

The great yellowstone fires of 1988



The Great Yellowstone Fires of 1988 and the controversy about the treatment of wildfires in the United States Contents

Introduction

- 1. The Great Yellowstone Fires of 1988
 - 1. 1. What caused the fires of 1988?
 - 1. 2. Development of the Fires
 - 1. 3. Fighting the Fires
 - 1. 4. Results of the Fires
- 2. Fire Management in Yellowstone
 - 2. 1. Fire Management before the Fires of 1988
 - 2. 2. Fire Management after the Fires of 1988
- 3. Fire Ecology
- 4. Prescribed Fire vs. Fire Suppression
- 5. Conclusion
- 6. Bibliography

Introduction

1988 has been a shocking year for thousands of Americans. It was the year of a disastrously huge fire. Everywhere you looked you found burned trees. Tons of ash was lying on top of everything and the after effects can still be seen today in Yellowstone National Park. [1] What had happened? Why were the people in charge not able to prevent this devastation? Moreover, why are there some people that keep on saying that wildfire is something good?

1. The Great Yellowstone Fires of 1988

1. 1. What caused the Fires of 1988? All started out pretty normal.

The spring of 1988 was wet until June where not hundred and eighty-one percent of the normal rainfall came down to earth like in May, but only twenty percent (the years before it had been an average of about sixty percent at the same time of the year). It was the driest summer in 112 years. Park managers and fire behavior specialists decided to allow about twenty fires caused by lightning. They based their decision on the fire management plan of the park, which existed since 1972. Everything went well and eleven of these fires burned themselves out.

However, July was dry, too and the moisture content of grasses and small branches went as low as two or three, downed trees to seven percent, which is very low. On top of that were high winds that fanned flames extremely fast. The fire season began. [2] In western America, much of the moisture from ocean storms falls on the coastal mountains. This has the effect that the areas east of the mountains are rather dry. Lightning often occurs without rain, which sets off fires. Coniferous forests with a high content of combustible resin and several ladder fuels like tall grasses, low branches and bushes enable the fires to reach even the canopy. These fires burn with extreme heat, which makes them very dangerous. [3]

1. 2. Development of the Fires

As the situation grew worse, no new natural fires were allowed to burn while during one week the perimeter of the fire had doubled up to seventeen thousand acres. On July 15, the Secretary of the Interior suspended the natural fire program, and all fires were now fought. However, fighting such

fires was something never done before. So-called “spotting” very often made many of the generally accepted firefighting techniques useless. Spotting stands for embers, which are carried by wind across parts of the forest that have not been burned yet.

Because of this, new fires start up to one and a half miles from the original fire. This distance made every bulldozer line (cutting trees to take away fire’s ‘food’) useless and the fire jumped over roads, rivers and even Yellowstone’s Grand Canyon. [4] [5]

1. 3. Fighting the Fires

Since the fire moved forward fast and the spotting was intensive, it was difficult, if not to say impossible, to make frontal attacks on it. This could have been achieved through water or chemical use but now was even dangerous because it was rather impossible the fire crew would not have been overrun or trapped between different fires.

The only thing the firefighters were able to do was to try to control the flanks of fires and to protect lives and property in their paths. They succeeded in saving the Old Faithful Inn by keeping it wet with the help of chemicals (foam among other things) for example. [6] Shortly after all these incidents, everybody knew that only rain or snow could stop this fire. Finally, by September 11, 1988, the first snows of autumn had dampened the fires, as the nation’s largest fire-fighting effort could not. [7] [8]

1. 4. Results of the Fires

More than twenty-five thousand firefighters, as many as nine thousand at one time, attacked Yellowstone fires in 1988, at a total cost of about hundred

and twenty million dollars, which had been spend in control efforts on fires in the greater Yellowstone area. Park developments and surrounding communities had to be evacuated and even the armed forces, the Army, the Navy, the Air Force, the Marines, and the Wyoming National Guard were there to help the firefighters. In the end, seven major fires were responsible for ninety-five percent of the seven hundred and ninety-three thousand acres burned.

About five hundred animals were killed but less than one percent of soils were heated enough to burn belowground plant seeds and roots. There was an estimated property damage of about three million dollars. After all, the fires probably received the highest national attention that there had ever been in the history of national parks. “ One of the lessons of those fires was that there is a threshold between a very dry year and an extraordinarily dry year, and once that threshold is crossed, there’s no closing the door on fire. ”[9]

When danger to life and property was over, firefighters were slowly but surely sent home and staff in Yellowstone National Park went to work reviewing the impacts of the “ fires on wildlife, plants, historic structures, trails, and more and answering the demands for information, explanation, and a new fire management policy. ” [10] [11]

2. Fire Management in Yellowstone

2. 1. Fire Management before the Fires of 1988

The earliest humans throughout North America already used fire for agriculture, food gathering, hunting, and warfare. The first records of Wildland fires are from European expeditions between 1869 and 1872.

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Reports describe patterns, which fire had created and that there were still some fires burning in the park area. These fires were caused by lightning or humans that most of the time left their fires unattended. [12] When 50 U. S. cavalrymen arrived in Yellowstone to serve as the park's first rangers their single goal was to put out every fire they would find. There even had not been any formal records about fires. They first started keeping them after the so-called Heart Lake fire, which, in 1931, burned about eighteen thousand acres.

Early fire management policy in the park resulted in suppressing all fires to 'save the forests.' Only airborne firefighting techniques actually developed for World War II, made fire suppression possible at all. [13] [14] In the 1960s, this attitude slowly began to change. The Leopold Report tried to explain the significant and dynamic role of natural fire in its natural environment. It says that the after effects of fire could even improve the health of an ecosystem and increase its diversity. Yellowstone responded to this report with planning a 'natural' fire management policy.

They now started to allow some naturally ignited fires to burn, defined the treatment of different fires in a cost-effectively way and in an environmentally sensitive manner, and even prescribed burn to reduce hazardous fuels. A revised plan finally was approved and implemented in 1976 and remained in effect until 1988. [15] [16]

2. 2. Fire Management after the Fires of 1988

After the suspension of the Fire Management Plan on July 15 in 1988, a Fire Management Policy Review Team appointed after three congressional

hearings by the Departments of the Interior and Agriculture reviewed the plan gain. [17] Its final report, issued in May 1989, supported the need for fire in maintaining a natural wildland ecosystem, but criticized several aspects of the National Park Service's fire management plans. With the report, they also offered 15 recommendations to improve federal fire management programs. Little scientific disagreement on the basic principles could not hinder Yellowstone's natural fire policy remaining on hold, so still all fires were fought until, in the end, the park formally adopted the revised wildfire management plan in May 1992.

In 1992, the recommendations from the Fire Management Policy Review Team were incorporated into a new Fire Management Plan based on the three integrated strategies of suppression, prescribed natural fire, and management- ignited natural fire. All national parks and forests across the nation had suspended, but also updated, their fire management plans and started to develop them until today, also after different other major fires.

[18] [19] [20]

In August 2000, the so-called National Fire Plan (NFP) was developed to be able to react actively to " wildland fires and their impacts to communities while ensuring sufficient firefighting capacity for the future". [21] The Plan addresses five key points: Firefighting, Rehabilitation, Hazardous Fuels Reduction, Community Assistance, and Accountability. 21 The reason, why this progress was made, is the huge list of forest fires, its threat to Americans, and the scientific approaches to it.

Just to name a few big fires after 1988, there was the Oakland Hills firestorm in 1991 where 3469 homes and apartments were destroyed. The Rodeo-Chediski fire in Arizona in 2002 with 467, 066 acres burned, the Florence/Sour Biscuit Complex Fire in Oregon with 499, 570 acres burned, and the Okanagan Mountain Park Fire in British Columbia, Canada, which displaced more than 5, 000 inhabitants. Those are just a few, the tremendous devastation and the millions of dollars that were put into the effort of saving humans and nature made the subject of wildfire treatment an, in fact, big one. [22]

3. Fire Ecology

Fire ecology is a branch of ecology that concentrates on the origins, cycles, and future stages of wildland fire. It probes the relationship of fire with living organisms and their environment. "[23] Fire dependence, fire history, fire regime, and fire adaptation make up the four concepts providing the basis for fire ecology. Since the interest in such fires has increased in the seventies and thereafter, scientists today are able to tell a lot about the positive functions of fire in an ecosystem. A major effect of fire is the release of nutrients back into the soil in form of mineral-rich ash.

The decomposed woody vegetation, through this way, is then able to ' pass' its life to new plants rising from the ground like phoenix from the ash. Scientists found out that there is something like a ' fire-cycle'. The first plants recovering a burned area are many different grass plants. Within a few years, shrubs and saplings grow and will dominate the area for about 10 to 30 years. After a long time of birch, willow, and aspen trees, the forest will probably become a spruce forest, the final stage of the boreal forests.

Accumulated litter and thick tree growth in the understory make these forests susceptible to fire again and so the cycle starts from the beginning.

24 In the United States, six different vegetative communities are even adapted to fire. Those are the Tallgrass Prairie in the Midwest, Chaparrals in California and the Southwest, Ponderosa Pine in the interior West, Douglas-Fir in the Pacific Northwest, Loblolly and Shortleaf Pine in the Southeast, and finally Jack Pine in the Great Lake States. Within forests, there are different ages of the plants and different stages of the forest types.

Every part of this ‘ natural’ forest supports different kinds of wildlife and majority of species even feel best on the borders of at least two plant communities. These ‘ edges’ are created by small fires and diseases and help maintaining a healthy wildlife habitat. 24 [24]

4. Prescribed Fire vs. Fire Suppression

" Stopping control burning does NOT stop the burning, just the control! " said Dave Sumpter of the Florida Forest Protection Bureau. [25] When fires burn naturally, a vegetation mosaic of different forest types is created.

This provides a greater diversity of vegetation and consequently a greater diversity of wildlife species. People usually do not think of something beautiful when they think of wildfire but wildfires are an essential element of ecosystems. Plants and animals are adapted to fire and even benefit from it. A carefully planned prescribed burning program can be beneficial and even enhance the health of an ecosystem. Prescribed fires can reduce the amount of combustible fuel buildup, which can cause larger fires that are more destructive.

Other benefits of prescribed fire include insect pest control, removal of undesirable plants competing for nutrients, addition of nutrients from ash, and removal of sunlight inhibiting brushy undergrowth. However, incorrectly managed prescribed fires can have very adverse effects causing excessive soil heating, loss of nutrients, and removal of woody debris needed to protect seedlings. Wildfires are suppressed in developed and high-fuel areas where intense fire could destroy a plant community or human built structures.

Modern fire policy permits the burning of some natural fires and recognizes the use of prescribed fire as a management tool. [26]

5. Conclusion

Controlling fire and ‘just’ suppressing it alters the natural conditions of a healthy ecosystem. “Landscape diversity diminishes, forest size increases, and plant community structure and composition change.” [27] Therefore, the most natural way – letting the fires burn – would be the best but sadly, it is not always realizable because of America’s urbanization. It is the duty of the government to save its people.

This has to be done in a realistic, future oriented method and as a result, society has to care about fire not only in form of wanting to suppress it, but by using it in a healthy way. Throughout the last thirty to forty years, the treatment of wildfire has changed completely. This is an achievement of scientists, fire experts, and people that have visions, like those in Yellowstone National Park. The vision of a balanced life on earth.

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