and sent to a nursery in Oregon. Then the young trees were sent back to be planted in the forest. This was done to preserve the hardiness of the Long Pines. Approximately 1,000 trees were planted in 1988 and the planting effort is still underway.

The Brewer Fire was very devastating to the area and caused economical hardships for all the local people. Ranchers were hit the hardest. Many had to sell cattle because they didn't have enough feed to last them through the summer and the winter. But now, due to good management and a couple wet seasons, the forest is coming back nicely. With the tree overstory decreased, the litter removed from the ground, and the extra nitrogen in the soil from the ashes, grasses and plants of various kinds have begun to cover the charred earth. Stream beds were cleared of dead trees and shrubs. The water sources are more abundant and of better quality.

But the best thing to come out of this catastrophic experience was the knowledge the Forest Service, the BLM and the local people gained. Some practices used after the Brewer Fire include the reduction of stocking rates, deferred and rotational grazing and the replanting of natural vegetation. The Forest Service also planned to use prescribed burning every 7–15 years to reduce the amount of litter and doghair pines to a minimum while increasing the total amount of vegetation.

All the hard work and money put into the rehabiliation of the forest is paying off. Last fall, some local ranchers said they hadn't seen grass that tall in the forest for a very long time, and their calves were coming out of the forest 50 pounds heavier then they did before.

I think this case definitely proves that fire is the ignition key that gives life in the forest a chance to start over and improve itself, and I hope the things we learned from this experience will help people in other areas deal with fire and the changing land.

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Thorn Creek—The Fire, Its Effects, and the Rehab Plan

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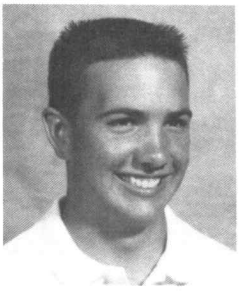

Editor's Note:
This paper tied for fourth place winner in the High School Youth Forum presentations at the 1992 SRM Annual Meeting in Spokane, Washington. Aaron Anderson was sponsored at the Forum by the Southern Chapter, Idaho Section SRM, who partially supported the page charges for publication of the paper.

On August 8, 1990, an arsonist ignited 4 fires on the west side of the Thorn Creek Area near Shoshone, Idaho. With an afternoon high temperature of 103 degrees and a slight breeze from the west, the weather provided no resistance for the development of a significant wildfire.

The typical native range vegetation included an overstory of mountain big sagebrush and an understory of perennial grasses, with patches of quaking aspen and related vegtation throughout. The several streams that originate in this area contained lush riparian habitat on their banks that included numerous vegetative species. In August, the grasses in this area were as dry as at any time during the year. The area was nearing an ecological state of potential natural community, which indicates an overly adequate fuel load in the understory to supply a range fire.

On the day of the blaze, fire crews had nearly contained the fire. Unfortunately, the unpredictable Southern Idaho weather refused to cooperate. The winds struck with a strong force and combined with the heat from the fire produced powerful fire whirlwinds. These firewhirls carried the fire over fire lines and backfire lines. In less than one hour, the winds had carried the fire several miles. At this time firefighters concentrated mainly on avoiding danger and finding roads ahead to start backfires from. Fixed wing aircraft were used to apply fire retardant, and helicopters were used to make water drops on the blaze.

The fire was controlled four days after it was started. It left behind a path of extensive destruction, damaging many resources and facilities. The blaze consumed nearly 70,000 acres, damaging or eliminating everything in its path, including various resources, as well as fences, powerpoles, pipelines, and pumphouses. The estimated cost of the damage exceeded 1 million dollars.

The vegetative communities in the area were also severely devastated. There were patches of vegetation untouched, but generally nothing was left but a few short sagebrush stumps. The fire produced so much heat that it burned into the soil surface and killed the crowns and roots of the native perennial bunch grasses. This loss of vegetation raised a major concern for several reasons.

Before the fire, the region contained habitat for several species of wildlife, including sagegrouse, elk, antelope, waterfowl, raptor prey, and mule deer in the summer and the winter. After the fire, no habitat was left for these animals.

Without vegetation, the soil was completely bare. The lack of plant life left the soil exposed to high winds with severe erosion as an inevitable result. The bareness of the soil was an invitation for noxious and undesirable plants, such as knapweed, cheatgrass, and medusahead wildrye, to invade the burned area.

The fire also caused extensive damage to the Black Butte Wilderness Study Area. It burned extremely hot through the area's vegetation and into the sparsely vegetated lava fields. Invasion of noxious weeds was highly probable without immediate rehabilitation.

The Fire Rehabilitation Team had their hands full. Nature needed help in reclaiming its damaged resources. The team examined various sites and locations, considering soil, topography, and vegetation needs. Certain treatments were prescribed according to the prior considerations.

Some areas received a low intensity burn and needed no treatment. Other areas received very intense burning and required seeding of a variety of shrubs, grasses, and forbs. The rehab team selected five seed mixes according to topography, elevation, terrain, uses, and the intensity that the fire burned.

The team determined that flatter areas that contained little surface rock could be drill seeded with seed mixes suited for the characteristics of the sites. Some areas contained too much surface rock to be drill seeded, but could still be reached by a tractor. In these areas, aircraft applied seed mixes adapted to specific site characteristics. Two tractors would then drag a long length of ely chain over the seeded area to mix the soil and cover the seeds. Other areas were too steep or too rocky for even a tractor. These sites received aerial applications of seed mixes suited to their specific features.

A greenstripping mix was used to treat many sites in the area, mostly along the roads. The greenstripping treatment was used strategically to reduce the probability of a fire event of this scale occurring again. The seed mixture was chosen for its ability to inhibit the movement and spread of wildfire. The mixture was also used to prevent the spread of cheatgrass and knapweed which are present near these areas.

Upper elevation arerial seedings occurred in the 12–16" precipitation zone. Whenever possible, chaining followed the aerial seeding. Sagebrush was aerial seeded in all areas that needed sagebrush re-establishment.

Aerial seeding also occurred in the lower elevations. The plants that were chosen could survive in the 8 to 12 inch precipitation zone. The treated area included crucial deer winter range, so the low elevation aerial seed mix contained more sagebrush to provide deer winter habitat.

Drill seeding occurred in both upper and lower elevations. The upper elevation mix included plants that closely resembled the native species that inhabited the Thorn Creek area before the fire, such as bluebunch wheatgrass and various forbs. These plants were chosen to allow for natural re-establishment or establishment of improved variety while protecting against soil erosion.

The lower elevation mix included plants that require small amounts of precipitation. For example, a larger amount of crested wheatgrass was used than in the upper elevation mix. The sites that were drill seeded have a high potential for cheatgrass and knapweed invasion. The mix chosen will reduce the chance of invasion while allow for other desirable vegetation to re-establish itself naturally.

The Black Butte Wilderness Study Area received special treatment to preserve and improve the wilderness values of this area. The entire forty acres received a native seed mix applied aerially. Before and after the seeding, the area was harrowed by a rubber-tired tractor and field harrow. Late in the winter of 1990, a mix of native shrub species was also applied aerially.

The area receives between 8 and 12 inches of precipitation in the lower elevations and between 12 and 16 inches of precipitation in the higher elevations. Sometimes a large part of this precipitation falls at one time. Without vegetation to hold the soil in place, the drainages in the Thorn Creek area were very susceptible to erosion. Several structures, called gabions, were placed strategically across the channels to prevent damage to the drainages.

Besides damaging the natural resources, the fire damaged manmade structures as well. It destroyed most of the fences in the area, completely consuming wooden fenceposts and ruining wire. Most of the steel posts were not harmed, and were used in rebuilding the fences. The fire also destroyed the wooden powerpoles, costing nearly $1 million for Idaho Power Company to replace.

In its first year, The Thorn Creek area has made an amazing comeback. The seedings responded with excellent vigor, and show promise to provide animal habitat, erosion prevention, and protection against the establishment and spread of noxious weeds. Though the planned reclamation efforts have nearly ended, the rehabilitation has just begun. It will take many years, with the help of wise management, for nature to restore this area to its previous splendor. •