THE FOUNDATION OF THE FOREST SERVICE'S INABILITY TO PROTECT ANCIENT FORESTS

by

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The United States Department of Agriculture Forest Service has a history which demonstrates the agency's inability to effectively protect the nation's final reserves of uncut native forests. The ancient forests of the Pacific Northwest are being destroyed at an accelerating rate. This thesis explores the structural and ideological aspects of the U.S.D.A.F.S. which render the agency unable and unwilling to protect these forests for uses other than timber harvesting.

I have examined the structure, the economics and the philosophical bases of the Forest Service. These elements

combine to form a timber supply-centered bias within the agency. Meanwhile, a documented shift in social paradigm has occurred in western society. The entrenched ideologies of the Forest Service have not responded to the rise of a new environmentally centered paradigm. The agency's antiquated management scheme does not reflect this paradigm shift. If ancient forests are to be protected despite this bias, they will survive because outside pressures will change the Forest Service through prescriptive legislation.

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CHAPTER I

FORWARD

I worked for the U.S. Forest Service for three seasons. In that time I found myself wondering about many of the things we did. I was officially working for fire management, which meant I did a lot of slash burning, but my crew was available to help on projects ranging from building water tanks for elk, to surveying for new clear cuts. On many of these projects, I got in the habit of asking people why we were doing what we were doing. This almost always led to interesting answers.

Everything we did was in some way tied to timber harvesting. We built water tanks for elk because their old habitat had been logged, forcing them to higher wintering grounds which had no water. We surveyed new roads for timber harvest, we burned the mountains of slash left over from clear cuts, we put out fires started by logging operations and we put out fires which threatened timber resources. Sometimes we did rehabilitation work on streams which had been devastated by timber cutting. We even cut trees down to create new meadows to replace lower elevation meadows which now had trees growing on them because of the

way we fought the fires which would have maintained these meadows.

I came to wonder about the reasons behind the things we did. The river valleys with major highways in them were not massively cut. But as soon as we would get into the forest which people could not see from the highway we would be in a land of clear cuts.

Once I asked some questions about helicopter logging we were involved in. The timber in these sales was sold for about 2% of the normal price. The reason for this was that the valley was too steep for a road. The helicopters were very expensive, and in order for the timber companies to make a profit on the timber, they needed to receive it almost free. Without the discount from the Forest Service the trees would not be cut.

I asked my supervisor why it was necessary to subsidize this sort of sale. His response was that if we did not provide the timber at a reduced rate, it would be wasted. This was my first look at an attitude which I found to be pervasive in the Forest Service. Many of my co-workers believed that if a tree was allowed to die and rot on the forest floor, it had been wasted. I also found this attitude to be important to many people I met who worked in the timber industry.

Prior to working in the Forest Service I was not entirely clear on the differences between National Forests, National Parks and designated wilderness. I believed that in general, western National Forests were recreational areas where a person could find the woods just about the same as Lewis and Clark had.

As I learned more about the operations of the National Forests I developed many questions about the basis for its actions and policies. I also became interested in the problems involved in discourse between the Forest Service, the timber industry, and environmentalists. Often it seemed to me that these different groups were operating from quite different paradigms, or world views. These differences lead to almost no meaningful exchange of information or understandings of each other's viewpoint in dozens of interactions I have witnessed.

The people I worked with in the Forest Service were usually genuinely interested in doing what they thought was for the best. Regulations and bureaucracy frustrated many of these people in their attempts to do what was best. Often I found myself in bitter disagreement about what we were doing, but I generally found my colleagues to be sincere in their attitudes. The puzzle this created for me was, how could this institution seem so out of control to

me, and yet be managed by so many people who were doing their best to be stewards of the forest?

For me one of the most obviously important questions before the Forest Service was how to protect the small amounts of untouched ancient forests which are left in the Northwest. I was so impressed by these amazing stands of massive old trees. Sometimes my work would find me standing in the midst of thousand year old trees. This was almost always while I was part of a project to facilitate a sale which would result in the killing of these trees, and the destruction of the ecosystem of which they were only the most obvious residents.

Often I was enraged and found the destruction I was seeing as inexcusable and brutal to the point of interspecies genocide. I felt this cutting was an example of a situation in which the Forest Service had given up on any real attempt to manage the nation's forests in a responsible way.

I believe that these ancient forests must be protected in some way. There is just not that much ancient forest left. For several years I tried to find evidence of the Forest Service protecting some of these forests. When I began work on this thesis I was convinced that the Forest Service would not try under its own direction to save these

forests. So I set out to try to find out if this was the case, and if so, why?

What I set out to do in this thesis was to analyze the philosophical and attitude basis for Forest Service activities, and policies. In order to do this it became necessary to look at several aspects of the Forest Service. I have examined the history, economic structure, managerial structure, and institutionalized attitudes which make up the Forest Service. I have also made a modest inquiry into the political pressures which shape Forest Service policy, but this subject is too expansive for even a 10,000 page congressional report.

What I have found is that due to many factors, the Forest Service is structurally unable to pursue the protection of ancient forests. Major changes would be necessary in the agency in order for any real protection of ancient forests to take place on a meaningful scale.

CHAPTER II

INTRODUCTION

National Forests are always green on maps. People all over the country look at these maps and think that these green sections represent forests with tall trees, abundant wildlife, and clean mountain streams. Out in the National Forests things are changing. More and more what people can find in the National Forests are clear cuts, devastated drainages, disappearing wildlife, and lots of roads.

In this chapter I present the connection between the Forest Service and the situations which the forests of the Pacific Northwest are facing. After a brief history, I begin with an overview of the issues and the parties involved, then I move on to the role of the Forest Service in this controversy. The chapter concludes with a section devoted to the question, can the Forest Service Protect Ancient Forests.

All over the country the National Forest system is increasing its output of timber. Often this timber is harvested at considerable cost to the taxpayers. The Forest Service loses about 1 Billion dollars a year (O'Toole 1988). Programs such as recreation and wildlife management receive

only a small fraction of the financial support given to timber programs and the budgets for these non-timber programs have been shrinking (Wondolleck 1988). The Forest Service is clearly operating with an economic bias towards timber harvest.

The law is fairly clear on issues of multiple use, and sustained yield. The Forest Service is supposed to place matching emphasis on non-timber activities, and they are also supposed to maintain a level of timber operations which could last forever. They are doing neither (O'Toole 1988). The strange part is that the Forest Service is made up mostly of people who see themselves as trying to do what is best for the forests and the people of the U.S.

Until World War Two, the National Forests were operated more as timber reserves and were administered mostly for recreation. This was the era which spawned the image of National Forests as recreational havens. Forest Service rangers were seen as helpful "men" dressed in green, helping strangers and fighting fires. This period was also marked by the private timber companies suppling their own timber from their extensive timber lands. Federal timber was seen as a threat to the market. Too much Forest Service timber would hurt the price of timber.

After World War Two, a housing boom created extensive demand for timber just as private industry was beginning to

exhaust its private supply. Ever since, the Forest Service has been in the business of selling public trees to private companies. This business just keeps getting bigger and the trees keep coming down.

The Pacific Northwest is currently embroiled in a heated battle over the fate of the small amounts of remaining ancient forests. These are the forests which have never been cut. The trees are hundreds of years old and humans are still just visitors in many of these stands. There are no roads, and the trees are only one part of the web of life which these forests support. In the next few years much of this forest is scheduled to be cut down.

Environmental groups have been using the protection of the Pacific Spotted Owl as one of several legal means to limit the cutting. The owl is native only to old growth forests and is currently being considered by the U.S. Fish and Wildlife Service for threatened species status. Until the owl's status is decided, the Northwest's political delegation has orchestrated which is known as "the timber compromise." Several large areas will be protected in exchange for an increase in the amounts of federal timber harvest. At the same time raw logs are being exported at record rates. The industry makes many claims about protecting jobs by increasing cutting, but at the same time

many companies are moving towards automation and timber exports.

Mills are closing and the economic health of many communities is threatened by decreased revenues from the timber industry. Environmental concern is only one reason for the economic crisis these areas face, but it is certainly the one which is getting the most attention.

Many larger timber companies are earning record profits and several are relocating operations and headquarters to the Southeast. The boom years of Oregon logging are over, and the area is now going through a political battle to decide how the transition to second growth logging should take place. Increased logging of the federal supply of old growth could offset the problem by allowing the private companies more time to convert mills for smaller second growth logs, and also by allowing more time for the growth of the trees on private timber lands. On the other hand the industry has been aware for years that this point would be reached.

The federal government is allowing the timber industry to harvest some of the last temperate rainforests in the world. This will only forestall the inevitable economic changes the area will go through; however, it will provide a lucrative profit for several companies in the meantime.

This profit incentive causes companies to put pressure on the Forest Service.

Environmentalists differ in the amount of reductions they demand in old growth logging. A major controversy among environmentalists centers around who speaks for the environment. The Sierra Club, the Audubon Society and the Wilderness Society are among the older respected organizations. Some environmentalists find these organizations far too willing to compromise with the industry. Spokespeople for Earth First! and other groups see these established groups as politically unable to maintain environmentally sound platforms because of their concern with continuation of their funding.

In the middle of this controversy is the Forest Service. Most of the trees which are being fought over are on federal land. In the Northwest almost all the remaining ancient forest is found on public land, and the Forest Service is the agency in charge of most of these forests.

The Forest Service is an agency which is pressured by many different interest groups. It would be simplistic to say that the Forest Service has to decide between pleasing environmentalists and pleasing timber companies. Labor relations play a role in the construction of Forest Service policy, with timber exports and automation being central issues, along with wage and benefit controversies.

Recreational interests are diverse, with advocates of off-road vehicles fighting against wilderness designation and horse packers and hunters often fighting for conflicting agendas. Fishermen also have distinct positions, as do people who gather herbs, fungi and other non-timber products from the forests.

People with few ties to the forests also put pressure on the Forest Service. In Oregon the timber industry is considered a primary provider of revenue. Many people believe that other economic development requires a steady flow of timber money. Many of the county governments on the west side of the Oregon Cascades receive most of their funding from an arrangement which gives the counties a share of proceeds from timber sales from certain lands (Clarke 1985).

If we are to believe the rhetoric involved in the old growth debate, a great deal is at stake. The Spotted Owl and a host of other species may be driven to extinction. Tens of thousands may lose their jobs. The last temperate rainforests in the world may be finally destroyed, or the economy of the region may collapse. The Forest Service is at the center of a set of decisions and policies which many people believe will be of immense importance to the area. Most factions in this debate believe that the Forest Service

is the agency which has the most control over these policies.

Having examined some of the factors which pressure the Forest Service, I now turn to the factors which play a role in determining forest policy.

Congress has generally bowed to the delegation most affected in forest use issues. Now the issue has been nationalized. We will see much more interest in the forests. People all over the country are now paying attention to what happens to the forests of the Northwest. One very important factor in the outcome of this situation may be how the population centers in other parts of the country respond. Local Senators and members of Congress will no longer be able to direct forest policy as easily as they have in the past.

The Northwest has traditionally been the land of logging. It will not be easy for the area to transform that emphasis to other industries. Some steps have been made in diversifying the economy of the region, but a collapsing timber economy is a prospect which will not be embraced by many people of the Northwest.

Some environmentalists could support an end to much of the logging done in the area, but most simply want to end old growth logging and to install a much more responsible system of second growth management with an emphasis on local

production and milling. This shift to second growth harvest could still support local economies. Larger timber companies, however, need the larger volumes they are now cutting to maintain their flow of exports.

The issues involved in the management of the ancient forests are important to the people in the areas where the forests grow. Now the nation as a whole will have to examine what the ancient forests are worth and how they should be used.

Can the Forest Service Protect Ancient Forests?

This thesis is an exploration of the Forest Service and the reasons behind its management techniques. In the remainder of this chapter, I look at the background of this thesis and the beliefs I hold about preserving old growth.

When considering these questions it is important to remember the size of the Forest Service. It contains over 600 ranger districts, each with their own local concerns, problems, and managerial policies. I have chosen to focus on ancient forests on the west side of Oregon's Cascade mountains.

The Forest Service is immense, and many things must be generalized, but I believe it possible to examine the factors which influence forest policy within this agency. I also believe it is possible to examine aspects of

bureaucratic infracstructure such as the philosophical world views held by this agency, and also how these views are put into action through the policies of the agency.

I have tried to examine many different aspects of forest policy and of forest management. Often it is not clear that actions reflect policy, so it is important to be aware both of policy and action separately. A bureaucracy of this size is difficult to discuss on a philosophical level. Most higher level employees will say that they are simply public servants and that they only enact the will of Congress. What I have set out to do is examine this agency's philosophical basis by looking at policies and actions. I have also examined the economic structure of the agency, along with the way in which people are advanced, in order to understand the Forest Service.

This thesis is an interdisciplinary examination of the Forest Service and how it manages the forests which have never been cut or built into with roads. I have tried to incorporate elements of philosophy, sociology and planning into my examination. This approach has enabled me to use several different methods in my analysis.

Most of my findings point to an agency which cannot protect ancient forests if these forests are made up of merchantable timber. In the current state of controversy this agency can be anything but unbiased. Many things about

the Forest Service are changing very fast and the agency is responding to congressional mandates, but my interest is the structure of the agency and how that limits its own options in managing unlogged forests.

Less than 5 percent of the total forest lands in the United States remains untouched by saws and axes. As a beginning point for this thesis I will assume that it is desirable to save all of this land from cutting. This is a bold assertion. This does not discount the economic need of the communities which count on the cutting of trees for survival. I am simply starting with the assumption that, other factors aside, it would be for the best if we could find a way to protect all that remains of the world's natural forests.

This is admittedly a simplistic view, but even most adamant timber harvesters will admit that if they could make just as much money without cutting the remaining ancient forests, then they would find it acceptable to set aside the ancient forests. This leaves us with a primary tenet of this thesis: the protection of ancient forests is desirable. What I examine is why this desirable goal is so hard for the Forest Service to work towards and why it is so seldom a priority for this agency.

CHAPTER III

HISTORICAL SUMMARY

In order to look at the Forest Service in its current state we must first look at the events and processes which created the agency and formed the ideologies which it now holds. This chapter is a chronological look at the events, people and actions which shaped the Forest Service. The history of the Forest Service is made up mostly of actions of the federal government which have dictated actions and policy for the agency.

The limited events I have chosen to study in the history of the Forest Service are mostly connected to the growth of the agency's ideologies and the growth of congressional control supplanting scientific control of the nations forests. Many significant events in the last 100 years of forest management must be left out, but the events discussed are the most representative and germaine for the issues which this thesis explores.

Prior to the Forest Service

The Ninteenth Century

The history of the Forest Service begins at the opening of the twentieth century. In the ninteenth century the U.S. government was involved in the privatization of public land. As the U.S. came into control of new territories in the west these lands were the object of programs aimed at the dispersal of these lands into private hands. The philosophy of the time was that land would best serve the public good if placed into private hands. This was in order to best develop the land (Alston 1983, Clarke 1985).

Homesteads were a method of land dispersal for individuals, but also important were the land grants awarded the railroads. Huge amounts of the west were awarded to different railroad companies to help defray the costs of railroad construction. Even today some of these same railway companies remain some of the largest land holders in the west. These railways were granted alternating squares of land along rail routes. These squares were up to ten miles square and the railroads often used their influence to acquire and speculate on other lands (Alston 1983).

In the latter half of the 19th century the cattle grazing industry moved west along with the timber industry. Private land holdings were often very large, and often very profitable. The railroads remained one of the most profitable organizations in the country.

Prior to the establishment of Forest Reserves, the forested public lands were the target of many timber companies. Timber harvesting was the third largest industry in the country (Clarke 1985). The timber industry could make claims upon public timber in the same way mining interests could stake mining claims (Wondolleck 1988). The timber industry practiced a technique of cutting and then moving on to new lands. The lands that were cut were clear cut and then only reforested naturally. Much of these lands were in the East prior to the turn of the century, but areas in the West with good access to water ways were also being cut on massive scales.

The federal government was placed in a position of managing forest lands as the private industry continued to cut over its private lands. For most timber harvesters of the time reforestation and preservation of timber land were unthinkable and a hindrance to the logging industry (Clarke 1985). By 1891 the government was in a position in which they had to decide how to manage the forests existing on federal lands. Much of the best and most accessible forest

lands in the country were in private hands. But in the West particularly, much of the timber lands were in federal care, and it rapidly became clear that the government could no longer leave them as an unmanaged frontier.

The emerging idea of scientific management played an important role in the way the government would decide how to manage timber lands. Science began to allow for a new perspective on forest management. In Europe, a revolution was taking place in the way forests were managed (Alston 1983). Germany, for example, experimented with techniques of reforestation and controlled intervention in the forests. These techniques were planned in order to maximize the utility of the forests, while at the same time to protect them in order to continue the supply of resources. Europe did not face an expansive frontier like the U.S. They were already facing decisions about how to continue to supply timber from a limited land base.

In the U.S. the European view was to gain some currency. Some forward-looking people saw the end of the unlimited frontier. In their view the timber industry could not cut and move on forever. In this climate of interest in scientific forestry the U.S. government began to take an interest in managing the forest lands which were still in the public domain.

1891: Forest Reserves Established

In 1891 the Congress voted to allow the President to create a system of forest reserves. These reserves would be operated under the auspices of the Department of the Interior. Most of the lands involved were the public lands in the Western states.

The patterns of timber harvest on private lands had begun to worry many people about the fate of federal lands. In the East the timber industry had cut some areas so thoroughly that water flows were greatly upset; people blamed several floods on the massive clear cuts which had taken place on the drainages above towns and cities. Several towns were also destroyed by forest fires which started in the dry slash of these same clear cuts. In 1871 a single fire killed 1500 people in the town of Prego, Wisconsin and burned over a million acres of forest land. This fire had started in the slash of timber operations (Wondolleck 1988). The Forest Reserve system was established in order to allow the President to manage lands in a way which would limit floods and fires (O'Toole 1988, Wondolleck 1988).

Once many of the reserves began to be established some State Representatives began to worry that the President had

too much power in his ability to proclaim these forest reserves. Some states worried that their rights of governing these federal lands would be supplanted by federal regulation of the Forest Reserves. These worries led to the Organic Administration Act of 1897.

1897: Organic Administration Act

In 1897 Congress passed the Organic Administration Act. This act reaffirmed the rights of states to govern many of the legal aspects of the land which would be placed under control of the federal government. This act created a new Forest Service would could not supercede state laws in respect to both civil and criminal jurisdiction (Clarke 1985).

Even today authority over some activities are disputed between the states and the federal government. Smoke management authorities in state governments often dictate slash burning policies to the Forest Service, but the Forest Service reserves the right to ignore the requirements of the states if it is deemed necessary (O'Toole 1988).

This act's main function was to limit the situations under which the President could add to the National Forest System. These limitations stated that

> No national forest shall be established, except to improve and protect the forest within

> the boundaries, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States (Organic Administration Act, 1987, 16 USC 475).

These conditions may seem a generous amount of power for the President, but at the time Congress was concerned that the presidency could condemn lands for the new Forest Reserves against the will of the States. This act was a measure of insurance for the rights of the States.

This is the formative act which still governs many of the conditions of operation of the Forest Service. The clauses concerning water flow are still foundational for the Forest Service's water policies.

The wording of this act is still a point of debate. Terms such as "continuous supply of timber," are still important in the formation of forest policy. In 1960 this act was central in the formation of the Multiple Use Sustained Yield Act. Few acts have had such a long standing effect on public forest policy.

After the Creation of the Forest Service

1905: Forest Reserves Become Forest Service

In 1905 The system of forest reserves was moved from the auspices of the Department of Interior to the Department of Agriculture. Under Theodore Roosevelt this new agency

was placed under the control of Gifford Pinchot. Pinchot's legacy has remained a guiding force in the Forest Service. His agency was largely autonomous from the Department of Agriculture and he answered directly to the President (Clarke 1985).

Pinchot managed the forests under his principle of "the greatest good for the greatest number in the long run" (Wondolleck 1989, p. 24). This phrase is still a Forest Service cliche, it can be found on buttons, notebooks and other Forest service items. Pinchot was educated in the German forestry schools and was one of the first Americans to apply much of the then new European forest management techniques. He introduced silviculture as a science and launched the Forest Service on a course of forest improvement. Until his tenure the Forest Reserves had remained unmanaged natural stands with the exception of fire prevention activities.

Pinchot introduced a plethora of techniques to increase productivity. He pursued many aspects of a sustainable yield system in the early Forest Service years. Pinchot was concerned with getting more timber harvested from federal lands. In his time, most timber harvested came from private lands and timber companies were concerned that timber from federal lands would cause timber prices to drop. Pinchot

struggled to launch programs which would provide timber from federal land without threatening private companies.

For the next forty years the Forest Service remained mostly a care taking organization. Most of its function was protecting the forests and providing recreation. The size of the lands grew. In 1911 the Forest Service was authorized to purchase cut over lands. This allowed the agency to establish a number of forests in the eastern U.S. Many of these eastern forests which were almost entirely clear cut when purchased are now beginning to foster young forests.

World War Two

After World War Two the U.S. faced a dramatic housing boom. Demand for timber and timber products increased to all time highs. This led to a demand for more timber from the federal lands. The Forest Service began a program of extensive sales to private industry. With the exceptions of a few slumps, the amounts of timber purchased from public lands has increased steadily. In the meantime, most large timber holdings in the west have been cut. The most productive lands in the west are generally in private hands. This has given rise to a situation in which more and more companies are depending on federal timber to maintain operations in their mills. Many industry representatives

feel that in another twenty years the private lands will again be able to produce more timber. At that time they feel that enough of their private timber will be old enough to warrant harvesting.

Often timber company representatives claim that they simply need several more years of high federal log supply to get them through until their own logs come onto line. One criticism of this idea is that either way the workers of the region suffer. The new mills which will handle the small second growth logs will require much less labor. In addition, the work available in the woods which will be necessary to cut and transport the smaller trees will also be much less labor intensive.

1960: Multiple Use Sustained Yield Act "MUSY"

In 1960 conservation groups mounted pressure on Congress to protect wilderness areas. Wilderness status was just an administrative classification and agencies could change this status at will. Congress passed the Multiple Use Sustained Yield act at the behest of the Forest Service. The agency attempted to head off any outside attempts to dictate wilderness policy. The idea of the act was for the Forest Service to propose legislation which would appease the conservationists and still allow the Forest Service control and discretion over land use.

This act outlined the various uses which the Forest Service should maintain on its lands. This act did not actually present any management scheme, but conservation groups managed to include wording which stated that wilderness use was consistent with multiple use of the forests.

MUSY allowed the federal agencies extreme discretion in action. They were allowed to chose how best to achieve multiple use, but sustained yield was defined in a more clear way:

> The achievement and maintenance in perpetuity of high-level annual or regular periodic output of the various renewable resources of the national forests without impairment of the productivity of the land (Multiple Use Sustained Yield Act, 1960, Sec. 4, b).

1964: Wilderness Act

By 1964 it was clear to most conservation groups that MUSY was not accomplishing much real protection of wilderness. These groups pressed Congress into passing the Wilderness Act. This provided a protection for wilderness, but the process by which areas were designated became very political and volatile and has remained volatile to the present. At first, most of the land protected as wilderness was generally of little or no timber value. Most wilderness

land is still made of rocks and ice. In the Northwest almost all wilderness lands occur above or near timber line.

Roadless Area Reviews and Evaluation "RARE" One and Two helped designate much of the current wilderness system. It is common for new area to come up for wilderness review, but it is politically difficult to preserve any more lands for wilderness designation. Millions of unprotected acres would fit the criteria which this act established to determine whether land is fit to act as wilderness reserves. These reserves are federal lands which are to be set aside

> to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness (1964 Wilderness Act, Sec. 2, a).

Currently the Forest Service still argues that it is not necessary to protect any more land in wilderness. The agency maintains that it can better manage the land for multiple use and still provide many of the amenities which the public wants in wilderness (O'Toole 1988). The Forest Service maintains that roads open up much more forest to recreation, and that without roads wilderness is exclusionary. This is often used as a recreation explanation for roads which are constructed primarily for timber harvest.

1969: National Environmental Policy Act "NEPA"

This act calls for environmental impact statements for any action which will significantly affect the environment. In a court case the court found that road building in the National Forest qualified as an action significantly affecting the environment. This law has been used by environmentalists to slow down numerous projects, but it is seldom an effective tool for stopping projects. On the other hand, this act does make several eloquent statements about the way the environment should be protected.

1973: Endangered Species Act

This act established as policy, that the U.S. government shall not be the cause of extinction of any animal or plant. This act regulates both public and private land in cases in which it is determined that a species is threatened or endangered. Of current relevance is one clause which allows a cabinet level committee to ignore a species if it decides that other considerations are more pressing. The committee could allow a federal project to force an animal to extinction if the committee felt it was justified. This clause may come into play in the case of

the Spotted Owl if the owl is proclaimed threatened. Such status could tie up much of its habitat in preserves. This could perhaps lead to the owl being exempted from the threatened species list, though such an act would be a very unpopular move for any politicians involved from outside timber regions.

1970s: Clear Cut Controversy

The 1970s saw many controversies surround the Forest Service. Perhaps the most important controversy involved the practice of clear cutting. Prior to 1960 most cutting in National Forests was selective. Only certain trees were cut. Others remained standing on the same land. By 1970 clear cutting was the predominant form of cutting in the National Forests. As the visual impacts were recognized, particularly in the eastern states, a public uproar occurred.

The Forest Service fought to protect its right to clear cut. Environmentalists, however, found a clause in the Organic Administration Act of 1897 which an appellate court interpreted as forbidding clear cutting on national land. This was a major victory for environmentalists. The struggle caused Congress to call for more concise planning in the National Forests. Clear cutting continued and was limited to about 40 acres a cut.

1976: National Forest Management Act "NFMA"

In 1976 Congress passed the NFMA. Combined with the Forest and Rangeland Renewable Resources Planning Act of 1974, these acts together launched the Forest Service into the largest land use planning process this nation has ever seen. These acts outlined a planning process which was to eliminate the Forest Service's problems of mismanagement.

The planning which these two acts demanded has taken years longer and has cost millions of dollars more than expected. Many National Forests are only now completing their first plans and it is already time to have completed a second planning process. These acts were created to decrease the controversy surrounding the National Forests, but this does not seem to have been the result. Often the planning process itself is the cause of considerable controversy.

The Willamette National Forest launched into a campaign to include public comment in their planning process, inadvertently calling attention to the planning process itself. Their solicitations brought forth over 17,000 responses. An increased public awareness of the Forest Service's role in forest management catalysed uproar over

how to designate many lands and how to manage the timber industry on public land.

CHAPTER IV

HISTORICAL ANALYSIS

The history of the Forest Service is not just a story of different interests trying to gain control of the management of the forests. It would be simple to say that the Forest Service is an agency which has always had to weigh the opposing pressures from a diverse group of resource users. Another question must also be asked. This question is not only who gets what, but who decides who gets what, and how do they decide?

This chapter analyzes the historical trend away from scientific forest management and towards a more interest group controlled form of management. I look at the ways this transition took place, then at the administrative results of this change. Finally I examine how these changes have influenced the Forest Service's ability to protect ancient forests.

The Forest Service was founded on the idea that a scientific system of forest management is better than a forest managed on the basis of legislative directives or user interests. This allowed Gifford Pinchot the autonomy

he enjoyed. Largely free from outside pressures, the agency could manage the forests scientifically.

The theory of scientific management allows the land to be managed according to principles which are directed at best utility rather than maximum utility for any interest group. In its early history, the Forest Service adapted new techniques of conservation, in which the timber industry at the time had no interest. Replanting, silviculture and land and soil conservation were unheard of among the private timber holders (Clarke 1985).

As the Forest Service grew and the demand for its resources increased, pressures from the different forest users began to increase as well. In the first half of this century the Forest Service provided only about 5 percent of the timber produced in the U.S. (Wondolleck 1988). Between 1950 and 1966 the agency sold more then twice as much timber as it had sold in the previous 45 years (Wondolleck 1988).

During this time the Forest Service came to be seen as a supplier of the nation's wood. This in turn created an unprecedented amount of pressure on the agency. In the years that followed, counter pressure grew among recreationalists and conservationists. The timber industry had a head start in the battle to control the Forest Service. However, the agency still tried to maintain its hold on the idea of scientific management rather than to

respond to pressures of resource users. This attempt spawned a debate concerning whether the agency has failed to maintain a balanced scientific management scheme.

Advocates of the "capture theory" argue that the Forest Service has been captured by the timber industry (Barney 1974, Culhane 1981, Foss 1960, Shephard 1975, Wondolleck 1988). Theoretically, an interest group gains enough power over an agency to assure that agency decisions will emphasize the position of that group. Barney and others suggest that this happened to the Forest Service. Representatives of the timber industry have recently taken to making a counter claim, that the Forest Service has been captured by the environmentalists.

I offer an argument which is somewhat counter to both these views of the agency under the capture theory. Since its founding, the Forest Service has constantly undergone changes due to the mandates the U.S. governent set before it. Years of legislation which cater to different sets of special interests have led to the erosion of the original scientific management mission. It is not the case that all the legislation affecting the Forest Service in the last 80 years has been entirely pro-industry or pro-conservation. But most all legislation aimed at the Forest Service does in some way dictate aspects of forest management to the agency.

The results of legislative and administrative pressures are pronounced in the history of the agency. Most acts which affect the Forest Service take some measure of control away from the administrators of the Forest Service. The results of this process are varied. Many decisions about forests are now in the hands of legislators rather than scientific foresters. This is not entirely a counter argument to the capture theory. It is an analysis of how such a capture might have taken place.

The timber industry had more power over the legislative process than it did over the Forest Service. The same is true of environmentalists. It is easier for them to influence legslators than to directly change Forest Service policy.

Traditionally, issues of forest use were left to Representatives of timber states. The Senators and Representatives from the Northwest remained largely free to create Forest Service policy (O'Toole 1988). While some changes have occurred at the behest of environmentalists, the majority of changes occurring until recently have addressed the concerns of the timber industry.

The control of the Forest Service at the congressional level creates an interesting situation. While Congress maintains considerable control over the Forest Service, the Forest Service lobbies Congress on its own behalf. With a

viewpoint differing from any single interest group, they have faith in their traditional scientific management schemes. They advise Congress how certain changes would affect their ability to manage the forests. Nonetheless their role is basically advisory. In Pinchot's time he worked to make the agency free from interest group pressures, but resource users maintained too much power through their representatives for Pinchot's reforms to take full effect.

In the Northwest, national politicians are traditionally funded in their campaigns by the timber industry. These politicians were allowed to direct many aspects of forest management, resulting in the timber industry's enhanced ability to further its own agenda.

Environmentalists have also learned that the Forest Service can be affected through legislative means. Much of the legislation directed at the agency during the 70s and 80s has been influenced by the environmental movement. The planning process in particular is a victory for environmentalists. The public input clauses in the planning process force the agency to publicly reveal its plans.

Forest Service decisions are no longer left in the hands of the local politicians. These local officials still hold much of the political power, but management of the nation's forests and in particular the remaining ancient

forests are now of national interest. Input from around the country promises to remove some power from the local politicians and to direct the Forest Service from a more national perspective.

All this political manoeuvering has resulted in the agency losing its role as policy maker. In an interview, Bob Leonard, Timber Staff Officer of the Willamette National Forest, stated that "the Forest Service only enacts the will of Congress." To Leonard, interest groups are on the wrong track if they believe that the agency is solely responsible for management decisions. He wanted it made very clear that he viewed the agency and its employees as public servants.

The Forest Service's Ability to Protect Ancient Forests

The Forest Service's ability to avoid interest group pressures has changed. The agency is no longer able to maintain a distinction between their own policies and the agendas of interest groups. A standard environmental view is that the agency is still in the pocket of the industry.

Protecting the remaining ancient forests has only recently become one of the points of debate between parties. The historical trend away from scientific management makes it seem unlikely that the resolution of this issue will be based on scientific management concepts. It is an issue which will be legislated from Congress.

Already Congress decides such issues as volume of timber to be cut on the National Forests. Representatives of the agency advise Congress on these decisions. The scientific advice they offer is in no way binding. Congress will decide on issues of ancient forest preservation in the same way that they decide on other issues. The Forest Service itself will remain only an advisor in these political decisions.

Despite this advisory role of the Forest Service in the decisions regarding the fate of ancient forests, the agency has a current infrastructure and ideology which at this point prevents it from enacting ancient forest protection on its own. These aspects of the agency are the focus of the remainder of this work. Granting that the Forest Service is a pawn in the hands of Congress I remain convinced that as an agency it is now structured in such a way as to discourage, if not prevent, the protection of the ancient forests which remain on federal lands.

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Dr. Carl Hosticka, Co-chair

CHAPTER V

CONTEMPORARY FOREST SERVICE MANAGEMENT ISSUES

Many authors have stated that the Forest Service operates with a bias towards timber harvesting (Barney 1974, Culhane 1981, Wondolleck 1988). I propose that this is basically true, particularly in districts which contain more valuable timber. Beyond this, the question which interests me is, what aspects of the Forest Service make it an agency predisposed to harvest the remaining amounts of ancient forest? I believe that if left unpressured by environmental interests, the agency would continue with a program of harvest which would eliminate almost all the contiguous blocks of these forests which now exist.

In this chapter I examine three examples of current Forest Service management. First I look at the Forest Service's relationship with the idea of wilderness preservation. Second I look at the waste which has become a part of Forest Service management of timber harvests. Lastly I look the Tongas National Forest in order to use one forest as an example of the policy and action implications of the Forest Service's structure and ideologies. These examples will lead into the discussion in the next chapter.

The Forest Service is an agency which is changing, but the size and structure of this bureaucracy make it very difficult for it to shift quickly. On an ideological level the agency is operated as a resource manager. Preservation is difficult to work into a scheme of resource maximization. To preserve forests is to not use them. This is sometimes seen as waste or lack of management. A managed forest may be able to produce more than a forest left on its own.

There are many things about the Forest Service which demonstrate the agency's attitudes. I have chosen these three areas to focus upon because I feel these issues best illustrate the Forest Service's background ideologies. I do not intend to become sunk into the morass of trying to analyze the connection between official policy and the actions which the agency takes. It would be an unending task to try to analyze all the situations in which it could be argued that the Forest Service does not heed its own policies or consider the intent of congressional acts. These sorts of transgressions are beside the point when looking at the issues which interest me.

Several examples help to illustrate the agencies ideologies, but I do not intend to point to indiscretions within the agency. Rather I want to use a few of these examples to point to what I believe is underlying these sorts of activities.

Wilderness

In this section I examine the history of the Forest Service's response to the issue of wilderness preservation, then I look at the Kalmiopsis roadless area as an example of the agency's action towards a specific example of land which could be protected as wilderness.

Wilderness is the issue which best illustrates the Forest Service's philosophies regarding forest use and forest preservation. For all its history the Forest Service has played an active role in resisting many aspects of wilderness. With a few exceptions, the agency has opposed programs which would create areas to be managed only as wilderness. The few locations in which the agency played a positive role in creating designated wilderness offer only limited timber for harvest.

The movement to protect areas of wilderness forced the Forest Service to be clear in its intended role in managing wilderness. In many places the Forest Service has fought against wilderness designation. For many years, wilderness was a designation of description. The Forest Service designated roadless areas, but this involved no protection. The agency was free to move these boundaries, and then build roads and harvest trees.

Bob Marshall and Aldo Leopold, both Forest Service employees, were the early champions of wilderness. Together they founded the Wilderness Society, which was responsible for over five million acres finally being designated wilderness. Without any legal protection, these lands were still open to having their designation changed. This construct worked within the Forest Service's idea of management. These lands were managed as wilderness but the option was available to harvest timber.

Pressures began to mount on the Forest Service to provide meaningful protection of wilderness. In response the agency offered its own legislation in 1960. The Multiple Use Sustained Yield Act was an attempt by the Forest Service to indicate that they were willing to manage lands for other uses besides timber harvest. The wording of the act was so indecisive that it allowed almost complete latitude to the agency in how it chose to pursue multiple use. The Wilderness Society did win one battle with this act. They were able to include wording in the act which stated that wilderness was a use of forest which was consistent with multiple use. The fact that the Forest Service would have omitted such wording is very telling about the agency's view of wilderness.

The Forest Service has traditionally argued that it could manage for wilderness values without legal protection

for these lands. Their own offering of legislation in 1960 proved that they were still more concerned with maintaining timber flow than actual wilderness preservation.

In 1964 Congress passed the Wilderness Act. This act was the first to provide meaningful protection for wilderness. The Agency again fought against this legislation. It is interesting to note the degree to which this public service institution takes an active role in advocating policy.

The Forest Service has always taken a very active role in lobbying for positions which it considers the Forest Service position. This may be because the agency considers itself to be made up of experts. It is an agency of technical expertise. This expertise allows the agency to feel obligated to lobby for positions which it feels are most prudent for the mission and goals of the agency.

In the case of wilderness, the Forest Service was not able to halt the creation of protected wilderness. On the other hand the agency was instrumental in deciding which lands would be made part of the wilderness system (Clarke 1985). One thing which most of their proposed wilderness lands have in common is a lack of merchantable timber. Most of the lands originally designated as wilderness are near or above tree line, or even made up of rock and ice. These areas are often spectacular and appealing to tourists, so

the public usually reacts favorably to the presence of these sorts of wilderness.

It has been almost impossible for preservation organizations to protect lands which contain timber. At almost all times the Forest Service steps in to advocate maintaining these lands in the pool of general management, meaning that they remain cuttable lands. This position is usually accompanied by a statement of the importance of keeping these lands within a more general management mode in order to satisfy a wider number of uses (O'Toole 1988). This usually means building logging roads which people can use for camping and hunting. In this way the timber harvest activities provide multiple use assets which wilderness would not provide.

Many people are surprised to learn that the Forest Service is not pro-wilderness. I have been party to discussions on the Willamette National Forest in which employees have discussed the importance of cutting as much as possible near the wilderness boundaries in order to prevent expansion of those boundaries. This sort of position betrays a belief that wilderness contradicts the mission of the Forest Service which these people are trying to enact.

The Kalmiopsis

In the southwestern portion of the state of Oregon the Kalmiopsis wilderness area is one of the largest to contain significant amounts of potentially merchantable timber. To the north of this wilderness is a larger area known as the Kalmiopsis roadless area. This area is as wild as the wilderness, but it is not protected by law.

Since the late 1970s the Forest Service has fought to exclude the roadless area from the same wilderness designation that protects the land to the south. On several occasions the Forest Service has been stopped from building roads into the Kalmiopsis. On most of these occasions the main opponent the Forest Service faced was the environmental group Earth First!. These people placed themselves in the path of bulldozers and chained themselves to trees and implements of timber harvesting (Earth First! 1987).

These tactics bought the protesters enough time to take their case to court. Once in court several of the roads were found to be under construction without the necessary environmental impact statements. This led to a end to these road projects on several occasions. Media images of protesters being run over by a pickup truck on one occasion

also helped build public support for the protesters (Earth First! 1987).

In 1987 the Silver Fire burned over 100,000 acres in the wilderness area and the unprotected roadless area. After years of legal victory the environmentalists could no longer stop the roads and the logging. Special legislation was passed on the federal level which allowed the Forest Service to proceed with salvage logging of fire damaged trees, without the usual system of environmental impact statements, and also without the option of judicial review.

The Forest Service as an agency, played a very active role in seeing to it that the timber in the Silver Fire could be salvaged. Rather than a role as moderator or agency stuck between environmentalists and loggers, the Forest Service was a very active player in the actions which allowed the massive salvage sales to take place on land which was until that time under review for possible wilderness protection. With the roads in and the clear cuts present, wilderness designation protection will no longer be possible for much of the area which had been contested for years.

Forest Service representatives from the area considered this turn of events a lucky victory, thanks to the fire. Upon analysis it seems that the idea which was able to turn the tide in the struggle over the fight of the Kalmiopsis

was the idea of waste. The Forest Service and the timber industry both presented the fire as a force which had killed much of the trees in the area. The issues was that to not harvest the trees which were now dead was to waste the trees.

The dead and damaged trees would have fallen to the forest floor and decomposed. Salvage sales were presented as a way to avoid the amount of waste which this would create. Philosophically this event betrays the Forest Service's inability to allow wilderness style management to take place in their non-wilderness areas. The Kalmiopsis roadless area was the same as the wilderness in all ways except that it lacked the legal designation of wilderness status. The Forest Service could have allowed the burned areas to grow back naturally without being cut, as they did in the wilderness area. Instead they pursued a heavy cutting pattern.

The Forest Service's actions after the Silver Fire demonstrate the agencies unwillingness to allow ancient forest to remain in a wilderness. The Kalmiopsis roadless area had vast potential as a recreation area, but the agency was focused on the timber harvest potential of the area. Despite the wording of MUSY, which stipulated that wilderness use be consistent with multiple use, it often

seems that the Forest Service does not want to limit the use of any land to preservation unless there is no other choice.

Slash and Waste

In the Forest Service's analysis of the Silver Fire, one response was to promote salvage sales. One of the main reasons for these sales was to avoid waste of trees burned in the fire. This is not without a measure of irony. The Forest Service allows a style of cutting on much federal land which is massively wasteful. Current clear cutting practices on the western side of the Cascade mountains involve practices which help maximize the profits for the timber company involved.

At the site of each clear cut a massive amount of slash is left after logging. This slash is the waste product of logging. It is the parts of the trees which the timber company did not want to harvest. It is made up of all the branches from the trees, the tops of the trees, dead or rotting logs, and any other wood which the company involved does not want to transport to the mill. Often this waste wood is simply a less desirable species mixed in with the ones which the harvester is milling.

A timber harvester only pays for the trees it trucks away from the site of a clear cut. The trees are only scaled once they are on the truck. This means that there is

little incentive for the companies to use any thing but the most profitable logs from a clear cut.

After cutters fall all the trees on a clear cut the prime timber is pulled off the clear cut and loaded onto trucks. It is generally better for a company to leave any logs which are inferior. They traditionally have been able to move on to another clear cut and continue this process called "high grading." There is no incentive to use the less profitable timber.

Much of the slash in clear cuts would provide usable wood fiber. A small industry has grown up around individuals collecting firewood out of the leftovers from clear cuts. Still, massive amounts of slash are left on the ground. Most of this slash could provide perfectly usable wood fiber for things like paper products, along with the host of new fiber boards which are starting to be manufactured. Much of the slash is in the form of large dimensional logs which have some rot or cracks in them. Often a single clear cut of 40 acres will create a pile of unused logs up to twenty feet tall and hundreds of feet long. These logs will be burned on the site, creating considerable air pollution and sterilizing the ground under the piles.

Most of the slash offers some sort of use, it is simply not as profitable for the timber companies to deal with.

Many of the purchasers have mills which are specifically designed for old growth logs. They do not have the resources to deal with the products they leave on ground. In most other developed countries of the world all the slash would be pulled off the clear cuts. A German forester visiting my ranger district explained to me that if these cuts were in Germany, all the wood fiber on the cuts would be removed from the site. Harvesting would end with a crew with rakes removing the smallest pieces of wood.

This German style of product removable also may have problems. It is arguable that it is more healthy for the land to leave as much biomass on the ground as possible. The removal of all wood fiber leaves nothing to degrade and recycle back into the soil. This sort of recycling must be replaced by artificial fertilizers. Complete removal of fiber forces forest managers into a more active role in a very energy intensive program of soil maintenance.

The waste of slash is institutionalized for the Forest Service as well as the industry. For each timber sale the ranger district gets to assess fees for several different activities including reforestation, surveying, slash burning and other management activities. For each sale the district receives some of this money, which goes directly back into their budget. If they can get the companies to use more of the product from the clear cuts then they will need fewer

sales and the individual ranger district will be able collect fewer fees from the harvester. An important distinction here is to determine which fees are returned directly to the ranger district and which are forwarded to the national treasury.

In maximizing the number of individual sales the ranger district is much better off in budgetary terms than if it maximizes the amount of money collected for fewer sales (O'Toole 1988). Due to the types of funds which stay on a district, it is better for a ranger district to support the wasteful practices of current clear cut slash.

Tongas National Forest

In order to look at the Forest Service and the way that it does business, it is helpful to examine the illustrative issues I have presented. To elucidate the current situation in attitudes and direction of the agency I also examine the Tongas National Forest.

In recent years the Tongas National Forest has been the focus of increasing controversy. This forest is three times the size of any other National Forest and is almost 500 miles long. It makes up most of the undeveloped land in the southeastern panhandle of the state of Alaska.

The Tongas is quickly becoming known as the best example of mismanagement and timber cutting bias. Various

legislative actions are being considered to address the problems which are facing this forest. The forces behind this reform movement are surprisingly diverse, including labor unions, environmentalists, independent loggers, fishing and commercial recreation interests, taxpayer interest groups, and fish and game agencies who see their interests overridden by timber considerations (Inner Voice 1989).

The Tongas spends about 55 million dollars a year on its program of timber sales. It collects about 1 percent of that in revenues from the sale of the trees (Inner Voice 1989). This is the most exhorbitant example of government subsidies for the timber industry that occurs in the National Forest system. The circumstances which led to this situation are a bit unusual.

Two companies; Alaska Pulp Co., a Japanese consortium, and Louisiana-Pacific Ketchikan, receive most of the benefits from this program, often at the exclusion of smaller timber companies. These two companies have unprecedented 50 year contracts with the Forest Service. These contracts guarantee a supply of timber and roads for harvest. These companies have been able to negotiate directly with the Forest Service regarding their needs for timber. Traditionally the agency has been extremely responsive in meeting most all the requests of the

corporations. The results have been virtual abandonment of traditional concerns of land stewardship.

An employee of the Tongas stated in a letter to the Inner Voice Newsletter:

> I am a seasonal Forestry Technition on Region 10. I work on the timber lay-out crew. I would like to ask your readers to support the Tongas Reform Act. Those People who have never been here have no idea what's at stake. Those of us here are frustrated, angry, and heartbroken.
>
> Our performance ratings are based on whether or not we meet our district's specific board footage target. For the 86-90 operating plan they didn't have time to do a cruise so they negotiated a figure, they (the Alaska Pulp Co. and the Forest Service) settled on 29.1 thousand board feet per acre. The mill is laughing all the way to the bank. We are falling short of our target so the big acre push is on and we are laying out units in sensitive areas, and being told there is no room for deletions. We are not being good stewards of the land, we are being enablers. We enable the logging to go much faster because we do all the field work and then turn it over to the mill (Inner Voice 1989, p. 3).

The timber companies control sales in order to guarantee that they receive as much, and as profitable timber as they want. The most important official reason for this program is economic stability for the area. Since 1980 the direct timber related jobs in the Tongas have dropped from 2700 to 1780. This trend is counter to the increase in cutting but tied to increased automation, and the exporting of less processed timber (Inner Voice 1989).

The U.S. tax payers pay about $30,000 per year, per worker, in the region. This is more than most of these timber employees make. The real benefits of the sales programs go to the two companies.

The Forest Service also justifies the program based on the idea that second growth timber will provide continued economic stability. This seems very unlikely since it is currently quite difficult to sell the old growth. The huge losses that the Tongas have each year occur partially because the forest uses extremely low prices in order to encourage the buying of the timber. A large old growth spruce tree sells for about $2 (Inner Voice 1989).

The current old growth is of much higher quality than the second growth can become, even in hundreds of years. Therefore, it seems very unlikely that switching land into second growth will produce favorable results for the area.

The Tongas National Forest could be called a forest which is in the pockets of the companies harvesting the trees. This raises the question of why the Forest Service is party to this process. What is it about the agency which allows the official stewards of the forests to be party to destruction of the other non-timber resources of the Tongas?

Wildlife managers are outraged. Fisheries and recreational companies are outraged. The Forest Service is forcing Congress to instigate any change which will take

place on the Tongas. The Tongas is a forest which has abandoned most functions except timber cutting. The ideologies of the agency promote this condition. Pressures for reform are not coming from higher agency officials; rather, they are coming from internal Tongas employees and residents of the area. These pressures have led to congressional activities which may result in a federal action to reform the Tongas National Forest.

CHAPTER VI

DISCUSSION

I have chosen to focus on three aspects of the Forest Service. Each is integral to the agency's ability to protect ancient forests. First, I examine the institutional structure of the agency. This is the layout of the Forest Service. I look at the way in which the structure of the National Forests contributes to the agency's responses on issues of ancient forest protection. The aspects of the structure which I approach are examples of hiring and promotion practices, the methods for determining land use and also the national structure and divisions of the agency.

Next, I look at the economic structure of the Forest Service. This is where it is easiest to point to factors which clearly impel the Forest Service to pursue timber sales, even when they are neither prudent or advantageous to anyone but the purchaser. I do not want to become embedded in an economic analysis of the Forest Service. This has been done very well several times by such authors as Culhane 1981, O'Toole 1988 and Wondolleck 1988. On the other hand, it would be unacceptable to examine the basis of the Forest Service without substantial reference to the economic

factors which drive the policies and activities of the agency.

Third, and most importantly, I look at the philosophies and ideologies which contribute most to the Forest Service. This is an examination of a bureaucracy and the philosophical level at which many of its policies and actions are spawned.

This is by definition a anthropomorphic treatment of a massive collection of people and the structure which ties them all together. It is the structure and the ideologies inherent in the bureaucracy which interests me, not the ideologies of individuals in the organization. However the institution promotes a certain attitude which many individuals may come to hold.

This sort of approach creates obvious difficulties of separating the viewpoints of individuals from the philosophies of the agency as a whole. To do this it is necessary to grant the idea that an organization is able to possess a single ideology. What this means is that we must allow the intuitive leap to the idea that something as large and diverse as the Forest Service has single and definable ideologies and philosophies. This is not an unreasonable thing to ask, as we often think in even larger terms of national considerations, and tie those to national ideologies.

In the United States we are often referred to as a nation which is individualistic. This is a philosophical analysis of an entire nation. What I am doing is looking at a single organization with a single mission and examining how managing the nations forests has become tied to a paradigm which is no longer as valid as when it began to dictate many aspects of the current Forest Service.

Structure of the Forest Service

The full name of the Forest Service is this: United States Department of Agriculture Forest Service. The Forest Service is officially under the control of the Secretary of Agriculture. Despite this, the Forest Service remains relatively autonomous. The Chief of the agency often answers directly to the President. The Secretary of Agriculture is seldom a spokesperson for the Forest Service. Despite all this, the agency is still part of a larger system devoted to producing raw products with agriculture.

Previous to 1905 the National Forest Reserves were under the control of the Department of Interior, which is an enigmatic department. The Department of Agriculture has since focused the mission of the Forest Service on resource management. This management can be contrasted with preservation, or management for recreation. In much of the Rocky Mountain area national forests have a greatly higher

emphasis on recreation. But in the northwestern forests the emphasis is dramatically on timber harvest.

The National Forest system is divided into nine regions which are subdivided into the individual national forests. These are then partitioned into the work units of the national forest. These are the ranger districts. Each ranger district lies under the control of a single ranger. These rangers are the lowest line officers in the agency. Each ranger oversees their district and about 20 to 200 employees. There are about 650 ranger districts in the National Forest System. Several mergers of different national forests and ranger districts make it complicated.

Many of the decisions about land use are made at the district level. The offices of each national forest have plans and direct such things as volume of timber harvest. However the individual districts have a large amount of autonomy in the way they choose to pursue national and regional goals. The district rangers have considerable latitude in the way they lay out timber sales and often in which areas will be cut and which will not. The ranger district level is where most of the financial impetus for timber sales is structured into the Forest Service.

Nearly all the district rangers in the nation have been promoted out of the ranks of the timber program. Very few come from recreation, biology, or any non-timber division of

the agency. This means that most people that become district rangers have spent many years in the process of putting out timber sales and supervising the process of timber harvesting.

The district ranger is the first step in the progression of line officers in the Forest Service. Particularly in the western forests, the district rangers who are promoted are the ones who demonstrate the highest ability to get out the most timber with the fewest problems and with the most advantageous budget (O'Toole 1988). This creates a hierarchy in which the higher level officials are progressively better and more experienced at maximizing timber harvests. This is best viewed when placed in the framework of the history of the Forest Service.

Since World War Two the business of the Forest Service has been shifting toward providing timber sales. In this situation the emphasis of many foresters has been upon promoting more effective ways of managing sales. This emphasis on sales has created a hierarchy of officials with little training or experience in non-timber programs.

Many of the employees who do the field work which prepares timber sales are seasonal. This means that from year to year many of these people are evaluated on the basis of their productivity. As with the promotion scheme of the district rangers, these seasonal employees are under

pressure to be as productive as possible. Employees are rewarded for keeping sales volumes up and keeping the sales process running smoothly. It is very detrimental to most of these people's careers to voice any opinion which may be seen as slowing this process. The result of this is that most employees are very hesitant to act in any way to jeopardize a sale even if there are obvious environmental reasons to reconsider the propriety of the sale.

Only recently have many disgruntled employees begun to have access to letters from others who share their frustration with being quieted about their environmental concerns. The Association of Forest Service Employees for Environmental Ethics, "AFSEEE" was started a few years ago and now the organization's news letter, The Inner Voice, prints many letters from these alienated employees. This forum is the first time many of these people have had an opportunity to address concerns and voice anger over the structure of the Forest Service. Already this organization has over 3,000 members, which points to a shared idea held by some of the employees of the Forest Service: that reforms are needed.

Economics of the Forest Service

In this section I examine several characteristics of the economic factors and events which have shaped the Forest Service's ability to protect ancient forests. First I look at below cost timber sales as a predominant situation in the disbursement of the nations public lands timber. Then I approach the issue of how these below cost sales can be advantageous to the district they are on. To do this I look at how a single sale might be administered. I then look at road building as economic incentive for forest harvest, and finish this section with references to the changes brought upon the Forest Service by the Reagan Administration.

Below cost Timber Sales

Each year the Forest Service loses almost a billion dollars. If it were a private company with the same amount of assets, this sort of loss would lead to bankruptcy or take over. The Forest Service receives its budget from the federal government. The government is only incidentally interested in the direct return on its investment in the forests of the U.S.

The Forest Service is correct when it defends its budget saying that many of the things which it provides are

public services for which it collects little or no revenue. Recreation and several other programs receive more federal funding than they collect. Some are advocating a system of fees which better reflects what people are willing to pay for the recreation amenities which the forests provide (O'Toole 1988, Anas 1988). This system would create more revenue for the Forest Service and also allow the Forest Service to focus more on recreation. With more economic return on recreation investments the Forest Service would have more incentive to provide recreation as well as timber.

Recreation activities could include hunting and fishing, which are activities which already generate large amounts of money for the connected industries (Anas 1988). The Forest Service collects almost no monies from the users in order to provide all the services they provide hunters and fisherman. Most districts would like very much to have greatly increased wildlife and recreation budgets, but the timber and road building budgets are well funded.

Even if we compare the revenues of the timber sales to the budget allotted them, the Forest Service operates at a significant loss. This is traditionally justified by the assertion that the profits generated in some areas make up for the looses in other areas, and that timber sales infuse economic vitality into timber communities.

The Forest Service claims that many below cost sales are made up for by sales in the western Cascades which provide such high quality timber that the sales are able to provide a profit. When this is examined closer it appears that even these profitable sales require creative paper work to appear profitable (Barney 1974, O'Toole 1988).

The economics of timber sales is tied to the structure of the Forest Service. Each ranger district has its own budget and is responsible for its own timber sales program. In the western Cascades this process involves over a billion board feet of timber each year. Congress sets volumes of cutting, which are to act as goals for the regions. Each district then is informed about their expected contribution to this goal.

Financially, each district is encouraged to maximize the number of cuts due to the way money is returned to the district. Each district receives a budget based on their needs for establishing and administering timber sales. These amounts are not tied directly to the revenues which the districts produce. A district is under no pressure to charge enough for their timber to pay for the assorted services which the district provides for the timber companies.

Most of the money which these districts bring in is turned over to the federal government. In many areas some

of this money is then passed along to the local county governments, depending on the history of the lands from which the Forest Service sold the timber. Each district may also collect certain fees from the timber buyer in order to defray some of the costs of the sales. This money combines with the federal budget which these districts receive in such a way as to encourage them to maximize the number cuts they place for sale each year.

If a cut is both economically and environmentally unsound it may still be of economic advantage to a district to proceed with the sale.

Timber Sale Economics

In an example sale which may serve to elucidate this structure we can look at a set of two clear cuts. One of these cuts is made up mostly of valuable Douglas Fir. On the same district, another clear cut may be made up of very unvaluable Lodgepole Pine, but be located miles away.

The fir could be sold at profit for the National Forest, while any sale of the pine would have to be at a loss for the Agency. If the district is to maximize the budget of the Forest Service it would not even sell the pine. Nonetheless, it is best for the districts to combine the two cuts into one sale. Often, several different clear cuts in different areas are sold together in one sale. This

allows the district to sell the pine, even though they would lose money on the pine sale if it was sold by itself.

The federal government would collect more money from selling only the fir than it would from selling the two cuts together. The subsidies of the pine cut into the profits of selling the fir. The district, on the other hand, is able to collect fees for the two different sales for reforestation, slash burning and management fees. In this way it is better for the district to combine the two sales, even though it costs the federal government more money to do so (O'Toole 1988).

Road Building

Along with sales, the Forest Service is also involved in a program of massive road building. Currently the Forest Service and the Bureau of Land Management have more miles of roads than any other entire country in the world (O'Toole 1988). By the year 2000 these agencies plan to double their network of roads. On much of the Forest Service lands these roads function primarily to allow for the harvest of timber.

The economic system which finances these roads is similar to that of timber sales. The individual districts are not responsible for the costs of these roads. The ranger districts pay for some aspects of the surveying, administrative costs and planning costs of the roads. But

the districts are allowed to charge these services to either the timber purchasers or the federal government.

There are several systems of building and paying for the construction of roads on national forest land. In some cases the timber purchasers build the roads into the timber sales. In most cases the Forest Service does the building or contracts it out. When the timber company does the work, it usually receives some sort of credit towards its timber purchase.

The individual district is allowed to charge for the services it provides for the road building process. This creates an impetus for many districts to go ahead with road building. Each district is also budgeted money to maintain existing roads.

Nationally, the Forest Service tends to increase roads wherever possible. The official explanation of this attitude lies in the idea that roads allow for better management of the forest. Roads are helpful in fighting fires, as they provide fire breaks and allow for the quick movement of fire personnel. Roads also aid in timber management in such area as pest control and thinning. It is interesting to note that most of these needs would not arise if it were not for the timber harvests which the roads are built to service.

The Forest Service also points to the recreation opportunities afforded by roads. Without these roads many people would find it more difficult to enter the forest. These roads provide easy access to hunting, fishing and camping. These are valid uses of roads; however, there is a related logical flaw. We already have a lot of roads, while the amount of unroaded areas we have is decreasing. The demand for wilderness recreation is rising, as well as the demand for roaded recreation. It is self-serving for the Forest Service to point to the need to accommodate more roaded recreation while destroying another form of recreation resource which is also in ever-increasing demand.

The continuation of the road building programs is part of the districts' economic impetus to continue timber harvesting. Even if a road is not yet necessary and will cost the government more than the timber sales it allows will produce, it is advantageous to district budgets to go ahead with these programs of road construction.

The Reagan Years

Since 1980 the Forest Service has undergone substantial economic restructuring. The economic emphasis of the agency has shifted from forest management to production oriented activities. These shifts substantially altered the agency's priorities (Clarke and McCool 1985).

The Reagan Administration proposed recisions in the Youth Conservation Corps "YCC", and the Young Adult Conservation Corps "YACC." This, combined with budgetary cuts in most recreation and wildlife management programs, created a much smaller pool of resources for these non-timber programs to call on (Wondolleck 1989). Previously the YCC and YACC had provided much of the labor for many Forest Service projects. Without their assistance, and with budget cuts, the non-timber programs of the Forest Service have been reduced.

At the same time that the rest of the Forest Service was being cut, many of the timber harvest programs received increased funding under the Reagan Administration. The volume of timber harvested from national forests increased from 6.5 billion board feet in 1982 to 11 billion board feet in 1984. This reflected a changing emphasis at the administration level. The Reagan Administration was more interested in seeing maximum productivity than scientifically structured forest management come from the national forests. At the same time that the cut was increasing so dramatically, support for programs such as reforestation and stand improvement were decreased (Wondolleck 1988). Even these timber programs were not safe from the budget cuts.

In the last ten years the Forest Service has been successfully restructured to emphasize timber harvesting. In this situation, harvesting ancient forest is often the main goal of many of the sales involved. Most of the mills in the area are still equipped only to mill the larger logs provided by these old growth forests. This results in an increased emphasis on harvesting federal timber, which also increases pressure on the land management agencies to expand their cuts in ancient forests.

The Reagan and Bush administrations have both used timber exports as a method of balancing the trade deficit. Much of this exported timber is shipped unmilled or nearly unmilled to Japan. This is encouraged as it reduces our trade deficit with Japan and several other Asian countries. As a result, the Administration counts on the harvest of timber to offset the ever growing amounts of imports which the U.S. brings in. This puts still more economic pressure on the Forest Service to provide increased timber for the companies which are involved in the export process (Durant 1987).

Laws curently exist which ban the export of raw timber from federal land. A controversy currently surrounds the extension of these laws to State, County and private stands. Also controversial is milling which does little to actually

change the timber but allows it to be exported as milled timber.

This is a quickly changing area, but the emphasis will remain on providing export items to balance the national trade deficit. The Forest Service will remain in the business of helping to provide some resource for the U.S. to export.

Ideologies and Philosophies of the Forest Service

In this section I first examine the attitudes and legacy of Gifford Pinchot. Even today, he is very important in his influence on the agency. I trace his predilection for scientific forestry through his career and into the attitudes of the current forest service. In the second section I approach the question of whether the people of the U.S. have undergone a change in their environmental view of the world. I examine this paradigm shift and tie it back to the Forest Service by examining a study of the environmental attitudes of district rangers. I end this section by regarding the Forest Service's current attitude in light of the shifting of the public paradigm.

Gifford Pinchot

The role of Gifford Pinchot in creating Forest Service philosophy can not be overstated. More than most other agencies in the U.S. government, the establishment of the Forest Service was the work of one person. With the help of his friend Theodore Roosevelt, Pinchot was able to structure the Forest Service as he wanted. The influential aspect of his training in Germany combined with his ivy league background to create a forester who could work in the woods and also function in political circles (Alston 1983).

I attended Forest Service meetings of over 1,000 employees of the Willamette National Forest at which a Gifford Pinchot impersonators was one of the main speakers. At this meeting it was made very clear to all in attendance that ideas of Gifford Pinchot were still the principles of the Forest Service. The meeting was a rally designed to get the workers behind the agenda of the Willamette National Forest.

The principles expressed to us were primary to the Forest Service and were based on Pinchot's motto, "the greatest good for the greatest number in the long run" (Wondolleck 1988, 24). In his time Pinchot was one of the most effective conservationists alive. His motto served to

contrast the management of forests before his Forest Service. Private lands had always been the domain of timber companies who maximized their profits and then moved on to new lands. At the turn of the century it appeared that these companies would have free run of federal lands. Pinchot's management of federal lands was a massive step away from profit maximization for single corporations. His motto pointed towards managing the land for more people's interests.

Pinchot was responding to a situation of his time which he found intolerable. In his autobiography he says,

> The lumbermen, whose industry was then the third greatest in the country, regarded forest devastation as normal and second growth as a delusion of fools, whom they cursed on the rare occasions when they happened to think of them, and as for sustained yield, no such idea had ever entered their heads (Clarke 1985 p. 34).

Before he administered the Forest Service he worked managing the private forests of railroad builder, George Vanderbilt. In these thousands of acres of private forests in the Carolinas, Pinchot was able to practice the continent's first scientific forestry. He rejected clear cutting, which was the main practice of the day, and instead focused on selective cutting and sustained yield (O'Toole 1988). Years later, while Pinchot, was administering the Forest Service George Vanderbilt died, leaving his private

forests to the Forest Service. The timber cutting rights, however, remained in the hands of his heirs, who had the entire forest clear cut (O'Toole 1988).

Pinchot was certainly ahead of his time in terms of managing a forest in a way which would provide a wider range of resources for more people for a longer time. This attitude is still a major part the agency's concept of multiple use, but Pinchot was in no way a preservationist. He had little use for an unharvested forest. In his day, the federal lands were massive and preservation was not an issue of preserving some of the few remaining ancient forests. Instead, most timber on federal land was made up of ancient forests. Pinchot was mostly concerned with how to effectively manage the dispersal of these trees to private companies in a less damaging way than he had seen occur with the Vanderbilt forests.

Upon the creation of the Park Service in 1916, Gifford Pinchot said, "creating a preserve where timber cutting was illegal was nothing more than an indefensible attempt to outlaw scientific forestry" (Clarke 1985). In Pinchot's view forest management and timber harvest were synonymous. It was not a question of whether to cut, only how. In the modern Forest Service, Pinchot's ideas are still primary, only now most of the forests in the country have been cut at least once. It is interesting to speculate how he would

have proposed managing what old growth remains in view of his other beliefs in terms of scientific research in forests and his convictions about the health of forests.

The Forest Service is still operated under many concepts of a man who was looking at a massivly different set of situations. But the Forest Service still tries to live up to some of his ideals of forest use while ignoring others such as his opposition to clear cutting.

Pinchot's most lasting contribution to the ideology of the Forest Service is his faith in scientific forestry. The agency plays an important role as scientific advisor concerning the uses to which their own lands will be put. Because so much of Forest Policy is decided at the congressional level, one way for the agency to hold onto its control over its own affairs is to be in the position of being the one party which is scientifically in a position to make many of the decisions which most affect forest use.

Pinchot advocated scientific examination of forest issues as the best way to manage forests. What is happening now is that scientific reasons can be brought forth to support the positions of most interests groups. In the current struggle over the fate of the Pacific Spotted Owl scientists can be found who will testify about the owl in ways which will bolster the positions of almost every party involved. The fact that these sorts of arguments are so

central to the controversy points to the success of Pinchot in instilling the ideas of scientific management into the arena of forest management.

The New Environmental Paradigm

The reason that the Forest Service is ideologically committed to the idea of eliminating the final large stands of ancient forest is that the agency has been slow to change in a way which responds to the shift of the American population away from the old dominant social paradigm. The Forest Service still operates within a framework which is no longer a valid expression of public belief or applicable in the face of percieved mounting environmental crisis.

Several authors have been arguing that the people of the first world have undergone a major shift of their paradigm (Brennan 1988, Catton 1980, Dunlap 1978, Vanliere 1983). If this is correct, the dominant views of the U.S. population are no longer represented by the Forest Service if it still manages the forest from a stance created to reflect a dominant paradigm which is no longer actually the dominant paradigm.

Environmentalism is taking on new stances. The movement is becoming much more mainstream. Even some of the old problems between environmentalists and other potential allies such as the left are no longer the stumbling blocks

they once were (Cotgrove 1980, Gale 1983). Environmentalism is in a process of trying to define itself. Concepts such as "deep ecology" are being debated in ways which imply that people are beginning to take ideas like these very seriously (Devall 1987). Deep ecology, as outlined by authors like Arne Ness and Bill Devall, is a newer and more radical attempt to remove the primacy of humans from the world views of people (Devall 1985). Deep ecology and its many cousins are relatively new arrivals on the scene of environmental consciousness.

These new ideas are part of a larger shift which is taking place. Ideas like deep ecology do not seem as radical as they once did. These ideas receive criticism for not going far enough and for clinging to many aspects of the old social paradigm which they are supposed to supplant (Devall 1987). This points to a shift in the mainstream of the American population. Advocates of the idea of a new environmental paradigm believe that these sorts of transformations are sweeping enough to reappraise the most basic position of an entire population's relationship with nature.

If there has been a major shift on the dominant social paradigm, than it would behoove the Forest Service to be more responsive to this change. Dunlap and VanLiere set out to measure the existence of their postulated shift to a more

environmentally centered paradigm. As long ago as 1978, they were proposing that their results about the occurrence of this shift were definitive (Dunlap 1978, VanLiere 1983).

In their study, they used an extensive questionnaire with what they claimed was an extensive population sample. The types of issues which they were most interested in were people's priorities and understandings of humanity's place in the world. The questions included such issues as whether people thought that there is a limit to the number of people the earth can sustain or whether there are limits to industrial growth. Other questions concerned whether people believed plants and animals existed primarily to be used by humans, or whether humans have the right to modify the natural environment to suit their needs. Still other questions concerned whether people believed that the balance of nature is easily upset, or whether humanity is severely abusing the environment.

Dunlap and VanLiere questioned the general population and groups affiliated with environmental groups. They found their findings to conclusively point to a development of a "New Environmental Paradigm." They were very cautious to indicate that this paradigm had any real impact on behaviors and they called for more research into the questions of how this paradigm was different from older, displaced paradigms. Nonetheless, they felt justified in pointing to their

results as indicating a shift in the environmental consciousness of society as a whole.

In the years that followed the release of Dunlap and VanLiere's results and hypotheses, a debate has persisted about the extent to which the phenomenon which they reported has actually taken place. In several other publications, other authors have joined the ranks of the sociologists calling for an acceptance of the New Environmental Paradigm as a new force in the way our society relates to the world (Buttel 1976, Catton 1980, Dunlap 1978)

This new environmental paradigm must be contrasted with the old "Dominant Social Paradigm", which it proposes to replace. This old paradigm is encapsulated in a belief in the primacy of humanity in nature and in a faith in science's ability to accommodate the problems faced by humanity. It is this faith in science which is most important in a study of the attitudes of the Forest Service as an agency. Combined with a belief that the resources of the forests are for human use and go wasted if unused by humanity, this faith in science has been a guiding principle in the activities of the Forest Service for this century.

The beliefs of Gifford Pinchot are so ingrained into the philosophy of the Forest Service that any current shifts in the attitudes of the American public are going to be slow to be adopted by a bureaucracy the size of the Forest

Service. The structural elements of the agency outlined in this text have given rise to an administration of the Forest Service which is made up of people who are advocates and champions of the old dominant social paradigm (Twight 1989).

Twight has studied the attitudes of the district rangers of the Forest Service. Of the approximately 650 district rangers in the system, he was able to question about 450. By randomly selecting and questioning some of the rangers who did not originally respond to his questions, he was able assume that results were not skewed by the attitudes of the rangers who chose not to answer the questionnaire.

Twight set out to measure bias in the environmental stance of the district rangers. The Forest Service would like to present itself as an agency which tries to walk a middle ground between diverse interest groups. In a speech for the collected employees of the Willamette National Forest, Forest Supervisor, Michael Kerick stated that he felt he was doing his job when every one was equally upset with him. This he felt was a clear indication that his agency was not being unfairly biased towards any interest group.

Twight's findings suggest that the Forest Service is far from an unbiased organization. Twight had also questioned many people from the community of active

environmentalists and the community of active forest resource harvesters and processors. If the claims of Michael Kerick were correct, Twight should have found that the attitudes of the district rangers fell in the middle space between the opposing interest groups which were trying to affect forest policy.

Twight found that in responses to a preponderance of the questions, district rangers were remarkably similar in attitude to the representatives of the timber industry. Most questions asked were answered essentially identically by the rangers and the timber harvesters and processors. The results of the questions asked of the environmentalists, on the other hand, were almost entirely unrepresented in the answers of the district rangers. Twight's results point to a significant correlation between the attitudes of the administrators of the individual ranger districts and the attitudes of the logging industry. The higher officials of the Forest Service are all promoted from the ranks of these district rangers, so seems safe to assume that the higher ranks of the organization are as similar in attitude to the logging community as the lower ranks of the district rangers are.

Twight's results directly conflict with any claims of nonbias which the Forest Service may put forward in a discussion of the agency's attitude toward environmental

issues. The agency must therefore maintain a public appearance of nonbias. As a public service organization the Forest Service can not allow itself to be seen as an agency which has been entirely captured by the timber industry nor as an agency unconcerned with environmental issues.

Reports like Twight's make it more difficult for the Forest Service to maintain its claims of non-bias. The same is true of the calls for change from within the agency which are amplified by AFSEEE. These pressures will be added to by any increases in public awarness of the role of the Forest Service in managing lands which could be used for the recreational needs of the country.

Recreational opportunities in the U.S. are shrinking in relation to the demand (O'Toole 1988). I recently was in a twenty mile long stretch of grid lock traffic waiting to get into the Great Smoky Mountain National Park. Thousands of people found the park to be a desirable amenity, and they were willing to go to considerable lengths to visit it. In that part of the U.S., the Great Smoky Mountain National Park is a rare resource of pristine appearing forest for recreation. The types of demand which I saw for these resources will soon be placed on the forests of the Northwest.

If the Forest Service does not protect some of the remaining stands of ancient forests the agency will be

failing to act as a public servant for the interests of a changing country. This is a country which will be placing more emphasis on quality recreation opportunities. To maintain its role as public servant the agency will have to change.

CHAPTER VII

CONCLUSION

The new environmental paradigm has become a part of the American consciousness. As environmental problems continue to grow and the pressures on the small amounts of remaining wild lands increase, people all over the country will become more interested in preserving resources. There will be more concern with the issues presented in this thesis. Already, the media has increased its attention to the issues of forest management, which will only continue to shift more of the public's attention toward environmental issues (Doherty 1989, Edwards 1989).

The paradigm shift to which Dunlap and VanLiere have pointed will continue to occur. More people will begin to demand changes in the ways that public lands will be administered. At the same time industrial pressures will mount, as long as their are old growth mills which need large logs to operate, or companies which could export these logs. As we near the point of exhausting the supply of large dimension lumber which these forests produce, the price for such products will probably rise dramatically. This in turn will put increased pressure on the U.S.

government to continue to allow the remaining mills to have access to these trees, as their increased value will be an important potential asset to the communities which depend on this industry.

This thesis focused on the internal aspects of the Forest Service which form policy and action. However, the single most important external force in the formation of Forest Service policy is congressional action. As entrenched as many of the philosophies of the agency are, prescriptive legislation, which dictates actions rather than priorities, could change the Forest Service almost instantly.

Each of the political influences on National Forest policy is worthy of several volumes of study. I have chosen to address mostly the internal factors which have formed the policies of the agency, but it would be negligent to point to factors which shape forest policies without placing congressional actions at the apex.

The volume of timber cutting is decided at the congressional level. In addition, Congress has historically been responsible for mandating many changes in the Forest Service, ranging from designating wilderness to banning judicial review of timber sales (Inner Voice 1989). The role of Congress and the President are both significant to Forest Service policy.

In an interview, I posed several questions to Bob Leonard, Timber Staff Officer for the Willamette National Forest. His most telling responses addressed the issue of public service. He stated, "the only thing that the Forest Service does is to enact the will of Congress." As a public service organization it is essential for the Forest Service to appear responsive to the people of the U.S. But as an organization which is responsive to Congress and the President, the Forest Service is theoretically responsive to the will of the people of the U.S.

The nationalization of the ancient forest issue may be the event which creates the sort of public pressures necessary to provide political pressures which will produce changes in the Forest Service. In a public speech, AFSEEE president Jeff DeBonis predicted that the Forest Service would be forced to change as a result of large scale, Vietnam era style protests. This sort of pressure would might spawn political repercussions, forcing the Forest Service to preserve ancient forests.

Perhaps the most important development in the internal state of the Forest Service is the creation of the Association of Forest Service Employees for Environmental Ethics. This fledgling organization is growing quickly. AFSEEE allows for a dialog between many different employees of the Forest Service. This dialog has led to a growing

sense that things can not go on as they always have. At the same time the changes caused by the rising awareness of agency inferiorities which AFSEEE is creating will provide a necessary impetus for some change to rise from within the agency itself.

In my personal experiences in the Forest Service I found that my colleagues had many problems with things which the agency did. Often we discussed how out of the cutting had become, or commiserated about the feeling that we were only working for the timber industry, and not for the good of the forests.

The Forest Service has a history of scientific management which has been slowly replaced by legislative action. In general these actions have allowed the timber industry to "capture" the agency. The structure and ideologies of the Forest Service are now at a point which will not allow it to act independently in a way which could effectively protect ancient forests, with the result that any real changes will be initiated through outside pressures. The agency responds to changes Congress dictates.

AFSEEE and other similar developments in the internal operation of the agency are effective, but only in conjunction with a rise in the external pressures which come to bear upon the Forest Service. The critical factor at

this point is the small amount of time in which any changes must take place. Protection must be forthcoming in the next few years, or the question will become largely academic. The timber industry is correct when it claims the woods of the Pacific Northwest are in a crisis.

The next decade will see the destruction of the ancient forests unless changes which are forming now can affect changes in the Forest Service. It would be a tragedy if these forests are eliminated or reduced to become ineffective small reserves. The forests are at a crisis point, and we will soon see what form they will take for the next generations.

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