

HELENA *National Forest* *Update*

Caring for the land and serving the people since 1906



Welcome to the Helena National Forest....

This Helena National Forest *Update* provides you an overview of the activities, programs, and accomplishments of the Helena National Forest over the past year. Unfortunately, Montana saw no respite from the persistent drought which continues to impact all of our lives. A relatively wet spring was followed by the hottest and driest July on record. While our interagency fire crews were successful in initial attack suppression of nearly 200 fires this summer, a handful of fires did escape, with the two largest both burning in the Lincoln area. We coordinated with Lewis and Clark County, Powell County, Montana State DNRC, and others to develop appropriate suppression strategies for these large fires, and particularly for Snow/Talon we implemented a "least-cost" option and utilized "light-on-the-land" suppression tactics, basically steering the fire into the wilderness and away from private lands. The fact that no serious injuries occurred and that no private structures were lost is a testament to the skills of the firefighting community. I particularly want to applaud the efforts of local law enforcement agencies in managing the evacuations necessitated by the wildfires.

As soon as the fires were controlled, we transitioned into rehabilitation actions to mitigate fire effects. This fall we were able to complete hazard tree removal, replacement of undersized culverts, make other road drainage improvements, and rehabilitate control lines. This spring we will move ahead with weed control, additional road work, and treeplanting.

In early July, the Forest participated in the Helena Regional Airport's Anniversary Celebration by hosting an open house at our new Tanker Base. Nearly 1,500 visitors toured the facility. The Tanker Base became operational in April and paid big dividends throughout the fire season.

We continued to engage Forest visitors in travel planning. We initiated a second round of scoping for the South Belts, Divide, and Blackfoot travel plan areas through a series of conceptual alternatives that allowed people to provide additional refinement to alternatives that will be considered. And we issued a Draft EIS for the North Belts travel plan in July. While travel revision is taking a lot of work and time, I am confident completion will pay big dividends in our ability to provide reasonable and responsible access to and through the Forest.

Day-to-day operations continued despite the fire season. Roads were maintained, weeds were controlled, salvage sales were harvested, range permits were managed, contracts for services were let, outreach opportunities were provided to local communities, wildlife and fisheries monitoring and enhancements were completed, all with the support of Financial Management, Human Resources, and Information Systems staffs.

I would like to again acknowledge the wonderful assistance we enjoy from our partners, which include individuals, other natural resource agencies, non-profit organizations, volunteers, and civic groups. We truly appreciate the time and effort of our partners in helping us accomplish the important land management work we do. Many of the services enjoyed by visitors to the Helena National Forest would not be possible without the help of these partners.

The Forest is looking forward to many accomplishments in 2004, including numerous ongoing projects undertaken in concert with the Helena Forest Foundation.

We hope you enjoy this issue of the Helena National Forest *Update*. Please visit us at any of our offices or on our new website with your thoughts and ideas on management of the Helena National Forest.

A handwritten signature in black ink, appearing to read "Tom Clifford".

Tom Clifford, Forest Supervisor

The Helena National Forest

Fiscal Year 2003 Activities

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| Helena National Forest (acres) | 975,359 |
| Scapegoat Wilderness | 80,697 |
| Gates of the Mountains Wilderness | 28,560 |

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| Payments to Counties (total 2003) | \$409,683 |
| Broadwater | \$82,049 |
| Jefferson | \$39,949 |
| Lewis & Clark | \$172,947 |
| Meagher | \$18,879 |
| Powell | \$95,849 |

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|----------------------------|------------------|------------------|
| Employees | permanent | temporary |
| Helena Supervisor's Office | 61 | 25 |
| Helena Ranger District | 43 | 60 |
| Lincoln Ranger District | 25 | 30 |
| Townsend Ranger District | 38 | 18 |
| TOTAL | 147 | 153 |

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| Senior Community Service Enrollee (Lincoln) | 1 |
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| Recreation | |
| Developed Campgrounds | 10 |
| Picnic areas | 3 |
| Rental Cabins | 7 |
| - 1,316 people enjoyed our rental cabins | |
| - The cabins were occupied 608 nights | |
| - Receipts from the rental cabins totaled \$13,992 | |

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| Trails (Total miles) | 1,088 |
| Trail construction/reconstruction (miles) | 7 |
| Trail maintenance (miles) | 650 |
| - 100 miles were maintained by volunteer crews | |

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| Heritage Resources | |
| New Sites Discovered (prehistoric & historic sites) | 26 |
| Acres surveyed in 34 total surveys | 2,450 |
| Site Investigations & National Register evaluations | 5 |
| Sites Stabilized & Rehabilitated | 1 |
| Interpreted Sites/Landscapes | 5 |

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| Wildlife | |
| Wildlife habitat surveys (acres) | 140,000 |
| Habitat improvement (acres) | approx. 370 |

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| State & Private Forestry Assistance Grants | |
| Townsend Chamber of Commerce | \$12,000 |
| Townsend Heritage Park Pavilion Project | \$30,000 |
| N. Central Mt. Resource Conservation & Development Area, Inc. | \$10,000 |

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| Fisheries | |
| Stream enhancement (miles) | 6 |
| Stream inventories | 12 |

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| Range | |
| Rangeland monitored/evaluated (acres) | 158,038 |
| Miles of fence construction | 16 |
| Grazing allotments administered | 41 |
| Total AUM's | 36,425 |

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| Noxious Weeds | |
| Number of Treatment Acres | |
| Chemical Control | 5,417 |
| Biological Control | 1,669 |
| TOTAL | 7,086 |

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| Soil & Water | |
| Soil and watershed rehabilitation (acres) | 307 |
| Soil Quality Assessment on Rangeland Sites | 21 |
| Soil/Water BMP Effectiveness Evaluation Reports | 4 |

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| Lands | |
| Land exchanges | 44 acres |
| Land purchase completed | 57 acres |
| Special Use permits administered | 228 |
| Special Use applications processed | 38 cases |
| Maintenance surveys performed | 3 miles |
| Road Right-of-Way easements acquired | 2 |
| Land Adjustment Surveys | 3 cases |
| Site Surveys | 3 cases |
| Trespass Surveys | 3 cases |
| Road Right-of-Way plats | 3 cases |
| Utility plats | 7 cases |

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| Minerals | |
| Mining exploration plans processed (locatable minerals) | 9 |
| Mineral prospecting permits processed (leasable minerals) | 10 |
| Mineral materials provided (tons of stone, sand, gravel) | 250 |
| Seismic proposals processed | 10 |
| Mineral receipts from oil and gas leasing (approximate) | \$50,000.00 |
| Hazardous mine openings secured | 2 |
| Abandoned mine sites rehabilitated | 1 |
| Tenmile sites in cooperation with EPA | |
| Upper Blackfoot Mining Complex Site D Order signed with ASARCO to proceed with development of Engineering Evaluation and Cost Assessment | |

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| Forest Management | |
| Reforestation (acres planted) | 61 |
| Douglas-Fir, Lodgepole Pine, Ponderosa Pine, & Engelmann Spruce seedlings) planted | 207,885 |
| Regeneration monitoring (acres) | 2,161 |
| Mortality reduction actions (due to activity of Douglas-fir beetles in burn areas from 2000); treatment acres listed | |
| • Treated areas with Douglas-fir beetle anti-aggregation pheromones | 600 |
| • Surveyed for Douglas-fir beetles within & adjacent to Cave Gulch & Maudlow-Toston fire areas and various sites of insect activity on the Forest | 3,911 |
| • Deployed 275 Douglas-fir beetle collection traps | |
| • Deployed 24 Douglas-fir beetle collection traps | |
| Total timber volume sold (ccf) | 8,627 |
| Christmas tree permits sold @ \$3.00 each | 2,423 |
| Personal use firewood permits sold | 951 |
| Personal use post and pole permits sold | 23 |

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| Fire | |
| Number of wildfires | 87 |
| Area burned in wildfires (acres) | 41,841 |
| Prescribed fire application (acres) | 2,556 |

Lands Program

by Sharlene Larance, Realty Specialist

This program covers everything that has to do with lands; i.e., land exchanges, purchases, rights-of-way acquisition, rights-of-way grants, non-recreation special use authorizations, Small Tracts cases, and Townsite cases, to name a few.

For land adjustments, the objective is to change an ownership pattern so that it is beneficial to both the general public and a specific landowner. This should benefit the public in one or more aspects such as wildlife enhancement or additional recreation opportunities.

Rights-of-way acquisitions and grants are important for assuring continued access to National Forest lands. The Forest also grants easements to other government entities and qualified private individuals when appropriate.

Non-recreation special use authorizations allow for private use of public lands to a qualified applicant. These uses may include road access, utility access, and animal grazing use.

Currently the Forest is working on 2 land purchases, 5 land exchanges, 5 Small Tracts cases, 1 Townsite project, several road rights-of-way acquisition projects, while administering approximately 273 special use permits. The Forest receives anywhere from 35 to 50 special use authorization applications per year.

Resource specialists and land surveyors are closely involved in most lands cases. A project must be determined to be to the net benefit of the public before it can be completed.

Get Yer Burning Permits, Right Here!

Jerry Meyer, Public Affairs Officer

If you live in Lewis and Clark County, we're going to save you a couple of miles of driving if you need a burning permit. Until this spring, the permits were available at the Dispatch Center on the northeast end of the Airport Complex. Now the permits will be issued from the Helena Supervisor's Office at 2880 Skyway Drive, directly across from the airport terminal. Office hours at the S.O. are 8:00 to 4:30 on weekdays. We also will accept telephone requests for permits and will issue them by mail. Please allow 3 to 5 working days for delivery by mail. The phone number is (406) 449-5201, ext. 0.

As in the past, if you were issued a permit in the last two years, we will send you a 2004 permit by about mid-March. However, if you have never had a prior need to conduct open burning, you

will need to provide pertinent information in order to obtain a permit.

Open burning is generally allowed from March 1 to November 30, but may be restricted due to fire danger or air quality conditions. You must call 447-8293 prior to ignition on each day you plan to burn to ascertain whether burning is allowed. From September 1 to November 30, you must also call the Ventilation Hotline at 1-800-225-6779 to insure that air quality conditions allow for burning.

We wish to remind people contemplating open burning of vegetative material that they assume full responsibility for this potentially risky undertaking. Additional information on responsibilities and the activities authorized will be provided to those issued a permit.

Cabin Rental Program Growing in Popularity

Dave Payne, Recreation Planner

In 1988 the Helena National Forest initiated a program to convert administrative cabins into recreation lodges making them available to the public. First among the cabins offered for rent was the Kading Guard Station located south of Elliston. This new endeavor on the Helena Forest proved extremely successful. Positive feedback and requests from visitors for other rental facilities clearly indicated a public desire to expand the recreation lodging program.

Consequently, since the program's first year, six more Forest Service cabins have been added. The Townsend District administers three cabins: Bar Gulch Cabin (east of Canyon Ferry Reservoir), Thompson Guard Station (Big Belt Mountains) and Eagle Guard

Station (west of Townsend). Located a short distance off Highway 200, Cummings Cabin is on the Lincoln Ranger District. Both the Indian Flats Cabin (near Hogback Mountain) and the Strawberry Lookout Cabin (Elkhorn Mountains) are situated on the Helena Ranger District.

Each rental cabin offers a unique recreation experience and forest setting. Although rustic, the facilities provide endless opportunities to enjoy dispersed recreation activities such as hiking, cross-country skiing, mountain biking, snowmobiling, horseback riding, OHV riding, fishing, and hunting. In addition, the cabins present a quiet, natural environment for rest and contemplation.

The number of cabin permits issued continues to grow each year. Based on the recreation experience and the nominal cost involved, the popularity of the rental cabin use is not surprising. While the cabins are in high demand on weekends and holidays, there are a few periods during the year when they remain unoccupied. Recreation managers, aware of the increased use, recognize the need to add more rental cabins.

To inquire about availability and to schedule a cabin rental, contact the corresponding ranger district for the cabin you would like to visit. Reservations may be made up to six months in advance. The stay limit is five nights with check-in and check-out times both set at 2:00 p.m. As a courtesy to

others who may wish to rent the cabins, it is requested that any cancellations be made ten days in advance.

Based on the growing popularity of the rental cabin program throughout the Forest Service, the Helena National Forest is working to further expand the program. Three additional cabins are currently being improved to ensure they will be available in the future. If you're seeking an opportunity to spend more time on your local National Forest, please consider the cabin rental program. Visit the Forest website for more information and to view pictures of the cabins.

Highlights On Wildlife

Denise Pengeroth, Forest Wildlife Biologist



Young Aspen stand.

The Helena National Forest Wildlife Program continued to flourish during 2003. Despite an intense fire season that precluded our ability to achieve some of our habitat enhancement projects, we worked hard and accomplished many innovative projects that will benefit wildlife that live on the Helena National Forest. Read on for a general overview of these accomplishments!

Habitat Restoration

This year we restored about 325 acres of habitat that benefited many wildlife species. Habitat restoration projects included:

Aspen restoration Aspen stands across much of the Forest are declining, in part due to lack of fire and overbrowsing by domestic and wild animals. Aspen provides food and habitat for many wildlife species, especially cavity-nesting birds and ruffed grouse. A key part of our wildlife program includes restoration of aspen stands. This year we protected 5 acres of aspen in Slim Sam Creek (Townsend) through construction of brush fences and maintenance of existing fences.

Noxious weeds Noxious weeds reduce the food available for many species of wildlife. The wildlife program contributes to the very active weed management program on the Helena National Forest. In conjunction with key wildlife partners that included the Rocky Mountain Elk Foundation, Montana Fish, Wildlife, and Parks, and the Foundation for North American

Wild Sheep, 225 acres of noxious weed infestations in the Elkhorn Wildlife Management Unit were sprayed with herbicide. An additional 50 acres of weed infestations were controlled on the Lincoln Ranger District.

Riparian Enhancement

Streamsides are extremely vital to many wildlife species. In fact, these habitats are used proportionately more than any other habitat type relative to their availabilities. This year we protected approximately 20 acres of riparian habitat from livestock damage along Staubach Creek in the Elkhorns.

Prescribed Fire Until recently, we didn't fully appreciate the vital role fire plays in maintaining wildlife habitat. Today, prescribed fire plays an important role in slowly restoring this ecological process to the land. This year we enhanced 25 acres of bighorn sheep habitat through the use of prescribed fire. Thanks to the Montana Department of Fish, Wildlife, and Parks for partnering up with us!

The Return of the Natives This year, we helped Montana Fish Wildlife and Parks reintroduce ten mountain goats to the Scapegoat Wilderness, a great way to help celebrate the 30th anniversary of this beautiful wilderness near Lincoln.

Inventory and Monitoring

This year we continued several monitoring efforts in order to expand our knowledge of where animals live across the Forest, and to better understand the effects of our habitat management projects.

Forest Carnivore Winter Track Surveys Following animal tracks through fresh, powdery snow is one way to determine who's about in the woods. This year we conducted winter track surveys in several areas across the Forest including the Big Belt Mountains

and the Blackfoot country in and around Lincoln. As in 2002, we inventoried about 70,000 acres on snowmobiles and on skis with the help of the Student Chapter of the Wildlife Society at Montana State University. These efforts told us that there are lynx, coyotes, bobcat, and marten (as well as lots of rabbits and squirrels) living in the Helena National Forest.

Goshawk Inventories and Monitoring

During 2003, we continued to be dive-bombed by goshawks--thank goodness for hardhats! Adult goshawks are staunch defenders of their young, which make them easier to locate than most raptor nests, if you don't mind having a screaming bird hurtling at you! There are about 20 known goshawk nests across the Helena National Forest. This year, in addition to monitoring those nests, we surveyed an additional 21,000 acres looking for new nests.

Other Raptor Surveys The Helena National Forest is home to a wide variety of birds of prey or raptors, including the threatened bald eagle, and the once-endangered peregrine falcon. There are at least 2 known bald eagle nests and 2 known peregrine falcon eyries (a nest on a cliff) on the Helena National Forest. In addition to monitoring these known nests, we surveyed 1,700 acres in hopes of locating additional eyries. In a separate effort, raptor surveys continued on Roger's Pass on the Lincoln Ranger District. This has been an ongoing effort to count raptors as they migrate south for the winter. This year we also surveyed for flammulated owls in the Elkhorns. To be effective, these surveys must be conducted at night. Quietly moving through the night forest in hopes of detecting this elusive owl is an experience not to be missed.

Landbird Monitoring Program

This year we monitored the response of tall willow riparian

communities to different livestock grazing regimes. This is the second year of this study and part of a larger, 10-year study designed to understand regional landbird trend and the effect of land management activities on these landbirds.

Mountain Goat Monitoring

2002 saw the return of the natives to the Scapegoat Wilderness. During 2003, we continued to monitor the success of this reintroduction.

Grizzly Bear Education and Monitoring

Each year we partner with Montana Fish, Wildlife, and Parks to promote safe recreation practices to help make humans and grizzly bears more compatible. In addition to overall education on how humans and grizzlies can coexist, the program includes relocating bears with "bad behaviors".

Please see also related monitoring/inventory stories on woodpeckers, North Elkhorns project, and lynx.

Partnerships

Each year the Wildlife Program depends on partner contributions, both in dollars and in-kind service, to accomplish a vast array of projects. This year our partners contributed about \$100,000. We'd like to recognize and thank you. Without you, we really couldn't do it!

- Rocky Mountain Elk Foundation
- Montana Department Fish, Wildlife, and Parks
- Audubon Society,
- Wild Things, Unlimited
- Foundation for North American Wild Sheep
- Wildlife Research Institute
- Bureau of Land Management
- U.S. Fish and Wildlife Service
- And the many, many citizens who volunteered their time!

Armstrong Mine Reclamation

Lois Olsen, Forest Ecologist



The Helena National Forest has hundreds of unreclaimed mining areas that have acid mine drainage, waste rock, and tailings piles. The Forest has reclaimed 13 of those sites in the past several years, one of which is the

Armstrong Mine. The Armstrong is located in the Tenmile drainage, the municipal watershed for the City of Helena. The waste rock and tailings were removed from the Armstrong to the Luttrell Repository in 1999. The slopes were recontoured and the area was treated using straw fiber mats and seeded with a metal-tolerant seed mixture.

Revegetation of sites such as the Armstrong is very difficult, and sometimes not very successful. Some seed has established on the Armstrong, but by the spring of 2003 the area was actively eroding, the mats were slipping off the slope, and not much vegetation had established from the seeding.

Kenley Stone, a graduate student

from Montana State University, approached the Helena Ranger District about experimenting with native and nonnative sod versus mats and seeding, and seeding with no mats. The District agreed that this was a good project for the Armstrong mine, and the work began!

There were 600 rolls of sod (donated by Bitterroot Turf Farms) needing to be laid and staked in place. The slope is 65% to 70%, and people held themselves on the slope with ropes. To make the work just a little more challenging it rained on us all day long! Over 40 people worked for 8 hours without mishap to haul sod and put it in place on the slope.

We succeeded in greatly improving the ground cover on the

slopes of the mine. A follow-up visit to the area showed that while some of the sod had turned brown (a common occurrence with sod application in the summer) quite a lot was green, and being enjoyed by the local elk. The animals were churning up the sod in several places, but most of the sod was intact and expected to be actively growing into the future.

It may not be practical or necessary to attempt sod establishment on entire sites selected for rehabilitation, particularly if the acreage involved is extensive. However, if the experiment proves to be successful on this very demanding site, partial or full sod application on other difficult sites may be a practical, cost effective way to repair our most damaged wildlands.

Black-backs Need Fire

Rachel Feigley and Jodie Canfield, Wildlife Biologists

The wildfires of the past few years have dramatically changed the west. The flames and post-fire aftermath directly affected both people and animals. However, for some species, big hot fires are essential.

When fires kill trees, large numbers of insects are attracted to this new food source. In turn, insect-eating birds move in to take advantage of the bugs. These newly burned forests are especially important for species that nest in cavities. Woodpeckers are called primary cavity nesters since they are the first birds to excavate the burned trees. Secondary cavity nesters, such as bluebirds, chickadees, flycatchers, swallows, nuthatches, and wrens, then take advantage of the holes vacated by woodpeckers.

Black-backed woodpeckers are one of the most interesting woodpecker species to inhabit

burnt forests after a fire. These birds that blend into the burned environment are able to travel long distances to forage on wood-boring beetles in recently burned forests. Black-backed woodpecker numbers in a burned forest peak about 3 or 4 years after the fire, but birds remain as long as there are still insects to eat.

Salvage logging obviously affects the abundance of habitat for black-backed woodpeckers. To minimize the effects of salvage logging on fire-dependent bird species, we designed the Cave Gulch and Maudlow-Toston post-fire salvage sales to leave most of the area that burned intact and to leave additional islands of burned trees within the logged areas. Our assumption was that black-backed woodpeckers would nest in the undisturbed areas, but might make use of unburned islands within the logged areas to forage.

To determine if black-backed woodpeckers and other cavity nesters would occupy these areas that burned in 2000, and to test our assumptions about the salvage logging, we began a 3-year woodpecker survey in 2002. The survey occurred in three burned areas in the Big Belt Mountains; two of the areas had salvage logging activity.

Black-backed woodpeckers first arrive in April to initiate nesting. Their behavior at this time, which includes strong territorial displays and constant drumming to attract mates, makes them easier to find. To survey for these birds, a recorded drumming call is played along a mapped route every 200 meters. Males and breeding pairs respond to the call, and this response helps us document active nests, determine nesting territories, and estimate populations.

During the 2003 surveys, crews focused on the Cave Gulch Fire area. Black-backed woodpeckers were heard or observed along 10 of the 13 survey routes in the area not salvage logged and along 3 of the 10 routes in the logged area. Surveyors noted, as in 2002, that most of the sightings occurred in the transition zone between burned and unburned areas.

The surveyors noted that the bark had fallen off most of the severely burned snags so that few beetles or larvae were available. Therefore, most of the sightings in both areas occurred in the transition zone between the burned forest and the green islands. Survey crews also observed northern three-toed woodpeckers, downy woodpeckers, hairy woodpeckers, and northern flickers foraging in all three areas. Our surveys next year will tell us if we've "reached our peak" or whether the birds that need fire have moved on.

Public & Firefighter Safety on Large Fire Incidents

Amber Kamps, Lincoln District Ranger



If you attended any of the town meetings held during fire season 2003 you very likely heard a common theme. Hopefully you walked away knowing the high value fire managers place on your life as well as the lives of firefighters out on the line. Without question, preserving human life is the first priority in all fire suppression activities.

The Helena National Forest had four large fire incidents this season with over 1400 people, 60 pieces of equipment such as engines and dozers, and 12 aircraft assigned. Under unified command with County Sheriffs' Offices, over 200 residences and commercial businesses were evacuated.

Despite the large number of people involved, the complexity of the fires, and the extreme fire behavior that was experienced, there were no fatalities or serious injuries to either citizens or firefighters. That is worth saying again—there were no fatalities and no serious injuries! With over 80 people assigned, the Sheep Complex had only one minor injury reported. With over 400 people assigned, the Jimtown fire

had 6 minor injuries reported and one vehicle accident. The Lincoln Complex (Snow Talon and Moose Wasson Fires) had over 1000 people assigned, with 26 minor injuries reported and two vehicle accidents. Minor injuries included: sprained ankle, minor cuts, blisters, foot problems, and bee stings.

To summarize the 2003 fire season, the Helena National Forest had a total of 34 minor injuries, no major injuries, and 3 vehicle accidents. Most important, given the often hazardous conditions associated with firefighting, there were no fatalities. The minor injuries rate was 2% of the total personnel assigned. Approximately 450,000 hours of work were completed on these large fire incidents.

This is a tremendous accomplishment and the Helena National Forest does not share in it alone. The fires of 2003 brought a variety of people together, from local equipment operators to fire personnel from multiple and nationwide agencies, all working as a team on the Helena National Forest. Every

individual at every level of the fire organization is responsible for safety. This responsibility rests on those digging fireline, division supervisors, dozer operators, aircraft pilots, incident commanders, and agency administrators. Safety is a shared responsibility as diverse individuals work together as a team and entrust others with their lives. This trust and teamwork crosses boundaries and jurisdictions and is quite simply awesome when seen in action.

I think our shared accomplishment is a result of relying on personal responsibility for safety and also of the professional expectations of fire managers and leaders, who have set the highest standard of safety awareness. Looking back on the season I remember how each and every decision on strategies and tactics were looked at from a safety point of view. At a fire meeting Lewis & Clark County Sheriff Cheryl Liedle said, "The only thing that matters is that we don't get anybody hurt". In a memo dated August 19th after the Lincoln Complex blew up from 8092 acres to 23,054 acres in a 24 hour period, Helena National Forest Supervisor Tom Clifford stated, "Let me emphasize above all else, though, that our primary job is safety – of our employees and of the public. When the fire season of 2003 is behind us, I will judge success not by the number of acres we protected, but by the safe return of each and every one of you!"

On behalf of the Helena National Forest I would like to thank all of our cooperators in our shared commitment to this highest standard of safety first—every fire—every time.

Employees Participate in Helena's Festival of Trees

Sandy Berg,
Administrative Assistant



Helena National Forest employees take a deep interest in all kinds of trees. In fact, they used a different kind of expertise than usually called for in their jobs while creating a tree for the Intermountain Children's Home Festival of Trees this past December. This is the third year that the Forest has participated in the Festival of Trees, and each year brings fresh ideas for a new and exciting tree. The theme of the tree this year was "Our Forest Stars" and showcased tin and leather ornaments of animals found on the Helena National Forest, all homemade by talented Forest Service employees. The tree was topped by a lighted star that showed Ursa Major, a.k.a. The Great Bear, a.k.a. The Big Dipper. While the tree showcased our four-legged Forest stars, we consider our two-legged Forest stars to be those employees who donated time and dollars to benefit one of the worthy organizations of our community and surrounding area.

Looking for the Elusive Lynx

Rachel Feigley and Jodie Canfield, Wildlife Biologists

Lynx are one of three wildcat species found in Montana. They were listed as “threatened” under the Endangered Species Act in 2000. Since then, biologists on the Helena National Forest have been mapping lynx habitat and looking for these elusive animals. In 2002, a three-year survey was initiated in the Big Belt Mountains; surveys in the Elkhorn Mountains began in 2003.

Lynx roam widely and have a home range area of 25-50 square miles. Cool and moist coniferous forests of lodgepole pine, subalpine fir, spruce, and Douglas-fir provide habitat for the lynx and its almost exclusive menu item - snowshoe hare.

Lynx are medium-sized cats weighing up to 23 pounds. A typical adult is about 3-feet in length. The most distinguishing characteristics of lynx are tufted ears and large hairy paws. These paws function like snowshoes to keep them on top of the snow, giving lynx a winter advantage over other predators in snowy high-elevation forests.

The surveys we conducted followed a nation-wide effort called the National Lynx Detection Protocol. This survey includes 25 transects, 2 miles apart in a random grid pattern in potential lynx habitat. The beginning of each transect is located using a Global Positioning tool (GPS). The transect consists of 5 plots set up 100 meters apart on a compass line. Each plot has a visual attractor (shiny pie pan hanging from tree) as well as something for the nose (a carpet square doused with a mixture of beaver castorium and catnip oil). These attractants are meant to lead the lynx to a piece of carpet spiked with nails, which is attached at the bottom of a tree. This works because the pad is also spiked

with smelly oil and catnip, and lynx, like all cats, like a nice scratching post.

Since the transect points were random, getting to them was interesting. Many required a full day to drive hike, and/or bushwhack to the starting point. Some of the transects were located in thick dog-hair lodgepole stands crisscrossed with downfall; others required scaling through and around house-sized boulders. Once the transects were established and the characteristics of the habitat assessed, field crews returned to each plot on two week intervals to collect any carpet pads that had snared hair. At each check, plots were “re-baited” (i.e. more smelly stuff and catnip was sprinkled on the carpet pads). The plots were taken down after the 3rd check. The hair samples were sent to the

genetics lab at the University of Montana for identification. The lab uses a very sophisticated DNA sequencing procedure that allows them to positively identify species from body tissue samples.

During this first season, crews collected 25 hair samples in the Big Belt Mountains. The test results showed that we had collected hair from bobcat, coyote, black bear, and domestic cattle, but alas no lynx. In 2003, 34 samples were sent from the Big Belts and 16 from the Elkhorn Mountains. We expect to get the results back from the lab in March.

Lynx are most common in the boreal forests of Canada, where their populations fluctuate with the snowshoe hare densities. Lynx populations in the southern boreal forests may be a

function of “overflow” from the north when population is rising. Where habitat in the south is favorable, populations persist.

Lynx were once trapped all over the mountainous parts of Montana, including the Big Belt and Elkhorn Mountains. Today, we know that lynx populations have survived in the wetter, more contiguous forested habitats found west of the Continental Divide. But we don’t know if the drier, more fragmented forest habitats east of the Divide are important to the long-term persistence of lynx populations. Therefore, the survey results from the Big Belt and Elkhorn Mountains will help provide some of those answers and enable the Helena National Forest to plan management activities that will enhance and maintain lynx habitats into the future.

Lewis and Clark Bicentennial Events on the Forest

Sara Scott, Interpretive Specialist and Archeologist

It’s been almost 200 years since the Lewis and Clark expedition made their way up the Missouri River. They spent quite a bit of time on what are now Helena National Forest lands. As part of the upcoming bicentennial commemoration, the Helena Forest developed an interpretive program to help share the history of the expedition with forest visitors.

In July of 1805, the Corps of Discovery passed through the Gates of the Mountains just 25 miles north of Helena. Last summer on busy weekends at Meriwether Day Use area on the Missouri, a forest interpreter talked about items the expedition carried with them as they arduously paddled upriver.

Replicas of expedition artifacts set up on a table let visitors slip back in time to an era when only canoes traveled the mighty river. Replica items included copies of the journals, writing equipment including quills and feathers, powder horns, flint and steel, sewing kits, and candle molds.

In July of 1806, Meriwether Lewis and 9 men crossed Lewis and Clark Pass northeast of Lincoln. Last summer, twelve guided hikes were led up to the pass including two hikes under a full moon. The tours spoke to highlights of the expedition’s notes as they passed through the area—complaints of “musquitoes” [mosquitos], the trepidation at running into the “Minnetares” Indians [likely Blackfeet or Crow], the moose

that frightened Lewis’ dog, and the joy in recognizing familiar landscapes [Square Butte] as the men crossed Lewis and Clark Pass. Guided hikes also focused on the natural history of the area and on ancient Indian people that traveled trails along the Blackfoot River and Alice Creek.

More Lewis and Clark interpretive events are planned for the summer of 2004.



What Ever Happened To The North Elkhorns Project?

Jodie Canfield, Wildlife Biologist and Elkhorn Coordinator

A court decision may not only decide the fate of the North Elkhorns Vegetation project, but also our ability to complete a study on the effects of fire on sensitive wildlife species.

The Rocky Mountain Research Station is leading the effort to determine the most productive habitats for cavity-nesting birds among three fire conditions (prescribed fire, wildfire, and fire exclusion) in the intermountain west. Two years ago, they approached the Helena National Forest about including the ponderosa pine thinning and prescribed burning project in the northern Elkhorn Mountains in their 8-state study.

Head researcher Vicki Saab was aware that the project was under litigation by two environmental groups, and that there was some risk of never having the opportunity to monitor the “post-treatment” results. But when Vicki toured the area two years ago, she was convinced

that the project, which thins out the smaller trees to open up the forest, had great potential to help us understand the trade-offs of active management versus no action.

So we rolled up our sleeves and went to work collecting information about the structure of the forest in two areas – a treatment area that is part of the North Elkhorns Vegetation Project, and a control area that would not be thinned or burned. We found that the younger trees in the forest were shading out the shrubs and grasses, making it tough for many wildlife species to find food. The delicatessen of this forest is its aspen groves, which need to be periodically rejuvenated by fire.

Last spring, contract biologist Lisa Bate and seasonal employee Troy Bader took on the task of documenting all the birds that live in the 2 areas, and following cavity-nesting birds until they found their nest trees. They

tracked down 25 woodpecker nests last summer – all located in aspen groves. Then the fun began. Using a “peeper” camera, they were able to look into the nest cavities and count the eggs and then the hatchlings. In this way, they collected data on mortality rates through the nesting season. How do eggs disappear and young birds die? Lisa suggested that they become a menu item for red squirrels while woodpecker parents are busy finding insects for their hatchlings. Cavity-nesters are important because they eat bugs and control the levels of insects that attack the forest.

The Rocky Mountain Research Station will continue to compile and analyze the data we’ve collected so far while we wait for disposition of the lawsuit. Data on birds in the two areas will be collected for one more spring. This will give us one page in the story about the relationships between the forest and its occupants. We hope we can complete the thinning and



Large, fire-scarred Ponderosa Pine we want to maintain on the landscape.

burning and add to our knowledge of management trade-offs.

Insects Attack Area Forests

Jack Kendley, Forest Silviculturist

The continuing drought is weakening area trees and making them more susceptible to insect attack. Three major insects are active in the area.

The Douglas-fir beetle is a bark beetle that takes advantage of weakened Douglas-fir trees. This insect has become quite active in trees damaged by the fires of 2000. Control measures have been taken using pheromones to trap the insect or in some instances to disperse it from high value stands such as campgrounds or old growth forests.

Mountain pine beetle is a bark beetle that is attacking ponderosa

pine, lodgepole pine and whitebark pine. The insect is quite active in ponderosa pine in the Helena area and in the southern Big Belt Mountains. Bark beetle attacks can be identified by pitch oozing from infested trees and boring dust around the base of the tree.

Western spruce budworm is a defoliating insect that attacks new foliage on Douglas fir. The insect is active in the Flesher pass area and the upper Sulphur Bar drainage near Deep Creek.

Every year the insect activity on the Helena National Forest is mapped. Insect activity

has roughly tripled between the mapping done in 2003 as compared with 2002. There is a great deal of information on the internet about insects and diseases that affect conifers, including the pathogens which are active in the Helena area. You can acquire information initially at www.forestryimages.com or simply type in the name of the insect or disease on any search engine.

There are new reports of a fatal fungus attacking blue spruce, the most predominant conifer growing in Helena. The Cytospora canker is especially severe in older blue spruce trees

during periods of prolonged stress. Needles on infected trees turn brown and die and display large areas of dried resin. Branch pruning will reduce the spread of the fungus and deep and thorough watering will improve the health of the tree.



Our Surveyors, Sometimes Overlooked but Always Essential

Becky Sitch, Land Surveyor

The Helena National Forest has over 1600 miles of National Forest boundary lines. The Property Boundary Management program includes the responsibility of surveying and marking these lines on the ground. Currently only about 600 miles have been marked and posted to Forest Service standards, so we've got lots of work to do. Forest activities, such as timber sales, thinning projects, mine reclamation, encroachment/trespass issues, and hazardous fuel reduction projects all dictate where landline projects will be accomplished. With land prices and the value of land resources increasing, boundary location is becoming a greater priority for both the government and private sector.

With any survey, we retrace the steps of the original surveyor. This includes acquiring copies of the notes and plats of the original survey which include information on corner monument descriptions, accessories to the corner, bearings and distances between corners, topography calls and tons of other interesting information. The Helena Forest Supervisor's Office maintains a microfiche copy of all the original Homestead Entry Surveys, Mineral Surveys and Township/Range surveys for all lands within or near the Helena Forest Boundary.

Searching for evidence of the original survey is the fun part of the job. Many of the projects we are involved with date back to the 1870's with scribed stones

or wooden posts used as corner monuments. It is always a thrill to locate monumentation that was established over 100 years ago. In some cases, corner monuments are so badly deteriorated that we remonument them with aluminum monuments that will perpetuate the corner location for future use, and we record this information in the Clerk and Recorder's Office. We blaze and paint existing trees located on or near the boundary line and attach signs to mark the boundary. If no trees are available, we use steel posts. A record of boundary lines that have been marked in the past is also kept at the Supervisor's Office. If you have a question on a certain boundary, we may be able to assist you.

Other types of work performed with the boundary management program are site surveys (for bridges, trailheads, archaeological sites, stream rehabilitation), control surveys for photogrammetry projects, rights-of-way surveys, encroachment/trespass surveys, Small Tracts Act surveys. It is also necessary to provide drawings, plats, exhibits and/or legal descriptions for these projects. The diversity of projects that we deal with keep the job interesting and rewarding!

Managing and Preserving Painted Prehistoric Images on the Helena Forest

Sara Scott, Archaeologist and Interpretive Specialist

Since 1997, the Helena National Forest has actively searched for and recorded over 20 prehistoric pictograph sites in the Big Belt Mountains. Canyon mouths and rockshelters are likely locations to find these ancient sites. Painted images include tally marks, dots, elongated human figures, snake and lizard-like figures, handprints, rayed circles, and geometric designs. The pigment used to paint canyon walls was iron oxide mixed with blood, fat, berry and plant juice, charcoal, water, and urine.

Two of the largest Big Belt rock art sites in Hellgate Gulch and the Gates of the Mountains have been recorded at full scale using photography and stipple tracing. The detailed site recording

provides a baseline by which the sites can be monitored for natural deterioration and/or vandalism. In addition, modern graffiti was removed from the Hellgate site to discourage future vandalism. A large forest fire in the north Big Belts in 2000 precipitated post-fire erosion control at the Hellgate pictographs.

In an effort to protect and conserve pictograph sites, the Forest contracted with a rock art conservation expert in 2000-2001 who visited the pictograph sites and noted the condition of each image. Damage to images was recorded along with what caused the damage (natural deterioration or vandalism) and what could be done to slow it down or reverse it. At four sites where painted images



Prehistoric pictograph in the Gates of the Mountains.

were flaking from the rock surface they were created on, small amounts of paint pigment were collected and were radiocarbon dated through a contract with Texas A&M University. The radiocarbon dates for these sites show that they were used between 1440 to 1170 years ago.

Archaeological and ethnographic information about early Montana Indian people suggest pictographs sites may have been used by

shamans as an interface or portal into the supernatural world. Shamans possessed great power and were sought out to cure sickness, control the weather, and find game. Pictograph sites were also used as vision quest sites where young initiates would fast in isolation and await visions of protective spirits. The pictographs that remain today likely reflect images seen in the minds of shamans and vision questing individuals.

Shuttle Columbia Recovery

Marvin Carpenter, Assistant Fire Mgt. Officer

On a cold winter day last February the space shuttle Columbia tumbled to earth. As we watched this event unfold we did not anticipate how it would affect Helena National Forest employees.

The Columbia was the nation's first shuttle to orbit earth and return safely. It had made 27 successful trips before its 28th launch on January 16, 2003. It was the 113th shuttle flight overall. This was the second to end tragically in the loss of a shuttle and its crew. The tragic ending to Columbia began on January 16 during launch. It was later determined that 81.7 seconds into launch a piece of insulation foam came loose from a fuel tank. As it fell it struck the leading edge of the left wing. This strike caused a breach to the wing. This breach was of a size that allowed

superheated air to penetrate into the wing upon re-entry to earth's atmosphere. As Columbia raced through the skies over California pieces of the shuttle were seen coming off. The shuttle began to tumble and break apart over Texas. Then 16 minutes from touch down at Kennedy Space Center the shuttle Columbia experienced total breakup and the deaths of the seven crew members.

Shortly after the accident the Helena National Forest was asked to assist with the recovery efforts underway in Texas. First to respond were two 20-person crews. From that point until late April the Forest continued to support the recovery effort with additional supervisory personnel. The Helena National Forest ended up sending a total of 86 people to help with the recovery. Many



Helena Forest employees "on the grid" in Texas.

expressed a deep sense of honor and privilege to be able to assist in the effort.

The primary search area covered 2.3 million acres of Texas and Louisiana. Ultimately, 84,000 pieces of the Columbia were recovered, about 38% of the shuttle. Over 25,000 people from 270 organizations took part in the recovery, expending 1.5 million person hours during the search.

As a result of the recovery effort, NASA was able to determine the cause of the accident. After correcting the problems, the shuttle fleet is planned to return to space March 2005. To those who participated in the actual recovery effort and to those who stayed behind and took care of business, we very much appreciate another job done well!

School Is Out—Outside, That Is

Samsara Chapman, Helena Forest Foundation

The Helena Snowschool is an unforgettable winter field trip that combines real science with hands-on learning. Bundled up and fitted with snowshoes, kids and adults ventured out into the winter wildlands to discover all the living creatures under and on top of the snow.

The Helena Forest Foundation (HFF) received a grant from the Montana Wilderness Association (MWA) for 50 pairs of snowshoes to fit all ages and sizes. This partnership has brought together two local non-profit organizations to share a common goal: a desire to expose all ages to the fun and wonder of their winter environment. Helena Snow School sites will include the Helena National Forest, regional parks, and local open spaces.

HFF is working with after-school programs, home schoolers, boy scouts and girl scouts, and any group interested in offering field trips focused on winter ecology. Foundation and MWA employees and volunteers are providing support and logistics to the Helena Snowschool, getting it up and running and developing an approved science curriculum for use out on the snow.

While participants are out on snowshoes they will be identifying wildlife tracks, measuring snow depth, examining snow-flakes and -crystals, and discovering how animals can make it through harsh Montana winters. Guided by Snowschool leaders, students will experience real-life ecology lessons. As the program develops, we will continue to work with

students to review what they have learned and to allow for participation in follow-up projects.

If you would like more information about the Helena Snowschool or if you would like to find out about volunteering opportunities, please contact the Helena Forest Foundation at 406-449-5201 ext. 270 or ext. 267.



A young winter recreationist gets a little help with her bindings.

40 Years of the Wilderness Preservation Act

Amy Teegarden, Community Outreach Coordinator

Authors, philosophers, and preservationists have long struggled to define wilderness.

For some, it is a concept, a state of mind, opportunities. For many, wilderness is best described as a place where nature and its forces work undisturbed by human activities.

Wilderness has shaped our heritage and enriched our lives. In 1964, Congress passed the National Wilderness Preservation Act as a means to protect what remained of our Nation's last wild places. With the signing of the Wilderness Act by President Lyndon B. Johnson on September 3, 1964, the National Wilderness Preservation System was established to "...secure for the American people of present and future generations the benefits of an enduring resource of wilderness."

Congress defines Wilderness as an area untrammelled by humans. However, Native peoples inhabited these wilderness areas for millennia and today a broad range of human activities are still permitted in wilderness areas. Hiking, horseback riding, camping, hunting, fishing and grazing are all allowed. However, the use of mechanized or motorized equipment, including mountain bikes, generators, chain saws, is prohibited in wilderness.

The Helena National Forest manages two very diverse designated wilderness areas, the Gates of the Mountains and Scapegoat Wilderness areas. In 1964, Congress designated the 28,562 acre Gates of the Mountains Wilderness. Explorers Meriwether Lewis and William Clark entered the Rocky Mountains along the limestone cliffs that tower above the Missouri River to form the official Gates of the Mountains. While the Gates of the Mountains Wilderness is bordered by popular recreation attractions, it receives fewer visitors than many other wilderness areas in Montana. The area offers plenty of steep canyons, craggy peaks, and wide-open meadows. The habitat is excellent for birds of prey, mountain goats, and bighorn sheep. Late June and often through July a wild array

of flowers carpets the meadows, including lupine, larkspur, fairy slippers, and dogtooth violets

The Lincoln Ranger District of the Helena National Forest manages 80,697 acres of the 239,936-acre Scapegoat Wilderness. The Scapegoat was designated wilderness in 1972. The long northwest border of Scapegoat Wilderness is shared with the Bob Marshall Wilderness. The Scapegoat's rugged ridgetops slope down onto alpine meadows, heavily forested hillsides, and timbered river bottoms. Fish are plentiful in 14 lakes and 89 miles of streams. Elevations range from about 5,000 feet on the Blackfoot River to about 9,400 feet on Red Mountain. Wildlife includes wolverines, moose, deer, elk, mountain goats, mountain sheep, mountain lions, black bears, and numerous grizzly bears. Hunting season, opening the second half of September, draws the most visitors to this area. The Scapegoat includes 50 miles of the Continental Divide National Scenic Trail.

If you have any questions about the Gates of the Mountains Wilderness Area, please contact the Helena Ranger District at 449-5490. For questions concerning the Scapegoat Wilderness Area contact the Lincoln Ranger District at 362-4265

WILDERNESS PIONEERS

The USDA Forest Service has a long history of wilderness management. Aldo Leopold, Arthur Carhart, and Bob Marshall, all one-time Forest Service employees led the way. In 1924 the Forest Service designated the first wilderness area. Not until 1964 did the US Congress, through the Wilderness Act, assume the role of designating wilderness areas.

Arthur Carhart (1892-1973) became the USDA Forest Service's first full-time landscape architect in 1919. Assigned to plan recreational development of Trappers Lake in Colorado, he instead strived for keeping the lake roadless and pristine. It remains so to this day, the first formal application of the wilderness concept in the United States. In 1926 Carhart's efforts lead to the protection of the Boundary Waters Canoe Area Wilderness. Carhart later wrote that "there is no higher service that forests can supply... than the healing of mind and spirit which comes from... great solitude."

Aldo Leopold (1887-1948) began his career with the USDA Forest Service in New Mexico. Inspired by Carhart's kindred spirit, he championed creation of the Gila Wilderness in 1924, the first designated wilderness area in the United States. Leopold later pioneered the field of wildlife management, weaving together forestry, agriculture, ecology, biology, zoology and education. His philosophy evolved from use-oriented conservation to a holistic view that soil, water, biota, and other factors are interwoven on the land. His land ethic has deeply influenced land managers worldwide.

Bob Marshall (1901-1939) foresaw early in his career a need to reserve a percentage of U.S. forest lands as recreation areas. In the 1930's, as chief of recreation for the Forest Service, he reformed the use of wilderness and primitive areas by banning logging, road-building, and motorized vehicles. With Aldo Leopold and others, he co-founded the Wilderness Society in 1935. In 1938, he took a team across the West to map and propose millions of acres for designation as primitive or wilderness areas. Shortly after his death, the Forest Service designated a wilderness in his honor, the Bob Marshall Wilderness in Montana.

Tri-County Fire Working Group—Recognition of a Partnership

Duane Harp, Helena District Ranger

Forest Supervisor Tom Clifford often comments that "there's little that we do that doesn't involve a partnership of one kind or another." Those partnerships range from volunteer groups to local and state governments to other Federal agencies, and are key to the Helena National Forest accomplishing its mission of 'caring for the land and serving people'.

One such partnership, which has provided many benefits to the Forest and the communities we serve, is the Tri-County Fire Working Group. It consists of members from disaster and emergency services for Broadwater, Lewis & Clark, and Jefferson Counties, Helena City Fire Department, Lewis & Clark County Rural Fire Council, Lewis & Clark County Sheriff's Department, Montana Department of Natural Resources, Helena National Forest, Butte Field Office of the BLM, and private citizens and contractors. The work group was formed in 1984 to address issues of mutual concern relative to the threat of wildfires. Sonny Stiger of Wolf Creek, one of the organizers of the group said the idea was based on his work with a similar group in Colorado. "Prior to forming the Tri-County Working Group, a lot of folks were working hard to improve the public's understanding of problems created by the build-up of forest fuels, but weren't making much progress. By working together, we were able to speak with one voice and people started to listen", said Stiger.

While the group has worked primarily on wildfire prevention, preparedness, and suppression issues, they have also dealt with

being prepared for and responding to other events such as floods and earthquakes.

The group's work has paid off in many ways, especially in the area of educating the public about the hazards associated with living in a forested environment where wildfire is always a potential risk. The group has produced brochures and sponsored public service announcements to heighten public awareness of the hazards of living in the "wildland-urban interface". They also undertook a major mapping project which displays the fuel hazard ratings for the tri-county area, and conducted workshops on how property owners can create "defensible spaces" around their homes. They have assisted in developing interagency fire protection plans and provided support for acquiring State and Federal grants for assisting private landowners in reducing fuels on their properties. Of particular significance are the close working relationships developed among members that have paid big dividends in responding to stressful events such as the fire seasons of 2000 and 2003. Paul Spengler, Lewis and Clark County Director of Emergency Services and chair of the working group said "working together on these many issues has served to strengthen our ability to act together in a positive way during emergencies."

The Helena National Forest is proud to be associated with such a fine group of dedicated individuals who care deeply about the communities and people they serve.

Winter Logging—Easy, Hard, or Both?

Mike Cole, Townsend District Ranger

It was something that Dave McCann had talked about and championed throughout his career. McCann, the Helena National Forest's Timber Sale Administrator, always felt that winter logging was a good method to reduce impacts to the forest, especially to soils. He also knew that it helped the economy by providing year-round employment to members of the timber industry who were often laid off during the winter months.

Over the past several years, McCann has been able to see winter logging become a reality on the Cave Gulch and Maudlow-Toston salvage projects, two ongoing efforts to provide economic benefit to local sawmills using trees burned during the fires of 2000. On the Maudlow-Toston project, he has also been overseeing the use of helicopters to salvage trees,

a first on the Helena National Forest. Helicopters provide another tool to reduce impacts to the surrounding forest and soils, especially on steep slopes.

During the winter, equipment can travel off constructed roads and move logs through the forest across a frozen "pavement" of ice and snow. Unless the snow pack gets too deep, operations can continue throughout the winter. Vegetation, including young tree seedlings, is better protected under the snow pack. According to McCann, "winter logging is hard on the workers and the equipment, but it is really easy on the ground."

The visual effects of winter logging are most dramatic in the spring. To the untrained eye, there is little indication that logging activity has taken place so recently on the landscape. Shrubs,



grasses and wildflowers cover the landscape. The snow and ice "travel routes" have all melted, leaving little or no evidence of the passage of heavy equipment except along constructed roads. Continued innovations to equi-

ment will allow logging to become yet more versatile and less impactful to the environment, and the public can expect to see even less disruption to the visual landscapes following timber harvest operations.

High School Students Monitor Forest Health in the Scapegoat Wilderness

Liz Burke, YFMP Program Manager



YFMP students r-l: Marcus Silverthorne, Rachel Muscarelli, Jeremy Stringer, Lane Berg, Eric Leitzke, Brenna Kindrick, Liz Burke (instructor), Charlie Evanson, Dillon Martini. Not picture: Orrin Tiberi, Tom Pedersen (instructor)

Nine high school students spent the summer of 2003 monitoring forest health under the direction of Helena National Forest professionals. For seven weeks students measured water quality, stream health, vegetation, and soil quality at over 30 sites throughout the Helena National Forest. New in 2003 was a three-day monitoring trip into the Scapegoat Wilderness at Heart Lake, where students studied camping impacts at three sites. Students enjoyed backpacking into the wilderness and made valuable suggestions for minimizing camping impacts upon the land.

The Youth Forest Monitoring Program (YFMP) is a seven-week

program in which 9-12th grade students from area schools have the opportunity to learn forest health monitoring skills, network with forestry professionals, and present their opinions and data to the Forest Service as well as to the general public. Many alumni of the program return as seasonal employees of the Forest Service in subsequent years. YFMP is made possible through a partnership between the Helena National Forest, Helena Forest Foundation, and University of Montana-Helena.

For more information on YFMP 2004, and how to apply for a position, please call 449-5201 extension 213.