Fact Sheet
Ordnance Removal Action
Dolly Sods, West Virginia

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During May through Oct. 1997, the U.S. Army Corps of Engineers will perform a Removal Action for ordnance which may occur in the Dolly Sods Area. During this removal action project, the Corps' contractor, Human Factors Applications, Inc., will detonate ordnance and remove the scrap along hiking trails and within camping areas. Ordnance which may be found includes 4.2", 81mm, and 60mm mortar rounds, and 57mm projectiles.

Dolly Sods Wilderness consists of approximately 21 miles of recorded hiking trails that will be cleared to a depth of one foot and 20 feet to each side of the trail. There are 101 recorded camping areas that will be cleared to a depth of four feet.

Dolly Sods North has 23 miles of trails that will be cleared to a depth of one foot and 20 feet to each side of the trail. There are 98.9 acres of open land on Blackbird Knob that will be cleared to a depth of one foot and 75 campsites and four hunter structures cleared to a depth of four feet.

Safety is the Corps' greatest concern. Work areas will be closed to the public during the removal action, but other trails will remain open. The contractor's people are skilled in their field and receive daily safety briefings. Their work and safety plans have been reviewed by the Corps to assure that the project is accomplished thoroughly and safely. Corps ordnance experts also perform periodic quality checks of the contractor's work.

Background

Dolly Sods is located in Grant, Tucker and Randolph Counties, WV. The U.S. Forest Service operates Dolly Sods Wilderness and North Area, which contains 10,215 acres and is open to the public at all times. The area was used for military maneuvers during W.W.II by the Department of the Army. The site was selected for study based on findings by the Huntington District Corps of Engineers during an investigation in 1991. This study concluded that unexploded ordnance remains at the site left over from its use by the Army.

During W.W.II, about 2 million acres in the vicinity of Dolly Sods was used by the Thirteenth Army Corps of the Third Army for mountain training and maneuvers, including firing of artillery and mortars. This training continued from Oct. 15, 1943, to Jul. 1, 1944. Records on all of the military operations are scarce, but it is known that the artillery targets near the Dolly Sods Wilderness included the southern face of Blackbird Knob and the eastern face of Cabin Mountain.

Defense Environmental Restoration

In 1986, Congress established the Defense Environmental Restoration program (DERP) under Public Laws 99-190 and 99-499. Under that program, there are two subprograms, the Installation Restoration Program (IRP), for active military sites, and the Formerly Used Defense Sites program (FUDS), for sites formerly used by the Department of Defense. The FUDS program has three major activities:

--Remove hazardous and toxic waste;

--Demolish and remove unsafe buildings and debris;

--Remove ordnance and explosive waste.

The Huntsville Ordnance and Explosives Center, Army Corps of Engineers, is responsible for ordnance activities and studying sites throughout the country.

Bombs removed from Dolly Sods Wilderness

By DAVID SHARP
The Associated Press

MORGANTOWN, W.Va. — People trekking through the rugged Dolly Sods Wilderness in the Monongahela National Forest have a few less things to worry about.

Fourteen, actually.

Workers unearthed 14 live mortar rounds this summer that had lingered from the days when the barren high country was used for Army training during World War II, said Steve Wright, spokesman for the Army Corps of Engineers.

One of the projectiles was actually exposed, its tail jutting from a laurel bush, he said. All were detonated.

The Army Corps undertook the project after years of reports of hikers finding projectiles in the 10,000-acre Dolly Sods Wilderness, where warnings are posted at all of the trail entrances.

Dave Wolfarth, who oversaw the project, said the area is now safe for hikers and others, as long as they stay on designated trails where workers used magnetometers to look for bombs.

"I hope we've done some good for the hikers in the area. Hopefully we'll have no more projectiles turned into the forest service office," Wolfarth said. "Hopefully it's all clear."

The search-and-destroy mission began last spring with contractors heading into primitive plateau in the Allegheny Mountains with magnetometers to search for metal-clad projectiles under the ground.

Rangers said the concern was not so much someone stepping on a bomb but that someone might build a campfire or drive a stake into the ground where an unexploded projectile lurks near the surface.

All of the 81mm and 60mm mortars that were discovered were within one to two feet of the surface, Wright said.

Eight were discovered on the Fisher Spring Run Trail, two were found on the Red Creek Trail and four were found on the Rocky Point Trail, Wright said. One inert round was discovered as well.

For workers, it was akin to looking for a needle in a haystack, Wolfarth said.

The contractors made 32,594 excavations and had only 14 mortars to show for it, Wolfarth said. Most of what they found were old tools, horseshoes or railroad spikes, he said.

Altogether, the project covered 21 miles of trails and 8.5 acres of unofficial camp sites where backpackers often pitch their tents in the wilderness in eastern West Virginia.

After finishing last month, workers moved to the adjacent 6,000-acre Dolly Sods North area, where they will work until Nov. 20, Wolfarth said. Work will be completed there next summer.

Altogether, the two areas, which are about 100 miles southeast of Pittsburgh, attract tens of thousands of backpackers, hunters and others each year.

They are among 2,136 places from Maine to California where people may be exposed to the explosive remnants of military training, said Kim Speer of the U.S. Army Engineering and Support Center in Huntsville, Ala.

The Army Corps set aside $1.2 million for the Dolly Sods ~~Wilderness~~ and it came in $300,000 under budget, she said. In all, there is funding to remove ordnance or to evaluate about 60 sites, she said.

The Army saw no problem with hurling projectiles into Dolly Sods as soldiers trained in World War II. The barren area where annual snowfall exceeds 100 inches seemed well suited to the job.

But the area became popular after backpackers and hikers discovered the peaceful ranges and panoramic vistas in the harsh climate where spruce are one-sided because of the strong westerly winds.

Workers got a taste of the nasty weather a week ago when the temperature dipped to 18 degrees with a wind chill of minus-30.

They were required to pack in their equipment, water, meals and extra clothing because motorized vehicles are not allowed in the wilderness. It often took 1 1/2 hours to reach the sites.

"At first, I thought we were wasting our time. Then we got to Rocky Point and Fisher Spring Run, and we basically hit a gold mine," Wolfarth said. "I'm glad we found some stuff."

Defusing Dolly Sods: Enviros fear bomb removal could blow chances for more wilderness

By Jeff Young

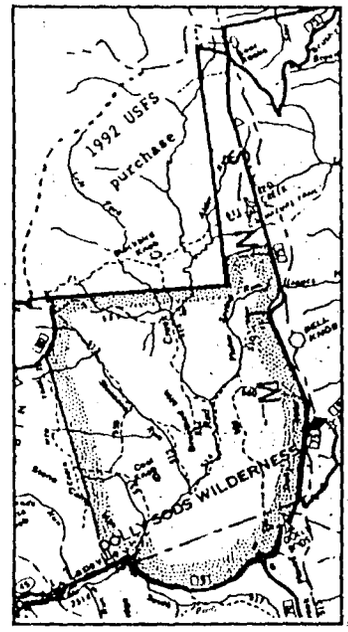
The beautiful-but-rugged Potomac Highlands plateau called Dolly Sods is one of West Virginia's most beloved spots. It has one of the highest use rates of any wilderness site in the eastern U.S., and nearly every outdoors enthusiast in West Virginia has a favorite Dolly Sods story.

But few could top Wally Dean's story. A high school senior in 1951, Dean went deer hunting with some friends and neighbors near the North Dolly Sods knoll called Blackbird Knob. A companion, cradling something in his arms, called to him through the blowing snow.

"He had a mortar shell in his hands," Dean recalled. "Of course, I had never seen anything like that. We looked at it and I told him I was going on around the hill. The next thing I know, I was wrapped around a tree. He dropped the shell and it went off. I picked up nine pieces of shrapnel and the nose of the shell below my knees. It pretty well blew my left leg and right foot off."

Fortunately for Dean, another hunter was a former Marine Corps medic. Dean narrowly avoided an amputation and thanks to a remarkable recovery, he was walking within a year of the accident. One might wonder just how a live shell wound up in those woods. The answer is in the Sods' history, which, for a protected patch of land, has suffered a surprising number of abuses.

Dolly Sods is now part of the Monongahela National Forest. But during World War II, it was part of the Army's West Virginia Maneuvers Area, where the Army conducted mountain training exercises. In 1943 and 1944 those exercises included mortar and artillery fire.



They pounded places that are now favorite hiking destinations — Blackbird Knob and Breathed Mountain — with 57 mm armor piercers, 60 mm high explosives, 81 mm white phosphorous rounds, 105 mm and 155 mm shells and 4.2 inch mortar rounds.

The Army's Corps of Engineers doesn't have a firm estimate on the number of unexploded shells that remain, but 20 pieces have been removed by officials in the past six years, and it's suspected that more have been taken out by foolhardy souvenir seekers.

Assessing the risk is a tricky job. Consider Dean's story. He's the only known casualty resulting from ordnance at Dolly Sods, and that happened 46 years ago. On the other hand, he did nearly lose a foot.

U.S. Forest Service Potomac District Ranger Nancy Feakes said there is little risk for hikers. But she feels a greater risk exists for campers.

"It could happen that if somebody was digging they could drive a tent peg and cause an explosion," Feakes said. "If they were to build a large fire with a shallow covering over one of these, it could cause an explosion. Someone digging a latrine pit could cause an explosion. Even a horseback rider could."

The Army Corps found sufficient risk to fund a million-dollar-plus ordnance removal project in Dolly Sods Wilderness scheduled to begin in May. A similar project is proposed for the land just north of Dolly Sods Wilderness. That northern tract poses another potentially explosive issue.

An unidentified nature enthusiast enjoys the natural beauty of Dolly Sods. Hopefully, she isn't one of the bomb shells that the Army Corps of Engineers will be removing.
Photo by Jeff Young.

Blowing chances for North Dolly Sods?

Workers contracted by the Army Corps to remove ordnance from Dolly Sods Wilderness Area will operate under special restrictions meant to protect the land. The crew will use metal detectors to search an area 20 feet on either side of trails and near known camp areas. They will not be using motorized vehicles.

That means hiking in equipment and exploding live ordnance where it lies. The Forest Service says great care will be taken to minimize disturbance to the land and its inhabitants, which include threatened or endangered species like the Cheat Mountain Salamander.

But conservationists wonder how work

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stern Panhandle

f rkeley Springs

Springs lives up to its name. Unique and individual, successful and stylish, always ready for something new – that spells Berkeley Springs.

How does all this destiny spill out into the future? The water becomes ever more important, and preserving its purity is the primary task. A spa pedigree increases in value, especially when millennium Berkeley Springs reaches back to the tradition of ancient healing springs for a sense of sacredness and mind-linked healing techniques. Health treatments and products linked to the spa and water are developed. Healthy foods fill the menus of local eateries. Obeying the laws of the new economics, Berkeley Springs prospers by packaging knowledge and magic. "They say it's in the water," becomes a well-known slogan for the town; and the Berkeley Springs Web page is noted for the wild and wonderful job descriptions posted there. Wanted: dream reader.

Art, culture, a longtime tradition, beautiful streets and gardens – these patterns from the past continue into the future. America's original health spa introduces the new millennium to the truest sense of spa-dom: a balancing of mind and spirit through interaction with water.

Less savory aspects of Berkeley Springs' destiny and history are also jostling for a place in the town's future. Gambling and riotous living repeatedly defined spa culture both in Berkeley Sr[illegible] and in Europe. The time ahead brings the p[illegible] for gambling to return to the scene.

[illegible] more dangerous to the destiny of the sprngs are modern afflictions that must be overcome in the present. Pointless development, short-term profit, chain businesses and just plain bad taste promise an end to the unique, intimate flavor that is essential to the town's continued success.

Purposeful, conscious choice marked the beginning of Bath, America's original health spa, and it can be mobilized again to project the destiny of the spa town now known as Berkeley Springs into the next millennium.

So where's the secret?

The secret is that the destiny is a unique thread woven through the patterns of the stars and numbers as well as that of time and geology. The secret is that the destiny is not secret. It's written everywhere.

The real secret is that the magical synchronicity of the lecture date on the anniversary of George Washington's destined visit was a lucky accident. I didn't notice until that evening. And I had nothing to do with the rain.

Defusing Dolly Sods

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will proceed in the area just north of the boundary of the official wilderness, which was drawn by Congress in 1975.

The original Forest Service plans for the northern tract called for the use of motorized vehicles, and that has some environmentalists steamed.

As wonderful as the official wilderness is, with the deep woods and numerous waterfalls in the gorge carved by Rod Creek, it is the North Dolly Sods area that many consider the real attraction.

Its high, open, wind-swept plateau offers almost surrealistic vistas of grassy balds, beaver ponds and bogs. Its one-sided trees and cracked rocks are gnarled and beaten by the elements. (Maybe Dali Sods would be a better name?) In addition to its beauty, it completes protection of the upper Red Creek drainage.

The 6,000-acre North Dolly Sods tract became Forest Service property in 1992, but the Forest Service hasn't yet decided just what to do with it. The land has no official management prescription.

Environmentalists have high hopes for the land, that it might receive some special protection or become an extension of the wilderness. That would increase the wilderness area by roughly 60 percent, a significant gain for eastern forests, which hold few roadless areas.

But Forest Service critics like Jim Sconyers of the West Virginia chapter of the Sierra Club fear that chance could be blown by the bomb removal work.

"If that work makes use of heavy motorized travel in that area, it establishes greater use of vehicles, greater road density and more motorized access, all of which goes counter to what Congress looks for in wilderness designation," Sconyers said. "We feel that the Forest Service has an obligation and has made a commitment to manage that area in a way that would keep open for the future all possible management designations."

Ranger Feakes disagreed with Sconyers' assessment.

"We don't see that as having an effect on the future status," Feakes said.

She said crude jeep trails and other "travelways" were in place when the Forest Service bought the land. They've not been effectively blocked off or revegetated, but neither are they maintained roads.

"To use them for administrative purposes in this should not affect roadless area criteria," Feakes said, but noted that those criteria are not firmly established.

Feakes said the plan for the northern land is still in the analysis stage. Options include "limited vehicles use" or "no vehicle use."

Among those assessing the environmental impact for the Army Corps will be Wally Dean, who brings with him a unique perspective. After Dean recovered from his injuries he began a distinguished career in wildlife biology which led him to work with the Army Corps' Huntington District.

Dean said finding himself back at Dolly Sods for the job strikes him as ironic. But it also brings him a great deal of satisfaction to be part of the effort to pull ordnance out.

"I wouldn't want anyone else to go through what I did," he said.

Ordnance removal work could stretch from May to November, and Feakes said it will involve closing some trails from time to time. Dolly Sods visitors would be wise to contact the Potomac District Ranger office in Petersburg for current closing information before planning a trip.

Hominids on parade

The following letter, from the Smithsonian Institution to a man in Charleston, SC, was intercepted by Simon Tripp and sent to us by Francis Fisher.

Dear Sir:

Thank you for your latest submission to the Institution, labeled "211-D, layer seven, next to the clothesline post – hominid skull." We have given this specimen a careful and detailed examination, and regret to inform you that we disagree with your theory that it represents conclusive proof of the presence of Early Man in Charleston County two million years ago. Rather, it appears that what you have found is the head of a Barbie doll of the variety we believe to be the Malibu Barbie. Although we were loathe to contradict your findings, we do feel that there are a number of physical attributes which might have tipped you off to the specimen's modern origin.

1. The material is molded plastic. Ancient hominid remains are typically fossilized bone.

2. The cranial capacity of the specimen is approximately 9 cubic centimeters, well below the threshold of even the earliest identified proto-hominids.

3. The dentition pattern evident on the "skull" is more consistent with the modern domesticated dog than it is with the "ravenous man-eating Pliocene clams" you speculate roamed the wetlands during that time. In conclusion:

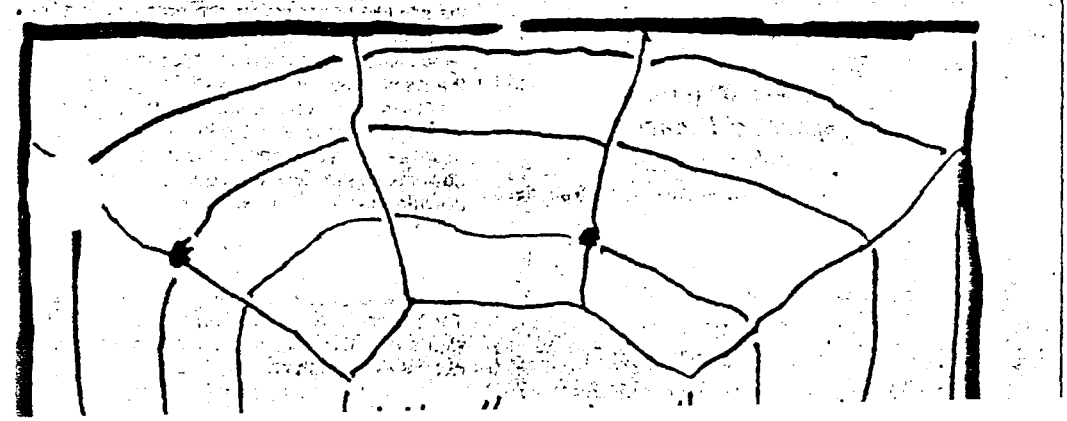
A. The specimen looks like the head of a Barbie doll that a dog has chewed on.

B. To the best of our knowledge, no Barbie dolls were produced prior to 1956 AD, and carbon dating is likely to produce inaccurate results.

C. Clams don't have teeth.

Sadly, we must also deny your request that we approach the National Science Foundation's Phylogeny Department with the idea of assigning your specimen the scientific name "Australopithecus spiff-anno," because the species name you selected was hyphenated, and doesn't really sound like Latin.

While it is undoubtedly not a hominid fossil, we gladly accept your generous



News 4/14/97 Elkins Intermountain

Project Targets Ordinance in Dolly Sods

By DAVID SHARP
Associated Press Writer

DOLLY SODS WILDERNESS, W.Va. (AP) — Thousands of hikers who trek through this rugged area of the Monongahela National Forest must heed a few rules: Don't litter. Don't feed the wildlife. Don't step on the bombs.

This high country in the Allegheny Mountains contains a legacy of World War II, unexploded projectiles from military training exercises.

The Army Corps of Engineers hopes to finally clear the area this summer.

Wally Dean, the only known victim of a bomb in Dolly Sods, is also the Army's environmental project manager.

"I wouldn't want anyone to go through what I went through if I could prevent it," he said.

His left leg was nearly blown off and his right foot was shattered by a mortar round in 1951.

Ordnance experts say Dolly Sods is one of 2,136 places across the United States where people may be exposed to live ordnance, the remnants of training for past conflicts, said Kim Speer, a spokeswoman for the U.S. Army Engineering and Support Center in Huntsville, Ala.

The bombs may seem innocuous: soda bottle-sized and rusty with age. But they're still dangerous and they can become more volatile with age, experts say.

"These bombs, you have to remind people, were meant to kill," Ms. Speer said.

The Dolly Sods Wilderness and adjacent Dolly Sods North are among 80 places where the Army has funding to remove ordnance, she said. The project will cost $1.3 million.

In the 1940s, few people envisioned the future popularity of these highlands.

The two areas, together about 16,000 acres of the Monongahela National Forest about 100 miles south of Pittsburgh, are barren because of clear-cutting, forest fires and grazing around the turn of the century.

The wind-whipped fires burned so hot that the humus layer of the soil was consumed, exposing beautiful rock formations.

Spruce are one-sided because of the strong westerly winds. Few trees grow taller than shoulder high in the harsh highest elevations, where the annual snowfall exceeds 100 inches.

From the Army's perspective, the brush and brambles between 3,000 and 4,000 feet was a perfect place for artillerymen to hone their skills before battling the Germans in World War II.

While elite rock climbers from the 10th Mountain Division trained nearby at Seneca Rocks, other Army units hurled 57mm projectiles, 60mm and 81mm mortar rounds, and 155mm howitzer shells into this area.

After the war, the areas were visited by few people other than hunters. Then backpackers discovered the peaceful ranges and panoramic vistas.

Now upward of 20,000 hikers, hunters and others use the two areas each year, so many that the areas are sometimes crowded on summer weekends and in the fall when leaves change colors and wild blueberries ripen.

Study Says State is Making Tax Time Hard on the Poor

CHARLESTON, W.Va. (AP) — West Virginia is making tax time especially hard on the poor, a new study says.

The state has one of the nation's highest income tax rates for families with incomes below the poverty level. The federal government stopped taxing those families 11 years ago.

"This is a tax on the working poor," said Elizabeth McNichol, who led a nationwide study on state income taxes released this week by the Center on Budget and Policy Priorities. "It works against the goals of welfare reform of rewarding work."

The non-partisan research group, based in Washington, D.C., says most states' economics improved from 1991 to 1996, but income tax policies for poor families changed little.

West Virginia starts taxing families of four when they earn $10,000 or more annually, well below the poverty level of $16,021. Ten other states tax such families at incomes that low or lower, the study said. Those states are: Missouri, Michigan, Montana, Virginia, New Jersey, Hawaii, Kentucky, Alabama, Indiana and Illinois.

Families of three with annual incomes below the poverty level of $12,511 pay no federal taxes and no state taxes in 28 states.

EXECUTIVE SUMMARY

DOLLY SODS WILDERNESS

more

1.0 EXECUTIVE SUMMARY

1.1. Introduction

This Environmental Assessment has been developed by the U.S. Army Corps of Engineers to evaluate the potential impacts of a proposed ordnance removal action within the Dolly Sods Wilderness. Consideration is given to public safety, environmental effects, wilderness use and preservation, local public opinion, and compliance with federal, state, and local regulations. The proposed alternative actions and mitigation plans are evaluated regarding potential environmental impacts, either beneficial or adverse.

1.2. Purpose of Project

The 10,215-acre Dolly Sods Wilderness located in Tucker, Randolph, and Grant counties in West Virginia was part of the West Virginia Maneuver Area during World War II. The area was used to train infantrymen to fire artillery and mortars. Even though the area was searched and cleared by military explosive ordnance teams after the war, at least 20 pieces of ordnance have been found in recent years. One individual was severely wounded, and several near misses have occurred. The latest occurrence of live ordnance being found was during the 1994 bear hunting season. Unexploded munitions present an imminent and present danger to the public welfare. Therefore, the Department of Defense (DOD) intends to remove unexploded ordnance. The U.S. Army Corps of Engineers has been designated as the organization responsible for environmental restoration of formerly used defense sites, such as Dolly Sods Wilderness. There is an on-going, nationwide program.

The Dolly Sods Wilderness is part of the Monongahela National Forest. It is managed by the United States Department of Agriculture (USDA) Forest Service through its Potomac Ranger District, Petersburg, West Virginia. The U.S. Army Corps of Engineers has developed a plan for ordnance removal, and will manage any such removal. Work will be conducted by unexploded ordnance (UXO) specialists under contract to the Corps of Engineers. The Forest Service has provided input to the ordnance removal plan regarding issues related to forest management and wilderness area management practices. The U.S. Fish and Wildlife Service, the West Virginia Division of Natural Resources, and the West Virginia Department of Environmental Protection have provided input related to botanical and zoological species of concern, and environmental protection issues.

1.3. Alternatives

A feasibility study was conducted in 1991 to characterize the nature and extent of ordnance present. Approximately 281 acres considered most likely to have been used as targets or to contain undershots or overshots were searched. A surface sweep (within 6 inches of the surface) was conducted on 281 acres: 7 rounds of unexploded ordnance were found. A

Figure 1-1. Fisher Spring Run trail illustrates a portion of the 20.8 miles of trails which will be searched for ordnance. Due to the rocky nature of the soil, craters formed during demolition will be of limited size and not readily observable.

1.4. Work Plan for the Preferred Alternative

Teams of experienced UXO specialists will sweep the trails and campsites (105 acres) using hand-held magnetometers. The sensitivity of the instruments will be set to attempt to differentiate between metal fragments and ordnance, however, a small piece of metal near the surface may give the same signal as a large piece much deeper.

Positive signals considered to be potential ordnance will be excavated by hand, to a depth of 1 foot on trails and to 4 feet at campsites. When specialists believe ordnance may be present, a qualified biologist will search an area 40 feet in radius at night to determine whether the nocturnal Cheat Mountain salamander is present. If salamanders are found, they will be carefully removed, along with associated leaf litter and top soil, before any excavation. After

Table 1-1
Possible Extrapolation from 1991 Feasibility Study to Proposed Ordnance Removal

	1991 Feasibility Study	Proposed Ordnance Removal
Acres	281	105
Objects Found in Surface Investigation	390	146 (Possible)
Objects Found in Subsurface Investigation	147	55 (Possible)
Total Objects Found	537	201 (Possible)

Again referring to data collected in the 1991 feasibility study, the Corps of Engineers estimates that between 5 and 30 rounds of ordnance may be found. The upper bound is derived from an extrapolation made from the density of ordnance found in an area that served as a practice range. Most of the areas to be searched in the planned project fall outside of practice range areas, with the exception of portions of Red Creek. Therefore, it is anticipated that the amount of ordnance found will fall in the lower end of the range. Up to 570 square feet of land surface may be disturbed by excavation and detonation if 30 rounds of ordnance are located.

Neither the U.S. Army Corps of Engineers nor the Forest Service conducted a formal analysis of the impacts from the 1991 feasibility study. However, the Forest Service reported "minor impacts and disturbances to the vegetation and soils." There was no measurable change to air quality or water quality.

Experience from the 1991 feasibility study shows that due to the rocky nature of much of the surface, generally no crater is formed following detonation. In at least one instance in 1991, partially exposed ordnance was detonated in place. A crater of 1 to 1 1/2 feet in depth was created. It was filled with rocks and soil, and covered with leaf litter. In a reconnaissance by a Forest Service technician in the spring of 1995, that crater was difficult to attribute to ordnance disposal. Because much of Dolly Sods has rough terrain, it is very difficult to differentiate depressions caused by ordnance explosions in the 1991 feasibility study from depressions created by past logging activities, floods, and other acts of nature.

Estimates of potential crater size have been made by ordnance experts. The worst-case crater would be created in wet sandy clay. This could be encountered in areas close to streams, such as around Red Creek. The controlled explosion of a 155 mm shell, the largest that

Table 1-2
Summary of Environmental Consequences and Associated Mitigation

Resource	Action and Effect	Mitigation Measures
Botanical	Walk through 105 acres; disturb up to 570 sq. ft. of vegetation through excavation and detonation; vegetation will return within 1 year. No brush cutting except to access ordnance. No significant impact. Project will document locations of sensitive and rare species. This will contribute to scientific database, a positive impact.	Document location and transplant sensitive species to suitable habitat or reseed as appropriate. Species will be appropriate for site.
Zoological/Wildlife	Walk through 105 acres; mobile species will move during project, then return. Immobile species may suffer incidental taking. No short-term or long-term effect on wildlife. Project will include documentation of locations of sensitive and rare species. This will contribute to scientific database, a positive impact.	Document location of rare, endangered, threatened, and sensitive species. Collect and hold Cheat Mountain salamander prior to excavation and detonation, then replace. During detonation of ordnance, if found in the habitat of the Virginia northern flying squirrel, noise-deadening techniques will be used.
Wilderness	Walk through 105 acres; disturb up to 570 sq. ft. of vegetation. No visual impact. Use of limited areas in the wilderness for recreation will be limited for up to 6 months during ordnance removal. Long-term public safety will be improved. Evidence of human use (ordnance) will be removed. This will be a positive impact. New topographic maps will be created by the Corps of Engineers based on detailed aerial photography of the wilderness. These maps will be available to wilderness users; a positive impact.	Disturbed areas will be remediated for esthetics. Visitors to Dolly Sods Wilderness will be provided with information regarding alternative use areas.
Wetlands	No waterways will be altered. Ordnance found and detonated in wetlands will cause craters to be formed; original configuration will return within two years.	Ordnance found in waterways will be removed then detonated.

EXECUTIVE SUMMARY

DOLLY SODS NORTH

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1.0 EXECUTIVE SUMMARY

1.1. Introduction

This Environmental Assessment (EA) has been developed by the U.S. Army Corps of Engineers (COE), Huntington District, to evaluate the potential impacts of ordnance removal from an area known as Dolly Sods North. Dolly Sods North is a 6,168.5-acre area recently acquired by the U.S. Department of Agriculture's Forest Service (FS). It is located north of and adjacent to the 10,215-acre Dolly Sods Wilderness. It is proposed that this action be carried out in concert with ordnance removal already planned for the wilderness area.

Dolly Sods North is part of the Monongahela National Forest. It is managed by the FS through its Potomac Ranger District, Petersburg, WV. The tract lies almost wholly in Tucker County, WV (a very small portion along the eastern edge is in Grant County). Both the wilderness area and the northern tracts were part of the 2,181,000-acre West Virginia Maneuver Area during World War II. The area was used to train soldiers to fire artillery and mortars. Even though the area was searched and cleared by military explosive ordnance teams after the war, at least 21 pieces of ordnance have been found incidently in both areas in recent years. One individual was severely wounded from exploding ordnance and several other accidents have been avoided. The latest incident occurred in 1996, when a piece of live ordnance was found about 300 feet from Bear Rocks parking lot, a popular visitors' area in Dolly Sods North. Unexploded munitions present an imminent and present danger to the public welfare. Therefore, the Department of Defense (DOD) intends to search for and remove unexploded ordnance. The COE has been designated as the organization responsible for environmental restoration of formerly used defense sites, such as Dolly Sods North and Dolly Sods Wilderness.

In 1995 a decision was made that removal of unexploded ordnance from Dolly Sods Wilderness was necessary. An EA was completed, and work was scheduled for 1996-97. Recently, additional funding became available to extend the ordnance removal activity to include Dolly Sods North. It is proposed that this action be carried out in concert with ordnance removal at the Dolly Sods Wilderness. The COE plans to follow the same work plan that was developed for Dolly Sods Wilderness and to complete work concurrently.

The information presented in the "Dolly Sods Wilderness Ordnance Removal Project Environmental Assessment-Final" (September 8, 1995) also applies to Dolly Sods North. Since the areas are similar in climate, and somewhat similar in terrain and ecosystems, the environmental consequences and mitigation activities will be similar. As noted by the FS Potomac District Ranger, "We believe that the effects that were disclosed in the EA that was written for the Dolly Sods Wilderness proposal are accurate predictions and descriptions of effects that would occur for similar alternatives in Dolly Sods North." As a result, information in this EA frequently refers to that presented in the EA for Dolly Sods Wilderness. Consideration is given to public safety, environmental effects, local public opinion, and compliance with Federal, State, and local regulations. The proposed alternative actions and mitigation plans are evaluated regarding potential environmental impacts, either beneficial or adverse.

1.2. Purpose of Project

Unexploded munitions still present in Dolly Sods Wilderness and Dolly Sods North present an imminent and present danger to the public welfare. Therefore, the DOD, through the COE, intends to remove unexploded ordnance. The COE has been designated as the organization responsible for environmental restoration of formerly used defense sites, such as these two tracts in West Virginia. This is part of an ongoing, nationwide program.

1.3. Alternatives

A feasibility study was conducted in 1991 to characterize the nature and extent of ordnance present. Approximately 281 acres in the old West Virginia Maneuver Area considered most likely to have been used as targets or to contain undershots or overshots were searched. (All of the 1991 search areas were within Dolly Sods Wilderness.) In that study a surface sweep (within 6 inches of the surface) was conducted on the 281 acres; seven rounds of unexploded ordnance were found. A subsurface sweep (deeper than 6 inches below the surface) was conducted on 10.5 acres; another six rounds were unearthed for a total of 13 rounds.

Ordnance found included 57-mm armor piercing, 60-mm high explosive, and 81-mm white phosphorus rounds. Records indicate that 81-mm, 105-mm, and 155-mm artillery shells were fired in the area so there is a reasonable expectation that they may also be present.

Based on findings from the feasibility study, the DOD determined that it is an unacceptable risk to allow the area to remain as potentially dangerous sites. The COE has attempted to determine the level of remediation which is appropriate for the ordnance contamination and to identify the locations where this remediation would be of the greatest benefit.

Alternatives currently considered include:

- Alternative 1-Clearing publicly used areas:
    - Searching 20 feet on each side of 23 miles of Forest Service designated hiking trails, old roads and travelways, to a depth of 1 foot, and detonating in-place any ordnance found (114.3 acres).
    - Searching the area around Blackbird Knob to a depth of 1 foot and detonating in-place any ordnance found (98.9 acres).
    - Searching 75 FS inventoried campsites to a depth of 4 feet and detonating in-place any ordnance found (1.1 acres).
    - Searching the area around three hunting cabins to a depth of 4 feet and detonating in-place any ordnance found (1.5 acres).
    - Searching an old trailer dump site to a depth of 4 feet and detonating in-place any ordnance found (0.5 acre).

This alternative would involve searching approximately 216.3 acres. It is the selected alternative.

- Alternative 2-Clearing trails only:
    - Searching 20 feet on each side of Forest Service designated hiking trails, old roads and travelways, to a depth of 1 foot, and detonating in-place any ordnance found. This alternative would involve 114.3

acres. There would be no search of Blackbird Knob, campsites, the three hunting cabins or the trailer dump site

- Alternative 3-Íï Action:

  - No search for ordnance; if users of Dolly Sods North find ordnance, they contact appropriate personnel who dispose of the ordnance when found. (This practice is currently followed.)

Other alternatives considered in the very early stages of the project, such as searching and clearing the entire area, have been deemed too aggressive. The three alternatives now being considered are believed by the FS managers of Dolly Sods North to be appropriate for the area.

1.4. Work Plan for the Preferred Alternative

Ordnance removal at Dolly Sods Wilderness and Dolly Sods North is scheduled for the late spring, summer and autumn of 1997. Work will be conducted by unexploded ordnance (UXO) specialists under contract to the COE. The detailed work plan for ordnance removal has been approved. (Although written for the Dolly Sods Wilderness area, the same work plan will be used during any ordnance removal in Dolly Sods North.) The FS provided input to the plan regarding issues related to forest management and wilderness area management practices. The FS, the U.S. Fish and Wildlife Service (F&WS), the West Virginia Division of Natural Resources (WVDNR), and the West Virginia Division of Environmental Protection (WVDEP) provided input related to botanical and zoological species of concern and environmental protection issues.

Dolly Sods North does not have an extensive system of maintained trails and it supports only a small number of campsites. The Blackbird Knob trail in the southern portion of Dolly Sods North is the best-known trail, and a campsite near Red Creek is a well-used site. There is a system of old, unmaintained four-wheel drive roads in the central and northern portion of the area; they are used by hikers and mountain bikers.

The "Draft Dolly Sods Work Plan," prepared by Human Factors Applications, Inc., is available for inspection. That work plan, developed for Dolly Sods Wilderness, will also be used to guide work performed at Dolly Sods North. It is anticipated that a staging area will be maintained near the Bell Knob lookout tower, approximately 0.5 miles east of Forest Road 75 which borders the eastern edge of Dolly Sods Wilderness. The staging area would include a utility/office trailer and would house support equipment for up to 20 UXO specialists and technicians. Personnel would not camp in the staging area.

Teams of experienced UXO specialists will sweep areas using hand-held magnetometers. Positive signals considered to be potential ordnance will be excavated by hand, to a depth of 1 foot on trails and at Blackbird Knob, and to 4 feet at campsites, the hunting cabins, and the trailer dump site. When specialists believe ordnance may be present, the area will be searched to determine whether recognized endangered species or historic or prehistoric artifacts may be present. If Cheat Mountain salamanders are found, they will be carefully removed, along with associated leaf litter and top soil, before any excavation. If artifacts are found, a pictorial and written record will be maintained.

If no ordnance is found after excavating where metal is indicated, any metal fragments will be returned to the hole, it will be filled with excavated material and tamped by foot. Litter from the excavated area will be saved and replaced to minimize disturbance to zoological species. If Cheat Mountain salamanders have been found and removed before excavation, after the excavation is refilled or ordnance is detonated, salamanders and associated ground litter will be returned to the original location.

If ordnance is found, it will be detonated in-place unless it is in a wetland area. Based upon location, the ordnance may be covered with earth or sandbags to dampen the noise and disturbance of earth. Noise will

only be created during daylight hours. The size of the crater created by the explosion will depend on the surrounding material, amount of cover material and size of the ordnance. Treatment of the crater following explosion of the ordnance will be a function of its size, location and the ecosystem. It may be filled with local materials, and covered with mulch and leaves. It may be left as is. In areas close to streams where erosion may result, a sediment filter will be placed to capture silt prior to entry into streams. From experience gained in the 1991 feasibility study, it is anticipated that few craters will be noticeable.

Use of motorized vehicles will be limited to the network of travelways in Dolly Sods North. Other methods, such as pack animals may be used to transport heavy loads to other areas. To minimize the impact of the work on recreational users, work will be discontinued during times of high use of the Dolly Sods Wilderness or Dolly Sods North, such as weekends, major holidays and firearms deer hunting season, if work continues that long. Due to adverse weather conditions, work cannot be accomplished in winter months. The schedule of work is anticipated to take up to 6 months during spring, summer and early autumn of 1997. Every effort will be made to complete the project as quickly as possible.

In addition to COE representatives, the FS will monitor quality control to assure protection of resources. An individual knowledgeable about the Dolly Sods North area will be assigned to represent the FS's management philosophy and provide technical assistance to the COE and UXO professionals as necessary.

1.5. Adverse Impacts of Selected Alternative/Mitigation Action

Adverse impacts will be the same as those disclosed in the ER for Dolly Sods Wilderness, and agreed upon by the FS, the F&WA, other regulatory agencies and citizens' groups. A good model of potential adverse impacts resulting from ordnance remediation is the Engineering Report of the 1991 feasibility study. The study was done in the same area, during the same season, following the same procedures. Impacts should be similar in nature, but fewer, due to the reduced area (216 acres for Dolly Sods North versus 281 acres in Dolly Sods Wilderness, as detailed in the feasibility study). Impacts will be the result of a walk-through and search of 216 acres of vegetation, excavation to search for ordnance and detonation of any ordnance found.

Neither the COE nor the FS conducted a formal analysis of the impacts from the 1991 feasibility study. However, the FS reported "minor impacts and disturbances to the vegetation and soils." There was no measurable change to air quality or water quality.

A summary of environmental impacts and associated mitigation plans is presented in Table 1-1. A significant effort was invested by citizens' groups, wilderness experts, renowned botanical and zoological experts, scientists and engineers during the development of the EA for Dolly Sods Wilderness to identify potential adverse effects of ordnance removal activities and to develop credible plans to mitigate all adverse impacts. For each adverse impact, a specific mitigation plan has been developed by the COE working in cooperation with the FS and the F&WS. These plans will apply to work at Dolly Sods North as well.

Like the wilderness area, Dolly Sods North is also a place of special beauty. It is the intent of the COE to preserve and protect the character of the area. The ordnance removal project will have no significant impact on Dolly Sods North ecosystems; in fact, it will have several positive impacts. Three of the most significant include:

- New detailed topographical maps will be created by the COE, based on aerial surveys of the wilderness area and Dolly Sods North. These maps will be available to FS managers and users.

- Information about locations of rare and sensitive botanical and zoological species and cultural resources will be collected. This information will be made available to knowledgeable experts, the FS, and the WVDNR to contribute to the database of knowledge about the area.

- Public safety will be enhanced. Closure of Dolly Sods North for public use will not be an issue of consideration.

TABLE 1-1
Summary of Environmental Consequences and Associated Mitigation

Resource	Action and Effect	Mitigation Measures
Botanical	Walk through 216 acres; disturb vegetation through excavation and detonation; vegetation will return within 1 year. No brush cutting except to access ordnance. No significant impact. Project will document locations of sensitive and rare species. This will contribute to scientific database, a positive impact.	Document location and transplant sensitive species to suitable habitat or reseed as appropriate. Species will be appropriate for site.

TABLE 1-1 (Continued)
Summary of Environmental Consequences and Associated Mitigation

Resource	Action and Effect	Mitigation Measures
Zoological/Wildlife	Walk through 216 acres; mobile species will move during project, then return. Immobile species may suffer incidental taking. No short-term or long-term effects on wildlife. Project will include documentation of locations of sensitive and rare species. This will contribute to scientific database, a positive impact.	Document location of rare, endangered, threatened, and sensitive species. Collect and hold Cheat Mountain salamander prior to excavation and detonation, then replace. During detonation of ordnance, if found in the habitat of the Virginia northern flying squirrel, noise-deadening techniques will be used.
Recreation	Walk through 216 acres; No visual impact. Use of limited areas for recreation will be limited for up to 6 months during ordnance removal. Ordnance removal crews will be present during summer months, periods of heavy use. Long-term public safety will be improved. Evidence of human use (ordnance) will be removed. This will be a positive impact. New topographic maps will be created by the Corps of Engineers based on detailed aerial photography of the wilderness area and the scenic area to the north. These maps will be available to users; a positive impact.	Disturbed areas will be remediated for esthetics. Visitors to Dolly Sods North will be provided with information regarding alternative use areas. Work will be discontinued during heaviest use periods, including holiday weekends and hunting season.
Wetlands	No waterways will be altered. Ordnance found and detonated in wetlands may cause craters to be formed; original configuration will return within two years.	Ordnance found in waterways will be removed then detonated.
Environmental air/water/soils/noise	No air emissions. No aqueous or solid waste emissions. If ordnance is located in waterways, it will be moved and detonated away from stream. Noise from detonations of ordnance may be heard. All equipment is noise-free, so no contribution to ambient noise will be made. No significant impact.	Soil erosion and stream sedimentation will be controlled through proven techniques. Noise will be dampened by covering ordnance with sandbags. Work hours will be limited to daylight, 8 to 10 hours per day.
Cultural	Project will include survey to document locations of cultural resources. Survey will contribute to archaeological database, a positive impact.	Archaeologist to conduct complete literature review of historic logging activities and develop comparative file to evaluate potential significance of historic remains; on-site investigation by a trained archaeologist.
Socioeconomic	Use levels of the Dolly Sods Wilderness and the northern area may decline for up to 6 months, during ordnance removal. However, UXO work crews will contribute to area economy. No net impact in the near-term. Long-term impact is positive. Maintenance of trails and campsites can be conducted without first searching for ordnance. Funds can be allocated directly for maintenance rather than for ordnance searches.	UXO teams will work in isolated areas and will limit access to one area at a time. Other areas will remain open to users.
Public Safety	Safety for users will be enhanced, as most users stay on trails and in campsite areas; a positive impact. However, risk remains for those who leave trails and campsites, such as hunters. High risk will remain in the event of a forest fire.	Fire control will be implemented by UXO crews and Forest Service employees. Warning signs will be erected.

Site Number: G03WV001300
G03WV006500

6 October 1997

Site Name and Location: Dolly Sods Wilderness Area, Davis, WV (Note: The WV Maneuver Area or North Area, G03WV006500, is rolled into this site and its projects)

Site POC:

Elizabeth Schuppert, District Manager
Monongahela National Forest
Potomac Ranger District
HC 59, Box 240
Petersburg, WV 26847
(304) 478-3251 Ext. 104

Site Description: The 2,180,367 acre site was acquired in the early 1940's by the Army for WWII military maneuvers and target practice. Major portions of the site were returned to the Department of Agriculture in 1950. Currently, the U.S. Forest Service operates a wilderness area and other portions are privately owned. Ordnance contamination has been discovered by hikers and campers at various times in the Dolly Sods Wilderness and North Areas.

Project Description: There are currently two projects:

OE - G03WV006504 and G03WV001304. RI/FS / Engineering Evaluation was performed by Metcalf and Eddy to determine means for OE removal action. The ordnance removal projects will cover approximately 10,000 acres in the Dolly Sods Wilderness and North areas. Removal action pertains to approximately 21 miles of trail and 101 campsites in the Wilderness area and approximately 23 miles of trails, 99 acres of open area near Blackbird Knob, 75 campsites and four hunter structures in the North area. Work and safety and health plans for this work were prepared by Human Factors Applications, Inc. Removal action for the Wilderness area began in May 1997 and will complete in October 1997. The North area removal action is scheduled to start in October 1997 and end mid-summer of 1998. Work is directed by the Corps Engineering and Support Center, Huntsville.

To date, twelve 81mm mortar, two 60mm, and two 57mm armor piercing shells have been safely removed (detonated in place) under the Wilderness Area Removal Contract.

AGENDA

1000	Opening Remarks Kate Goodrich, Public Affairs Officer Monongahela National Forest
	Nancy Feakes, Forest Service Coordinator Ranger, Cheat/Potomac District Monongahela National Forest
1020	Project Overview Rick Meadows, Project Manager Huntington District Corps of Engineers
1030	Environmental Assessment Nancy Vyas, Project Manager New-Bold Enterprises
1040	Wilderness Protocol Linda White, Forester Monongahela National Forest
1050	Cultural/Historic Resources Ruth Brinker, Archaeologist Monongahela National Forest
1100	Endangered Species Terrie Evans, Wildlife Biologist Monongahela National Forest
	Dr. Tom Pauley, Endangered Species Consultant Marshall University
	Bill Tolin, Endangered Species Biologist U.S. Fish & Wildlife Service
1115	B R E A K
1130-1300	Method of Work/Demonstration Bill Sargent/David Shafii, Project Managers Huntsville Center, Corps of Engineers
	Human Factors Applications, Inc. Ordnance Removal Contractor

Press Release

For More Information, Call:

Kathy E. Rea
Public Affairs Office, Huntington District
U.S. Army Corps of Engineers
502 8th St., Huntington, WV 25701
304-529-5771

For Release 4:00 PM EST
May 22, 1997

DOLLY SODS WILDERNESS ORDNANCE REMOVAL MEDIA DAY

HUNTINGTON, W.VA. ... The U.S. Forest Service will host a press conference Thursday, June 12, 1997, beginning at 10:00 a.m. at the Forest Service's Laneville Cabin, Laneville, WV. The topic will be ordnance removal from Dolly Sods Wilderness and Dolly Sods North. In attendance will be representatives from the Corps of Engineers, U.S. Fish & Wildlife Service, New Bold Enterprises and Marshall University as well as the contractor who will conduct demonstrations.

Dolly Sods Wilderness is part of the Monongahela National Forest. During World War II, this area was part of the approximately two-million acre West Virginia Maneuver Area that was used to train infantrymen to fire artillery and mortars. Although the areas were searched and cleared by military explosive ordnance disposal teams after the war, at least 20 pieces of ordnance have been found in recent years.

Attached is a copy of the agenda and location map. For additional information, contact Kathy Rea, Huntington District Corps of Engineers at (304) 529-5771 or Kate Goodrich, Monongahela National Forest at (304) 636-1800, extension 219.