not matter. Dew, succulent fruits, green vegetation, and insects can provide much of this need during periods when open water is unavailable.

HABITAT MANAGEMENT SUGGESTIONS

Many attempts have been made to remedy ringneck habitat deficiencies in the northwest by planting vegetation to meet food and cover needs. However beneficial these plantings may appear to be, they are so limited

in extent that their effect on pheasant populations is usually negligible. The cost of extensive habitat development projects prohibits their application on a scale large enough to be effective. This is not to say, however, that habitat development on individual farms within areas occupied by ringnecks is not beneficial to pheasants on a local level. The most practical and achievable means for meeting ringneck habitat requirements is through the maintenance and improvement of existing habitat.

Every farm within the pheasant's range is different and each farmer has his own production problems. Therefore, no single solution exists to increase pheasant numbers on all areas. However, several farming practices which affect ringnecks are almost universal. The following are some suggestions concerning farming practices that may increase pheasant abundance without disrupting normal farming operations.

Develop Wild Cover--Let strips along fence rows, ditch banks, roadsides, and field corners revert to natural cover; and allow sumps, equipment parking areas, corrals, old building grounds, and other sites to grow wild cover.

Avoid Burning and Discing Mid April to Mid June--The most important, simplest, and practical action a landowner can take to benefit pheasants is to avoid burning, discing, or spraying ditch banks and waste areas from the middle of April to the middle of June. This period is the critical nesting season. Loss of cover at this time results in: (a) hen pheasants abandoning their nests; (b) forcing hens to nest in hay fields where later mowings cause heavy losses; (c) destruction of young chicks; (d) reduction of insect food vital to young pheasants during their first few weeks of life. Some weeds may be controlled after nesting before they mature and produce seed.

Mowing--When mowing alfalfa or other hay crops during the nesting season, mow from the center of their field toward the edges. Although loss of pheasants will still occur, this practice will tend to push some of the birds to the safety of field edges. Flushing bars can further reduce losses.

Use Caution With Insecticides--Spraying with insecticides should be avoided during the month of June. By postponing spraying until July, young pheasants are insured an adequate insect supply during their first and second weeks of life. Use insecticides with caution. The chlorinated hydrocarbon insecticides such as DDT, dieldrin, and toxaphene have proved in some instances to be detrimental to bird life.

Tillage--In the grain belt, refraining from fall tilling of grain stubble provides a waste grain food source available to pheasants through the critical winter period that otherwise would not be available.

Shelterbelts and Field Windbreaks--The establishment of shelterbelts and windbreaks, in addition to meeting their primary conservation objectives, can provide cover and food for pheasants, sharp-tailed grouse, and a variety of nongame birds if properly maintained and care is given to the selection of plant materials of value to wildlife.

AREAS SUITABLE FOR HABITAT DEVELOPMENT

Nearly every farm or ranch has a piece of land suitable for habitat development. The following offers suggestions for developing habitat in areas where it is deficient or lacking.

Seeding ditch banks with perennial grasses and legumes will reduce weed problems, prevent bank erosion, and provide good nesting cover for pheasants.

Planting of permanent cover--woody and herbacious--along fence rows, field corners, roadsides, and on idle lands can be of great benefit to pheasants. Some trees and shrubs suitable for habitat planting include the following:

Matrimonyvine	*White and golden willow*	*Buffaloberry*
Nootka rose	*Autumn olive*	*American plum*
Common snowberry	*Honeysuckle*	*Skunkbush sumac*
Sandcherry	*Lilac*	*Nanking cherry*
Caragana	*Chokecherry*	*Russianolive*
Harison's rose	*Silverberry*	*Common or*
Cotoneaster	*Serviceberry*	*Dahurian buckthorn*

The Soil Conservation Service and local conservation districts offer to private landowners competent guidance relative to soil, water, plants, and wildlife habitat management.

MONTANA