



Success Stories



Volume 1, Issue 4

September 2002

Superior Restores Forest Health After Blowdown

The powerful storm that ripped through northern Minnesota on July 4, 1999, flattened thousands of trees on 477,000 acres of Superior National Forest land. It was one of the largest “blowdown” events ever recorded in North America, and it constituted the single greatest challenge to forest health the Superior had ever faced.

Search and rescue crews spent nearly two weeks scouring every area of the Forest and Boundary Waters Canoe Area Wilderness for people stranded by the storm. Hundreds of relief workers cleared roads and trails of debris in the days and weeks following the blowdown. State and federal agencies worked together to reduce the threat of wildfire, and protect property in the adjacent communities hit hardest by the storm.

But these initial recovery efforts were only the beginning.

Nearly one-third of the BWCAW was affected. The Forest was suddenly filled with high concentrations of hazardous fuels that transformed the Superior into a giant matchbox.

After clearing roads and campsites, and eliminating dangerous blowdown fuels near private property, the Forest Service launched an intense analysis to determine the best course of action.

This “fuels risk assessment”—completed in the fall of 1999—concluded that fires in the blowdown area would start more easily, spread more quickly, and prove more difficult to contain than fires in non-blowdown areas. Based on that assumption, recommendations were made for addressing the increased risk of wildfire through a series of preventative fuel treatment projects.

Timber salvage sales and other contracts allowed the Superior to clear more than 3,000 acres of downed trees in 1999. Salvage logging began in June 2000 following the final Environmental Impact Statement (EIS). To date, nearly 30,000 acres outside the BWCAW have been cleared of debris.

Prescribed burning in the BWCAW began in the fall of 1999, and is scheduled to continue for another five to seven years. As of Sept. 17, more than 2,400 acres had been treated with prescribed burns inside the BWCAW.

The historic July 4, 1999, storm offered forest managers a rare opportunity to observe how human and natural systems react and adjust to large-scale changes. By studying the storm’s effects and evaluating our response, the hope is that forest managers will learn valuable lessons for dealing with natural catastrophes in the future.

Inside:

Red Card Diaries

Wood Filters on the Wayne

Restoring Burned Lands

Hoosier Tornado Response

Public Lands Day



Prescribed burning in the Superior’s BWCAW.



Public Lands Day on Hoosier NF

Kids shoveled gravel while grownups shuttled wheelbarrows of fill to muddy areas along the trail. Public Lands Day on the Hoosier National Forest was a flurry of activities celebrating a partnership between our community and an historic house on Lake Celina.

The program on Saturday, September 28, kicked off with an educational program on the historic Rickenbaugh House. Approximately 50 people attended a program by Nancy Myers, Recreation Planner on the Tell City District, and Peggy Brooks, Indiana Department of Natural Resources, Division of Historic Sites. The program had technical difficulties, but under less-than-ideal circumstances, the program succeeded in demonstrating how the historic property has been brought back from the brink of ruin and what it has taken to restore it to its current condition. The program further challenged people to volunteer and work towards a vision using examples from other similar properties.

After the program, people stayed to examine tables full of the artifacts collected from the site over time. Some of the items were found in an excavation around the outside of the house during the 1999 PLD event before work began to drain water away from the house. Other items were found in the attic or between the walls of the house during renovation. Some items, labeled as mystery items, were even identified by visitors who were familiar with historic tools and household items.

Following a picnic lunch on the lawn of the house, the group went to work. Approximately 20 people stayed to volunteer on a variety of projects including graveling portions of a muddy interpretive trail of the area around the Rickenbaugh House. Others worked on a boat ramp, and another group raked, seeded, fertilized, and mulched the historic community cemetery adjacent to the Rickenbaugh home.

Many of the Rickenbaugh family return to the site annually for the PLD program and the event has become something they look forward to each year. Two hours before the program was to start, some of the family were already waiting on the front porch visiting with each other and anxious for us to unlock the doors so they could check on the progress inside.

PLD on the Hoosier accomplished work on projects in the area, but more importantly it maintained the connection between the Rickenbaugh family, the local community, and the historic house on the shores of Lake Celina.



Youngsters received a hands-on education on trail maintenance during the annual Public Lands Day program on the Hoosier NF.

—submitted by Teena Ligman



Restoring Forestland After the Fire

It is the flames that grab the headlines. Once the fires are extinguished, oftentimes the attention shifts to other concerns and the smoldering forestland is soon forgotten.

While many wildfires have minimal consequences for the land—and are actually signs of a healthy natural cycle, posing few threats to the land or people downstream—some fires require special efforts to head-off problems afterwards.

In an effort to put fire-damaged lands on a path to recovery, the USDA Forest Service Burned Area Emergency Rehabilitation (BAER) program was created to assess the impact of fires and outline a strategy for recovery. The BAER program addresses the Forest Service's key goals of protecting life, property, water quality, and restoring deteriorated ecosystems.

In extreme cases, the loss of vegetation exposes soil to erosion. This in turn leads to water runoff that may cause or increase flooding, sending sediments downstream and damaging houses or filling reservoirs, and putting endangered species and community water supplies at risk.

BAER teams are staffed by specially trained professionals: hydrologists, soil scientists, engineers, biologists, silviculturists, range conservationists, archeologists, and others who evaluate the burned area and prescribe treatments to protect the land quickly and effectively.

In most cases, only a portion of the affected land is actually treated. This would include severely burned areas, very steep slopes, places where water runoff will be excessive, fragile slopes above homes, businesses, municipal water supplies, and other valuable facilities. The treatments must be initiated as soon as possible, especially before the next damaging storm. Time is critical if treatments are to be effective.

Special funds are authorized for BAER activities and the amount of these expenses varies with the severity of the fire season. Some years see little BAER activity while others are extremely busy. Regions 8, 9 and 10 have authority to approve BAER proposals equal or less than \$100,000. All other regions have authority to approve BAER proposals equal to or less than \$500,000. On average, BAER expenses have been about five percent of the cost of fire suppression.

The Forest Service coordinates rehabilitation plans closely with private landowners and with other Federal and local agencies, such as the Natural Resources Conservation Service (NRCS), National Park Service (NPS), the Bureau of Land Management (BLM), and local forestry departments.

Working with partners and the public, the BAER program helps facilitate rebirth and rehabilitation in national forests. After the smoke has cleared and the attention shifts elsewhere, the healing process begins in deliberate steps under the BAER team's watchful care.



Once the fire is contained, the long and arduous rehabilitation process begins.



Red Card Diaries: Tales of a First-time Firefighter

It was winter in August in Southern California. At least it looked that way.

White ash stretched across the valley at the base of the Volcan Mountain Range near the town of Julian. Days earlier the Pine Fire had digested the entire valley and nearly 62,000 acres of the surrounding mountains. An utterly lifeless landscape remained. The blackened skeletons of thousands of chaparral littered the dusty soot, their limbs twisted and turned as if in a final, futile shield against an inconceivable horror.

“Look,” a squad mate motioned me over to his side. He gestured with his Pulaski to the ground in front of him. Before the axe-hoe head was a snake, scorched white and petrified in mid-slither. “Guess he wasn’t quick enough,” he joked.



Owen Smith earned his Red Card credentials in July and shipped out for the Pine Fire in August.

I shook my head. The fire had passed, but in the breadth of the carnage—from the snake to the sweeping scale of the valley—its ghost lingered. As I walk through the valley of the shadow of death, I recited quietly in awe of the aftermath. I paused, removed my helmet, and wrung the sweat from the camouflage do-rag I wore over my head. A shadow of any sort sounded appealing. It was high noon and one hundred and five degrees. But somewhere out across the valley, beneath the surface, awaited something much, much hotter.

The infrared eyes of aerial reconnaissance flights had detected multiple “hot spots”: subsurface pockets of smoldering fuels such as roots systems, logs, or branches which could re-ignite the entire area. If they weren’t extinguished, neither was the fire.

The hunt was dubbed “mop-up”; the technique, “gridding.” Under the grueling sun, my twenty-person crew fanned out across the valley, side by side, no more than fifteen feet between each person. We proceeded cautiously and with every discriminating step glided gloved hands over and around tree stumps, logs, and heavy concentrations of white ash. Most debris was surprisingly cool to the touch. The sun had warmed others. An ash patch adjacent to one stump, though, was hot.

“Over here!” came a holler from the right side of the line.

Three crewmates converged on the area, and shoveled a crescent moon three feet deep around the heated ground. A mangled root jutted out into the air, crackling and smoking. Orange embers swelled beneath gashes in the bark.

“Hose it!” came the command.

A crewmate carrying a “bladder” bag hustled over, pumped the attached hose, and sprayed the entire crescent trench with the gallons of a foam-water mix strapped to his back. Heavy breaths of steam rushed into the air. Under the steady spray, Pulaskis rhythmically churned the wet soil with the dry soil. One by one the embers hissed and died. The last wisps of steam drifted away. Beads of foam dripped from the black root. It was done.

(continued on Page 7)



Wood Filters Clean Wayne NF Acid Mine Runoff

For lack of an umbrella, a district ranger on the Wayne National Forest learned of a pioneering method for cleaning harmful contaminants from streams and rivers using wood fiber filters developed at the Forest Products Laboratory in Madison, Wis.

The Wayne NF's Ironton District Ranger Mike Baines first heard about the filters as he waited out a rainstorm talking to a research scientist from the FPL. Baines was intrigued with the notion of using wood fiber to clean water.

"I thought at the time, the perfect place to try these filters would be on the old Addis coal mine," Baines said. "If they could help clean runoff from that site, it could probably clean just about anything."



The Addis Mine site is the first to use wood fiber filters to clean acid mine runoff on the Wayne National Forest.

The FPL's research focused on the use of wood fiber filters to clean phosphates, heavy metals and other contaminants out of runoff from farms and abandoned mines. The filters are made from a variety of wood fibers such as juniper that show great promise in cleaning water contaminants in a more effective and less expensive way. The filters have even been tested on cleaning oil from highway and parking lot runoff.

"We have filters set up in the Wayne National Forest in Ohio and around the New York City watershed area," said Roger Rowell, research project leader at the FPL. "The problem in the Wayne is acid mine discharge (AMD). There are a large number

of abandoned mines in the area that would be very expensive to clean up. In the New York City area, the problem is phosphates from dairy farms in the Catskill Mountain area."

Rowell says that so far the filters are proving to be about 90 percent effective in removing particles and sediment, 80 percent effective in collecting heavy metals on the Wayne NF, and about 80 percent effective in removing phosphates from the dairy farms north of the New York City watershed area.

"We expect our research to increase those numbers," he said. Because agricultural runoff and AMD are common problems, he believes there is a huge potential market for these filters.

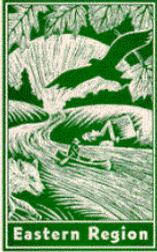
When Rowell visited the former mine site on the Wayne NF where he and others are experimenting with cleaning AMD, he made a peculiar discovery.

"School children were actually coloring rivers and streams orange in their artwork," he said. The contamination from former mines in the area not only has affected the local environment, but is also affecting what the next generation considers "normal."

This is not the only place where this is happening. In 1993, the Mineral Policy Center estimated that there were more than 500,000 abandoned hard-rock mine sites in the nation. Of these, they estimated, 131,000 sites—or 24 percent—posed some sort of physical or environmental hazard. In 1996, the Forest Service estimated that there were approximately 38,500 abandoned or inactive hard-rock mine sites on or affecting National Forest lands. Of these, they estimate that 6,000 were causing environmental or human health problems. In 1999, the Environmental Protection Agency concluded that 3,400 water systems were located in watersheds contained in National Forests and about 60 million people lived in the communities served by that drinking water.

On the Wayne NF, rainwater runoff flowing over mine tailings is contaminating surface water with acidic heavy metals. The wood fiber filters are being used to clean these contaminants from the AMD.

(continued on Page 7)



Hoosiers Rush to Aid Stricken Community

On September 20, a tornado tore a 150-mile swath through southern Indiana leaving flattened homes, uprooted trees and devastation in its path. The tornado ripped out a long, diagonal path from Ellettsville to Indianapolis. As people crept out to see what was left, the call went out for help. Trees were down and roads were blocked.

The Hoosier National Forest heard there was a need for assistance and, although it was a Friday afternoon, nearly everyone left in the office offered to help.

Soon several crews of chainsaw operators and people to haul brush were headed north to assist. The crew worked until midnight removing trees and hauling off debris. The next morning the crew met again at 7 a.m. and worked until 6 p.m.

Lafayette Chamberlain, Law Enforcement officer on the Hoosier's Brownstown District, served as the communication link and worked with local officials to get the Forest Service crews to where they were needed most. He directed the crews to the town of Ellettsville—one of the towns hardest hit—and set them to work clearing roads and driveways.

Chamberlain said he heard nothing but praise for the work of the crews, and even Indiana's Governor Frank O'Bannon—who came down to visit the scene—complimented the Forest Service for their quick response and assistance.

The crew worked primarily in residential areas assisting local residents with clearing roads and driveways so people could get out.

"Everyone was very appreciative and good to us," said Bob Stone, the Hoosier's civil engineer technician. People brought them food and stopped to thank them constantly. Stone noted that "the Boy Scouts brought us the best fish sandwiches any of us had ever eaten for lunch on Saturday."

Stone said that whatever they suggested, people hurried to help with. When it started getting dark on Friday, one of the Hoosier NF crew suggested they could work later if they had lights. Within an hour a tall light set on a pole had arrived to help the Forest Service crew work. When the dump trucks used to haul brush were getting behind, someone asked if they could get a chipper. Again, chipping trucks from a nearby community soon showed up to help clear the tops as the Forest Service crew cut.

Stone spoke for the entire crew when he said the experience was mutually rewarding for both the Forest Service and the residents of Ellettsville.

"It does us all good to know we've been able to help and make a difference," he said.

Those who helped with the cleanup were: Rod Fahl, Steve Harriss, Brad Lidell, Roger Manning, Pat Merchant, Dave Morris, Dave Nugent, Eric Sandeno, Bob Stone, Danna Strout, Les Wadzinski, Bruce Whittredge, Kevin Wilson, and Lafayette Chamberlain.



Hoosier NF employee Bob Stone uses a chainsaw to clear downed trees left in the wake of a devastating tornado in Ellettsville.

—submitted by *Teena Ligan*



Red Card Diaries: First-timer Fights Pine Fire

(continued from Page 4)

We rested in a meager area of shade, and drank. I washed down my fourth chocolate energy bar with a sip from the fifth of 25 bottled waters I would drink that day. Our minds dissolved into the pacific timelessness of the “field.” I didn’t know the hour, the day, the week, and didn’t care. Each person had receded quietly into private thoughts.

Are you interested in fire training? I remembered my director asking months earlier, soon after I had joined the Forest Service on my first job after college. My jaw had dropped and formed the capital “O” in “opportunity.” No one had asked me that before. I later explained my decision to a curious friend who had inevitably asked “why?” At the most immediate level, the physical labor of fire fighting—hiking, climbing, swinging, digging, hacking, cutting—offers the particularly rugged sense of personal accomplishment. At a more intermediate level, you await unknown adventures, but you await them calmly because your new “family” waits with you.

And on the grandest scale, well, the West is on fire!

A crewmate arose, cleared his throat, and immortalized the afternoon in a comical limerick. The crew came alive in howls of laughter. We stood. It was time to move. Four more hotspots had been identified. Worlds away, back at the office, my Lotus Notes email program was replying to all office emails: “Owen Smith will be out of the office until August 21.”

Out of the office. I grinned at the understatement.

—submitted by Owen Smith

Wood Filters Battle Acid Mine Runoff on Wayne NF

(continued from Page 5)

There are additional benefits. The wood fiber for the filters can be processed from material that needs to be cut to improve forest health. The juniper fiber appears to be one of the most effective at removing contaminants, and there is a pressing need to clear juniper from western lands. Creating a marketable product for this fiber will increase the demand for juniper.

The Addis mine clean-up project has steadily grown over the past few years. It began with an initial crude box with filters and a single pipe running in and out. Today, the project involves a cluster of filter boxes, piping, and a supply shed. A trail from the parking lot of the Ironton District office provides easy access to the site, and Baines is quick to invite visitors down to see the area.

While the Addis mine system is presently very small and only affecting a small amount of his district’s AMD problems, Baines sees tremendous potential for expansion to other areas on the Wayne NF.

“Once we demonstrate success at this site, we should see similar treatment projects in other areas of the forest,” he said.

NON DISCRIMINATION STATEMENT



The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA’s TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint or of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.