

Pilot Ridge Country 1947-1996

The End of History and the Rest of the Story

March, 2011

Thomas S. Keter
SolarArch
Three Rivers, California
(www.solararch.org)

This paper, presented at the 2011 annual meeting of the Society for California Archaeology, is part of a larger research project documenting the environmental history of Pilot Ridge Country. This section comprises the period starting with Six Rivers National Forest's creation in 1947 to the 1996 publication of the Pilot Creek Final Environmental Impact Statement. The paper was reedited in November 2017 with some minor clarifications.

Introduction

The purpose of this paper is to present from an environmental, political, and socio-economic perspective a contextual history of "Pilot Ridge Country" beginning with the creation of Six Rivers National Forest in 1947, until the release of the Pilot Creek Final Environmental Impact Statement in 1996. Pilot Ridge country includes the 26,500-acre Pilot Creek watershed and the portion of Pilot Ridge and its surrounding area extending north from High Salt Ground near Pilot Rock to Board Camp Mountain (Map 1). The Pilot Creek watershed is located along the border between Humboldt and Trinity Counties on the Mad River Ranger District of the Six Rivers National Forest.

By the late 1970s, the intensive logging of old growth Douglas fir forests on Six Rivers National Forest had been taking place for over three decades. When I was first hired as a seasonal archaeologist in 1977 direction from managers was clear--our job and the Forest Service "mission" for those of us working at Six Rivers was to "get the cut out." National priorities and the emphasis on timber production resulted in huge swaths of Douglas fir old growth forest having already been logged creating a vast patchwork of clear-cuts spread across thousands of acres on Six Rivers National Forest. As the more easily accessed areas of old growth Douglas fir forests that contained very high volumes of merchantable lumber per acre began to be exhausted, the need to expand into new more remote (and sometimes less productive) areas became necessary. It was at this time that foresters and engineers developed plans to access and harvest the Douglas fir and mixed pine forests of the roadless and still relatively remote Pilot Ridge country.

I first drove the primitive four-wheel drive trail that followed the crest of Pilot Ridge in July of 1980 having just been hired as Assistant Forest Archaeologist for Six Rivers National Forest. At that time, only this "jeep trail" provided access to the northern portion of Pilot Ridge (it took about two hours to drive the northern eight miles of the trail from Kinsey

Ridge south to High Salt Ground). The area seemed so remote and wild. Except for a few jeep trails and a permitted logging road passing along Last Chance Ridge and Whiting Ridge there was seemingly little visible evidence of human activity or human related impacts to the environment. Near Pilot Rock, High Salt Ground, a grassland savanna (locally called a "*prairie*"), offers sweeping views over thirty miles to the south into Mad River country. In 1980, one could look to the east across Pilot Creek and view the entire northern ten miles of the west facing slope of South Fork Mountain from Last Chance Ridge south for ten miles to its junction with Eight Mile Ridge. Other than a few areas dominated by oak woodlands and open prairies on Henry Ridge, the entire western slope of the mountain appeared as a dense and unbroken conifer forest. Today (2017), the western slope of South Fork Mountain is a patchwork of clear-cuts and logging roads.

During the late 1970s, Henry Wylie and Joseph Winter, the first and second full-time archaeologists hired by Six Rivers National Forest, found and recorded numerous prehistoric lithic scatters on Pilot Ridge and the northern portion of South Fork Mountain. One of the most common artifacts identified were Borax Lake projectile points. These artifacts are of considerable antiquity dating from 3,500 - 7,000 years old. The majority of lands in Pilot Ridge country are part of Six Rivers National Forest and the primary reason for archaeologists working in the area at the time was related to the planned construction of a new Forest Service road (Forest Highway 1). The construction of this paved road was to provide a link between highways CA 299 and CA 36 and to serve as a major haul route for future timber harvesting activities that were to take place within the --until then-- largely inaccessible Pilot Ridge country.

In the late 1970s Ken Wilson, the newly hired Forest Archaeologist for Six Rivers National Forest, in order to comply with provisions of the National Historic Preservation Act, developed a mitigation plan related the Pilot Ridge project's potential impacts to the prehistoric sites in the area. That summer a four-person survey crew intensely surveyed the interconnected ridgelines of Pilot Ridge, Whiting Ridge, Last Chance Ridge, and the northern portion of South Fork Mountain. Beginning in 1981, and extending over about 4 years, major excavations took place as part of the mitigation work related to construction of Forest Highway 1 that produced a number of significant reports related to the region's prehistory. During that time, over one hundred prehistoric sites situated along this series of interconnecting ridges were determined eligible for the National Register of Historic Places (Gmoser and Keter 1981). Although referred to as the Pilot Ridge Archaeological and Historical District, only the old historic trail along portions of Pilot, Whiting, and Last Chance ridges that once connected the coast with the Trinity mining region and a few can dumps or hunters camps were identified and recorded for the historic period.

Given the interest in the significant prehistoric artifacts being identified and the focus on the prehistoric sites that were being excavated, it is understandable that little research was undertaken at that time to document what had transpired in this region during the historic era. A contextual history of the Pilot Ridge country documenting how the ecosystem of the region had responded over the last 150 years to the relatively swift and radical changes in land-use practices from those of the prehistoric period remained to be written. It had already become clear by 1984, however, that Pilot Ridge country had never really been a

"wilderness." Dwight Simons' seminal work documenting the paleoenvironment of the Pilot Ridge/South Fork Mountain region in the 1983 Pilot Ridge excavation report (Hildebrandt and Hayes 1983) provided insights into the dynamics of the region's past environment and how it evolved through time in response to both natural causes (climate change, natural-caused fires) and aboriginal land-use activities including subsistence resource procurement activities and land management practices. Historic environmental research in the late 1980s and early 1990s in the North Fork Eel River watershed, located about thirty miles to the south of Pilot Ridge country, provided further evidence of the significant role that the aboriginal population played in influencing the trajectory of the region's ecosystem (Keter 1995). For example, anthropogenic fire was an important tool used to manage and enhance the productivity of desired subsistence resources and greatly affected the distribution of plant and animal populations across the entire landscape (see Lightfoot and Parrish 2009).

In 1994, I was assigned by Six Rivers National Forest to a Watershed Assessment Team in order to document the land-use history of the Pilot Creek Watershed. This interdisciplinary team of foresters, engineers, botanists, fisheries biologists, wildlife biologists, ecologists, and other natural resources specialists was to provide a contextual environmental history of the watershed and to summarize the current scientific data on the various plant and animal populations and the physical condition of the landscape as the result of past logging and road building practices (PCWA 1995). After weeks of extensive research--including a review of Forest Service homestead records and in-depth interviews with long-time residents from the area--I came to understand that subsequent to the beginning of the historic period in 1849, land-use practices had significantly impacted and changed the ecosystem resulting in a vastly different web of ecological relationships and a radically changed environment. These impacts to the ecosystem and landscape were the product of historic land-use activities including: grazing, subsistence homesteading, hunting, trapping, road construction, and timber harvesting.

Beginning in 1905, with the establishment of the Trinity Forest Reserve, Forest Service land management policies driven by cultural and socio-economic factors, and even national politics, began to not only affect, but ultimately, determined the future fate of the environment of Pilot Ridge country. For example, since 1905 Forest Service wildland fire policies have greatly affected the evolving trajectory of the region's ecosystem. Ecological relationships including the distribution of various vegetation associations (conifer forests, oak woodlands, oak savanna) across the landscape and the species mix of animal populations from insects to mammals to fish have been greatly influenced by the reduction (in most cases elimination) in the number and frequency of wildland fires as a result of the Forest Service's historical policy of aggressively extinguishing all wildfires as quickly as possible.

Today, contemporary land use activities and Forest Service land management policies continue to affect the trajectory of the region's ecosystem. As I have hiked the historic trails and camped many nights in Pilot Creek country over the last three decades, I have learned that both human and natural forces continue to mold and shape the region's ecosystem and that there is more history to be written about the ever-changing environment of Pilot Ridge country.

The Expansion of Logging into the Douglas Fir Forests of Northwest California

Prior to World War II, the Douglas fir forests on private and National Forest lands in Pilot Ridge country did not have much commercial value. However, by the early 1950s with the post-war building boom and an increased demand for lumber, old growth Douglas fir forests were no longer considered worthless. As a result, there was a dramatic increase in logging operations throughout Humboldt and Trinity Counties. In 1944, there were 38 mills in Humboldt County. By 1946, there were 100 mills in full operation and 60 under construction or in the planning stages (Stanton and Kirk 2000: 2). Douglas fir began to rapidly increase in value selling at first for about \$1.50 per thousand board feet steadily rising in value throughout the 1950s (Moore:1999: 64). Initially, the logging of Douglas fir took place primarily on the easily accessible privately held forest lands and larger ranches. For example, many of the ranches in the Van Duzen/Yeager Creek watershed directly to the west of Pilot Ridge country contained significant stands of Douglas fir--especially on the north facing slopes.

Historically, before Douglas fir lumber became a valuable commodity, it had been common for ranchers to fall Douglas fir trees that were aggressively invading the oak woodlands and grasslands grazed by their livestock. With the price of Douglas fir rising, by the 1950s many ranchers turned to logging and often realized more profit in harvesting timber than running livestock. As one of the ranchers with property in this region remembered:

We tried to get rid of those shade trees that covered up the range.....We were on the theory and advised by people in the forestry who were actually out of the range classes that you better cut this Doug fir and make grass out of it so you can raise livestock. From girdling in the 30s, and timber cutting after world war II, by the 1960s we had realized that the thing was to grow timber (Moore 1999: 64).

In addition to the increased value of Douglas fir for lumber, a change in the tax code spurred further logging. The state of California began to assess a tax on the standing value of timber rather than assessing a yield tax on the amount of timber harvested. The result as one rancher noted was that:

You were being taxed on "green" timber. That is when a lot of logs went out of this country. There was a significant tax being levied, so we knew how to take care of that. The log market was good at the time also. It hit an historical high. There were logs coming out of everywhere. That was right before the 1964 flood (Moore:1999: 8).

Like the logging operations that were taking place in the redwood forests, the logging methods used to cut and yard Douglas fir as well as to construct access roads and landings (where logs are loaded on trucks for transportation to the mill) resulted in significant negative impacts to the local ecosystem. During the first half of the 20th century, methods used to log timber in Humboldt County were similar to those that had taken place in the

eastern United States during the late 19th century where logging had resulted in the clear cutting of huge swaths of conifer and hardwood forests. Timber companies gave little or no thought on the potential impacts from logging to soil erosion, water quality, wildlife, or even forest regeneration. The objective was simply to harvest as much timber as possible. Most cut over areas were simply abandoned after they were logged. In the early 1920s, a wealthy Chicago philanthropist, traveling through the redwood forest region on the newly constructed Redwood Highway that parallels the South Fork Eel River was shocked to find scenes of utter devastation because of the logging that had taken place. He wrote that many areas along the road looked "worse than the devastated districts of France after World War I" (Schrepfer 1983: 13).

One rancher interviewed about logging practices on private lands in the 1950 and 1960s indicated that there were virtually no regulations related to timber cutting practices:

I don't think there was very much control. You decided that you wanted some money, why you hired a logger and sent him in and he got you however much money you wanted and there wasn't any control over the trees he took, or over what he did to the land really, unless you were particular about it....The trees were considered a one shot deal and it was going to open up some more land and you could raise some stock. Just about every ranch I have been on there are those big trees that are just fallen and left, whether the market crashed or the logger just didn't get back I don't know, but it happened all over the [Van Duzen] watershed. (Moore 1999:8)

With no state regulations regarding timber-harvesting activities, the logging methods used at that time caused tremendous environmental damage. One of the most devastating impacts was to creeks and rivers from road building and logging on the fragile, easily erodible soils, and slide-prone slopes characteristic of the Franciscan formation. One rancher interviewed about logging methods at that time described a logging operation that took place in the Showers Mountain area several miles to the west of Pilot Ridge.

When they logged down to the creek, they punched that road in the summer of 1963, they didn't put in any culverts, except where there was running water in the summer. And then where they put the culverts in is where the fill blew out in the winter of 1963. The other thing they did is that they skidded logs up and down the creek and they pushed the creek to one side. They had the truck roads, landings, and skidded logs up and down the creek. They had landings on gravel bars, it was a nice and flat spot, everything came down the hill, they had skid roads up the two small creeks that fed into the larger creek...They put a road in the bottom of this one place. There is a gorge down at the bottom and there is a fairly steep little water course that comes down, they just filled that for three years in a row, and it would blow out every winter (Moore 1999: 8).

Another major ground disturbance was the construction of logging roads needed to access the remote areas being logged. These haul routes were constructed for the logging trucks

carrying out logs to the mills and for hauling in yarding equipment to access timber harvest areas. Most of these roads were built without water bars and with undersized culverts or none at all, and there was little or no understanding of the kinds of impacts these roads might have on the environment. As a local rancher speaking about the road building practices of that era noted:

....nobody I ever knew water barred anything. There are [logging] roads all over the country...When they pulled the last truck out they left. No water bars no maintenance. And the water ran straight down some of the roads and washed some pretty good gullies (Moore 1999: 10).

Logging comes to Pilot Ridge Country

By the mid-1950s with the market for Douglas-fir steadily increasing, road building and logging operations on private lands were gradually pushing their way into eastern Humboldt County towards Pilot Ridge country from the by then already heavily logged regions to the west in the Showers Mountain area and to the northwest in the lower Mad River basin east of Blue Lake. By that time, nearly all of the original homesteads as well as the private parcels of land acquired under the Timber and Stone Act of 1878 and by Cash Entry within the Pilot Ridge watershed (Table 1A, Table 1B, Map 3) were now owned by a man named Bliss who had bought the properties from the Northern Redwood Logging Company. The S&H Timber Company from Oregon bought the timber rights from Bliss for many of the parcels of land in the vicinity of Pilot Ridge and within the Pilot Creek Watershed (PCWAI#3).

The first road leading into Pilot Ridge country was begun in 1955. It started out from the end of the Maple Creek County Road. Logging operations slowly made their way east and south from the end of the county road towards Pilot Rock; logging parcels of standing timber as they went. By about 1958, the logging road extended to the southern end of Whiting Ridge. The Forest Service issued a Special Use Permit to construct a haul-route access road along the crest of Whiting and Last Chance Ridges on National Forest lands. The reason logging companies needed this road was to access a substantial amount of timber on private lands on the east facing slopes of South Fork Mountain that had been purchased under the Timber and Stone Act of 1878 (Map 4). From the eastern end of Last Chance Ridge a road was constructed south on private lands for about ten miles along the eastern mid-slope of South Fork Mountain. The pine logged in this area was trucked to Hyampom and on to the Sacramento Valley for milling. The Douglas-fir logs were trucked to the mill in Blue Lake. It appears the 160 acre private parcel centered on Whiting Springs (Map 3, Table 1A #20) was not logged until about 1960 after Simpson Timber Company bought out the S&H Timber Company (PCWAI#3).

By the early 1960s nearly all of the private parcels with standing timber within the Pilot Creek drainage had been clear-cut--the last being cut by Simpson Timber Company who by then had acquired nearly all of them--including the isolated parcels along the crest at the northern end of Pilot Ridge (PCWAI#1). To log the isolated private parcels within the Pilot

Creek watershed (Map 3) south of Dan East Creek, the Forest Service issued a Special Use Permit for Simpson to construct a road from the southern end of Whiting Ridge southeasterly down to Pilot Creek following the general route of the old Dan East Trail (Map 2). Although the Forest Service Special Use Permit required steps to be taken to minimize runoff and erosion on National Forest lands, for example installation of adequately sized culverts, there were few if any actions taken by the Simpson Timber Company to mitigate impacts to the environment for logging and road building on the privately owned parcels. Roads accessing the private parcels were constructed with alignments to facilitate the movement of logging trucks and yarding equipment and were built across old landslides and unstable slopes. Undersized culverts were often used to reduce expenses and gullies formed along the poorly constructed roads (PCWA 1994:38). The logging methods used to harvest timber were essentially the same as those described earlier and used by the "gyppo" loggers operating on private lands throughout Humboldt County at that time (there were exceptions where ranchers exercised more restraint and impacts to the environment were minimized, an example is the Tosten Ranch in southern Humboldt County). A study to document the past effects of logging in Humboldt County commissioned by District One Congressman Mike Thompson in 1999 quotes an interview with a logger who had worked on timber operations during the 1950s:

We'd just go down the creeks...It did ruin the creeks and the streams, when we logged right down the middle of streams which we should never have done...It ruined the streams and silted up all the creeks and the fish couldn't spawn...like they could (before) because it would pack up all the gravel and make it solid. They couldn't lay their eggs...(Stanton and Kirk 2000: 3).

All of the private parcels within the Pilot Creek watershed were logged using caterpillar tractors for yarding and no cable yarding was used on even the steepest most unstable slopes (PCWAI#3). No streamside buffers were left along Pilot Creek or other drainages and much of the existing riparian vegetation in areas where trees were cut was destroyed by logging and yarding activities. In addition, some of the logging landings were situated on gravel bars or above creek terraces. Approximately 1,200 acres, about five percent of the watershed, were clear-cut on private lands (primarily mature and old growth Douglas fir but also some ponderosa pine and incense cedar).

It is instructive to compare the effects of the 1955 flood event prior to logging operations within the Pilot Creek watershed with the impacts resulting from the 1964 floods subsequent to logging operations. Scientists researching the past effects of flooding to the Pilot Creek watershed reviewed air photos taken in the early 1940s. Their report notes that these air photos:

show a dense riparian cover of multistoried stands of vegetation, with Douglas fir and oak in the overstory and alder, grass and shrubs in the understory. The reduction in grazing and a 30-year respite from major floods had allowed the vegetation to recover, and evidence of earlier erosion was hidden. A few small landslides are visible along steep valley walls along Pilot Creek and its largest tributaries (PCWA 1994:37).

The 1955 flood event took place prior to any road building or logging within the Pilot Creek watershed. Although not as severe as the 1964 flood event, this flood caused major impacts to large areas of northwest California and ranked second only to the 1964 flood as a significant flood event. In the Pilot Ridge watershed, given the reduction in grazing and subsistence homesteading over a previous quarter century and yet with no impacts from logging, the previously cited report indicated that air photos showed only minimal effects within the watershed as a result of the 1955 flood. Subsequent to road construction and logging within the Pilot Creek watershed in the early 1960s, the 1964 "thousand year" flood event occurred. The scientists noted that unlike the 1955 flood this time there were major and long lasting impacts to the watershed.

The storm triggered a wealth of landslides. Particularly hard -hit were steep slopes adjacent to channels and the toes of the ancient slides and earthflows, and the schist channels produced debris flows that traveled as far as Pilot Creek. Many of the undersized channel crossings failed, triggering landslides and debris flows that traveled as far as Pilot Creek. The effects of the 1964 storm are still evident today in the form of healing landslide scars and channels cutting back down through sediments that filled them in....Much of the sediment produced by the flood accumulated in the lower-gradient reaches of Pilot Creek. In some reaches, so much sediment accumulated that flows are now subsurface during the driest summers (PCWA 1994: 38).

1947 to 1960: A New Forest Service Mission

In June of 1944, Congress passed and President Franklin Roosevelt signed into law the Servicemen's Readjustment Act. Known as the "G.I. Bill" one of its provisions provided for low interest, zero down payment home loans to veterans. For the first time thousands of Americans who could not have previously afforded to purchase a home were now able to buy their own homes. With the end of World War II, there was a dramatic increase in the demand for lumber as returning G.I.'s helped to fuel a nationwide building boom by taking advantage of the VA loan program. By July of 1956, 2.4 million veterans had secured home loans backed by the Veterans' Administration.

By the late 1940s in many regions of the nation the volume of standing timber left on private lands was declining precipitously. Due to the rapidly increasing demand for lumber--in conjunction with the added political pressure coming from private industry--Congress, and the Truman administration, prompted the Forest Service to increase significantly the level of timber production on National Forest lands in order to help meet the increased demands of a nation in the throes of a post war building boom. The need for new sources of timber was especially true in the rapidly growing state of California where the virgin redwood forests of the north coast region that had been a mainstay of the logging industry were rapidly disappearing making Douglas fir commercially valuable for the first time. In 1951, President Harry Truman created the President's Materials Policy

Commission to assess the timber situation and outlook. The commission report, *Resources for Freedom* was published in 1952. James Lewis in his book on the history of the Forest Service, *The Forest Service and the Greatest Good A Centennial History*, writes that the report called for:

...developing natural resources quickly to defeat communism: victory required the elimination of poverty and social inequalities by spreading prosperity. A house for any family that wanted one was evidence of material wealth. Since housing construction consumed large quantities of timber for framing, paneling, fiberboard, particleboard, and furniture, it became a national duty and moral imperative to maximize timber production. The commission called for the construction of some six thousand miles of timber access roads in the next five years. Meeting quotas meant more than personal prosperity; it meant victory for democracy. Cold warriors at the pentagon talked throw-weights and missile counts; foresters talked timber volume and board feet (Lewis 2006:137).

By the end of 1952 the policies and direction emanating from Congress and the president that were to dominate the management of National Forest lands for the next three decades were firmly in place-- the Forest Service mission was to provide the nation with a steady and reliable supply of timber. In order to meet the increased demands for the production of timber, the Forest Service long an advocate for the selective harvesting of timber, increasingly resorted to the use of "even-age management" logging practices. This term is a euphemism for clearcutting and then restocking the cut over area creating "plantations" of nursery grown genetically identical strains of seedlings selected for their growth characteristics. Federal funding allocated to increase the volume of timber harvested led to more clearcuts, increased National Forest budgets, and a steadily expanding work force. For foresters and managers in the Agency "getting the cut out" (the volume of timber harvested measured in board feet) was good for their careers and provided opportunities for promotion and advancement. Each decision by the Agency seemed to reinforce the need for more clearcuts and with each clearcut more funding followed.

In support of this new management paradigm the Eisenhower administration and Forest Service officials implemented the "sustained yield" timber management policy. Under this policy, the Agency was directed to increase timber production on each National Forest until it reached the maximum allowable cut. That is the point at which the harvesting of timber and the growing stock of replacement trees are equal. The methodology used to determine the "sustained yield" estimates were sometimes based on incomplete or non-existent data and questionable assumptions. For example, one study that found young conifers (seral stage) were faster growing than "over mature" trees (old growth). For that reason, the rotation cycle of some species of trees could be shortened. As a result, foresters working on Six Rivers National Forest determined that trees could be harvested every 60 to 80 years instead of the previous stand replacement period of 120 to 150 years. The shortened rotation cycle thus provided a rationale to further increase the cut while retaining the principle of sustained yield timber management.

The practical result of this new mission to provide the nation a steady supply of timber was that by the mid-1950s many national forests were considered little more than "tree farms" with timber often referred to as a "crop" to be harvested and the clear-cut units replanted with genetically identical strains of conifers provided by Forest Service nurseries like the Six Rivers Nursery at McKinleyville in preparation for the next logging cycle.

There were incentives for national forests to increase the volume of timber produced in the form of additional funding for meeting timber sale targets. One of the most important funding mechanisms was the Knutson-Vandenberg Act of 1930. Under this act, federal dollars from receipts of past timber sales were returned to the ranger districts in order to undertake reforestation and timber stand improvement projects leading to a further expansion of the workforce. Contracting for many of these services (for example, tree planting) provided an additional input of dollars into local economies (Lewis 2006:139). In addition, counties where the timber was logged were provided a share of the timber receipts generated from timber sales. That along with an increase in the number of mills and timber-related jobs in rural communities with historically high unemployment levels provided additional political support for the increased level of logging.

Under policies set forth by Gifford Pinchot, first Chief of the U.S. Forest Service when the Agency was created in 1905, district rangers were given considerable authority to make resource management decisions at the local level. This precept had been an important guiding principle of the Agency for half a century. By the late 1950s, however, timber-harvesting targets on national forests were no longer dictated by the Forest Supervisors and district rangers, as had been the case since the Agency's creation. The days of independent and decentralized management of national forests were over:

From the district ranger level up, forest planners had to acquiesce to headquarters or risk their careers. Incentives based on timber harvest targets remained; no incentives came from Congress or Forest Service leaders for soil, water, or wildlife conservation. In reality MUSY [Multiple Use Sustained Yield] simply meant the Forest Service had to consider the effects of logging on other resources when making plans. Timber remained king (Lewis 2006: 144).

Forest Service budgets reflected the federal government's emphasis on timber harvesting. As a result of these new policies and direction; from 1950 when there were 107,000 miles of roads on National Forest lands, by 1972 the transportation system had expanded to about 200,000 miles of roads, and annual timber sale volumes had increased from 3.4 billion to 10.6 billion board feet. From 1945 to 1970 the Forest Service received sixty-six percent of budget increases requested for timber sale administration while budget requests for recreation and wildlife were twenty percent, reforestation seventeen percent, and soil and water management was 15 percent(Lewis 2006: 139).

Thus, as the 1950s ended with the United States and the Soviet Union at the height of the Cold War, timber production was both a national priority and in northwest California a

local priority. By this time, however, the cumulative impacts from the dramatic expansion of logging on some national forests, including Six Rivers National Forest, were becoming evident to both Forest Service employees and an increasingly concerned public. The Forest Service attempted to mitigate some of the visual impacts resulting from clearcutting and developed the "zoning principle" as a means to manage multiple resources by placing various areas of the National Forest into "zones" based on specific resource values that were suitable for a particular activity (recreation, mining, streamside protection) in order to minimize conflict between various resources. Although under the traditional "multiple use" concept, the Forest Service was to manage National Forest lands for the benefit of all natural resources it was clear as the 1950s ended that the Forest Service primary mission was the production of timber. In effect, Agency direction and policy was to manage resources other than timber "as fully as possible without undue interference with the dominant use" (Lewis 2006:142).

Logging Comes to Six Rivers National Forest

As noted earlier, prior to World War II the redwood forests of northwest California seemed to provide an endless supply of lumber to the population centers of the state and Douglas fir was virtually worthless. In addition, most of the Douglas fir was located further to the east far from the mills in redwood country making logging of more remote areas, including Pilot Ridge country, economically unfeasible. For that reason from 1905 until the end of World War II there was not much commercial logging taking place on the Mad River Ranger District of the Trinity National Forest and none in Pilot Ridge country.

With the end of World War II and the resulting boom in home construction, there was an increased demand for timber nationwide. At the same time the redwood forests of Humboldt and Del Norte Counties, then supplying the vast majority of lumber exported from north coast mills to the voracious lumber markets in the south, were rapidly being depleted. The birth of Six Rivers National Forest, therefore, was a product of the post-World War II economic boom and the significant increase in the demand for wood products nation-wide especially in the booming state of California with hundreds of families moving into the state every day. On June 3, 1947, President Truman signed Presidential Proclamation 2733 creating Six Rivers National Forest. The creation of Six Rivers National Forest was part of a nation-wide strategy undertaken by the federal government to open previously untouched areas of old growth forest on public lands to logging. The intent was to provide a steady flow of logs to the sawmills of Humboldt and Del Norte Counties in order to provide lumber for the burgeoning home construction industry. Forest Service lands lying to the west of the crest of South Fork Mountain, essentially the Mad River Ranger District of the Trinity National Forest, were transferred to the newly created Six Rivers National Forest. The Mad River Ranger District was the most southern of four Ranger Districts incorporated into the newly established National Forest. The "Forest Headquarters" (Forest Supervisor's Office) was located in Eureka.

The Preliminary Timber Management Policy Statement released by the newly created Six Rivers National Forest in June of 1948 stated that the major reason for its creation was to

provide for "the sustained production of forest resources for the benefit of the people" (Conners 1997: 63). The *Arcata Union* newspaper announced as much in its March 17, 1950 headline:

Forest Service to Liberalize Timber Sales; Billions of Feet of Fir; Now
Over-Ripe Available to Mills

The article reported that the Forest Service was implementing a "new and wider policy" based on the highest (best) use of the forestlands--henceforth it would be for the production of timber and the primary objective for management on Six Rivers was:

"to bring National Forest lands up to the maximum capacity
production of quality timber and forest products and to maintain the
capacity to attain maximum utilization of wood fiber [sic] and to
encourage and assist private timberland holders in the same
direction."

This expanded role of Six Rivers National Forest in providing a steady supply of timber as a national priority also began to play an increasingly important role in the economic well-being, stability, and even growth of small and large communities throughout the north coast region. The increased pace of logging after the creation of Six Rivers National Forest is reflected in the amount of timber harvested.

Volume of Timber Harvested (millions of board feet)

1953	13,000,000
1954	48,118,000
1955	76,618,000

The projected estimate for the annual cut from 1959 to 1965 was projected to be 160,000,000 board feet (Conners 1997: 86).

In 1957, Six Rivers issued an *Information and Education Report*. The report proudly noted the fact that Six Rivers National Forest had rapidly "exploded out of a custodial stage to one of intense demand for resource utilization, especially in the field of timber and maintaining stream habitat for migratory fish." In addition, newly constructed logging roads were bringing an increase of campers, hunters, and anglers and mining was increasing especially on the Gasquet Ranger District. The Regional Office in San Francisco complimented the management of Six Rivers National Forest for "[p]aving the way for public acceptance in order to minimize interruptions, criticism, and appeals in the orderly pursuit of reaching each [National Forest] goal" (James 1957:1, in Conners 1997 90). As a result, the Six Rivers annual budget was increased to fund the amount of timber that could be cut on a sustained-yield basis to 163,000,000 board feet. During this era there were vast stands of old growth Douglas fir spread across Six Rivers National Forest--especially in the regions to the north of Pilot Ridge country that were more easily accessed and more economical to log. For that reason, there was little need to meet increased timber targets by cutting trees in the more remote and still roadless Pilot Ridge country

1960 to 1970: The Seeds of Change

To insure that the primary mission of the Forest Service was harvesting timber, Congress passed the Multiple Use--Sustained Yield Act in 1960. By this time, however, on many national forests as a result of the significant increases in timber harvesting and road construction, the cumulative visual impacts to the landscape and the negative effects from extensive clearcutting and road building to other resources were clearly becoming evident. Initially, the Agency responded by trumpeting the "positive" effects resulting from clearcutting including providing openings to improve wildlife habitat for such big game species as elk and deer and improved access to national forests for recreational opportunities provided by newly constructed logging roads. At the same time, as a result of the increase in recreational use on national forests by the public, Forest Service land managers began to take active measures in order to mitigate the visual effects resulting from clearcutting by leaving "beauty strips" of trees one hundred to two hundred feet wide along travel corridors in order to mask the effects of logging activity.

By the early 1960s there was widespread use of DDT to eliminate insect infestations and the spraying of herbicides (often from the air) to facilitate the growth of conifer plantations on National Forest lands in many parts of the nation. On Six Rivers National Forest and on other national forests in the Pacific Northwest the "treatment" of Douglas fir plantations by herbicides facilitated conifer growth by eliminating competition from other "undesirable" plant species--that is any plant that might compete with and slow the growth of Douglas fir. Since tree plantations *grew* more rapidly with the elimination of competing vegetation--a practice known as "conifer release"--the use of herbicides permitted the foresters and Agency officials to justify even greater sustained-yield estimates thus allowing for a further increase in the volume of timber that could be harvested annually. Herbicides and insecticides were also employed to encourage conifer seedling growth (including 245T and diazinon) and were used liberally by the Six Rivers Tree Nursery in McKinleyville (personal observation).

Increasingly, although the voices at first were few and somewhat muted, members of the public began to criticize the Forest Service for the cumulative effects resulting from intensive logging including, the visual impacts from clear-cuts, the increasing loss of wildlife habitat, loss of water quality, and other environmentally related issues. It was at this time, in 1962, that Rachel Carson, a former U.S. Fish and Wildlife Service biologist, published *Silent Spring*. The publication of this book is considered by many a watershed event in the creation of an activist environmental movement in the United States. The book was an indictment of the widespread use of toxic chemical pesticides, especially DDT, and their effects to human and animal populations. By this time the Forest Service was conducting aerial spraying of DDT on more than one million acres of National Forest lands annually (Lewis 2006:148). Carson (1962:116) also argued that ecological diversity and the biological health of the ecosystem were "imperiled by the human conceit that sorted out wild species according to their human uses and eliminated the 'bad' ones."

Although herbicide spraying was somewhat controversial even at this early date, there was

no strong nationally organized opposition. There was, however, over the next two decades, after the publication of *Silent Spring*, an increasingly bitter battle waged between the proponents and opponents on the use of herbicides in the old growth forest regions of the northwest both on national forests and forest lands owned by private timber companies. On Six Rivers National Forest environmental organizations held protests at the Eureka Forest Headquarters and on Ranger Districts using herbicides. Native Americans and tribal governments voiced their concerns for individuals gathering basket materials and subsistence food resources in their traditional gathering areas on Six Rivers that might be in or adjacent to areas where herbicides were applied.

The conflict escalated as the Forest Service continued to use herbicides despite the increasing vocal protests. The conflict was referred to in northwest California as the "herbicide wars." Since the use of herbicides justified an increased annual cut, the Forest Service and private timber companies were resistant to discontinuing their use. In 1984, as a result of a lawsuit in Oregon, a federal court ruling eventually led to the suspension of the application of herbicides on National Forest lands until studies were undertaken to meet the intent of the environmental laws. This ban lasted until 1991. After that date there was a dramatic reduction in the use of herbicides nationwide (Lewis 2006:190). With the court ruling, the application of herbicides on Six Rivers National Forest essentially ended due to the strong concerns and objections voiced by Native Americans, environmentalists, and the public.

As the impacts from clearcutting became more apparent, an increasing number of scientists and interested members of the public were becoming concerned about the cumulative impacts from the amount of logging taking place. Initially, Forest Service officials were surprised and somewhat indignant over the public's criticism of its timber cutting practices. During the first half-century of its existence the Agency, despite numerous conflicts over grazing and other land-use issues in some of the western states was, in general, well respected by the American public and there had been few political controversies under Pinchot's "conservation" philosophy underpinning the management of National Forest lands. Despite the public's changing perception of clearcutting and increasing criticism from the nascent environmental movement, Forest Service officials continued to believe that the Agency simply had a "public relations problem" and despite changing public attitudes the "commitment to producing timber remained the government's priority" (Lewis 2006:151).

The Agency and its leaders believed that the public's disdain for clearcuts was due to a lack of knowledge and understanding and that the Agency need only to educate the public about the advantages of clearcutting for it to gain acceptance. In response to the growing criticism, the Forest Service established a public information and education program in order to placate the public. The intent was to counter the critics of the Forest Service by making a case for clearcutting. The Agency acknowledged that there were some technical problems but these problems were manageable and could be addressed and that there was no need to discontinue the practice of clearcutting. As James Lewis (2006:148) points out in his history of the Forest Service:

Its effort to blunt criticism revealed an agency out of touch with mainstream thinking. Many foresters within the agency even advocated managing the land more intensively to achieve "full utilization."

The publication of *Silent Spring* and the cultural and political upheaval that marked the 1960s and 1970s is reflected in the increasingly activist role played by the growing environmental movement in monitoring land management activities taking place on National Forest lands. As interested publics became increasingly concerned about the amount of logging taking place, environmental groups like the Wilderness Society and the Sierra Club became more politically active. This new "environmental awareness" and the American public's increasing concern for the negative effects to the nation's environment from herbicide use, mining, and clearcutting were also reflected in voiced concerns and actions taken by Congress.

In 1963, Congress passed the Clean Air Act, in 1964 the Wilderness Act, and in 1965 the Water Quality Control Act. These laws were the first of a series of environmental laws enacted in response to the public criticism of both private and federal government land management policies and in response to the lobbying efforts of a rapidly growing and increasingly influential environmental movement. As a result of strong public support and lobbying by environmental groups a number of additional environmental laws were enacted by Congress in the late 1960s and early 1970s. These laws included the National Historic Preservation Act of 1966 (NHPA), the Wild and Scenic Rivers Act of 1968, the National Environmental Policy Act (NEPA) of 1969, and the Endangered Species Act (ESA) of 1973. Importantly, some of these laws, for example NEPA, provided a legal basis for public participation in the decision making process on how various resources were to be managed on national forests.

The criticism beginning to build on Forest Service clearcutting practices found its way to the Six Rivers National Forest when it became the subject of a critical story on its logging practices and the increased environmental problems they were causing. On April 5, 1966 The CBS Evening News with Walter Cronkite, one of the most watched and trusted news programs in America, broadcast a story by reporter Richard Threlkeld that strongly criticized the Forest Service for the severe impacts to the land caused by logging and road building--particularly on the Six Rivers National Forest. Among the criticisms of Forest Service logging practices featured in the story was that "[o]n the backroads of the Six Rivers Forest whole mountainsides of virgin timber have been cut away leaving nothing but rocks and dirt." Threlkeld strongly criticized Forest Service management and the Agency attempted to defend their logging practices.

There was a strong reaction from the Forest Service to the news story and Agency officials insisted that CBS reporters had been a "setup" by members of the Sierra Club who had showed Threlkeld clear-cuts on private property. Eventually, because of the controversy, Threlkeld returned to Six Rivers and the Shasta Trinity National Forest for three more days. During his second visit forest officials showed him Forest Service clear-cut units that had been replanted and insisted that much of the video of clear-cuts in his earlier feature were on private timberlands. The controversy eased over time and no additional news features

related to clearcutting on National Forests in California made it to television (Godfrey 2005: 466).

1970 to 1980: Getting the Cut Out

As the 1970s began, and despite changing public attitudes and an increasing awareness and activism related to environmental issues, Forest Service managers and officials continued as if the problem with clearcutting practices and the high level of timber production was a result of an "uninformed" public in need of being "educated." Within the Agency, Forest Service management brooked no criticism from employees on the issue of clearcuts and any employee who voiced objections to clearcutting or other management decisions might be transferred (given a "directed reassignment") or even fired for speaking out.

The increasing conflict and focus on timber production to the exclusion or concern for other forest natural resources reached its peak in Idaho. Foresters and managers on the Bitterroot National Forest were convinced that the actions they developed to facilitate the growth of commercially desirable conifer species of harvestable timber were "the pinnacle of what intensive management could achieve on otherwise marginally productive land" (Lewis 2006:156). First tractors cleared hillsides of commercially worthless lodgepole pine terracing the steep barren hillsides to prevent erosion. Then specially designed tree planting machines traversed the terraces planting conifer seedlings. The Forest Service was now truly harvesting and growing timber as a crop little different from corn excepting a longer rotation period.

Even local long-time residents used to Forest Service clearcutting timber practices were appalled by the level of ground disturbance that many likened to rice paddies in China (Lewis 2006:154). When a new Forest Supervisor, Orville Daniels, arrived on the Bitterroot in 1970, he acknowledged why people were objecting to the terracing of clear-cuts:

When you come around the corner and you look at it, you go, 'Oh, my God,' because its high on a hill and the road comes right into the middle of it and the vista is right in the center of it and it is the most awful looking thing (Lewis 2006:154).

In the ensuing controversy, Montana Senator Lee Metcalf commissioned Arnold Bolle, Dean of the Montana State University Forestry School, to form a panel of experts in order to review the Agency's actions on the Bitterroot National Forest. The review was published in December of 1970 and was a devastating indictment of Forest Service timber management policies. The *Boole Report* concluded that:

The heavy timber orientation is built in by legislative action and control, by executive direction and budgetary restrictions. It is further reinforced by the agency's own hiring and promotion policies and it is rationalized in the doctrines of its professional expertise...The rigid system developed during

the expanded effort to meet the national housing post-war boom. It continues to exist in the face of a considerable change in our value system--a rising public concern with environmental quality. While the national demand for timber has abated considerably, the major emphasis on timber production continues (In Lewis 2006:157).

In addition to criticizing the logging activities taking place on the Bitterroot National Forest, the *Boole Report* also made the point that the Forest Service no longer based its management policies and practices on the multiple-use concept as first set forth by the Theodore Roosevelt Administration and the first Chief of the Forest Service Gifford Pinchot when the Agency was created in 1905. The study found that several of the large harvest units on the Bitterroot were "entirely inappropriate, ruinous to future growth, and thoroughly destructive of values that were more important than timber" (Lewis 2006:157).

The response by the Agency and the Nixon administration to the report and growing criticism of intensive clearcutting and the resulting impacts to the environment was to appoint a committee, the President's Advisory Panel on Timber and the Environment, in September of 1971 to review Forest Service timber management policies. The report, issued in April of 1973, not only defended the Nixon administration and the Agency's timber management policy, but also concluded that the cutting of old-growth forests could be increased above the current levels by fifty to one hundred percent.

It was clear by now from the policies and direction emanating from the Nixon administration and some influential members of Congress, the strong political support and pressure from private industry, and the economic importance to many communities dependent on a steady flow of logs from National Forest lands to sawmills, that the primary mission of the Forest Service had become timber production. Agency priorities, other than fire protection--seen as important in protecting standing timber--were to be focused on timber production. Thus, by the early 1970s, Pinchot's "conservation" model and balanced approach for the management of National Forests was in tatters. When his son, Gifford Bryce Pinchot visited the Bitterroot in 1972 he was asked what he thought might be the reaction if his father had seen the terraced clear-cuts. He replied; "If my father would have seen this, he would have cried" (Lewis 2006:157).

Not only did clearcutting go against the original philosophy of the Agency for the selective harvesting of timber and a balanced approach to the conservation and protection of all National Forest resources (water quality, range, recreation, wildlife, etc.), clearcutting also violated the spirit of the Organic Act of 1897. This law along with the Forest Transfer Act of 1891 had provided the legal basis for the creation of the Forest Service. The Organic Act sets forth the policies on how the newly created Forest Reserves (later renamed National Forests) were to be managed and states that the reason for their creation was "to improve and protect the forest within the reservation...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."

Although Forest Service officials were determined to continue to cut high volumes of

timber, they were facing other problems besides criticism from some members of the public and environmental organizations. In the early 1970s, the regulations for many of the newly enacted environmental laws were being written and applied to federal projects for the first time. As a result, an increasingly powerful and litigious environmental movement began to use the recently enacted environmental laws and regulations to appeal Forest Service decisions by challenging them in court.

In 1973, a lawsuit was filed by the Izaak Walton League to stop clearcutting on the Monongahela National Forest in West Virginia. The plaintiffs contended that by undertaking the clearcutting of timber on National Forest lands the Agency had violated the intent of the Organic Act of 1897. The Organic Act required the marking only of dead or mature trees to be cut. By marking and cutting all trees--including immature trees--in a timber harvest unit the Agency was violating the intent of the law. The court ruled, in 1974, that Forest Service clearcutting practices had violated portions of the Organic Act and the Resources Planning Act. The Forest and Rangeland Renewable Resources Planning Act (most often referred to as the Resources Planning Act or RPA) passed earlier that year and directed the Forest Service to undertake long-range planning to ensure the future supply of timber while maintaining a quality environment. The decision was appealed by the federal government and in 1975, the District Court of Appeals upheld the decision.

These court decisions, and the determination of the Agency to continue timber harvesting as in the past, marked a turning point in the public's perception of the Forest Service resulting in a loss of public trust and confidence for the traditionally well-respected and publicly popular Agency. These court decisions also marked the beginning of the political controversy, animus, and conflict over clearcutting and the volume of timber being cut on national forests that was to continue into the 1990s. This battle, with the Agency caught in the crossfire, was waged by those on one side of the political spectrum who supported the economic benefits derived from producing high volumes of timber--including business interests, timber-dependent communities, and workers employed in the timber industry; and on the other side by environmental organizations and citizens from the more urbanized areas and eastern states who were becoming more and more concerned about environmental issues. In addition, Native Americans and tribal governments were becoming increasingly vocal about the impacts from logging and the spraying of herbicides that could negatively impact their use of many traditional plants gathered on National Forest lands because of their subsistence-oriented way of life.

In response to the rulings in the Monongahela court case, in 1976, Congress passed and the President signed the National Forest Management Act (NFMA). The implementing regulations for the law were written by a committee of scientists and were revised in 1979 and 1982. NFMA repealed provisions of the Organic Act and amended the Resources Planning Act. Each National Forest was to prepare a Forest Land Management Plan (FLMP) setting forth future management direction for all natural resources found within its boundaries. In addition, as a result of the National Historic Preservation Act and NEPA, regulations required for the first time that cultural resources values must be considered and their future management incorporated into the Forest Plan.

Under NFMA, each National Forest was required to formulate an updated Management Plan every ten to fifteen years outlining the proposed levels of timber harvesting and to identify areas where the highest "best use" values of the lands (water quality, wildlife, cultural resources, recreation etc.) were to be protected. The law also called for the monitoring of past projects to insure that unintended impacts to other resources never took place because of logging or road building. Most importantly, to comply with NEPA, each National Forest was required during the planning process to involve the public, evaluate their comments, and respond to their input during the decision making process. NEPA also called for an interdisciplinary analysis by scientists of each Forest Plan related to the potential impacts to various natural resources as a result of the planned management actions. The need to analyze and document the status and potential effects from implementation of the Final Forest Management Plan on the various resources found on each National Forest as required by NEPA resulted in the Forest Service hiring in unprecedented numbers resource specialists including wildlife biologists, hydrologists, archaeologists, social scientists, and soil scientists.

The continuing conflict between timber harvesting and the management and protection of other National Forest resources intensified further after the Advisory Council on Preservation published implementing regulations in 1974 for the National Historic Preservation Act. The new regulations required for the first time that cultural resources inventories and surveys were to be undertaken within the Area of Potential Effect (APE) for every ground-disturbing project undertaken by a federal agency (or federally funded project) in order to identify and protect cultural resources. The result was that nationwide Forest Service timber projects that had already been laid out and prepared for sale or in some cases had already been sold violated the new regulations.

In order to comply with the newly enacted regulations the Agency began to hire archaeologists in substantial numbers. The Forest Service had no full-time archaeologist position until 1967. In that year the Gila National Forest in New Mexico, location of the Gila cliff houses, hired an "archaeologist" (his degree was in zoology) from the National Park Service who had worked as an archaeologist/interpreter. By 1974 there were four full-time professional archaeologists in the Forest Service including a position for Region Five, California, at the Pacific Southwest Regional Office in San Francisco and by the summer of 1977 every National Forest in California with a timber program, including Six Rivers, had hired or was in the process of hiring a full-time archaeologist. On Six Rivers National Forest, in the summer of 1977, for the first time five additional temporary employees (including the author) were hired in order to survey timber harvest units and proposed roads to insure that the Forest was in compliance with the cultural resources laws and regulations.

The atmosphere within the Agency when I was hired by Six Rivers National Forest in August of 1977 to fill a temporary archaeologist position on the Orleans Ranger District was that of an organization under siege. What I heard from the foresters and engineers at that time was that the public simply did not understand what was taking place. These over-matured and unproductive forests needed to be clearcut to make them more productive. My job was simply to survey proposed timber harvest units and logging roads to meet the

intent of the laws and regulations. Their main concern and the reason for their less than warm welcome was that they feared that identifying and recording cultural resources sites might lead to disruption of their planned timber sales and reduce timber volumes.

As the decade ended the NFMA planning process was well underway on most national forests in the country. As the Forest Plans were being prepared the debate on the future direction of the timber program by the various interested publics including environmental organizations, timber-dependent communities and workers, and business interests, as well politicians became more heated than ever.

In the national forests of the Pacific Northwest extending from Six Rivers in the south to the Canadian border the disruption in timber sales from the increasing environmental conflicts and court rulings was causing consternation and economic upheaval in local communities that were dependent on a steady supply of timber from national forests. The Forest Land Management Planning process was seen by many individuals in communities dependent on the timber industry as simply another instance of big government interfering with local interests. Throughout much of the Pacific Northwest, as was the case in Humboldt and Del Norte Counties, the public was divided into two camps: those supporting the continuation of intensive logging and those who opposed it.

1980 to 1990: The End of an Era

As the 1980s began the Forest Service mission was still focused on timber production. At the same time, as the result of the National Forest Management Act and the various environmental laws and regulations, the hiring of younger college educated resource specialists had increased dramatically. The unquestioned loyalty to the Forest Service mission by longtime employees who felt under attack by the rising level of criticism from not only the public but the influx of newly hired resource specialists created a substantial amount of friction among those working within the Agency. There was not only a different philosophy between many long-time employees and the newly hired resource specialists on how National Forest lands should be managed, but a generational conflict as well. At times the undercurrent of animosity towards the newly hired resource specialists by some long-time employees bubbled over into outright conflict. Many foresters and engineers referred to the newly hired resource specialists with the derisive term "ologists" and worried that they were interfering with the Agency's primary mission--to get the cut out.

As James Lewis writes in his centennial history of the Forest Service the newly passed environmental laws:

Created a demand for new types of employees, such as wildlife biologists, hydrologists, recreation experts, economists, archaeologists, and sociologists...Some of these new employees questioned the status quo in land management as well as personnel management. Some knowingly risked their jobs--and in some cases, personal safety--to speak out publicly against land

management practices with which they disagreed. The willingness to confront the old-guard foresters and engineers earned them the epithet *combatologists* (2006:180). [Emphasis in the original.]

Initially, in addition to working on their respective Forest Land Management Plans general management direction for the newly hired specialists was to provide support for timber harvesting projects. It was made clear that the first priority of employees was to support the timber program. This meant providing resource specialist "project clearance" input for proposed timber sales by surveying cutting units and proposed roads in order to meet the intent of the environmental laws and regulations. In California, for example, in 1980 as a result of the backlog in timber sales needing archaeological project clearance under Section 106 of the National Historic Preservation Act, the Agency that summer hired about 120 archaeologists (including the author) to temporary positions in order to work on proposed timber sale projects.

Later that year Six Rivers with three full-time archaeologists working on the forest, created a full-time archaeologist position located on the Lower Trinity Ranger District. A transfer opened up the Assistant Forest Archaeologist position and I was hired for that position in July of 1980. During the early 1980s dozens of full-time positions were created for cultural resources managers throughout the Forest Service and by 1985 there were nearly 50 positions including archaeologists, historians, ethnographers and other Cultural Resources Management (CRM) specialists working in Forest Service Pacific Southwest Region Five (Hawaii and California).

Since the primary mission of the Agency was still considered the production of timber, the prime concern for managers was whether a particular resource, for example, an archaeological site might interfere with an existing or planned timber harvest unit or proposed road and therefore reduce the amount of harvestable timber. At first, with a relatively large amount of standing timber remaining, most conflicts were simply resolved by dropping from the Area of Potential Effect (APE) any cutting unit or road that was in conflict with a protected resource making up the volume elsewhere within the general project area. For example, under Section 106 of the National Historic Preservation Act, proposed timber units were to be surveyed for cultural resources. If a site was recorded within the APE of a proposed cutting unit, the usual procedure--known as "flag and avoid"--was simply to avoid logging that area resulting in "no effect" to cultural resources values from the project. This was an easy and inexpensive way to meet the intent of the laws and regulations and still meet timber targets. In addition, in preventing any direct impacts to a site, the added expenses of the more expensive protection measures such as determining a site's eligibility for the National Register of Historic Places and implementing mitigation or protective measures were avoided.

In addition to the disruption of timber outputs from National Forests, as a result the enforcement of environmental laws and regulations and court decisions, during the early 1980s there was a dramatic increase in interest rates for home loans and a downturn in the American economy leading to a recession and high unemployment. The recession resulted in decreased demand for lumber and there was a decline in timber harvesting on many

national forests. This downturn in timber harvesting was a severe economic blow to many communities especially in the Pacific Northwest--including those in Humboldt and Del Norte Counties--that were dependent on the timber industry and a steady supply of logs to local mills for their economic health.

Because of the high unemployment and the political backlash due to the reduction in the amount of timber being harvested on National Forest lands, members of Congress representing timber-dependent Congressional Districts pressured the Forest Service to continue to provide a steady flow of logs to the timber mills despite the reduced demand for lumber. At the same time, public and political pressure increased on the Forest Service and Bureau of Land Management (BLM) to cut more timber, the limitations placed on logging operations and road construction as a result of the increasing reach of the various environmental laws and regulations and a rapidly growing activist and vocal environmental movement were resulting in even more restrictions on logging as well as for other land-use activities taking place on federal lands including grazing and mining.

The increased federal regulations and the decline in timber harvesting were especially unpopular in many of the western states where BLM and National Forest lands made up a large percentage of a state's land-base. In addition to logging, many rural communities in the west were dependent on other land use activities such as grazing or mining on adjacent federal lands for their economic health. As a result, there was a strong counter-reaction from citizens living in smaller rural resource-dependent communities to the decreasing amount of timber being logged regardless of the reasons being given by the federal agencies. Those local communities and individuals protesting the increasing limitations and restrictions placed on federal lands found strong support from commercial logging interests, as well as from ranchers, and mining companies who wanted fewer environmental restrictions on their activities.

A new movement, a coalition of interest groups spread across the western states, known as the "Sagebrush Rebellion" sought to end not only federal regulatory authority and but federal ownership of public lands. The various organizations were supported by well-financed and politically powerful corporate interests including timber companies, large ranching operations dependent on federal lands for grazing livestock (at a fraction of the cost of leasing out a similar amount of private grazing land), and mining companies. There was also strong support for the Sagebrush Rebellion from sympathetic politicians throughout the western states. For example, in Humboldt County logging companies like the Simpson Timber Company made major campaign contributions to Congressman Frank Riggs and local politicians, including county supervisors, who supported an increase in logging on Six River National Forest. The organization formed in Humboldt County was named "We Care" and called for the "wise use" of public lands for commodity development including intensive logging, grazing, and mining.

Elected in 1980, President Ronald Reagan, former governor of California, was a strong supporter of the Sagebrush Rebellion. Reagan's support for the movement resulted in his appointment of James Watt as Secretary of the Interior. From Wyoming, Watt was a well-known leader of the Sagebrush Rebellion. The Reagan administrations objectives were to,

in effect, repeal or make less restrictive environmental laws and regulations on both federal and private lands and turn the management of federal lands throughout the west over to the respective states. The Reagan administration also explored the possibility of simply selling off vast tracts of National Forest and BLM lands in the west to private industry. There was a severe backlash to these actions by the environmental community and Secretary Watt was at the epicenter of an increasingly bitter controversy and conflict. Environmental organizations like the Sierra Club and Wilderness Society saw a huge growth in membership and the more urbanized eastern states and urban areas of the west began to flex their political muscles. Even officials of other federal agencies were unhappy with Watt's appointment and he was roundly criticized by many National Park and Forest Service Employees. In one incident, a Park Service employee was fired after attending a protest rally where Watt was speaking. Ultimately, his tenure ended in resignation over racist comments, however, the Reagan administration continued with its strong support of the Sagebrush Rebellion agenda.

Congress, through the budgeting process, began imposing timber "targets"--in reality quotas--on some national forests (including Six Rivers). The Reagan Administration also applied strong pressure on the Forest Service Chief and other Agency officials to meet timber targets. In addition, many state and local politicians in western states and many citizens in timber-dependent communities pressured the Forest Service to increase the timber cut. To make matters worse, at the same time that lawmakers and the President were pressuring the Forest Service to meet their imposed timber harvesting targets the Agency's budget was severely cut as a result of Congress passing and President Reagan signing the Balanced Budget and Emergency Deficit Control Act of 1985 (popularly known as the Gramm-Rudman Act) forcing most federal agencies to severely reduce their budgets. Forest Service managers with their traditional "can do" attitude tried to meet the unrealistic targets dictated by Washington with little or no success. Anytime the Agency tried to cut corners in order to meet timber targets they were met with a lawsuit or an appeal. The continuing failure of the Agency to meet timber targets set in Washington resulted in intense political pressure on Forest Service officials and anger and frustration among some members of Congress--especially those representing timber dependent communities in the northwest. In northern California both Congressman Riggs (whose District included Del Norte and Humboldt Counties) and Congressman Wally Herger (whose District included Trinity and Shasta Counties) held numerous meetings with Forest Supervisors from the Six Rivers, Klamath, Mendocino, and Shasta Trinity National Forests, the Regional Forester, and the Forest Service Chief pressing them on the issue.

Despite pressure from Congress, however, because of the increasing level of environmental conflict related to timber harvesting, administrative appeals, court decisions against the Agency, and lack of adequate budgets, it was simply impossible for the Forest Service to meet the unrealistic timber targets set by Washington. In reality, projections were being made that forecast a reduction in the number and size of future timber harvesting projects on most national forests. Then in 1986, at the height of the "timber wars," as the conflict over logging was referred to by the press in the Pacific Southwest Forest Service Region Five (California and Hawaii) economist Randal O'toole, an employee at the Regional Office in San Francisco, and critic of the Agency's timber policy, analyzed the timber yield tables

taken from the Forest Land Management Plans of seven national forests in California--including the Six Rivers.

O'toole found that the process used to determine the allowable sustained-yield cut overestimated by one-third the growth rate of old growth forests (Godfrey 2005:508). This finding ultimately led to a major embarrassment for the Forest Service in Region Five after the Agency reviewed the timber data and acknowledged that there were serious errors in their assumptions and calculations. This error resulted in the final Forest Land Management Plans for a number of national forests, including Six Rivers, not being released pending major revisions. The Six Rivers' Draft Environmental Impact Statement for its Forest Land Management Plan, published in February of 1986 prior to the reanalysis of timber data, essentially had to be rewritten. The 1986 Plan originally proposed an annual sustained yield cut of 193 million board feet for the next fifty years. By the 1995 Final Forest Plan release, after numerous rewrites and additional research resulting from the increasing number of environmental issues related to the loss of old growth forests, the annual timber harvest level was set at 15 million board feet.

Already by the mid-1980s it was becoming clear to Forest Service foresters, engineers, and resource specialists working in the field that many of the conflicts between intensive clearcutting and other resource values could no longer be resolved through "avoidance" due to the continued reduction of the land base for harvestable timber. With a shrinking land base for timber harvesting due to the protection measures enacted for other resources, enforcement of environmental laws and regulations by the courts, and shrinking budgets it was clear to nearly everyone in the Agency, including the Chief of the Forest Service Max Peterson, that it was simply no longer possible to meet the timber targets set by Congress (Godfrey 2005:508). Forest Service leaders realized the problems the Agency faced were largely political with the conflict raging between those wanting to see a large aggressive timber program and those who felt that the environmental cost of continued clearcutting at the currently high level was too great. There seemed to be no middle ground and the Forest Service found itself under attack from both sides.

Again, Six Rivers National Forest reflects the intensity of the conflict raging at that time over resource management priorities and timber values versus other natural resources values. As the battle raged in the timber-dependent communities of the northwest, Congressman Frank Riggs constantly pressured Six Rivers National Forest to increase its cut as did many local politicians, timber companies, and members of the public especially those involved in the logging industry. This ongoing conflict led to protests throughout the northwest and logging truck drivers formed a caravan and drove their "big rigs" to Washington D.C to protest the lack of timber being cut on federal lands due to the environmental laws. Meanwhile, a number of environmental organizations, including Earth First, held a number of demonstrations against clearcutting and herbicide spraying at Forest Service offices throughout the northwest including at the Six Rivers National Forest Headquarters in Eureka and on some of the Six Rivers National Forest Ranger Districts.

In 1987, timber production on National Forest lands nationwide reached its historic high with about 14 billion feet of timber cut and in California, timber production was also

reaching its historical peak (Graph 1). At this point, the numerous legal, political, and environmental controversies surrounding Forest Service clearcutting and intensive logging practices and the cumulative effects that were negatively affecting old growth ecosystems throughout the northwest finally hit critical mass. Lawsuit after lawsuit was filed against the Forest Service by environmental organizations and the court ruled against the Agency in nearly every case. In addition, the Forest Service was coming into conflict with other federal agencies like the Fish and Wildlife Service for violations of the Endangered Species Act that were increasingly delaying or prohibiting proposed timber sale projects due to wildlife or fisheries concerns. On Six Rivers and some other National Forests adjacent to communities with substantial Native American populations, issues related to herbicide use, water quality, and the protection of important resource gathering or cultural use areas were among a host of issues that also began to surface resulting in further controversy.

By the end of the decade, the traditional way of doing business was simply no longer possible. On Six Rivers National Forest, the amount of timber sold annually had declined from 143.1 million board feet in 1987 to 54.4 million board feet in 1990. By 1992, as will be discussed in the next section, as a result of the strong political backlash at the national level against Forest Service timber management policies by the public and even some Agency employees, and with a change of administrations in Washington, the volume of timber cut annually in the National Forests of the Pacific northwest had declined by eighty percent and on Six Rivers by over ninety percent with only 3.5 million board feet of timber being sold that year (Graph 2).

Along with the earlier budget cuts imposed by Congress and the President under the Gramm-Rudman Budget Reduction Act, the steady decline in timber production necessitated a major reduction in the number of employees working for the Agency--especially those working in timber and engineering. This exacerbated the conflict between the "old timers"--foresters and engineers--and the "ologists" as the majority of the positions abolished were in those two departments. Between 1980 and 1990, the Forest Service eliminated approximately five thousand positions nationwide--about twenty-five percent of the total workforce--with over 2,000 of those positions abolished on the seventeen National Forests and Regional Office in Region Five California. Six Rivers National Forest provides an example of the dramatic reduction in jobs. In the early 1980s, Six Rivers employed a summer staff of over 500 full-time and temporary employees. By the early 1990s, the summer staff had been reduced to about 220 full and part-time employees (personal communication TM Personnel Officer SRNF).

By the late 1980s there was, for the first time, pushback from many employees within the Agency regarding the unrealistic timber "targets" set by Congress and the Washington Office of the Forest Service. One of the most notable was a 1989 letter to Chief Robertson from 123 National Forest Supervisors stating that the current levels of timber production were "unrealistically high even with full funding" and it was resulting in degradation of National Forest lands (Lewis 2006:204). Rank-and-file employees and retirees also formed an organization, Forest Service Employees for Environmental Ethics (AFFSEE), which not only questioned but also publicly criticized the Agency for the level of timber harvesting and the environmental problems it was causing. The controversy that had swirled around

the Forest Service for decades was now consuming the Agency from within. As Chief, Dale Robertson noted at the time, the Forest Service had hit the "wall" (Lewis 2006:204).

Logging comes to Pilot Ridge Country

By the mid-1970s, as timber targets set by the Regional and National offices were continually being increased for Six Rivers National Forest, it was becoming apparent to management that in order to meet future timber targets the Six Rivers transportation system would need to be expanded into more remote areas of the National Forest. This included expansion into Pilot Ridge Country and the substantial amounts of timber found on the east facing slopes of Pilot Ridge and along the north and northwest facing slopes of Whiting and Last Chance Ridges above the previously clear-cut Champion Timber Company lands that were comprised of the consolidated Timber and Stone Act privately owned parcels in upper Grouse Creek watershed (Map 4). There was also some Douglas fir on the west facing slopes of South Fork Mountain although the higher elevations were dominated by less commercially desirable white and red fir.

Since the end of the intensive clearcutting on private lands that had taken place in the late 1950s and 1960s there had been little additional timber harvesting activity in Pilot Ridge Country. In the early 1970s, a few of the isolated parcels of private lands with substantial volumes of Douglas fir on the north facing slopes of Eight Mile Ridge were clear-cut. Eight Mile Ridge descending west from the crest of South Fork Mountain to the Mad River forms the southern divide of the Pilot Creek watershed. The logs were trucked via California Highway 36 to the mills in Carlotta and in the lower Van Duzen River region. However, by the time logging took place on these private parcels, the state regulations enforced on private logging practices were much more stringent. Although nearly all of these areas were clearcut, cable yarding was used to harvest timber on the steeper slopes and some streamside buffer zones were created to protect riparian zones. There was, however, poor regeneration on many of these logged units and twenty years later they were still brush covered with little or no conifer growth (personal observation).

As noted earlier, although Simpson Timber Company had a low grade logging road extending into Pilot Ridge Country from the end of the Maple Creek county road it was all on private property and no public access was permitted. For that reason, the only way to access the northern portion of the Pilot Creek watershed by Forest Service personnel and the public by vehicle was via a rough jeep road down the crest of Pilot Ridge, a jeep road connecting South Fork Mountain from the Blake Mountain Lookout north along the descending ridgeline to Last Chance Ridge, or via a long circuitous route from the lower Grouse Creek drainage (some of this last route was on private lands and access was controlled) connecting with the original private Simpson logging road just to the east of Cow Chip Springs at the northern end of South Fork Mountain.

In 1983, with the contract awarded for the Pilot Ridge Timber Sale project, construction began on Forest Highway 1. The newly constructed road, extending along the crests of Pilot

Ridge, Whiting Ridge, Last Chance Ridge, and the northern ten miles of South Fork Mountain was to be paid for by proceeds from the timber sale and would open access to the previously remote Pilot Ridge country for future timber harvesting operations. Construction on the Pilot Ridge section began near Grouse Mountain where the new road followed Kinsey Ridge south to its junction with Pilot Ridge near the headwaters of Redwood Creek. The road then generally followed the old jeep trail along Pilot Ridge south to Whiting Ridge where it connected with the old Simpson Timber Company haul route. The Simpson section of road following Whiting Ridge was reconstructed and paved. A new section of road was constructed just below and to the north of the crest of Last Chance Ridge and the old Simpson Timber Company logging road along the south facing slope at the head of the Pilot Creek watershed was decommissioned.

The final section of paved road linking California Highways 36 and 299 (completed in 1984) extended south along the crest of South Fork Mountain from its junction with Last Chance Ridge, generally following the old Last Chance Trail (Map 2), to a point several miles south of Blake Mountain where it connected with a newly constructed section of Forest Highway 1. This section of the new road descended the western slope of South Fork Mountain in a southerly direction for about ten miles connecting to California Highway 36 just to the east of the Mad River Bridge.

In 1984, subsequent to archaeological site mitigation measures--the excavation of two prehistoric sites within the prism of the new route--a gravel road extending south from High Salt Ground to Edgar Springs was constructed along the crest of Pilot Ridge to provide a future haul route for timber sales in Pilot Ridge Country south of Forest Highway 1. Because of the newly constructed roads, several Forest Service timber sales took place in the area. A number of spur roads off the main haul routes like Forest Highway 1 were constructed to reach timber units on Hazen Ridge and in several other areas of the Pilot Creek watershed. In addition, some isolated parcels of private lands owned by Simpson Timber Company along Pilot Ridge to the north of High Salt Ground were now accessible and were logged under special use permits using Forest Highway 1 as a haul route. In addition, with improved access the use of Pilot Creek Country by deer hunters and recreationists (for example OHV use) increased dramatically (PCWAI#1).

After the lightning-caused Blake Fire burned the western slopes of South Fork Mountain in the Henry Ridge area in 1987, a salvage logging operation took place that included the construction of several roads (2NJ17, 2N18) from the crest of South Fork Mountain into the Pilot Creek Watershed. Additional timber harvest sales and road construction took place on the slopes west of South Fork Mountain to the north near Blake Mountain at about the same time. Given the number of logging operations and associated activity as well as the opening of maintained roads into the Pilot Creek watershed and with a dramatic increase in the number of hunters and other Forest visitors (hiking, OHV use, etc.) it is clear that by this time land disturbing activities within Pilot Creek country were creating significant and negative impacts to the integrity of the region's ecosystem. Furthermore, now that the roads were open and Six Rivers' timber targets were set at more than 150 million board feet annually the future existence of the remaining old growth forests in Pilot Ridge country was in jeopardy. At this point, however, instead, at the threshold of experiencing the

massive environmental effects resulting from the kind of intensive logging and road construction that had taken place elsewhere on Six Rivers, Pilot Ridge Country became a major battleground in the conflict and controversy over timber harvesting levels. As will be discussed in the next section, with the implementation of limits on logging as a result of the spotted owl and other resource protection measures adopted in the late 1980s and early 1990s relating to wildlife, water quality, and other environmental issues the plans to intensively clear-cut the old growth and mature Douglas fir forests of Pilot Ridge Country never materialized.

A New Forest Service Resource Management Paradigm: Ecosystem Management

The evolution of the Forest Service from an emphasis on timber production to a new more balanced ecologically-oriented paradigm for the management of natural resources on National Forest lands was a slow and sometimes painful process that unfolded over three decades. As noted earlier, the roots of ecosystem management can be found in the writings of Rachel Carson, author of *Silent Spring*, as well as Aldo Leopold, author of *A Sand County Almanac*. Their books influenced not only a large portion of the American public but a generation of ecologists, biologists and other natural resources scientists graduating from universities during the 1960s and 1970s. Eventually many of these scientists were employed by the Forest Service and other federal agencies including the BLM and Fish and Wildlife Service.

Within the Forest Service one of the most significant events to fuel change was the eruption of Mount St Helens in May of 1980. The event resulted in the destruction of over a billion board feet of timber and widespread devastation to about 150,000 acres of federal and private timberlands. At the urging of scientists eager to study the area's recovery from such a catastrophic natural disaster Congress established the 110,000-acre Mount Saint Helens National Volcanic Monument. Research by scientists on the disturbed areas within the newly created national monument and on the clearcutting practices taking place on adjacent National Forest lands found that the practice by foresters to spread out clear-cuts in a "patchwork" or mosaic across a watershed resulted in fragmentation of the ecosystem. Moreover, rehabilitation of cut over areas was primarily "focused on the regeneration of trees not the perpetuation of complex forest ecosystems" (Lewis 2006: 211).

While the timber wars raged throughout the northwest in the late 1980s and early 1990s, on some less controversial National Forests managers and resource specialists began to implement some of the principles of "new forestry" being developed by the scientists working at Mt St. Helens and elsewhere within the Agency. For example, when the Mark Twain National Forest in Arkansas lost an important court case on clearcutting; "new forestry" principles were adopted, and clearcutting practices dropped from comprising up to 70 percent of the timber harvested on timber sales to less than one percent.

In 1989, given the abject failure of the Forest Service to meet the impossibly high timber harvesting targets set by Congress and the Bush Administration, Chief Robertson was

summoned before Congress to explain the Agency's inability to meet the congressionally mandated quotas. In his remarks, the Chief called for a "new perspective" in the way National Forests were to be managed based on "new forestry" principles. Robertson called his new approach for the management of National Forests "New Perspectives." His presentation to Congress was put together with little time to prepare for the hearings and with little feedback from other Agency officials. Despite that fact, as a result of Robertson's testimony to Congress New Perspectives, a still somewhat nebulous term for both Forest Service employees and the public, became almost overnight the new management paradigm for the Agency (Lewis 2006: 214). After his testimony to Congress, Chief Robertson was roundly criticized for his New Perspectives proposal by many members of Congress and logging interests. Some environmentalists and environmental organizations, by now, distrustful of any Agency action, felt his new proposal was merely a public relations move.

The entire debate over the future direction of the Agency was resolved by President George Bush in 1992 as controversy over the New Perspectives paradigm swirled around and within the Agency. The President was under increasing political pressure at that time for his perceived indifference to environmental issues and concerns and was fearful of election year fallout from the by then politically powerful environmental movement. Moreover, President Bush was headed to the Earth Summit in Rio de Janeiro knowing that the United States was viewed in many countries as having a less than stellar environmental record under his administration. With the need to brush up his environmental *bona fides* before heading to the conference, the Bush administration directed Forest Service Chief Robertson to draft a statement that it was the intention of the Forest Service to eliminate the practice of clearcutting. The Chief, with no time to consult other Forest Service officials, drafted a statement released to the press indicating that henceforth, new forestry and New Perspectives principles would form the basis of a new policy for the management of National Forests. The Chief wrote that "ecosystem management" was to become the official management policy of the Agency and that clearcutting would no longer be used as a standard logging practice (Lewis 2006: 215).

In his policy letter outlining the new ecosystem management policy Chief Robertson defined it as:

The skillful, integrated use of ecological knowledge at various scaled to produce desired resource values, products, service, and conditions in ways that also sustain the diversity and productivity of ecosystems...The challenge of ecosystem management is to sustain systems that are diverse, productive, resilient to short term stress, and able to respond to long term change...We manage the forests for specific purposes such as producing, restoring or sustaining certain ecological conditions; for desired resource uses and products, vital environmental services, and for aesthetic, cultural, or spiritual values (Manley et al:1995:m2).

The Spotted Owl Controversy

Despite the adoption of a new paradigm for the management of National Forests, many members of Congress, local politicians and citizens from timber-dependent communities in the northwest, and commercial logging interests continued to pressure the Chief and Agency officials to get the cut out. The final blow to the already steadily declining level of logging taking place on the "timber forests" of the Pacific northwest (those National Forests with substantial stands of old growth forest remaining) was the listing of the spotted owl as a threatened and endangered species under state law by Oregon and Washington. As a result, pressure increased on the U.S. Fish and Wildlife Service to list the spotted owl as an endangered species under the Endangered Species Act. Listing the spotted owl, whose habitat was old growth forests, as an endangered species would, in effect, have halted most logging operations and timber sales on private and federal lands throughout the Pacific Northwest--including Six Rivers National Forest.

To avoid what many considered a potential economic disaster for rural timber-dependent communities, and because of pressure from Congress, commercial logging interests, and the Bush administration, there was strong pressure on the Forest Service and BLM to continue produce timber despite these potential risks. For that reason, President Bush directed the agencies to form a taskforce to develop alternatives to listing the spotted owl as an endangered species under the Endangered Species Act by taking mitigation measures to protect spotted owl habitat and permit logging to continue. The taskforce was to be headed by respected Forest Service wildlife biologist and future Chief of the Forest Service, Jack Ward Thomas. The Forest Service agreed to adhere to the policy recommendations that were to be developed by the "Thomas Commission."

The BLM, however, refused to cooperate. BLM officials were determined to continue logging despite the damage to spotted owl habitat and instead invoked the "God Squad" provision of the Endangered Species Act on forested BLM lands in Washington and Oregon. This provision of the law allows for species to go extinct if social and economic costs of mitigation or preservation are considered too high (Lewis 2006:218). The response by the public to the BLMs handling of the spotted owl issue resulted in a firestorm of controversy further dividing local timber-dependent communities in the northwest from those in the environmental movement, as well as much of the general public in the more politically powerful urban areas of California, Oregon, and Washington who were by now sympathetic to protecting endangered species habitat and reducing the level of logging taking place.

The controversy between those supporting clearcutting and intensive timber management and those calling for the end of clearcutting and a significant reduction in logging on federal lands had reached a flashpoint. Federal, state, and local politicians entered the fray using fiery rhetoric to further to inflame the situation. Over the next several years, fringe groups and individuals on both sides of the "timber wars" committed numerous acts of vandalism some causing injury and death threats were made against Forest Service officials--including both Chief Robertson and Jack Ward Thomas who were provided with Forest Service Law Enforcement protection. BLM officials believed that their intransigence in circumventing provisions of the Endangered Species Act would lead to legislation by

Congress that would result in a reduction of "cumbersome government regulations" that were seen as keeping the Agency from meeting timber targets. That hope and belief was supported by some members of Congress and many state and local politicians who were often funded by their powerful allies in the timber industry who also helped to organize and fund the political activities of the various Sagebrush Rebellion organizations. As a result of efforts by the BLM to move forward with logging old growth forests, despite the environmental impacts to spotted owl habitat, the controversy over continued clearcutting, excessive timber harvesting, and the failure to list the owl as endangered became campaign issues in the 1992 Presidential election. Although some of the BLM timber sales were sold despite their negative environmental impacts to spotted owl habitat, as a result of a change in administrations and administrative appeals most of these timber sales were never logged.

Presidential candidate Bill Clinton promised during his campaign that should he be elected he would personally become involved in seeking a solution to the spotted owl versus old-growth logging issue and the related environmental controversies on what were known by then as the "owl forests"; the old growth Douglas fir forests of the Pacific northwest including Six Rivers National Forest. President Clinton fulfilled his campaign promise in April of 1993. Along with Vice President Al Gore and several cabinet members, the President heard testimony from members of the "Thomas Commission" spotted owl task force, timber workers, environmentalists, and representatives from local communities. Pointedly, Forest Service and BLM officials who managed the areas being discussed were not asked to speak. As a result of the "Spotted Owl Summit," as the meetings were referred to by the press, wildlife biologist Jack Ward Thomas was appointed to organize a Forest Ecosystem Management Assessment Team (FEMAT). This group was directed by the President to create an ecologically viable plan to manage National Forests and BLM lands in the Pacific Northwest containing spotted owl habitat.

The FEMAT Plan was released and signed by President Clinton in 1994. The Final Environmental Impact Statement (FEIS) set forth an ecologically viable management plan for timber harvesting on spotted owl forests based on ecosystem management principles. The new policies were set forth in the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl* known as the "ROD." This document signed by both the Secretary of the Interior and the Secretary of Agriculture became the official policy for the management of federal lands in the northwest. The document stated:

In this Record of Decision, we, the Secretary of Agriculture and the Secretary of the Interior, jointly amend the planning documents of nineteen National Forests [including Six Rivers] and seven Bureau of Land Management Districts. This represents the first time that two of the largest federal land management agencies, the Bureau of Land Management and the Forest Service, have developed and adopted a common management approach to the lands they administer throughout an entire ecological region.

The management direction consists of extensive standards and guidelines, including land allocations, that comprise a comprehensive ecosystem management strategy....The conservation measures included in this strategy are based upon the best available science and attempt to anticipate and forestall future environmental problems, avoiding the severe economic dislocation and legal gridlock that occur when environmental problems are ignored (ROD April 13, 1994).

The courts rejected challenges to the FEMAT FEIS by both environmental organizations and the timber industry. For the first time the BLM, Forest Service, Fish and Wildlife Service, the EPA, and other federal agencies agreed to coordinate and create a common management approach to an entire ecological region with a "comprehensive management strategy that included protection measures, restoration activities, and commercial timber harvest" (Lewis 2006:220). Although the debate on clearcutting continued and some politicians and logging interests continued to pressure the Forest Service to cut more timber, the adoption of policies set forth in the ROD for the management of National Forests in the northwest essentially marked the end of the era when timber harvesting reigned supreme. After 1993, the annual volume of timber produced by the National Forests of Oregon and Washington was reduced by about eighty percent from its mid-1980s levels.

Ecosystem Management Comes to Six Rivers National Forest

By the early 1990s, as was the case in Forest Service Region Six--Oregon and Washington, the annual timber harvest volume coming from the National Forests of California (Pacific Southwest Region Five) had declined by two-thirds from mid 1980s levels as a result of the spotted owl controversy, court cases ruling against some timber sales due to environmental problems, and Agency direction to implement ecosystem management policies. It was apparent by this time to most Forest Service employees and Agency officials that the level of logging and clearcutting taking place was resulting in the rapid disappearance of old growth Douglas fir forests throughout the northwest endangering numerous old-growth depended species of animals and plants. The spotted owl issue was merely the tip of the iceberg and it was clear that other wildlife species including the marbled murrelet could be listed at any time as endangered under provisions of the Endangered Species Act. In effect, the spotted owl was an "indicator species" the equivalent of a parakeet in a coal mine. As Joseph Harn, Supervisor of Six Rivers National Forest at that time later said--the real issue was not the spotted owl--the real issue was the destruction of old growth forests (Godfrey 2005: 515).

Six Rivers as an "owl forest" did not escape the controversy and bitter conflict that swirled around the National Forests and their land management practices during the late 1980s and early 1990s. Given the same set of realities facing the Agency nationwide, declining budgets, a greatly reduced workforce, an increasingly powerful environmental movement, and, in addition, facing limits on the cutting of old growth Douglas fir as a result of the

spotted owl issue, it was simply impossible for Six Rivers to continue to produce the volume of timber that it had in the past. As a result, the amount of timber being cut and sold declined precipitously. In 1989, the Six Rivers sold 105.2 million board feet of timber; that figure fell to 11.1 million board feet by 1992 and to 3.5 million board feet in 1993.

Despite these on-the-ground realities, Six Rivers continued to be roundly criticized for its failure to produce high volumes of timber by business interests, communities, and individuals dependent on the timber industry, members of the Sagebrush Rebellion coalition, and politicians who represented predominately-rural timber-dependent communities in the northwest.

Both Congressman Riggs and Congressman Herger continued to pressure Six Rivers management to produce more timber. The confrontation between logging interests and Six Rivers National Forest over its newly adopted ecosystem management policy reached its climax 1995. Congressman Riggs, who was a major recipient of campaign contributions from logging interests in Humboldt County, angered with the inability of Six Rivers to produce an adequate volume of timber to meet congressionally mandated targets introduced legislation--the Northwest California Recovery Act (H.R. 2712)--to designate Six Rivers National Forest a "Pilot Forest."

The bill had a number of provisions intended to circumvent current Forest Service policies and federal laws and regulations in order to produce more logs for the mills of Humboldt and Del Norte Counties. Congressman Riggs also proposed to reduce by fifty percent the funds appropriated in the Six Rivers annual budget. His proposal called for abolishing about fifty percent of the positions on Six Rivers and shifting those funds to a "demonstration program" contracting out jobs in forestry, biology, cultural resource management etc. to private consulting firms. In effect, the bill proposed to fire half of the Six Rivers workforce and turn the management of the Six Rivers National Forest over to private industry.

The proposed bill only added fuel to an already combustible situation. There was a strong response in support of Riggs' proposal from timber dependent constituencies and a furious blowback from environmental groups and even Forest Service employees who took the proposed abolishment of their jobs as a personal affront. I was president of the National Federation of Federal Employees union on Six Rivers at that time and the union represented all non-management employees. I issued a press release that harshly criticized the proposed legislation. The Eureka newspaper, the *Times-Standard* carried my response as its front-page headline in its January 11, 1996 edition. The press release roundly criticized a number of issues related to the proposed legislation and ended with the following statement pointing out why the legislation was really proposed:

The bill is clearly intended to punish Six Rivers National Forest for not "getting the cut out." That is, not producing what Congressman Riggs considers a sufficient amount of timber for the mills of Humboldt County. The fact is many of the employees on the Forest have worked on numerous timber sales during our careers. I personally have worked on

sales producing millions of board feet of timber. The real reason that Six Rivers has not been able to produce very much timber recently is due to court rulings--for example, the rulings on the spotted owl and marble murrelet--that prohibit logging on much of Six Rivers. I am not sure if Congressman Riggs believes that we should have simply ignored the law and produced timber or what. But I do know one thing, poorly coordinated resource work from a number of private contractors who are not used to complying with numerous federal laws and regulations will quite likely result in court rulings that will actually hamper resource work and quite possibly actually reduce the amount of timber harvested (Press Release January 9, 1996).

Although the controversy raged locally, in reality the proposed bill was a cynical political act. The high bill number (H.R. 2712) attached to the legislation making scheduling of a vote unlikely, lack of cosponsors, and no Clinton Administration support meant that there was no chance of passage. Although Riggs' proposal in the waning days of the timber wars further fueled the already heated debate in Humboldt and Del Norte Counties, by that time with a new more environmentally friendly administration in Washington--including the appointment by President Clinton of wildlife biologist Jack Ward Thomas as Forest Service Chief, the first Chief who was not a forester or engineer--the debate among the American people about the future direction and management of National Forests was over and the public had moved on.

By 1998, the controversy had even cooled in northwest California. Times had changed and over the last several decades as a result of the "back to the land movement" there had been a slow but steady influx of new residents into Humboldt County who were more likely to support environmental causes than support logging. In addition, the local economy was beginning to diversify and this meant the timber was no longer the economic force in Humboldt and Del Norte Counties that it had been for the past 150 years. With the defeat of Congressman Riggs in the 1998 election, the timber wars that had already ended elsewhere came to a sputtering end on Six Rivers National Forest. Today, the annual volume of timber produced by Six Rivers National Forest has been reduced by over 90% from the levels of the peak timber production years of the mid-1980s.

In 1995, while the controversy over levels of timber harvesting was winding down in northern California, the final ten year Forest Land Management Plan (FLMP) for Six Rivers National Forest was released. Because of legal and administrative problems related to the proposed levels of timber harvesting in the early drafts of their respective Forest Plans, the "spotted owl forests" of Northwest California--the Six Rivers, Klamath, Shasta-Trinity, and Mendocino National Forests were the last to finalize and publish their Management Plans in California. The "ten year Plan" on Six Rivers took nearly two decades to put together. As noted earlier, the first Draft FLMP for Six Rivers was released in 1986. Reflective of the emphasis on timber production the "Preferred Alternative" in the plan called for an annual sustained yield cut of about 193 million board feet per year (SRNF Draft LMP: 1986: 2-77) and classified 453,550 acres of the Six Rivers as "regulated for harvest" meaning that

approximately fifty percent of the land base was open to timber harvesting activities (SRNF Draft LMP 1986: S-26).

The Six Rivers' Draft Plan was not well received by the public. Those on the "timber production" side of the issue believed that the yearly timber cut should be even higher-- the "pro-logging" coalition We Care called for an annual cut of 225 million board feet while environmental groups protested the high levels of timber production proposed in the Plan. After the Six Rivers Draft Forest Plan was first issued early in 1986, as noted earlier, the Regional Office in San Francisco learned that the Agency had overestimated by one-third the amount of standing timber on National Forests lands in California. As a result, of this over estimate, the Six Rivers Plan essentially had to be rewritten.

Amid the controversies that surrounded nearly every move related to the timber issue it took nearly another decade before the Six Rivers Final Forest Land Management Plan was published in 1995. When the Final Plan was published, it called for an annual cut of about 15 million board feet of timber a reduction of over ninety percent from the 1986 Draft Plan and the amount of National Forest lands suitable for timber harvesting had been reduced by nearly eighty percent to 87,000 acres. Henceforth, timber harvesting activities were to be prohibited on approximately 92 percent of the Six Rivers' land base, and special management areas protected from timber harvesting activities "such as Wilderness, Research Natural Areas, Riparian Reserves, Special Habitat Areas and Special Interest Areas would still remain essentially unchanged except for the effects of catastrophic events to the landscape caused by fire, flood, insects, or disease, and the process of natural succession" (SRNF LMP 1995: 4:7).

Adoption of the Six Rivers Forest Land Management Plan as mandated by the National Forest Management Act essentially ended the debate over the amount of timber harvesting that could take place in the future and established ecosystem management as the underlying paradigm for the future management of the natural and cultural resources found on Six Rivers National Forest.

Pilot Ridge and the Rest of the Story

If we were to stop chronicling the history of Pilot Ridge Country in 1986 after the last archaeological report had been published and the last section of road constructed, the future prognosis for the region from an environmental perspective would have been rather bleak. At that time, annual timber production on Six Rivers was reaching its historical peak and the newly paved haul route had just opened much of Pilot Ridge country to future timber harvesting operations. In addition to logging the Pilot Ridge Timber Sale that was associated with the road construction project, some timber was cut in the Hazen Ridge area (Hazen Timber Sale) and on the west and north facing slopes of Whiting Ridge and Last Chance Ridge in the Grouse Creek watershed (Deadman Timber Sale) and a number of haul

roads were constructed (for example roads 4N18, 4N20, 3N16, and 3N20A). However, the level of intensive logging and clearcutting envisioned for the area at the time of the Pilot Ridge excavations and construction of Forest Highway 1 never took place. Instead, by 1992 as a result of a number of factors including the presence of the endangered spotted owl in the old growth forests of Pilot Ridge Country, including fourteen pairs of spotted owls identified within the Pilot Creek watershed (PCWA 1995:6), and with the newly implemented Forest Service ecosystem management policy in place, Six Rivers imposed a complete halt to logging within the entire Pilot Creek watershed.

With a freeze on logging because of the spotted owl issue and under the direction set forth by the Thomas Commission in the Record of Decision (ROD) each of the nineteen National Forests designated in the legally binding document were to undertake an in-depth scientific analysis of the ecosystem of every major watershed within its boundaries. The Pilot Creek watershed was selected by the working group to be the subject of the first Watershed Analysis (WA) to be carried out. The Pilot Creek Watershed Analysis (PCWA) report states in its introduction why the Pilot Creek watershed was chosen the first watershed to be studied:

Pilot Creek was selected as a "pilot" watershed for a reason beyond its name. The watershed is an important one for both socio-economic reasons and ecological reasons, and notably it is rich in existing data (PCWA 1994:2).

The newly implemented ecosystem management policy is encapsulated in the direction provided to the Pilot Creek Watershed Assessment Team by the ROD and the Thomas task force that guided the team's interdisciplinary approach to analyzing and synthesizing the scientific, socio-economic, and cultural data for the Pilot Creek watershed.

The ROD strategy is intended to balance ecosystem and social needs....The relative importance of different ecosystem components, of landscape processes, and of competing social needs varies from place to place. These differences mean that reserve designs and standards and guidelines must reflect the peculiarities of each location. Watershed analysis is intended to identify conflicting values and expectations and describe the social, biological, and physical processes and interactions that are important in an area, viewed at the scale of a watershed...This information can then be used to help plan future land-use activities that are appropriate for the area. This approach is different from earlier ones in an important way. In the past, a project was proposed and the ensuing analysis focused on evaluating the suitability of that project. Now, analysis will be the first step. Watershed analysis is intended to provide the broad ecosystem and community context and watershed-scale information needed to design suitable projects (PCWA 1994: 1).

The "Pilot Creek WA Team," as it was known, first met in early 1994. I was a member of the team and we were directed to assemble what might be termed a diachronic overview of the watershed--including a contextual summary of the historical environmental conditions,

prehistory and history of the area, the effects of past land-use activities on the ecosystem-- and to summarize current knowledge and relevant data related to each resource located within the watershed. The process as set forth by the ROD was intended to be open-ended-- a watershed analysis is never "complete." Rather, each watershed analysis as the Pilot Creek Watershed Analysis Report made clear "is to be considered a starting point and that the document will be an open file to be updated and changed as new data become available or when new questions arise" (PCWA 1994: 2).

The Pilot Creek WA team consisted of twenty-two resource specialists and social scientists working together in an interdisciplinary process to integrate the various environmental, cultural resources, and socio-economic data into a cogent and informative analysis and overview of the watershed from an ecological and environmental perspective, as well as provide a review of historic and prehistoric human land-use activities and the effects these past land-use activities had to the ecosystem and landscape.

The Pilot Creek WA Team concluded that the opportunity for specialists for the first time to work together and collectively share their knowledge in studying the ecological processes taking place within the watershed produced some unexpected but important insights related to ecosystem management. The report states that the team:

...started with very little idea of how to incorporated socio-economic information into the analysis. As the analysis progressed, however, we found that the socio-economic "story" was essential for understanding the biological and physical changes that have occurred in the area. In addition, critical information about past environmental conditions was revealed through interviews with long-time residents of the area. The socio-economic information turned out to be so important that it was selected as the central theme of the analysis. The human history of the watershed became the framework for interpreting the past, present, and future environmental changes (Manely 1994: 3).

Following publication of the Pilot Creek Watershed Analysis, in 1996 Six Rivers published the Final Pilot Creek Environmental Impact Statement. The document analyzed a number of possible future management alternatives. Alternative "D" emphasizing water quality was chosen as the preferred alternative. The objectives under alternative "D" for the future management of lands within the Pilot Creek watershed as set forth in the Pilot Creek EIS (1995 I-5) include:

1. Maintain existing late-seral conifer stands. [i.e. no cutting of old growth trees]
2. Accelerate the development of late seral characteristics within conifer stands.
 - * Thin early and mid-mature conifer stands to accelerate the development of late seral characteristics
 - * Plant currently understocked lands acquired in land exchange
 - * Thin and release young plantations

3. Restore currently degraded conditions, which pose risks to riparian and aquatic systems
 - * Decommission roads
 - * Plant riparian areas
 - * restore failing log landings

4. Maintain or enhance oak-woodland habitat
 - * Remove conifers from oak woodland
 - * Remove conifers from Tracy's *sanicle* sites [an endangered plant species]

5. Reduce the risk of catastrophic loss due to wildfire
 - * Construct fuel breaks
 - * Reduced accumulated fuels by burning
 - * Develop water sources and helispots to aid in fire suppression

6. Contribute to the short-term demand for timber and socio-economic well-being of the local community
 - * Vegetation treatment within the early and mid-mature conifer stands, and constructing fuel breaks and helispots would yield merchantable timber volume and receipts to the local counties
 - * All proposed projects would create employment opportunities

Today, as a result of the current direction set forth in both the Six Rivers Forest Land Management Plan and the Pilot Creek FEIS to improve water quality and wildlife habitat and to undertake projects in order to rehabilitate areas that have suffered from destructive land use activities over the last century and a half, it is unlikely, at least for the foreseeable future, that there will be any new road construction or the logging of old growth trees within the Pilot Creek watershed.

References Cited

For more information see:

Keter

1994c An Environmental and Cultural History of the Pilot Creek Watershed. Six Rivers National Forest Pilot Creek Watershed Assessment.

PDF at: www.SolarArch.org

1998a A Look Back: 25 Years of Cultural Resources Management on Six Rivers National Forest. Paper presented to the Society for California Archaeology, San Diego, CA.

PDF at: www.SolarArch.org

2015 The Peoples Forests: The Progressive Movement and the Creation of America's National Forest System.

PDF at: www.SolarArch.org

Carson, Rachael

1962 Silent Spring. Houghton Mifflan. Boston

Conners, Pamela A.

1997 A History of the Six Rivers National Forest...Commemorating the First 50 Years.

Gmoser, Glenn and Thomas S. Keter

1983 Pilot Ridge Historical and Archaeological National Register District. Document on file Six Rivers National Forest, Eureka, Ca (nomination updated in 1985)

Godfrey, Anthony

2005 The Ever Changing View: A History of National Forests in California 1891-1987. USDA Forest Service, Publication R5-FR-004, Pacific Southwest Region.

Hildebrandt William R. and John F. Hayes

1983 Archaeological Investigations on Pilot Ridge, Six Rivers National Forest. On File Six Rivers National Forest, Eureka.

Keter, Thomas S.

1995 Environmental History and Cultural Ecology of the North Fork of the Eel River Basin, California. USDA Forest Service Pacific Southwest Region. Publication R5-EM-TP-002.

Lewis, James G.

2006 The Forest Service and the Greatest Good A Centennial History. Forest History Society. Durham North Carolina.

Manley, Patricia et all

1995 Sustaining Ecosystems a Conceptual Framework. USDA Pacific Southwest Region. Publication R5-EM-TP-001.

Moore, Dina J.

1999 Yeager/Van Duzen Historical Narratives. MS prepared for the EPA. MS. in author's possession.

Schrepfer, Susan R.

1983 Fight to Save the Redwoods: A History of Environmental Reform. MS. in author's possession.

Six Rivers National Forest (SRNF)

1994 Pilot Ridge Watershed Analysis. On file Six Rivers National Forest, Eureka, Ca.

Six Rivers National Forest (SRNF)

1995 Pilot Creek Final Environmental Impact Statement (EIS). On file Six Rivers National Forest, Eureka.

Stanton, Kathleen and Susie Van Kirk

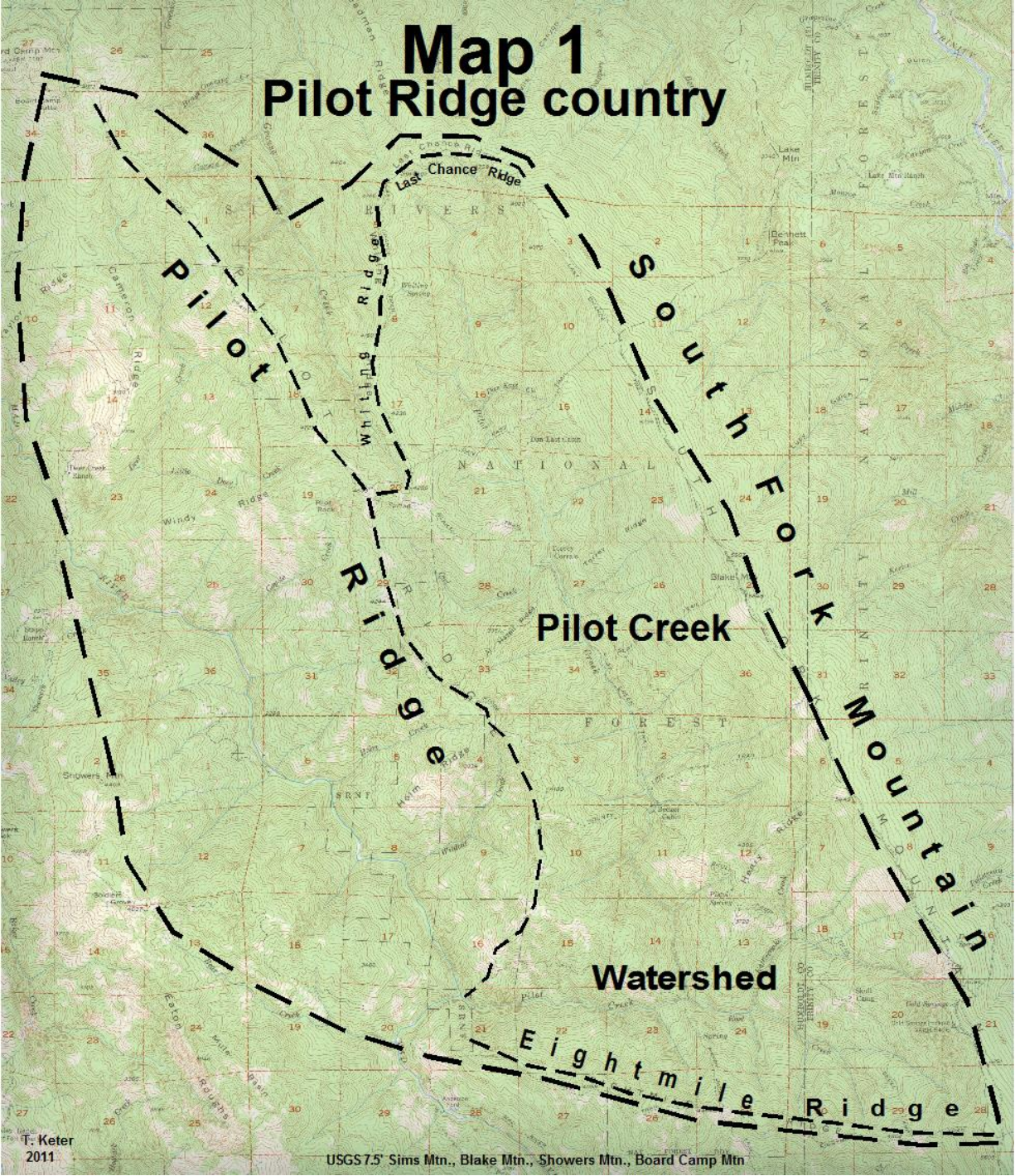
2000 Timber and Forests: Postwar to Present 1946-1999: A Humboldt County Local Legacy. M.S. Prepared for Congressman Mike Thompson and The Library of Congress. Ms. in author's possession.

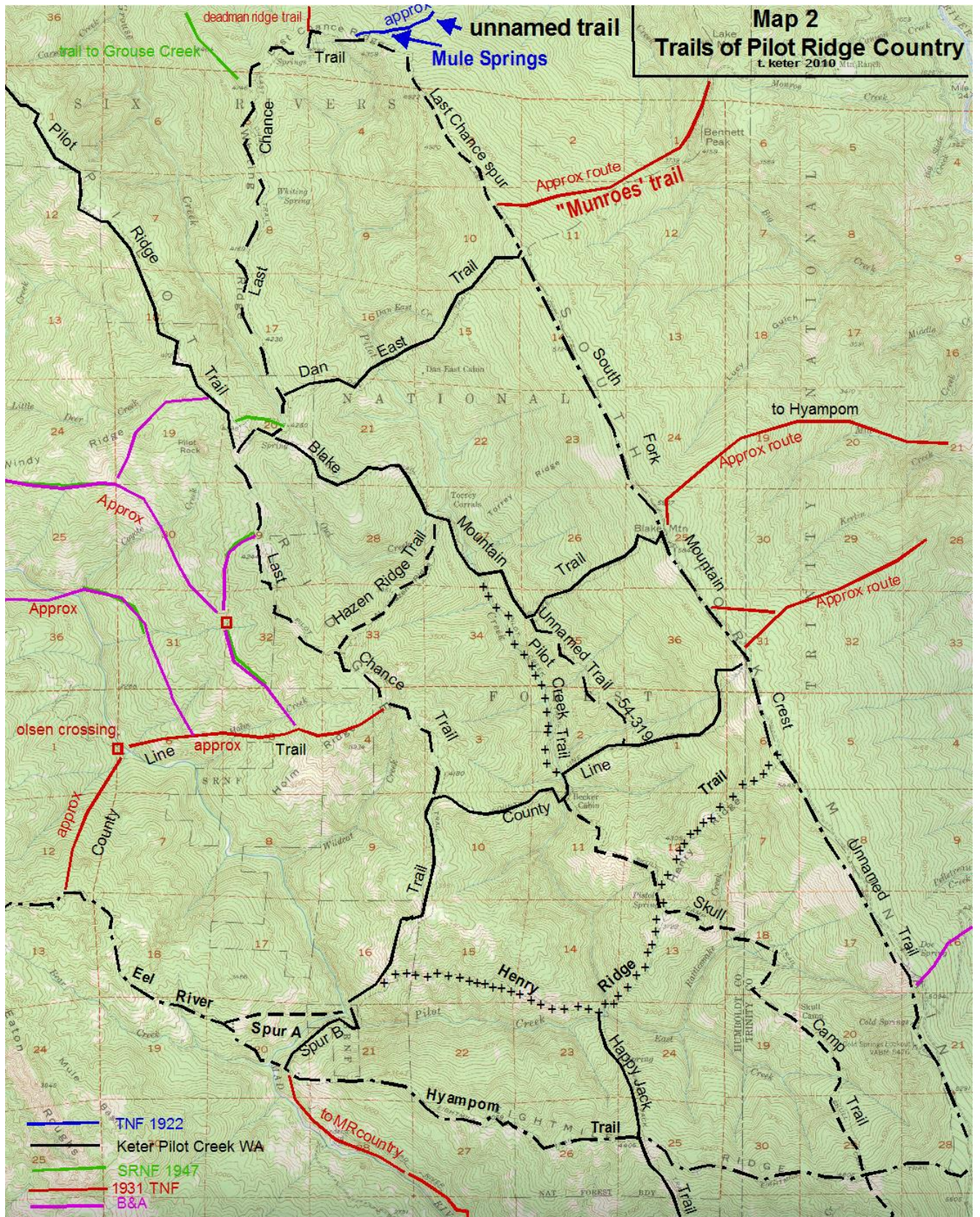
Personal Communication

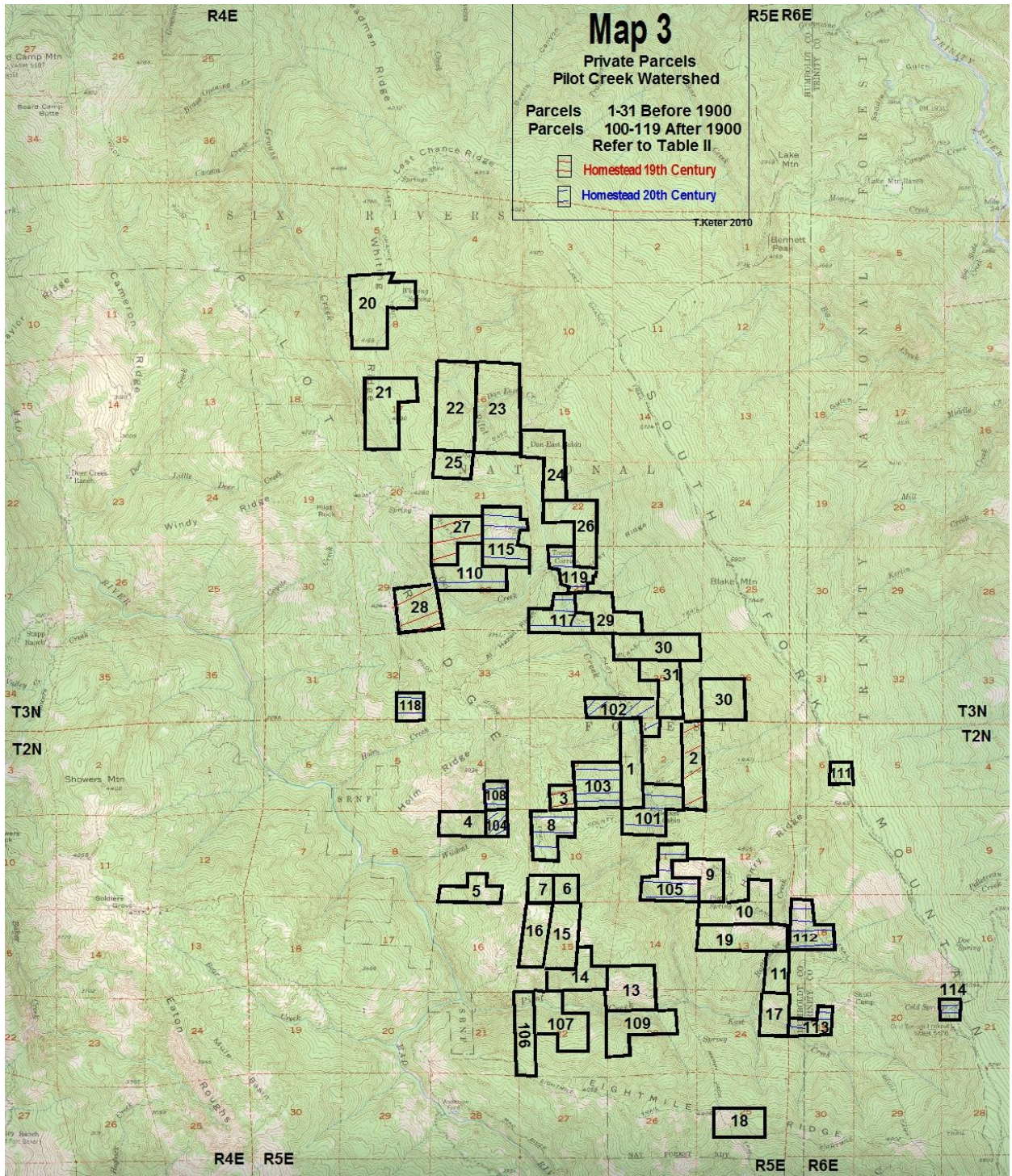
TM Tony Montana, Personnel Officer, Six Rivers National Forest

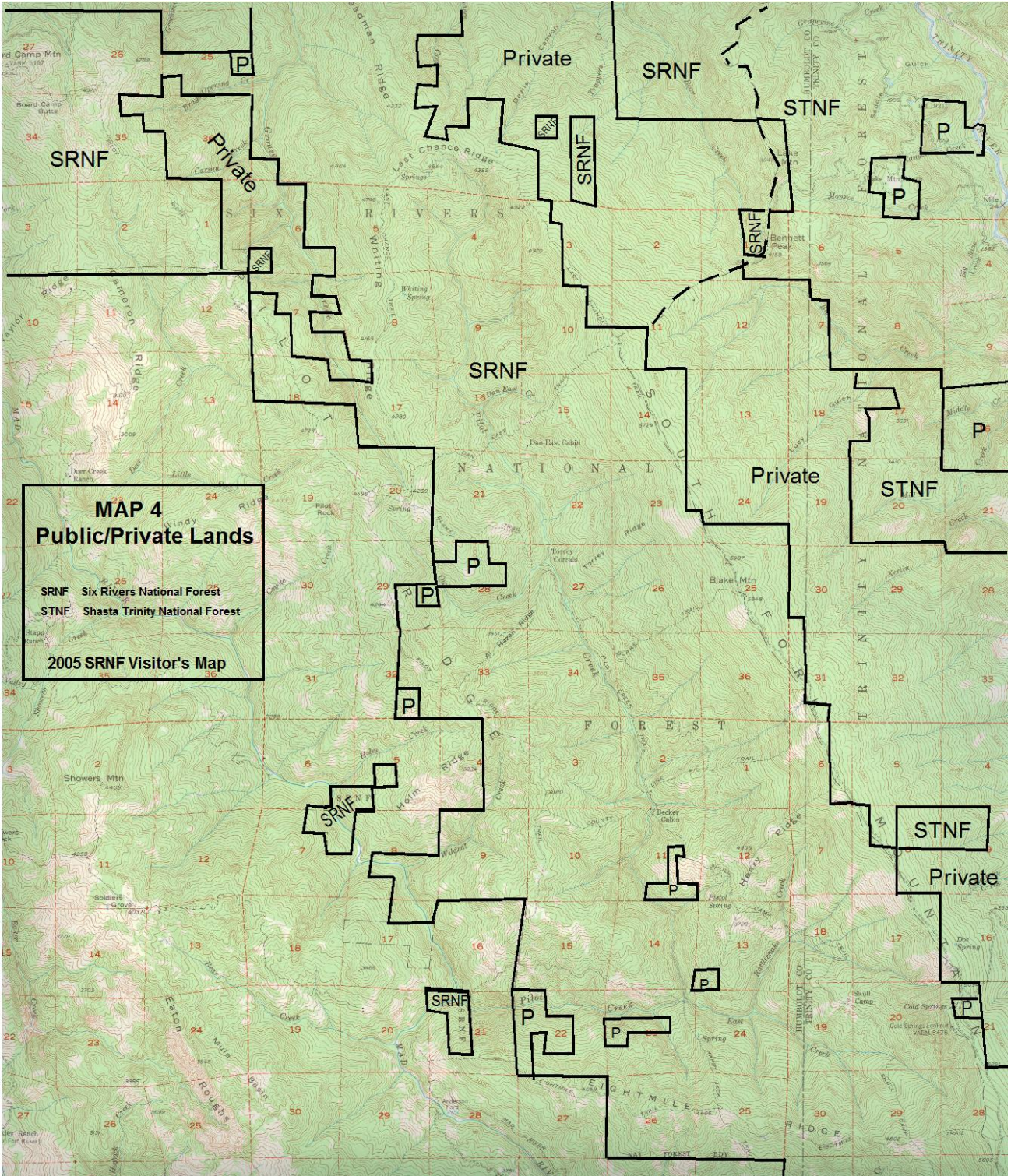
Interviews

PCWA I#1, PCWA I#2 Pilot Creek Watershed Analysis interviews. On file Six Rivers National Forest, Eureka.



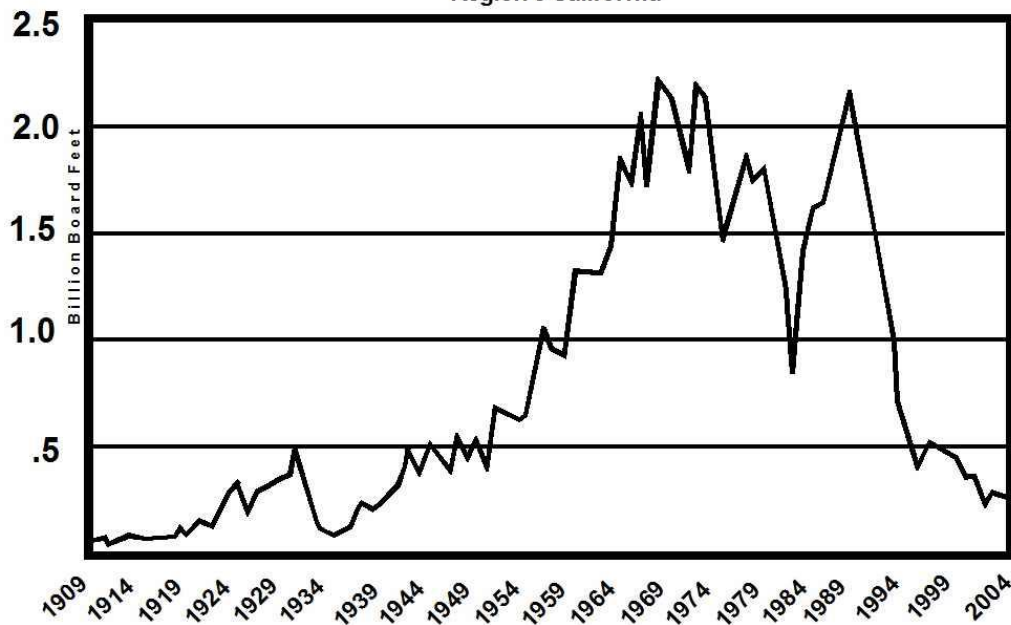






Graph 1

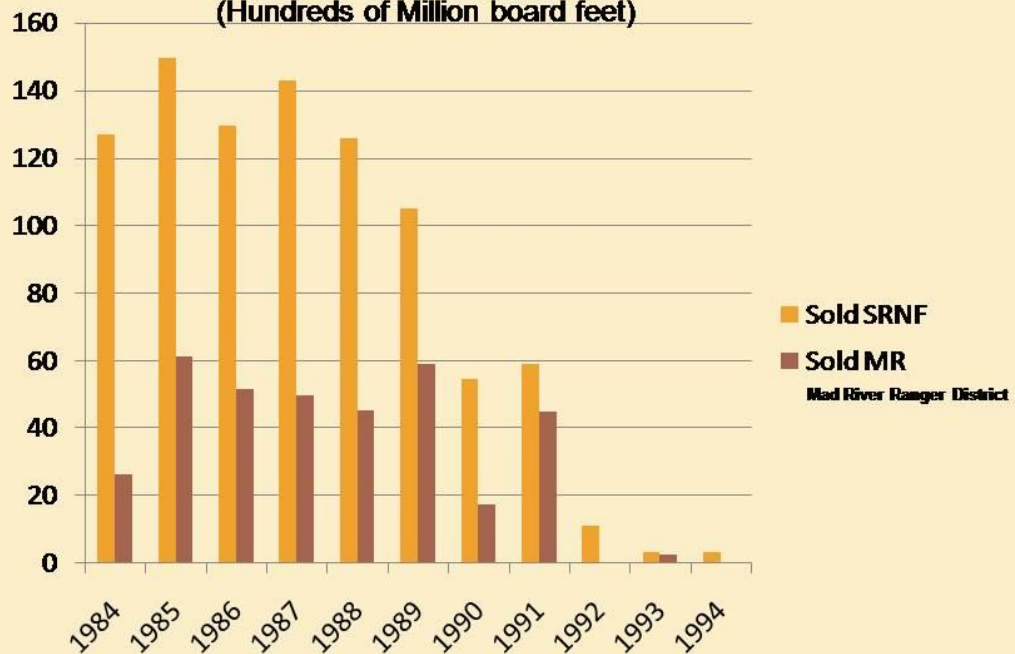
Annual Timber Volume Produced
Region 5 California



Heady 2005:493

Graph 2

Six Rivers National Forest
Timber Cut and Sold
(Hundreds of Million board feet)



Six Rivers National Forest FEIS Pilot Creek 1996

Table 1A

Pre-1900

Private Lands Acquired Within the Pilot Creek Watershed

Refer to Map 3 Private Parcels Pilot Creek Watershed

#	Name	Year Entry	Year Pat.	Entry Type	Total Acres	Acres Outside PCW	Pat. #	Comments
1	John A Russell	1877	1878	Cash	161			
2	Adamson J. Kenny	1884	1888	H.P.	161			
3	Louis Hansen	1875	1882	H.P.	40			near mud spring
4	Jacob Fredrickson	1875	1882	H.P.		80		over the ridge to west
5	Nils Nissen Peterson	1879	1882	Cash		160		Pistol Spring over the ridge to west
6	Sidney Edgar	1875	1876	Cash	40			probably include Edgar Spring in original survey
7	John McCaffrey	1875	1876	H.P.	40			see above - edgar Spring near line
8	Louis Hansen	1875	1882	H.P.	100	20		20 acres to west of ridge *mud spring*
9	John Henry	1876	1881	Cash	160			
10	Peter Knudson	1882	1882	Cash	160			
11	Charles B. Finch	1879	1880	Cash	80			
12	Isaac Andrews	1879	1880	Cash	160			
13	Samuel W. Allen	1879	1880	Cash	160			
14	William Ferrilough	1875	1875	Cash	160			
15	Sidney Edgar	1875	1876	Cash	120			(see also #6)
16	John McCaffrey	1875	1876	Cash	120			(see also #7)
17	Charles B. Finch	1879	1880	Cash	80			
18	Christian Jensen	1887	1878	Cash	10			note entry & pat dates conflic 160-10 acres in Pilot
19	John Henry	1876	1877	Cash	160			dates do not match see also #9
20	James Whiting	1888	1891	T.P.	60	100		Whiting Spring (resurvey on F.S. land adj to private)
21	John E. Hoskins	1886	1890	Cash	80	80	1540	portion in Grouse Creek Watershed
22	James H. Wilson	1886	1906	S.P.	320			school section unclear why private name
23	Thomas L. Thompson	1889	1910	S.P.	320			school section unclear why private name
24	Heirs of John R. Bonham	1886	1890	T.P.	160		6904	
25	Moses Howell	1885	1888	H.P.	80		2524	
26	Samuel B. Shaw	1887	1890	Cash	160		7013	
27	John E. Hoskins	1887	1890	H.P.	120		2643	(see 21)
28	Abram Gable	1874	1875	H.P.	40		2942	
29	August Peterson	1887	1890	Cash	160		7283	
30	Robert Taylor	1877	1878	Cash	320			3660 (multiple of 160 acres)
31	Thomas Sibley	1886	1890	Cash	160		6973	

Entry Type	
H.P.	Homestead Patent
T.P.	Timber and Stone Act
Cash	Cash entry

Source: USFS SRNF Land Records

Table 1B

Post-1900

Private Land Acquired Within the Pilot Creek Watershed

Refer to Map 3 Private Parcels Pilot Creek Watershed

#	Name	Year Entry	Year Pat.	Entry Type	Total Acres	Acres Outside PCW	Pat. #	Comments
101	Fred Becker	1901	1908	H.P.	160			
102	Frank A. Bailey	1902	1910	H.P. Cash	160		720 4707	2 separate parcels 20 acres Cash 40 H.P.
103	George M. Bryant	1902	1902	H.P.	160			Bryant Ridge
104	Carl E. Cameron	1916	-	H.P.		80		relinquished located just to w. of Pilot Ridge
105	Zella R. Shepherd	1920 1914 1916	1923	H.P.	160			2 parcels
106	Jessie Wheatley	1907	1909	T.P.	160			Timber & Stone
107	Lulu E. McElroy	1907	1902	T.P.	160			
108	Oscar Stapp	1918	1923	H.P.	80			(Cameron abandoned)
109	Joseph Pratt	1907	1908	Cash	160			
110	G. T. Pullen		1912		160			Now 110 OK by Severance
111	A. H. Jones		1904 1943	S	15	40		school admin parcel
112	John B. Murray	1912	1917	H.P.	147			acreage does not match
113	Ross R. Robertson	1914	1918	H.P.	95			
114	Robert F. Elkins	1901	1911	H.P.	40			Cold Springs still has structures
115	Wm. E. Severance	1912	1918	H.P.	140		1747	"Severin" opening
116	Vaugh W. Smith	1918	1924	H.P.	140		3447	spring on parcel listed in homestead records applied for by G. T. Pullen in 1912
117	Alfred Hazen	1902	1910	H.P.	160		4704	Hazen ridge
118	Benjamin Beckman	1904	1908	H.P.		40		extends to the west over the ridge
119	David A. Blake	1914	1915	H.P.	62			

Entry Type	
H.P.	Homestead Patent
T.P.	Timber and Stone Act
Cash	Cash entry

Source: USFS SRNF Land Records