



“Managed Harvest For Healthy Forests”

1996
OFFICIAL PROCEEDINGS

February 22, 23 & 24

OREGON LOGGING CONFERENCE

P.O. Box 10669 Eugene, OR 97440

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fully rot away, resulting in lost government income from potential sales and economic help for local communities; and

Whereas the lack of a consistent, responsible salvage logging program on federal lands puts at risk from disease, insects, and fire, the intermingled resources of adjacent private land owners.

Be it resolved by the Oregon Logging Conference:

That the Congress of the United States pass long-term forest health legislation to help ensure prompt salvage of timber to clean up dead and dying trees and to halt the spread of insects and disease to adjacent healthy forests.

I present that to you as a consideration. Do I have a second? (second) It has been seconded. Do I have any discussion? All in favor signify with an aye. (aye) Opposed? Motion carried. That will be mailed out with a cover letter.

Resolution #4, in summary, urges Congress to amend and make needed changes in the Endangered Species Act.

We, the Oregon Logging Conference, respectfully represent and request action as follows:

Whereas the Endangered Species Act has caused far-reaching adverse social and economic impacts in Oregon and the Northwest and is being applied far beyond the original intent of the law; and

Whereas federal government policies concerning the Endangered Species Act have resulted in thousands of layoffs among loggers, mill workers and other industry related jobs; and

Whereas there is a lack of set standards for defining the "best scientific and commercial evidence available" which is used as the sole research source in determining a species listing; and

Whereas the listing process is not subject to peer review; and

Whereas the U.S. Fish and Wildlife Service has wide latitude in designating critical habitat and has caused lands to be set aside which are neither occupied nor suitable for the listed species.

Be it resolved by the Oregon Logging Conference:

That the Congress of the United States amend the Endangered Species Act to factor in human, social, and economic considerations.

I present that for your consideration. Do I have a second? (second) Any discussion? All in favor signify with an aye. (aye) Opposed? We will mail that out with a cover letter.

Resolution #5, in summary, urges Congress, the Governor of Oregon and the land management agencies to adopt the new Oregon Stream Rules as sufficient protection for salmon recovery. As you know this is in concert with an effort by the Governor of the State to have that recognized and not to have the salmon listed.

We the Oregon Logging Conference respectfully represent and request action as follows:

Whereas the Oregon legislature has adopted landmark and significant changes in the Oregon Forest Practices Act to provide higher levels of protection for forest rivers, streams, and fish; and

Whereas the new stream rules are the culmination of several years of work involving private forest landowners, the Oregon Department of Fish and Wildlife, the Oregon Department of Forestry, and other interested parties; and

Whereas these rules are based on the best science currently available and reflect a spirit of mutual commitment that is rare in partnerships involving government and private interests; and

Whereas there are a wide diversity of interests and many causes for salmon decline, including hydroelectric development, ocean and marine environment, urban expansion, agricultural practices, commercial/sport/tribal fishing groups, hatchery management practices, and other factors.

Be it resolved by the Oregon Logging Conference:

That any legislative action or administrative effort reflect the new Oregon Stream Rules are deemed sufficient for providing adequate protection for the salmon.

I present that for your consideration. Do I have a second? (second) Any discussion? All in favor signify with an aye. (aye) Opposed? We will forward that along with a cover letter that represents this conference and its people concerning these issues. Thank you very much.

Vice President Hap Huffman: Thank you Rod. That is a lot of hard work and a lot of hours. I wish there would have been more people in here to hear some of that.

Next Frank Lyon is going to present the directors nominating agenda. Frank is a native Oregonian. He lives in Bend. He has worked for Menasha Corp. since 1962 and serves as their timber manager at this time. Frank is also a past president of the Oregon Logging Conference and is always involved in many community and industry issues. Frank, if you would please.

DIRECTORS' NOMINATING REPORT

Frank Lyon: There are twelve districts represented by the board of directors of the Oregon Logging Conference. Eleven of these districts encompass the entire State of Oregon, and there is one district in southwest Washington. Basically there are three directors in each district. That means that each year approximately one-third of these are presented to you for a three year term. These nominees have been approved by the board of directors and I present them to you today as follows: District 1 is Slim Schragger, logging and forestry consultant from Warrenton, Oregon; District 2 is Gene Gross, Gross and Sons, Inc. from McMinneville, Oregon; District 3 is Ray Arnold, Weyerhaeuser Co. from North Bend, Oregon; District 4 is Andy Hueberger, Freres Lumber Co. from Lyons, Oregon; in District 5 we have two directors to replace, Tom Hiron, Mad Creek Logging from Gates, Oregon term will be 1998 and Harry Kelley, Willamette Industries from Lebanon, Oregon term will be 1999; District 6 will be Dale Moffet, Moffet Logging Company from Junction City, Oregon; District 7 Pete Quast, Roseburg Forest Products from Roseburg, Oregon; District 8 Blair Moody, Stone Forest Inc. from White City, Oregon; District 9 we have two, Ron Gillen, Gillen Logging from Prineville, Oregon, term 1999, and Chuck Roady, Crown Pacific from Bend, Oregon, term 1997; District 10 Gary Briggs, D-9 Construction from Providence, Utah term 1999 and also Dean Griffith, BTO Logging from Pilot Rock, Oregon, term 1999; District 11 is Richard Lawson, Lawson Logging from New Pine Creek, Oregon, term 1999 and Bill Putnam, Cascade Corporation from Klamath Falls, Oregon, term 1999 and also Mike Rice, Roseburg Forest Products from Weed, California, term 1998; District 12 Pat Brennan, Weyerhaeuser Company from Longview, Washington, term 1999 and Arnold Albrecht, Albrecht Logging from Kalama, Washington, term 1999. Mr. President this is our slate of director nominees to be voted upon this morning. I move that a unanimous ballot be cast in their favor. Do we have a second? (second) We have a second. All those in favor say aye. (aye) We have a new slate of directors.

Vice President Hap Huffman: Thank you Frank. Next we are going to have the panel, probably one of the more important panels that we are going to be having here today. It explains our theme. Mack Brown is moderator of that panel. Mack graduated from Oregon State University in 1965 with a degree in forest management. He worked for Crown Zellerbach in various forestry and logging activities until they made him a chip buyer in 1973. He is still contemplating that move! He went to work for Southcoast Lumber in Brookings in 1980 as a timber manager. Since 1993 he went to work for Roseburg Forest Products managing their wood and chip business. Mack would like to speak to anybody today who is interested in buying a few chips after this panel is done, a wheelbarrow load, pick-up load, whatever! Mack.

PANEL: MANAGED HARVEST FOR HEALTHY FORESTS

Moderator Mack Brown: Thank you Hap. This morning our panel subject is our conference theme, Managed Harvest for Healthy Forests. Yesterday, John Morgan our president shared with us some of the frustration that we all feel in the lack of management and lost opportunities on our federal forests. Our keynote speaker, Dr. Patrick Moore pointed out a lot of the hypocrisy and the arguments of those who would have us not harvest our forests today. This morning we are privileged to have three gentlemen, two scientists and a land manager to give us an historical perspective on our forests, past and current conditions and how management practices can address forest health issues today. Each will give about a 20 to 30 minute talk and slide presentation. At the end of each session, if any of you have burning ques-

tions on that particular presentation, we would take a few questions at that time. Be thinking throughout the presentation this morning of your questions and comments because we have this very qualified panel and we will have the time to get a dialog going. Often as you know, the questions can draw out a lot more information and address what you folks have on your minds. Most of us in this room are dealing with these issues in one way or the other. Having the perspectives of these people will be very beneficial.

This panel qualifies for those who sign up in the Oregon Professional Logging program. The clipboard will be circulating. Any of you who are into that, please be sure to sign the list.

Our first panelist will be Bob Zybach from Corvallis. Bob comes from an industrial forestry background having run his own business in site preparation, tree commercial thinning, and tree planting. He currently is president of Northwest Maps Company which perhaps he will elaborate on somewhat. He is also, as he described it this morning, doing perpetual work on a masters degree. I don't think Oregon State School of Forestry has quite figured out where to categorize him. His masters degree combines historical archeology, cultural anthropology and forest ecology which from the description interjects the human element into this equation. Hopefully you have all read about Bob before in an issue of Evergreen. His work was exhibited in the March of 1994 issue. Bob, please give your presentation now.

Historical and Current Forest Conditions

Bob Zybach: Thank you Mack. It is certainly a pleasure to be here. I am going to be showing a number of slides fairly quickly but I would like to make a few preliminary remarks regarding the title of this conference, Managed Harvest for Healthy Forests. As many of you know managed means human intervention. That means that people take charge and hopefully pro-actively engage in some kind of activity in order to create harvests. In the past 100 or 150 years those harvest are typically thought of in terms of thousands of board feet, tons of chips, maybe Christmas trees and cedar boughs. But, 10,000 years ago those harvests might be more concerned with the harvesting of elephants, the harvesting of oaks, other native plants and animals. People have been in this environment, and by this I mean the Pacific Northwest, for at least 10,000 or 12,000 years, maybe 30,000 or 50,000 years. From the time the first families came here and introduced human fire into the element, they have had a profound influence not only on the environment but on the plants and animals that live here - the numbers, the locations, the conditions. When people entered the environment, the environment became forever changed. Many people are concerned about the impact that we have had on the forests in the last 150 years with the advent of white settlers. But the fact is that the first people who came here had a far more profound influence. In many cases the environment changed overnight. Many of you are old enough to recall at least some of the Tillamook fires of 1933 to 1951. In a single day in August in 1933, 220,000 acres burned, killing virtually every single tree within that perimeter. Compared to clear-cut logging or riparian zone reconstruction or many of the other current issues, an overnight change in 220,000 acres of habitat and a massive killing of wild plants and animals during that day is the type of catastrophic event that hasn't been considered carefully in the Clinton plan, or many of the other plans associated with management for wild species such as murrelets, or coho salmon.

Harvests involve products. Management involves people. So, I would like to offer a definition of healthy. Healthy is not a biological term, it is a human construct. There was not such a thing as a healthy forest before the first person came. A healthy forest was something, in fact, that we have only come up with in about the last 10 years. I think there should be at least three elements considered in any definition of a healthy forest. The first, there has to be a healthy, relatively stable population of native plants and animals. Second, this combination of plants and animals must be resilient to catastrophic occurrences, whether it is a volcanic eruption, a windstorm, a flood, a change in sea levels. They have to be capable of repopulating new lands, new soils as they are created or transported. Finally, there has to be healthy, stable populations of human families. If families are not present in the environment, we have created something that is artificial. We have been here for 10,000 to 12,000 years. It has only been the past 20 to 50 years that we have determined or decided that the presence of the human is not a good condition in a naturally functioning ecosystem, that such a system should be devoid of humans and natural processes should not include human actions. If we simply add people to the environment and then look at current plans for the management of salmon, spotted owls, murrelets or other species of concern like big old

Douglas-fir trees, we have completely changed the picture with what the environment looked like.

I am going to show 30 to 40 slides rather quickly to show with maps, words, photographs, first hand accounts of what the environment was like 100 to 200 years ago. Although hopefully we can look and see a 300 year old tree and realize that 300 years ago there was no tree there, that 290 years ago there was a seedling there, that 200 years ago there was second growth there, quite often our scientists are not using that quite simple arithmetical method to determine what the landscape looked like. The result is now easier numbers like 5 or 10% of old growth species in the environment and we blame white settlement and logging for this reduction in old growth. Some of the results of my research show that in western Oregon we may well have more old growth now than we did at the time of Columbus. We may have 50% as much old growth as we did at the time of white settlement 150 years ago. Certainly there has been a reduction in old growth in the extent and numbers in the last 50 years, but part of the reason is that there were unusually large amounts of these types of conditions due to fire suppression, due to the elimination of Indian population, reduction of management fires from earlier times. With that, I am ready for the slides.

This quote is a common perception that is based on current concepts of what the environment was like at the turn of the century. It says, "most of the forest area west of the crest of the Cascade Range was covered by old growth forests consisting of Douglas-fir and some other species." "Most" is a scientific term; it means over half. "Several other large long-lived species. Most of these forests were probably more than 350 years old and many exceeded 750 years." So, most means we have at least 26% of the forest land, whatever that is defined as, with trees over 300 years of age, that means that in 1600 that was bare ground. In 1700 most of most was second growth. Many of these trees were in excess of 750 years, now we have discovered that many of these forests are 1400 years of age. But the fact is in 1900, Gifford Pinchot and most other foresters described the forest as being 100, 200 or 300 years of age, a distinctly different picture. Seven hundred and fifty year old trees are relatively common but they are an anomaly. They weren't present in interior valleys, they weren't common in the Coast Ranges of Oregon or Washington or in the Olympics. They did exist in scattered pockets and in strips.

An alternative viewpoint was done by the first scientist to really study Douglas-fir over a period of time. Thornton Munger came here in 1908 and worked here until 1955. He described the forest as being even aged stands of Douglas-fir, 100 or 200 years of age. There were even age stands of the same species, 90% Douglas-fir, very similar in many respects to modern large scale plantations!

The view of these older trees is a romantic environment. This picture of 1853 around Willapa Bay shows people, giant trees. Note the lack of snags, coarse woody debris, brush. This is showing evidence of either profound shading, not much mortality or frequent fires. But this is just a sketch.

There were also scientists in the environment. In 1841 the Wilkes Expedition measured trees in the Astoria area and were astounded to report to the United States government that much of the mythology was actually true. There really were a lot of big trees in the environment. But, there were many areas without so many big trees. This picture from the mouth of the Lewis River which was just recently flooded showing some Cathlapotle Indians watching an eruption of Mount St. Helens in 1843 shows one of the sources of ignition of fires in the Toutle River area that covered tens of thousands of acres and created those second growth stands of trees that were being harvested earlier this year. There was no old growth. Landslides in the Coos Bay area preceded road construction and logging. This is the Elliott State Forest as it looked 105 years ago. This landslide created a lake, Gould Lake, sometimes called Elk Lake. If you look at the snags, these are not really large trees. A fire preceded the slide, bare soil followed the slide; the Elliott State Forest now exists in this area.

This fire in the Mount Rainier area showed that these weren't local phenomena, these were widespread. This picture is from 1905.

The earlier pictures showed a couple of examples of what the landscape looked like at the turn of the century when we were being told that the most of most was over 300 years of age with many being 750 years of age. But most of what we are going to be looking at has just been killed or damaged in some degree. This is the Bullrun watershed in Portland. It has been protected since at least 1918, actually 1892. You see a road in the foreground. Some members of the environmental movement blame this destruction on the road, other people blamed high winds.

This person is standing on the shoreline just south of Waldport. Fifteen thousand years ago this land extended another 20 miles to the west. This bare rock pounded by surf may have well been spotted owl

habitat. It may have well been the sight of elephants or large ice age mammals. Certainly it was inland and weather conditions were substantially different. Most of that land has been covered by water.

This map was made in 1915. The state forester, Elliott, spent over half his budget that year to produce this map to show the vegetation patterns of Oregon. The man holding the map, John McWade, many of you might know, fished the map out of the dumpster in 1951. It was determined that the map was too large to display and too old to be of much value. This is the credentials to the map and these are the types of vegetation they were measuring. Logged land is purple. Forested land, not old growth, is green. Brush land is brown and so on. So we look at northwest Oregon where we are going to visit today. That light (the laser pointer) is the Columbia River from Astoria down to Portland. You will see a lot of purple in there. The headwaters of the Luckiamute River where there was a fire in 1910. We will see purple in there along the valley perimeters. Logging wasn't much of a factor prior to 1915 in western Oregon. You will also see a big large white area, that is the Willamette Valley. There is a lesser white area which is the Umpqua Valley, and here is the Rogue River valley. So there are large areas, we can call that forest land if we want to define forest land as land that is inclined to grow trees in the absence of human intervention, or we can say even if that is not forest land, how much land at the turn of the century really was old growth.

If we look closer here and we look at those lands around the Luckiamute, we can see the Uaquina burn from 1849 to 1868 about 350,000 to 700,000 acres depending on how you measure it. The southern part of the Nestucca burn about 200,000 to 400,000 acres. And we can see green areas, but most of the area is not even commercial forest land. If we include the interior valley, even a lesser amount. This whole area here as near as I can tell, no more than 1% of the entire landscape, and this is a significant portion of western Oregon, no more than 1% could have had trees more than 750 years of age. Certainly no more than 5 to 10% could have had trees over 300 years of age.

The reason we know this is through a variety of sources. This is the first man who brought a wheeled vehicle over the Rocky Mountains. He is our first sheriff, Joe Meek. He settled in Washington County. He told his story in the 1870s to a woman historian named Francis Victor Fuller and described the settling of Oregon at that time. This picture of Joe was drawn somewhere around Champoeg. The Willamette River is in the background. Newberg hills, Chehalem hills in the background there. If we look close, those hills are bare. There is a strip of trees along the river and there are some people in a canoe. There are people in the environment and there are not too many trees. The reason for this is that the Kalapuyan Indians lived all through the Willamette Valley down to Cow Creek in the Umpqua Valley.

Again, this picture drawn in Monroe in 1841 shows forests, such as bunch grasses, camas, tar weed, a couple of fir trees without lower branches showing frequent fires. Then to the west of Monroe, bare hills. That is 160 years ago so at the turn of the century trees could be no more than 60 years of age with the exception of these two trees. Now, these are drawings so some people would say that drawings are not really good data sets and they can be construed in any manner that the artist wishes. But most of the areas that we are going to look at, and I have used detailed survey notes from the 1850s through 1910, and aerial photographs from the 1930s, maps such as the 1915 map to confirm that the drawings that I am showing you give fairly accurate representations of what the environment really looked like.

This is spotted owl habitat, this is salmon breeding habitat from 1840. By looking at it, there are no relicts of an older forest. We can go back 200 to 300 years confidently and assume that it looked fairly similar. We can take pollen samples and go back 8000 to 10,000 years and come to similar conclusions.

In the 1780s, this was the Douglas-fir region on an east to west instead of a north to south axis. There is the Canadian border. Here is northwestern California, the crest of the Cascades. Two other researchers and myself were able to determine over 105 native nations, people with different languages, people with different survival strategies, some harvested tar weed and oak, some hunted whales, some caught salmon, some of them spoke the same language, most of them traded in slaves. It was an active group of several nations, far more diverse than modern nations of Europe. This was not a uniform, spiritual native American culture as portrayed by Walt Disney or Kevin Costner. This was an active international series of settlements and groups of people much like ourselves but without writing, without metal, and without large domestic animals. Their management tool of choice was fire.

Ways that we can find this information out: we can dig holes in the ground. This is an excavation in Champoeg. By taking the results and sifting them, archaeologists can find evidence of previous cultures,

bones of extinct animals and so on. Such animal as elephants in western Oregon were common 11,000 to 12,000 years ago. They all died out. So did oxen that were 9 feet at the shoulder. So did giant ground sloths, so did 300 pound beavers. Many scientists have concluded that this was at least expedited by the advent of fishing and hunting methods. So people were contributing to the extinction of landscape altering mammals thousands and thousands of years ago before white settlement.

Other evidences were left by the people themselves, on purpose. This is an Indian cave in the Cascades. By looking at the walls we can find records of grizzly bears, these are foot prints. The power of the sun. To these people personified the figure of the sun, waterfalls. We can compare this evidence to these waterfalls to see what these people were recording. They were recording their environments. In fact 150 years ago in this area, California Condors were native, white-tail deer were common, grizzly bears were common, timber wolves were common. Instead we have bachelor buttons, rainbow trout, different species, blacktail deer and so on. There have been many changes in plant and animal compositions in what we call native plants and animals in the last 150 years. Many have gone extinct or been extirpated, locally extinct, for some time. Many have been introduced. The numbers are about the same. The species composition, as always, is different.

Here is a picture of Finch Prairie about 1840. We see bare fields being harvested to hay. Trees along the river and bare hills. Here is Albany in 1877 looking toward the Cascades, bare hills, trees along the river, farmers in the foreground where the Indians had raised tar weed and camas and other plants like berries. We were now raising hay and different types of families, more people. Here is Corvallis, again looking eastward, bare hills, a strip of trees along the river, bare foreground. This one is called "The Great Prairie" in 1885.

These drawings were corroborated by aerial photographs, by surveys and other forms of information. In 1899 this family settled on the eastern most extent of the Coast Range. This is now the Dunn Forest. These bare hills have grown up into a young even age stand of Douglas-fir. I have done enough tree planting and pre-commercial thinning to tell you that it is just about impossible to tell the difference between naturally seeded fir that have thinned out and a well designed plantation with some natural seeding in it which is a common occurrence. These trees are about 30 years old, even age. This is a wildlife inventory. These people have several animals on display, including themselves, that now inhabit the forest. There has been a change. Some of these animals are difficult to determine their skins, but one wildlife biologist has told me that she can see a wolverine in those skins. There are skunks, bears, hunting dogs. To the foreground where this was taken in 1915 the Indian prairie had been plowed up and turned into corn. This is now a housing development and that is a real common pattern. A lot of the areas which had been cleared by the Indians for centuries were subsequently settled and farmed.

Another picture looking where the McDonald Forest is in 1899, young oak trees, some scattered firs like the drawings of Monroe in 1841 and some fir trees just starting to come out over the tops of those oak in the foreground. That is what pasture land looked like before automobiles. We had a lot of animals and grass was disappearing through the trees.

Native prairies that still remained were harvested by local farmers. These are native grasses that have been cut into hay around 1900 to feed the horses. Shortly thereafter, horsepower turned into internal combustion engines. People started using plows, automobiles and they started reducing their herds of horses that they maintained. The dependency on grass was changing. An 1899 picture looking over the Dunn Forest and a housing development now. That horse's name was Billy Bowlegs. Along the flood plain of Soap Creek Valley trees are starting to come in along the riparian zone, which had previously been bare. This is now the McDonald forest that is beginning to seed in. In 1914, here is the same valley. Those young trees have been slashed to create pasture for livestock. There has been clear cutting up here in the 1890s of the young 30 and 40 year old fir trees for railroad ties. McDonald Forest is starting to form. The Dunn Forest is over here. There is a little patch of old growth which was about 250 years old at the turn of the century with all Indian prairie.

In 1989, here is the same view. Here is the Dunn Forest that is all seeded in. Here is a 1930s plantation from the tree seeds augmented by some 1940s and 1950s plantations from Oregon State students. This clear-cut took place, the area that we looked at that had just been slashed and it created some local problems. Maybe some of you are familiar with some controversy that was going on with local clear-cutting. In this spot here, those trees had grown up since 1914. The clear-cutting was returning it more to its native plant condition that was prevalent 150 years ago. Looking south, there is Oak Creek. There is not much coarse woody debris, the creek has been channelized into a

saw mill. All the trees were plants that were introduced. There is a view south to Monroe, a treeless plain. Riparian zones featured grass. Low gradient areas where trout and salmon populations were high, were grass land, not brush and tree lined. There was no snag recruitment strategies, no coarse woody debris, no multi-layered canopies. This is Coho, cutthroat trout breeding grounds. This is spotted owl habitat.

Going to Philomath into the Coast Range we might be more fair, we can look at some of the hills. There is Marys Peak, the top is bald and we see planted trees in the foreground. Deeper into the Coast Range we can see more fir trees. They are larger and starting to seed in. There is oak. This house still stands.

Going even further west into the heart of the coast range around the Eddyville area in 1877 it was reported that there were miles and miles of giant snags that had been killed by a forest fire, estimated 40 years earlier, it was actually nine years earlier. This is corroborated by pictures. These are the headwaters of the Siletz, the Yaquina. Again, planted trees, indian prairie, grass lined riparian zone, and dozens of snags per acre for hundreds of thousands of acres. This is Bamm Creek, there is a snag, here is a snag. I'm not sure you can see the horse, but there are scattered trees left from 1877. There is some state land that has slid out and grown some alder. There is a young, even aged stand of douglas fir. It is harder and harder to find large expanses of trees 300 years of age at the turn of the century mostly because they didn't exist. The reality is pretty well represented and documented by first hand accounts, photographs, archaeological evidence, every which way we look.

Here is a picture today after clear-cutting, again there was controversy. This picture was taken by Todd Nystrom of Hull-Oakes Lumber and these are plants, planted fir trees are now on an area of marble murrelet habitat. There is concern about clear-cutting on state lands and slides and these areas being caused by logging.

These two men are cutting a tree nearby in the Wolf Creek area on the Yaquina drainage. This is about the same size as the snags we have been looking at. It looks like an old growth tree, but if we count the rings, it is 115 years old and dates back to the 1868 fire. Much of the idea that five and six foot diameter trees have to be 300 to 1300 years of age won't bear a ring count. These are fast growing trees because it is high site. This is a second growth tree, it just happens to be huge because the environment allows that kind of growth to occur.

Other evidence of early history, pictures from the early 1900s, headwaters, major salmon bearing stream. We have good accounts from local neighbors of what the populations were like along the Big Elk. You have grass lined riparian zones, alders, scattered fir. If you look closer, you can see the same pattern. There is a change from grass to alder to fir, scattered relicts showing evidence of seasonal daily fires throughout much of the terrain. The reason is that people traveled up and down these areas in canoes, gathered firewood, set fires to the hills and did it very effectively. They were far more efficient managers of fire than we are today simply because they had to be.

Here is Toledo a few years ago. There is a saw mill, hills covered with trees. Some of the crews that I worked with over the years planted a lot of those trees. There was a lot of concern about clear-cutting. Here is the Yaquina River where they are worried about the riparian zone. Here it is in 1885. There were scattered snags, scattered trees, there is the riparian zone. It is a different picture than what we are being told in the Oregonian or other news sources.

Let's go all the way to the ocean. This is an area in which people studied old growth in a symposium in 1988, Cascade Head with bare hills. Some of the places around here were called things like Peavine Ridge, Camas Prairie, Long Prairie, Ojulla Prairie, Ojulla is an indian word for huckleberries. People maintained the environment for people, for their own betterment, for their own safety, and as a result the landscape reflected that. When whites came into those areas and took over those areas, they did not recognize the contributions of the earlier families and we continued to misinterpret the record pretty much until this time.

This is an Indian family, the Logan family, in 1914. They have gone back to the prairies their ancestors had created, they took domestic animals, cars, tractors, began raising hay and changed the ways that they survived. In sum, "the world we live in is not driven solely by mindless physical forces but also, and much more crucially, by human values." That is the end of the slides. If you have a question or two, now would be a good time before the next speaker.

Question: Have you found some differences between harvesting 40 to 45 year age to 100 year age timber compared to 150 years ago as compared to today?

Bob Zybach: In the 1880s there was widespread concern that all the second growth forests that were growing up from earlier logging operations were being removed for railroads. Almost all concentration, because of technology with horse logging equipment and because of markets, fence post, railroad ties, there was extensive clear-cutting of second growth forests. So at that time it was slower but more profound. There was a lot of concentration on that age group because of railroads. In 1905, people started to use creosote on ties and in 1915 started to drive cars so the impact of the railroad was largely eliminated by World War I. Today we are back to second growth harvesting but for more political reasons. The amount of land covered by second growth forests are undoubtedly greater today than it was then. We have more trees over a wider area so the technology is different. The products are different but the biology is fairly similar. If we didn't stop Indian fires through a combination of Indians dying by disease and fire suppression policies which was shown in the earlier film, we wouldn't have so many second growth forests as we have today. As far as whether it is good to grow forests on prairie soils and whether we should harvest those forests at 40 or 400 year intervals is a social problem. We have to decide what we want, what products we want, why we want them. It is also an ethical problem. We have to decide how our actions are going to impact native populations. As always, these are populations that we favor, whether it is elk for a hunter or spotted owl for a biologist, or a California Condor for a preservationist or conservationist. In each instance we have to make decisions as to how we manage the land and what we are attempting to maintain from it. The differences in second growth harvest now and then are largely a function of human populations which is way greater now. The first billion people was about 1850. So there is far more demand individually. By using fossil fuels now, we can harvest more efficiently and we have far less need on these products for heating and fuel. I would say these are some of the differences.

Question: What about soil productivity? Would you have any concerns with the intensive type management we do and as much as we take off the ground combined with short rotations in the future? Is that something to be concerned about?

Bob Zybach: I am not a soil scientist, but I can read. I know that we produce far more timber per acre now than then, whenever then was. There is a variety of reasons for that. If we measure productivity in terms of timber production, the soil is becoming more productive. If we measure it in terms of elephant habitat, it is far less productive. If we measure it in terms of berry production or flowers, it is far less productive. Soil productivity is quite often a value statement, like old growth or healthy. It is not really a biological term, it is a predetermined set of measurements. We can say the soil is far less productive or far more productive. The reality is this land has been growing trees with human intervention for 10,000 to 11,000 years. They have farmed areas of Spain and the Mediterranean for thousands of years. There doesn't appear to be any particular loss of productivity no matter what measure is used unless we measure in species, only increases. Now, that productivity might be artificially brought about by the use of herbicides and fertilizers but it is mostly technical. There are more efficient methods of managing trees and getting them to a commercial size and it is mostly a long-term concern because as we saw in the earlier film, the addition of roots, stumps, and tops, leaf litter fall through decades of time tend to build the soils whereas grasslands that are burned annually tend to be more static.

Thank you very much.

Moderator Mack Brown: Thank you Bob. I was just sitting there thinking of the cliché "ugly facts destroy beautiful myths". I think here we saw some beautiful facts destroy an ugly myth!

Our next speaker, Dr. Adams, who is from the University of Idaho as a professor of forest resources will give us information on the inland west situation. We have heard primarily about the westside Douglas-fir story. Dr. David Adams earned a degree in forest management at Oklahoma State University and a master of forestry and administration at the University of Idaho and a Ph.D at Colorado State. He has worked in timber management for the Forest Service. He has held a number of teaching positions at various universities. For the past 15 years he has chaired the Forest Resources Department at the University of Idaho. His current emphasis is on forest health and forest ecosystem management. Dr. Adams has served in many capacities to furnish legislators and land managers with credible scientific information with which to make decisions. More recently in 1993, he co-chaired the Sunvalley Forest Health Workshop which brought together 35 top scientists, land managers, and environmental group representatives. An outcome of this was a book on ecosystem health in the

inland west. I believe it has served as a credible scientific reference for these people. Dr. Adams, please come and share your information.

Forest Health in the Inland West

Dr. David Adams: I appreciate the opportunity to be here at the Oregon Logging Conference. I haven't attended this one before. I have been at the Intermountain Logging Conference. I have seen a similar bunch of people and have talked about similar issues. One thing that is different, at least it appears to the people on the other side of the hill where I live that we have different issues. Over here you have old growth Douglas-fir problems, murrelet problems, and owl problems. By far the pressing issue in the inland west is forest health. So, let's go right to the slides and talk about that.

I don't know whether you have seen this kind of view. This is over in eastern Oregon in the Blue Mountains where you can look at a mountain side and you see a few green trees here and there, but on some of these slopes you can see mostly dead trees. There has been a series of problems over there. The first time I went into the Blue Mountains, we were there to see mountain pine beetle problems. Then we went over there to see Douglas-fir Tussock moth problems. Now we have another defoliator, the western spruce bud worm which has caused the mortality shown in this picture. When you walk around in a stand like this in August where the trees are so close together that you have to get sideways to get between them and they are mostly all dead, you hope to God that nobody strikes a match because you figure you are all going to go up in smoke. We also have some bark beetle problems like this. Actually there are several different beetles, the mountain pine beetle is one of the major ones. In lodge pole pine, there are stands that look like this, mostly dead because of the mountain pine beetle.

A lot of this is the kind of thing that burned in the Yellowstone fires of 1988. When there are huge amounts of biomass on site, and a wildfire occurs, you have a big control problem. Also, when huge amounts of biomass burn, there are severe site problems that are going to be with us for a long time. It is not just a matter of burning up the trees, this type of fire completely changes the landscape.

Some people would argue that this is just a natural part of the way forests change over time. This is just something to live with. So, we started looking at these trends and started to get an indication of whether this was a natural event or something different than that. There really isn't very good data out there and we weren't able to go too far back. This is some Idaho data. We looked at inventory information that was available from the U.S. Forest Service. About 70% of Idaho's timberland is administered by the U.S. Forest Service so that is where the data is. The red bars coming across the bottom of the slide show the long-term range of mortality as a percent of gross annual growth. You notice that about 1987 or so things began to change. The pink, or magenta bar represents the Payette National Forest. You can see that the mortality as a percent of gross annual growth started to skyrocket at about that time. Now it is up above 140%. The green bar is the Boise National Forest. If you are not familiar with that part of the country, this is west central Idaho. The Boise National Forest is immediately north, east, and west of Boise and the Payette is north of that. You see that even on the Boise, the current mortality exceeds annual growth. It doesn't take a rocket scientist to show what that is going to do if mortality continues in that direction for very long.

A few points that I would like all of us to keep in mind as we go through this material. One is that the forests of the west are different from those that were here in the last century and before. Bob Zybach has pointed some of this out already. Another point to remember is that many of the western forests are not within the so-called historic range of variability. I don't know whether you are familiar with that term. Here is an example of what this means. The green band across there represents a range of variability. This particular example is acres of old growth ponderosa pine on Douglas-fir habitats. For a long time back, into the 1700s anyway, there was quite a bit of zigzag variation of the amount of acres of this particular attribute of ponderosa pine. Along about 1900 or so the line drops out of the historic range of variability. The prognosticators indicate that without some kind of management we are likely to maintain a line much lower than the historic range of variability but if we wanted to we could move the situation back into what used to be the historic range. Now, we may or may not want to use this historic range of variability as something to shoot for but a lot of people believe that it is at least a good biological basis for reference.

Another thing to keep in mind is that the condition of some of the forests that are within the historic range of variability may not be acceptable in today's world. I think you will see what I mean as we go along. One other thing to keep in mind. Today's forests were not created yesterday. They are largely a result of conditions and events some

time back. Twenty-five years ago, fifty years ago, one hundred years ago is when the forests that we are looking at right now got their start.

So, how have the forests been altered and how do current conditions relate to forest health and to wildfire problems? You have heard some of this already from the film, those of you who saw the film earlier this morning and from what Bob has indicated. Let's look at the situation in Idaho. Again we are using the inventory data that begins in 1952, which isn't all that far back as far as forests go, but that is where the good numbers are. Just from 1952, you can see some rather astounding changes. Western white pine has declined 60% since 1952 in Idaho. Ponderosa Pine has declined 40%. But, we still have a lot of trees over there. The difference is that they are different kind. The true firs have increased 60% since 1952, Douglas-fir has increased 39% and lodge pole pine 15%. So the species composition of the forest represented by this Idaho data is a lot different in many cases from what it used to be. We are used to looking at a forest and we assume that it has been that way for some time and if the foresters would just leave it alone it would probably stay that way. But, have been big changes.

One other point I want to make is that the factors causing the change in western white pine are a lot different than the factors causing the change in ponderosa. The White Pine, as most of you know, suffered from white pine blister rust, a disease that was introduced early in this century from Europe. We will talk about some of the things that caused the change in the ponderosa pine.

The Boise basin is the area northeast of the City of Boise where we have some long-term data. Some of the people from the Intermountain Research station have been looking at this for some time. They have re-created stand conditions, as closely as possible going back into the 1500s. We couldn't get all the dates on the graph so we will start this graph in the 1700s. The orange bars back in the 1700s represent ponderosa pine. As you can see, there were about 28 trees per acre in open park like stands of Ponderosa Pine for a long time. Then along comes settlement and the U.S. Forest Service with a pretty successful fire control effort and the density jumps up to 533 trees per acre on these same sites. The red part of these bars represent Douglas-fir which wasn't detectable in the information back before 1900. Now these forests have changed from open park-like ponderosa pine to very dense stands that are mostly Douglas-fir. If we had a 1994 bar on this graph, it would have gone to zero because this area burned as part of the 400,000 acres that burned in that year in Idaho.

Here is an example of just one of the study plots from which that previous graph came. The circle on the far side represents a plot with the yellow dots representing ponderosa pine in 1800, and then the other circle shows that same plot of ground in 1993 and the red spots represent Douglas-fir. There are also more of the yellow dots representing more ponderosa pine. This illustrates the changes that have taken place over the last two hundred years.

This is 1909 in the Boise basin showing some of the open ponderosa pine stands. Oops, we have a slide stuck. While we work on fixing this, one thing that I would say is that we are going to be looking at some of the reasons for some of the forest health problems. Depending on which kind of a scientist you are, you have a different spin on what is causing the problems. Like in medicine, the difference between a generalist, and a specialist is that the generalist treats what you have and the specialist thinks you have what he treats. Some of the people who have done their research on soils will tell you that the major problem is soil and nutrition. Those who have done their work on stand density will tell you that we just have some over crowded stands. Those who have done their work on fire will tell you that if we could just reintroduce fire into the system, that is going to solve all the problems. Even some of the wildlife people get into the act. And maybe I will show you some of that.

If you have questions or comments so far, speak up.

I was listening to the Idaho legislative hearings the other day and part of the effort there was related to mill closures. I know you folks and a lot of others are certainly interested in the mills that are closing down and what can be done. I am a silviculturalist and I have a concern about closures that is a little different than what we are hearing. One of the things that bothers me a lot is that if we don't have mills then we won't be doing logging and then we can't do stand management. I think this is one thing that a lot of people are failing to recognize. Back to the slides.

This picture is the same as that last one, as close as we were able to relocate where that open grown ponderosa pine picture was taken. Here are a lot of small five and six inch Douglas-firs that were not visible at all in the previous slide. With some management we could change things. This is an area that has been managed by the Intermountain Station near Boise in the Boise basin to try to recreate something closer to the earlier open park like conditions. We feel the