

# Contents

Introduction	2
Time Log	3
Chapter 1: The problem of past fire suppression and the future of mega-fires	4
Chapter 2: The push for change and the roadblocks in the way	12
Chapter 3: Community Mapping Three Colorado Fires	21
Chapter 4: Observing the issue of wood harvesting	29
Chapter 5: Reflection	37
Works Cited	41
Appendix:	42
Contact List	45

## Introduction

My name is David and I would like to welcome you to my Portfolio for the Sociology Block Program. For my block internship I spent the summer and fall as an intern with the U.S. Forest Service in Durango, Colorado. During my time with the Forest Service I would alternate between working the front desk at the Public Lands Center in Durango and going out into the field with different departments within the Forest Service. While working at the front desk I would answer phone calls and walk-ins with a number of different questions from active fires in the area to advice on good hiking trails. I would also sell items that the front desk sells like maps of the different areas and books on hikes and how to camp in the area. When I was out in the field I worked with the road crew and work on forest roads by closing them or smoothing them out, and I worked with the recreational crew and helped pick up trash that was left by inconsiderate campers. Working with the Forest Service was a great experience and I would suggest having an internship if interested in joining the Forest Service. The research of my portfolio is focused on the area of fighting wildfires in concern with the U.S. Forest Service from the past actions that has caused problems to the forests to strategies that have been attempted to fix these problems. In my portfolio I also map three fires that have occurred during the summer of 2012 in Colorado to look at a correlation between firefighting priorities dependent on the average cost of housing in the areas of those fires. My ethnography on issues that I have witnessed during my internship is also included within this portfolio. I end my portfolio with a reflection on my internship and my papers as well as a personal appendix of pictures from my internship. The focus of this portfolio is on wildfires as a social problem within the community and the nation through the lens of the U.S. Forest Service.

# **Time Log**

Date	Hours Worked
9/4/12	7:00am-5:00pm (10hrs)
9/6/12	8a-4:30p (8.5 hrs)
9/11/12	7:30a-4:00p (8.5 hrs)
9/13/12	8a-4:30p (8.5 hrs)
9/18/12	8a-4:30p (8.5 hrs)
9/20/12	7:30a-4:30p (9 hrs)
9/27/12	8a-4:30p (8.5 hrs)
10/2/12	7a-5p (10hrs)
10/4/12	8a-4:30p (8.5 hrs)
10/9/12	7a-5p (10 hrs)
10/10/12	1p-5p (4 hrs)
10/11/12	8a-4:30p (8.5 hrs)
10/15/12	7a-5p (10 hrs)
10/18/12	8a-4:30p (8.5 hrs)
10/25/12	8a-4:30p (8.5 hrs)
11/1/12	8a-5p (9 hrs)
11/6/12	8a-5p (9 hrs)
11/8/12	8a-4:30p (8.5 hrs)
11/15/12	8a-4:30p (8.5 hrs)
11/29/12	8a-4:30p (8.5 hrs)
12/3/12	9a-10a (1 hr.)
12/6/12	8a-4:30p (8.5 hrs.)
Internship Total Hours	182.5 hrs.
Hours Spent on Papers	~ 125 hrs.
Total Hours	307.5 hrs.

## Chapter 1: The problem of past fire suppression and the future of megafires

### Introduction

Fire is one of the most powerful forces of nature that we have in the world; one that without it in our lives the human race would never have survived as long as we have (Hudson 2011). Fire has been around since the beginning and it took humans to "discover" it to realize how important it is to us. Most every technology that we use today comes from our ability in the past to see the potential in fire and to use it for our own means. Though fire is a beautiful thing it is still a force of nature that can be catastrophic and have the ability to destroy anything that stands in the way. Nothing fuels the destructive nature of fire better than the timber that is in our National Forests; that is why the U.S. Forest Service put so much emphasis on fighting fires and suppressing them as soon as they start. In the beginning this process was thought of as being the best course of action; now however, because of this process instead of little fires we have what is called "Mega-fires" which are "extraordinary, in terms of size" compared to other fires (Brookings Institute, 2005, p 4). This process allows for the forests to be overgrown with standing dead trees that can make the fire burn quicker and hotter from the tiniest of sparks easily destroying a forest and anything else in the way before help arrives (Nelson, 2000, p 1-16). Social outcries from the public and even some within the Forest Service have been calling for a new process so that Mega-fires no longer wipe out our forests and homes. In this paper we will discuss the history on the U.S. Forest Service and the factors that have led the Forest Service to enact this process. We fear fire because we know what it is capable of, and from that fear we want those who are in power to listen to us and change the policy that causes more problems than it solves.

#### History

Before we can discuss why this idea of putting out fires is such a big social problem, we first need a little background knowledge on the U.S. Forest Service and how the idea of fire suppression became the standard. The U.S. Forest Service has been around since 1881 when it was established in the Department of Agriculture; back then the Forest Service was called the Division of Forestry (Steen, 1976, p 1-25). At the time that the Division of Forestry came into being the idea of managing forests was a whole lot different than how the Forest Service handles the forests now. The job of the Division of Forestry was mainly to study the timber reserves. The Department of the Interior managed the buying and selling of timber for the federal government (Steen, 1976, p 1-25). Officially, the Forest Service that we have today wasn't created until 1905, "when Gifford Pinchot persuaded President Theodore Roosevelt and Congress to transfer forests reserves from the Department of the Interior to the Department of Agriculture," (Nelson, 2000, pg 1). No president, before or after, has set aside more acres of forest land than Theodore Roosevelt (A. Gulliford, personal communication, May 2011). Because of Theodore Roosevelt our national forests were created; and it was during his time in office that the idea of fire suppression began to take shape.

At the beginning of the 20<sup>th</sup> century the main use of the forest was for economic purposes with the need of the trees for lumber. Because most of the forests were under the control of the federal government the revenue that was obtained was able to generate greater growth for our country economically and industrially. Before the time of the Forest Service there was little to no management of logging in the country and this reckless logging of timber was one of the reason that the Forest Service was created, so that the Forest Service could stop the "timber famine" that was prophesized for our future (Clary, 1986, p 10-13). This idea of a "timber famine" scared a

lot of people and gave conservationists a major weapon that they used to push the agenda of a reduction in clear-cutting for timber. This persuaded Congress to make resolutions to protect timber areas. The Forest Service was provided aid in this matter from President Theodore Roosevelt in a speech he gave at a White House conference:

"We are on the verge of a timber famine in this country, and it is unpardonable for the Nation or the States to permit any further cutting of our timber save in accordance with a system which will provide that the next generation shall see the timber increased instead of diminished" (As quoted in Williams, 2007).

In the end this fear of a timber famine helped the Forest Service gain stronger backing from the government to protect the national forests. This fear didn't stop logging, it merely made it so the recklessness that we had towards our forests would cease. However, this was not the last problem that the Forest Service had with concern to timber logging. The other concern the Forest Service had was with the protection of our national forests. This did not stop with man-made problems of logging, but with the natural element of fire in forests.

### **Full Suppression**

For the conservationists that began the Forest Service their main goal was, and in a way still is the protection of our natural resources within the national forests; even if what they are protecting the forests from is something as natural as forest fires. C. Davis in *Western wildfires: A policy change* (2006) noted that beginning in the twentieth century the "Forest Service took a hard-line position," that "wildfires represented a grave threat to the protection of important forest resources such as timber, range, wildlife, and recreation" (p 117). The "hard-line position" that the Forest Service took was the policy of fire suppression within national forests. R. Nelson in *A* 

*Burning Issue* (2000) believes that one of the reasons that the Forest Service started this policy was because they viewed it as "'primitive' and 'unscientific' the idea that fire should be used as a basic tool of forest management" (p 16). However, C. Davis (2006) believes that the "death of 79 firefighters and the burning of 5 million acres" in the Rocky Mountains in 1910 was a catalyst for the policy of fire suppression, (p 117). Other catastrophic wildfires destroying land and killing people fueled the fire suppression policy of the Forest Service. For years the public has believed that this policy was the best course of action against fires and the continued management of national forests; but recently we now see that this policy has brought about unforeseen problems that we now have to deal with.

## Tinderboxes and "Mega Fires"

As the years have passed since the inception of the U.S. Forest Service and its' policy of forest fire suppression changes have occurred that many see the consequences and are now yelling for a policy change. In the beginning fire suppression did actually what it was supposed to and greatly reduced forest fires and the burned acreage from over 1.2 million acres to only 200,000 acres between 1920 to the 1980s (Nelson, 2000, p 16). The problem of the matter is, as R. Nelson (2000) puts it, "like failing to balance the budget, the suppression of fire in the past did not mean that the threat of fire was eliminated but instead it could be deferred to the future" (p 21). Since the low point of acreage burned in the 80s, it has almost doubled in the past 20 years. In the 1990s the acreage burned was 3 million; but from 2001 to 2010 it has become 6 million acres (Hudson, 2011). The reason why we are starting to see worse fires now than when the fire suppression policy first got started is not because it's not working anymore, but because it worked too well in the first place.

As was stated earlier fire is a natural occurrence in forest areas, but when changes occur due to human involvement that affect the natural order in an ecosystem everything is affected. Sometimes nature causes huge catastrophes to return to its natural state. The Forest Service policy has affected the landscape by being unable to clear out debris that is in the forests to make room for new trees. If you've ever been in an actual part of most forests you will see trees that are alive and thriving, but you will also see trees that are dead and are on the ground; then there are the trees that are dead and are still standing. Those trees that are dead but still standing are called "snags" and usually when a fire is started by lightning it is because it has struck a snag; it is a natural occurrence (S. Lanus, personal communication, June 13, 2012). When a forest fire ignites the fire sweeps in and clears out all the dead trees and the snags to thin out the forest so that new trees can grow; but because of the fire suppression policy the dead trees remain and our forests become overgrown. Many people call these forests that have become overgrown due to the absence of fire to clear out the dead and diseased trees "tinder box forests". R. Nelson (2000) describes tinder box forests as, "economically less productive, subject to disease and insect infestation, aesthetically unattractive" (p 19). Just like the name implies all that it would take is one little spark, at the right time for a giant blaze to ensue and easily wipe out an entire forest; and the West is the most vulnerable (Nelson, 2000, p 19).

This policy of fire suppression has lead to our forests becoming "powder kegs" just waiting for the right conditions to burst into flames (Nelson, 2000, 19). In the West our national forests take up 90% more land than national forests that are in the eastern part of our country (A. Gulliford, personal communication, May 2011). In the West fires occur most often and very easily given the right factors. In this part of the United States we suffer the most droughts, and the long hot summers that we have to endure raises the potential for these "mega fires" to start

(S. Lanus, personal communication, June 2012). Just in the Durango/Southwest Colorado area this last summer there were five big fires that happened in June before the rains came later in July; and there were a lot smaller fires that were outshone by these big fires. It got so bad that the governor of Colorado placed a fire restriction over the whole state during the Waldo fire that happened up in Colorado Springs that got major news attention. The summer could have been a lot worse if the rains had not come when they did; we could have had what is called a "mega fire".

Within the wildfire fighting spectrum there are four types of fires that are acknowledged (Brookings Institution, 2005, p 3). The first are called Initial Attack fires, which are considered small and have a short duration, the second type are Extended Attack fires, which take longer to burn and have the potential to "blow-up" into the third type which are called Large fires (Brookings Institution, 2005, p 4). The forth type, though uncommon, are the worst; they are known as "Mega-fires" (Brookings Institution, 2005, p 4). In a concept paper by The Brookings Institution entitled The Mega-Fire Phenomenon (2005); "Mega-fires" are defined as "extraordinary, in terms of their size, complexity, and resistance to control" (p 4). The paper goes on to say that though "Mega-fires" are few, they are "often burning under extreme fire weather conditions and exhibit extreme fire behavior characteristics, exceed all efforts at conventional control, until relief in weather or a break in fuel occurs" (p 4). The worst part about these "Mega-fires" is that they usually occur in "late serial stand conditions on drier sites, where the buildup of dead woody material and accumulation of live biomass can fuel high intensity events... not unusual that fire severity in these stands is exacerbated following years of drought, insect infestations and disease" (Brookings Institution, 2005, p 4). This description of where

"Mega-fires" usually occur is very close to the description of "tinderbox forests" that we have in the Western part of the United States.

Due to the tinderbox nature of our forests and the droughts that we have seen before in the West it is a strong possibility that we will see a fire that is so destructive that our forests might never be the same again. R. Nelson (2000) goes into detail of how these mega fires would act and the aftermath that would occur from these fires:

"...advancing fires can now often reach up to the 'crown' of the ponderosa pines and other large old trees. Thus, instead of leaving the larger trees undamaged, as in the forest fires of the past, the entire forest is today more likely to burn, and sometimes at intensities and temperatures previously unknown to these areas. Indeed, the temperature can be so hot-rather than replenishing the soil-they may now destroy the biotic community altogether or fuse the soil, leaving an ugly and sterilized forest environment in which regeneration will be much delayed" (p 21).

Usually fires are a part of nature to help renew certain areas that need it but a mega fire like Nelson describe wouldn't help the environment, it would destroy our forests and the land for potential generations. Fires like these are so huge and powerful that they can even create their own weather around them which can cause more complications and make it harder to control the fire (S. Lanus, personal communication, June 2012). These types of fires scare people and force many to evacuate their homes as firefighters run in to try and put out the fires. These fires also make people angry when their homes and areas are destroyed. The rest of the nation gets mad when they see how much is spent on this fire suppression policy that has led to this problem.

Nothing causes more problems for people than money, and when a person's money is believed to be spent on more problems than solutions, it makes things worse. Back in 1970, when forest fires were at the lowest that we have ever witnessed and it was believed that full fire suppression was working, the money spent on fighting forest fires was 225.7 million dollars, (Nelson, 2000, p 23). Since that time forest fires have become worse and harder to fight and the money spent on the fire suppression policy has grown to \$2.9 billion in 2005, (Hudson, 2011). Nelson (2000) notes that one-third of the Forest Service's budget alone was spent in some way on fire in 1994 when 39 firefighters died in that year and over \$1 billion total was spent by the federal government on fight fires (p 23). The idea that money and people are still being used on a policy that is old and flawed is an indication that the Forest Service is in need of policy change.

## Conclusion

The United States Forest Service is an agency of our federal government that has been around for over a hundred years, managing the national forests. They have done a lot of good so that we may still go and witness the beauty of nature, but because of their policy of full fire suppression that is years out of date we now have to face a new era of fire catastrophe. Though the policy was created to protect land and timber in the past it took away a natural occurrence and has altered the very forests that they wanted to protect. Instead of fire clearing the landscape in a natural way so that new life can start and for the dead to be removed, we now face an overcrowding of trees that could ignite a whole forest resulting in out of control fires. Now, instead of dealing with fires that can be controlled, we have the possibility of fires so huge that they destroy an entire forest that may never be able to recover. We as a society are calling for a change in policy so that when a fire does break out the whole forest isn't destroyed in a giant inferno and we lose the beauty that is our forests; change needs to come.

## Chapter 2: The push for change and the roadblocks in the way

### Introduction

Ever since the first settlers arrived to this "new world" there has been a fear of the destructive nature of fire, and because of that fear we have slowly taken a stance to rid fire from burning our forests; for a little while anyway (Steen, 1976, p 1-22). It wasn't until the 1900's that the U.S. Forest Service finally created a policy of full fire suppression where any wildfire that was started would be suppressed within one day of firefighting (Steen, 1976, p 1-22). Whatever the reasoning was behind the idea of the U.S. Forest Service to adopt full fire suppression policy, (some say it was because of a wildfire in the Rocky Mountains in 1910 that killed 79 firefighters), this policy has remained for near a century (Steen, 1976). What the U.S. Forest Service in the past failed to realize is that without fires to clear the debris of dead trees and brush a buildup has occurred for almost a hundred years that is perfect fuel for giant wildfires. However, the U.S. Forest Service has not been blind to affects that the full fire suppression policy has caused. This paper takes a look at what the Forest Service and our government, who controls the Forest Service, has done in the past and in recent years to study the buildup of fuels in our forests and to slow the potential for catastrophic giant wildfires. Change is not without roadblocks that try to slow down, or even any policy shift. We will take a look at these roadblocks and at the end see if the Forest Service and our government has been able to do something to stop the potential disaster of catastrophic giant wildfires, or if full fire suppression will remain the norm.

Past

A little over a hundred years ago the USFS took the position of full suppression of fires within national forests. This was believed to be the correct course of action that protected forest lands and people, (Davis, 2006, p 115-117). However, as R. Nelson (2000) put it, "like failing to balance the budget, the suppression of fire in the past did not mean that the threat of fire was eliminated but instead it could be deferred to the future" (p 21). As time has proven R. Nelson (2000) was correct. Now because of the full fire suppression policy that has been followed since the 1900's we are seeing major overcrowding in the national forests due to the inability of fire to clear the dead trees and brush. However, in the 1960s scientists at different universities and elsewhere began looking at the "ecological effects of wildfires" (Davis, 2006, p 118). I. Wagtendonk (1987) stated that "a growing body of research demonstrated that fires set under carefully controlled conditions could be ecologically beneficial since the main effects would include the removal of fuels in the form of dense underbrush and thick stands of small trees that had accumulated more rapidly over time" (Davis, 2006, p 118). With some pressure from these scientists and other agencies C. Davis (2006) describes the first change that the Forest Service made with its full suppression policy;

"In 1972, a fire-planning handbook was adopted for field use that contained a new initiative referred to as the '10 acre policy.' The main focus was on presuppression activities and was based on the assumption that the Forest Service should strive to keep wildfires confined to the smallest area possible; that is, reducing the number of fires that exceed 10 acres" (p 119).

Though it was a step from the old ways it wasn't until 1978 that the "10 a.m. policy", which stated that fires will be extinguished by that morning after a full day of firefighting, was finally discarded (Davis, 2006). Then in the 1980s the Forest Service adopted a new "let-burn policy" that allowed some fires to burn in the national forests; as long as the right "conditions" were met (Williams, 2007, p 192). These "conditions" consisted of fires that were started by natural causes, like lighting, and were away from residences and preferably near wilderness areas (Williams, 2007, p 192). Slowly changes were being made within the Forest Service with their wildfire policy; until the 1988 fires in Yellowstone led to criticism from Congress and the media since the fires were started by a prescribed burn, (Williams, 2007, p 192). This drew a lot of attention because of the popularity/renown of Yellowstone National Park and due to the media firestorm that followed from this disaster. So the change in policy with concern to fires in national forests and prescribed burns were put on hold for a time while the people in power had a chance to cool their heads.

### Recent

After the Yellowstone fires that brought a lot of media attention and criticism on how the U.S. Forest Service handles wildfires the Forest Service stopped the policies of prescribed burning in the national forests until 1994. The Glenwood Springs South Canyon fire re-sparked media interest in wildfires and firefighting strategies (Davis, 2006, p 122). G. Williams, (2007), summarizes what happened:

"On July 6, 1994, on the outskirts of Glenwood Springs, Colorado, what was supposed to be a routine fire suppression effort on Storm King Mountain resulted in 14 firefighter fatalities. The tragedy riveted the attention of firefighters and the

general public nationwide. Memorials to the fallen still serve as a focal point for wildland firefighters, much as the Vietnam Memorial serves as an emotional center for veterans" (p 77).

J. MacClean (1999) and the National Interagency Fire Center (1994) attribute the loss of the life to the terrain, the winds, a delay in wildfire suppression, and a "breakdown in communications between organizations with key management responsibilities and the firefighters" (Davis, 2006, p 122). Due to this tragedy a new policy was created in 1995 called the Wildland Fire Policy (WFP), and it "essentially replaced fire suppression as the primary goal with the view that wildfires should be managed to support other resource management objectives," and the WTP also "called for an increased resources for presuppression activities such as prescribed burns or controlled fires, the removal of debris and small trees, and the control of invasive plants" (Davis, 2006, p 122).

Then in 1999 a report was issued from the General Accounting Office (GAO) to the "Subcommittee on Forests and Forests Health, Committee on Resources, and the House of Representatives stating, 'the most extensive and serious problem related to the health of national forests in the interior West is the over-accumulation of vegetation, which has caused an increasing number of large, intense, uncontrollable, and catastrophically destructive wildfires,' (GAO/RCED-99-65)" (Brookings Institution, 2005, p 6). Though attempts were made to follow the plans from the GAO report it did not stop the 2000 fire season to be very destructive which lead to a new report called the "National Fire Plan" (Brookings Institution, 2005; Williams, 2007). Then after the 2002 fire season that claimed the lives of "23 firefighters, destroyed 800 homes, scorched 7 million acres, and cost \$1.5 billion", President George W. Bush introduced a new program called the Healthy Forest Initiative (HFI) (Williams, 2007, p 94-95). The HFI was

designed to clear brush and other debris from the national forests and to restore and salvage burned logs in some areas, then in 2003 Congress passed the Healthy Forests Restoration Act which gave power to the "Secretary of Agriculture and the Secretary of the Interior to conduct hazardous fuels reduction projects on national forest lands" (Williams, 2007, p 94). As the Brookings Institution (2005) stated on the Healthy Forest Restoration Act, "legislation provided the basis for increased funding, directed at accelerated fuels treatment, improved firefighting capacity, and community assistance" (p 7). At the signing ceremony of the Healthy Forest Restoration Act President George W. Bush said this about the Act;

"For decades, government policies have allowed large amounts of underbrush and small tree to collect at the base of our forests... the uncontrolled growth, left by years of neglect, chokes off nutrients from trees and provides a breeding ground for insects and disease. As we have seen this year and in other years, such policy creates the conditions for devastating wildfires. Today, about 190 million acres of forest and woodlands around the country are vulnerable to destruction. Overgrown brush and trees can serve as kindling, turning small fires into large, raging blazes that burn with such intensity that the trees literally explode... The bill expedites the environmental review process so we can move forward more quickly on projects that restore forests to good health. We don't want our intentions bogged down by regulations. We want to get moving. When we see a problem, this government needs to be able to move. Congress wisely enabled a review process to go forward, but also wisely recognizes sometimes review process bogs us down and things just don't get done. The new law directs courts to consider the long-term risks that could result if thinning projects are delayed.

And that's an important reform, and I want to thank you all for that. It places reasonable time limits on litigation after the public has had an opportunity to comment and a decision has been made. You see, no longer will essential forest health projects be delayed by lawsuits that drag on year after year after year" (Williams, 2007, p 95).

Though this act has been the latest in a long line of attempts to reduce the risk of fires destroying our national lands and homes it is not a simple fix; especially when not everyone agrees with the changes that need to be made.

#### Roadblocks

Throughout the years changes have been attempted against the policy of full fire suppression. There have been roadblocks that have made it difficult for new policies to replace the old policy. One problem that has presented a struggle for the Forest Service to implement new fire policies are practical issues that are a part of prescribed burns. R. Nelson (2000) describes a number of practical issue problems that come from prescribed burns by the Forest Service, the first goes against the policy of another federal agency; the Environmental Protection Agency (EPA). Nelson (2000) states that "the EPA in 1997 extended regulation of particulate matter to particles of smaller than 2.7 microns... if upheld prescribed burnings would be excluded over large parts of the West" (p 53). Nelson (2000) also goes on to explain that the EPA has this policy because they believe that the smoke particles from forest fires can penetrate deep into the lungs, thus being very dangerous (p 53). The Forest Service also has to take into account the Clean Air and Water Acts with trying to return the forest's health with prescribed burnings (Nelson, 2000, p 53).

Another practical issue that Nelson (2000) sees as a problem is the risks to human life and property that prescribed burnings can bring. For years now urban areas (suburbs) have been stretching out and people have been moving into fire prone areas; this is known as wildlandurban interface (WUI), (Williams, 2007, p 205). G. Williams (2007) goes on to describe these WUI homes:

"Homes have mushroomed since the 1970s in fire-prone rural areas nationwide, built by people from urban and suburban areas who retire to them or use them for vacation homes. Many are clustered near national forest lands for the recreational opportunities and amenities they offer. In fact, many of the homes and home sites were sold because they abutted the national forest managed for forests values rather than favoring the building new homes. For many people, these homes were and remain an opportunity to get away from the cities and have large trees and wooden decks, while looking into the forest and seeing deer and squirrels play. Unbeknownst to many buyers of these new and often very expensive homes, they are living next to areas where forest and grass fires could threaten them," (p 205).

Even though the Forest Service and other agencies use a program called FIREWISE that tries to protect homes and lives with cooperation through other agencies, like state and local fire departments, forest fires can still destroy these homes (Williams, 2007, p 205).

#### Analysis

Now that we have taken a look at what the Forest Service has attempted over the years to; change the national forests to the beauty that they once were through efforts to return fire to clear

the forests, and make them healthy, and describing some of the obstacles that the Forest Service has to overcome these issues, that let us analyze the Forest Service to see if they have been successful. M. Hudson (2011) in "The Combustible West" states that though progress has been attempted in theory, "in practice, full fire suppression remains the norm" (online). The Forest Service and other agencies that are trying to create healthy forests again by bringing back fires to restore public lands to their natural state are fighting a hard battle with the public due to the "three-quarters of a century's worth of publicly demonizing fire" (Hudson, 2011). Scientifically the Forest Service knows what is best for the forests' health, but they also must accommodate the wishes of the public; these are the two core values of the Forest Service and in this instance they mismatch (Nelson, 1996, p 94).

## Conclusion

In conclusion the Forest Service has tried, over the years, to change the old policy of full fire suppression due to the adverse effects that we see now with our overcrowding of timber in our national forests, and the potential threat of fires destroying the entire landscapes. From unbiased scientists to Forest Service personal, to the former President of the United States, there have been attempts to reverse the path that we are currently on to reduce catastrophic giant wildfires within our for our natural forests. Though so much has been attempted, not much has been accomplished in a practical sense. This is primarily because of conflicting federal policies or because of the publics' fear. M. Hudson (2011) summarizes the overall problem very well by stating,

"Fire is not welcomed by most people in forest-adjacent communities, who wonder why they must breathe the smoke, risk the immolation of their homes, and

have their beautiful forest-views charred in order to restore a healthy forest ecosystem. However, due to the tinderbox conditions of those forests...whether welcomed, tolerated, or vilified, the fires will come" (online).

I believe this quote is the best way to summarize this paper because no matter what we do to try to prevent wildfires, they will happen in our forests.

## **Chapter 3: Community Mapping Three Colorado Fires**

### Introduction

This paper is a summary for my community mapping project that comes from the research I did on three wildfires that happened throughout Colorado this season. I choose the Weber fire that happened in Mancos on June 22<sup>nd</sup>, the Little Sand fire near Pagosa Springs that started in May, and the Waldo Canyon fire in Colorado Springs back in June 2012. I choose to use these three fires for my project because each fire were handled a different way. The Waldo Canyon fire had a lot more media attention and had a lot higher priority than the other fires. I take a look at how much was spent on fighting each fire, how much area was burned from the fire, the average assessed value of housing, and the average size of the homes in each of those areas. I am looking at these three parts because I want to show if there is a correlation between the priority and the actions taken to put out the fires based on the average assessed value of the housing in these areas. Before I discuss my mapping project I will discuss how fire suppression is achieved by the firefighters that fight wildfires like these to give a little background knowledge. I will also talk about how the homes that are built near public lands effect firefighting techniques and make it difficult for U.S. Forest Service policies that try to return the forests to a healthy state through prescribed burns or other ways. Then after discussing my community mapping project in detail I will show why this is a social problem within of community and our society. We all know that forest fires are a problem, but it seems that residents who have a higher source of income status and have more expensive homes receive highest priority and action compared to lower end communities.

### **Fire Suppression**

Whenever a fire becomes out of control, most people's initial reaction is to immediately put it out before it can grow bigger and destroy anything that is in the way of the fire. The same thought comes to most people if you ask them to describe what firefighting entails; even though there is more to firefighting than just putting out fires completely. When it comes to forest fires there are a number of different actions that can be taken to combat fires and protect homes, one of those actions is called full fire suppression. In a nutshell, full fire suppression is exactly what the general population believe should be done when a fire breaks out of control, that the fire should be put out completely before it spreads. In actually there is more to full fire suppression. Fighting forest fires is a lot different than fighting house fires or other fires in residential areas because most city blocks have easy access to fire hydrants that can supply an almost unlimited amount of water to the fire. Firefighters battling forest fires don't have the luxury of well placed amounts of water, they need the help of helicopters and air tankers to drop the water, (they also use sand and fire retardant) onto the fires. When it comes to the people on the ground they have a few small water trucks that hold a good amount of water, but are nowhere near the size of those big fire trucks that we see all the time driving around town and in the fire houses. Ground and air crews also differ with firefighting in that instead of really drowning the fire with water and lack of oxygen, (that is the use of sand drops); they try to remove the fuel that the fire needs to grow. Ground crews work to create fire lines that are make it difficult for the fires burning the ground to cross the lines; they also remove dead trees in the path of the fire so that they fire can't jump from tree to tree because of the wind. When it comes to creating these fire lines the ground crews can get a lot of help by using Bulldozers to create those lines and remove those trees. Air crews

also help by "watering" trees that are closer to the flames of the fire and dumping fire retardant on those trees to make it difficult for the fires to burn those trees. Fighting forest fires, like fighting any other fire is a long and difficult task that takes longer than most people realize; and when nature is against you in the forest it makes fire suppression all the more difficult.

The fight for fire suppression is a difficult task when instead of a controlled space to fight the fires you are in a wide open space where the weather can either assist or can increase of the size of the fire and put the lives of the firefighters in danger. It is a daunting task to almost have a wildfire out completely and then huge gusts of wind fan the fire and make it grow larger than it was before. It's not just the wind that can make a firefighters life difficult but dry lighting, that is when there is a thunderstorm that brings a lot of lighting but no moisture, can turn one fire in to seven spreading resources and man power even thinner. The terrain in our forests also makes it difficult to fight fires because in some cases it is difficult for ground crews to get near the fires and sometimes air tankers and helicopters are not an option; especially if the fires are too close/in wilderness areas where no mechanized vehicle is allowed, even a helicopter dropping personal or equipment off. The terrain can also make it difficult to predict which way the fire will burn and where fire lines should be placed; which can cause a lot of problems when homes are involved.

In recent years homes have been spreading farther and farther from the urban setting to create suburbs, and other people on the high end of the economic standing create homes that are nestled right on the boundaries of our national forests; this is not a bad thing, yet some are surprised when their homes are caught in a wildfire. These suburbs are being built in fire prone areas, they are called wildland-urban interface or WUI; G. Williams in his book *The Forest Service: Fighting for Public Lands*, gives a good description of these WUI's:

"Homes have mushroomed since the 1970s in fire-prone rural areas nationwide, built by people from urban and suburban areas who retire to them or use them for vacation homes. Many are clustered near national forest lands for the recreational opportunities and amenities they offer. In fact, many of the homes and home sites were sold because they abutted the national forest managed for forests values rather than favoring the building new homes. For many people, these homes were and remain an opportunity to get away from the cities and have large trees and wooden decks, while looking into the forest and seeing deer and squirrels play. Unbeknownst to many buyers of these new and often very expensive homes, they are living next to areas where forest and grass fires could threaten them," (p 205).

Now that people are building WUI's more pressure is put upon wildland firefighters to put out these fires that threaten these homes instead of taking another course of action and let the forest burn naturally. Nobody likes for fires to threaten and possible destroy their homes, but because of these WUI's firefighters have to use fire suppression techniques that put their own lives in danger; and halts a natural process that can make the forest healthy.

## Community Mapping Project: Map of Colorado

For my community mapping project I created two posters to display my community based research on three fires that occurred during the summer of 2012 when part of my research took place. The first poster displays a map of Colorado with three different colored thumbtacks in specific areas of Colorado. The three thumbtacks signify the three fires that I researched for this project and they pinpoint where these fires occurred in Colorado. I created this first poster so that the general public can see, on a map, where exactly these fires occurred. It is one thing for me to tell individuals where each specific fire occurred but with this map of Colorado having thumbtacks to pinpoint the exact areas of these fires you can see where in Colorado they occurred and the towns/cities that were near the area. On the left side of the poster is a legend that defines all the symbols that are on the map so the public understands what they are seeing in concern with Colorado. I also my own key on the right side of the map to define which colored thumbtack signify which fire. The blue thumbtack signifies the Waldo Canyon Fire, the white thumbtack signifies the Weber Fire, and the black thumbtack signifies the Little Sand Fire. Along with the map, legend, and key I attached pictures to the corners of the map as an artistic touch to my project. The pictures show an air tanker dropping fire retardant on a fire (top left corner), a helicopter dropping water onto another fire (top right corner), and another picture from the Weber Fire (bottom left corner). Now that I have spent some time explaining the top portion of my project I shall now go into greater detail about the three fires that you can see I marked in this paper like I did on my poster.

#### Waldo Canyon Fire

The first fire that I want to draw your attention to is the Waldo Canyon Fire that began on June 23, 2012 near Colorado Springs. On my poster you can see the Waldo Canyon Fire progression map in the middle of the second poster along with two photos that I was able to find online that were taken of the fire. The fire began in the Pike National Forest but soon moved into residential areas making it a threat to hundreds of homes and families; the fire was human caused but as of December 3<sup>rd</sup>, 2012 no suspect has been named. Because it moved into residential areas and near a major city in Colorado it received a lot of media attention and a high priority to reach full fire suppression. The fire was contained on July 10, 2012 after burning 18,947 acres,

destroying 346 homes, damaging 25 other homes, and costing over \$16 million dollars just to fight the fire. I also wanted to draw attention to the average assessed value, as well as the average size of the residential homes that were near the fire to see if there is any correlation between the high firefighting priority level of the fire. The averaged assessed value of the homes was roughly \$900,000 with an average size of the homes being 14,299 square feet.

#### o Weber Fire

The second fire that I want to discuss is the Weber Fire that began on June 22, 2012 (one day before the Waldo Canyon Fire), near Mancos in Southwest Colorado. On my poster the Weber Fire is in the bottom right corner with two maps of the burned acreage of the fire and a picture that was taken of the fire. Like the Waldo Canyon Fire the fire was human caused by a juvenile, "whose name, age, and gender has not been released due to their age" (S. Benjamin, 2012). Also like the Waldo Canyon Fire the Weber Fire was close to a city and residential areas; though Mancos, Colorado is nowhere near the size of Colorado Springs. Though the Weber Fire had similar characteristics like the Waldo Canyon Fire, the Weber Fire was given mid-level firefighting priority. The Weber Fire however was suppressed by July 8, 2012 after burning 10,133 acres, destroying 1 building but threatened 140 homes, and costing \$7.8 million to fight the fire. Like the Waldo Canyon Fire I also took a look at the average assessed value of the homes which was roughly \$550,000 with an average size of 142 acres.

## Little Sand Fire

The last fire that I looked at was the Little Sand Fire that began on May 13, 2012 which was caused by lighting. Unlike the pervious fires that we discussed this fire burned only on National Forest Land, 13 miles away from Pagosa Springs and any residential homes. This was a low

priority fire that was decided by the US Forest Service to instead of suppressing the fire was to contain the Little Sand Fire and let it burn and clear out the abundant fuel in the area. The Little Sand Fire was contained on July 27, 2012 after burning 24,900 acres and with \$7.6 million spent to contain the fire. I could not assess the average value of the land due to the fact that public land is usually not assessed for its value and no one can build any homes or other buildings on public lands. On my poster the Little Sand Fire is located in the left portion and along a map showing the burned acreage of the area there is also a picture of the plume of smoke from the fire going straight up in the air taken from Pagosa Springs. The other picture was taken from a helicopter crew member that was dumping water onto the fire to contain the fire.

#### Conclusion

From my research on these three fires I have come to two conclusions after comparing them to each other. My first conclusion is that the priority level is determined by the need of assistance when it comes to wildfires. The Waldo Canyon Fire showed that it needed to be a high priority level due to the proximity of a major city like Colorado Springs and the number of homes that are in and around that area. The second conclusion that I have come to is that the priority level with fighting fires is also affected by the average cost of homes that are near a wildfire. Though both the Waldo Canyon and the Weber Fire shared many similarities, the differences between home values and the size of the urban area between the two areas became a factor in the determination of priority levels. This second conclusion is way I believe that this is a social issue because the value of a home and the wealth of the people that live there can affect the priority level given to one fire over another. The wealth of a family and the value of their possessions should not play a role in deciding who should receive a higher priority of assistance

over another. This is why I mapped these three fires to show that, on some level, wealth plays a role on wildfire fighting priorities; and that needs to change.

## **Chapter 4: Observing the issue of wood harvesting**

### Introduction

This paper is an ethnography on an aspect that I have witnessed through my internship at the U.S. Forest Service. An ethnography is a study that is done where the researcher, in this case me, spends an extended amount of time with participants, in their own particular environment to find out how they think on a certain subject. When it comes to my ethnography the participants are three groups of people that I have witnessed and spent a lot of time with. For this paper, I have put them into three predetermined groups. The first two groups work for the Forest Service but the first group is Forest Service Regulatory Representatives or office types. The second group consists of people that are out in the field and are in the thick of it, in this case the forest. The last group of people is the public because you cannot talk about public lands and issues with public lands without talking about/to the public. These three groups all have to deal with the issue in of permits that the public must get in order to cut fuel wood and take it out of the national forests. Each of these three groups has different opinions on this issue that I have witnessed through my interactions with them that will be addressed. These opinions are not from one particular person but a conciseness that I have come to through what I have witnessed through my internship with the Forest Service. But before I discuss my ethnography issue I am going to give a little background story about myself to explain why I wanted an internship with the U.S. Forest Service and why I am interested working for the Forest Service.

#### **My Story**

To begin I am going to do something that normally I don't like to do, I am going to describe myself. I'll just start off with the basic by saving that I was born and raised in Denver, Colorado to a middle class, white, Christen family. For 18 years of my life I lived in Denver with my parents and my older brother, but now I am a 22 year old male college student that lives most of the year here in Durango, Colorado. Denver is a pretty big city and though I love it, I love living in a small town like Durango even more. That is one reason why I choose to come to Fort Lewis to get my college degree. The town is small, (compared to Denver), and it is so close to wide open spaces of nature that is so beautiful and different from big city life. Growing up I have always liked the beauty and solidarity of nature and all the fun that you can have instead of the mind numbing use of video games and sheer number of people that live near the city. I have always been the type, and have all been raised as well, to work hard and not be afraid to get my hands dirty; which comes in handy when you have to work outside all the time. That love of nature is a reason why for my internship for my Sociology degree I decided that I wanted to try and work for the U.S. Forest Service here in Durango; but the reason I want to become a Law Enforcement Officer (LEO) with the Forest Service is because of another part of my history.

I had an interesting time growing up because not every kid can say that they come from a family that has a lot of police officers. My Dad is a Sergeant with the Denver Police Department and has been for over 33 years working in a number of different units like K-9 unit, Special Weapons And Tactics (SWAT), Driving while Under the Influence unit (DUI), and now he works at Denver International Airport (DIA). My Dads' two younger brothers were also police officers and the older of my two uncles has a wife who was also a police officer. Having a family full of police officers makes it easy to see why both my older brother and I want to become Law

Enforcement Officers as well. The only differences between my brother and I is that he wants to become a police officer in the city area; I say city area because he doesn't care if he works in Denver or Aurora, Colorado just as long as it is in the city. I, on the other hand, I don't care where I become a LEO, but preferably I would want to work in a small town that is close to the outdoors. Having a family full of police officers growing may have something to do with my interest in the study of crime and trying to become a LEO, but trying to join the Forest Service as a LEO is because of my love of nature as well as my interest in the study of crime. Because of my interest in Law Enforcement with the Forest Service my internship has led me to take in interest in the issue of overcrowding due to the lack of fire and the potential for catastrophic wildfires to affect our forests.

## Ethnography

In my internship with the U.S. Forest Service I have observed the issue of wood harvesting in the national forest. For a bit of background information the U.S. Forest Service has a policy where if an individual wishes to remove wood from the national forest, whether for fuel burning or building materials, that individual must purchase a permit through the Forest Service. There are other rules that must also be followed when it comes to wood harvesting like the individuals cannot cut down live green trees and can only harvest dead fallen trees. They must also cut the wood and transport the wood in 8 ft. by 4 ft. by 4 ft. cords so that Forest Service personal can see how many cords a person has and see if they purchased permits to collect that many cords. There are other rules and other permits must get depending on what they are using the wood for but whatever an individual does they must go through the Forest Service and get the proper paperwork filled out in order to transport any wood out of the national forest. Many different people have different opinions on these rules and permits they must get in order to

collect wood and in a way help the Forest Service by clearing out dead and fallen trees from the forest and helping to prevent the potential for catastrophic wildfires. Through my internship with the Forest Service I have witnessed three groups of individuals that each have dealt with this issue in one way or another that have their own say upon this issue; the first that we will discuss are the regulatory representatives within the Forest Service that sell and see to the enforcement of wood harvesting permits.

Office: This first group that I shall be discussing is composed of individuals within the Forest Service that handle regulatory procedures like personal that handle paperwork, budget, and other personals. I have given this group the header of "Office" because with this group of individuals were mainly found while I was working in the office, and this group is the one that deals with the bureaucratic nature of the Forest Service. The "Office" group takes wood harvesting very seriously because they are in charge of selling the permits to collect and harvest wood from national forest land. This group within the Forest Service makes the rules that citizens must follow in order to collect wood for different reasons like fuel or building materials. Depending on what the citizen wants to use the wood that they collect for matter to the Forest Service because different permits that the Forest Service has have different rules and regulations and the one who will be in trouble if they have the wrong permit is the citizen. Of course, this group with the Forest Service does everything that they can to educate individual citizens about the rules and regulations and attempt to make sure that they have the right permit for their purpose. But as much as this group tries to help citizens and educate them of the regulations enforcement is needed and not knowing the rules is not an excuse. The permits that this group issues is a serious matter because for one reason the higher-ups can see how many citizens are harvesting wood for which purpose and because these permits generate revenue for the Forest

Service. Each permit for wood harvesting, whether for fuel wood, building material, or transplanting is economic gain for the Forest Service and for our National Government. The Forest Service provides the public with opportunities to collect wood for a citizens' individual purpose and in return the Forest Service needs a small fee to regulate the amount of wood that is being collected so that there is no longer any unregulated clear cutting like in the past. However, some people disagree with the beliefs of this group; one group that doesn't agree is also a part of the U.S. Forest Service.

Field: On the other end of the spectrum I have witnessed another group within the Forest Service that have different opinions about wood harvesting and permits. I gave this group the title of "Field" because this group is composed of those that play no role in the enforcement of public lands and away from the office. They are a few that are always in the field and the trenches and see how the rules and regulations from the "Office" work in the practice. This group sees the process of obtaining a permit for wood cutting to be a waste of time and paper and has little impact. This group are in the field and see the state of the forests which are overgrown and crowded and that allowing the public to cut wood, without paperwork or payment would help thin the forest. They believe that it might help the forest and the public if they didn't have to go through the hassle of paperwork and having to pay to collect wood for themselves. Some also believe that the criminalization of individuals who collect without a permit is a waste of time and money for everyone involved. This group does however agree with the "Office" group in concern with the cutting and collecting of live, green, trees within the forest; especially when there are so many fallen and standing dead all around the forest. The opinions of the "Field" group differ from the "Office" group even though they work for the same organization; but the

last group also has problems with the regulations that come from the Forest Service for wood harvesting.

Public: The last group is called the "Public" because this group is made up of those individual citizens who want to harvest wood for whatever their purpose may be at the time. Some from this group I have witnessed, through my internship, come and purchase wood permits without any problems or complaints. However, it is the other part of this group that we will discuss; the individuals that are not happy that they have to pay someone else when the "Public" group member is the one that finds the wood and collects it themselves. These are the people of this group that complains and voices their dislike to the "Office" group that sell them the permits and these are the people that will sometimes harvest wood without a permit. I have witnessed many reasons why an individual of the "Public" group has either complained or refused to purchase a permit; but I have condensed these many reasons into three. The first reason that I have heard is that an individual hates having to jump through the many "hoops" that comes with dealing the paperwork of the bureaucracy. This complaint usually comes from those of the "Public" that are harvesting wood for building purposes or for transplant because they have to fill out more paperwork than those who just want to collect fuel wood. There are many, even within the Forest Service, that do not like all the paperwork and the "hoops" that they have to jump through for a simple procedure that takes less time than waiting for approval from an official higher up. These individuals see the bureaucracy of the Forest Service as a waste of time and energy and on occasion choose to not even bother to deal with them in the first place.

The second reason that has been given for refusing to obtain a wood harvesting permit is because of the income of that particular person. To collect and transport 2 ½ cords of wood costs \$20 from the Forest Service and for every additional ½ cord costs \$4, which is not that expensive

for some people; but for others it is. Some individuals heat their residents by burning wood that they collect from public lands and need the fuel but don't have the income to pay for it. There are other individuals however, that can pay for the fuel but believe that they should not have to pay for something that is abundant on public lands. This also ties into the third and final reasons for the refusal of paying for wood harvesting permits; the forests and wood is considered <u>public</u> <u>land</u>. Some "Public" individuals see that national forests are called public lands for a reason, because it belongs to the public since the national government funds the protection and stewardship of our national forests from the taxes they collect from the public. They see the land as there because they are paying the National Government to be stewards, or to watch over and protect the land so they may use the land later for their own purposes. Since they view the land as theirs they believe that they should be allowed to harvest wood from the national forest without having to pay a fee. These are big reasons for why some of the "Public" believe that they should not have to pay for a wood harvesting permit within the national forests and public lands.

## Conclusion

During my internship with the U.S. Forest Service I was given the opportunity to witness and be a part of many things; but I also got to witness some issues. This issue of permits in order to harvest wood is one that I was able to witness and get the perspective from three different groups that had three different opinions. The group that consists of everyday citizens or the "Public" sometimes holds the belief that having to pay to harvest wood is a waste for reasons like money trouble, the unwillingness to deal with bureaucratic paperwork, or the idea that it is their land because it is public land. The Forest Service also has their own opinions on the wood harvesting permits and fees; however they are split into one group believing that the permits and fees are a waste and those who believe in the permits fully. The group within the Forest Service

that work in the "Field" see the permit as a determent for the public to harvest wood in the forest and therefore making the forest healthier but thinning dead overgrowth. The other group within the Forest Service work in the "Office" and see the permits as a way to know how many people are harvesting wood, for what purpose they are harvesting wood, and from which forest they are harvesting wood. The "Office" also sees the permits as a good thing for the national forests because it generates revenue that can be used for other projects and equipment. I see that each group has some valid points when it comes to this issue but for now the public still buys and obtains permits to harvest wood in the national forests, and the Forest Service still sells and enforces the permits.

## **Chapter 5: Reflection**

### **Final Analysis**

We have come to the end of my Block internship and so for this portion of my portfolio I shall first reflect upon the research that I did on my first and second papers. When I first started my research on fires and firefighting with the national forests and the Forest Service I barely knew anything about the processes and actions that are usually taken. However, when I first started my papers by talking about the history of how the U.S. Forest Service was first started I knew I little bit due to my Education for Global Citizenship class entitled Global Wilderness. Thanks to that class I had a foundation to build upon with my knowledge with the Forest Service and the history of firefighting fires throughout the hundred years that they have been around. It is interesting to find out that for over the past hundred years of the Forest Service the actions taken to suppress wildfires as soon as they start has remained the same with very little changes. It was also interesting to find that because of those actions by the Forest Service there has become a potential for catastrophic events like mega-fires to occur.

Through my research I found some strengths and weaknesses in both addressing the issue and the intervention strategies that have been done for this issue. One of the strengths that were addressed on the issue is the potential for catastrophic meg-fires to destroy a greater amount of forest land because of the overgrowth conditions from the hundred years of the Forest Service fire suppression. Due to the fire suppression the forests have become overgrown and dead trees litter the forests because wildfires have been kept from burning away the debris and make room for new growth. The weakness however, in addressing the issue is the idea that we as a society have toward fire and that it destroys land and property and therefore should not be allowed to

burn. Some of society builds their homes in the Wildland-Urban Interface (WUI), where fires are prevalent which forces agencies that fight wildfires like the Forest Service to suppress the fire and save the homes instead of letting the fire burn and having a healthier forest. This is a weakness that is also seen by intervention strategies for the issue. Some try to show that thinning and prescribed burns, or even letting some small fires burn is best for the environment but say that it is not a practical option with the public. The strength however, of the intervention strategies that have been done with this issue is that though it is hard battle to change the public's belief that fire is a bad thing different agencies and other organizations try and inform the public as much as they can on the benefits of fire. Some agencies, like the Forest Service try and inform home owner's ways that they can protect their house if a wildfire does get near their home if they do live in the WUI.

I have spent over 14 weeks working on my academic based and I have spent more than 6 months with my internship with the U.S. Forest Service doing community based research and I believe that the fundamental cause of this issue with wildfires is society. Since some of our ancestors came to this "new world" we have all thought to know what is best for the land, even though it has been for our interests instead of the land. Because of that belief our society has taken fire out of the natural order to clear out the old so that the new may flourish in the forests. However, it is not just our ancestors who are fully to blame but society now as well because we are moving farther out into the WUI and expecting that some higher agency will make sure that their homes will always be protected from fires. The solution to this problem is that we as a society need to make in effort to change our old ways of thinking and our fears. We need to allow the smaller, controlled fires to burn and clear out the fuel that litters our forests so that the bigger, uncontrollable fires don't use the fuel and burn everything. We need to try and make a

change, because one way or another "the fires will come" (Hudson, 2011), we cannot control that. But what we can control is whether or not we allow the fires to be huge and uncontrollable because we did nothing, or we do something a lower the potential for a catastrophic wildfire to diminish.

### Internship

For me, this has been a long and tiring semester with both my internship as well as my work for the Block class through research and my papers; and I loved every minute of it. Through my internship I have gained so much knowledge and experience both within my field of interest with law enforcement and with areas that I never thought that I would be interested in. I was given the opportunity to work with the Forest Service not just during the fall semester for my class, but I got to work with them over the summer and really be able to get out into the field and get my hands dirty. I never expected that I would be working with an engineer crew and work with heavy machinery in the forest fixing roads, gates, and guards that keep cattle in/out. Then I got to take all that I had seen out in the field and bring it to the office and give advice and my opinion about certain areas that I had been and give it to the public. I got to meet many people that were really great to know and talk to, and I was able to help a lot of people who were thankful for everything that I have done. Though it was not all easy, there was a lot of hard work and time that I put into this internship but it was all worth it in the end. I will never forget the people that I have met or the friends that I have made through this internship, and I am glad I had the opportunity to be a part of the U.S. Forest Service. It was because of this Block program that I was able to work with the Forest Service and because of the class and all the research that I did for it, I was able to take the knowledge that I learned and use it when I was working. The most difficult part about this program that I found was trying to find an issue or problem from my

internship to discuss in the many papers that I had to write. It was tough at the beginning, but as the weeks went by and I learned more about my topic and the more I worked with the Forest Service, the more confident I became with my papers. To end my portfolio I am going to give my advice to anyone that wants to intern with the U.S. Forest Service either with this class or later on after college is done. My advice is that you work hard and do your best with whatever is thrown your way. If you are given a task you don't know how to do or questions you don't know how to answer don't be afraid to ask someone else, and have the confidence to try and find the answer any way you can. When I first started I was a little afraid when I first started, but as soon as I learned the ropes my confidence in my ability grew. Just do the best you can, don't be afraid to ask for help, and remember to have fun.

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The government housing that I was allowed to stay in for free while I worked as an intern for the Forest Service over the summer from May 2012 to August 2012.



A picture of me with a fire that was set for a class that I was able to shadow on fire investigation put on by Homeland Security and Law Enforcement Investigator with the U.S. Forest Service.



This is the front office of the Public Lands Center in Durango, CO where I spent once a week from June 2012 to December 2012 answering phone calls and questions from the public.

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