THE ELLIOTT: AN ANTHOLOGY

This collection of writings is dedicated to the children and grandchildren of Wayne Giesy, Jerry Phillips, and David Gould; and to my own children, favorite grandson Aaron, favorite great-grandkids Tyler and Kendal, and to their mother Amy. And to all Oregon schoolkids, their teachers, and their local school boards. That's who these stories are about.

THE ELLIOTT: AN ANTHOLOGY

By Dr. Bob Zybach

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PHOTO CREDITS

Front Cover: Wayne Giesy, Jerry Phillips, and David Gould at Silver Creek Heritage Grove. July 8, 2017 photo by Bob Zybach (p. 43).

Title Page: Bob Zybach, Jerry Phillips, and David Gould at Jerry Phillips Reserve. December 15, 2019 photo by Sam "of the Elliott" Schwarz (p. 71).

This Page: "Two Old-Growth." Southwest Oregon Community College (SWOCC) F251 Forest Recreation Elliott field trip: Huckleberry Point. May 15, 2018 photo by Anne Farrell-Matthews (p. 56).

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Back Page: "Jerry's Point of View." SWOCC F251 Forest Recreation Elliott field trip: Silver Creek Heritage Grove. April 17, 2018 photo by Anne Farrell-Matthews (p. 58, 120).

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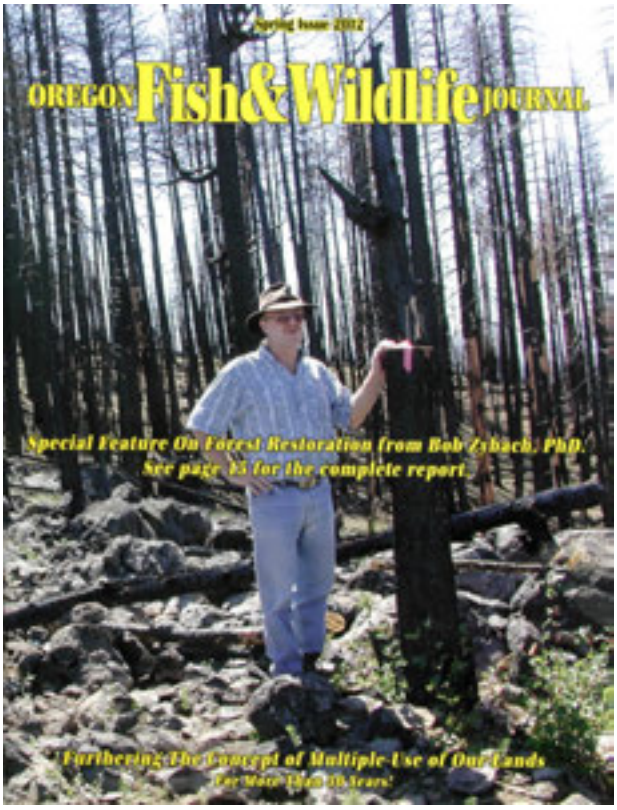

This anthology is primarily a chronological collection of 22 article/editorials I wrote for *Oregon Fish & Wildlife Journal* from 2012 to 2024 that focused on the history, management, wildlife, and politics of Oregon's First State Forest: The Elliott. A 23rd article by McKenzie Peters, originally written for Jim Petersen and published in *Evergreen Magazine*, is also included by permission.

These articles could not have been written without the assistance, leadership, and encouragement of Wayne Giesy, Jerry Phillips, and David Gould, for reasons that will quickly become apparent to any readers of this book.

Special thanks are due Cristy Rein for allowing me to retain the original content and formatting for these articles. April 2024 will mark the 45th year that she has successfully published and edited *Oregon Fish & Wildlife Journal,* which has a circulation of 10,000 mostly rural Oregon residents and businesses, and also including all elected officials in Oregon and 8 other western states, the Executive Cabinet and Congress in Washington, DC.

Other important contributors to this work include Tasha Livingstone Davison, Dr. Dave Sullivan, Margaret Bird, Russ Sapp, Mike Newton, Southwest Oregon Community College, Oregon Websites and Watersheds Project, Inc., Coos Bay Timber Operators, NW Maps Co., and Oregon Advocates for School Trust Lands.

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TO THE READER:

This anthology contains a series of article/editorials I wrote for *Oregon Fish & Wildlife Journal* from 2012 to 2024 regarding the history, management, wildlife, and politics of the Elliott State Forest, in western Douglas County, Oregon. They are written from the perspective of a forest scientist and historian with strong opinions, based on research and experience.

These articles contain significant scientific data in the forms of maps, tables, historical and documentary photographs, and the writings and spoken words of recognized experts -- but they have not been "peer reviewed" in the academic sense as that term is currently used; rather, the intended audience for these writings are my actual peers and reviewers: loggers, foresters, tree planters, roadbuilders, hunters, hikers, and fishermen. Rural businesses, residents, schoolkids, and grandparents. The people who have always lived, and worked, and played in the Elliott and in other western forests. True indigenous knowledge.

When I was a child my family moved into the home built and lived in by my stepfather's grandfather. Richard Adams had been a successful businessman, past President of Parrot Steamship lines out of San Francisco, owned a sailboat on the Columbia and a beach home in Long Beach, Washington, was an excellent fly fisherman, and published poetry in *Field and Stream* Magazine. He also had a fine library that we inherited, including many years' worth of *National Geographic* and *Saturday Evening Post* magazines, with which I spent many hours while growing up and attending school.

A couple of "coffee table" books I really enjoyed were collections of *Saturday Evening Post* articles published in full-sized hardcovers but retaining their original magazine formatting -- including advertisements. That is what I have tried to do here. With editor Cristy Rein's permission, I have retained her original formatting of these articles -- including occasional typos and misspellings -- as they originally appeared in her magazine.

Careful readers may notice the missing two words at the bottom of page 8 (fixed on page 55), the misspelling of "Giesy" on the page 30 title, or Bill Hagenstein missing from the caption on page 25 (fixed on page 79), but as with the ads, I decided to leave as originally published for reasons of context and ambiance. Too, Cristy and I had occasional differences of opinion in the placement of photos or formatting of tables and captions but have become increasingly coordinated in our collaborations through the years.

I was not paid to write these articles, but when a 2nd printing of my 2003 PhD dissertation became available through Amazon, Cristy began running free ad as compensation. That repetition might become a little tiresome in this format, but maybe effective for book sales! Some of the text is also repeated in spots, as are key graphics, maps, and photos. My thought in these instances is that they appear in different contexts, at different times in the story, and usually with different captions, so that their appearance and re-appearances might add more emphasis to a point: like a chorus or a recurring theme. Some things do bear repeating, but that will be for you, the reader, to decide.

Bob Zybach

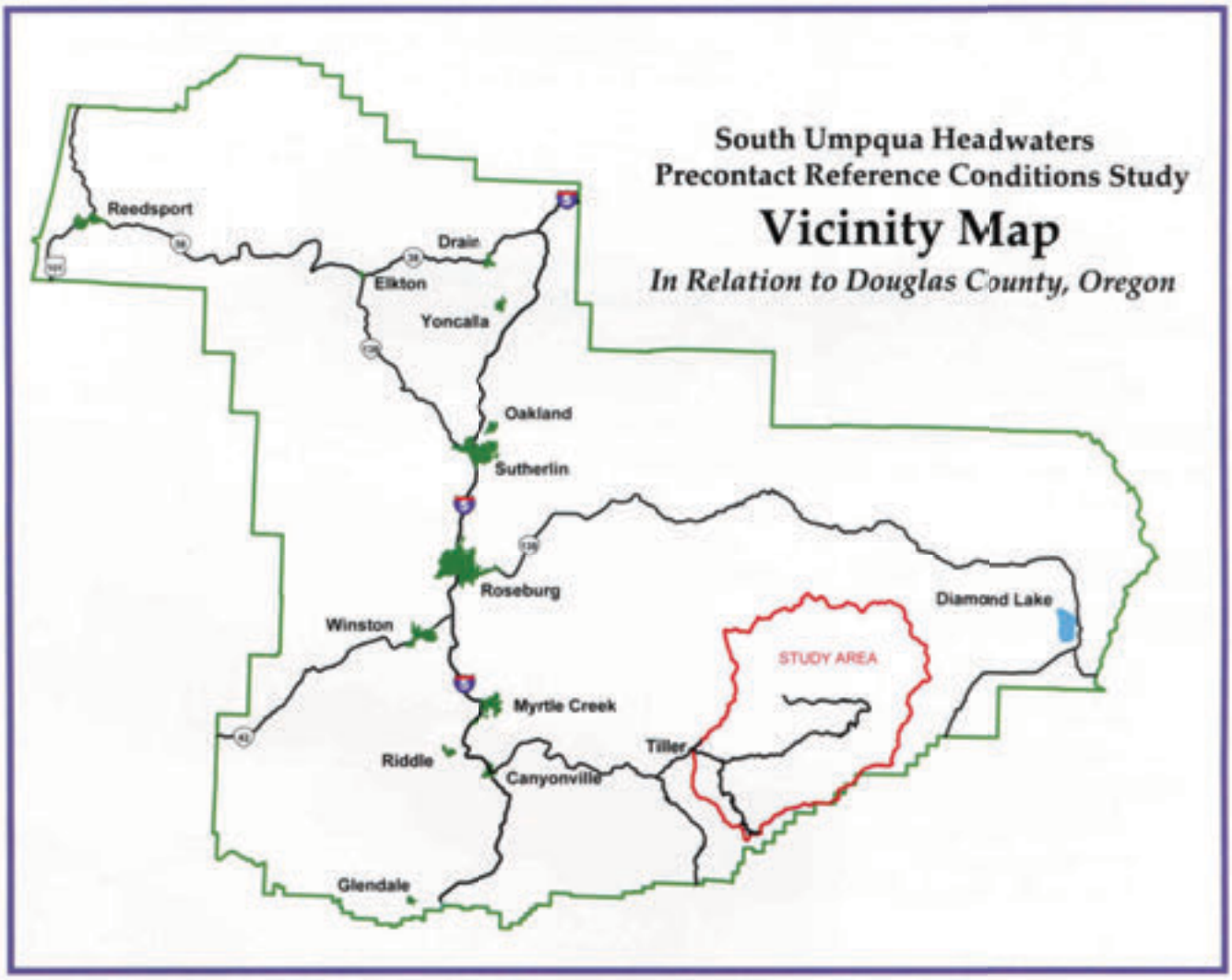
Creswell, Oregon

January 10, 2024

Forest Restoration:
Problems and Opportunities

By Bob Zybach, PhD.

Actively managing our western forestlands on a landscape-scale can immediately create thousands of rural jobs, greatly reduce catastrophic wildfire risks and damages, return millions of dollars to our state and federal treasuries, increase native wildlife populations, fund our rural schools, roads, and libraries, and make our forests and grasslands safer and more beautiful than ever before. **Seriously.**

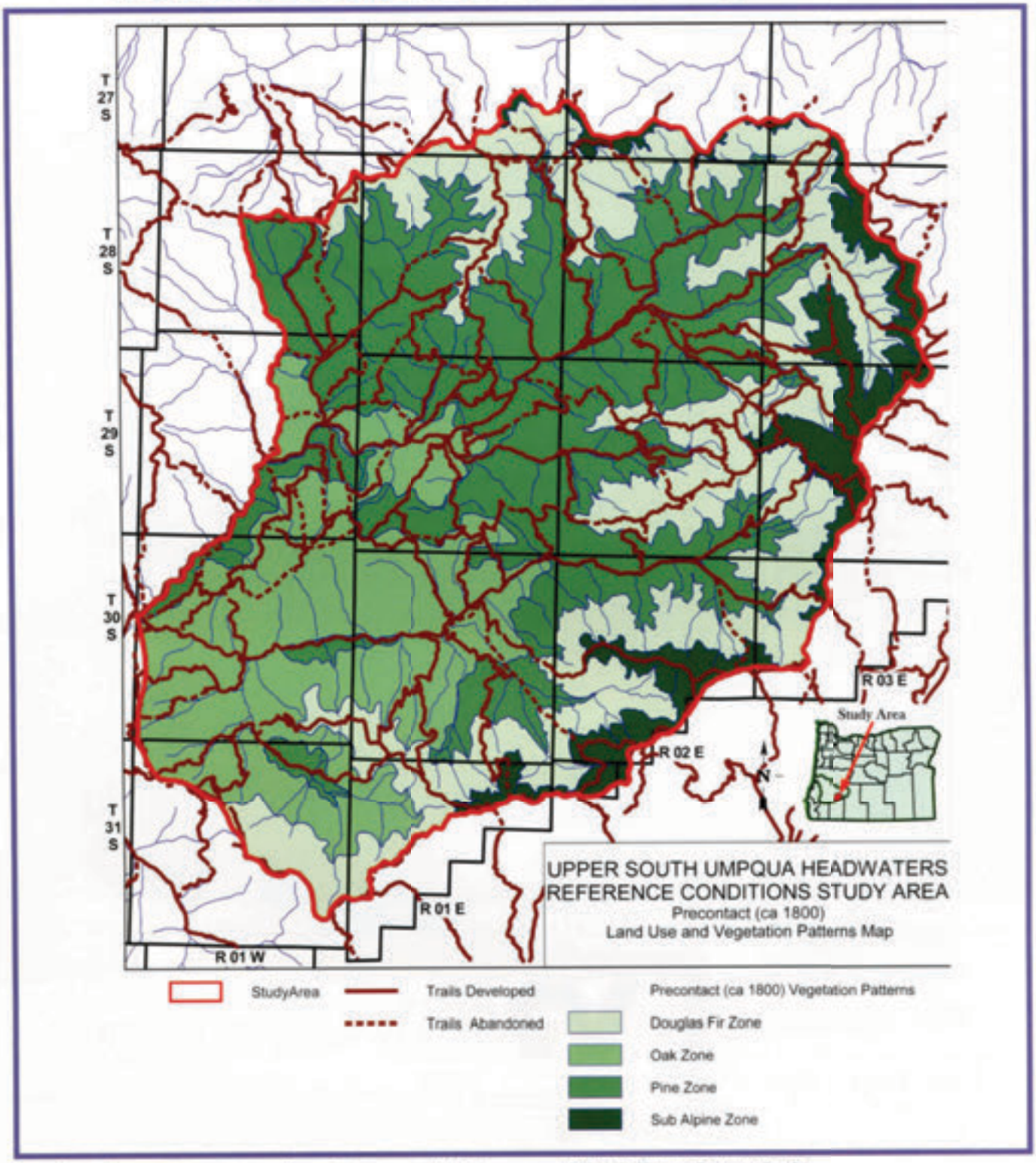


Western forestlands have never been in worse shape: millions of acres of dead and rotting trees; thousands of miles of abandoned and barely maintained roads; record wildfires becoming larger, deadlier, and more destructive by the year; hundreds of artificially impoverished rural communities; and endless litigation preventing the use of resources we need to sustain our lives and our economy.

There are a number of reasonable ways to resolve these problems; a long-term commitment to active forest restoration and management seems to offer the most immediate benefits to both people and wildlife, and is the likely route to economic sustainability as well.

What is forest restoration, why is it needed, and how is it done are the questions addressed in this article. Two

Map: Forest Type and Trail Patterns, 1800-1825



examples of current forest restoration projects are profiled to help answer these questions, and illustrate how these types of programs can be immediately implemented across the landscape to the benefit of neglected forests and depressed timber-dependent communities throughout the West.

What is Forest Restoration?

The process of forest restoration is focused on returning an area to one reflecting desired past conditions, it is critical to understand a) what conditions were actually like in the past, and b) which of those characteristics (if any) should be

restored or preserved for the future.

For the past 10,000 years and longer, Native Oregonians have used plants and animals for their own purposes: principally for food; shelter; fuel; and fiber products, such as clothing, basketry, musical instruments, canoes, ropes, and weapons. Fire was used for a wide range of purposes: for cooking, heating, and lighting areas around homes and campgrounds; for rejuvenating berry patches and harvesting fields of grain; for hunting game by systematically setting vast tracts of land on fire.

Man is the only animal that can use fire, but he is not the only animal that benefits from it. The expert and judicious use of fire across the ancient landscapes of Oregon resulted in the stable patterns of forests, woodlands, vast prairies, wetland meadows, breaks, balds and berry patches encountered by Oregon Trail immigrants in the 1840s and 1850s. Elk, deer, songbirds, fish, squirrels, migratory fowl, and other animals that populated these environments were documented by many of the new residents.

Forest restoration, means restoring people to the land, whether in the woods, along a river, or walking through a town. Restoring people to the land also supposes restoring fire to the land; fires set by people, not lightning.

Upper South Umpqua Project: Considering Past Conditions is Step 1.

The map shown in this article represents a critical step in the forest restoration process – a determination and documentation of likely past conditions for areas being considered for restoration. Whenever we plan to restore something, it is important we understand the conditions that existed in the past.

The Upper South Umpqua Headwaters Precontact Reference Conditions Study focused on characterizing a significant portion of the Umpqua National Forest in Douglas County, as it likely existed in 1825. The study area is slightly more than 230,000-acres in size and extends from the crest of the Cascade Range westward to the confluence of Jackson Creek with the South Umpqua River. The map shows the location and composition of forest type patterns as they likely existed in the study area 200 years ago. Each of the subsequent four photographs documents a typical example of each of the four forest types, and illustrates potential forest management actions needed to restore and maintain desired future conditions.

Photograph 1: Oak Type. Former oak and pine savanna.

Photograph 2: Pine Type-Invasive Doug-fir/madrone.

One of the basic purposes of forest restoration is to reduce wildfire risk and damages. The method for achieving this in overstocked stands of conifers is to significantly reduce their biomass ("fuel load") and open up the tree canopies ("thinning") as they existed in earlier times, when catastrophic-scale crown fires were uncommon occurrences. On federal lands this is referred to as an "FRCC 1" condition.

The Upper South Umpqua Project was initiated by Douglas County Commissioner, Joe Laurance, to consider the possibility of restoring degraded local forestlands to presettlement condition. On July 15, 2010, he testified to a Congressional subcommittee of The House Natural Resources Committee in Washington, DC:

Fire Regime Condition Class (FRCC) 1 is similar to the forest which European explorers first found here. That forest had been modified by fire for more than six thousand years to provide the native inhabitants with what were then life's necessities. These included abundant wild game from the most productive and diverse wildlife habitat ever known on this continent. Similarly, the regular burning of competing vegetation permitted propagation of nut bearing trees and other food producing plants. Additionally, the historic "Healthy Forest" promoted pristine rivers, streams, and lakes that provided an abundant harvest of fish and waterfowl. Within FRCC 1 the risk of losing key ecosystem components to fire is low, while vegetation species composition, structure, and pattern are intact and functioning within the natural historic range.

Research methods used to determine and document 1825-era forest conditions in the study area included extensive use of General Land Office survey maps and notes, historical maps and photographs, field plots, oral history interviews, literature reviews, archival research, and over 5,000 GPS-referenced digital photographs. This latter method documented the location and extent of remaining old-growth (pre-1825) trees in the study area, in addition to documenting persistent patterns and patches of such traditional cultural food and fiber plants as camas, fawn lilies, cat's ears, huckleberries, hazelnuts, chinquapin, tarweed, serviceberry, wokas, bracken fern, thimbleberries, and salal.

Historical research has given us the map shown: a generalized depiction of likely forest conditions in the study area during the 1800-1825 time period. The following four photographs represent current typical conditions within

each of the four forest types (or "zones") shown on Map 4. The large size and wide spacing of the older trees in the photographs can be gauged by the "human scale" used to measure them: Nana Lapham, long-time forest science research assistant of NW Maps Co., did much of the field work on this project.

continuous canopy of fine, pitchy fuels. A crown fire under these circumstances would likely kill all of the trees in this picture, including the old-growth.

Photograph 2 is a typical condition found throughout the former Pine Type in the study area. Again, these areas were maintained by regular prescribed fires in precontact time, and

Photograph 3: Doug-fir Type. Douglas-fir/pine mix.

Photograph 1 shows relict trees from an oak and pine savanna that was developed and used by native residents for hundreds or thousands of years. These areas were tended by constant gathering of fuel, acorns, and pine nuts from the trees and regularly tilling and/or burning the surface area to manage understory crops, such as camas, tarweed, hazel, and beargrass. Notice how Douglas-fir have invaded the area in the past 100+ years, threatening the survival of the few remaining old-growth oak and pine.

Restoring this savanna would entail removing the Douglas-fir, before they smother the remaining old-growth, removing the surface fuels that have built up around the bases of the oaks and pines, and reintroducing the understory plants and regular burning practices that created and maintained savanna conditions in the first place. There are thousands of acres similar to this throughout the study area, with invasive Douglas-fir slowly killing the established old-growth and creating potential crown-fire conditions by developing a

are now being threatened by thousands of invasive Douglas-firs and madrone.

Photograph 3 shows the 1825 Douglas-fir Type, which still contains scattered old-growth sugar and ponderosa pine; species which may have dominated this type in the Indian era. Restoration provides the best option for prolonging the lives of these historic trees, too.

Photograph 4 is a picture of Huckleberry Lake, in the high elevation True Fir Type. The "lake" is now a wetland prairie. This area used to be a portion of a major huckleberry gathering complex, equally accessible to Indian families living in the Rogue River and South Umpqua basins before these plants were shaded out by the invading conifers. The taller trees in the background represent larger diameter, older trees likely dating to the 1600s and 1700s; the vast majority of trees, though, having established themselves after the mid-1800s and throughout the 1900s.

The common theme throughout this map and photographs

is that tens of thousands of acres of old-growth oak, pine, Douglas-fir, red cedar, and other conifers exist throughout the study area are in need of immediate attention, if they are to survive. The same problem exists for the scattered patches of huckleberry, camas, tarweed, and native grasses that still persist. A forest is, ideally, composed of many facets, housing many different types and species of plants and animals. Those are the types of attributes that used to define these lands, and the same types that can be restored and maintained for future generations of people and wildlife.

Photograph 4: True Fir Type. Huckleberry Lake.

Jims Creek Project:

Make a Choice and Then Do It is Step 2.

The second step to forest restoration, is to determine what future conditions are desired and to begin actively restoring and/or maintaining those desired conditions across the land. An excellent example of this step is the Jims Creek forest restoration project on the Middle Fork Willamette Ranger District, which is in the process of completing an initial 400-acre "demonstration project" portion of a 25,000-acre plan.

The Jims Creek project has demonstrated the feasibility, profitability, and general benefits of conducting landscape-scale forest restoration projects on federal forestlands, but it is also a good example of how much time can be spent in putting these projects together, as well as the ease and quickness with which they can be stopped by adversarial legal actions. This project was initially conceived by a local US Forest Service forester/project manager, Tim Bailey, who then spent the better portion of the next ten years shepherding his vision through the myriad public meetings, scientific reviews, committee presentations, promotional tours, and other hurdles needed to get things underway on the ground.

Picture 5 shows Bailey in front of a portion of the Jims Creek Project in 2010. This area had already been treated by removing most of the invasive conifers established during the past century, and by broadcast burning the ground so as to remove excess litter and logging debris. Note the scattered trees that have been left behind: widely spaced pine of several different age groups, from seedlings to saplings and second-growth to old-growth. Also note the small herd of elk grazing directly above Tim, near the crest of the hill.

Picture 6 is the same herd of elk as the previous picture, seen through a zoom lens. The small charred stumps and large woody debris in the foreground will soon rot away or be consumed in the next few surface fires. The reddish-brown pattern is bracken fern, a plant harvested in large quantities by many Oregon tribes for its starchy roots and asparagus-like "fiddleheads" that grow in the spring. In a few more years, with a few more broadcast burns, this area will appear very similar to what it must have looked like hundreds of years ago.

Additional restoration has been halted at this time due to an infestation of red tree voles ("tree mice") that accompanied

Photograph 5: Tim Bailey and elk herd on Jims Creek site.

the migration of Douglas-fir trees into the project area during the past century. These rodents are protected against logging under a federal "survey and manage" regulation, despite the fact they are not a threatened or endangered species.

This type of work stoppage, based on new federal regulations and litigation initiated by environmental organizations, has become the main difficulty in beginning and completing forest restoration projects in Oregon and throughout the West. Of the 25,000 total acres of this project within the Middle Fork Ranger District, 7,000 acres are privately owned and managed for maximum timber production; more than 7,000 acres have been classified as spotted owl habitat; approximately 7,000 acres are in remote areas that would likely include the "taking" of spotted owls; and the remaining 4,000 acres are populated with regulated tree voles. A river flows through the project area that contains two listed fish species and "there is a perception on the part of the regulatory agencies that this type of restoration work can have a negative effect on fish."

Despite these hurdles, there is a lot of work needing to be done and a lot of people wanting to do it.

Conclusions

Forest restoration projects should be conducted on a landscape-scale basis in order to be effective biologically, aesthetically, and economically. Project boundaries should include sufficient commercial materials to treat the project area and show a profit. Profitable and beneficial actions are sustainable on a long-term basis, as we have learned from more than 10,000 years of forest history in this region.

The actions needed to restore our forests to earlier, more desirable conditions would create thousands of jobs for decades, jobs to make the best use of our resources.

protect our old-growth and its wildlife, and greatly reduce the likelihood and severity of wildfire when they did take place.

Based on my own experiences and observations, I think there are four things that must be in place for forest restoration projects to be successful on a long-term basis:

I remain certain that the adoption of these practices, as defined, would have many immediate and positive effects on forest health, old-growth preservation, endangered species protection, rural economies, international trade balances, and many other economical, ecological, cultural, historical, aesthetic and recreational values associated with Oregon's forests.

Photograph 6: Close-up of 15-16 elk in restored prairie.

1) Areas slated for restoration should include sufficiently broad boundaries and specifications to allow projects to be profitable;

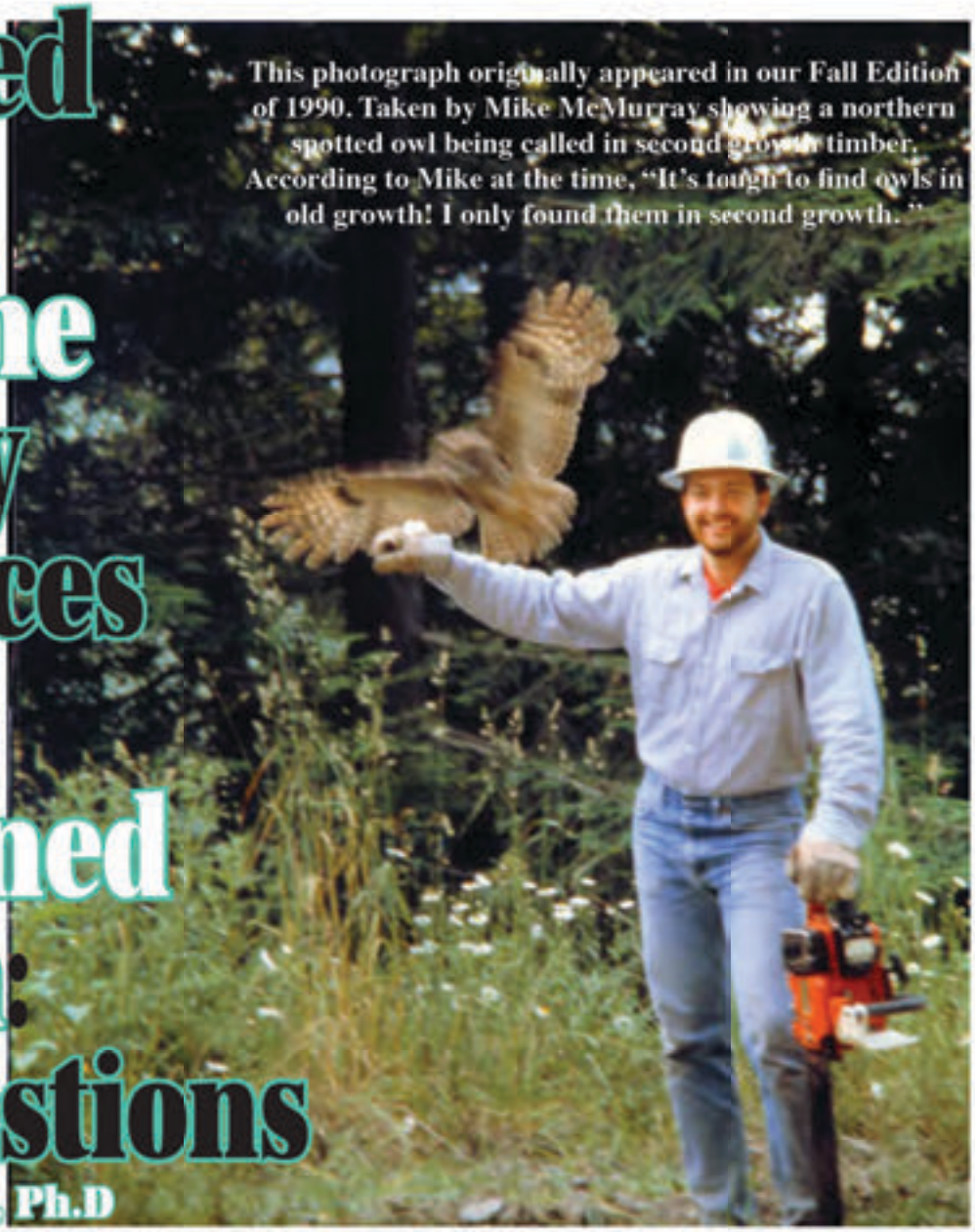
2) Restoration projects should be landscape-scale (25,000 to 250,000 acres) in size in order to be economically efficient and biologically effective over time;

3) Local residents and businesses should be in strong support of restoration projects, and be given access to all information that develops during the process;

4) Local project managers should be knowledgeable and capable of communicating scientific, technical, and political aspects of a project to local citizens.

The degradation, destruction, and loss of our federal forests and grasslands to wildfire, bugs, and disease will continue to escalate so long as we continue our current path of passive avoidance and neglect. Restoring our Nation's forests means restoring people – in part, as active managers – to our lands. The benefits for doing so have been listed; the impediments to getting started have been largely self-inflicted, are almost entirely political (rather than scientific or humanitarian), and can be readily surmounted, given effective leadership or common outcry. The best time for doing something

Spotted Owls and the Spotty Sciences that Spawned Them: 5 Questions



This photograph originally appeared in our Fall Edition of 1990. Taken by Mike McMurray showing a northern spotted owl being called in second growth timber. According to Mike at the time, "It's tough to find owls in old growth! I only found them in second growth."

By Bob Zybach, Ph.D

Spotted owls have now been in the news for more than 40 years; were listed as an endangered species via the Endangered Species Act in 1990; have been actively managed since 1992 by classification of millions of acres of federal forestlands in Washington, Oregon, and California as "critical habitat" -- and have still declined in population at an estimated rate of 2-3% a year ever since.

No one will argue that these results are based on political decisions that have had unexpected and wide-ranging cultural, biological, economical and aesthetic repercussions; particularly in the Pacific Northwest. Some have even referred to these circumstances as a "major social experiment." According to federal legislation and much of the popular press, spotted owl legislative decisions have been based on the "Best Available Science," the "newest" scientific information, and "scientific consensus."

But were they really? And even if true, was all of this "newest science" used to make wise or thoughtful legislative decisions? Efforts to stabilize or increase spotted owls numbers have cost American taxpayers tens of billions of dollars, been partly responsible for unprecedented numbers of catastrophic wildfires, caused the loss of tens of thousands tax-producing jobs for western US families, created economic hardships for hundreds of rural counties, towns, and industries, and indirectly resulted in the deaths of millions of native plants and animals.

Was that part of the plan? Should we continue down the same path to "recovery" that has resulted from these decisions? My personal concern is not the politics involved in making such decisions – that's what politics are for. My concern is that the scientific process is being misused and degraded via such politics, thereby reducing public faith

in the credibility and capability of science in general and scientists in particular. Also, I think the public should be direcly involved in such decision-making processes and not continue to leave it up to university and agency committees and the courts. Lawyers on both sides of the table get paid in these disputes, and so do politicians and government scientists – it is just the loggers, truck drivers, sawmill workers, foresters, engineers, tree planters, and construction workers that are left with the consequences.

The American public has been told that the scientific information used to drive spotted owl political decisions has been "peer reviewed," often with the declaration that it is the latest and best information available for making such decisions (and thus leaving "science" and scientists as scapegoats when things don't work out; i.e., "politics"). The quality of peer reviewed science, however, depends on the chosen method of review, the qualifications of reviewers, and the review criteria – which are typically expressed as a series of questions.

The US agencies in charge of managing public resources have not been forthcoming about the scientific information and quality of peer reviews used to drive their policies and decisions. There is no logical reason the American public has been excluded from this process, nor is there any logical reason to continue such exclusion. The following five questions are intended to begin a more transparent and scientifically credible review of the "science-based" management decisions involving spotted owls. These criteria are just as valid for public discussion as they are for scientific review, and I believe should become part of the public debate on these animals.

1. Are Spotted Owls Even a Species?

This is a trickier question than you might suspect. When I was a kid in public schools I was taught that animals that could biologically breed and produce viable offspring were considered the same species. A few anomalies such as lions, tigers, horses, and burros usually stretched the limits of these discussions; otherwise, viable offspring was the rule. The generation of Americans who taught this basic approach to biological taxonomy were members of the same generation that passed the Endangered Species Act in 1973, as spotted owls were first being introduced to the general public. What was the principal intent of this legislation? More importantly, how were they defining "species?"

The most common owl in North America is called the "hoot owl," or "barred owl." It looks and sounds almost exactly like a spotted owl, occupies the same range, and has successfully bred and produced viable young with spotted owls. Are spotted owls therefore, just the western-most cousins of the brown-eyed hoot owl family? Or did some committee of nameless scientists give them separate Latin names that somehow transformed them into separate species?

And if they really are the same species, shouldn't this whole "critical habitat" operation be shut down ASAP and the people who assembled it be held accountable?

The analogy I have been using for several years is probably not politically correct, but makes this key point in terms most audiences can relate to: 'there are far greater variations in physiology, vocalizations, coloration, preferred habitats, diet, and appearance between a Pygmy and a Swede than between a barred owl and a spotted owl.' Sometimes some people seem uncomfortable by this comparison, so potatoes, red and yellow roses or German shepherds and French poodles can be substituted as discussion points if the audience is more familiar with those species.

The point is, humans have mastered selective breeding and domestication of many species of plants and animals – and now we are trying to do the same thing with a particular group of wild owls. The public, at least, should know what it is spending such enormous sums of money on – and if it's only to breed a particular variety of common hoot owl, shouldn't that information be known and perhaps reconsidered?

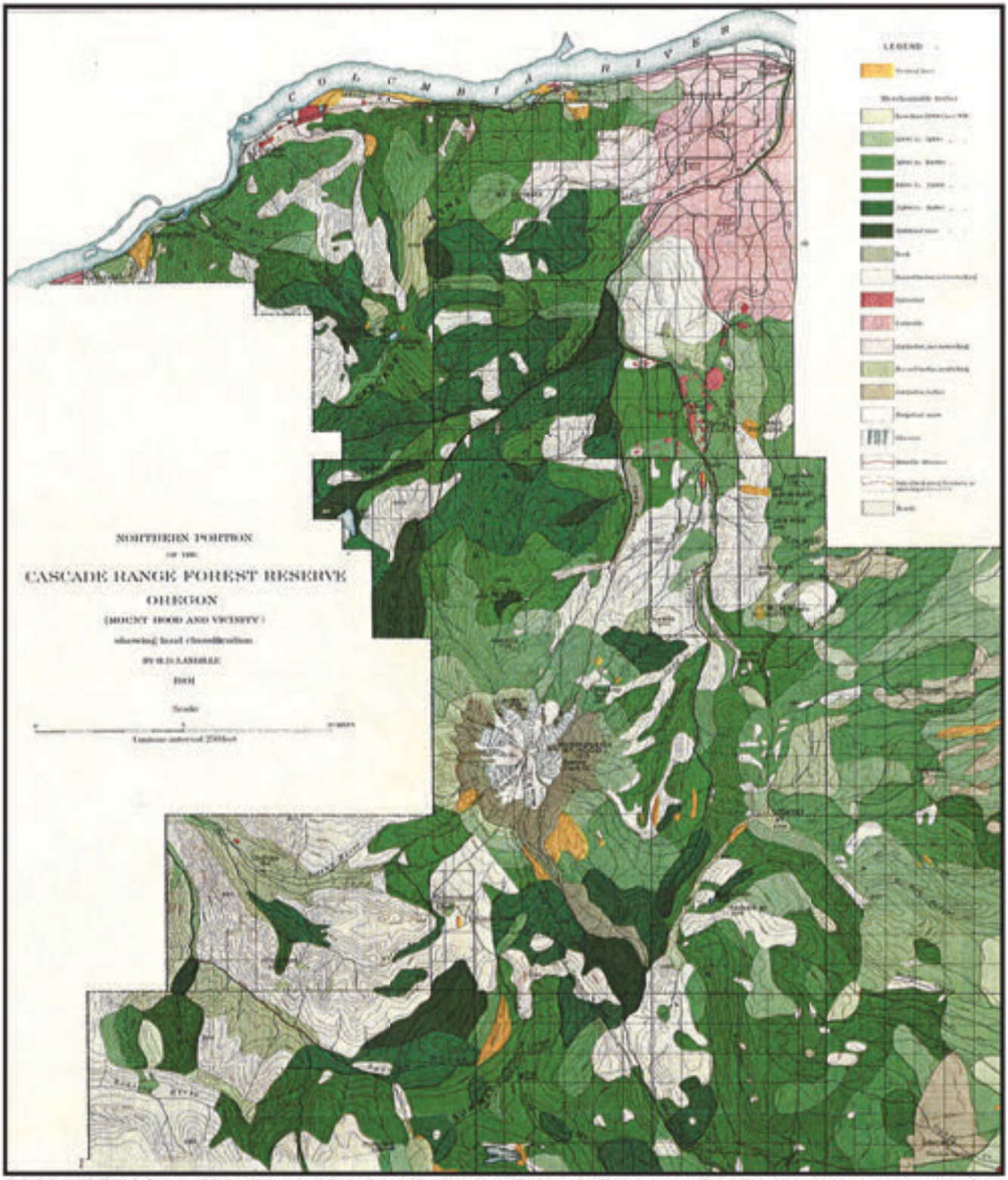
2. What is so "Critical" About "Habitat"?

In 1992 the federal government designated several million acres of Pacific Northwest forests as "critical habitat" for spotted owls, thereby fundamentally changing the management methods and focus of our public forests. These lands were no longer managed by the US Forest Service and Bureau of Land Management foresters, but rather put into the hands of US Fish and Wildlife Service (USFWS) biologists – who declared them off-limits to logging and most other commercial activities. These same lands had been used for subsistence and recreation by generations of American families, and for hundreds of generations of local Indian families before them. Now it was being made into a massive and unprecedented reserve for a single species: spotted owls.

These so-called "critical" properties were designated by dozens of 2.7 mile diameter "crop circles," supposedly based on the "home range" of a nesting spotted owl. The final result was much like the cookies or biscuits shaped for your mom with drinking glasses or teacups when you were first learning to bake. The circles mostly correlated to owl sightings and were concentrated in public lands the USFWS did not want logged. Thus, about seven million acres of some of the world's finest timberlands were abruptly removed from management for human uses for the first time in history. These designations were transformative and unprecedented, yet quickly adopted without independent scientific review or substantive public discussion.

Environmental activists and some scientists have long claimed that spotted owl habitat used to exist in far greater amounts before 1940 than it does now -- therefore, spotted owl numbers must have been greater in the unknown past than they are now. This is a baseless assumption that cannot be documented and therefore needs serious critical examination before acceptance – much less widespread adoption at an enormous cost to taxpayers or treatment as a "fact."

In 1996 I wrote a research report for a Portland, Oregon law firm dealing with this issue. My study area was the Co-



1901 USGS Map of Mt. Hood Vicinity of Oregon Cascade Reserves. Darkest green polygons below 4,000 feet elevation were most likely to contain spotted owl habitat 115 years ago (Zybach 1996: 6).

lumbia River Gorge, including thousands of acres of private and federal forestlands along both Oregon and Washington sides. My findings showed – and documented – that spotted owl "habitat" (by current definitions at that time) was unlikely ever more than 5% or 10% of the total study area during anytime since the 1790s. Subsequent research over two million other forested acres in western Oregon have yielded similar documented findings.

There is no demonstrated correlation between owl populations and artificial designations of "critical habitat"

zoning. These areas appear far more critical for the survival of agency biologists and ecologists than for owls of any stripe or spot. Predator-prey relationships seem to have much more to do with owl populations than forest structure – an assertion borne out by efforts used to restore endangered condor populations, which are kept and bred in cages, and by the fact that at least one agency wildlife biologist caught and kept a spotted owl as a family pet for 30 years.

Dr. Ben Stout in spotted owl habitat near Mt. Jefferson Wilderness on the western shore of Round Lake, May 15, 2004 (photograph by B. Zybach, www.ORWW.org).

3. Are Barred Owls a Living Example of "Natural Selection?"

"Darwin's Finches" are 15 species of closely related birds – but with entirely different beaks and feeding habits, adapted to their local environments. These birds, and their individual variations, were first noted by Charles Darwin in his exploration of the Galapagos Islands in 1835, and were instrumental in the development of his theories of biological evolution and "natural selection."

Darwin's finches aren't really finches at all, but passerines: members of an order of songbirds and perching birds containing more than 110 families and more than 5,000 species – including Darwin's 15 finches. Passerines are the second most numerous vertebrate families on the planet, following bony fishes, and the basis for most subsequent findings and theories regarding evolution.

In the mid-1900s, Darwin's thoughts on natural selection were being refined into "ecological niche" theory, a systematic look at "how ecological objects fit together to form enduring wholes" (Patten and Auble 1981). It is basically an effort to systematize Darwin's theories so they can be diagrammed and programmed into mathematical computer models.

Spotted owls were first described in California in 1857, in Arizona in 1872, in Washington in 1892, and in Oregon in 1914. Barred owl were first described in 1799 in the eastern US, expanded their range westward to Montana in the 1920s, and were interbreeding with spotted owls in Western Oregon and Washington by 1975. From all historical perspectives, it appears as if two isolated populations of hoot owls – western and eastern – have coincidentally expanded their ranges during the past century or so, and have now

joined together to form viable hybrids that are replacing former spotted owl populations. How is this any different than Europeans and Africans colonizing North America and replacing Native American populations as they "expanded their range?"

In 2007 the US Fish & Wildlife Service began a long-term program of systematically killing barred owls in order to maintain the genetic purity of local spotted owl populations. You can use dogs or roses – or humans – as analogies here to see how artificial breeding precedence is being used. Is this a god-like attempt to control evolution, simply another human effort to artificially produce desired breeding characteristics, or some kind of ecological niche theory testing opportunity?

Depending on the rationale used to justify these actions, the next questions become: "Is this method logical or practical?" And, "How much does it cost?"

4. How Reliable Are Computerized Predictive Models?

Modeling isn't rocket science – it isn't even a science. Computer sciences made rapid gains in quality during the 1970s and 1980s, with one result often being modeling predictions accepted as reasonable substitutions for actual field observations and independent analysis -- especially by other modelers.

Wildlife models are almost exactly the same thing as "Sims" computer games, but with a lot more acronyms and algorithms in their attempts to mimic actual life. And then predict the future. Making predictions and comparing them with actual outcomes is a hallmark of scientific methodology, but when predictions are based on unstated assumptions, unproven theories, and "informed" speculation – all typical modeling characteristics -- then the product can be little different than any other computer game. Models are a very useful tool for summarizing current knowledge and suggesting possible futures, but they have proven no more capable of predicting future conditions and catastrophes than ancient oracles or modern religious leaders and politicians. Or most scientists.

In his book "Best Available Science (BAS): Fundamental Metrics for Evaluation of Scientific Claims" (Moghissi et al. 2010), Dr. Alan Moghissi categorizes computerized predictive models into five basic types. Those typically used to model wildlife populations and habitat correlations he terms "primary" and "secondary" models. Despite their inherent weaknesses, he observes that society "has no other choice" but to use primary models in making certain decisions. Regarding secondary models, however, he states, "a society that bases its decisions on these models must accept the notion that it may waste its resources."

Often, the only people said to be "qualified" to assess models and modeling methods are "other modelers." The results have not been good. It is time to shine some daylight on this industry and have actual environmental scientists and concerned members of the public take a better look at "the man behind the curtain."

5. What Do Government Scientists Say About Owl Recovery Plans?

Certainly, if the US government was going to spend billions of our dollars, ruin the economies of hundreds of our communities, and kill millions of wild plants and animals in the process, they would have at least used "peer reviewed" science – and been transparent in their methods -- wouldn't they?

In 2007 a number of prominent university and agency scientists that had help create the spotted owl "recovery plans" were asked, in essence, by USFWS to review their own work. Not surprisingly, they decided it was pretty good stuff and – despite declining spotted owl numbers – we should be doing more of it.

The "Scientific Review of the Draft Northern Spotted Owl Recovery Plan and Reviewer Comments" was written by Steven Courtney, Jerry Franklin, Andy Carey, Miles Hemstrom, and Paul Hessburg, several of who also appear prominently in their review bibliography – often for work done for, or used by, the USFWS. Despite the obvious potential for bias with this arrangement, the work was conducted openly and transparently and resulted in several useful observations and recommendations, including:

- Current models of owls and their habitats are largely heuristic. Hence decisions on important issues such as reserve size, spacing, etc., must be made with relatively weak predictive tools.
- The approach of the Draft Recovery Plan for designating habitat goals is deeply flawed. However the need to set locally appropriate and sustainable habitat goals remains a valid goal.
- The threat from wildfire is underestimated in the Draft Recovery Plan . . . This threat is likely to increase given both current forest conditions, and future climatic change.

Conclusions

1) Federal spotted owl regulations have been implemented during the past 25 years at an enormous cost to American taxpayers; particularly those living in rural timber-dependent areas of the western US.

2) Current plans are a proven failure. Targeted owl populations continue to decline despite an unprecedented public investment into their maintenance.

3) Barred owls and spotted owls may be the same species, in which there is no logical need to continue managing for the survival of either one. Or, they may be different species and we are simply witnessing natural selection in progress.

4) The scientific basis for these plans should be considered in full light of public and scientific review before they are continued much longer; the methods by which agency modelers and university theorists apparently dictate federal policies should also be reconsidered.

5) Scientific research and review teams dealing with spotted owl and critical habitat issues should also include scientists with an understanding of current and historical roles of people in the environment, such as landscape historians and cultural anthropologists.

Newton's Paradox:

Why Fish Prefer Clearcuts Over Streamside Buffers

By Dr. Bob Zybach, PhD.

Dr. Mike Newton is the well-known Professor Emeritus of forest ecology at Oregon State University (OSU). During the past 20+ years he has performed detailed research on a number of western Oregon streams, measuring temperature, volume, primary production ("fish food"), and fish volumes in forest streams displaying a wide variety of forest conditions. His measurements have taken place in clearcuts, mature forests with no logging, and in single-buffered and doubled-buffered stretches of fish-bearing streams in the Coast

Range and western Cascades.

In 1971 Oregon became the first State to adopt a Forest Practices Act requiring streams be protected from negative impacts by logging operations. There was no scientific basis to the adopted rules at that time, and streamside buffers (undisturbed vegetation left along the banks of fish-bearing streams) were primarily for the purpose of reducing soil erosion and water pollution.

In 1987 the rules were amended to require larger buffer widths; in 1992 the NW Forest Plan extended buffer widths to 150+ feet, now with a focus on enhancing or maintaining fish habitat. It was thought that shade and fallen trees from buffers maintained cooler water temperatures, and that was a good thing for fish – particularly salmon and trout ("salmonids").

Newton's forest research in western Oregon began in 1959. In 1990 he began establishing long-term studies on select forested streams. Now, in 2013, those studies are beginning to reveal the true scope of logging effects on native fish populations. Newton's most surprising finding: fish and their food did better in areas of streams that had been opened to sunlight by logging or tree fall gaps, compared to areas heavily shaded beneath forest canopies. They also did better in full sunlight than in logged areas with required buffers. Others have observed the same.

That was the paradox: Why do fish do better (more and larger fish) in areas with little or no streamside vegetation than they do in "habitats" specifically designed and legislated for their well-being? In fact, it appeared that required buffers actually inhibited fish populations and were counterproductive for their intended purpose: that is, salmonids did much better in streams that had been clearcut with no buffering vegetation than they did in streams with partial buffering; which in turn did better than streams with full buffering, or that hadn't been logged at all, even when warmer than the regulatory standard.

Current Oregon Regulations

I was involved in forest management issues as a reforestation contractor when riparian vegetation first became a topic of general discussion and new regulations in Oregon during the 1970s. Prior to then, and even for a while thereafter, the US Forest Service had "stream cleaning" contracts, where contractors were charged with removing all evidence of logging and other management activities from streams – even leaves and small twigs! The work made little sense: twigs, leaves, limbs and trees would keep falling into the stream after the workers left, and were being washed downstream to the ocean in any instance. The first contract I ever did of that nature was also my last; about 15 stream miles from the ocean, in the late 1980's.

During that same time period, efforts were successfully being made to preserve remaining old-growth trees from harvesting activities, and large amounts of forest were thus being set aside and put off limits to logging. Soon, hydrologists and fish biologists followed this lead and began championing similar set asides for riparian areas, claiming the trees and shrubs were needed to 1) help offset erosion, and 2) provide good habitat for fish. Regulations followed, and harvesting next to streambanks was soon forbidden.

The argument then became how wide unlogged buffers should be, and regulations began being revised and more riparian land began being removed from active management operations. The subsequent research of Newton and others examined whether buffers actually led to acceptable regulatory standards for fish-bearing streams. These studies revealed that small differences within buffer rules could make the difference between meeting or not meeting the new regulations.

Thirty-two streams with full (two-sided) buffers were measured over time, but several had somewhat wider buffers than the current Department of Forestry rules required, due to the Protection of Cold Water Standard criterion set by the Oregon Department of Environmental Quality (DEQ). Fish were not evalueated.

This triggered the question of whether wider buffers were actually more effective. The DEQ study considered only buffer width on both sides of a stream -- and water temperature -- but did not consider other factors influencing the fishery; i.e., the fish themselves. As a result, the several reports of general increase in fish productivity when clearcuts extended to the water's edge were not considered in the state-sponsored study of the use of buffers in meeting the regulatory criteria. Temperature data was accepted from Newton's work; fish and primary production data were not.

The Importance Of Stream Temperature To Salmonids

One of the earliest studies of the relation between water temperatures and salmonid populations was by Geoffrey Greene in North Carolina in 1950, comparing the different temperatures and trout populations in two streams: one that ran through a forested area, and another exposed to full sun as it ran through farmland. He asserted and confirmed that the "maximum temperature limit" for rainbow and brown trout was about 80 degrees Fahrenheit.

The maximum year-long measures of the farm stream varied from 65 to 79 degrees F., while the forest stream never became more than 66 degrees -- which Greene considered the "optimum temperature" for brook trout. Neither stream reached the fatal 80 degrees during the year. From these findings he concluded:

"once-productive trout streams can be restored by the control of stream temperatures through good watershed management." To achieve that objective he thought it important to manage "all aspects of a watershed as a unit," rather than be managed "on a piecemeal basis."

Greene also recognized that trout obtained almost all their food from aquatic organisms, "which are believed to thrive more abundantly at higher temperatures." He therefore advised: "the most satisfactory practices would be those that raised the feeder stream temperatures to the maximum productivity of the aquatic organisms, yet did not increase the downstream temperatures above the limit of tolerance" via "the careful manipulation of vegetation and other kinds of land use practices." Many of Greene's 1950 findings and edicts remain excluded in determination of the basis for managing salmonids and water temperatures in trout bearing streams to this time.

Of greater scientific significance, because of geographic range, technical sophistication of measures, and sheer volume of research over time, is the numerous papers and reports by J. R. Brett, beginning in 1952 and continuing into the 1990's. Brett's research showed that the warmer the water, the more productive for well-fed fish up to about 64 degrees F.; whereas at 68 degrees well-fed fish grew at 90 percent of the maximum rates observed at lower temperatures -- thus confirming, with greater precision, Greene's findings.

The History Of Disturbance

History tells us that fish have evolved and survived disturbances far more severe and widespread than clearcut logging or farming, including: windstorms, catastrophic wildfires, volcanic eruptions, mass flooding, major landslides, extended droughts, etc. Such disturbances have almost always resulted in significant long-term changes to streamside shading. Native fish have therefore survived and evolved with fluctuating stream temperatures — daily, seasonally, and occasionally. Their ability to swim to more favorable conditions during these changes should not be discounted.

As one result, the DEQ standard of 64 degrees F. for most of the salmonids and their habitats in Oregon fits neither the streams nor the fishery. The streams vary so much, and the environments in which they flow vary so much, that one standard cannot be made to adapt the fisheries that are acclimated to those streams. Neither the streams nor the fish are as static or as homogenous as the standards: they never have been and they never can be.

The DEQ criterion currently under consideration for protecting the cold water standard is that no forest practice shall allow an increase in the 7-day mean temperature of water of 0.5 degrees F. or more downstream from a forestry operation, regardless of the natural temperature of the stream. A major technical problem is that existing temperature measuring equipment is only sensitive to plus or minus 0.32 degrees F., with a range of 0.64 degrees. The regulatory 0.5 degree variation can't even be accurately measured.

This requirement eliminated any forestry operation intended to maintain the riparian forest, or to provide improved growth and health of affected fish. Moreover, year-to-year variation in natural stream temperature is well over one degree. That meant the only way to enforce this criterion was to require there be no change at all in riparian forest cover; i.e., no logging or other active management allowed.

Research Methods

The question then became: What, other than temperature, limits primary productivity of streams? Answer: short-wave light energy, and the related photosynthetic process that supports the food chain. Newton's research in the past 22 years, conducted in large part with research assistant Liz Cole, has employed well over 100 "thermistors" registering summer-long stream temperatures at ½ hour intervals along several streams. Their placements bracketed clearcuts, partial buffers, and Oregon Department of Forestry's (ODF) Best Management Practices (BMP) streamside buffers. The instruments have recorded the years before harvests and from 5 to 17 years following harvests of several kinds.

Study streams ranged from eastern Douglas County to northern Lincoln County, all in western Oregon, in both the Coast and Cascade mountain ranges. This work is part of the OSU Watershed Research Cooperative (WRC), an organization with several other large watersheds under close examination. Streams in the WRC study have ranged from maximum summer temperatures of 50 to 68 degrees F. – all well within the desired range of temperature conditions for salmonids.

Newton and Cole's research within the WRC involved four low to medium elevation streams with basins of 600 to 1000 acres each, to determine how the arrangement and amount of streamside buffers in clearcut units influenced stream and air temperatures. Conditions included no-tree buffers, partial buffers 40-feet wide, and two-sided BMP buffers 50 to 100 feet wide. Impacts of clearcut logging on stream temperatures were determined based on time series analyses of post-harvest trends compared to pre-harvest trends.

Research Findings

Trends for daily maximums and means significantly increased after clearcutting in no-tree buffer units. Partial buffers led to slight (less than 2 degrees F.) or no increased warming. BMP units led to significantly increased warming, slight warming, or no increased

warming, depending upon the stream. The effects of clearcutting and different buffers on daily minimum temperatures also varied by stream. Maximum temperature peaks were not maintained in downstream units; that is, elevated temperatures within logging units quickly returned to average stream temperatures within short distances of leaving the units.

Clearcutting led to increases in daily maximum and mean air temperatures above the stream for most buffer designs, with the greatest increases in the no-buffer units. Changes to daily minimum air temperatures varied among buffer design and streams. Although there were some inconsistencies in trends with different buffer designs among the streams, there were also differences related to buffer implementation, changes in solar radiation, and stream features.

Several studies have described fish tolerance to elevated temperatures, the ability of fish to readily adapt to such changes within a 24 hour time period, and the very critical role of food availability with rising temperature. The survival of salmonids at temperatures 77 degrees F. and above depends on the duration of exposure. The importance attached to stream temperature in regards to fish has been widely cited, but seldom with respect to the variability with which fish can respond to a range of such temperatures

Clearcuts with no buffers showed the largest positive response — but all cut units measured better than any unlogged units.

Peak temperatures above 64 degrees F. are necessary to achieve mean temperatures in the optimum range for salmonid metabolism. The daily fluctuations of temperatures ranged from 2 degrees to 4 degrees F. in most forest streams within the study areas, with brief peaks and very productive means.

Stream reaches with some direct sun on them were the most productive for both the food chain and the fishery as long as they didn't exceed 71 degrees F. To this point, none of the 32 study area streams have reached that level.

Temperature changes in logged units did not persist more than briefly downstream as water moved into other environments, gaining heat each day and losing it each night.

Why Fish Like Light

Brome Creek, a tributary to Hinkle Creek, the site of a major WRC subbasin-scaled study in the western Cascades of Douglas County, demonstrated that full sunlight on the stream provided twice as much fish biomass as any other harvested unit, and all three harvested units produced more fish than any of the uncut units between harvested units. Other streams in the Hinkle Creek study also increased fish productivity after harvest.

Light clearly is responsible for fish growth. This result was despite the completely clearcut units reaching maximum (but not mean) temperatures of 71 degrees F., and were frequently above 64 degrees. Newton's studies in several of these streams showed that the periphyton and macroinvertebrate abundance ("fish food") was greatest where the most light reached the streams. On all streams peak temperatures were within the range in which fish growth was roughly 80 to 100 percent of growth observed at 62 degrees: the optimum.

The Argument Against Homogenized Standards

Several factors weigh against a single set of criteria for all streams. First, fish tolerate a wide range of temperatures. Mortality of salmonids begins only when held above 75 degrees F. for an extended period of time. Brief excursions to such temperatures reduce feeding rate and raise respiration reversibly, but extended exposure leads to slower, or even cessation, of growth before mortality begins.

Newton's observations of highest stream productivity occurred when streams were fully exposed to sun, sometimes when summer temperature peaks were well above the numeric criteria, revealing serious and costly flaws in the regulatory process.

The notion of requiring more shade when less shade equates to more biological productivity of streams represents a conflict between regulatory convenience (meeting a numerical criterion) and resource sensitivity (increasing fish biomass). Moreover, many streams are far too cold for optimum fish metabolism, and yet the Protecting Cold Water Standard prohibits operations that would provide both a more productive temperature range and more efficient harvesting operations.

Recommendations

Newton makes the following recommendations, based on his own research and on the research of others:

1) The approach to stream quality should be one that first reflects that water quality in most Oregon commercial forestlands is excellent;

2) There should be flexibility in management options that allow optimizing tree harvest in order to improve fisheries productivity; and

3) Such an approach allows (or encourages) periodic entry into buffering forests in order to maintain optimum conditions — an activity not allowed by current rules.

Newton's paradox: and at a steep cost to Oregon taxpayers, businesses, counties, and fish populations.

Note: A longer version of this article, with active links and references, was first posted on A New Century of Forest Planning blog, where it received nearly 50 comments of interest

"THE OREGON PLAN"

An Oregonian's Solution to the Ongoing Forest Wars of the Western United States

By Bob Zybach, PhD.

I have been a friend and business associate of Wayne Giesy's for more than 25 years. During this entire time he has discussed with me (and anyone else who will listen) his ideas for resolving the conflicts surrounding the management of our nation's forests -- and particularly those forests in the western United States.

Nick Napier, Dave Rainey, Wayne Giesy, and Bill Hagenstein at the Portland Wholesale Lumber Association's 2010 annual meeting in Portland, Oregon. Giesy has promoted his idea for improved management of Oregon's federal lands to forest industry, environmental organizations, and elected officials for the past 30 years, during which time it has evolved into the "Oregon Plan for Federal Forests."

During the past 30 years conflicts between the timber industry and environmental activists regarding the management of our federal lands have become so well known they are commonly referred to as the "Forest Wars" a conflict in which opponents have taken sides as to whether our nation's forests should be principally managed for the economic and resource benefit of local and national interests, or whether they should be allowed to "function naturally" for intrinsic values and not necessarily be subjected to harvesting at all. These conflicts are not peculiar to just Oregon or to the western US, but have also been taking place in other countries as well, such as Brazil, Venezuela, Australia, and Tasmania.

Giesy's proposed solution, commonly known as the "Giesy Plan" for many years because of its principal authorship, is to divide the lands into two parts; one to be managed for multiple use – with an economic focus -- along more traditional lines, and the other to be managed in accordance with environmental concerns. The former approach would be subject to existing state and federal laws and regulations regarding riparian areas, road construction, etc., and the latter would allow for whatever harvests were needed to maintain forest health, recreational uses, wildlife habitat, and other environmental concerns. These separate approaches would be taken for an 80-year period to fully test them out, and then reconsidered at that time based on existing results and perceptions.

After being discussed and reconsidered in detail with influential members of both communities, the plan has transitioned into a more representative "Oregon Plan,"

by which it is now known. This idea has been presented in many venues and with many individuals – industrial foresters, tree farmers, politicians, and environmentalists -- over the past 30 years (Wayne recently turned 94), and modified accordingly as it was being considered. In February Giesy even had a one on one meeting with Oregon Governor John Kitzhaber to discuss a possible presentation of this plan to the National Governor's Association Winter 2014 meeting in Washington, DC.

Is this really a possible solution to resolving past conflicts and moving forward with the management of our common forest resources? A growing number of people and organizations on both sides of the table seem to think so.

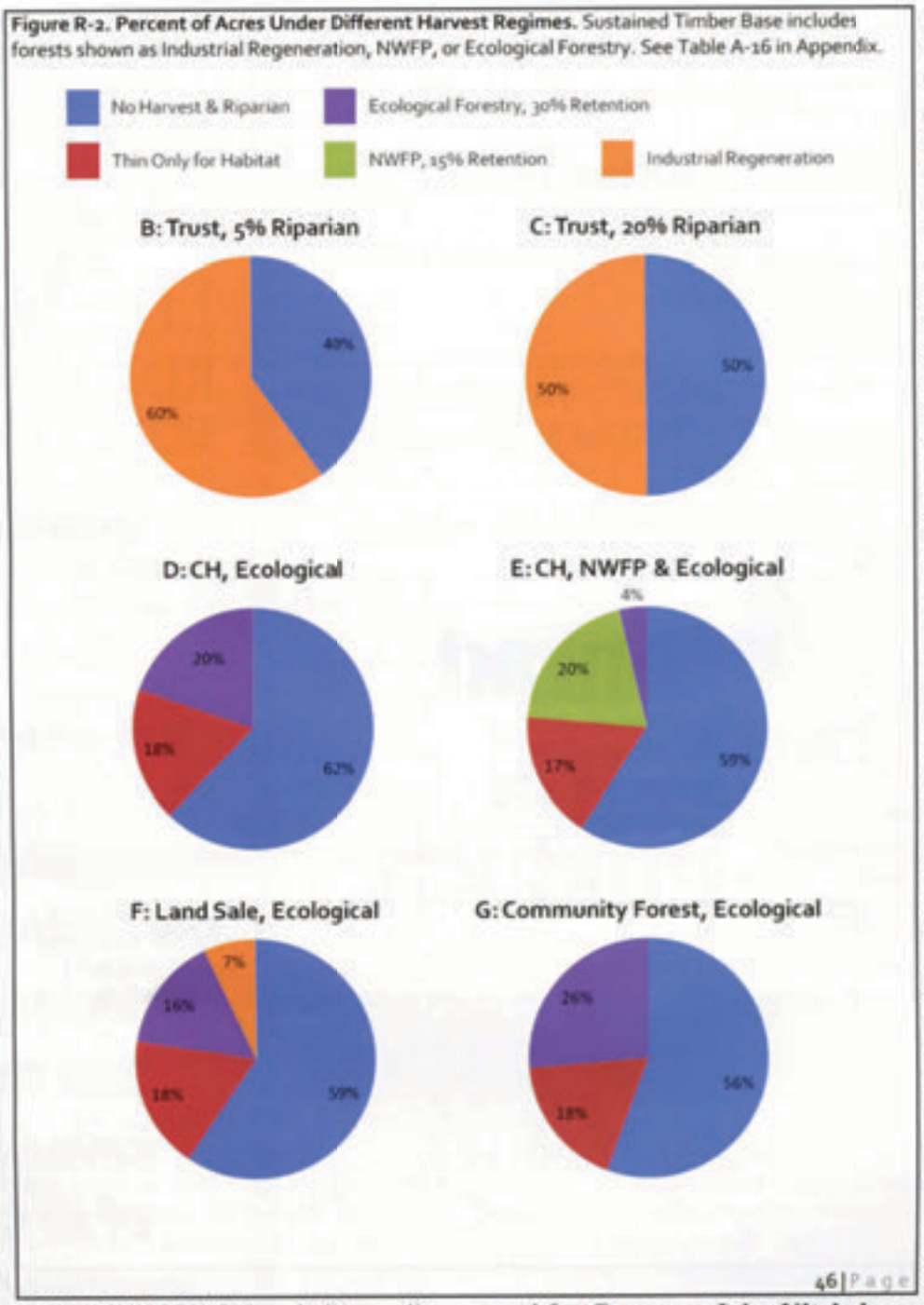


Figure R-2. Percent of Acres Under Different Harvest Regimes. Sustained Timber Base includes forests shown as Industrial Regeneration, NWFP, or Ecological Forestry. See Table A-16 in Appendix.

The 2013 "O&C Lands Report" prepared for Governor John Kitzhaber displays these pie charts as possible options for management of federal BLM forestlands in western Oregon. Note that Option C is identical to the 50/50 management split first proposed by Wayne Giesy 30 years ago, and that other options simply constitute "variations on a theme."

Background

Sometime in 1983, shortly after Wayne first began work as an employee of Ralph Hull, of Hull-Oakes Lumber Co. in Dawson, Oregon, he approached Ralph with his concerns in regards to increasing environmental actions to restrict logging activities on federal lands. At the time Wayne thought that in order to secure a stable supply of logs from BLM O&C Lands — where Hull-Oakes then obtained most of its raw materials — a deal should be made between the forest industry and the environmental organizations to divide the disputed lands into two portions: 1/2 for environmental purposes and 1/2 for public product needs. After nearly a year considering this idea, Ralph gave Wayne the authorization, resources and encouragement needed to present this idea to other forest industry leaders, with full backing of Hull-Oakes Lumber Company.

When Wayne first presented his idea to a number of forest industry leaders he was openly laughed at, and accused of "giving away the farm" by other members of

these groups who couldn't conceive of the environmental organizations having enough power or credibility to obtain such a major commitment of public resources. At that time local loggers and sawmill owners had access to perhaps 85% of the standing federal timber in Oregon; today that number is much closer to 15% access, as the remainder has been dedicated to "critical habitat" for Threatened and Endangered Species, riparian "reserves," Wilderness, roadless areas, and other designated "set asides."

Giesy's idea first became publicly known through an editorial written and published by long-time and well-respected Albany Democrat-Herald editor, Haso Herring, in May 2003. Although Herring's editorial focused more on Wayne's suggestions regarding timber salvage from recent western Oregon wildfires rather than a basic division of all federal lands, he used the name "Giesy Plan" to label Wayne's thoughts: "The Giesy plan sounds visionary because it is based on common sense and assumes that obstacles can be overcome. That's the way most Americans used to think. Would that more of us did so now."

Current Iterations

Today the name "Oregon Plan" is used more often to represent Wayne's original proposal, as it had been considered for some time prior to Herring's editorial. Although its influence is generally not recognized or acknowledged in ongoing debates regarding the same forest management problems that existed 30 years ago, current proposals strongly mirror Wayne's original suggestions and certainly have their basis in his unvarying advocacy.

During the past two years, there has been significant political discussion concerning the need to resolve the long-standing debate between forest industry and environmental groups in regards to the O&C Lands in western Oregon. Every one of these efforts has focused on a division of public forestlands between competing timber production, environmental preserves, and riparian reserves — as first suggested by Wayne in the early 1980's, and actively advocated by him ever since:

In 2012 Oregon Governor John Kitzhaber formed an O&C Lands task force to address the problem of those forests to meet their federally mandated obligations. On February 6, 2013 the task force released a 96-page report that offered a series of options — each based upon Giesy's principal suggestion that the lands be divided between the opposing factions and managed according to their individual perspectives. A series of graphs on page 46 of the report illustrated a series of proposed options; with each one being based on Wayne's basic argument to equitably divide the land between resource production and forest preservation.

Also in 2012, Oregon Congressmen Peter DeFazio, Greg Walden, and Kurt Schrader developed a proposal, integrating the Kitzhaber report and based on the same concept developed by Giesy regarding the division of federal forestlands. The resulting proposed legislation, called the DeFazio-Schrader-Walden O&C Bill by fellow Congressman Doc Hasting, was included as part of the successful House Bill 1526. It has been generally supported by western Oregon members of the forest industry, but opposed by numerous environmental organizations, such as Oregon Wild, a long-time activist group based in Portland, Oregon.

Simultaneous to Governor Kitzhaber's efforts and those of Oregon's bipartisan Congressional team, Oregon Senator Ron Wyden — initially working with fellow Oregon Senator Jeff Merkley — had been fashioning a separate solution to the western Oregon O&C Lands stalemate, generally referred to as the "Wyden Bill." Senator Wyden's efforts began in 2011 and are based on a "legislative framework" he developed that features as its basis: "The legislation will create wilderness and other permanent land use designations whose primary management focus will be to maintain and enhance conservation attributes. This acreage will be roughly equivalent to lands designated for sustainable harvest"; i.e., the same approximate 50/50 split first suggested by Giesy more than 30 years earlier, and actively promoted by him to the Senator, his staff, and many others ever since.

Wyden's proposal was publicly released on November 26, 2013, and was immediately opposed by most environmental organizations, such as Oregon Wild, and by the major western Oregon timber industries in a co-sponsored press release. On the following day the American Forest Resource Council — which had generally favored the DeFazio Bill — even released a more critical response through their monthly AFRC Newsletter.

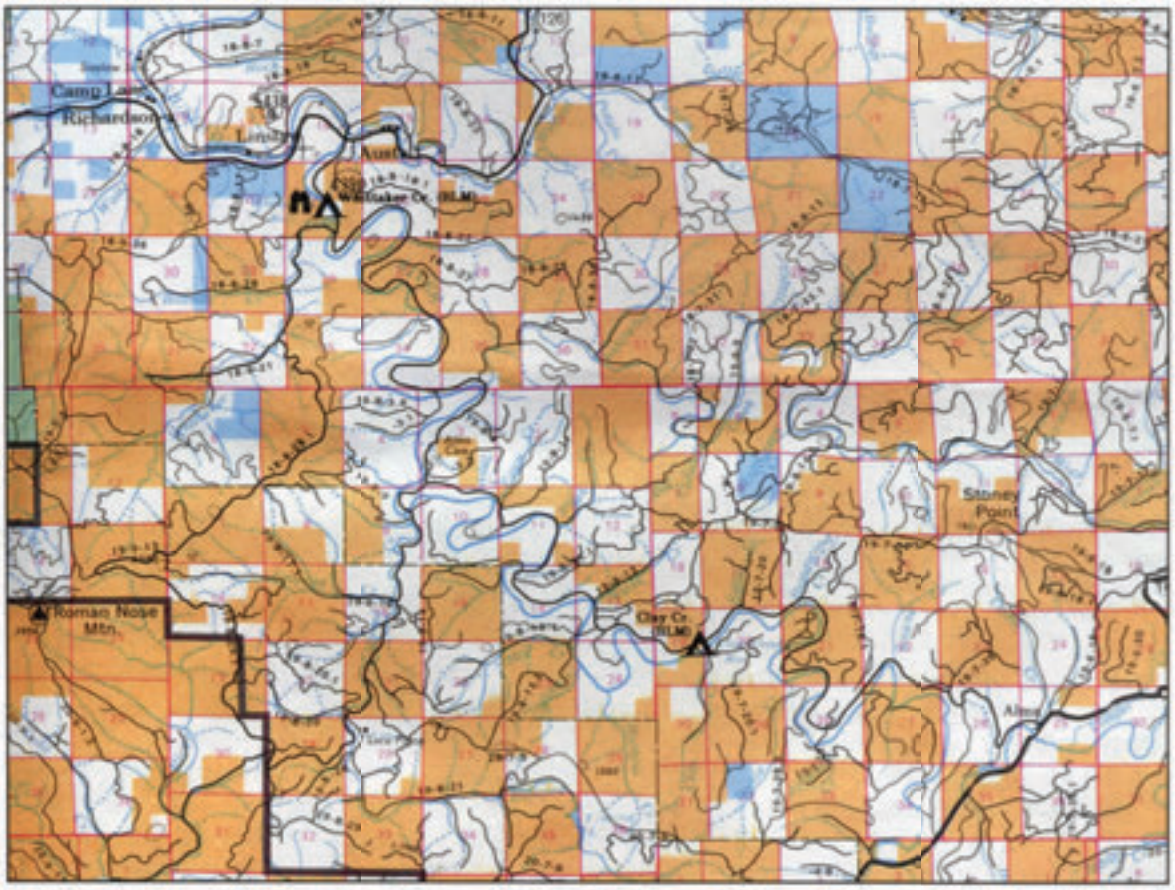
Oregon Plan Details

A more detailed look at the Oregon Plan — and the need for corrective management of federal lands in Oregon and in the remaining western States — illustrates the basic dependency of the Kitzhaber O&C Report, House Bill 1526, and the Wyden Bill on Giesy's original concerns and recommendations. The proposal is only six pages long, including four pages of supporting illustrations and statistics, and can be found online at: www.ORWW.org/Awards/2013/SAF/Wayne_Giesy/Oregon_Plan

The first page of the plan's summary contains most of Giesy's original proposal: a division of US Forest Service lands in the 11 western states as: 40% for environmental concerns; 10% for riparian protection; and 50% "to produce products for the American public," with certain conditions and restrictions. Ten "benefits" of adopting this idea are also listed, including: rural jobs, elimination of county payments, reduced imports, improved international balance of payments, reduced wildfire risk, enhanced wildlife habitat, and an elimination of existing "negative activities" by both sides of the debate.

The second page of the plan offers key modifica-

tions to the original proposal, following consultations with both environmental and timber management proponents, with management divisions being made along watershed boundaries. The key points include a stipulation to not designate any more Wilderness during the 80-year length of the proposal; to allow harvest and sales of products from lands other than Wilderness to provide a management income to the environmental side of the equation, and to allocate forestlands to each side along watershed boundaries, to allow for more efficient management of water, wildlife, and other intrinsic values to both sides.



This is a partial map of BLM's "checkerboard" land management patterns in western Oregon that are similar to other patterns of federal forest management in the western US. These square-mile segments represent arbitrary legal survey boundaries that do not follow more manageable watershed, ecological, or biological divisions across the landscape.

As the accompanying BLM ownership map illustrates, this latter approach would likely require an additional, preliminary step before much of the lands could be divided. In "checkerboard" ownership patterns common through much of the western US it would be necessary – and desirable – to use land sales and exchanges in order to consolidate interspersed ownerships into manageable subbasins before determining future management options.

Page three is a copy of a 2010 report using Oregon Department of Employment figures, showing 72,000 jobs lost in Oregon from 1989-2008 due to reduced forest management levels -- and compared to 88,000 Oregon government jobs created during the same time period; page four is a graphic illustration of the relative amounts of federal land contained in each of the eleven western states as compared to federal land holdings in the 37 eastern states (Hawaii and Alaska are not shown); page five shows two graphs depicting the increasing trends of both total wildfire acres burned annually in the US, and for average size of each wildfire during the 1960-2006 time period (with sharp increases in both trends beginning in the early 1990s); and page six is a bar graph comparing Net Growth of US Forest Lands compared to Product Removals for the same lands during the 1952-2004 time period -- 52 years in which forest growth has always exceeded harvests, and in which the greatest disparities between the two correlate strongly with the increased wildfire trends shown on page five.

Can the Oregon Plan actually work as it is envisioned? Obviously, there is no way to tell without trying it first. Have any other approaches worked in the past 30 years? The short and obvious answer is "no." At this juncture it appears as if there is nothing to lose and perhaps much to gain by opening these ideas up to public discourse and at least seriously considering their potential. Wayne Giesy remains committed to accomplishing that very result, and there are lots of compelling reasons to hope that he is right.

Historic Wildfires of Western Oregon, 1765 to 2014

By Dr. Bob Zybach

In 1934 William G. Morris, a forest scientist with the USDA Pacific Northwest Forest Research Station, wrote an article for the Oregon Historical Quarterly titled "Forest Fires in Western Oregon and Western Washington." A few months ago Jim Rombach, retired Weyerhaeuser forester and principal consultant of Rombach & Associates, commissioned me to update Morris' work. This article presents my current findings regarding the Oregon portion of that project.

A lot of major fires have taken place in western Oregon since 1934 (mostly beginning in 1987), and a lot more has been learned about the early fire history of the region since that time through scientific research and computerized mapping and analysis. To illustrate the "too incomplete" lack of historical data claimed by Morris, he even footnoted his article with a plea "to any reader having knowledge of additional facts or sources of information" to contact him directly at his address at the US Courthouse in Portland.

Morris was also the author of a definitive report on the 1933 Tillamook Fire and another on the history of lightning strikes and fires in Oregon. His work was influential in the writings and careers of such writers and foresters of that time as Stewart Holbrook – who wrote a well-known book in 1945 on catastrophic wildfires of the US (including the Tillamook Fires of 1933 and 1939) – and leading industrial forester Bill Hagenstein. These men, and others, helped form the Keep Washington Green and Keep Oregon Green movements that became instrumental in bringing public awareness to this problem.

As a partial result of these efforts, there were no major forest fires in western Oregon – excepting the Oxbow Fire of 1966 – in the 26-year period from 1951 until 1987. Since then there have been numerous such fires, mostly ignited by lightning and arsonists and mostly taking place on federal lands in on USDA National Forests (created by Congress in 1905), and on USDI BLM O&C Lands (created in 1937), and USDA Wilderness areas (created in 1964).

The following table depicts the major wildfires that have taken place in western Oregon from ca. 1765 until the present. These fires were not limited to forestlands, but that is where the large majority occurred. Criteria were fire size (typically,

Historic Wildfires of Western Oregon

Wildfire Name	Year	Mo.	Acres	County 1	Notes & Agencies	Cause
Millicoma	1765	?	200,000	Coos		Unknown
Mt. Hood	1800	?	10,000+	Multnomah	Volcanic eruption	Volcano
Willamette Valley	1826	9	10,000+	Yamhill	Indian burning fires	People
Wilkes Expedition	1841	9	1,000+	Jackson	Indian burning fires	People
Barlow Road	1845	10	1,000+	Clackamas	Wagon road-clearing fire	People
Oregon City	1848	7	1,000+	Clackamas	Provisional Government	Unknown
Yaquina I	1849	8	450,000	Lincoln	Indian and settler fires	People
Nestucca	1853	0	350,000	Tillamook	Indian and settler fires	People
Canyon Creek	1856	?	10,000+	Linn	US Territory	Unknown
Columbia Complex	1857	8	10,000+	All	Indian and settler fires	People
Jacksonville Complex	1864	8	10,000+	Jackson	Indian and settler fires	People
Silverton	1865	8	100,000+	Marion	Ranching and logging lands	People
Seven Mile Hill	1867	9	20,000+	Linn	Wagon road-clearing fires	People
Yaquina II	1868	8	300,000	Lincoln	Indian and settler fires	People
1868 Complexes	1868	8	200,000+	All	Indian and settler fires	People

Historic Wildfires of Western Oregon 1765-2014

Wildfire Name	Year	Mo.	Acres	County 1	Notes & Agencies	Cause
Coos	1868	9	125,000	Coos	Indian and settler fires	People
Silver Creek Falls	1886	8	1,000+	Marion	Ranching and logging lands	People
Barlow Road Complex	1901	8	85,700	Clackamas	USDI Cascade Reserve	People
1902 Complexes	1902	9	200,000+	All	27 deaths; 5+ towns	People
1910 Complexes	1910	8	100,000+	All	1 death; USDA NFs	People
Cedar Butte	1918	9	40,000	Tillamook	Ranching and logging lands	People
Astoria	1922	12	N/A	Clatsop	2 deaths; 30 blocks	People
Tillamook I	1933	8	311,000	Tillamook	1 death; ODF; CCC	People
Bandon	1936	9	N/A	Coos	11 deaths; 500 buildings	People
1936 Complexes	1936	9	50,000+	All	Ranching and logging lands	People
Tillamook II	1939	8	209,700	Tillamook	ODF; CCC; industrial lands	People
Tillamook III	1945	7	182,000	Tillamook	3 deaths; ODF	People
Hubbard Creek	1951	8	15,600	Curry	Industrial forestlands	People
Tillamook IV	1951	4	32,700	Tillamook	Fern burners; ODF	People
Roseburg Blast	1959	8	N/A	Douglas	14 deaths; 300 buildings	People
Oxbow	1966	8	42,900	Lane	1 death; USDI BLM	People
Silver Complex	1987	8	96,000	Josephine	Kalmiopsis Wilderness	Lightning
Bland Mountain	1987	7	10,300	Douglas	2 deaths; 8 homes; private	Arson
Warner Creek	1991	10	9,000	Lane	USDA Willamette NF	Arson
East Evans	1992	8	10,100	Jackson	USDI BLM O&C Lands	People
Hull Mountain	1994	8	8,000	Jackson	1 death; 44 buildings	Arson
Charlton Fire	1996	8	10,400	Lane	Waldo Lake Wilderness	Lightning
Apple	2002	8	17,600	Douglas	USDA Umpqua NF	Arson
Biscuit	2002	7	500,000	Josephine	Kalmiopsis Wilderness	Lightning
Tiller Complex	2002	7	69,800	Douglas	USDA Umpqua NF	Lightning

Historic Wildfires of Western Oregon 1765-2014

Timbered Rock	2002	7	27,400	Jackson	USDI BLM O&C Lands	Lightning
B&B Complex	2003	8	90,800	Linn	Jefferson Wilderness	Arson?
Deer Creek	2005	8	1,548	Josephine	8 homes; USDI BLM	People
Blossom	2005	7	14,800	Curry	Wild Rogue Wilderness	Lightning
Middle Fork	2008	8	21,100	Jackson	Sky Lakes Wilderness	Lightning
Rattle	2008	8	19,800	Douglas	USDA Umpqua NF	Lightning
Boze	2009	9	10,600	Douglas	USDA Umpqua NF	Lightning
Rainbow	2009	9	6,100	Douglas	USDA Umpqua NF	Lightning
Tumblebug	2009	9	14,600	Lane	USDA Willamette NF	Lightning
Oak Flat	2010	8	7,500	Josephine	USDA Rogue River NF	People
Dollar Lake	2011	8	6,300	Clackamas	Mount Hood Wilderness	Lightning
Douglas Complex	2013	7	48,700	Douglas	USDI BLM O&C Lands	Lightning

only fires in excess of 10,000 acres have been listed); human mortalities; and physical damage to human structures, such as homes, barns, office buildings, powerlines and the like.

A close examination of this table reveals several interesting patterns that should be of interest to western Oregon resource managers and US taxpayers - and to their elected representatives:

1) The western Oregon wildfire season has been about the same for the past 175 years — about 45-60 days long, generally beginning in late July or August and peaking in August or September, and ending with fall rains in September or October. Despite recent public claims of President Obama, Washington Governor Inslee, and US Forest Service Chief Tidwell in Oregon and Washington this past summer, fire seasons are not getting longer and "Global Warming" apparently has nothing to do with it.

2) Almost all major fires dating to precontact and early historical times were caused by Indians or American settlers. The first lightning-caused fires, for example, were not reported in the Siuslaw National Forest until 1927 and they did not reach historic proportions. This is despite the regular and predictable timing and locations of lightning strikes

This map of Oregon lightning-caused fire patterns based on 5300 fires reported from 1925 to 1931 was included in William Morris' June 1934 report, *Lightning Storms and Fires on the National Forests of Oregon and Washington.*

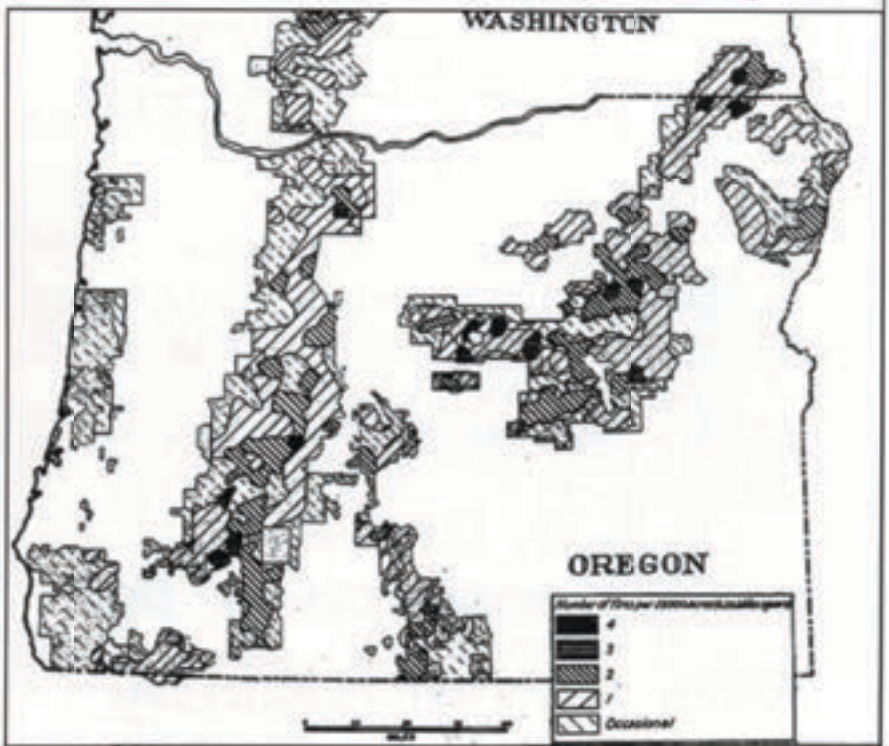
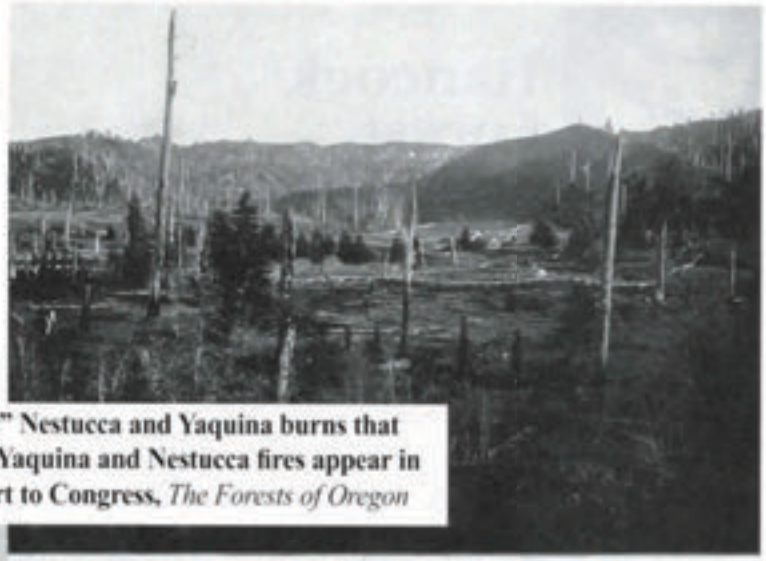


FIGURE 14.--Zones of average yearly lightning fire distribution on the national forests of Oregon and Washington obtained by plotting the locations of the 5300 lightning fires reported from 1925 to 1931.

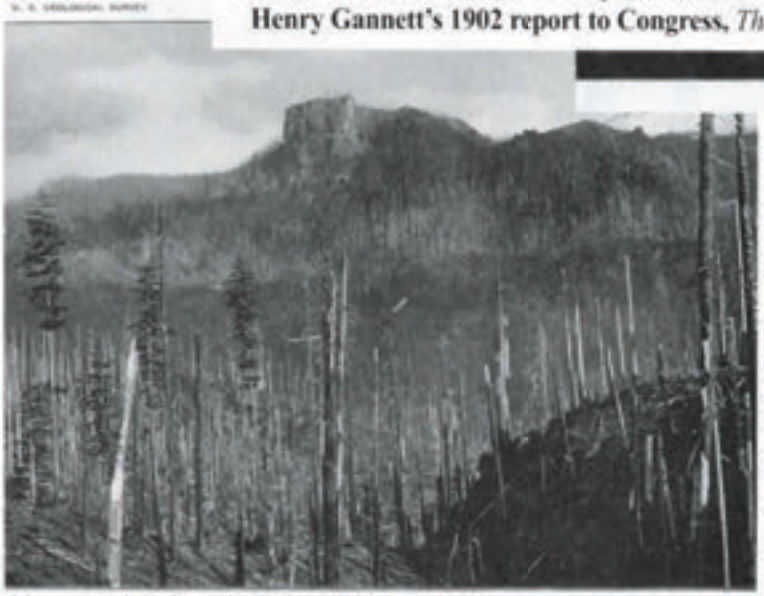
throughout the region during historical time; most of which are confined to southwest Oregon and the western Cascades.

3) Each county has its own history of large-scale wildfires, with significant differences between them: e.g., Tillamook County had numerous such fires from 1853 until 1951, and little or nothing since; while Douglas County had few major fires until 1987, and have seemingly had them on an almost annual basis since.

4) There were hardly any major wildfires in western Oregon between 1951 and 1987; a period in which these forests were the most actively and intensively managed in history, and during which time the "Keep Oregon Green" movement was in full swing.



B. THE GREAT YAQUINA BURN.



These photos of the "Great" Nestucca and Yaquina burns that resulted from the 1849-1868 Yaquina and Nestucca fires appear in Henry Gannett's 1902 report to Congress, *The Forests of Oregon*

5) Almost all major wildfires during the 28 years since 1986 have occurred on federal lands and were ignited by lightning or arsonists; further, these fires were predicted by several scientists and other knowledgeable professionals more than 20 years ago due to major changes in federal land and fire management policies and had little or nothing to do with "fire suppression history" or "climate change," as has been suggested.

In sum, predictable large-scale wildfires are largely preventable, as evidenced by the success of the Keep Oregon Green movement and by the seasonal fire control efforts of the Oregon Department of Forestry in curbing most such fires on state and private lands in the 70 years since World War II. Conversely, passive forest and fire management actions and policies -- such as those associated with Wilderness areas, spotted owl habitat, and "let it burn" wildfires – that were implemented on federal lands beginning in the late 1960s seem to be primarily responsible for the severity and extent of most forest fires in western Oregon during the past 28 years. As predicted.

Dr. Zybach has a PhD in Environmental Sciences from Oregon State University. His dissertation research was titled The Great Fires: Indian Burning and Catastrophic Forest Fire Patterns of the Oregon Coast Range, 1491-1951.

The author is shown discussing historical maps at the Round Lake location of the B&B Complex fire on September 15, 2004. Also pictured are (clockwise from foreground) Kermit Cromack, Jim Peterson, Benjamin Stout, Zybach, Wayne Giesy, and Nana Lapham (photo by Brett Morrisette, USDA Pacific Northwest Research Station).

Forest History vs. Forest Science

1993 Elliott Management Plan

Dr. Bob Zybach

In late 1993 the Oregon Department of Forestry (ODF) released a proposed management plan for the 93,000-acre state-owned Elliott State Forest for public comment.

This land had been originally deeded to the State by the US Forest Service in 1930 for the specific purpose of generating the maximum revenue possible for the Oregon School Fund – "consistent with sound techniques of land and timber management."

For 40 years previous to 1993 the Elliott had done just that: averaging sales of nearly 50 million board feet (mmbf) of timber per year, providing thousands of good-paying local jobs, and generating tens of millions of dollars for Oregon schools.

Now it is being proposed to use much of this land to manage for spotted owl and marbled murrelet "critical habitat" instead, using new federal regulations as a guide. The "preferred alternative" for ODF was to reduce harvest levels (and thus school funding levels) nearly in half -- to only 28 mmbf/year.

The concern of agency and university wildlife biologists was that continued logging activities in the Elliott might harm spotted owl and marbled murrelet populations, both were on the federal endangered species list. Yet, their presence was contrary to biological theories that the species were "old-growth dependent". Only 1/3 of 1% of the Elliott (307 acres) was older than 155 years. Everything else was second-growth or young plantations.

Elk Creek landslide forming Gould's Lake in 1894.

This photo clearly illustrates the size of trees and snags burned during the 1868 and 1880s fires, as well as the regeneration of Douglas Fir seedlings that was taking place following those fires. Landslides are fairly common on the Elliott, given its steep hillsides and proximity to Pacific Ocean storms.

Forest Industry Response

The Elliott plan was open to public comment until February 1994. The state's forest industry submitted a unified response in the form of a seven-part report assembled by Greg Miller, Director of the State Timber Purchasers Division, Oregon Forest Industries Council (OFIC). Associated Oregon Loggers (AOL), Douglas Timber Operators (DTO), and Northwest Forestry Association (presently AFRC) also joined in this effort.

I was hired by Miller to write part seven of the report: an analysis of the plan's use of documented fire and reforestation history in developing its proposed alternatives.

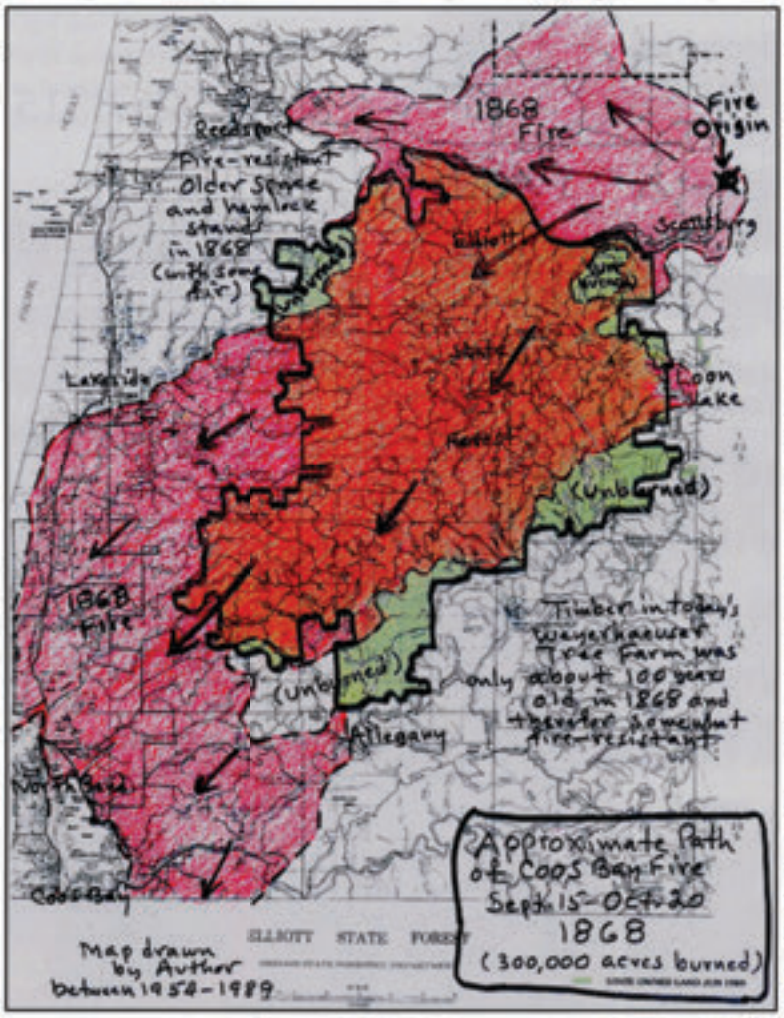
With my part completed, the OFIC report was submitted on February 20. The first six sections regarded Oregon

state law, economics, timber management, streambanks, and marbled murrelets. The three appendices focused on spotted owls. All were summarized in the Executive Summary, but particular attention and several direct quotes were taken from my section on forest history and management options: part seven.

ODF's preferred Alternative #6 divided the Elliott into 17 subbasins for more efficient planning and management purposes but, according to the OFIC report, it also: minimized management successes of the previous 40 years; relied upon outdated spotted owl research; used highly speculative marbled murrelets data; and relied upon controversial and untested "conservation biology" theories in order to unduly (and possibly illegally) restrict timber harvesting.

The "biodiversity" concepts guiding the plan discounted human activities in the Elliott, stating that such actions could "move away from natural patterns" that apparently might otherwise favor the listed birds. However, historical research documented that human actions had likely been a large part of the Elliott's "natural patterns" for thousands of years, would likely continue to be so into the foreseeable future, and birds were nesting there anyway.

My assignment was to compare actual fire and regeneration history of the Elliott with the mathematical computer models being used to generate each of the proposed management options. I had also been given three questions to answer in order to focus my response. The Executive Summary further concluded with the statements that: Moreover, the fire history perspective and conclusions provided by Mr. Zybach stands in stark contrast to the description of landscape diversity and biodiversity contained in the Draft Plan . . . This preliminary review of the Elliott's fire history should be the foundation for the retrospective study of the Elliott . . . Mr. Zybach's information should be considered in the evaluation and formulation of a final recommendation."



Phillips' Map of 1868 Coos Fire and Elliott State Forest. Green areas to the east and southeast are most likely buffers resulting from the ca. 1770 Millicoma Fire(s).

Fire History

The history of catastrophic Oregon Coast Range forest fires is one of incredible, nearly instantaneous changes to vast areas of the physical and biological environment.

The 1993 plan clearly acknowledged that "fire is a basic element that shapes the forest ecosystem," however, noted fire ecologist James Agee is quoted as saying: "there is no evidence that [Indians] purposely burned upland forests such as the Elliott," and it is therefore concluded that "wildfires started by lightning have affected forests in the Elliott area for thousands of years."

In fact, there is not a single record of a large-scale wildfire (1,000s of acres) ever being caused by lightning in the region during the last 200 years of written history. When lightning does occur some years, it is typically accompanied by drenching fire-suppressing rains and "thunder showers."

More importantly, the northern, western, and southern perimeters of present-day Elliott Forest were peopled by communities of Kalawatset, Hanis, and Miluk families, while Yoncalla Kalapuyans – renowned for their ability to use fire to shape and manage their vast homeland camas prairies and oak savannahs -- lived upstream to the east and northeast. It is important to consider that all of the catastrophic-scale (100,000s of acres) Coast Range wildfires on record took place during late summer/early fall east winds from the east and northeast, a time of year when Kalapuyans did most of their landscape-scale burning.

These people, on all sides of the forest and like people everywhere, used fire on a daily basis to cook, heat, and provide light. They also used it seasonally to hunt, clear fields and trails, and rejuvenate favored plants. Woody fuels were gathered

and stored constantly, whenever and wherever they became available. "Large, woody debris" did not exist over a large portion of the environment; it quickly became fuel or was used for tools, construction materials, carvings, or other purpose. The same with accessible dead trees.

In the late 1800s and early 1900s some of the largest and most destructive forest fires in US history took place on the western slopes of the Coast Range, including the area of Elliott Forest. These fires gained international attention and were known collectively as the "Great Fires."

The earliest known "Great Fire" was the ca. 1770 Millicoma Fire [see map], separately described and mapped by ODF Forester Jerry Phillips [see insert] and by Weyerhaeuser Forester Arthur "Smitty" Smyth; both having written books documenting this event, or series of events.

The Millicoma Fire burned to the eastern and southern boundaries of the Elliott, apparently buffered by ridgelines of mature, even-aged, second-growth Douglas Fir. It is significant as being the earliest documented catastrophic-scale (100,000s of acres) wildfire in Oregon history, as well as being the only one on record that occurred before white discovery and exploration.

The 1868 Coos Fire burned 90% of the remainder of the Elliott, by which time many of the trees that survived the Millicoma Fire became young old-growth; with "some" of the trees "estimated to have been about 300 years old." Fires in the 1880s burned through the deadened snags and few remaining living trees.

By 1900, most of the burn had reforested to stands of 10 to 30-year old Douglas Fir trees. ODF timber cruises in 1922 noted that many of these stands were now "eight to twelve inches in diameter on the stump."

The 1962 Columbus Day Storm blew down 100 mmbf of timber on the western slope of the Elliott, resulting in a major extension of the existing road system and the removal of an additional 200 mmbf of trees during salvage operations. Today this area contains most of the "critical habitat" for marbled murrelets on the Elliott.

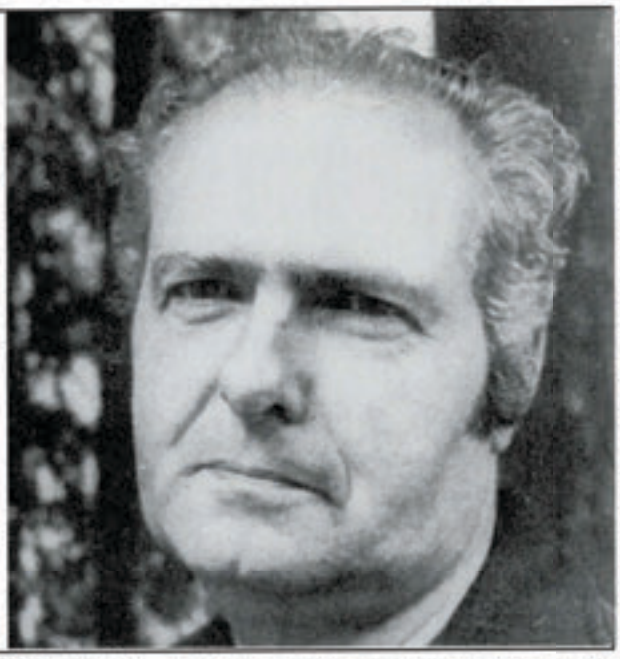
In the 20 years between 1972 and 1992 over one billion feet of timber was logged from about 40% of the forest's total area, but less than 33% of the commercial timber volume that had seeded in and grown since the fires. Today the Elliott contains more than two billion feet of mature timber, the majority of which is contained in the 120-150 year old stands resulting from the 1868 fire.

This history likely reflects most of the "natural pattern" of the western slope of the Oregon Coast Range during the past several thousand years: large extents of second-growth even-aged Douglas Fir representing past wildfire and windstorm events, interspersed with patches of old-growth and of newer burns and windthrow that had yet to develop a stand of mature trees. This remains a characteristic pattern for much of the western Coast Range, and one to which our native animal populations have adapted over the past several thousand years.

3 Questions

In addition to assembling a documented fire history of the Elliott in order to compare with ODF's use of such data dur-

Jerry Phillips spent almost his entire career involved in the management of the Elliott State Forest. He has written and documented the definitive 414-page history of the Elliott – "Caulked Boots and Cheese Sandwiches: A Forester's History of Oregon's First State Forest, "The Elliott" (1912-1996)," and describes the Forest during the late 1940s "in [OSU Forestry] college literature" as "an undeveloped State-owned forest . . . dedicated to educational purposes." His book ends in 1996 with the observation "that this Forest is at once both aesthetically pleasing to most all visitors and economically very productive."



ing the planning process, I was also tasked by OFIC to answer three specific questions regarding this information as part of my analysis:

1) What was the extent of ODF's "use of fire history for developing their recommended alternative" (#6)?

ODF apparently did not use the detailed 1770 to 1951 fire history provided by Phillips in its development of plan alternatives, including alternative #6. Rather, a 150-year fire cycle model seems to have been used to help justify the recent change in management focus from timber production to creation of older forest conditions.

If the available historical information had been used as the basis for regarding the Elliott's past and present, a much broader range of alternatives could have been developed for its possible and desired futures. A fire history perspective would have allowed far greater latitude in the spatial and temporal designing of logging plans, wildlife habitat creation and maintenance strategies, and net income production.

2) "How has the natural fire cycle shaped" the Elliott?

The "shaping" of Elliott State Forest by fire can be technically characterized as the result of a long-term series of botanical responses to constant and cumulative human disturbances caused by daily, seasonal, and episodic fires of varying size and intensity.

The so-called "natural fire cycle" of the Elliott supposes a mathematical predictive model that is biased against human activity (including hunting, fishing, logging, burning, fuel gathering, and road building) and toward "average" decadent stand conditions, numerous older trees, spatially distributed dead trees, and random lightning strikes.

This condition has never occurred – at least never in the form of a "non-declining, even-flow, naturally functioning ecosystem" -- in history, and is highly unlikely to ever take place in the future. The principal problem with fire cycle models is they are based in large part upon the faulty historical assumption that precontact Indian communities were only capable of isolated and localized impacts on "natural" forest conditions.

3) By "using an accepted fire history or fire cycle predictive model: What is the potential for shorter rotations to obtain the same wildlife objectives for spotted owls and marbled murrelets," as given in alternative #6?

If the "wildlife objectives" in #6 are interpreted to mean population maintenance or increase over time, the mobility of owls and murrelets and their proven resiliency to catastrophic fires and windstorms would indicate that historical rates of clearcutting can probably be maintained indefinitely.

If the "wildlife objectives" are to simply create or maintain certain structural stand characteristics ("desired or required" habitat) within the forest, then these human definitions of desired future conditions would include (and require) an alternative #6-type approach.

Again, the difference in these two positions is the difference between mathematical projections based upon perceived "averages" of "natural" events and assuming a meaningful absence of people; in contrast to interpretive projections based upon personal experience and documented evidence of cumulative human actions, landscape-scale disturbances, and resilient plant and animal recovery.

Elliott State Educational Forest: The Giesey Plan Alternative

By Dr. Bob Zybach

During the February 14, 2017 meeting of the Oregon State Land Board (OLB) – a three-member organization formed on the same date in 1859 to manage Oregon's state-owned "school lands" – a 2-1 majority voted to sell the 83,000-acre Elliott State Forest for $220 million.

Many members of the audience appeared shocked: most had apparently expected the State to back down from the proposed sale and decide to the keep the Forest in State hands. The two newest members of OLB, State Treasurer Tobias Read and Secretary of State Dennis Richardson, had only recently been elected to their positions and were attending their first OLB meeting. Both voted to continue the sale.

The third member of the OLB, Governor Kate Brown, who had originally supported the sale the previous year, now voted against it and proposed a $100 million bond sale instead: to compensate the Common School Fund for recent management losses and to allow for proposed further reductions in Elliott timber sales. This latter condition was in deference to managing habitat for spotted owls and marbled murrelets; both listed as endangered by the federal Endangered Species Act (ESA).

During the previous public OLB meeting, on December 12, 2016 and the last meeting attended by the outgoing State Treasurer and Secretary, the Governor had stated: "it is appropriate for the Board to have another option . . . she calls upon the public to use

Map of proposed management subbasins and four primary coho runs of the Elliott State Forest, including early historical foot trails connecting local Kelawatset, Hanis, and Miluk families and communities. Submitted to Oregon Lands Board with proposed Giesy Plan Alternative on February 14, 2017.

their creativity, passion and time to pursue options for the Elliott that will craft a solution that will balance public ownership, rural natural resources jobs, conservation and recreational values . . . she is adamant about creating jobs, particularly in Coos and Douglas Counties, maintaining public access and preserving endangered species and their habitat. She told the audience that this is their opportunity to bring another option forward . . ."

During the course of the February 14 public comment period I was able to voice support for retaining the Elliott Forest in public ownership by implementing an alternative management strategy based on the Giesy Plan. No bond would be needed. I also submitted an outline of the proposal and supportive attachments to each of the OLB members on behalf of Wayne Giesy (who had a scheduling conflict and was unable to attend), www.ORWW.org, and myself.

At the end of the meeting, after losing the vote to sell the Elliott, Governor Brown directed Department of State Lands (DSL) director Jim Paul to "investigate public ownership options for the forest, and report back to the Land Board at a future public meeting." To that point the Governor's proposed bond sale and the Giesy Plan alternative were the only public ownership options on the table.

The next public meeting on the issue is April 11.

Elliott Sales Background

During the past several years the Oregon Department of Forestry's (ODF) management of the Elliott State Forest has resulted in significant financial losses -- rather than mandated profits – in the wake of reduced sales volume and increased litigation costs related to federal regulations regarding spotted owls, marbled murrelets, and their habitat.

These problems had been predicted and were clearly spelled out by forest management experts in 1994, in response to proposed Elliott Forest management plans being developed at that time.

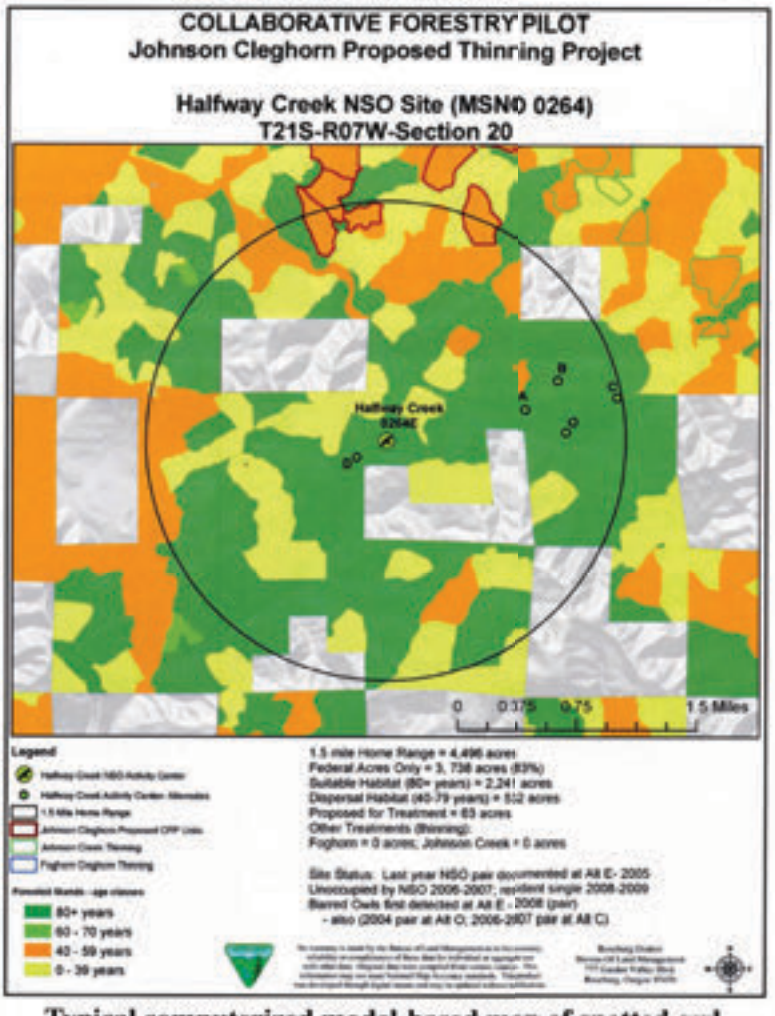
It is conservatively estimated that existing timber on the Elliott State Forest is worth "at least" $600 million. Other estimates place the market value of combined land and timber at over $1 billion. The existing, fixed, sales price — based on arbitrary evaluation restrictions by the OLB — is only $220 million.

If this sale is allowed to be completed, there will be a permanent loss in value to the Oregon School Fund of at least $380 million, and possibly much more over time. There should be less cause for alarm. Although the direct and indirect costs of ESA-related litigation have been very high, the recent reduction in profitable harvests has resulted in larger trees of greater value -- and even more so when considering their size and rate of growth in ten years when several sales management constraints are lifted.

The potential loss of income and market value experienced by selling the Elliott would be in addition to lost opportunities, via the Giesy Plan alternative, for significant short- and long-term Oregon student and public research and education benefits.

The Giesy Plan Alternative

During the past three decades the Pacific Northwest has been involved in the "Timber Wars": pitting loggers, their families, and traditional forestry practices against lawyers, biologists, federal agencies, and the Endangered Species Act (ESA) near its center. In that time the Elliott State Forest has become a victim of this conflict, having



Typical computerized model-based map of spotted owl "critical habitat" circle in the Douglas Fir Region. This map and "NSO" research were produced by the federal Bureau of Land Management, for a minor timber sale in Douglas County. This is the type of information represented by the dark blue "spotted owl circles" on the Elliott Forest shown in the map on page 25.

gone from a forest successfully managed for decades to generate annual income for the Oregon School Fund, to an unprofitable holding on the verge of being sold.

In the Spring 2014 issue of this magazine I wrote an article regarding the history and intent of Wayne Giesy's efforts to create jobs and healthy forests once again on federal timber lands: "'The Oregon Plan:' An Oregonian's Solution to the Ongoing Forest Wars of the Western United States." At that time the "Giesy Plan" was still being promoted as the "Oregon Plan"; in years since it has reverted to its original name.

This proposal is to consider implementing a slightly modified version of the "Giesy Plan" in order to transparently – and profitably -- demonstrate the value of such an approach in managing public forestlands. In this proposal the Elliott State Forest would continue in State ownership; it would be actively managed for a minimum 20-year period for Common School Fund income; for spotted owl and marbled murrelets habitat; for local jobs and recreation; and also for important short- and long-term forest research and education opportunities for Oregon students and educators, with significant national forest management implications.

DSL Director Paul has been quoted as saying: "The debate is by no means over, there's a real conflict here that's hard to reconcile." We believe this proposal directly addresses this conflict in a scientific manner that directly benefits Oregon citizens, its schools and schoolchildren – and will, for an entire next generation.

Basic Giesy Plan Proposal

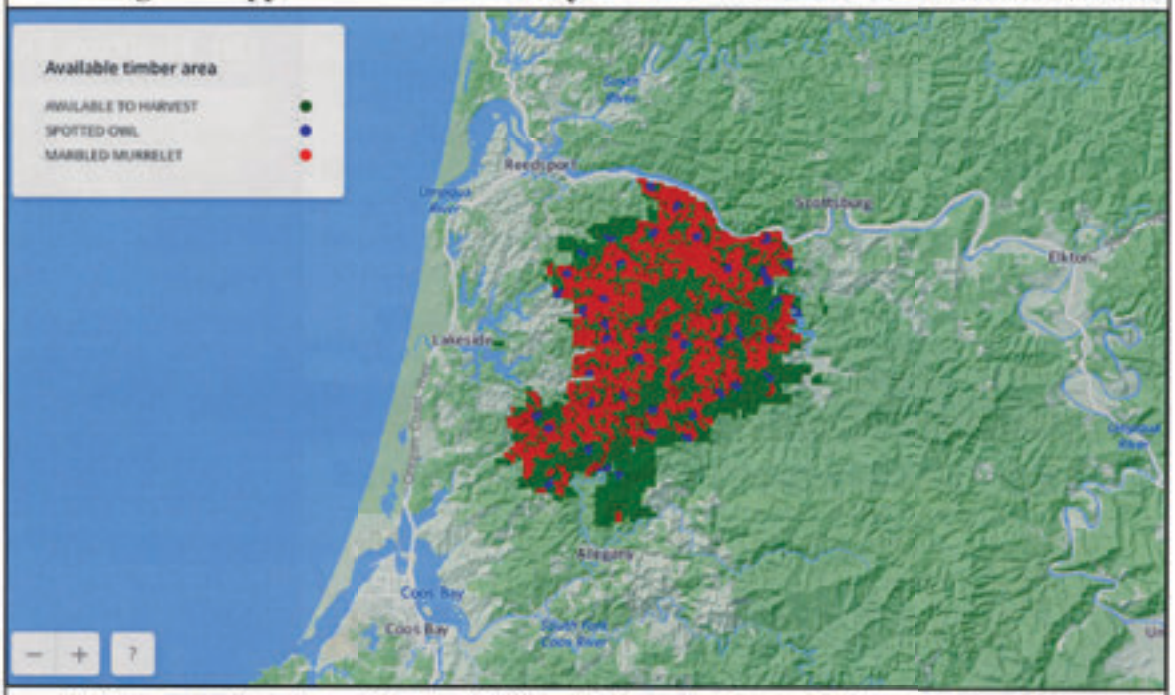
Divide 80,000+ acres of the Elliott State Forest into 24-30 forested subbasins of 1,000 to 5,000 acres each, with contiguous polygons outlining the fish-bearing streams, floodplains, and riparian roads as a separate consideration. The forested subbasins would be evenly divided by acreage into two categories: 1) active forest management for maximum Common School Fund income, as originally described by law; and 2) old-growth wildlife habitat, with a focus on listed ESA species. The excluded riparian areas would be managed separately, as a third category, for native fish, freshwater, recreation, and public access.

Each of these three divisions would be closely monitored by Oregon students and educators for a 20-year period, with specific focuses on economics, aesthetics, wildlife populations, recreational uses, and wildfire mitigation. Field trips and student research projects would be encouraged, and the entire forest and these topics would be closely monitored and documented by modern technical means with all observations and findings transparently shared via Internet.

1) All existing ridgeline and riparian roads would

Areas of Forest Home to Threatened Birds

Conservation groups say the Elliott State Forest provides valuable habitat for threatened species like the Northern Spotted Owl, Marbeled Murrelet and Coastal Coho Salmon. According to an appraisal commissioned by the state here is where the birds are located.



This map and caption of "valuable" spotted owl and marbled murrelet "habitat" purports to show "where the birds are located" on the Elliott Forest, and indicating large populations of each species. This was published by Oregonian/OregonLive immediately following the February 14 vote by the Oregon Land Board to sell the Forest.

remain open to public access, with some daily and/or seasonal restrictions due to maintenance, repair, recreational events, or harvesting actions;

2) More than 40% of the land would be dedicated to old-growth forest habitat, and the entire Forest would be monitored for a wide range of native forest wildlife species;

3) More than 40% of the land would be managed for maximum short-term and long-term revenue to the Common School Fund, with a planned harvest schedule of 50 mmbf/year for 20 years;

4) All of the Forests' subbasins would be scientifically and transparently monitored so that the general public, in addition to Oregon students and teachers, could directly participate in -- and benefit by -- comprehensive economic and ecological analysis of the differing management approaches and results;

5) Litigation regarding the management of the Forest would be banned for 20 years, by legal and political agreement, while this educational management experiment takes place. Assuming this proposal is adopted, at the end of 20 years Oregon would have a very well informed citizenry: capable of making expert decisions regarding Elliott Forest management in following years, as well as help make better informed decisions regarding management of regional federal forests almost from the beginning.

Assuming this proposal is adopted, at the end of 20 years Oregon Would have a very well informed citizenry: capable of making expert decisions regarding Elliott Forest management in following years, as well as, help make better informed decisions regarding management of regional federal forests almost from the beginning.

Public Benefits: Sales Proposal vs. Giesy Plan

The Giesy Plan proposal easily meets or exceeds all of the four "public benefit requirements" sales criteria established by the OLB and greatly exceeds the public and School Fund benefits to be derived from a fixed-rate sale to a single bidder:

1) The buyer of the property has to allow public access to one-half of the land.

--The Giesy Plan proposal would maintain existing riparian & ridgeline roads for public access to the entire forest.

2) Buyer must maintain at least 25 percent of "older forest stands."

--The Giesy Plan would result in more than 40% of the land dedicated to growing and maintaining old-growth trees and habitat.

3) Buyer must "preserve" riparian areas with arbitrary "buffers."

--The Giesy Plan would actively manage riparian areas for native fish, water quality, recreation, and public access.

4) Buyer must agree to provide 40 direct and indirect full-time jobs for 10 years.

--The Giesy Plan would provide far more than 40 direct and indirect full-time jobs in perpetuity.

Summary and Recommendations

Under the Giesy Plan proposal, the Elliott State Forest would remain in public ownership and be renamed the "Elliott State Educational Forest" for a 20-year period for the specific purposes of: producing maximum sustainable income for the Common School Fund with active management of 1/2 of the Elliott; producing dozens of full-time direct and indirect local jobs; conducting a long-term public experiment to test and compare competing methods of forest management; focusing on recovery and enhancement of four major coho runs in the Elliott subbasins; maintaining water quality of Elliott streams; improving forest-based educational and recreational opportunities for Oregon citizens; and maintaining and improving old-growth habitat conditions for marbled murrelets and spotted owls on 1/2 of the Elliott.

Riparian Lands.

Under the Giesy Plan, riparian areas could be actively managed by local Tribes with a specific focus on coho recovery -- particularly Tenmile Lakes coho -- water quality, public access, research, education, and potential development of commercial recreational uses.

School Fund Lands.

Similarly, the economic-based management of select forested subbasins and ridgeline roads could be transparently and profitably managed for purposes of public access, recreation, research, education, and generating revenues for Oregon Schools.

Old-Growth Lands.

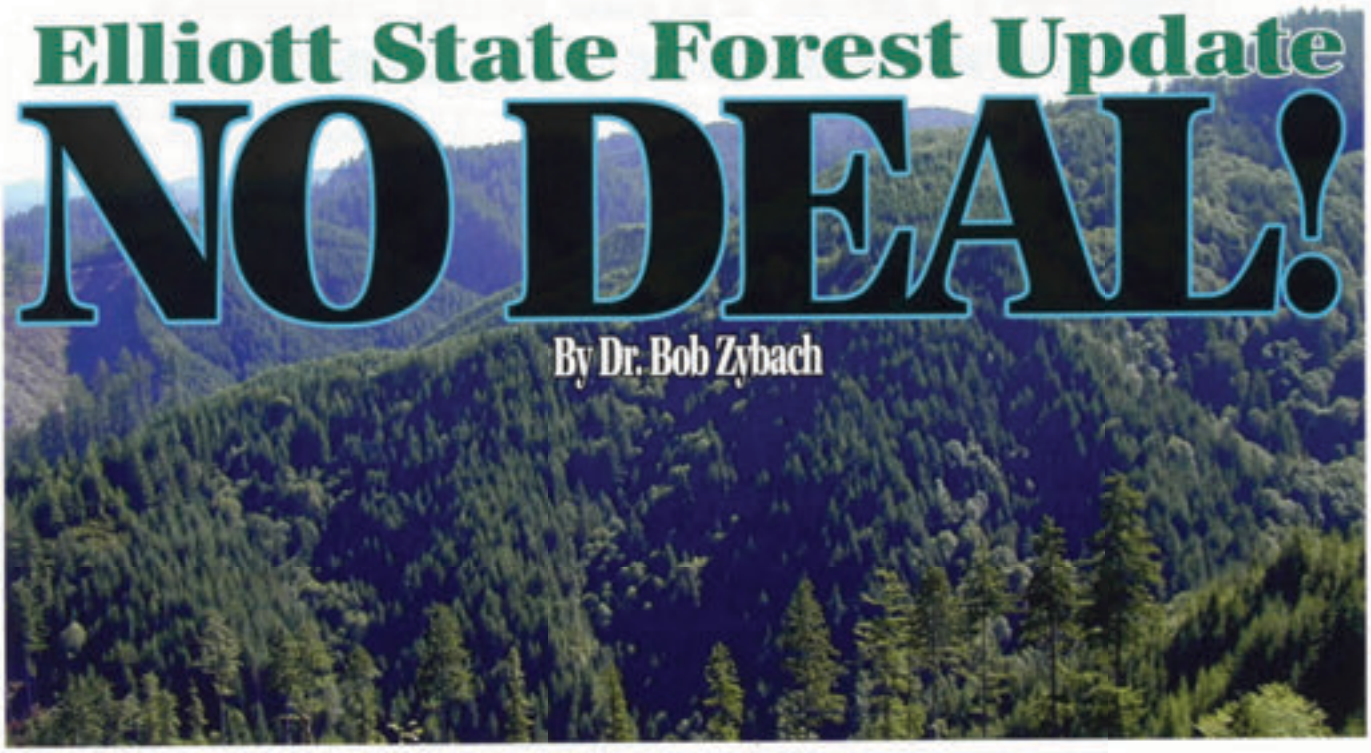
Subbasins dedicated to old-growth habitat could be collaboratively managed by a coalition of organizations who have engaged in litigation during the recent past regarding Elliott Forest management for marbled murrelets and spotted owls. The opportunity to clearly and openly demonstrate – and transparently and scientifically compare -- their desired management approaches and outcomes would be in exchange for agreeing not to file any additional legal actions regarding the Elliott during this 20-year public management experiment.

The timber wars have dragged on for far too long and have left billions of wasted dollars, ruined families, damaged forests, degraded infrastructures, bankrupt counties, catastrophic wildfires, and millions of dead wildlife in their wake. Now is a real opportunity to scientifically address these differences, and to the immediate benefit of Oregon schools, students, teachers, and taxpayers in the process.

The Giesy Plan alternative to the management of the Elliott State Educational Forest would be a benefit to all and could provide much needed direct on toward the management of our State's federal lands as well.

Elliott State Forest Update

NO DEAL!



By Dr. Bob Zybach

In the last issue of Oregon Fish & Wildlife Journal I wrote two articles about the Elliott State Forest. The first had to do with my 1994 forest industry-sponsored response to the proposed 1993 Elliott State Forest management plan in regards to catastrophic wildfire history. The second was based on the "Elliott State Educational Forest" proposal: the "Giesy Plan Alternative" to selling the Forest -- and for greatly increased benefits to Oregon schools and residents.

I also wrote about the impending sale of the Elliott for $220 million as decided by a 2-1 vote of the Oregon Land Board (OLB) at their February 14, 2017 public meeting. Governor Kate Brown voted to cancel the sale, but Secretary Dennis Richardson and Treasurer Tobias Read unexpectedly voted to complete it.

During the previous public OLB meeting, on December 12, 2016, Brown had stated it was "appropriate for the Board to have another option" than selling the Forest. She "call[ed] upon the public to use their creativity, passion and time to pursue options for the Elliott," and, "she is adamant about creating jobs, particularly in Coos and Douglas Counties, maintaining public access and preserving endangered species and their habitat."

Brown further "told the audience" that "this is their opportunity to bring another option forward."

These comments encouraged me and Wayne Giesy – at the suggestion of State Senator Ted Ferrioli, and working in partnership with rural nonprofit www.ORWW.org – to develop an alternative management. The resulting "Giesy Plan Alternative" is largely based on Wayne's long-time efforts to resume active management of our federal western forestlands.

We submitted our proposal and I spoke a few words at the February meeting under the impression the sale would be terminated and "other options" – including our own – would be considered moving forward. Apparently Brown had been fairly confident of this outcome when she made her comments in December, seemed to remain so throughout the meeting, and was noticeably shocked at being out-voted.

The OLB was committed to keeping its word and completing the sale. The Elliott State Educational Forest was not an option.

Revisiting the Giesy Plan Alternative

The Giesy Plan has been written about in some detail in earlier issues of this magazine. In essence, federal forested subbasins would be evenly divided by acreage into three categories: 1) active forest management for maximum jobs and products; 2) old-growth forest wildlife habitat, with a focus on listed ESA species; and 3) riparian areas for native fish, freshwater, recreation, and public access.

Ferrioli's suggestion was to modify the Giesy Plan in such a way as to be applied to the Elliott State Forest in lieu of selling it; and also as a public demonstration as to what could be achieved on all Oregon's federal lands.

Wayne and I developed a modified approach in which each of the three land divisions would be closely monitored by Oregon students, researchers, and educators for a 20-year period. Specific studies would focus on economics, aesthetics, wildlife populations, recreational uses, and wildfire mitigation. Field trips and student research projects would be encouraged, and the entire Forest and these topics would

be closely monitored and documented by modern technical means with all observations and findings transparently shared via Internet.

These results would be dependent on five conditions: 1) all existing ridgeline and riparian roads would remain open to public access; 2) more than 40% of the land would be dedicated to old-growth forest habitat; 3) more than 40% of the land would be managed for maximum short-term and long-term revenue to the Common School Fund; 4) all of the Forests' subbasins would be scientifically and transparently monitored so that all Oregonians could directly participate in considering the differing management approaches; and 5) litigation regarding the management of the Forest would be banned for 20 years, by legal and political agreement.

Most reviewers of this proposal have noted that condition #5 will pose the greatest hurdle. Current Oregon State Forest employment, income, and market values have all been severely impacted by litigation related to spotted owls and marbled murrelets during the past 25 years. The Elliott is proof.

May 9 Meeting: No Deal

Following the February OLB meeting several changes began taking shape regarding the future of the Elliott. A number of news outlets reported that Read was being heavily lobbied by the Governor, local activists, and national environmental organizations to change his vote and thus terminate the sale at the next OLB meeting. The "next OLB meeting" was postponed from April to May 9. By early May it had become obvious that Read, at least, had changed his mind and the sale would be terminated. In the days leading up to the rescheduled May meeting, all three OLB members had publicly released detailed responses regarding the likelihood of continued public ownership.

In the meantime, Senator Ferrioli requested an economic analysis of estimated income the School Fund would receive over the 20-year timeframe of the proposed Giesy Plan.

Table 1. Oregon Forestry Related Employment vs. Government, 1990-2016

Job Description	1990 Jobs	2016 Jobs	Gained	Lost
Logging	11,300	6,000		5,300
Paper Manufacturing	8,900	4,200		4,700
Plywood & Engineered Wood Products	17,900	8,600		9,300
Sawmill & Wood Preservation	12,000	6,400		5,600
Forestry-Related Job Totals	**50,100**	**25,200**	**0**	**24,900**
Federal Government	34,000	28,300		5,700
State & Local Government	100,600	146,600	46,000	
State & Local Government Education	97,700	132,200	34,500	
Government-Related Job Totals	**232,300**	**307,100**	**74,800**	**0**

This table illustrates the great number of forestry jobs lost in Oregon since the listing of spotted owls as an Endangered Species in 1990. It also indicates the great increase in non-federal government jobs during the same period. In 1990 the ratio of private forestry jobs to government jobs was more than 1:5; since then the ratio has decreased to less than 1:12. Few forestry jobs require even a high school education because they are largely based on actual experience; conversely, a large percentage of government jobs require a minimum four-year college degree. This disparity is a strong indicator of the deepening urban/rural economic divide in Oregon with a basis in the 30-year "forest wars." Jobs data provided by Andrea Fogue, Oregon Employment Department.

Christine Broniak, Economist for the Legislative Revenue Office, returned a figure of $460+ million – an average of more than $23 million per year!

Here is the method Broniak used to arrive at these figures:

"The good news is that I can use prices that were bid on the harvests for the past three years in the Elliott ($367.50/ per million board feet (mmbf) in 2017 equivalent) and grow them forward according to the Producer Price Index for logging to come up with revenue estimates for that 50 mmbf/ year level of harvest."

As stated, these numbers were based on harvesting an historical average of 50 mmbf of timber a year for 20 years from the Forest's subbasins specifically managed for jobs and income. This number may seem large, but it is less than the Elliott's annual growth rate of 60-70 mmbf per year and only a small fraction of the Forest's 2.5+ billion board feet of standing timber. At this rate there would be more timber

on the Forest at the end of 20 years than at the beginning.

During the May 9 meeting, Oregon Department of Forestry Division Chief Liz Dent provided a "conservative estimate of 8.8 direct and indirect job created for every million board feet of harvest." Using that multiplier, the Giesy Plan would create an estimated 440+ mostly local jobs that would last for 20 years.

The May 9 meeting was a big deal. The room was packed with witnesses, environmental activists, politicians, outdoor recreationists, and others with a strong interest in the future of the Elliott. It was the first OLB meeting in its 158-year history to be live-streamed on the Internet and immediately released as a 3-hour video on YouTube. An historical event on several levels.

Wayne Giesy with 2013 Society of American Foresters' National "Honorary Member" Award, for lifetime achievement in the field of forestry.

There were more than 30 witnesses, who were mostly heard three at a time. Most only got one or two minutes to provide testimony. However, the first several were organized in groups of two as "panels" and got extra time. Wayne and I formed the panel that immediately followed the President and the Dean of Forestry of Oregon State University. They, in turn, followed the Oregon State Forester and Liz Dent. Governor Brown personally recognized Wayne and got gasps of amazement and a loud ovation from the crowd – not "jazz hands" -- when she revealed he was 97 years old. We were given eight minutes and submitted a six-page update to our proposal.

Because the Board had released their statements a few days in advance, we were able to anticipate the final vote to terminate the sale, as well as a detailed accounting of each member's proposal.

Both Brown and Read had settled on plans involving public bonds in the $100 million range and creating "HCPs" (Habitat Conservation Plans) in collaboration with the federal government to manage for spotted owls and marbled murrelets. Also, no logging for at least a year or two, and only then at greatly reduced rates from historical levels.

Rather than submit a plan, Richardson developed "eight leadership principles" for his assessment of the relative merits of the Brown and Read proposals. We determined these criteria were also useful for considering our own proposal.

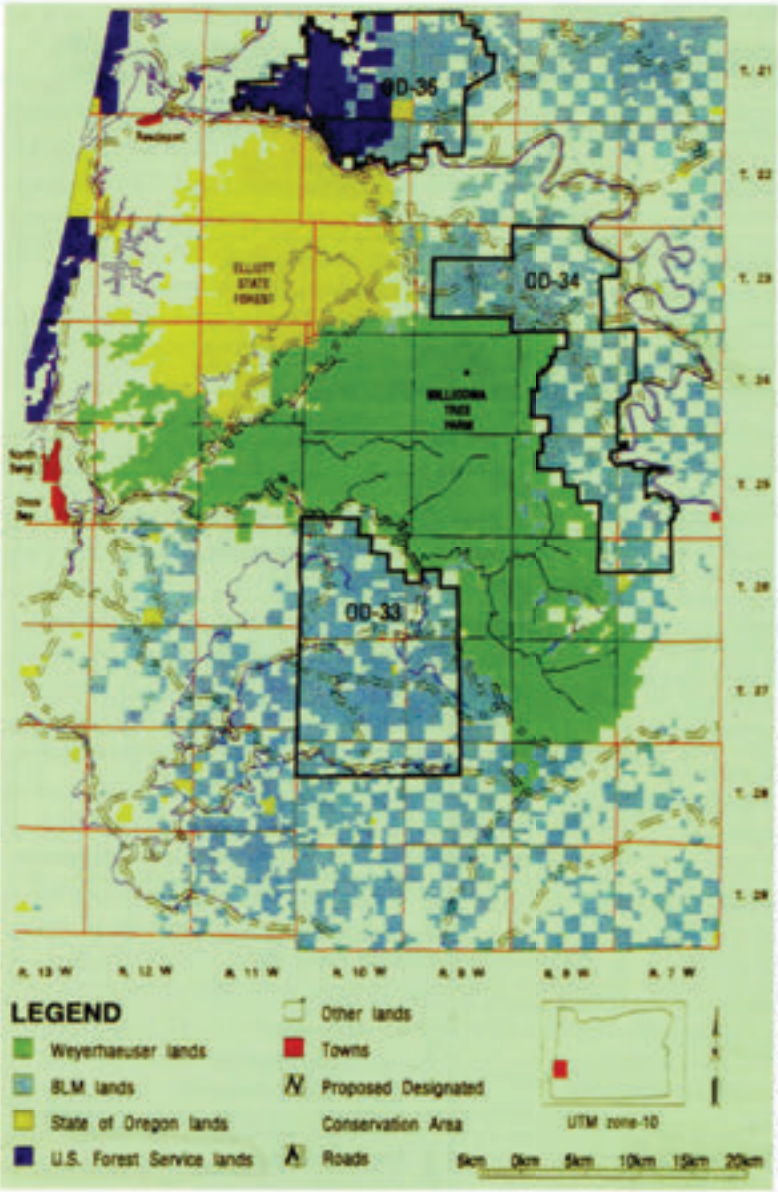
Richardson's "Eight Principles" and the Giesy Plan Alternative

Richardson's principles are given below in italics and are quoted directly from his press release. Our submitted responses follow. They are from the perspective of adopting the Giesy Plan Alternative and are slightly edited from the original document:

1. Education First. A plan must be consistent with the moral and constitutional requirements to prioritize Oregon schoolchildren by providing at least $220.8 million for smaller class sizes, more school days, expanding career training, and increasing graduation rates. The members of the Land Board are Trustees of the Common School Fund and our paramount fiduciary duty is to maximize yields.

The Giesy Plan would only last 20 years and would generate an estimated $460+ million during that time — all to be allocated to the School Fund as currently required by law, and with added incentives and technology to be included in statewide curricula and in direct learning opportunities.

2. Protect Environment. A plan must incorporate Forest Stewardship Council principles and clearly meet the re-



Map 1. This shows the Elliott State Forest in relation to Weyerhaeuser's Millicoma Tree Farm in Coos and Douglas counties. These patterns are significant in that the Weyerhaeuser ownership closely reflects the ca.1765 Millicoma Fire, while the Elliott was shaped by the 1868 Coos Fire. A comprehensive forest inventory of the Millicoma in 1945-1947 documented extensive landscape-scale stand conditions of an unmanaged, native second-growth Douglas Fir coastal forest at age 180; as the older trees were transitioning from "mature" second-growth to 200-year "young" old-growth. The older trees in the Elliott are now approaching 150 years of age.

The Millicoma Tree Farm also includes the 48,000 acre "Pillsbury Tract," which, despite containing large acreages of old-growth in excess of 300 years of age, also contained "quite an appreciable amount of old burn." Many of the trees were about 225 years of age, perhaps dating to a fire in 1725; others ranged as high as 390 years, perhaps following a fire in 1560. Careful records were kept of rot, bugs, and mortality of the stands, in addition to species, age, and volume. Findings consistently showed that rates of decay and mortality began to increase in stands in excess of 180 years, resulting in few – if any – trees reaching 400 years of age. These were the local forest environments that spotted owls and marbled murrelets either adapted to, or expanded their range into, during the past 500 years.

quirements of the Endangered Species Act to protect critical habitat and wildlife.

An estimated 35,000+ acres of the Elliott would be set aside specifically for the management of older forest species, and particularly for spotted owls and marbled murrelets. All of the Forest's streams would be dedicated to actively monitoring and enhancing native coho runs, and particularly those streams above Tenmile Lakes. Riparian acreages would be in addition to older forest set asides and would likely total another 10,000 to 20,000 acres.

3. Create Jobs. A plan must allow sustainable timber harvest to create permanent family-wage jobs in struggling rural and coastal communities.

The Giesy Plan would create an estimated 440+ direct and indirect jobs, mainly in Coos and Douglas counties, for the entire 20-year period. An entire, greatly-informed, generation of schoolchildren and taxpayers could then make a far better and informed decision as to whether to sell the Elliott, or otherwise alter its management direction, at that time.

4. Recreational Access. A plan must ensure that hunters, anglers, hikers, and all other Oregonians have access to the forest.

The Giesy Plan stipulates that 100% of the primary (and nationally historic) ridgeline and riparian road network be maintained and improved for 100% access by Oregon residents. Increased usage for recreational, educational, and/or research purposes would be encouraged — and particularly those activities that might generate additional funding for the School Fund and Forest management.

5. Tribal Justice. A plan must keep the promise to restore ownership of ancestral homelands to tribal peoples who

have protected them for millennia.

The Giesy Plan identifies the four early historical Oregon Indian Tribes that lived in and were adjacent to the Elliott Forest: Kelawatset, Hanis, Miluk, and Yoncalla. Any opportunity to coordinate coho recovery, recreational development, and/or forest management with the descendants of these people should be encouraged, particularly if written and signed agreements are involved.

6. Generational Equity. A plan must be financially sound over the long-term and avoid saddling Oregon's children with decades of debt. It should avoid spending General Fund dollars for management, avoid expensive litigation against the state, and avoid public debt to buy an asset the State already owns.

The Giesy Plan produces a good income, hundreds of jobs, and excellent educational and recreational opportunities for an entire generation of Oregon schoolchildren and residents. No debt. The plan is dependent on formal good-faith agreements with recent litigants who have directly affected Forest management in the past. In exchange for not filing suits directly or indirectly affecting the management of the Elliott for the next 20 years, they would be given exclusive use of nearly one-half of the Forest for that period of time. The sole purpose would be to demonstrate the value of older forest habitat to spotted owl and marbled murrelets populations. This is a basic scientific challenge with a transparent monitoring and review process that would be publicly shared by all interested Oregonians.

7. Public Ownership. A plan must retain options for public ownership of old growth forest areas.

The Elliott State Forest is almost exclusively second-growth, due to fire, wind, landslides, and logging. Less than 1% of the forest is old-growth, and that is mostly contained in a 50-acre patch purchased from Weyerhaeuser. Another 300 acres or so are scattered along the "Mill Creek Canyon," with trees estimated to be more than 150 years old. More than one-half of the Forest would be retained in older forest conditions for the next 20 years and all of the Forest would remain in public ownership during that time.

8. State Reputation. A plan must preserve the state's reputation and its ability to negotiate agreements in good faith with business and nonprofit partners in the future.

Part of the risk of conducting business is that often times good-faith agreements are unable to be fulfilled. Despite this broken promise, we believe that the positive example Oregon would set for the management of its forests and wildlife, its commitments to education and recreation, and its willingness to scientifically address the "forest wars" and unprecedented forest wildfires of the past 30 years, would greatly enhance the State's reputation among its western US neighbors.

Summary

The so-called "forest wars" have dragged on for far too long and have left billions of wasted dollars, thousands of ruined families, damaged forests, degraded rural infrastructures, bankrupt counties and communities, catastrophic wildfires, and millions of dead wildlife in their wake. The principal conflict is between commercial management of our forests vs. managing them primarily as habitat for endangered species: active management vs. passive management.

The Elliot State Educational Forest proposal provides a real opportunity to scientifically address these differences, and to the immediate benefit of Oregon schools, students, teachers, researchers, and taxpayers in the process.

Assuming this proposal is adopted, at the end of 20 years Oregon would have a very well informed and experienced citizenry: capable of making expert decisions regarding Elliott Forest ownership and management in following years, and capable of making better informed decisions regarding federal forestlands management almost from the beginning.

The Giesy Plan Alternative to the management of the Elliott State Educational Forest would be a benefit to all Oregonians and would provide much needed direction toward the management of our State's federal forestlands as well.

Oregon Coast Range Old-Growth:

The 1945-1947 Weyerhaeuser Coos Bay Study

Dr. Bob Zybach

In 1945, during the final months of WWII, Weyerhaeuser Timber Company ("Weyerhaeuser") initiated a comprehensive timber inventory of its so-called "Millicoma Tree Farm" and recently acquired "Pillsbury Tract" in preparation for conducting one of the largest forest clearcuts in history.

The combined areas of these two holdings totaled more than 149,000 acres, forming the largest contiguous stand of unburned and unlogged Douglas fir that remained in the Oregon Coast Range at that time. Of this amount, 126,000 acres were to be systematically measured for species, age, volume, condition, and location. The remaining 23,000 acres were scheduled to be traded or sold in exchange for 58,000 acres of BLM O&C Lands.

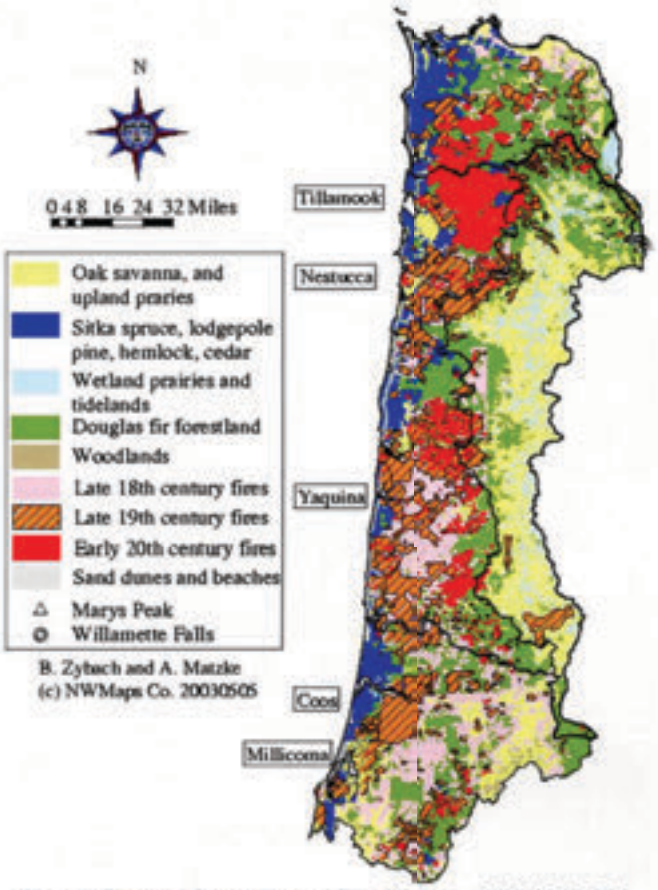
Following these actions, Weyerhaeuser holdings in Coos and western Douglas Counties would total 184,000 acres by 1950 -- almost all of which were scheduled to be cut over the following 30 to 40 years. To put these numbers in context, note the size of the historic wildfires shown on Map 1. Each of these historic fires has been measured at 100,000- to more than 300,000-acres in size, and most of these events took place in a matter of days and weeks, not decades.

The majority of the Millicoma Tree Farm was comprised of even-aged stands of commercially-prime, mature second-growth Douglas fir that had regenerated from the Millicoma Fires of the mid-1700s and averaged 180 years of age. Only scattered trees and pockets escaped these fires; they averaged 225 years of age and likely were principal seed sources of the younger stands.

The Pillsbury Tract, by contrast, contained some of the oldest and largest trees ever measured in the Coast Range. Most of the stands dated to the 1600s, and a number even to the 1500s. Some stands and trees approached 400 years of age – among the oldest Coast Range trees ever recorded.

Background

The Millicoma Tree Farm was assembled by Weyerhaeuser in eastern Coos County, beginning by 1913 and totaling more than 100,000 acres of prime second-growth Douglas fir timber by 1945. This land encompassed most of the South Fork Coos and East Fork Millicoma River drainages; the latter for which it was named.



Map 1. Oregon Coast Range Fire History, 1745-1945. This map illustrates the synthesis of my PhD research at OSU regarding the fire history of the Oregon Coast Range. Precontact patterns of Indian burning are most apparent in the prairies and oak savannahs of the eastern Coast Range, while catastrophic-scale Douglas fir wildfires have typified most of the western slopes during historical time. The Millicoma Fire is the only known wildfire of this magnitude that took place before white discovery and settlement.

The 48,000-acre Pillsbury Tract was acquired by Weyerhaeuser in 1944 and constituted the adjacent headwaters of the South Fork Coos River, extending eastward to western Douglas County and Umpqua River tributaries.

In a January, 1944 letter to an officer in the First National Bank Building in St. Paul, Minnesota, Minot Davis, (long-time western timberland manager for Weyerhaeuser) produced a table showing the disparity -- and resulting tax and purchase value consequences -- "between the County cruise and the actual production" on the Pillsbury Tract by the "Coos Bay Logging Company," and further noted:

"The above map carries considerable interest in connection with our consideration of the Pillsbury timber. I believe there is no more heavily timbered area in Coos or Douglas Counties than the area now being logged by Mr. Vaughan. Out of the total Pillsbury ownership of a little less than 48,000 acres, there is quite an appreciable amount of old burn which

is very lightly timbered, and I shall be very much surprised if the tract as a whole averages better than 40 M. ft. per acre."

In 1945 Minot authorized the Coos Bay Growth and Yield Study, to determine the true volume and value of his employer's new holdings, and also to plan for their future regeneration and harvest.

Survey Methods

Arthur V. Smyth was a young Weyerhaeuser forester in 1945 and was given responsibility to complete the proposed Coos Bay study. He subsequently wrote an excellent book regarding his experiences and interpretation of the history of this project and area, "Millicoma: Biography of a Pacific Northwestern Forest." Figure 1 is used by permission of Smyth and taken from that source.

The study area was divided into two portions: the 96,472-acre Millicoma-North Pillsbury ("Millicoma") area and the 29,509-acre South Pillsbury ("Pillsbury") area. During the summers of 1945 and 1946 two-man crews running parallel lines one mile apart took 1/4-acre plots every "ten chains" (660 feet):

"All live trees were recorded by diameter and species. To determine growth over the past 50 years 1466 trees were bored. All standing dead trees were recorded by diameter and estimated years dead. Visible fruiting bodies of fungi (conks) were recorded to give an index of rot.

"959 sample plots were taken in the [Millicoma} area and 617 in the [Pillsbury] area, a total of 1576 plots or 393 measured acres, making a 0.3 percent cruise of the area."

The Millicoma area, more than three-times the size of the Pillsbury area, contained more than 60% "mature" timber, more than 25% "immature", and only 10% "old-growth." By comparison, the Pillsbury tract contained more than 70% old-growth, less than 25% immature, and less than 5% mature. Further, "The immature stands, mostly 10 to 40 years old, have come in after fires and contain scattered decadent old-growth trees and snags."

What was meant by the term "old-growth," and why was it important to Weyerhaeuser?

Definition of Old-Growth

The Douglas Fir Region contains some of the oldest, tallest, largest, fastest growing, and most voluminous trees and tree stands in the world. This area includes western Washington, western Oregon, and much of northern California. In addition to vast even-aged stands of Douglas fir trees, the region also has Sitka spruce, redcedar, redwoods, hemlock, and true firs that reach great heights, girths, ages, and volumes.

For most of the past century, the commonly accepted definition of an "old-growth" tree, grove, patch, or stand in this Region is one at least 200 years of age. Because native conifers can commonly achieve 300-, 500-, and even 700-years of age – with some even attaining 1,000-years or more – the 200-year figure has often been considered overly conservative. Forest scientists in the mid-1900s, for example, reasonably argued that regional oak and conifer trees be at least 400- or 450-years old to be considered old-growth.

The western slope of the Coast Range is in the very

Map 2. Arthur Smyth map of the ca. 1765 Millicoma Fire boundaries, superimposed on H. G. Taylor's "Map of Coos Bay and Vicinity, Oregon" produced for Weyerhaeuser Timber Co. in 1944. Northwest of Smyth's 1765 boundary is the Elliott State Forest -- which mostly burned in 1840 and 1868 -- and a portion of the Pillsbury Tract (which escaped all three fires: 1765, 1840, and 1868) can be seen to the southeast.

heart of the Douglas Fir Region and contains some of the tallest, largest, and fastest-growing Douglas fir ever measured – but not nearly the oldest, or even close. Trees and stands in the western Cascades, on the Olympic Peninsula, and Vancouver Island are where the 500-year, 700-year, and older trees are found. Not a single 600-year old, or older, Douglas fir has ever been documented on the Oregon Coast Range. Volume, size, and annual growth records are set here, but almost all of them are achieved in less than 300 years.

In recent decades there has been an effort to consider trees even younger than 200 years as old-growth. The Coos Bay Study, for example, listed trees 165-years of age and less as "immature,"; from 166- to 190-years as "mature"; and 191-years and older as "old-growth." The total volume of Douglas fir timber, for all ages, in the study area was 90%, with hemlock (<7%) and redcedar (>2%) constituting most of the remainder.

Whether 191 years or 200 years is considered "old-growth" is statistically insignificant. Either number serves reasonably well as a marker separating "mature second-growth" from "old-growth" when considering older conifer forest conditions in the Coast Range.

The oldest tree in the study area was dated to 1565, which would have been 380-years old at the time of the inventory, or nearly 450-years old if it had survivied until now.

Coast Range Fire History

The Oregon Coast Range runs on a north-south axis along most of the Oregon coastline. The Pacific Ocean forms its western boundary, it is bounded to the east by the great Willamette River and Umpqua River interior valleys, the northern boundary is the Columbia River, and the southern boundary is the Middle Fork Coquille River. It is the heart of the Douglas Fir Region.

Figure 1. Weyerhaeuser Timber Co. forester standing next to an "old-growth" Douglas fir dating to the 1600s, while surveying a stand of even-aged "second-growth" trees dating to the mid- or late-1700s. Photo probably taken in 1945 or 1946 and used by permission of Arthur Smyth and Weyerhaeuser Archives (RG#9 Photographs, Millicoma Tree Farm, ca. 1951: T50-0022).

To understand where and why stands of old-growth trees have existed in the Coast Range, including Coos County, it is necessary to understand its fire history -- where some of the very largest wildfires in world history have taken place.

These events have occurred because the western slopes of the Coast Range mostly consist of thousands of tons of giant, pitchy, fast-growing trees per acre; creating massive amounts of contiguous fuels that help develop ideal conditions (along with topography and seasonal weather patterns) for historic catastrophic-scale wildfires: defined as those forest fires covering 100,000 acres or more forestland during an event.

Map 1 depicts the history of catastrophic wildfires in the Oregon Coast Range. The Millicoma Fire, estimated by Smyth to have been 200,000 acres in size (Map 2), is the only one depicted that occurred before historical time and has not been corroborated by eye-witness accounts. The 1945-1947 Weyerhaeuser timber cruise provided the first compelling evidence of a Coast Range catastrophic fire that predated historical times, although it remains possible the trees became established following some other form of disturbance, such as windstorm, bugs, or disease.

Thornton Munger was an influential, pioneering forest scientist for the US Forest Service in the early 1900s. Beginning in 1908 he began to focus his studies on Douglas fir trees, which continued until his retirement in 1946. It was his observation that:

"The paths of the great forest fires of the last century or two are plainly marked by even-aged stands, consisting to the extent of at least 90 per cent of Douglas fir (if within the preferred habitat of this tree), regardless of the proportion of Douglas fir in the original fire killed stand."

William Morris, a US Forest Service scientist focused on Douglas fir wildfire history in the 1930s and 1940s, mirrored Munger's observations:

"When land in western Oregon and western Washington is deforested by fire or cutting and then left unmolested, within a few years it is clothed with a new stand of trees almost uniform in age."

Those insights are what convinced Smyth that his extensive measurements of even-aged trees dating to specific years in the 1700s strongly indicated a catastrophic "Millicoma" wildfire during that time, followed by reforestation by scattered trees and groves that escaped the fires. This insight also provided an accurate model of wildfire and regeneration supported by subsequent catastrophic Coast Range wildfires.

If "191 years" is used as the definition for old-growth, then it appears most of the Coast Range has been in regeneration and second-growth conditions for most of the past 500 years. The arithmetic is simple: because most of the Coast Range has been burned or clearcut in the past 191 years, then those lands cannot contain old-growth today; conversely, all of the 250- to 350-year old and younger stands burned or logged from the 1840s to the 1940s had to have spent more than half their existence as regeneration and second-growth, dating back to the 1500s and 1600s.

Figure 2. Clarence and David Gould, grandfather and grandson, stand next to old-growth Douglas fir log felled at head of Kentuck Slough – west of the Millicoma Tree Farm in Coos County -- in the early 1950s. Tree was isolated from surrounding second-growth trees and was estimated to be 350-years old. Ring count was incomplete due to dry rot in the center of the tree. Photo by Glae Gould.

Based on documented fire history and tree ages, a primary characteristic of western Oregon Coast Range landscapes has been extensive stands of mature, second-growth Douglas fir forests for most of the past 500 years/

Survey Findings

Weyerhaeuser Forestry Department completed the summary report of the 1945-1946 Coos Bay timber cruises in December, 1947. The following quotes provide strong insights into old-growth Douglas fir ages, sizes, volumes, and conditions for both the study area and for the western Oregon Coast Range:

"The main block of timber in the [Millicoma] area is 166- to 190-year old Douglas fir averaging 180 years of age and 58,100 net board feet per acre according to this study. Ten percent of the timber in this area is over 190 years old, averaging about 225 years."

"A high average net volume of 73,900 board feet per acre was found for the 180-year old stands on site I in the [Millicoma] area."

"Stands of the [Pillsbury] area are less uniform and more defective."

"Several trees were over 300 feet tall and one 332-footer may be a record for Douglas fir."

"Forty-nine percent of company ownership has timber that is about 180 years old . . . Defect accounts to only 6 percent of the stand volume . . . mortality [is] due to bark beetles, suppression, wind and fire . . ."

"Twenty-five percent of the area has timber more than 190 years old . . .It is largely overmature, containing 40 percent defect and losing volume at the rate of about 40 board feet per acre per year."

"Twenty-six percent of the area is occupied by stands of immature timber, less than 166 years old."

Summary and Conclusions

The 1945-1947 Weyerhaeuser "Coos Bay Growth and Yield Study" remains one of the most systematic and comprehensive measures of "natural" or "virgin" Douglas fir forest

conditions ever completed on the Oregon Coast Range.

In 1945 the nearly unsettled, unburned, and unlogged Millicoma Tree Farm and Pillsbury Tracts were comprised of nearly 50% (61,870 acres) mature second-growth trees, 25% (32,480 acres) unforested and young second-growth, and 25% (31,650 acres) old-growth.

These proportions appear to be fairly typical for most of the Coast Range during the past 350+ years, and the sizes, volumes, and ages are among the largest ever recorded.

If we use the Weyerhaeuser Coos Bay definition of Coast Range "old-growth" trees as being 191 years of age or older, we can derive the following conclusions:

Figure 3. Wayne Giesy, Jerry Phillips, and David Gould, July 8, 2017, in Elliott State Forest's 52-acre "Silver Creek Heritage Grove." Creation of this site involved a 40-acre purchase from Weyerhaeuser by the State of Oregon via former forest manager Phillips. The combined age of these men (more than 250 years) is greater than the estimated 250-year age of these trees -- which are also estimated to be greater than 250-feet in height. These are among the last remnants of the ca. 1770 Millicoma Fire that were considered "second-growth" in the 1940s. Photo by author.

1) Following the Millicoma Fires of the mid-1700s, none of the future Weyerhaeuser lands in the Millicoma Tree Farm or Pillsbury Tract contained stands of old-growth – it would take until the early 1800s before a significant number of these trees became at least 191 years old;

2) The western slope of the Coast Range has been mostly comprised of even-aged, second-growth Douglas fir forests for most of the past 500+ years;

3) Coast Range Douglas fir typically begin taking on "yellow fir" old-growth characteristics from 200- to 300-years of age;

4) A significant percentage of Douglas fir trees die, begin dying, become infested with bugs and/or disease, and have been damaged by wind, lightning, and/or wildfire after attaining 200- to 300-years of age;

5) Coast Range Douglas fir very rarely reach 400 years of age and have never been documented as reaching 600 years of age.

Oregon Coast Range Old-Growth: Part III

Marbled Murrelet Habitat

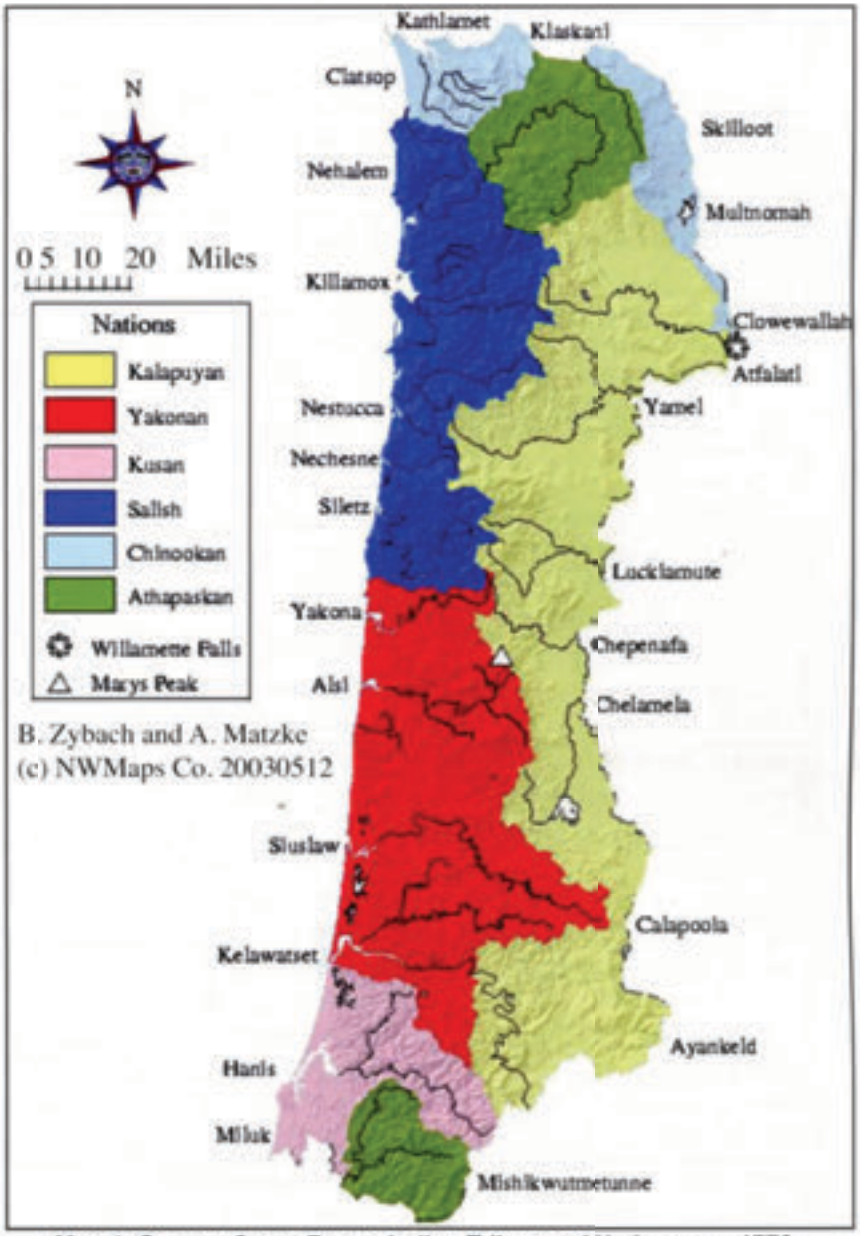
Dr. Bob Zybach

Marbled murrelets are relatively small seabirds that can fly 60 or 90 miles an hour when traveling, but spend most of their time floating in the ocean and diving for small fish and shrimp. Their population extends from southern Alaska, where they lay their eggs on shoreline rocks, to Canada, Washington, Oregon, and California, where they have been documented nesting in the upper reaches of old-growth conifer trees.

These birds are important because they have had a profound impact on rural Oregon Coast Range forests, economics, infrastructure, wildfire risks, recreational opportunities, wildlife populations, and aesthetics during the past 25 years.

Marbled murrelets are in the auk family and very closely related to long-billed murrelets and to Kittlitz's murrelets. In fact, until 1998, long-billed murrelets were considered to be the same species as their marbled cousins. Kittlitz's murrelets tend to live in Alaska and Siberia and long-billed murrelets are found in Korea and Japan, although members of this species have also been recorded in the south and along the east coast in the US, and in Europe.

Murrelets are opportunistic nesters throughout their range, including rocks, bare ground near snowfields, shrublands, and forested areas of varying size, density, and age. They lay one egg at a time, typically within 30 miles of the ocean shore, and feed their young once or twice a day, usually a small fish at a time. Juveniles are strong enough to fly about four weeks after hatching, at which time they head directly to sea. There is no evidence that the birds use the same nest more than once.



Map 1. Oregon Coast Range Indian Tribes and Nations, ca. 1770. Common spellings, language classifications, and geographical boundaries are currently being updated and revised.

It was estimated in 1992 by Steven Speich, a recognized expert in Pacific coast seabird biology, that less than one percent of all North American marbled murrelets nest in California; less than one percent in Oregon; and "perhaps" two percent in Washington; "compared to about 13% in British Columbia and 84% in Alaska."

During that same year, on September 22, 1992, the marbled murrelet was declared a legally "threatened" species in Oregon, Washington, and California (but not Canada or Alaska) by the US Fish & Wildlife Service. Clearcut logging on coastal Douglas fir forests was promoted as a principal cause of a claimed reduction in these populations despite any concrete evidence that is has, or can, cause such effects. Or any baseline data to demonstrate that bird populations were actually being reduced: only some very suspect "assumptions" and questionable arithmetic.

In 2012 the Center for Biological Diversity, Portland Audubon Society, and Cascadia Wildlands sued Oregon Department of Forestry officials regarding the "take" of marbled murrelet habitat on State of Oregon forestlands. The regional forest industry, the national carpenters' union, and Douglas County essentially counter-sued, saying that the US Fish & Wildlife "science" behind the listing of the bird and its "critical habitat" was biased and inconclusive.

This latter suit was dismissed without a hearing in 2013; the former ended in a 2014 "sue and settle" decision in which the environmental organizations and their lawyers were given a significant amount of money and the State agreed to halt logging on 28 different locations in rural western Oregon.

In addition to court-ordered payments, the principal costs associated with these rulings were the loss of hundreds or thousands of tax-paying blue-collar jobs in rural Clatsop, Tillamook, Lincoln, Coos, and Douglas Counties, and the loss of hundreds of millions of dollars in timber revenues to those counties and to the Oregon Common School Fund. There is no measurement as to whether these legal rulings have had any effect on marbled murrelet populations, but there is little reason or evidence to indicate they have.

A 2016 report by the US Forest Service Pacific Northwest Research Station concerning marbled murrelet population trends for the 1994-2013 study period showed an estimated population of 20,000 birds in 2013. That number represented an apparent decline of 4.6% in numbers for the State of Washington and no discernable change in Oregon and California populations for the 20-year period.

Background

I first heard of marbled murrelets in October, 1988, when I received a handwritten letter from an Oregon State University graduate student, Kim Nelson, who was finishing up her Master's degree in "cavity nesting birds" and was also working under contract with the Siuslaw National Forest doing marbled murrelet surveys. She had heard that I knew a significant amount about Coast Range forest and fire history and asked if I could provide her with information in that regard. Which I did.

The information was apparently ignored. I provided Nelson with maps, eyewitness accounts, and photographic documentation showing the Siuslaw – in common with the remainder of the Coast Range – is a highly dynamic forest. It was created in 1908 in the foot print of 1849 and 1868 catastrophic wildfires (the "Yaquina Burn") and had always had a history of floods, landslides, earthquakes, windstorms, and a significant human population that used fire and large wood products on a daily basis (see Map 1; Table 1; Figures 1-4).

Tribe	Language	River	City	County
North				
Clowwewalla	Chinookan	Willamette	Oregon City	Clackamas
Multnomah	Chinookan	Willamette	Portland	Multnomah
Skilloot	Chinookan	Columbia	Ranier	Columbia
Kathlamet	Chinookan	Columbia	Knappa	Clatsop
Clatsop	Chinookan	Youngs	Astoria	Clatsop
Klaskani	Athapaskan	Clatskanie	Clatskanie	Columbia
Nehalem	Salish	Nehalem	Nehalem	Tillamook
East				
Atfalati	Kalapuyan	Tualatin	Tualatin	Washington
Yamel	Kalapuyan	Yamhill	Yamhill	Yamhill
Luckiamute	Kalapuyan	Luckiamute	Dallas	Polk
Chepenafa	Kalapuyan	Marys	Corvallis	Benton
Chelamela	Kalapuyan	Long Tom	Monroe	Benton
Calapooia	Kalapuyan	Willamette	Eugene	Lane
West				
Killamox	Salish	Tillamook	Tillamook	Tillamook
Nestucca	Salish	Nestucca	Pacific City	Tillamook
Nechesne	Salish	Salmon	Rose Lodge	Lincoln
Siletz	Salish	Siletz	Siletz	Lincoln
Yakona	Yakonan	Yaquina	Newport	Lincoln
Alsi	Yakonan	Alsea	Waldport	Lincoln
Siuslaw	Yakonan	Siuslaw	Florence	Lane
South				
Ayankeld	Kalapuyan	Umpqua	Yoncalla	Douglas
Kelawatset	Yakonan	Umpqua	Reedsport	Douglas
Hanis	Kusan	Coos	Coos Bay	Coos
Miluk	Kusan	Coquille	Bandon	Coos
Mishikwutmetunne	Athapaskan	Coquille	Coquille	Coos

Table 1. Oregon Coast Range languages, tribes, rivers, cities, and counties, 1770-1893.

Instead, in September 1991 Nelson wrote to Russell Peterson of the US Fish & Wildlife Service in support of listing the marbled murrelet as "threatened" in the State of Oregon because: "Logging since the 1800's has eliminated most of the mature and old-growth forests (suitable murrelet habitat) in western Oregon. Current estimates indicate a 60-90% decline in the forest types. Assuming that the murrelets were evenly distributed in the state in relation-

Figure 1. Native People of the Oregon Coast Range, 1841-1885. Upper Left: Two "Salish women," possibly Tillamooks, on a "trading trip"; Upper Right: Tattooed Chinook woman with a child in a "cradleboard" designed to flatten its head, drawn by George Catlin near Portland, Oregon, ca. 1861; Lower Left: Yakona Indians in Christian clothing and traditional headdresses and tattoos, Yaquina Bay, ca. 1877; Lower Right: Kalapuyanman near present-day Monroe, Oregon, drawn by Alfred Agate in 1841.

ship to the distribution of suitable habitat, the population has been reduced 60-90% and the species distribution is now limited to isolated areas along the Oregon Coast."

The key phrase here, in addition to "suitable habitat," is the statement, "assuming that the murrelets were evenly distributed . . ." Given the detailed maps and documentary evidence that had been provided to her, why and how had Nelson come up with this obvious deception? Where did

this "assumption" come from?

Tying it to an equally fabricated Coast Range logging history ("60-90%" of the landscape, apparently) and a simplistic arithmetical equation – including an assumed and highly unlikely 1:1 relationship between her determination of "suitable habitat" and actual bird populations -- has somehow become the basis of several "successful" anti-logging legal actions that have taken place in western Oregon ever since.

Figure 2. Precontact large-wood products. Upper Right: Traditional Kelawatset ("Quulich") cedar plank house photographed by an Army officer near mouth of Umpqua River in 1858; Upper Right: Drawing of a similar plank house near the same location, published by Harper's Magazine, also in 1858; Lower Left: Large sea-going trade canoe ound near mouth of the Salmon River in Lincoln County; Lower Right: Interior of typical Chinookan lodge along the Columbia River, drawn by Alfred Agate in 1841.

In 1992, leading up to the September listing of marbled murrelets as "threatened," Nelson was lead author of a paper titled "The Marbled Murrelet in Oregon, 1899-1987," in which only seven "potential [not "actual"] nesting areas" were identified in western Oregon, the small number apparently due to "current timber management practices":

"Potential nesting areas were located in Douglas-fir (n = 6) and Sitka spruce (n = 1) forests greater than 100 years in age. The loss of mature and old-growth nesting habitat through current timber management practices must be considered a threat to populations of Marbled Murrelets in Oregon."

As Nelson's 1991 letter concludes regarding the murrelets "potential extreme decline" status if the management of state, federal, and private forestlands wasn't changed immediately to ensure "suitable habitat":

"Listing the murrelet as endangered (or threatened) would ensure that all future plans for logging in suitable habitat (individual sales and cumulative impacts) will be scrutinized for impacts on murrelet populations . . . Timing is of the essence given the rates of habitat loss in western Oregon and the potential extreme declines in murrelet populations."

Forest "Habitat" History

The relationship of Coast Range Indian burning practices to wildlife habitat --especially habitat for such food

animals as birds, ungulates, rabbits, and squirrels --was first noted by Robert Haswell as he sailed along the southern Oregon Coast near Coos Bay in August, 1788:

"... this Countrey must be thickly inhabited by the many fiers we saw in the night and culloms of smoak we would see in the day time but I think they can derive but little of there subsistance from the sea but to compenciate for this the land was beautyfully diversified with forists and green veredent launs which must give shelter and forage to vast numbers of wild beasts"

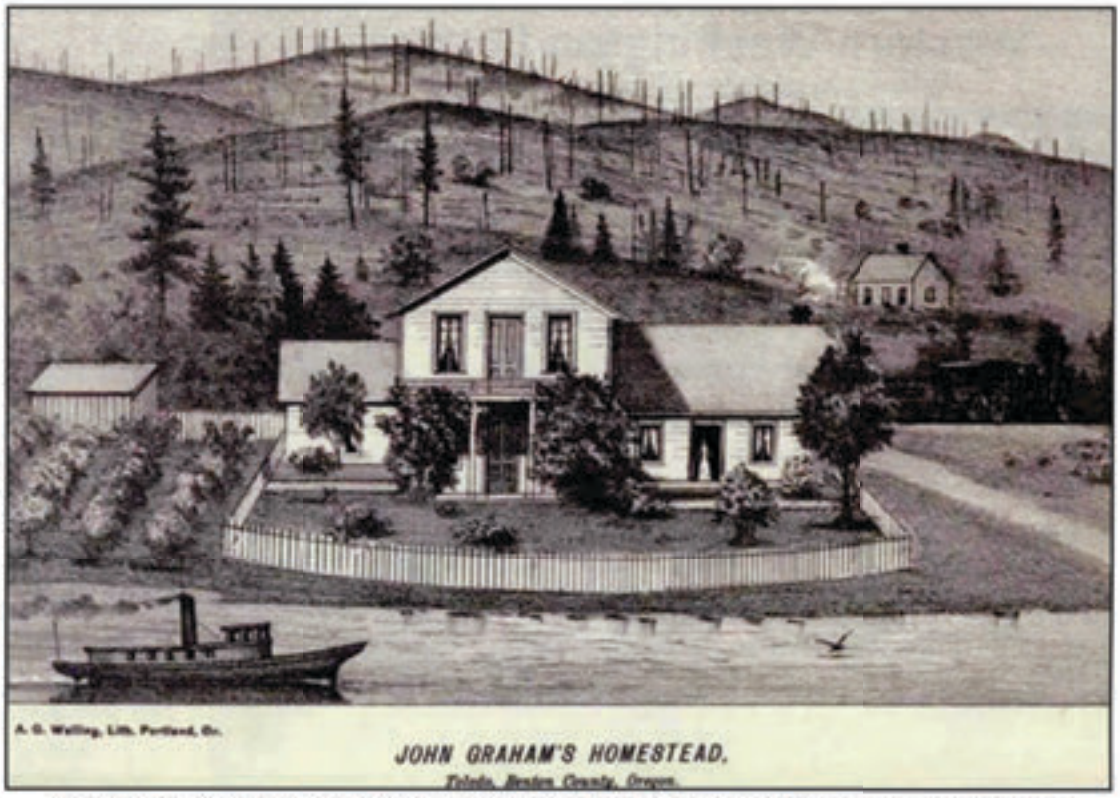


Figure 3. Drawing of Toledo, Oregon, landscape, looking eastward toward Marys Peak, 1885.

During early historical time there were at least eight major and distinct languages spoken in the Oregon Coast Range and at least 26 distinct tribes. Map 1 shows the general location of these peoples, and Table 1 shows the locations in terms of modern political divisions and populations. Figures 1 and 2 depict a few of these individuals and their respective uses of large-wood products typically harvested from local forest environments. Rivers flowing from upland forests and ocean currents were also sources of large logs.

Human families have lived in the historical range of marbled murrelets for more than 10,000 years. The use of fire by these families for heating, cooking, hunting, recreation, vegetation management, and other purposes produced an environment dominated by fire-dependent and fire-tolerant plant and animal species. Identifiable patterns of these plants existed across most of the landscape at the time of white settlement. Accurate physical reconstructions of historical Coast Range vegetation patterns ("habitat") require the presence of people and expert daily and seasonal uses of fire.

Based on historical evidence, it can be shown that the landscape of the historical range of the marbled murrelet at the time of white occupation was primarily made of shifting patterns of even-aged stands of conifers --some young, some old -- (mostly Douglas fir) bounded by prairies, ridgeline trails, oak savannahs, the Columbia River, and Pacific Ocean. Islands of even-aged conifers, groves of oak, meadows, ponds, balds, brakes, and berry patches further defined the environment, much of which was virtually free of underbrush, ladder fuels, coarse woody debris, snags, and other characteristics that became common to many post-1900 Pacific Northwest forests.

Warren Vaughn was a pioneer white settler along Tillamook Bay in the early 1850s, where he observed in the 1880s:

"At that time, there was not a bush or tree to be seen on all those hills, for the Indians kept it burned over every spring, but when the whites came, they stopped the fires for it destroyed the grass, and then the young spruces sprang up and grew as we now see them."

In addition to considering the effects of thousands of people and their daily uses of fire and firewood over thousands of years, current marbled murrelet habitat has experienced some of the largest and most violent catastrophic wildfires in US history: the Yaquina, the Nestucca, the Coos, and the 6-Year Jinx Tillamook Fires of 1849, 1868, 1902, 1910, 1933, 1939, 1945, and 1951. These fires killed hundreds of thousands of acres of even-aged large, small, and old-growth Douglas fir at a time.

What effect did these vast – and sudden -- "clearcuts" have on Oregon's murrelet population? Compared to logging history? Did murrelets adapt to historical Indian burning practices, or did they migrate here after the burning was stopped?

Figure 4. Elkhorn Ranch, in heart of present-day Elliott State Forest, winter ca. 1894.

Conclusions and Recommendations

Marbled murrelets have proven to be very adaptive nesters and can fly extremely fast. "Trees die and birds fly" – to say that millions of acres of contiguous "old-growth" Douglas fir forestland is needed to "protect" these birds seems to defy both reason and common sense:

The "science" process that directly resulted in the US Fish and Wildlife Service declaring marbled murrelets as "threatened" was apparently biased against logging and active forest management from the outset. Likewise, efforts to locate nests was also biased toward "natural" old-growth conifer stands ("occupied sites were not always located in an unbiased manner").

Data used to promote the "critical decline" in marbled murrelet populations was superficial, based on provably false assumptions, and dependent on questionable arithmetic to derive the "critically threatened" claims.

Native bird populations on the Oregon Coast must have adapted to constant disturbances by people and by occasional catastrophic forest fires and windstorms over time, or else they may have migrated to this area in recent centuries. Both possibilities should be considered.

Marbled murrelets do not seem to be threatened or endangered at this time. There is no real evidence that their populations are in "sharp decline" or that logging is/was responsible, even if they are. Rather, it appears the California, Washington, and Oregon murrelets are near the edge of their range, much as the lands in northern Canada and Alaska are sparsely populated by people. Conversely, most murrelets prefer Canada, Alaska, and Asia, where they have robust populations – rather than the "lower 48," where they exist in apparently stable, much smaller, numbers.

In summary, if the federal government is going to continue to dictate how forests are managed in Oregon – and particularly in regard to select plant or animal species – it is important they begin with comprehensive historical information rather than inaccurate assumptions, bias, and deceptive math for planning purposes.

CORRECTION: *In the previous article in this series, I mistakenly credited the wrong photographer for the great photo of the 327-foot Brummit ("Doerner") Fir. This picture was actually taken by Darryl Lloyd, Longshadow Photography, Hood River, Oregon, and first published in the March 27, 2010 Portland Oregonian.*

Forest Restoration:
Problems and Opportunities Revisited

By Dr. Bob Zybach

How actively managing our western forestlands on a landscape-scale can immediately create thousands of rural jobs, greatly reduce catastrophic wildfire risks and damages, return millions of dollars to our state and federal treasuries, increase native wildlife populations, fund our rural schools, roads, and libraries, and make our forests and grasslands safer and more beautiful than ever before. Seriously.

Photograph 1: Oak Type. Former oak and pine savanna.

This article is an updated version of the first article I wrote for this magazine, in the Spring 2012 issue. Since then we have continued to witness catastrophic wildfires in northern California, Oregon, Idaho, and Washington that have burned millions of acres, killed millions of wildlife, grossly polluted the air in our major towns and cities for weeks on end, and killed dozens of people. All predictable, and all preventable if corrective actions, generating thousands of jobs and millions of dollars in profits and tax revenues, had been taken first. What was true seven years ago remains true today; and for tomorrow, too.

Western forestlands have never been in worse shape: millions of acres of dead and rotting trees; thousands of miles of abandoned and barely maintained roads; record setting wildfires becoming larger, deadlier, and more destructive by the year; hundreds of artificially impoverished rural communities; and endless litigation preventing the use of resources we need to sustain our lives and our economy.

There are a number of reasonable ways to resolve these problems; a long-term commitment to active forest restoration and management would seem to offer the most immediate benefits to both people and wildlife, and to be the most likely route to long-term economic sustainability as well.

What is forest restoration, why is it needed, and how is it done are the questions addressed in this article. Two examples of current forest restoration projects are profiled to help answer these questions, and to illustrate how these types of programs can be immediately implemented across the landscape to the benefit of neglected forests and depressed timber-dependent communities throughout the West.

What is Forest Restoration?

The process of forest restoration is focused on returning an area to one reflecting desired past conditions. It is critical to understand a) what conditions were actually like in the past, and b) which of those characteristics (if any) should be restored or preserved for the future.

For the past 10,000 years and longer, people living in Oregon have used and managed native plants and animals for their own purposes: principally for food; shelter; fuel; and

fiber products, such as clothing, basketry, musical instruments, canoes, ropes, and weapons. Fire was used for a wide range of purposes: for cooking, heating, and lighting areas around homes and campgrounds; for rejuvenating berry patches and harvesting fields of grain; for hunting game by systematically setting vast tracts of land on fire.

Man is the only animal that can use fire, but he is not the only animal that benefits from it. The expert and judicious use of fire across the ancient landscapes of Oregon resulted in the stable patterns of forests, woodlands, vast prairies, wetland meadows, brakes, balds and berry patches encountered by Oregon Trail immigrants when they first arrived here in the 1840-1850s. The great numbers of elk, deer, birds, fish, squirrels, migratory fowl, and other animals that populated these environments were noted and documented by many of the new residents.

By that time, though, most of the Indian communities in this region had been decimated by plagues of deadly diseases introduced by Asian, African, European, and American explorers, hunters, and traders in earlier decades. The new arrivals, encountering a land nearly devoid of native people, assumed they were "settling" a "natural" landscape created by their God or by Nature, just for them. "Manifest Destiny." That mistaken belief persists to this day in our popular books and films, in our scientific literature, and in our legal system, and is a key reason so many of our forests and grasslands are in such degraded conditions at this time.

Photograph 2: Pine Type-Invasive Doug-fir/madrone.

Photograph 3: Doug-fir Type, Douglas fir/pine mix.

Forest restoration, more than any other definition, means restoring people to the land; and restoring them in such a way that they feel safe, whether in the woods, along a river, or walking through a town. Restoring people to the land also supposes restoring fire to the land; fires set by people, not by lightning.

Upper South Umpqua Project: Considering Past Conditions is Step 1.

The map shown in this article represents a critical step in the forest restoration process – a determination and documentation of likely past conditions for areas being considered for restoration. This step is quite often ignored, or even unrecognized, invariably resulting in failed projects over time. Whenever we plan to restore something, it is important we understand the actual conditions – including presence and actions of people - that existed in the past.

The Upper South Umpqua Headwaters Precontact Reference Conditions Study focused on characterizing a significant portion of the Umpqua National Forest in Douglas County, as it likely existed in 1825, prior to white contact. The study area is slightly more than 230,000 acres in size and extends from the crest of the Cascade Range at elevations greater than

6,000 feet, westward to the confluence of Jackson Creek with the South Umpqua River at approximately 1,100 feet elevation. The map shows the location and composition of forest type patterns and basic travel routes as they likely existed in the study area 200 years ago. Each of the subsequent four photographs documents a typical example of the four identified forest types, and illustrates potential forest management actions needed to restore and maintain desired future conditions.

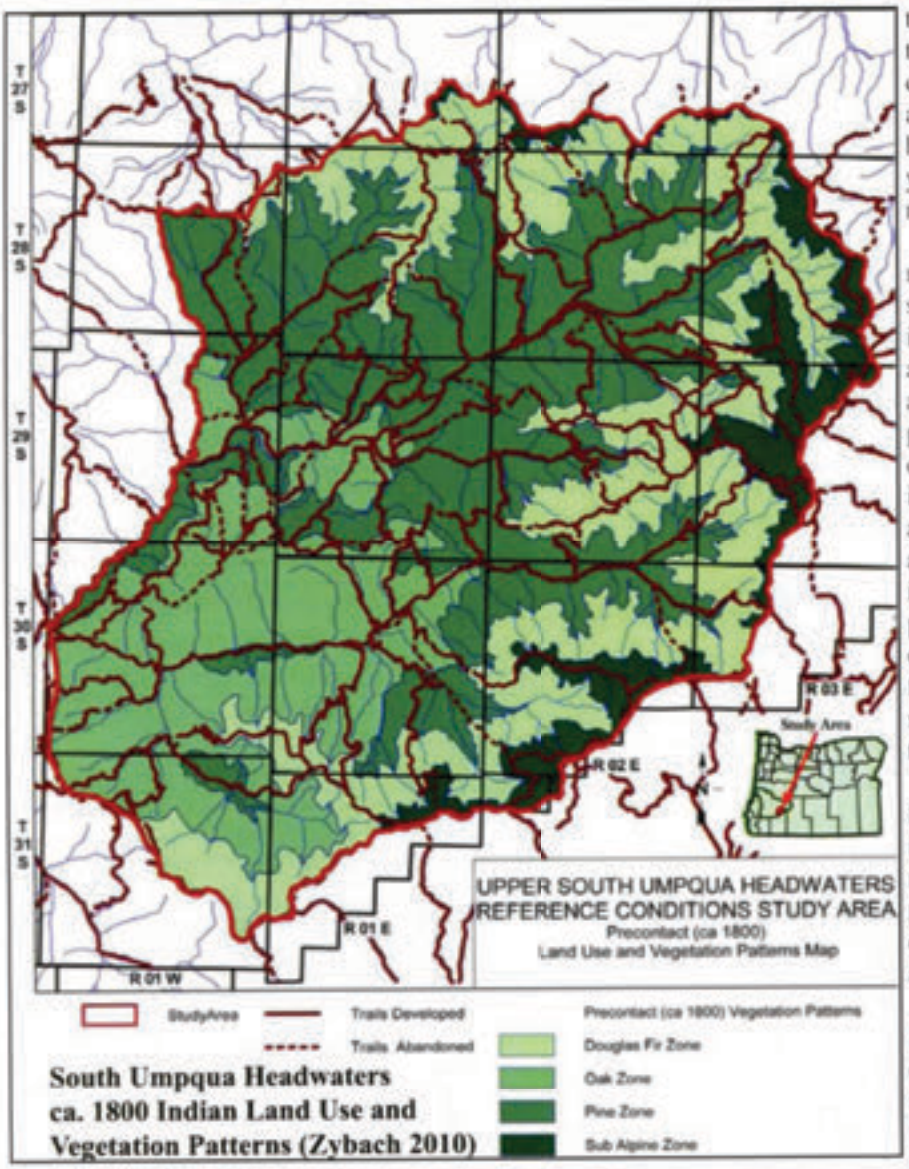
Photograph 4: True Fir Type, Huckleberry Lake.

One of the basic purposes of forest restoration is to reduce wildfire risk and damages. The method for achieving this in overstocked stands of conifers is to significantly reduce their biomass ("fuel load") and open up the tree canopies ("thinning") as they existed in earlier times, when catastrophic-scale crown fires were uncommon occurrences. On federal lands this is referred to as an "FRCC 1" condition.

The Upper South Umpqua Project was initiated by Douglas County Commissioner, Joe Laurance, to consider the possibility of restoring degraded local forestlands to this type of condition. On July 15, 2010, he testified to a Congressional subcommittee of The House Natural Resources Committee in Washington, DC:

"Fire Regime Condition Class (FRCC) 1 is similar to the forest which European explorers first found here. That forest had been modified by fire for more than six thousand years to provide the native inhabitants with what were then life's necessities. These included abundant wild game from the most productive and diverse wildlife habitat ever known on this continent. Similarly, the regular burning of competing vegetation permitted propagation of nut bearing trees and other food producing plants. Additionally, the historic "Healthy Forest" promoted pristine rivers, streams, and lakes that provided an abundant harvest of fish and waterfowl. Within FRCC 1 the risk of losing key ecosystem components to fire is low, while vegetation species composition, structure, and pattern are intact and functioning within the natural historic range."

Research methods used to determine and document 1825-era forest conditions in the study area included extensive use of General Land Office survey maps and notes, historical maps and photographs, field plots, oral history interviews, literature reviews, archival research, and over 5,000 GPS-referenced digital photographs. This latter method documented the loca-



tion and extent of remaining old-growth (pre-1825) trees in the study area, in addition to documenting persistent patterns and patches of such traditional cultural food and fiber plants as camas, fawn lilies, cat's ears, huckleberries, hazelnuts, chinquapin, tarweed, serviceberry, wokas, bracken fern, thimbleberries, and salal.

Historical research has given us the map shown: a generalized depiction of likely forest conditions in the study area during the 1800-1825 time period. The following four photographs represent typical current conditions within each of the four forest types (or "zones") that are depicted. The large size and wide spacing of the older trees in the photographs can be gauged by the "human scale" used to measure them: Nana Lapham, long-time NW Maps Co. forest science research assistant, is 5' 8" tall and did much of the field work on this project.

Photograph 1 shows relict trees from an oak and pine savanna that was developed and used by native residents for hundreds or thousands of years. These areas were tended by constant gathering of fuel, acorns, and pine nuts from the trees and regularly tilling and/or burning the surface area to manage understory crops, such as camas, tarweed, hazel, and beargrass. Notice how Douglas-fir have invaded the area in the past 100+ years, threatening the survival of the few remaining old-growth oak and pine.

Restoring this savanna would entail removing the Douglas-fir before they smother the remaining old-growth; removing the surface fuels that have built up around the bases of the oaks and pines; and reintroducing the types of understory plants and regular burning practices that created and maintained savanna conditions in the first place. There are thousands of acres similar to this throughout the study area, with invasive Douglas-fir slowly killing the established old-growth and creating potential crown-fire conditions by developing a continuous canopy of fine, pitchy fuels. A crown fire under these circumstances would likely kill all of the trees in this picture, including the old-growth.

Photograph 2 is a typical condition found throughout the former Pine Type in the study area. Again, these areas were maintained by regular prescribed fires in precontact time, and are now being threatened by thousands of invasive Douglas-fir and madrone.

Photograph 3 shows the 1825 Douglas-fir Type, which still contains scattered old-growth sugar and ponderosa pine; species which may have dominated this type in the Indian era. Restoration would provide the best option for prolong the lives of these historic trees, too.

Photograph 4 is a picture of Huckleberry Lake, in the high elevation True Fir Type. The "lake" is now a wetland prairie, a result of eutrophication during historical time. This area used to be a portion of a major huckleberry gathering complex, equally accessible to Indian families living in the Rogue River and South Umpqua basins due to its common ridgeline location, before these plants were shaded out by the invading conifers. In addition to the hundreds of acres of cultural plants still present in the area, numerous stone artifacts and other evidence of past use are also in widespread evidence along this ridgeline. The scattered taller trees in the background represent larger diameter, older trees likely dating to the 1600s and 1700s; the vast majority of trees, though, having established themselves after the mid-1800s and throughout the 1900s.

The common theme documented by this map and photographs is that tens of thousands of acres of old-growth oak, pine, Douglas-fir, red cedar, and other conifers exist throughout the study area in need of immediate attention, if they are

to survive [Note: 17,000 acres of this study area burned in the 2013 "Whiskey Fire," one year after this was written, costing $23 million and needing 932 firefighters to contain]. The same problem exists for the scattered patches of huckleberry, camas, tarweed, and native grasses that still persist. A forest is, ideally, composed of many facets, housing many different types and species of plants and animals. Those are the types of attributes that used to define these lands, and the same types that can be restored and maintained for future generations of people and wildlife.

Jims Creek Project: Make a Choice and Then Do It is Step 2.

The second step to forest restoration, after considering historical conditions ("options") is to determine what future conditions are desired (goals and objectives), and to begin actively restoring and/or maintaining those prized and desired conditions across the land. An excellent example of this step is the Jims Creek forest restoration project on the Middle Fork Willamette Ranger District which, in 2012, was in the process of completing an initial 400-acre "demonstration project" portion of a 25,000-acre plan.

The Jims Creek project has demonstrated the feasibility, profitability, and general benefits of conducting landscape-scale forest restoration projects on federal forestlands, but it is also a good example of how much time and money can be spent in putting these projects together, as well as the ease and quickness with which they can be stopped by adversarial legal actions. This project was initially conceived by a local US Forest Service forester/project manager, Tim Bailey, who then spent the better portion of the next ten years shepherding his vision through the myriad public meetings, scientific reviews, committee presentations, promotional tours, and other hurdles needed to get things underway on the ground.

Picture 5 shows Bailey in front of a portion of the Jims Creek Project in 2010. This area had already been treated by removing most of the invasive conifers established during the past century, and by broadcast burning the ground so as to remove excess litter and logging debris. Note the scattered trees that have been left behind: widely spaced pine of several different age groups, from seedlings to saplings and second-growth to old-growth. Also note the small herd of elk grazing directly above Tim, near the crest of the hill.

Picture 6 is the same herd of elk as the previous picture, seen through a zoom lens. Not shown in this photograph are several more elk just over the crest of the hill and at least two blacktail deer near timberline that were photographed running deeper into the woods shortly after this picture was taken. The small charred stumps and large woody debris in the foreground will soon rot away or be consumed in the next few surface fires. The reddish-brown pattern is bracken fern, a plant harvested in large quantities by many Oregon tribes for its starchy roots and asparagus-like "fiddleheads" that grow in the spring. In a few more years, with a few more broadcast burns, this area will appear very similar to what it must have looked like hundreds of years ago -- including the regular presence of elk and deer.

Although the 400-acre Jims Creek demonstration project has clearly shown several advantages of forest restoration in this area, additional progress has been halted at this time due to an infestation of thousands of red tree voles ("tree mice") that accompanied the migration of Douglas-fir trees into the project area during the past century. These rodents are protected against logging Douglas-firs under a federal "survey and manage" regulation, despite the fact they are not a threatened or endangered species.

This type of work stoppage, based on relatively new federal regulations and related litigation initiated by environmental organizations, has become the main difficulty in beginning and completing forest restoration projects in Oregon and throughout the West. The Jims Creek Project is also a good example of those types of problems: of the 25,000 total acres of this project within the Middle Fork Ranger District, 7,000 acres are privately owned and being managed for maximum timber production; more than 7,000 acres have been classified as spotted owl habitat; approximately 7,000 acres are in remote areas that would likely include the "taking" of spotted owls; and the remaining 4,000 acres are populated with regulated tree voles. Also, a river flows through the project area that contains two listed fish species and "there is a perception on the part of the regulatory agencies that this type of restoration work can have a negative effect on fish."

Despite these hurdles, there is a lot of work needed and a lot of people wanting to do it.

Conclusions

Forest restoration projects should be conducted on a landscape-scale basis in order to be effective biologically, aesthetically, and economically. Project boundaries should include sufficient commercial materials to treat the entire project area and to show a profit. Profitable and beneficial actions

Photograph 5: Tim Bailey and elk herd on Jims Creek site.

are sustainable on a long-term basis, as we have learned from more than 10,000 years of forest history in this region.

The actions needed to restore our forests to earlier, more desirable conditions would necessarily create thousands of jobs for decades -- jobs to make the best uses of our common resources, protect our old-growth and wildlife, and greatly reduce the likelihood of wildfire and the severity of such occurrences when they do take place.

Based on my own experiences and observations, I think there are four key things that must be in place for forest restoration projects to be successful on a long-term basis:

1) Areas slated for restoration should include sufficiently broad boundaries and specifications to allow projects to be profitable;

2) Restoration projects should be landscape-scale (25,000 to 250,000 acres) in size in order to be economically efficient and biologically effective over time;

3) Local residents and businesses should be in strong support of restoration projects, and be given access to all information that develops during the process;

4) Local project managers should be knowledgeable and capable of communicating scientific, technical, and political aspects of a project to local citizens.

I remain certain that the adoption of these practices, as defined, would have many immediate and positive effects on forest health, old-growth preservation, endangered species protection, rural economies, international trade balances, and many other economical, ecological, cultural, historical, aesthetic and recreational values associated with Oregon's forests.

The degradation, destruction, and loss of our federal forests and grasslands to wildfire, bugs, and disease will continue to escalate so long as we continue our current path of passive avoidance and neglect. Restoring our Nation's forests means restoring people -- in part, as active managers -- to our lands. The benefits for doing so have been listed; the impediments to getting started have been largely self-inflicted, are almost entirely political (rather than scientific or humanitarian), and can be readily surmounted, given effective leadership of common outcry. The best time for doing something is now.

Photograph 6: Close-up of 15-16 elk in restored prairie.

Elliott State Forest's First Recreation Plan

By Dr. Bob Zybach

Southwestern Oregon Community College Forest Recreation Students Develop a Draft Plan to Manage the Forest for Economic, Recreation, and Educational Benefits for All Oregon Students

"Two Old Growth." Jerry Phillips and David Gould discuss fire history of two old-growth trees on Huckleberry Point during May 15, 2018 Loon Lake Field Trip. Photo by Anne Farrell-Matthews, Southwestern Oregon Community College Communications Administrator.

For the past two school years I have had the distinct pleasure and satisfaction of working with Tasha Livingstone, Southwestern Oregon Community College (SWOCC) Forestry and Natural Resources Instructor, and her F251 Forest Recreation students in developing the very first draft recreation plan for the Elliott State Forest. In 1993 I had received my 4-year forest recreation degree from Oregon State University (OSU), and this has been my first opportunity to put it to work – and in a Forest I have been directly involved with and cherished for many years.

Students participated in six 4-hour field trips in 2018 to learn about the Elliott and to consider its potential uses for recreation that could financially benefit the Common School Fund and/or be used for educational purposes by Oregon school students. These trips were reduced to five in 2019, and all tours were accompanied by two or more local experts in forestry, history, fisheries, birding, logging, road construction, and/or commercial recreation.

The lessons learned by these trips, by related lectures and consultations with local experts, and by suggested readings and research made freely available online, were then synthesized into draft Elliott State Forest recreation plans – the very first every written for "Oregon's First State Forest."

My time, the volunteer time and expenses of other field

guides and lecturers, and the costs of printed materials and website construction for this project was provided by Oregon Websites and Watersheds Project, Inc. (ORWW), an educational nonprofit website Wayne Giesy and I co-founded in 1996. Transportation, student instruction, students, and classroom facilities were provided by SWOCC.

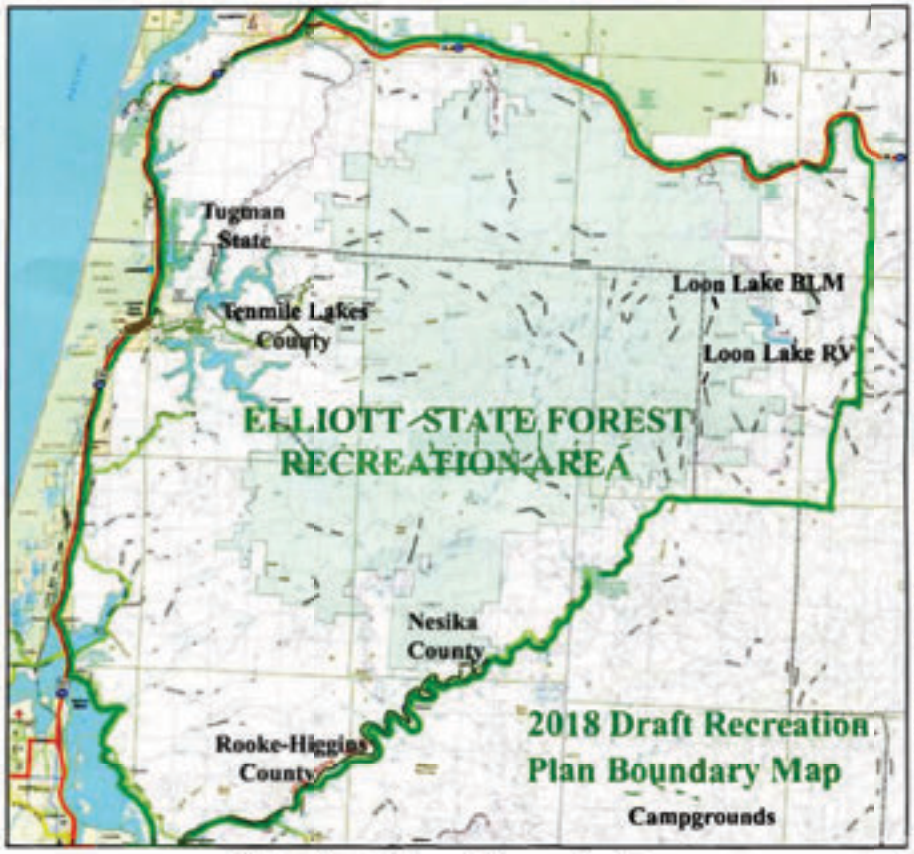
Funding for ORWW was entirely by private donations and primarily provided by a few local businesses – Coos Bay Timber Operators, Inc., Southport Lumber Co., D.B. Western, Inc., Hull-Oakes Lumber Co., NW Maps Co. – and by David Gould, Giesy, and myself. And all based on the work of Jerry Phillips; as legendary Elliott State Forest manager, as its historian, and as a volunteer field trip guide, project consultant, and guest lecturer for the SWOCC students.

Elliott Field Trips

During the Fall of 2017 the Department of State Lands (DSL) and ORWW collaborated on a series of three oral history interviews with Jerry Phillips while touring different portions of the Elliott. The interviews were conducted by me – my OSU Master's degree was in forestry-related oral histories – with DSL providing a vehicle, a driver, and GIS mapping to document our route and interview locations. Other local experts were also interviewed during this process, but Phillips' thoughts and writing about the Elliott were the focus.

With this background the 4-hour educational field trips, beginning and ending at SWOCC, visited all portions of the Elliott and its perimeter, with a focus on forest recreation, history, mapping, planning, and photography. Students were provided with 10-20 page handouts for each trip, including an itinerary of all stops, a detailed map, and a series of historical photographs, texts, and website screen shots that provided additional details on the stops and thematic focus of each trip.

In this manner the students systematically visited the Elkhorn Ranch, Cougar Pass Lookout Tower, Jerry Phillips Reserve, Tenmile Lakes, Trail Butte, Loon Lake, BLM Elk Viewing Area, Dean Mountain, Millicoma Fish Hatchery, all of the local campgrounds, and Golden and Silver Falls State Park. They also observed and considered the Forest's road, trail, fire, and management histories and conditions as we traveled. And at each stop local experts were available to explain what they were seeing and to answer questions.



Elliott State Forest Recreation Area. Students determined that the "Elliott Forest Recreation Area" should include recreational amenities immediately adjacent to the perimeter of the Forest, but remain within Phillips' north-south Umpqua and Coos River boundaries. The western boundary was set at Highway 101 to separate the area from Oregon Dunes, with Golden and Silver Falls State Park at its southeast corner and Loon Lake and Scottsburg in the northeast (2018 Draft Plan: pg. 9).

Elliott has about 550 miles of historic rocked roads completed in three basic phases: 1928-1940 (early highway and CCC construction); 1940-1962 (early old-growth logging); and 1962-1970 (Columbus Day Storm salvage). Of these surfaces, according to Phillips, only about 150 miles are needed for management and recreational access and 400 miles can be converted to trail networks for dedicated hiking, biking, horseback riding, or driving ATVs; and can always be opened up again for temporary emergency or management needs.

One of the first things people notice on entering the Elliott, including the SWOCC students and instructors: all of the roads are rocked, mostly in poorly maintained condition, lined with weeds, and with occasional garbage dumps and homeless camps. And there are no directional signs. The only exceptions are short stretches of State Highway 38 where it becomes the northern border of the Elliott, and the seven-mile stretch of paved county road leading from Highway 38 to

Loon Lake. Everything else is rock, and mostly abandoned.

Draft Recreation Plans

Based on what they saw, heard, and otherwise learned during the course of the field trips, students worked in three-person teams to develop basic recreation plans for each facet of the Elliott's recreational opportunities. Combined, these incremental plans constituted a draft plan for the entire Forest.

There were two basic constraints to these exercises: 1) a recreation plan had never been written for the Elliott before, and 2) it is the only State Forest in Oregon that is 90% owned by the Common School Fund.

A forest recreation plan has to consider, first and foremost, who the landowner is. Whether it is private land, an industrial tree farm, Forest Service, BLM, State, County, or Indian; all of the rules and regulations, landowner objectives, and budgetary constraints are different. For Common School Fund lands they are entirely different.

"Jerry's Point of View." SWOCC student van leaves Jerry Phillips Reserve on April 17, 2018 Elkhorn Ranch field trip. Jerry Phillips has long maintained that this is his favorite viewpoint on the Elliott. Photo by Anne Farrell-Matthews.

The banner quote for both the 2018 and 2019 student draft plans is from Phillips' opening statement in his 1998 414-page history of the Elliott:

"I'd been vaguely aware of the Forest's existence since attending Oregon State College, where it was described in college literature as an undeveloped State-owned forest of young timber lying between Coos and Umpqua Rivers, dedicated to educational purposes."

From 1930 until the early 1990s this was interpreted to mean that the Elliott would be strictly managed for maximum financial gain, and that money would be directly transferred to the Common School Fund. Beginning with the spotted owl and then the marbled murrelet, Elliott timberland was diverted from maximizing profit for Oregon schools to providing "critical habitat" for federally-designated birds. This transition has culminated in the Forest losing money during many of the past 10 years, in large part due to lawyers and environmental organizations using federal rulings to shut down State forestland logging and other management operations.

These changes in use and income of the Elliott have led the State Land Board to first sell the land to a private company, then reverse the sale after public resistance, and now try to "de-couple" themselves from legal obligations to the Common School Fund; possibly by transferring ownership over to OSU. In the interim, however, the school lands remain the management responsibility of the Land Board, as they have been since 1859.

Students were aware of political discussions taking place regarding the Elliott's ownership and management, but told to focus on current and historical ownership responsibilities to the Common School Fund. Due to changed economic conditions, though, they were also told to consider Phillips' statement as saying the Forest could be managed for educational purposes for Oregon schoolchildren, not just for profit. Therefore, their draft recreation plans should consider two primary objectives: 1) make a profit for the School Fund, and 2) create recreational opportunities with educational intent.

A systematic consideration of the Elliott for its educational and recreational potential had not been undertaken before, although the 1857 Oregon State Constitution clearly states that income from the federally-designated school lands:

"... shall be set apart as a separate, and irreducible fund

to be called the common school fund, for interest of which together with all other revenues derived from the school lands mentioned in this section shall be exclusively applied to the support, and maintenance of common schools in each school district and the purchase of suitable libraries, and apparatus therefor."

In this day and age, it certainly seems as if Internet content, transportation, and computers can reasonably qualify as "suitable libraries and apparatus."

Student Recommendations

In both 2018 and 2019 students placed maps, directional signs, and road maintenance as their highest priority recommendations. The lack of directional signs, in particular, was seen as a critical need that should be immediately remedied – not only for reasons of recreational and educational uses of the Forest, but most importantly for reasons of public safety.

There are hundreds of miles of road on the Elliott, mostly in poor condition, and no directional signs anywhere. Roads are narrow and winding, poorly surfaced and even blocked in many areas, and the Forest is defined by its steep canyons and sheer rock cliffs. Radio and telephone reception is poor or nonexistent in many locations and the possibilities of getting stuck, getting a flat, or having an accident are fairly good. And, outside of hunting season, there is hardly any

Hiking and Sightseeing. Students follow trail to Silver Falls during May 28, 2019 Golden and Silver Falls State Park field trip. Photo by Anne Farrell-Matthews.

traffic or other human presence for miles.

The recent decision by the State Land Board to reverse its earlier agreement to sell the Elliott was predicated in large part to keep the Forest "open to the public." With this obligation, and given the enormous size of the existing Common School Fund, it should only make sense to follow the SWOCC students' lead and immediately resolve these problems. That could be done, easily, this summer.

The students also noted that directional signs, improved road surfaces, and functional maps would make educational and recreational visits to the Elliott more desirable, as well as safer, and therefore likely lead to greater amounts of traffic – creating its own set of additional problems and opportunities.

Assuming that the student recommendations are followed, as they reasonably should be for reasons stated, a wide variety of recreational and educational options becomes more likely and desirable: greatly improved camping, fishing, hunting, sightseeing, berry picking, hiking, biking, horseback riding, and ATV trails all become possible. The enhanced educational opportunities for students all over Oregon also become apparent.

Common School Fund Income

In addition to exploring the recreational opportunities of the Elliott, students were tasked with recommending how those activities might be used to generate an income to meet obligations to the Common School Fund. This proved to be much more difficult than suspected.

Oregon was initially granted 3.4 million acres of public lands at statehood in 1859, by Congress, specifically to "support public schools." Through trades and sales -- mostly legal -- most of the remaining forested lands were consolidated into the 71,000 acre "Elliott State Forest" in 1930. Most of this area was covered with young Douglas fir saplings that would not become commercially viable for another 30 years.

During Jerry Phillips' management, trades and purchases increased the size of the Elliott's school properties to about 84,000 acres. It grows an estimated 80 million board feet of timber a year, far exceeding the 50 million annual feet estimated in 1930 when the Forest was much younger and smaller, and also exceeding the 50 million feet per year that Phillips sold, on average, over the last 30 years of his tenure. Now the Forest somehow loses money.

As of June 30, 2014, the Common School Fund was $1.45 billion. In the past 20 years, distribution to Oregon schools has ranged from a low of $13 million in 2004, to a high of "an expected $136.6 million in the 2015-17 biennium" (most recent numbers on the Oregon government website). If the Elliott were again managed according to law, that number would be increased by $20 to $25 million a year for the next 20 years. And produce more than 400 needed local

Hunting on the Elliott. (L) Jenna Goin shows grouse she shot near Elkhorn Ranch, September 22, 2018. (R) Amelia Harvey and the black bear she killed near Johnson Creek, May 24, 2018. Both hunts were on the Elliott State Forest. Photos by Amelia (L) and Alex (R) Harvey.

West Fork Millicoma Fishing Camp. Students gather for group photo on April 23, 2019 Elkhorn Ranch field trip. Jerry Phillips and Instructor Tasha Livingstone are on the far left; field guides Bob Zybach and David Gould are on the far right. Photo by Wade Gould.

jobs in order to do so, while still retaining more than 40,000 acres in "older forest habitat.

A commissioned economic report produced by Utah State University in 2014 titled "Options for the Monetization of the Elliott State Forest," concluded that the Elliott: "has no unique or special attractions that would bring in a significant amount of tourists to produce any substantial profit for the Common School Fund."

And: "Without unique sites or attractions, and given the small population in the area, monetizing the [Elliott] through entrance fees for hunting, fishing, camping, hiking, and other recreational activities is not a viable, revenue-producing option on its own."

Students generally agreed with this assessment but, noting the Elliott's long history of timber management, wildfires, and windstorms, assumed that a certain amount of logging would continue to take place and help generate funding needed to improve roads and develop recreational opportunities.

For specific recreational purposes, "strategic logging" was seen as a method capable of funding other amenities and possibly even showing a net profit for the Common School Fund. This type of practice was discussed as: necessary salvage to keep roadways and trails open, create and maintain scenic vistas in key locations, remove danger trees, open up campgrounds and overcrowded stands, restore cultural landscapes, and develop areas for big game foraging and songbird habitat.

Another option discussed was to maintain the Elliott as an actively managed forest focused on economic benefit to Oregon schools – as had been its history and legal obligation for more than 80 years – and to use the historic roads, logging sites, tree plantations, and old-growth reserves as the missing "special attraction" identified in the Utah State report. That approach would continue to produce hundreds of local jobs, hundreds of millions of dollars for our schools, and pay for any and all recreational facilities wanted or needed.

2020 Plans

Plans are already being made for the spring term 2020 SWOCC F251 students. They will be using the 2018 and 2019 draft Elliott recreation plans as their study guides, will be participating in the five established educational field trips, and will be expected to make improvements on the current 2019 draft.

A difference, though, will be that the 2020 students will be particularly focused on inventory and planning for the Elliott's 550 miles of roads and trails, and on the identification of, and recommendations for, the Forest's uncounted campsites and gathering areas.

Hopefully there will be directional signs and safe roads for them to travel on. Their classmates have been trying to make that happen.

Dr. Bob Zybach is Program Manager for ORWW. Both student plans are available online as printable PDF files and as interactive HTML files on the ORWW Elliott Forest website: www.ORWW.org/Elliott_Forest/Recreation

"Keep Up the Good Fight, Eric"

Wayne Giesy, 1920-2019

By Dr. Bob Zybach

Elliott Old-Growth. (L-R) Wayne Giesy, Jerry Phillips, and David Gould discuss the history and 250-foot heights of this stand of 250-year-old Douglas fir trees in the Elliott State Forest. The combined ages of these three men is greater than the age of the trees they are considering.

At the time this picture was taken this preserve was named "Silver Creek Heritage Grove." It has subsequently been renamed, by an Act of the 2019 Oregon State Legislature, as "Jerry Phillips Reserve" in honor of the man who made it possible. Photo by author, July 8, 2017.

Wayne Giesy died on Sunday, July 28, 2019, with his son by his side and after being bathed, shaved, taking his medication, drinking a chocolate milkshake, and talking to his grandson on the telephone. Very few people today know who Wayne Giesy was. Everybody who does has heard about the Giesy Plan.

In public and in meetings Wayne's demeanor was always upbeat and positive. He was known for his booming voice, boundless energy, stronger-than-firm handshake, solid convictions, and a consistency and determination that became ever more apparent with time.

More than anything he was a man of his word.

Wayne was always a gentleman to anybody. He was unfailingly polite, kind and considerate, joyful and optimistic, determined, and tough as steel. He lived on a small tree farm near Philomath with his wife of 63 years, Betty Jo. They heated their home with firewood that Wayne cut with a chain saw until he had a two-year supply when he was 95 or 96. After that was gone, they began using electrical heat.

He was a man of his word. He would sign a contract agreement if you asked, but it wasn't necessary. He always did what he said he would do. His handshake was his guarantee, and your word was expected to be just as reliable, unless you proved otherwise.

Wayne also had a few aphorisms he liked to occasionally repeat. Each one had a story, which he would tell in detail once or twice, and thereafter they were just a short-hand way to

make a point:

"A country boy can tell you everything he knows in about five minutes."

"The trick is to tell them to go to hell, and have them enjoy the trip."

"You can get a lot done if you don't care who gets the credit."

The Accident

Governor Kate Brown: "Thank you, Wayne. It was delightful to have you here again and I wish you the best as you roll into 99 and hope we all have your energy and enthusiasm for making the world a better place when we reach your age."

State Treasurer Tobias Read: "Hear! Hear!"

Wayne Giesy: "Well, I have my driver's license until I'm 106, so . . ." (loud, sustained laughter from the audience).

-- Transcript from Oregon State Land Board December 18, 2018 public meeting regarding ownership and management of Elliott State Forest.

On Wednesday, June 19 of this year, probably about 8:30 in the evening, I called Wayne to "check in" to discuss what each of us had accomplished that day, and also to make plans for our scheduled meeting with OSU President Ed Ray that Friday.

Betty Jo answered the phone and told me the news. Wayne had fallen and broken his leg earlier in the day in their front yard. Rather than call out for help he had crawled on his knees to the back of the house and pulled himself into the Gazebo and out of the sun.

After an hour or so, when he hadn't returned as expected, Betty Jo had gone out to the back deck and called out for him. When Wayne answered and she couldn't see him, he said it was because he was on the floor of the Gazebo and couldn't get up. Betty Jo had just talked to their son, Reid, who was in Philomath, less than 10 miles away. When she asked Wayne if she should call Reid back and ask for his help, Wayne thought for a while and then said "okay."

On Thursday Wayne had surgery to put a metal rod into his left leg, "from the ankle to the knee." On Friday, Russ Sapp – our third Board member of Oregon Websites and Watersheds Project, Inc. (ORWW) – and I met with Dr. Ray at the scheduled time, in Wayne's absence.

After the meeting I went to visit Wayne in the hospital, where he was alert and wanting to know everything that had been said at the meeting he had missed. The nurses had had him up and walking that morning and he was surprised by the fact he could "feel no pain," although he had just had surgery and had been groggy at the time from the drugs they had given him. We talked about the meeting and plans for what needed to be done next for more than an hour. Wayne expected to go home "in two or three days" and somehow that didn't seem out of the question.

While he was undergoing surgery his family had decided to surrender his driver's license because of his age and health, but no one ever told that to Wayne.

"Working for Ralph"

Ralph Hull got us together. Ralph agreed with much of what I thought about education, forest history, and forest management and provided a significant amount of the funding and encouragement I needed to complete my PhD. Wayne had similar concerns and perspectives and Ralph – his "best friend" for many years -- provided steady work, a share of his sawmill ownership, and funding needed for Wayne to attend political and professional meetings to promote his "Giesy Plan."

All three of us had deep pioneer Oregon roots, long personal histories of hard work in fields and forests, and a common concern for the future of our rural schools, families, businesses, and communities. Ralph had the desire, insight, and resources; Wayne had a plan and political connections; my job was to get the academic credentials needed for research and public education. Ralph told Wayne to keep an eye on me while I did so. Not to spy, but to assist.

And that became our relationship, on a collaborative basis. For nearly 30 years Wayne and I would talk on the phone four or five times a week, usually about 8:00 or so in the evening, recounting the day's accomplishments and making plans for the following days and weeks. Despite our best attempts otherwise, these plans were rarely financially successful – yet almost invariably completed to the best of our abilities.

In December 1996, as I was finishing my Master's degree at OSU, Wayne met with me and asked how I thought my degree could best be used for reaching a wider range of students regarding the history and management of Oregon's natural and

Amity High School Sports. Wayne was a star athlete at Amity High School, lettering in football, baseball, and basketball during his sophomore, junior, and senior years. He was quarterback on the school football team, catcher on its baseball team, and guard on the basketball team.

During that time Amity teams won 27 separate championships, including State "B" league basketball champions in 1938 that also finished second to Baker in the "A" League tournament. Wayne made both Oregon "A" and "B" League basketball All-Star teams that year, likely the last person to ever do so. It has been claimed by others for many years that Wayne introduced the one-handed set shot to Oregon basketball, and he has never denied that distinction. In 2013 he was elected to the Amity High School Hall of Fame.

1997 ORWW Live Internet Broadcast. On June 6, 1997, ORWW broadcast a live event over the Internet from the Philomath Middle School gymnasium; one of the first live Internet broadcasts in history. A 28.8K dial-up modem, a Pioneer Telephone Co-op connection, a rebuilt Apple computer, and a Kodak DC20 digital camera were used to create a concurrent typewritten commentary and a dozen digital photos documenting participants and actions that have remained online ever since.

The occasion of the event was an awards ceremony celebrating the students and teachers that had participated in the "PEAS" (Philomath, Eddyville, Alsea and Siletz) Project during the school year by putting students' local natural science projects online to share with others. An ORWW survey of the computer and Internet capabilities of the five schools showed that: only one school at that time had more than one line dedicated to Internet access (Siletz, with four); most modems (10, for all five schools) were only 14.4K and only five modems (four in Siletz) were 28.8K; and of the 79 total computers in the schools, 67 had only 8 mb. of RAM and only 12 computers (10 in Siletz) had 16 mb. of RAM. Definitely the beginning of Internet use, communication, and education in Oregon's rural schools.

The two pictures shown here were put online by ORWW event webmaster and photographer, Zongyao Wen, with remaining photos taken by students in attendance -- mostly of themselves, mostly acting silly, and all being the first digital photos they had ever taken or had placed on the World Wide Web. People who can remember Internet communications from those days will recall how slowly pictures loaded, line by line. As a result, photo files were made as small as possible, with the picture of Wayne and me being only 16 kb. in size, and the group photo just 23 kb. This was well before Google, online videos, smartphones, and selfies that students expect today.

cultural resources. I suggested the newly emerging "Internet communications" as a way to involve modern students anywhere at any time in the State.

Wayne thought that was a good idea and Ralph agreed to provide startup funding. Western Oregon Timber Supporters (WOTS), a small Philomath nonprofit group advocating for responsible forest management, agreed to sponsor us. Mack Barrington, a recent OSU PhD in Geography, provided technical expertise and on January 15, 1997, ORWW launched its first educational website: The PEAS (Philomath, Eddyville, Alsea, and Siletz) Project, which has remained online – in common with more than 35 subsequent ORWW projects -- to this day.

Ralph Hull died at home, age 90, in 2002. The following year I completed the PhD he largely paid for. All this while Wayne and I kept working together, using ORWW as our base. At some point a few years ago, Wayne said: "You know we're both still working for Ralph, don't you?" I told him yes. We both knew it, but that was the first time it was spoken or acknowledged between us.

"One Question"

Wayne was a WWII, Army veteran, mustering out as a second lieutenant in 1946. In 1955 and 1957 he was elected as Benton County Representative to the Oregon House, serving "along with Mark Hatfield and Bob Packwood, who was a page at that time." It was there that he became known for his booming voice, handshake, and blunt, pointed – yet unfailingly polite – questions at public hearings.

It was also in the State Legislature that Wayne first became familiar, and friendly, with nearly 65 years of Oregon's political and educational leaders to follow. He rarely ever missed a meeting. He was always early or on time and knew everybody by first name, and their phone number. When a meeting ended he left almost immediately, to "get back home to Betty Jo" and his telephone.

If there was a major presentation or proposal at a meeting, Wayne always asked at least one question near the conclusion and, because of his voice, everybody always heard it. His questions usually began with a compliment or two, and were often

asked in a way that made people laugh, sometimes nervously.

A typical Wayne question, perhaps following a grandiose forest management scheme, a new federal regulation, a proposed Wilderness, or other government set-aside, might go something like this:

"Well, I think you have a wonderful idea and should be complimented for the great amount of thought and detail you have put into it. I sincerely hope you can make it work. But I do have a question for you: 'Who is going to pay for your idea?'"

The Elliott

Wayne and I had met with OSU President Ed Ray at his office on January 2nd for more than 90 minutes, following the December 18, 2018 State Land Board meeting in which all three of us had testified.

The purpose of the meeting was to discuss our concerns regarding the Elliott State Forest, its history, and OSU plans for its management; and as compared to the ORWW "Giesy Plan Alternative" proposals that Wayne and I had presented to the Land Board over the course of the previous two years.

Wayne had an affable relationship and great respect for Ray during his entire tenure at OSU, and the meeting was very productive, resulting in written statements and subsequent actions of mutual cooperation. A tentative future meeting was planned "after the HCP [Habitat Conservation Plan] is developed" for the Elliott; "probably sometime by late spring or summer at the latest."

Wayne arranged the follow-up meeting with President Ray for Friday, June 21 to discuss the Elliott, the HCP, and to plan an ORWW field trip with Russ Sapp for late summer or early fall. Russ and Wayne had also known each other and worked and lob-

Wayne Giesy displays Oregon Society of American Foresters (SAF) Honorary Membership certificate for lifetime achievement in forestry, given at the annual State SAF meeting held in Pendleton, Oregon, April 25, 2013. On October 24, 2013, Giesy also received the national SAF award in Charleston, South Carolina for his lifetime contributions to forestry and forest policy. Photo by the author. Text of Wayne's SAF national acceptance speech follows.

"Ladies and Gentlemen, my name is Wayne Giesy and I receive this award as an honorary member of the Society of American Foresters with a real sense of responsibility.

I am 93 years old and have spent over 50 years (including two terms as an Oregon legislator) advocating management of Federal Forests.

When the Forest Service was established, SAF wrote the management plans that produced products for US citizens and jobs for rural communities. This plan operated successfully for years, and then the environmental community took over.

We now have a policy, "Let it Burn and Rot."

While it has been a privilege to work in the forest industry – an industry that has a proud history of investing in science to inform continuous silvicultural and environmental improvements – federal forest management is broken.

My career has spanned both extremes. I've seen it. And I'm here today to say the pendulum has swung too far from management to favor preservation, and our communities are paying for it.

I challenge the SAF to again assert their past success and return as the entity that writes the Federal Forest Management Plan.

I join as one of you – let's get going!

Thank you."

bied together for more than 30 years.

Russ and his family are descendants of Tillamook County Trask pioneers and have logged and built roads and homes in the Alsea Valley since the 1950s. The purpose of the tour would be to visit forested and reforested areas in the Alsea basin that the Sapp family had worked on since then. The idea was to consider economics and aesthetics of possible OSU-managed Elliott Forest futures, as they might appear – and at what cost or benefit – 20 or 30 years from now.

Another focus of the tour would be the potential value of using the Elliott as a "demonstration model" for managing forested USFS and BLM lands in Oregon; the "Giesy Plan Alternative."

Wayne had developed the "Giesy Plan" (he preferred "Oregon Plan," but few others followed this lead) with Ralph Hull and others in the 1980s; the initial target was the Siuslaw National Forest, as a potential example for all federal forests in the western US. The basic idea is to statistically divide federal forestlands into three categories – riparian, reserve, and commodity – in order to provide work, business, and tax revenue into rural communities while providing older forest habitat for recreation and dependent species.

The Elliott State Forest "alternative" to this proposal would be to combine the Giesy Plan approach with the OSU Douglas County "paired watersheds" research design for a 20-year period and have the results be transparently shared online with everyone for the duration of the project. And then let the next generation of students and voters decide what to do with the land, armed with this acquired knowledge and experience.

According to State economists, the Giesy Plan Alternative would provide more than 430 full-time, family wage, blue collar jobs to Douglas and Coos counties and more than $460 million to the Common School Fund during its 20-year existence. That would be in addition to the critical research findings it would produce regarding marbled murrelet, spotted owl, coho, lamprey eel, and pine marten habitat, as well as significant carbon sequestration data.

Local residents and US taxpayers could then use that information to make more informed decisions regarding state and federal forestlands lying within rural counties in the western US.

Goodbyes

Eric Thompson is the President of Thompson Timber Co., in Philomath, Oregon. The family tree farm and forestry business was started by his grandfather at the end of WW II, managed by his father and now by Eric and his son Jake, all who attended OSU College of Forestry. The family has a beautiful managed forest on the slopes of Marys Peak, and I was privileged to plant several thousand trees there myself, in the early 1980s.

Eric is a member of the Board of Directors of Oregon Forest Industries Council and commutes to regular meetings in Salem from his home in Philomath. He lived near Wayne, who was also an OFIC Board Member, and for the past few years was giving Wayne rides to and from their scheduled meetings.

Wayne became a Board Member of OFIC in 1997 and missed a few meetings in the early years when he was out of state. From 2002, when he was 82 years old, and until he broke his leg, Wayne never missed another meeting. Until recently he drove to every one.

During their rides together Wayne and Eric developed a good friendship, discussing forestry issues, current business, and politics. When Wayne was going through rehab in Albany in July, Eric made a point of visiting him, buying him batteries for his hearing aid, and discussing current events and plans. All meetings with Wayne end with a strong handshake, a look straight in the eye, and a "thank you." Sometimes two or three thank yous.

Then Wayne's heart began to give out and his body began retaining water and after a while he had to return to the hospital. During his final days he realized he would not be going home after all. The last time he talked with Eric he must have known his time was getting short. When it was time to say goodbyes Wayne gave the firmest handshake he could and said, "Keep up the good fight, Eric."

It was a request, not a demand.

Publisher's note: "Having dealt with Wayne and Ralph since about 1980 a big Thanks to Bob for this article!

Wayne Giesy 'fought to the end'

Logging fixture a tireless champion of Oregon forestry, dies at 99

BENNETT HALL
Corvallis Gazette-Times

Wayne Giesy never backed down from a fight. So it was no surprise to anyone that, when he broke his leg this summer on his Philomath-area tree farm, he attacked the challenge of recovery with the determination of a boxer training for a title bout.

For awhile he appeared to be winning that battle, but things took a turn for the worse and Giesy died on July 28. He was 99 years old.

"He fought right up to the end," said Bob Zybach, Giesy's

CONTRIBUTIONS

Family members chose not to be interviewed for this story, citing Giesy's desire to avoid publicity. In lieu of sending flowers, a family spokesman said people can make contributions in Giesy's name to the Oregon Websites and Watersheds Project (www.crowa.org) or the Aurora Colony Historical Society (www.auroracolony.org).

longtime friend and collaborator in the Oregon Websites and Watersheds Project, a nonprofit devoted to the idea that timber harvesting and conservation can coexist in Oregon.

Standing up for the importance of active forest management

Please see GIESY, Page A4

ANDY CRIPE CORVALLIS GAZETTE-TIMES FILE PHOTO

Wayne Giesy is shown in 2013 on his tree farm near Philomath. Giesy died last month at the age of 99.

This headline, photo, and article by Bennett Hall appeared on the front page of the Corvallis Gazette-Times on August 13, 2019. The photograph by Andy Cripe was also used to illustrate a profile of Wayne ("Still Giving 'Em Hell at 93") that Hall had published in the same newspaper in 2013.

Elliott Forest Boondoggle vs. The Giesy Plan Alternative

By Dr. Bob Zybach

Elkhorn Ranch, ca. 1886. Note the absence of stumps or snags in the foreground (valley floor); the large, widely-spaced old-growth snags on the bench behind the buildings; and the much smaller and more densely-spaced snags on the hillside above the bench that extend to the ridgetop. The burned snags and their relative sizes indicate at least two major fires through this area, near the center of present-day Elliott. The more recent fire took place in 1879 and burned nearly to the ocean, including most of the westside forest at that time.

Gross mismanagement of the Elliott State Forest in Coos and Douglas Counties in recent years has cost Oregon schools hundreds of millions of dollars, cost local families and businesses the loss of hundreds of high-wage blue-collar jobs, and with an ever-increasing risk of catastrophic wildfire to the communities of Reedsport, Winchester Bay, Lakeside, Hauser, Glasgow, North Bend, Allegany, and Coos Bay.

Oelo McClay and her niece, Mildred Gould, on the pack trail from Allegany to Elkhorn Ranch, ca. 1910. This picture was taken along Burnt Ridge in the southwestern part of the Elliott. Note the widely scattered snags and their relatively small diameters throughout most of this landscape.

Somehow this news has mostly been kept quiet and away from public attention.

There is still time to fix these problems, but that time is short and citizens must become aware of how they developed in the first place -- and what can be done now to reverse course before things continue to become worse.

Background

The Elliott State Forest is Oregon's first State Forest. It was created in 1930 specifically for the purpose of funding Oregon's Common School Fund. Such properties are required by federal law to be managed to the maximum economic benefit of all Oregon schools. Beginning with statehood in 1859, to present, management has been the responsibility of the State Land Board: Governor, State Treasurer, and Secretary of State.

The Elliott was created by combining other Common School Fund properties around the State and trading them for Siuslaw National Forest and BLM lands to form a composite 71,104 acres of immature timberland.

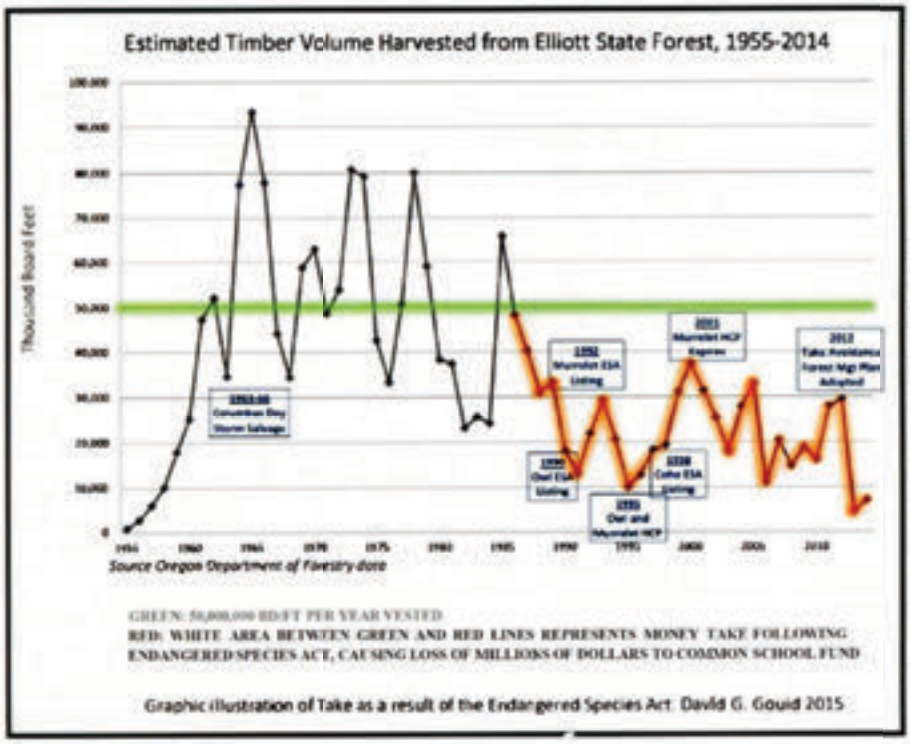


Table 1. Oregon Forestry Related Employment vs. Government, 1990-2016

Job Description	1990 Jobs	2016 Jobs	Gained	Lost
Logging	11,300	6,000		5,300
Paper Manufacturing	8,900	4,200		4,700
Plywood & Engineered Wood Products	17,900	8,600		9,300
Sawmill & Wood Preservation	12,000	6,400		5,600
Forestry- Related Job Totals	50,100	25,200	0	24,900
Federal Government	34,000	28,300		5,700
State & Local Government	100,600	146,600	46,000	
State & Local Government Education	97,700	132,200	34,500	
Government-Job Totals	232,300	307,100	74,800	0

This table illustrates the great number of forestry jobs lost in Oregon since the listing of spotted owls as an Endangered Species in 1990. It also indicates the great increase in non-federal government jobs during the same period. In 1990 the ratio of private forestry jobs to government jobs was more than 1:5; since then the ratio has decreased to less than 1:12. Few forestry jobs require even a high school education because they are largely based on actual experience; conversely, a large percentage of government jobs require a minimum four-year college degree. This disparity is a strong indicator of the deepening urban/rural economic divide in Oregon with a basis in the 30-year "forest wars." Jobs data provided by Andrea Fogue, Oregon Employment

Most of the Elliott had been denuded by a series of catastrophic wildfires from 1840 through to the late 1800s; and before that time in the 1700s. By 1930 the land was mostly covered by young Douglas fir saplings, with only 4,000 acres in mature timber that had escaped the fires. Informed estimates were the new Forest could begin harvesting a sustainable 50 million board feet (mmbf) of timber per year, once the trees matured.

By the mid-1950s the saplings had developed into young second-growth trees approaching commercial size. The decision was made to sell the older trees to pay for access roads to and through the Elliott. The purpose of the sale was to make active management of the developing second-growth possible in order to eventually begin making payments to the Common School Fund; most of the remaining older trees were then logged and the proposed access roads built.

Recent History

The 1962 Columbus Day Storm blew down 100 mmbf of 70-year-old trees on the Elliott, causing an immediate need to accelerate harvest schedules – which result finally began providing regular jobs and incomes to local communities and Oregon schools, as originally planned.

Jerry Phillips started working on the Elliott in 1956 and retired as its long-time manager in 1989. He is the Elliott's historian and his 1996, 414-page history, Caulked Boots and Cheese Sandwiches, includes detailed accounts of the 1962 hurricane and the subsequent management challenges and accomplishments.

As manager, Phillips added several thousand acres to the Elliott by way of statewide and local land trades and sales. He sold an average 50 mmbf of timber a year the entire time,

adding greatly to local jobs, government treasuries, and the Common School Fund.

When Phillips retired there was a far greater volume of older trees than when he began -- mostly because the Elliott grows 60 to 80 mmbf of new timber a year, whether it is logged or not.

Almost immediately after Phillips' retirement, harvest levels, employment, and income from the Elliott plummeted dramatically (see Graph). Federal regulations, environmental lawsuits, and political decisions based on "critical habitat" designations for marbled murrelets and spotted owls were stated causes (see Table).

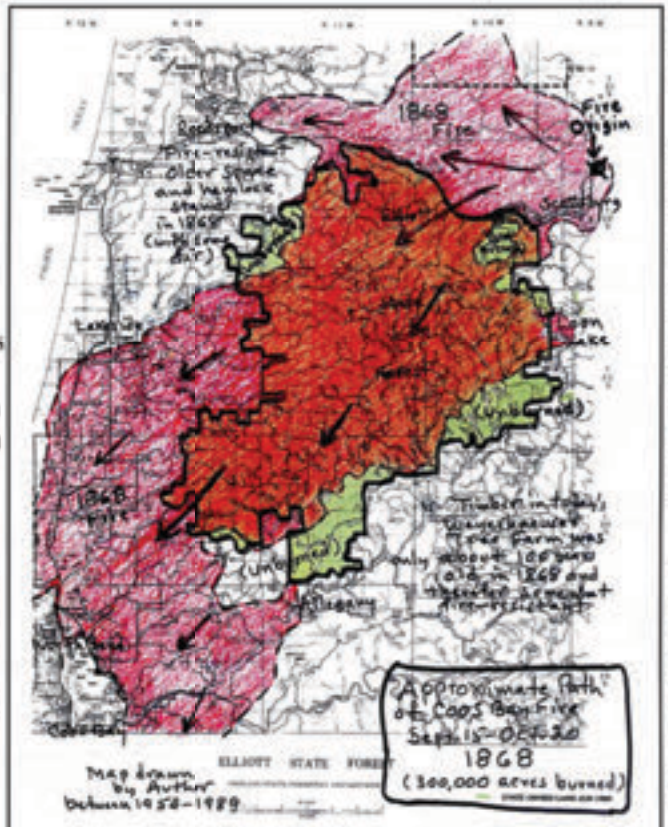
Problems became worse in following years and a new plan was published in November 2011, after nearly ten years of meetings, consultations, mapping, and politics. Oregon Department of Forestry (ODF) divided the Forest into 13 sub-basins and planned an annual timber sale of 40 mmbf, which would provide more than 350 local jobs and several million dollars a year to Oregon schools.

On May 3, 2012, a consortium of Portland Audubon Society, Center for Biological Diversity, and Cascadia Wildlands filed suit against ODF and Department of State Lands (DSL) and against the new Elliott plan on behalf of federally-determined marbled murrelet "critical habitat" needs.

On February 5, 2014, Judge Ann Aiken decided in favor of the consortium and awarded them damages and attorney fees while causing suspension of 28 State timber sales. At this time it isn't clear how much money was awarded to the plaintiffs and their attorneys, but the loss of timber sales resulted in hundreds of rural people losing their jobs, and rural counties and schools losing millions of dollars.

The Land Board tried to rid itself of these problems by hastily appraising the Elliott at a fraction of its former value and attempting to sell it for $220.8 million – no more and no less – to 50 prospective buyers. In the early 1990s the Elliott had been appraised at two or three times that much. Recent estimates – including the value of its existing roads – puts the Elliott's potential open market value at a billion or more dollars; $220.8 million is a big reduction in value for the Common School Fund.

Somehow there was only a single bidder at this fixed, grossly undervalued, rate and the curious transaction approved with virtually no media attention in February 2017. Under subsequent and immediate political pressure, the Land Board reversed itself three months later and negated the sale on May 9, 2017.



Jerry Phillips' map of the 1868 Coos Fire extent. Note that this catastrophic event included almost all present-day Elliott State Forest, as well as the adjacent communities of Lakeside, Hauser, Glasgow, and Allegany. Compare this with the OSU map showing the entire westside of the Elliott as "critical habitat," despite its having burned clean at least twice in the 1800s and whose subsequent 70-year-old second-growth forest was largely destroyed during the 1962 Columbus Day Storm. In addition to the westside Elliott's documented history of wildfires, hurricanes, and landslides, it is also immediately adjacent to the Tenmile Lakes, with their history of human occupation -- and daily fires, fishing, and hunting -- going back thousands of years. This is one of the most dynamic forested areas in the entire Douglas Fir Region, and the westside "conservation reserve" particularly so.

The Giesy Plan Alternative

The background and 40-year history of Wayne Giesy's "Oregon/Giesy Plan" has been described in some detail in an article I wrote for the Spring 2014 issue of this magazine. Giesy was concerned that the ongoing "timber wars" of the 1980s to the present would result in massive unemployment and great damage to the rural schools, families, businesses, and communities located in counties that contained our national forests, and he was right.

His proposed solution was simple, eloquent, and commonsensical: by mutual agreement and independent management, divide public forestlands into three zones – riparian, habitat, and product – thereby resolving legal disputes without unfairly punishing rural families and businesses, and while maintaining healthy forests and desired wildlife habitat conditions.

Giesy had been an elected State Representative from Benton County in the 1950s and had remained in politics ever since. He met regularly for private breakfasts and luncheons with influential state and federal legislators -- includ-

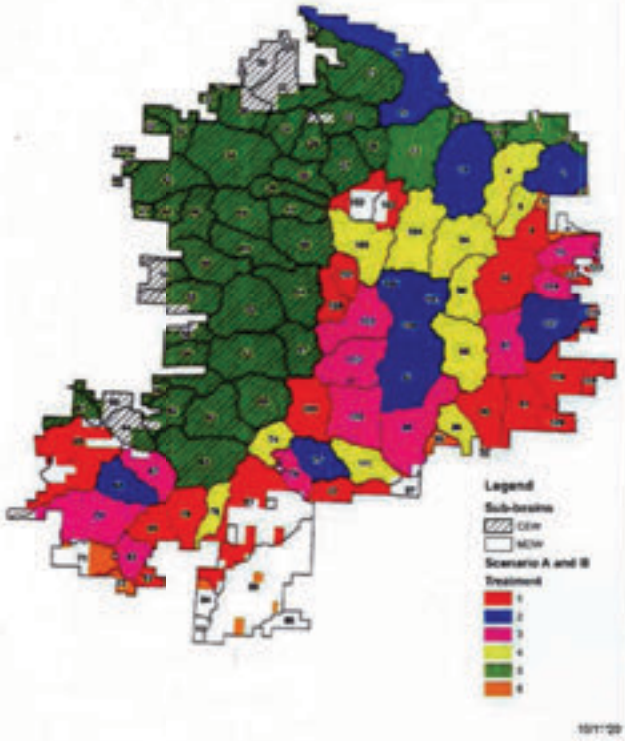
ing generations of senators, representatives and governors – and with deans, university presidents, business owners, foresters, and others with an interest and influence regarding the management of federal resources in western Oregon; and particularly those in Benton County and the Willamette Valley.

In the summer of 2016, during one of his regular monthly breakfasts with Oregon Senator Ted Ferrioli, it was discussed that recent problems with the Elliott State Forest might present an opportunity to test the Giesy Plan on State lands, as a demonstration of what could be replicated in Oregon's failing federal forestlands.

At that point I became involved in discussions with Ferrioli and Giesy regarding the proposed details and what possible scientific and educational values of such a demonstration might be. From then forward, Giesy and I worked almost daily on this proposal, until a week or so before his death at age 99, in August 2019. More than three years since it began, that work still continues today.

The story of developing the "Giesy Plan Alternative" to selling the Elliott is described in the Spring and Summer 2017 issues of this magazine, and again in the Summer and Fall 2019 issues. This proposal was developed and documented online by Oregon Websites and Watersheds Project, Inc. (ORWW.org) and is designed to last only 20 years. During that time the Elliott would remain in public ownership and be managed specifically on behalf of Oregon's schoolchildren, the public, and local communities.

The Giesy Plan for managing the Elliott would use Oregon State University's (OSU) "paired watershed" research design, successfully developed on the North Umpqua River, to document long-term land use patterns of key Elliott bird, fish, and mammal species, as well as carbon sequestration variables. In 20 years a new generation of well-informed students, scientists, and taxpayers would have far better information for making a new set of long-term plans for the property – and federal land managers would also become far better informed on these issues.



OSU Elliott Management Map. This is the current representation of the most recent OSU Elliott Forest management proposal. Planners have subdivided the Elliott's Common School Fund lands, designated by 13 subbasins in the 2012 ODF plan and by 25 subbasins in the 2017 ORWW Giesy Alternative, into a total of 105 sub-subbasins. They have then blocked them into six numbered compartments, separately identified by color, and falling into two basic acronyms: "CEW" and "MOW." To understand what these represent, the plan says to "see CEW and MOW Matrix for relationship of modeling components by scenario." The large green block along the left of the map shows westside Elliott lands designated as "critical habitat" for coho, spotted owls, and marbled murrelets, and thereby off-limits to active management, and perhaps even to human access.

More than 40,000 acres would be set aside for older forest habitat; all 550 miles of existing roads and trails would be actively maintained for purposes of public access, safety, recreation, education, research, historical value, and active resource management; and annual timber sales would average 50 mmbf/year, a proven sustainable number and estimated by an Oregon legislative economist to produce more than $460 million for Oregon schools and more than 440 local jobs.

Key purposes of this plan are to clearly — and scientifically — compare the outcomes and effects of managing the Forest according to the opposing "forest war" factions of the past 30 years, and at no cost to the Common School Fund; to provide enhanced access and recreational opportunities for the public; and to develop a statewide online educational network of Oregon students and teachers focused on the various economic, forest management, and wildlife lessons learned on their transparently managed "Elliott Forest outdoor classroom."

This proposal was entered into the public record at three Land Board meetings, endorsed by Boost Southern Oregon, discussed on a number of regional radio shows, featured in a

series of articles in this magazine, reviewed by several forestry organizations -- and then somehow buried without comment.

OSU Elliott Research Forest

Three months later, on August 3, 2017, DSL Director Jim Paul outlined a legislative-approved two-year Elliott budget of $1.5 million for a "Habitat Conservation Plan" (HCP) to comply with federal regulations regarding management of "critical habitat" for spotted owls, marbled murrelets, and coho populations; $269,000 for a DSL Project Manager; $1.6 million for "custodial management"; and $601,000 for fire protection.

This budget was apparently based -- at least in part -- on Treasurer Read's proposal to sell the Elliott to OSU; which directly resulted in the Land Board's December 2018 decision to give OSU a year to develop such a proposal for purchase (for only $120.8 million) and management of the Elliott in order to create a "world class" Research Forest.

The most recent proposal from OSU is their November 2019 draft plan outline, attributed to US Forest Capital, LLC; Mason, Bruce & Girard; Spatial Informatics Group; and John Sessions. This proposal is characterized by the OSU Elliott Map side-bar in this article and represents the same type of "acronyms and polygons" management approach taken by several high-profile public forest plan failures developed by the same handful of OSU-affiliated individuals during the past 30 years.

The author, Jerry Phillips, and David Gould by the new DSL sign marking the recently re-named "Jerry Phillips Reserve." Photo by Sam Schwarz, December 15, 2019. Two corrections: "This 50-acre grove of 250 year-old Douglas-fir & understory hemlock" does not actually typify "the forest that covered nearly all of the Coos River drainage until major harvesting began about 1950": these trees are now 70 years older and much larger than they were in 1950; many of them blew down during the 1962 Columbus Day Storm and were salvage-logged by their owner, Weyerhaeuser; many of these residual trees were heavily scarred during logging operations at that time; and the spur road and landing built for those operations are now lined with thick patches of hemlock saplings due to the artificially increased light and openings in the canopy. As these latter trees grow in size they will increasingly compete with the Douglas-fir overstory for needed moisture and nutrients and can eventually develop into "ladder fuels" that threaten destruction of the entire reserve via crown fires. The second correction is an error of omission. Jerry Phillips did far more than just "work on the Elliott" during his career. It should be noted that in his position as the Forest's manager he personally negotiated with Weyerhaeuser to acquire this land and also bargained with the DSL and State Land Board to remove it from all harvesting plans and timber inventories. This reserve would not exist without the vision and effort of Jerry Phillips. That is how he did his work.

Whether the approach has been called "New Forestry," "structure-based management," "FORPLAN," "retention harvest," or any other term, these OSU forest management plans have consistently resulted in billions of dollars in losses, degraded rural infrastructures and economies, and even catastrophic wildfires – as predicted.

These failures have included the Clinton Plan for Northwest Forests and the OSU Research Forests management plan in the early 1990s; subsequent ODF plan for State Forests; Coquille Indian Forests management plan; BLM O&C Lands management plan; and the recent Linn County-based lawsuit resulting in over a billion dollars in awarded damages. All have their basis in the computerized efforts of the same five or ten individuals working from OSU.

None of these people have any practical forest manage-

ment experience, all of them have been very well-paid by taxpayers for decades, and all of their implemented plans have failed – sometimes dramatically. There is no evidence that any of these plans were financially successful at any time or that they have been responsible for protecting the life of a single bird or fish listed by the federal government, yet they are now being considered – at great cost – as the basis for the future of the Elliott.

At the December 10, 2019 meeting it was learned that "I.T.F" would need another year to develop the HCP; OSU would need another year to develop their plan, but would not be liable for the $120.8 million purchase price; and the new DSL Director thought both enterprises had been "extremely busy" doing "great, way cool, work" to such a degree she was getting "goosebumps" just thinking about it.

Another 2-plus million dollars were then granted toward the Elliott HCP and OSU planning processes and another $1.6 million was awarded to a private company to maintain the Forest while it idled in disrepair. More goosebumps.

Wayne Giesy being interviewed by Jim Petersen, Evergreen Magazine, at OSU Research Forests' Peavy Arboretum office on January 25, 2018. *Photo by Julia G. Petersen*

Conclusions

Actions of the Oregon State Land Board during the past five and more years regarding the management of the Elliott have been unsuccessful and costly. Recent actions appear headed for continued expensive failure as well.

Despite the serious economic and environmental problems taking place due to measurable mismanagement of our public lands, the general public remains almost entirely unaware of current and recent politics surrounding the Elliott in particular, and statewide forest management issues in general.

The current effort to transfer ownership and management of the Elliott to OSU Forestry in exchange for a small portion of its value has already failed due to a recent legal decision that the State could not sell the Forest. The management plan that was to be completed by December 2019 has now degenerated into a simplistic proposal using odd terms and acronyms that will take at least another year to complete and would certainly fail in its present configuration. In the meantime, the Common School Fund continues bleeding money and needed jobs, work, and repair on the Forest.

The Giesy Plan would be experimental, educational, and economic in scope and would only last 20 years, at which time the results could be carefully analyzed and used as the basis for future management directions and options. In addition, this plan would generate an estimated 440 rural high-wage jobs and more than $460 million for Oregon schools.

Despite the great cost, there is no scientific evidence that the Elliott provides "critical habitat" for owls, murrelets, or any other birds. The forest has been "clearcut" by wildfires, winds, and landslides for thousands of years and yet these animals have persisted. The scientific evidence that they rely on older forest habitats for their well-being or existence does not exist. Here is an opportunity to change that narrative with facts.

It is long past time the "forest wars" were resolved with sound scientific experimentation, common sense, hard work, and good will. The Giesy Plan Alternative addresses all of these problems; the OSU Plan only exacerbates them.

In recent years the State Land Board has proven itself incapable of reasonably managing our State's forestlands. Management by local counties, Tribes, and businesses, and transparent accountability to our schools would solve these problems.

Spotted Owls Revisited: Science vs. Politics

By Bob Zybach, Ph.D

This photograph by Mike McMurray was used seven years ago on both the title page and magazine cover to illustrate the following article. It was first used here in 1990 as part of a photo essay by McMurray titled "More Owls Than Hours," which chronicled the photographer's documentation of 42 adult Spotted owls and 16 owlettes in just 48 hours he spent in second-growth forestlands in northern California and southern Oregon after being taught how to call an owl: "It's tough to find spotted owls in old-growth, I only found them in second-growth."

The photograph is of a spotted owl and a Simpson Timber Company biologist who "called him in and put a mouse on his arm. Didn't take long at all, maybe 1/2 a minute and the owl came in and snatched the mouse." The owl was a male that had mated for several years with the same female in a stand of Simpson Timber's second-growth tree farm where the photo was taken.

Seven years ago I wrote an article/editorial for this magazine exposing the lack of actual scientific justification for the draconian government actions imposed to "save" the spotted owl. The article was titled "Spotted Owls and the Spotty Sciences that Spawned Them: 5 Questions," and is reprinted in the following pages.

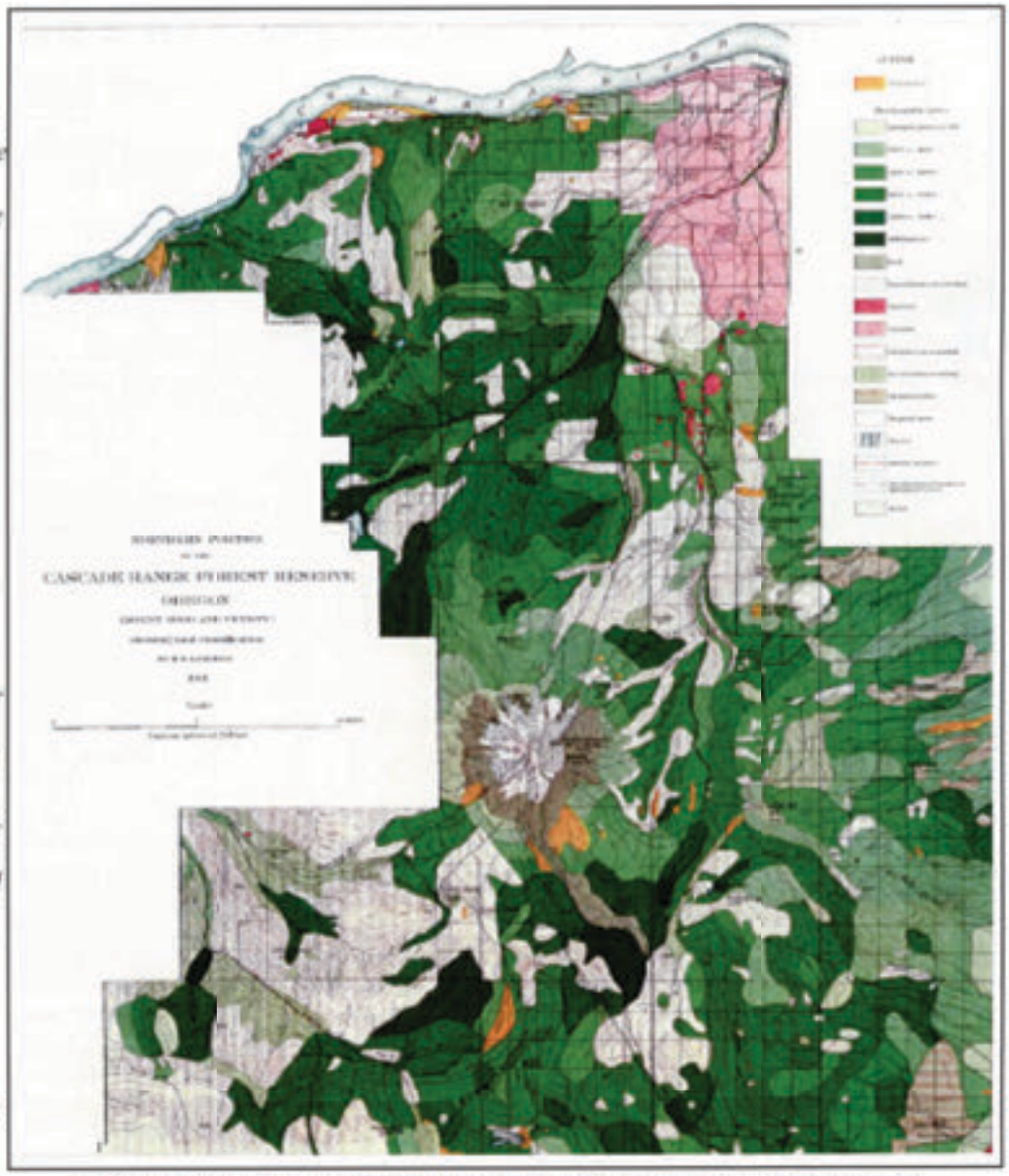
The modeled designation of "critical habitat" for spotted owls and marbled murrelets -- and the federally mandated "HCPs" (Habitat Conservation Plans) they produce -- has provided lucrative job security for a small number of anti-logging academics, environmental lawyers, agency employees, and government bureaucrats at an enormous cost to US taxpayers and to rural families, businesses, and communities. The scientifically predicted wildfires that have followed adoption of these arbitrary designations have also killed millions of wildlife and polluted our air and waters.

I expected to have to update the article, due to the passage of time. I didn't have to. Nothing has changed. Every word I wrote seven years ago remains accurate today. Worse, there has been no discussion or serious consideration of these concerns. Maybe the current coronavirus pandemic models can help change that:

For more than 30 years the American public, including its students, has been told that "computer modeling" can predict the future. Modelers presented themselves as "scientists" and predicted all kinds of horrible futures: Florida underwater, no snow on Kilimanjaro, and the extinction of all kinds of birds, bugs, fishes, plants, and mammals. None of this came true, but the academics, lawyers, and politicians still continue today to make a killing collecting and spending other people's money by promoting these stories.

At this time a good share of the world has been placed under house arrest, millions of people have lost their jobs, thousands of businesses have gone broke, and all because "science" told them to stay home, avoid people, and wear a mask and gloves at all times. Because the models said so and because autocratic government "scientists" and officials jumped at this chance to demonstrate their power. And yet, the publicly promoted models have continued to be wrong, and often by an enormous amount. And the press is noticing and reporting the facts.

Maybe people have learned and become wiser. If a weatherman can't accurately model the weather for more than a few days, and the widely quoted pandemic modelers are off by millions of deaths within weeks, how accurate can the models be for "climate change" and for species extinctions occurring decades and centuries into the future?



1901 USGS Map of Mt. Hood Vicinity of Oregon Cascade Reserves. Darkest green polygons below 4,000 feet elevation were most likely to contain spotted owl habitat 115 years ago (Zybach 1996: 6).

Spotted owls have now been in the news for more than 40 years; were listed as an endangered species via the Endangered Species Act in 1990; have been actively managed since 1992 by classification of millions of acres of federal forestlands in Washington, Oregon, and California as "critical habitat" -- and have still declined in population at an estimated rate of 2-3% a year ever since.

No one will argue that these results are based on political decisions that have had unexpected and wide-ranging cultural, biological, economical and aesthetic repercussions; particularly in the Pacific Northwest. Some have even referred to these circumstances as a "najor social experiment." According to federal legislatcn and much of the

popular press, spotted owl legislative decisions have been based on the "Best Available Science," the "newest" scientific information, and "scientific consensus."

But were they really? And even if true, was all of this "newest science" used to make wise or thoughtful legislative decisions? Efforts to stabilize or increase spotted owls numbers have cost American taxpayers tens of billions of dollars, been partly responsible for unprecedented numbers of catastrophic wildfires, caused the loss of tens of thousands tax-producing jobs for western US families, created economic hardships for hundreds of rural counties, towns, and industries, and indirectly resulted in the deaths of millions of native plants and animals.

Dr. Ben Stout in spotted owl habitat near Mt. Jefferson Wilderness on the western shore of Round Lake, May 15, 2004 *(photograph by B. Zybach, www.ORWW.org).*

Was that part of the plan? Should we continue down the same path to "recovery" that has resulted from these decisions? My personal concern is not the politics involved in making such decisions – that's what politics are for. My concern is that the scientific process is being misused and degraded via such politics, thereby reducing public faith in the credibility and capability of science in general and scientists in particular. Also, I think the public should be direcly involved in such decision-making processes and not continue to leave it up to university and agency committees and the courts. Lawyers on both sides of the table get paid in these disputes, and so do politicians and government scientists – it is just the loggers, truck drivers, sawmill workers, foresters, engineers, tree planters, and construction workers that are left with the consequences.

The American public has been told that the scientific information used to drive spotted owl political decisions has been "peer reviewed," often with the declaration that it is the latest and best information available for making such decisions (and thus leaving "science" and scientists as scapegoats when things don't work out; i.e., "politics"). The quality of peer reviewed science, however, depends on the chosen method of review, the qualifications of reviewers, and the review criteria – which are typically expressed as a series of questions.

The US agencies in charge of managing public resources have not been forthcoming about the scientific information and quality of peer reviews used to drive their policies and decisions. There is no logical reason the American public has been excluded from this process, nor is there any logical reason to continue such exclusion. The following five questions are intended to begin a more transparent and scientifically credible review of the "science-based" management decisions involving spotted owls. These criteria are just as valid for public discussion as they are for scientific review, and I believe should become part of the public debate on these animals.

1. Are Spotted Owls Even a Species?

This is a trickier question than you might suspect. When I was a kid in public schools I was taught that animals that could biologically breed and produce viable offspring were considered the same species. A few anomalies such as lions, tigers, horses, and burros usually stretched the limits of these discussions; otherwise, viable offspring was the rule. The generation of Americans who taught this basic approach to biological taxonomy were members of the same generation that passed the Endangered Species Act in 1973, as spotted owls were first being introduced to the general public. What was the principal intent of this legislation? More importantly, how were they defining "species?"

The most common owl in North America is called the "hoot owl," or "barred owl." It looks and sounds almost exactly like a spotted owl, occupies the same range, and has successfully bred and produced viable young with spotted owls. Are spotted owls therefore, just the western-most cousins of the brown-eyed hoot owl family? Or did some committee of nameless scientists give them separate Latin names that somehow transformed them into separate species?

And if they really are the same species, shouldn't this whole "critical habitat" operation be shut down ASAP and the people who assembled it be held accountable?

The analogy I have been using for several years is probably not politically correct, but makes this key point in terms most audiences can relate to: 'there are far greater variations in physiology, vocalizations, coloration, preferred habitats, diet, and appearance between a Pygmy and a Swede than between a barred owl and a spotted owl.' Sometimes some people seem uncomfortable by this comparison, so potatoes, red and yellow roses or German shepherds and French poodles can be substituted as discussion points if the audience is more familiar with those species.

The point is, humans have mastered selective breeding and domestication of many species of plants and animals – and now we are trying to do the same thing with a particular group of wild owls. The public, at least, should know what it is spending such enormous sums of money on – and if it's only to breed a particular variety of common hoot owl, shouldn't that information be known and perhaps reconsidered?

2. What is so "Critical" About "Habitat"?

In 1992 the federal government designated several million acres of Pacific Northwest forests as "critical habitat" for spotted owls, thereby fundamentally changing the management methods and focus of our public forests. These lands were no longer managed by the US Forest Service and Bureau of Land Management foresters, but rather put into the hands of US Fish and Wildlife Service (USFWS) biologists – who declared them off-limits to logging and most other commercial activities. These same lands had been used for subsistence and recreation by generations of American families, and for hundreds of generations of local Indian families before them. Now it was being made into a massive and unprecedented reserve for a single species: spotted owls.

These so-called "critical" properties were designated by dozens of 2.7 mile diameter "crop circles," supposedly based on the "home range" of a nesting spotted owl. The final result was much like the cookies or biscuits shaped for your mom with drinking glasses or teacups when you were first learning to bake. The circles mostly correlated to owl sightings and were concentrated in public lands the USFWS did not want logged. Thus, about seven million acres of some of the world's finest timberlands were abruptly removed from management for human uses for the first time in history. These designations were transformative and unprecedented, yet quickly adopted without independent scientific review or substantive public discussion.

Environmental activists and some scientists have long claimed that spotted owl habitat used to exist in far greater amounts before 1940 than it does now -- therefore, spotted owl numbers must have been greater in the unknown past

than they are now. This is a baseless assumption that cannot be documented and therefore needs serious critical examination before acceptance – much less widespread adoption at an enormous cost to taxpayers or treatment as a "fact."

In 1996 I wrote a research report for a Portland, Oregon law firm dealing with this issue. My study area was the Columbia River Gorge, including thousands of acres of private and federal forestlands along both Oregon and Washington sides. My findings showed – and documented – that spotted owl "habitat" (by current definitions at that time) was unlikely ever more than 5% or 10% of the total study area during anytime since the 1790s. Subsequent research over two million other forested acres in western Oregon have yielded similar documented findings.

There is no demonstrated correlation between owl populations and artificial designations of "critical habitat" zoning. These areas appear far more critical for the survival of agency biologists and ecologists than for owls of any stripe or spot. Predator-prey relationships seem to have much more to do with owl populations than forest structure – an assertion borne out by efforts used to restore endangered condor populations, which are kept and bred in cages, and by the fact that at least one agency wildlife biologist caught and kept a spotted owl as a family pet for 30 years.

3. Are Barred Owls a Living Example of "Natural Selection?"

"Darwin's Finches" are 15 species of closely related birds – but with entirely different beaks and feeding habits, adapted to their local environments. These birds, and their individual variations, were first noted by Charles Darwin in his exploration of the Galapagos Islands in 1835, and were instrumental in the development of his theories of biological evolution and "natural selection."

Darwin's finches aren't really finches at all, but passerines: members of an order of songbirds and perching birds containing more than 110 families and more than 5,000 species – including Darwin's 15 finches. Passerines are the second most numerous vertebrate families on the planet, following bony fishes, and the basis for most subsequent findings and theories regarding evolution.

In the mid-1900s, Darwin's thoughts on natural selection were being refined into "ecological niche" theory, a systematic look at "how ecological objects fit together to form enduring wholes" (Patten and Auble 1981). It is basically an effort to systematize Darwin's theories so they can be diagrammed and programmed into mathematical computer models.

Spotted owls were first described in California in 1857, in Arizona in 1872, in Washington in 1892, and in Oregon in 1914. Barred owl were first described in 1799 in the eastern US, expanded their range westward to Montana in the 1920s, and were interbreeding with spotted owls in Western Oregon and Washington by 1975. From all historical perspectives, it appears as if two isolated populations of hoot owls – western and eastern – have coincidentally expanded their ranges during the past century or so, and have now joined together to form viable hybrids that are replacing former spotted owl populations. How is this any different than Europeans and Africans colonizing North America and replacing Native American populations as they "expanded their range?"

In 2007 the US Fish & Wildlife Service began a long-term program of systematically killing barred owls in order to maintain the genetic purity of local spotted owl populations. You can use dogs, or roses, or humans, as analogies here to see how artificial breeding precedence is being used. Is this a god-like attempt to control evolution, simply another human effort to artificially produce desired breeding characteristics, or some kind of ecological niche theory testing opportunity?

Depending on the rationale used to justify these actions, the next questions become: "Is this method logical or practical?" And, "How much does it cost?"

4. How Reliable Are Computerized Predictive Models?

Modeling isn't rocket science, it isn't even a science. Computer sciences made rapid gains in quality in the 1970-80s, with one result being modeling predictions accepted as reasonable substitutions for actual field observations and analysis, especially by other modelers.

Wildlife models are almost exactly the same thing as "Sims" computer games, but with a lot more acronyms and algorithms in their attempts to mimic actual life. And then predict the future. Making predictions and comparing them with actual outcomes is a hallmark of scientific methodology, but when predictions are based on unstated assumptions, unproven theories, and "informed" speculation, all typical modeling characteristics, then the product can be little different than any other computer game. Models are a very useful tool for summarizing current knowledge and suggesting possible futures, but they have proven no more capable of predicting future conditions and catastrophes than ancient oracles or modern religious leaders and politicians. Or most scientists.

In his book "Best Available Science (BAS): Fundamental Metrics for Evaluation of Scientific Claims" (Moghissi et al. 2010), Dr. Alan Moghissi categorizes computerized predictive models into five basic types. Those typically used to model wildlife populations and habitat correlations he terms "primary" and "secondary" models. Despite their inherent weaknesses, he observes that society "has no other choice" but to use primary models in making certain decisions. Regarding secondary models, however, he states, "a society that bases its decisions on these models must accept the notion that it may waste its resources."

Often, the only people said to be "qualified" to assess models and modeling methods are "other modelers." The results have not been good. It is time to shine some daylight on this industry and have actual environmental scientists

and concerned members of the public take a better look at "the man behind the curtain."

5. What Do Government Scientists Say About Owl Recovery Plans?

Certainly, if the US government was going to spend billions of our dollars, ruin the economies of hundreds of our communities, and kill millions of wild plants and animals in the process, they would have at least used "peer reviewed" science – and been transparent in their methods -- wouldn't they?

In 2007 a number of prominent university and agency scientists that had help create the spotted owl "recovery plans" were asked, in essence, by USFWS to review their own work. Not surprisingly, they decided it was pretty good stuff and – despite declining spotted owl numbers – we should be doing more of it.

The "Scientific Review of the Draft Northern Spotted Owl Recovery Plan and Reviewer Comments" was written by Steven Courtney, Jerry Franklin, Andy Carey, Miles Hemstrom, and Paul Hessburg, several of who also appear prominently in their review bibliography – often for work done for, or used by, the USFWS. Despite the obvious potential for bias with this arrangement, the work was conducted openly and transparently and resulted in several useful observations and recommendations, including:

• Current models of owls and their habitats are largely heuristic. Hence decisions on important issues such as reserve size, spacing, etc., must be made with relatively weak predictive tools.

• The approach of the Draft Recovery Plan for designating habitat goals is deeply flawed. However the need to set locally appropriate and sustainable habitat goals remains a valid goal.

• The threat from wildfire is underestimated in the Draft Recovery Plan . . . This threat is likely to increase given both current forest conditions, and future climatic change.

Conclusions

1) Federal spotted owl regulations have been implemented during the past 25 years at an enormous cost to American taxpayers; particularly those living in rural timber-dependent areas of the western US.

2) Current plans are a proven failure. Targeted owl populations continue to decline despite an unprecedented public investment into their maintenance.

3) Barred owls and spotted owls may be the same species, in which there is no logical need to continue managing for the survival of either one. Or, they may be different species and we are simply witnessing natural selection in progress.

4) The scientific basis for these plans should be considered in full light of public and scientific review before they are continued much longer; the methods by which agency modelers and university theorists apparently dictate federal policies should also be reconsidered.

5) Scientific research and review teams dealing with spotted owl and critical habitat issues should also include scientists with an understanding of current and historical roles of people in the environment, such as landscape historians and cultural anthropologists.

Western Oregon Counties' Forest Fire Histories, 1776-2019

By Bob Zybach, Ph.D

The author is shown discussing historical forest maps at the Round Lake location of the 2003 B&B Complex fire on September 15, 2004. Also pictured are (clockwise from foreground) Kermit Cromack, Jim Peterson, Benjamin Stout (profile), Bill Hagenstein, Zybach, Wayne Giesy, and Nana Lapham

During the past nine years I have written a number of articles about wildfires and their history in Oregon for this magazine. When I began to update that information for this issue on Labor Day weekend, I started by reporting the 2020 fire season was terrible for California, but relatively mild and unremarkable for Oregon and Washington. Then the east winds began increasing in intensity on Labor Day, as I was finishing my first draft.

Today (September 11), news reports are saying that more than 900,000 acres are on fire in Oregon, that ½ a million people are being forced to evacuate their homes, and there have been an uncounted number of human deaths. So far, millions of wildlife have been killed, heavy noxious smoke fills the air, and the towns of Phoenix, Detroit, Blue River, Vida,

and Talent have been destroyed.

That quick, the 2020 Labor Day fires have now become the most deadly, dangerous, and destructive in Oregon's history.

As a result, I have changed the focus of this issue's article and will write about Oregon's 2020 fire season for the next issue, after it has ended. I will provide a listing and brief description of western Oregon's previous major fires through 2019 instead, and arrange them in chronological order, by county. This will provide some context for the current events, both historically and geographically.

Western Oregon Counties Bias

There are 18 total counties lying west of the crest of the Oregon Cascades, with Hood River County on the north straddling both east and west slopes. These lands include the locations of some of the largest and most intensive forest fires in world history, many in excess of 100,000 or more acres in size.

The principal reason that these listings are limited to major western Oregon wildfires is because of the types of fuels involved. Many eastern Oregon fires are also tens and hundreds of thousands of acres in size, but typically involve grasslands and shrublands rather than forests, as in western Oregon.

Grassland and shrubland fires have far less fuel and can burn much faster across the landscape than forest fires. In addition, most grasses and shrubs are rejuvenated by these fires and quickly return to pre-fire conditions. Even the forested areas of eastern Oregon – in the Ochoco, Blue, and Strawberry mountains and the eastern slopes of the Cascades – are typically far more open and patchier than their western counterparts, and far less likely to crown.

And it is crown fires that can rapidly kill large swaths of trees for miles on end. This is compared to ground fires, that can actually improve the health of surviving trees by reducing competition for light and moisture and by adding post-fire nutrients to the soil.

The generally deep soils and heavy

This map shows the specific counties in western Oregon in which major forest fires have occurred during historical time. The three subregions of primary concern are the western Cascades; the western slope of the Coast Range; and the Klamath-Siskiyou Mountains (see table below).

County 1	*Year*	*Wildfire Name*	*Acres*	*County 1*	*Year*	*Wildfire Name*	*Acres*
Clackamas	1901	Barlow Road	85,700	**Josephine**	1931	Humbug-China	10,000
	2011	Dollar Lake	6,300		1987	Silver	96,000
Coos	1776	Millicoma	200,000		2002	Biscuit	500,000
	1868	Coos	100,000		2005	Deer Creek	1,548
	1879	Big Burn	125,000		2010	Oak Flat	7,500
	1929	Fog Belt	10,000		2013	Big Windy	26,700
Curry	2005	Blossom	14,800		2018	Taylor Creek	52,800
	2017	Chetco Bar	191,000	**Lane**	1950	Rasor	5,000
	2018	Klondike	175,300		1951	Vincent Creek	28,200
Douglas	1938	Smith River	28,600		1966	Oxbow	42,900
	1951	Hubbard Creek	15,600		1991	Warner Creek	9,000
	1987	Bland Mountain I	10,300		1996	Charlton	10,400
	1987	Douglas Complex I	30,000		2009	Tumblebug	14,600
	1996	Spring	16,500		2018	Terwilliger	11,600
	2002	Tiller Complex	69,800	**Lincoln**	1849	Yaquina I	450,000
	2002	Apple	17,600		1868	Yaquina II	300,000
	2004	Bland Mountain II	4,700	**Linn**	1856	Canyon Creek	10,000+
	2008	Rattle	19,800		1867	Seven Mile Hill	10,000+
	2009	Boze	10,600		2003	B&B Complex	90,800
	2009	Rainbow Creek	6,100	**Marion**	1865	Silverton	100,000
	2009	Williams Creek	8,400		1886	Silver Cr. Falls	1,000+
	2013	Whiskey	16,200		1893	Scorpion Mt.	9,900
	2013	Douglas Fires II	48,700		1951	Sardine Creek	17,500
	2015	Stouts Creek	26,000		1951	HeeHee	5,000
	2018	South Umpqua	28,700	**Tillamook**	1853	Nestucca	350,000
	2019	Milepost 97	13,100		1918	Cedar Butte	40,000
Jackson	1864	Jacksonville Fires	10,000		1924	Salmonberry I	24,700
	1992	East Evans	10,100		1932	Salmonberry II	43,000
	1994	Hull Mountain	8,000		1933	Tillamook I	311,000
	2002	Timbered Rock	27,400		1939	Tillamook II	209,700
	2008	Middle Fork	21,100		1945	Tillamook III	182,000
	2018	Miles	50,000		1951	Tillamook IV	32,700

This table is a chronological listing and approximate size of major forest fires that have occurred in western Oregon during historical time (see corresponding map above).

seasonal rains of western Oregon are ideal for the growth of Douglas fir, Sitka spruce, true fir, redcedar, and other giant conifers, providing massive amounts of potential fuels per acre, and contiguous flammable crowns in which fires can rapidly spread, and in which tree mortality often approaches 100%.

This is not the case for all western Oregon counties, though. Map 1 divides the region into five subregions: 1) those adjacent to the Columbia River in the north; 2) the eastern Willamette Valley and western Cascades; 3) the western Willamette Valley and eastern slope of the Coast Range; 4) the western slope of the Coast Range; and 5) the Klamath-Siskiyou Mountains in southwest Oregon. Two of these subregions have hardly any history of major forest fires, and the remaining three contain records of some of the greatest wildfires in world history.

Table 1 is a listing of the 64 largest and most deadly pre-2020 forest fires in western Oregon history, arranged chronologically by county. Most of these fires are 10,000 acres or more in size and/or included human fatalities. The acreage figures for several of these fires are best estimates, placeholders for unknown sizes, or reasonably selected from a number of varying sources.

[NOTE: County historians, please check this data. You know your county's history better than I do – am I missing any major wildfires? Do you have better acreage figures or maps? All help appreciated!]

Columbia River Counties

The western Oregon counties adjacent to the Columbia River are Clatsop, Columbia, and Multnomah. There is no record of a large-scale forest fire starting in any of these counties. A lone exception might be the 50,000-acre 2017 Eagle Creek Fire, that started in Hood River County and moved westward into Multnomah County, on the border between eastern and western Oregon. See my article in the Fall 2017 issue of this magazine, "2017 Oregon Forest Fires: Still Predictable and Preventable," for a more detailed description of this fire.

Clatsop County has also had portions of catastrophic wildfires extend into its boundaries, but the nearby 6-Year Jinx of 1933, 1936, 1939, 1945 and 1951 Tillamook Fires mostly started and took place in Tillamook County.

The principal reasons that large-scale forest fires rarely occur on the western Oregon side of the Columbia River are the relatively small sizes of the counties; the great amount of humidity adjacent to the Pacific Ocean and tidal Columbia River; the topography; and the history of relatively dense human populations.

The forested lands adjacent to the Columbia River are typically steep and narrow, draining the northern slopes of Mt. Hood, the Tualatin Mountains, and the Coast Range. These constituted some of the earliest old-growth logging in Oregon, and rare spot fires rarely extended beyond the nearby ridgelines.

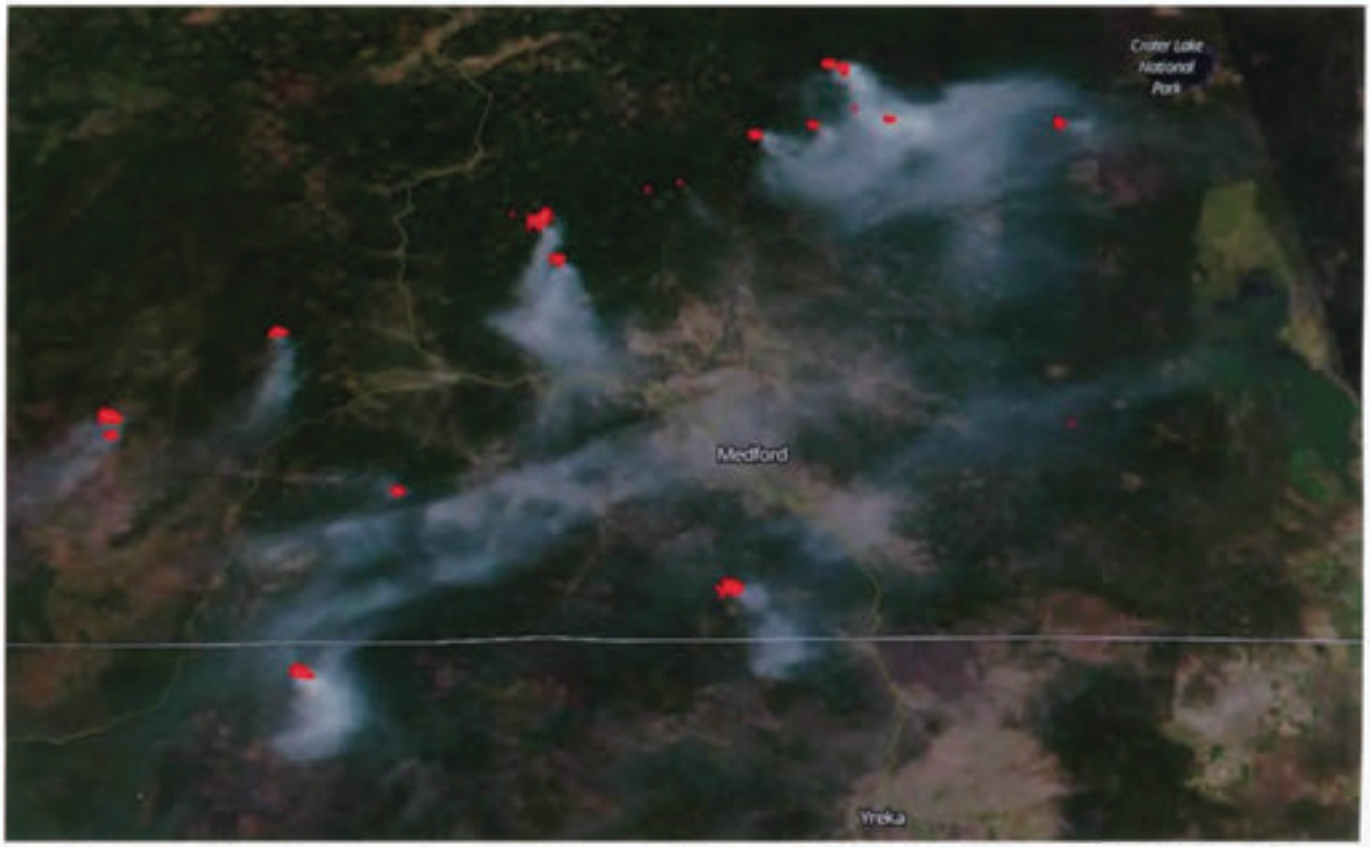
Archaeological evidence and early historical records document the Columbia River has been a major trade route and fishery for millennia, and necessarily heavily occupied for those reasons alone. Islands and floodplains became campgrounds, villages, towns, and cities, requiring enormous amounts of building materials, boats, canoes, and firewood on a daily basis. The processes of constantly gathering fuels and maintenance of open areas for human occupation further reduced the likelihood of wildfire of any size.

Western Cascades Counties

Kalapuyan man and eastern Coast Range foothills drawn in 1841 by Alfred Agate, a member of the Wilkes Expedition, near present-day Monroe, in Benton County. Regular landscape-scale fires set by Kalapuyan families and hundreds of generations of their ancestors on the land resulted in open grasslands and oak savannah - rather than forests - throughout most of the Willamette Valley and eastern Coast Range.

The western Cascade Mountains have been the location of a number of major forest fires from their earliest history, beginning with fires documented by the builders of the Barlow Trail along the southern flank of Mt. Hood in 1845 and 1846.

The mythical "Silverton Fire" around the time of the Civil War was said to have been a million acres in size, but modern research has failed to show evidence of even 100,000 acres having burnt near that location in the 1860s, and maybe as a result of two or three major fire events, rather than just one.



NASA satellite view of southwestern Oregon wildfires ignited by July 15, 2018 lightning storm. This image was created on July 18 and captioned by Lynn Jenner the following day.

Instead, until Labor Day weekend, Clackamas and Marion counties have not had major forest fires since 1951; Linn County suffered the predicted B&B Complex fires in 2003 (see Figure 1); and Lane County has had a handful of large, but not overwhelming, events. Now these four counties are experiencing the Riverside, Santiam Canyon, and McKenzie River fires all at the same time, covering hundreds of thousands of acres, tens of thousands of evacuations, and significant losses of both human and wildlife lives. The communities of Blue River, Vida, and Detroit have been destroyed and others, such as Gates, Mill City, and Lyons, have been significantly damaged.

Lane and Douglas counties are the only two in Oregon that include both western Cascades and western Coast Range landscapes. Until 1987, the majority of major forest fires in these two counties had taken place on the Smith and lower Umpqua rivers on the Coast Range. From 1987 until now, wildfires from 10,000 to 70,000 acres in size have become almost annual events within their Cascades boundaries.

It is worth noting that almost all of the fires listed in Table 1 from 1987 until 2019 have taken place on federal properties: designated Wildernesses, US Forest Service, Bureau of Land Management lands. This is not a "climate change" issue as these events are not taking place on private and state lands that continue to be actively managed have the exact same weather patterns.

East Slope Coast Range Counties

Washington, Yamhill, Polk, and Benton counties include the western Willamette Valley and the eastern slopes of the Coast Range. There is no history of forest fires in these counties that approach even a few thousandlacres in size. That is almost entirely because forest trees have only recently begun to invade the prairies and oak savannahs that white immigrants found when they began arriving in the 1830s and 1840s.

Figure 2 is a Kalapuyan man and the local eastern Coast Range foothills drawn near present-day Monroe, in Benton County. Notice the bare hills, few conifers, and missing lower limbs – whether removed by regular burning or gathered for other reasons. The primary reason that these counties lack a history of forest fires is because they lack a history of forests.

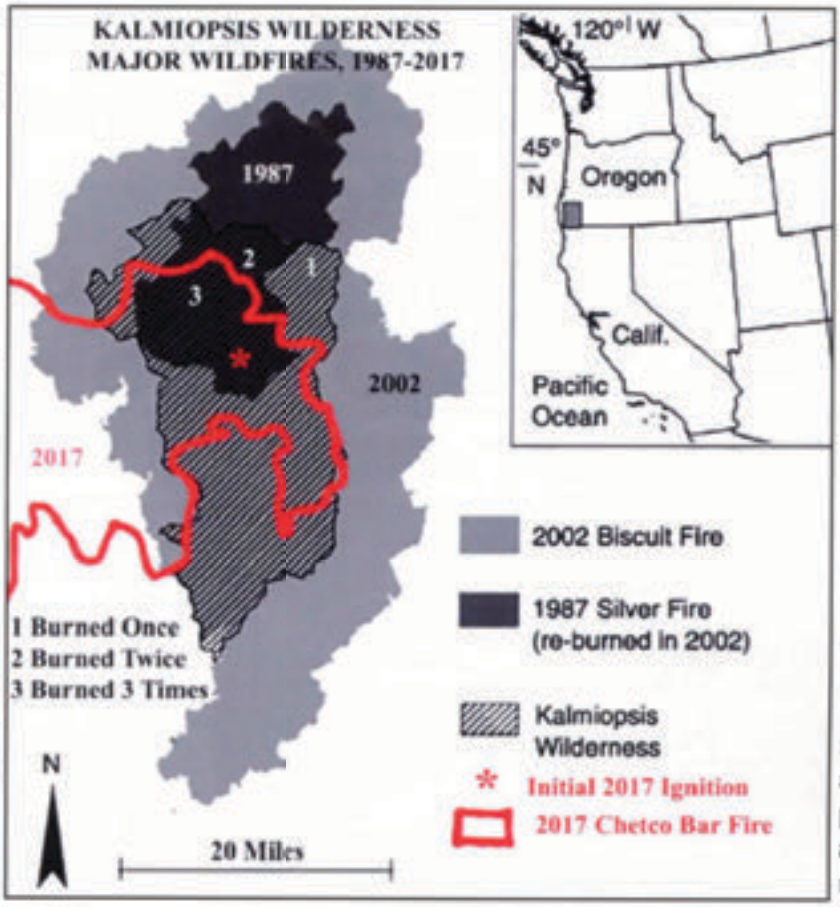
Subsequent settlement by US immigrants used these lands for grazing thousands of cattle, sheep, and horses before converting them to towns, cities, fenced farmlands, and housing developments.

Lane and Douglas counties also contain a certain amount of Willamette Valley and Umpqua Valley grasslands and east slope Coast Range hillsides, but they are separated by the Calapooia Mountains, which are generally so jumbled topographically that large-scale fires rarely occur there, either.

West Slope Coast Range Counties

Unlike the eastern slope of the Coast Range, with its history of Indian burning, grazing, agriculture, and large human settlements, the western slope is the site of some of the largest and most famous catastrophic-scale forest fires in history.

In 1912 noted US Geographer and Theosophist, Fred Plummer, authored "Bulletin 117 of the Forest Service," in which he identified the 15 "greatest forest fires in the United States since the year 1800." Three of those fires – 20% of the total -- were in Tillamook, Lincoln, and Coos counties. These fires were followed by the 1933-1951 "6-Year Jinx" Tillamook Fires, which became the best documented and most publicized of all the "Great Fires," due to the existence of film, photography, and international press at that time.



This map of the 1964 Kalmiopsis Wilderness Area in southwest Oregon shows that a number of large-scale forest fires are created by burning the dead, dry trees, shrubs, and other fuels from earlier fires. The map doesn't show the 2018 Klondike Fire oundaries, which also occurred in the same area.

A little-known fact regarding these widely recognized fires is that trees burned during the original fires became the basis for even greater future fires. The 1849 Yaquina Fire and the 1853 Nestucca Fire both expanded their range and severity during the 1868 Fire Year; and the 1868 Coos Fire became larger and more destructive as the 1879 Big Burn. The series of Tillamook Fires were not an aberration, they were the norm (see Map 2).

From 1952 until 1987 the only major forest fire to occur in western Oregon was the 43,000 acre Oxbow Fire in western Lane County.

Lightning is very rare in the Coast Range, and when it does appear it is almost always accompanied by heavy rains. A relatively minor lightning-caused wildfire was noted in 1928, but all of the major forest fires on record are known or believed to have been started by people.

Klamath-Siskiyou Counties

Curry, Josephine, and Jackson counties in southwest Oregon contain the Klamath and Siskiyou mountain ranges, which they share with northwest California. Unlike the Coast

Range, the vast majority of wildfires in this subregion are caused by lightning. Another difference is that much of these counties are covered with shrubs and grasses as fuels, rather than solid stands of trees.

Figure 3 shows the pattern of lightning strikes that resulted in a number of fires on July 15, 2018. Table 1 gives a listing of the largest of these fires.

A similarity for all western Oregon subregions is that arsonists also set fires. The deadly 2020 Almeda Fire, for example, was started in this way, and is responsible for the destruction of the towns of Phoenix and Talent, in addition to the loss of human lives.

Map 2 illustrates the predictable "repeat fires" that have involved the Kalmiopsis Wilderness Area. This is the same pattern of trees and shrubs killed by a wildfire producing greater and more flammable fuels for future fires. This pattern has existed throughout western Oregon for all historical time.

Conclusions

The general information provided by the timing, extent, and location of these major wildfires should be of interest to western Oregon resource managers and US taxpayers -- and to their elected representatives. Here are some basic conclusions that can be drawn from these events:

1) Each county has its own unique history of large-scale wildfires, with significant differences between them: e.g., Benton County has never experienced a large-scale forest fire; Tillamook County has had numerous such fires from 1853 until 1951, and little or nothing to the present time; while Douglas County had few major fires until 1987, and have seemingly had them on an almost annual basis ever since.

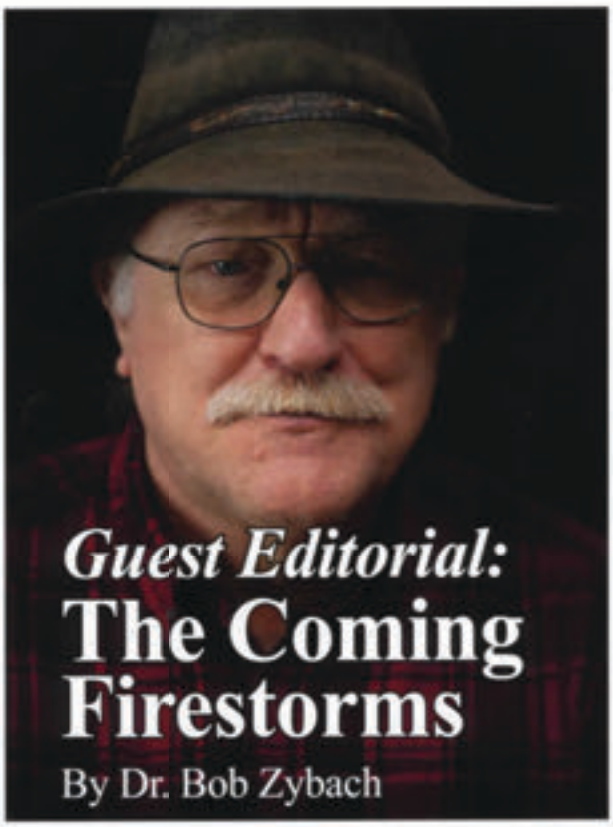
2) There were hardly any major wildfires in western Oregon between 1952 and 1987; a 35-year period in which these forests were the most actively and intensively managed in their history.

3) Almost all major wildfires during the subsequent 33 years, from1987 to 2019, have occurred on federal lands – rather than private, county, or state -- and were mostly ignited by lightning or arsonists.

Recommendations

The dead and dying trees of the 2020 Oregon Labor Day Fires should be sold and harvested as quickly as possible. Current log prices are high, family-wage jobs are sorely needed, this would create a much safer, more aesthetically pleasing environment for people and wildlife in coming years and decades.

Reforestation planning on salvaged areas should consider historical prairies, meadows, trails, campgrounds, and riparian vegetation patterns in their implementation, as well as reducing risk of future catastrophic wildfires by uses of prescribed burning and other methocs to maintain these environments.



Guest Editorial: The Coming Firestorms

By Dr. Bob Zybach

The most deadly, destructive, and widespread catastrophic-scale forest fires in Oregon's history erupted on Labor Day 2020, driven by strong east winds.

Unless we change how our national and state forests are managed, these events will be just one more chapter in this age of predictable, increasing, and ever-greater firestorms.

I've spent my career studying forest fires and forest health. In a 2018 Daily Caller interview, a few weeks before the California Camp Fire destroyed the town of Paradise, I said: "You take away logging, grazing and maintenance, and you get firebombs." Then someone took my quote, put it on a forest fire photo, and posted it from the ruins of Paradise. The resulting meme quickly went viral on Facebook.

This September, Facebook began flagging this post as "partly false" because my quote, and related interview, didn't mention climate change. That is because my documented predictions, based on significant research and personal experience, do not consider changing climate, in order to be accurate.

The broad arc of Oregon's fire history explains why this year's catastrophic wildfires have converted our public forests into unprecedented firebombs. What were once green trees filled with water, have now become massive stands of pitchy, air-dried firewood.

For thousands of years ancestral Indian families kept ridgeline and riparian areas open for travel, hunting, fishing, and harvesting purposes. They cleared ground fuels by constant firewood gathering, root harvesting, and seasonal fires.

These actions created widespread systematic firebreaks in a beautiful landscape characterized by foot trails, grass prairies, southern balds, huckleberry fields, camas meadows, oak savannah, and islands of mostly even-aged conifers.

Following the historic 1910 firestorms, the US Forest Service established a nationwide network of fire lookouts and pack trails backed up by rapid response fire suppression. This system became remarkably effective over time.

From 1952 until 1987, for 35 years, only one forest fire in all of western Oregon was greater than 10,000 acres: the 1966 43,000-acre Oxbow Fire in Lane County.

But since 1987, the past 34 years, Oregon has had more than 30 such fires, with several larger than 100,000 acres.

The 2020 Labor Day Fires alone covered more than one million acres, destroyed over 4,000 homes, caused 40,000 emergency evacuations, killed millions of wild animals, and thickly blanketed the state with an acrid, unsightly and unhealthy smoke for nearly two weeks.

What changed to cause this dramatic increase in catastrophic wildfire frequency and severity?

The problems began in the 1960s, with apparently well-intentioned national efforts to create large untouchable wilderness areas and cleaner air and water on our public lands.

The single biggest turning point in how public forests are managed happened on December 22, 1969: about 50 lawyers in Washington, DC created the Environmental Law Institute, and a short distance away Congress simultaneously passed the National Environmental Protection Act (NEPA).

Next, the 1973 Endangered Species Act (ESA) and the 1980 Equal Access to Justice Act (EAJA) provided the growing environmental law industry with a way to be paid by the government for challenging nearly every attempt to log or actively manage public forests.

By the 1980s, the artificial creation of Habitat Conservation Plans ("HCPs") and the listing of spotted owls as an Endangered Species laid the groundwork for today's fires.

The 1994 Clinton Plan for Northwest Forests might have been the final nail in the coffin. The subsequent never-ending environmental lawsuits, new Wilderness areas and HCP creations, access road decommissionings, and fruitless public planning exercises have created tens of millions of acres of massive fuel build-ups and "let it burn" policies that have decimated our forests and wildlife.

A predicted result has been ever larger western Oregon forest fires. More than 90% of these large and catastrophic scale fires have taken place in federal forestlands, which represent almost 60% of all Oregon's forested areas.

Even if, like Facebook executives, you believe these fires were somehow sparked by climate change, you should be very concerned with what will happen next.

Lessons from the 1902-1929 Yacolt Fires, 1933-1951 "Six-Year Jinx" Tillamook Fires, and the 1987-2018 Kalmiopsis Wilderness Fires are clear: unless removed, the dead trees resulting from these fires will fuel even greater and more severe future fires.

The 2020 fire-killed trees should be strategically mapped, sold, and harvested ASAP, before they further deteriorate in value and increase in risk. Prices for Douglas fir logs are at record highs, and there is great current need for good-paying rural jobs and local building materials.

It will be interesting to see if we can learn from Oregon's fire history and take the prompt, decisive actions needed to avoid the clearly predictable coming firestorms.

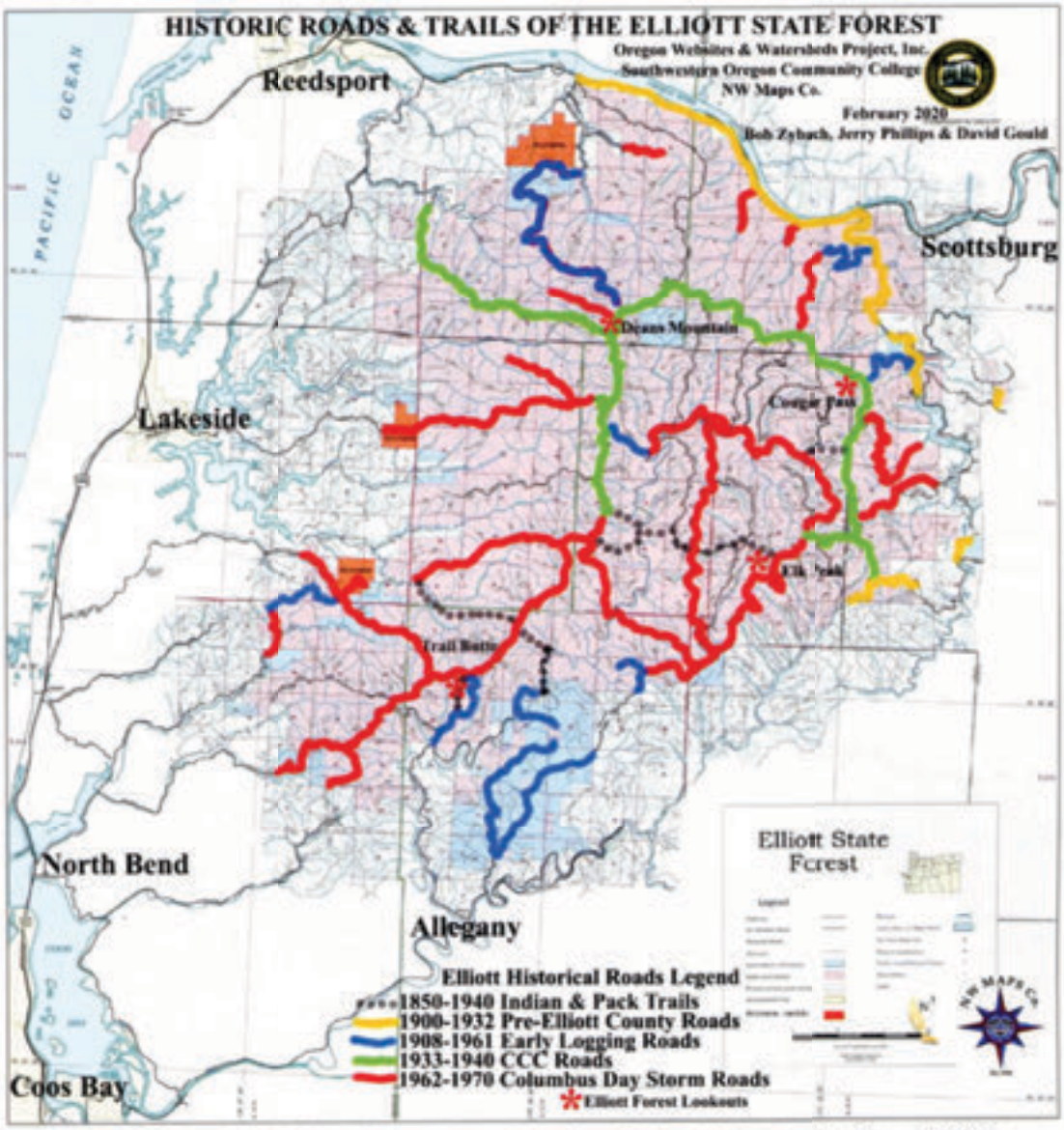
Bob Zybach has been Program Manager for educational nonprofit www.ORWW.org since 1996. He is author of The Great Fires: Indian Burning and Catastrophic Forest Fire Patterns of the Oregon Coast Range, 1491-1951.

2020 "Distance Learning" and Elliott State Forest Recreation

By Bob Zybach, Ph.D

It is difficult doing a field trip without actually going into the field; or to do a group project or workshop without actually gathering as a group or working in a shop. The 2020 coronavirus pandemic caused some immediate and significant changes to spring-term plans for many people that had been formalized just a few days or weeks earlier.

I have been working with Tasha Livingstone and her spring-term Southwestern Oregon Community College (SWOCC) F251 Forest Recreation class for the past four years. The focus has been on student group projects related to recreational opportunities on nearby Elliott State Forest: the 2018 class produced the first draft recreation plan ever written for the Elliott and the 2019 class peer-reviewed and refined the draft plan (see Summer 2019 issue: "Elliott State Forest's First Recreation Plan").



Map of the principal historic roads and trails of the Elliott State Forest. This map was constructed from a 1996 Oregon Department of Forestry GIS Base Map by Bob Zybach, Jerry Phillips, and David Gould in February 2020 for the use of the SWOCC spring-term F251 Forest Recreation class. The intent was to hand out copies at the first planned lab -- before it was canceled in March.

Both classes participated in a series of either five (2019) or six (2018) four-hour field trips to the Elliott. They were accompanied or met by local experts at each stop in order to witness, experience and document the topics they were learning about. All finished student work -- including documented field trips -- was put online as Oregon Websites & Watersheds Project, Inc. (ORWW) educational websites by both classes. This process was for the purposes of refining student internet communication skills and for sharing their findings with others -- especially future students -- interested in learning more about the Elliott and about forest recreation: www.orww.org/

Elliott_Forest/Recreation

As an important component of the draft recreation plans, the students were also tasked with making and prioritizing recommendations for improving recreational opportunities on the Elliott. Both the 2018 and 2019 students were consistent in their recommendations to add directional signage to the Elliott's network of rock roads and trails and to better maintain those access routes in the interests of public safety as top priorities.

Fig. 1. Wayne Giesy, Jerry Phillips and David Gould, Jerry Phillips Reserve, Elliott State Forest (photo by Bob Zybach, July 8, 2017).

Fig. 2. The 2019 SWOCC F251 Forest Recreation class on their first field trip to the Elliott. Location is at an undeveloped campsite along the West Fork Millicoma River with Instructor Tasha Livingstone and field guides Jerry Phillips, David Gould and the author (photo by Wade Gould, April 23, 2019).

March 10, 2020 SWOCC Planning Meeting

A public planning meeting was held at SWOCC on March 10, 2020 to discuss upcoming field trips and workshops for spring-term F251 students, beginning in April. Existing field trip routes, group online project design, and lectures were decided to remain about the same as proven successful in previous years. The major difference was to switch the focus of student projects from recreational opportunities to a study of Elliott road and trail histories and potential futures

-- as recommended by previous F251 students.

A few expected planning people were suddenly and unexpectedly absent at the March 10 meeting because of rapidly emerging pandemic concerns and resulting official directives at that time.

Fig. 3. McKenzie Peters, NW Maps Co., videotapes Jerry Phillips and David Gould during interview at Jerry Phillips Reserve, Elliott State Forest, April 29, 2020 (photo by Bob Zybach).

Then, before classes began in April, we were informed that students couldn't be in close proximity to one another (at least in a field trip van); then, shortly after, they couldn't assemble in classrooms, either -- at least for a few weeks; and then, all term.

No direct physical contact, much less group projects, classroom lectures, or field trips allowed. But students could still take the course online for required credit.

Quick decisions were made. Tasha implemented a community Google.doc file for students to use for collaborating, developing and editing their work in concert with instructors. Everyone was theoretically learning together, but at different times, in different locations, using different computer equipment, and with different WiFi reception speeds -- with many of us in rural locations and no one with direct technical, library, or personal access.

But at least we were all working on the same documents with mostly the same Word formatting -- a big improvement in itself from previous years!

ORWW "Distance Learning" Response

After receiving the news of the SWOCC campus shutdown, McKenzie Peters, NW Maps Co., and I began videotaping "distance learning" lectures as de facto ORWW workshops for the 2020 spring-term class. Due to circumstances, we were limited to an Android phone and a tripod with me against a wall with a map of the Elliott, or close-ups of the computer screen. These were then posted to the ORWWmedia YouTube channel for students to view in lieu of actual meetings.

Online worksheets with links to the digitized videos, earlier SWOCC student photos and reports, oral histories, maps, articles, books, historical photos and other relevant research materials were posted on the ORWW Elliott Forest Recreation website and distributed weekly to the students. Feedback and instruction were done by email and Google.doc comments.

McKenzie also videotaped David Gould, Jerry Phillips, Nancy Stewart and me on five socially-distanced "virtual" field trips of the Elliott. These replicated the courses taken by the 2018 and 2019 classes, were directly linked to previous student work and ORWW Elliott content, and also posted on YouTube.

The field trip videos were also done with the Android, a tripod, and inexpensive editing software. No schools, libraries, archives, computer repair shops, or even public restrooms were open. There was no budget, advanced warning, good quality equipment, technical expertise, or even an available studio or classroom to work in.

David's and Jerry's families were reasonably concerned about their health and risk of being in close proximity to people from the Willamette Valley while traveling by vehicle during the field trips, but everything was somehow completed on time and with surprisingly few problems. Everyone also remained in generally good health and spirits.

As a result of the pandemic, the 2020 F251 students did not directly participate in field trips, take their own photos, ask direct questions, or take part in group discussions. Instead, they were forced to use photos and videos taken by McKenzie, myself, earlier students, and others working on these projects; and they also needed to rely on the earlier observations, writings and reports of others -- including local experts -- as well.

Elliott Roads & Trails History

The ORWW 2020 SWOCC F251 educational project was designed to focus on the historical significance of Elliott State Forest roads and trails and their potentials for current and future public access and recreational opportunities.

"Historical significance" has important management and use implications that are regulated by state and federal laws. There are two basic definitions of "historical" in this context: 1) the record of time during which people have lived in a certain location; and 2) the written eyewitness accounts of people for a certain location.

Fig. 4. The author and McKenzie Peters presenting a videotaped "distance learning" Zoom Lab for the 2021 SWOCC F251 Forest Recreation class, April 12, 2021. Background photo is Cougar Pass Lookout, Elliott State Forest.

People have lived within and around the current area of Elliot State Forest since "time immemorial" -- more than 10,000 years, at least. This record can be partly told with archaeological research, persistent vegetation patterns, and early historical documentation. A few precontact traditions also persist through family stories and oral histories.

So long as people have lived near or within present-day Elliott there have been trails along the streams and ridgelines, with hunting, fishing, camping, and firewood gathering always being a major focus.

At some point people began cultivating huckleberries, myrtle nuts, iris and other food and fiber plants along these routes. Butterflies, songbirds, deer, elk, mountain beaver and bear quickly followed and populated these creations. This symbiotic relationship between people, fire, favored plants, and native animals likely existed for millennia before the first written records, and was well established and documented during early white immigration.

The documentary history of the Oregon Coast can be said to have generally started with sightings and contact by the James Cook expedition in 1778, or possibly with Francis Drake in 1579. Land-based records for the Elliott area, including written eyewitness accounts, maps, and drawings, began in 1826 with Hudson Bay Company beaver trapping expeditions led by Alexander Roderick McLeod.

These visits culminated with a return trip in late 1828 with Jedediah Smith in order to recover valuables -- mostly horses and beaverskins, but also a map and written journal -- and bury the dead from the massacre that had taken place at the mouth of Smith River a few weeks earlier.

The next historical record of note was a journal and correspondence of a two-day visit to the mouth of the Umpqua in 1840 by Methodist missionaries Gustavus Hines and Jason Lee.

Then, in 1850 a ship sailed into the mouth of the Umpqua and white immigrants from San Francisco claimed 640 acres at the mouth of Mill Creek -- where they soon constructed a home, the namesake sawmill, a shipbuilding yard, and began paying taxes. This history became the starting points for the 2020 F251 student projects.

2020 Elliott Roads Report

The historical roads, trails and canoe routes of the Elliott State Forest and bordering lands and waters have directed its human history and native plant and animal populations for thousands of years, until now. The detailed written accounting of this landscape begins about 1850, but the actual history of the Elliott begins with its creation in 1930, a little over 90 years ago.

The CCCs, World War II, logging, the Columbus Day Storm, hunting, fishing, political protests, illicit crops, mud-running, camping, reforestation, and the 1982 and 1996 floods and landslides have shaped much of the Elliott's history since 1930 -- and all reflected in its roads and trails and their uses and potential uses today.

The 2020 F251 "distance learning" workshops and "virtual" Elliott field trips began as eight students, with three dropping out before completing their assignments. This left only five students to consider past recommendations, learn the topic, and produce a report -- without ever meeting in person, before Zoom, and under unprecedented learning conditions.

The remaining five students were each given a separate assignment to complete as lead author, and the choice of two additional assignments to assist with, as coauthors: 1) historical Indian trails and pack trails from 1826 to 1900; 2) pre-Elliott County roads and early logging roads from 1900 to 1930; 3) the Civilian Conservation Corps (CCC) road and fire lookout network from 1930 to 1962; 4) the Columbus Day salvage logging network from 1962 to 1970; and 5) roads built since 1970 and with a focus on the recreational and educational opportunities provided by a proposed replacement and enhancement of the Cougar Pass Lookout.

As with the 2018 and 2019 student draft plans, these papers were combined into a single, citable, and printable PDF report, and a separate HTML website with linked videos, maps, photos, reports and other referenced materials. Both versions, PDF and HTML -- as with the 2018 and 2019 student projects -- can be found on the ORWW educational website: www.orww.org/Elliott_Forest/Recreation/2020_Roads/Report.html

These student reports, despite being written under unique circumstances and without the aid of first-hand observations or discussions, provide an excellent foundation of maps, facts, resources, and recommendations to learn from: whether by future Elliott State Forest student visitors, researchers, recreationists, or forest managers.

Now what?

As this was being written, current 2021 F251 students were also being limited by ongoing pandemic restrictions and couldn't meet in person, attend classes, or take field trips. However, the intervening year has allowed for more "distance learning" practice by everyone, the rapid development of Zoom communications, better video equipment and software, and the added uses of YouTube indexing and closed captioning for the videotaped 2020 field trips.

The 2021 students were required to submit their reports, based on the videos, websites and reports of their F251 predecessors, in an MP4 (online video) format. In this manner the 2020 Elliott Roads Report was combined with the earlier draft recreation plans to form the principal research basis for the current reports -- which will also be edited for online use for future students and interested visitors to the Elliott.

These online products are still not ideal substitutes for actual field trips, group projects, or personal discussions, but make good improvements for future Elliott "distance learning" educational products and their applied uses. The hope is that these uses will be complementary to actual meetings and field trips in the future, rather than continue to be used as substitutes.

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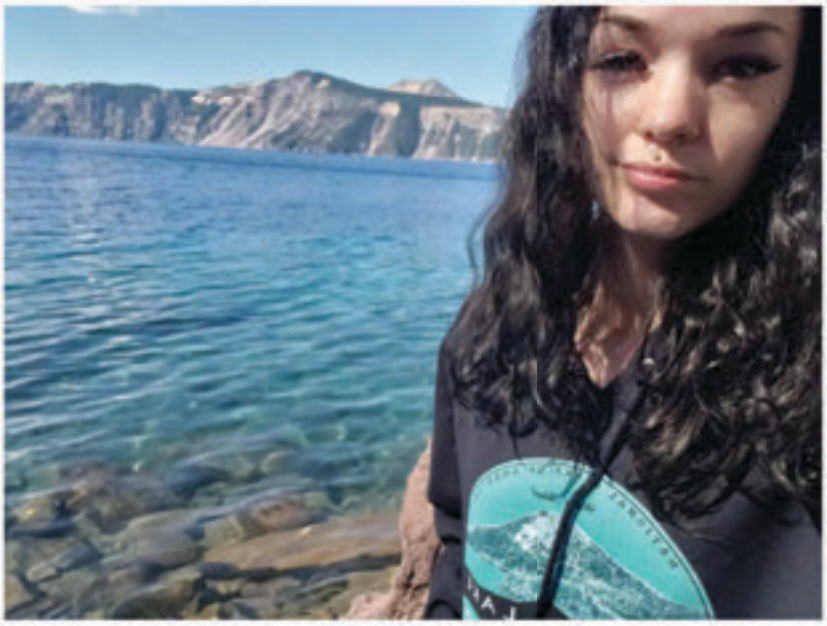
BOB ZYBACH | EDITORS DESK | ELLIOTT STATE FOREST | MCKENZIE PETERS

THE DINOSAURS OF THE ELLIOTT STATE FOREST

I WAS A 16-YEAR-OLD MEMBER OF THE LAST GRADUATING CLASS FROM BLUE MOUNTAIN SCHOOL WHEN I FIRST MET BOB ZYBACH THROUGH MY MOTHER, WHO WAS WORKING WITH HIM ON A PROJECT ABOUT EARLY COOS COUNTY HISTORY.

JIM PETERSEN - JULY 25, 2021 6 MINUTE READ



Editor's Note: McKenzie Peters has been working with Bob Zybach on his Oregon Watersheds and Websites project since 2012. Most recently, she has helped Zybach film an interview with David Gould and Jerry Phillips, two "dinosaurs" who know the history of the Elliott State Forests better than anyone. We asked her to tell us the story of her involvement in her own words. This is it – and it's a delightful read.

The Elliott is easily one of the most productive timber growing forests on earth, but it is currently embroiled in a nasty controversy rooted in politically driven harvest declines dictated by environmentalists and the State Board of Forestry. Counter suits by county school districts that have lost funding are also on deck.

We profiled Zybach's voluminous research in two recent essays profiling his Master's thesis and his PhD dissertation. More can be found in our three Carl Stoltenberg essays.

ABOUT THE AUTHOR

JIM PETERSEN

Jim Petersen is a co-founder of the non-profit Evergreen Foundation, and publisher of Evergreen, the Foundation's periodic journal. Evergreen Foundation was established in Medford, Oregon in 1989 to help advance public understanding and support for science-based forestry and forest policy.

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McKenzie Peters

For the past five years I have been working as an oral historian, field research assistant, and documentary videographer with a focus on the Elliott State Forest.

In 2008 I was a 16-year-old member of the last graduating class from Blue Mountain School, a rural charter school six miles upriver from the closest town, Cottage Grove, Oregon. About that time, I first met Bob Zybach through my mother who was working with him on a project about early Coos County history.

Bob Zybach in photo taken by Jim Petersen in the early 1990s. Bob was then working on his Master's thesis at Oregon State University.

I started working part-time with Bob in 2012 after my mom moved to Washington State. My first project was as a "human scale" photography model to show the relative diameter and height of the dangerous street trees in Cottage Grove for an article he was writing for the local newspaper. Since then, I have moved from human scale to office and field research assistant, and then videographer for the ORWWmedia YouTube channel.

While working with Bob my principal job assignments have included data entry on Excel files, scanning historical documents for archival storage, transcribing and auditing oral histories, and as a field research assistant documenting wildflowers and wildfires.

In 2017 the focus of our work changed to the Elliott State Forest, when Bob began a series of oral history recordings with a number of local experts. My job was to transcribe, audit and format these recordings so they could be indexed for storage at Oregon State University Archives. In this manner I first heard many of the voices of the Elliott, as represented by such individuals as Wayne Giesy, Roger Ott, Lionel Youst, David Gould and Jerry Phillips.

In early 2018, using the oral histories as a guide, we began scouting field trips on the Elliott for Tasha Livingstone's Southwestern Oregon Community College F251 Forest Recreation class. In all, we developed six four-hour trips that were used by her 2018 and 2019 spring-term classes.

In March 2020 the coronavirus pandemic changed everything, and I began videotaping the field trips and classroom lectures as "distance learning" exercises. All public facilities were shut down and due to "social distancing" guidelines, we began recreating the field trips with David or Bob driving and me videotaping them and Jerry at designated stops for posting on YouTube for the students.

THE BOX OF DINOSAURS

The Elliott oral history interviews took place in an Oregon Department of State Land (DSL) vehicle operated by DSL employees while Bob interviewed Jerry and David at the different stops. While I was transcribing the December 2017 interview, I learned that this arrangement was jokingly referred to as the DSL employees being "trapped in a box with some dinosaurs." This made me laugh – especially when I found myself in a similar situation while videotaping the field trips. They were dinosaurs all right, but non-threatening and mostly happy ones.

While working on the Elliott the past few years I have had the pleasure of meeting and listening to a number of the most knowledgeable and experienced foresters, historians and forest scientists I have ever known. I have greatly enjoyed helping to preserve their thoughts and works and have gained incredible insights while listening to, and recording, their stories of the Elliott.

One of my first assignments on the Elliott was digitizing Jerry's 435-page history of the Forest that he spent seven years writing about after his retirement in 1989. This was the basis of the oral histories that followed and were then developed into the field trips for Tasha's classes. The oral history recordings totaled more than 25 hours and the resulting transcriptions were more than 900 pages long. So I thought I knew him pretty well.

When I met Jerry in person for the first time – and knowing he had been a forester on the Elliott for 38 years and as its long-time successful manager, I expected a hardened, gruff individual, tough as nails and tall – like Sam Elliott, but maybe a bit sterner and more reserved. Instead, I was greeted by one of the kindest and most thoughtful people I have ever met. Also, he was clean shaven and a lot shorter than the movie star.

There are always a lot of smiles and laughs when Jerry tells his stories of working on the Elliott, the process of buying and selling the timber there, the stories of the people he met and worked with, and the history of logging and logging roads. Learning with him is always fun. Jerry's attachment to the Elliott is widely recognized and why the Forests' remaining stand of old-growth is named in his honor: the Jerry Phillips Reserve.

While Jerry is the recognized expert on the history and management of the Elliott, David Gould is its heart and soul. His great-grandparents first homesteaded the land in the 1880s and his beloved grandfather was raised there. Meeting David and being able to hear him tell this story of his family and to hear the admiration and respect he has for the Elliott was an incredible and rewarding experience on many levels for me. The way he speaks of the forest and his family home and history — I got to personally hear this deep love and emotional attachment and soon developed my own.

McKenzie Peters filming an interview with David Gould and Jerry Phillips

For many years David has single-handedly – and out of his own pocket – worked filling the potholes, washboards, and water ruts of the Elliott's many rock roads. This tireless effort and his many personal stories have given me a new appreciation for the forest, its rocds and even history itself. His only reward is knowing that he is keeping the forest safe, open and in good condition for others; people like myself, the local college students and their families – and especially for the children – to enjoy.

LESSONS LEARNED

When I graduated from Blue Mountain School and began looking for employment, my views on forest management and logging practices and their impacts on native wildlife were similar to those of my classmates and neighbors: clearcutting was ugly to look at and bad for the wild animals.

After beginning work for Bob my understanding began to change. From him I learned how to conduct and organize research on fires; how to recognize and document wildflowers and landscapes, and the different edible and native plants of the Willamette Valley.

In traveling and discussing the trees and woods with him, Jerry, David and others I have also learned the importance of active forest management, tree age and growth cycles, the need for logging, road maintenance, recreation, fish habitat and the significance of Native American trails and forest history.

This has all led me to believe that it is important to share these stories and insights with others before they are lost to time. We have expanded the audiences for this information by putting it on educational websites such as Oregon Websites & Watersheds Project, Inc. (ORWW.org), posting on Facebook, YouTube videos, radio interviews, and traditional magazine and newspaper articles and editorials.

In these manners, and including student field trips, classroom lectures, and archival storage, thousands of people are receiving this information by a wide variety of methods and media. I have also noticed that we are helping to educate people outside the realm of forestry on topics such as wildfires and logging and their importance with preserving the beauty and sustaining the future of our forests.

WHAT'S NEXT

Ever since I was a little girl, I have always wanted to be a Park Ranger. The great thing about my experiences of the past several years, is that I never stop learning about things that I am most interested in. Whether I continue forward as an oral historian, a documentary photographer or by producing educational videotapes, my intent is to continue working in the forest and environments that I love. If I can combine these skills and somehow become a Park Ranger someday as well, then that would be the dream.

"God, Family, and The Elliott" Jerry Phillips, 1927-2022

By Bob Zybach, Ph.D

(Left to right) Me, Jerry and David at the newly-christened "Jerry Phillips Reserve." Photo by Sam Schwartz, December 15, 2019

Jerry Phillips passed away in March of this year, while vacationing with his family in California. He was 94 years old and lived a long, productive, and mostly very happy life. Jerry was widely known for most of those years as a highly successful forester and as a truly "good man."

For as long as there will ever be an interest in Oregon's first State Forest, the Elliott, there will be an appreciation of Jerry Phillips. He was the Forest's most accomplished manager in its history: a fact clearly recognized by his professional contemporaries and well documented, as Jerry was also the Elliott's most accomplished historian.

Jerry's lived, written, and recorded history regarding the Elliott has been the basis of several significant research and educational projects throughout his retirement years, beginning in 1989. This work has been largely archived at Oregon State University (OSU), is mostly available online (ORWW), and will likely continue to be used by students and researchers for many years to follow.

In 1984 Jerry was selected Oregon State Forester of the Year, in recognition of his greatly successful management of the Elliott; in 2000 he was elected a Fellow of the Society of American Foresters (SAF), a national honor based partly on his comprehensive 1997 published history of the Elliott; in 2019 the Oregon State legislature designated an historic stand of Elliott old-growth as "The Jerry Phillips Reserve"; and in 2021 he received a "Lifetime Achievement Award" from Oregon SAF.

It was these recognitions that were important to Jerry, particularly when they were given by his peers, and especially by his fellow OSU forestry grads and SAF members. But Jerry was a humble and unassuming person, not boastful in any way, and forestry was not the most important thing in his life. When his daughter Sally called to tell me he had died, she remarked that her father "had truly loved God, his family, and the Elliott, in that order."

Anybody who ever got to know Jerry Phillips, understands how accurate this statement is.

God

Jerry was one of the two or three most Christian people I have ever known. I knew him for 35 years and David Gould, his lifelong friend, knew him for nearly 70. In all that time neither of us had ever heard him swear, become angry, say something mean about anyone, or fail to be calm, kind, and helpful whenever he could. Not a typical forester.

Neither of us had ever heard Jerry say a prayer or preach, either. If you asked, he would say he was a Christian, and

maybe the name of his church, but that was about it. My impression was Jerry wouldn't shy away from a discussion of religion, but wouldn't necessarily initiate one, either. Over time, David has often said Jerry became his "hero" and his "role model." Actions speak louder than words.

I only learned the great importance religion played in Jerry's life in the past few weeks, following his death and after reading his unpublished 2009 autobiography and self-published 2003 family history. I also learned he was an amateur ham radio operator, an accomplished choir singer, a musician, a sharpshooter, and a typist. I knew his academic and professional histories fairly well, knew he drove local veterans to the hospital in Roseburg and back every week for many years, into his 90s, and think I heard he taught Sunday School at times -- but everything else was a revelation, and in some detail.

Jerry describes his father: "I was so blessed to have had him as my father. He was a good role model, had clean speech, good manners, and I never knew him to smoke or drink. He did not talk about it, but I believe he was a Christian, who, with my mother, regularly attended the Multnomah Presbyterian Church, a little west of Portland."

The Multnomah church and congregation were so important to Jerry's family that even after moving to "Powellhurst," east of Portland and a one-hour drive each way for his father, they continued attending Sunday services there for seven or eight more years. That, in addition to a six-day work week and chores, such as milking the goats, gathering eggs, and weeding the garden. As the two older Phillips boys began classes at Franklin High School in 1942, the family moved to the much-closer Mt. Tabor Presbyterian Church.

Jerry enlisted in the Marines as he turned 18 and the War was just ending. That limited his service time to only 15 months, "the longest time I ever lived without attending church." When he returned home his parents enlisted him in college at OSC (Oregon State College, before becoming a university) and he became a regular member of the Corvallis Presbyterian Church. He sang in the church choir, same as always, but was also a member of the 38-voice Corvallis Men's Choir, which performed such four-part harmonies as "The Lost Chord," "Goin' Home," and "All Through The Night."

Jerry met his future wife of 60 years, LaRose Bowman, on a blind date. LaRose was also an OSC student but attended Corvallis Methodist Church. When they married, following Jerry's graduation in June 1950, it was in the Methodist Church, but due to circumstances, was officiated by the Presbyterian minister!

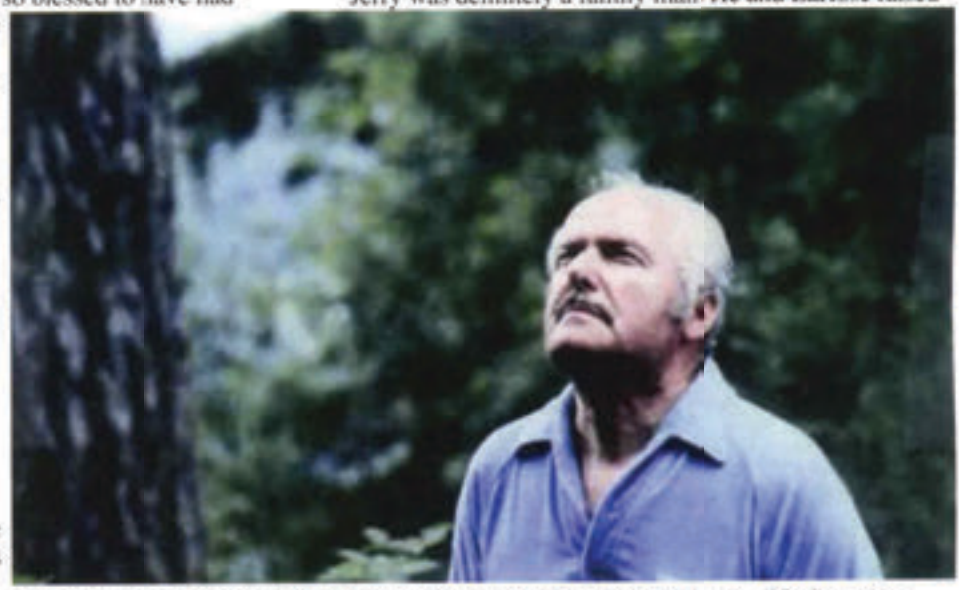
Following LaRose's graduation and a variety of short-term forestry jobs, Jerry accepted work with the Oregon Department of Forestry (ODF) in 1952, in Coos Bay. The young couple, with baby Sally, moved to their new home that year and stayed the rest of their lives. For the next 36 years the Phillips family -- including four sons that followed Sally, were members of First Methodist Church, where Jerry sang in the choir and taught Sunday School for 23 years.

In 1988, after raising all five children in the Methodist Church, Jerry and LaRose moved to Hauser Community Church and stayed there the next 30 years. Within a few years the Hauser congregation had grown to 1600 members and became the largest church in Coos County.

Near the end of his 2003 self-published family history and genealogy, on pages 176-179, Jerry directly addressed his "ten Grandchildren (and generations to follow)." These pages are a detailed summary of his religious beliefs, titled "The Author's Own Personal Faith Statement." It is basically a clearly and sincerely written nine-point outline of timeless Christian lessons, and most likely a distillation of Jerry's many years teaching Sunday School and leading Bible studies. For his descendants.

Family

Jerry was definitely a family man. He and LaRose raised their five children in the Coos Bay home they built in 1959, and both lived in until the end. LaRose, the love of Jerry's life, died in 2010. His two younger brothers, each with four children of their own and numerous grandchildren, survived him; as have four of his own children, his 2003 "Ten Grandchildren", and now, 10 great-grandchildren.



A favorite photo of Jerry, at work in the Elliott. Unknown date and photographer

Jerry's father, Jim, died relatively young and unexpectedly at age 59. His mother, Georgia, lived to be 92. From the time the Phillips family moved to their home in Powellhurst in 1934 until she remarried and moved again in 1975, Georgia lived in the family home. Her three sons graduated from high school there, and they, their wives, and ultimately her thirteen grandchildren, always celebrated Thanksgiving and Christmas at "Grandma's." In later years the milk goats and chickens had disappeared, but there was always a large, beautiful garden and lots of flowers.

Education and music were very important in the Phillips household. Jim had an OAC (Oregon Agricultural College) degree in Animal Husbandry and Georgia had been one of the very first female graduates of Stanford, in 1922, with a degree in history. All three sons graduated college as well, as did all five of Jerry's children. According to Sally, they were never asked "if" they were going to college, but "where?" It didn't matter what courses they took, but after graduation the ques-

tion became whether they were "finding employment, or not."

Jerry and his brothers learned band instruments in high school, and Jerry sang bass in church choirs for many years. After the kids were born there were weekend and annual camping vacations around the State, and even trips to the Grand Canyon, Washington DC, following the Oregon Trail, and other distant locations. While hauling their tent trailer behind the family car, "Mom and Dad" would pass the travel time by singing songs, such as "She'll Be Coming Round The Mountain," "America The Beautiful," and other favorites. Sometimes the kids would sing along; all five played band instruments in high school, of course.

After spending the first seven years of his retirement researching and writing his history of the Elliott State Forest, a 414-page documentary epic, self-published in two editions and 300 copies, Jerry turned his attention to his own family history. He then spent the next seven years researching, writing, and self-publishing Our Phillips Family.

The Phillips family in their new Coos Bay Kingwood Avenue home, Christmas 1959. Jerry, Bart on lap, Sally, baby Kirk, LaRose, and Mark (L) and Lee (R) in front.

As might be expected, Jerry's genealogical research was exhaustive, and to his and LaRose's pleasure, involved a lot of domestic and overseas travel. Although Jerry, "like most of the Philips family did not 'inherit the math gene'," he was able to trace the Phillips name and family in North America back to 1676 and the arrival of indentured Welsh servants, George and Mary Phillips. Including his own grandchildren and best math skills, Jerry determined the following 10 generations had totaled 77,644 descendants by 2003!

In contrast, Jerry's mother's family, the Thompsons, had both emigrated to North America from Denmark in the 1890s, met and married in Oregon, and owned a wheat farm in Moro, which remains in the Thompson family more than a hundred years later, and where Jerry worked two summers as a young teenager during the War.

The Elliott

One of Jerry's earliest memories was when he was seven years old and his father drove the family to a ridgetop in west Portland to view "a terrible, throbbing red glow in the sky many miles away", the catastrophic 1933 Tillamook Fire.

When he was 16, and because older young men in the US were mostly involved in the War, Jerry was able to get a job with the US Forest Service on a 15-man fire crew near Cave Junction, in the Siskiyou National Forest. "By the end of the summer" he was "hooked" and had "subconsciously chosen my life career, as a professional forester."

The following year, 1944, Jerry was given the task of manning the Chetco Peak Lookout Tower, located in today's Kalmiopsis Wilderness and then only accessible by a 17-mile pack trail. Because it was still wartime, he was also trained to identify the silhouettes of Japanese warplanes and to keep a constant vigil for them, as well as for forest fires.

Jerry graduated from high school, turned 18, and joined the Marines as WWII was ending. Just as his ham radio skills had aided his work with wildfire fighting crews, his high school typing classes allowed him to complete his service as an office worker in Hawaii. His skill with a rifle meant an extra $5/month pay and all added to the G.I. Bill. God's grace.

When Jerry returned home, his parents had already enrolled him at OSC , no time off, as he had wanted and expected. He majored in Forest Management and spent summers working as a fire lookout. His permanent 1952 ODF job in Coos Bay started as a "Compliance Inspector" for "Coos District" logging and sawmilling operations, which included the Elliott State Forest:

"I'd been vaguely aware of the Forest's existence since attending Oregon State College, where it was described in college literature as an undeveloped State-owned forest of young timber lying between Coos and Umpqua Rivers, dedicated to educational purposes."

At that time the Elliott was only accessible by 1930s CCC roads, foot trails, and pack trails, many of which had been established and maintained by David's family, the Goulds and McClays, beginning in the early 1880s.

Glae Gould, David's father, was a hard-nosed 4th-generation Coos County resident that supported his family by contract logging, sawmilling, roadbuilding, and quarry rock sales in the 1950s. Glae considered it his privilege, as a taxpayer, to call Jerry, the ODF field forester, at any time of the day or night to resolve a problem. Jerry always answered and did his best to help.

When David was 10 years old he was working with his Dad on a small "wind-throw" salvage logging job on Elliott property about a mile from the family sawmill. David's job as "chaser" was working the landing, where he unhooked chokers, set tongs on the log truck, and bucked off root wads, using a Homelite chain saw with a 32-inch bar.

That's when Jerry showed up with an order for the crew to stop logging because they didn't have the proper number of fire extinguishers available. Glae's response was to begin loudly yelling and swearing at Jerry and telling him where to get off. Then they both got in Glae's war-surplus Jeep and drove "straight downhill on a cat road, with Jerry hanging on for dear life" to the sawmill, got the required number of extinguishers, and returned to work. Problem solved.

The Elliott State Forest was established in 1930, making it Oregon's first state forest. It was formed by trading the portion of the 1908 Siuslaw National Forest lying south of the Umpqua River, about 70,000 acres, for Common School Fund properties scattered around the State of similar value. The scattered properties had been awarded to the State in 1859 specifically for the purpose of funding Oregon schools, and the Elliott inherited that responsibility with its creation.

In 1930 the Elliott was mostly covered with young Douglas fir and red alder trees that had seeded in, following the catastrophic 1879 "Big Burn" wildfire and several subsequent decades of livestock grazing, firewood gathering, logging, and clearing fires by the Goulds, McClays, and others who had settled in the area.

In 1955 the Oregon legislature determined the time had come to begin actively managing the Elliott, and ODF was given management responsibility. The following year Jerry transferred from his job as Coos District logging inspector to Elliott staff member and was soon tasked with taking a detailed inventory of the Forest. The primary purpose of the project was to identify commercial and developing stands of timber that could be sold to fund road construction needed to sell logs to compensate the Common School Fund on a sustainable basis. As required by law and taught at OSC.

Jerry's 90th birthday party, with children and grandkids, May 4, 2017. Photo by granddaughter, Shasta Hernandez.

The first major logging sale on the Elliott was a stand of mostly 200-year-old Douglas fir on North Marlow Ridge. Log hauling started on April 22, 1959, and a photo of the event is featured on the front cover of Jerry's Elliott history.

Then, on October 12, 1962, everything changed. The Columbus Day Storm arrived without warning and blew down 100 million board feet (mmbf) of 70-year-old second-growth timber on the Elliott in a matter of hours. Winds greater than

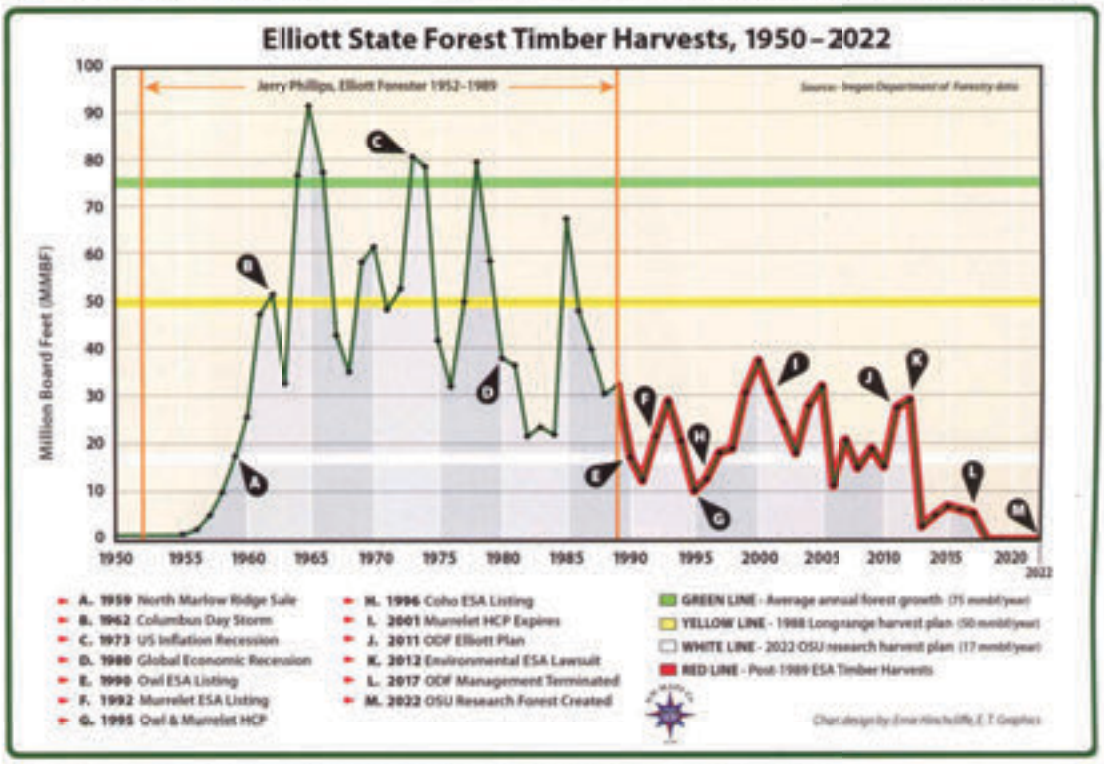
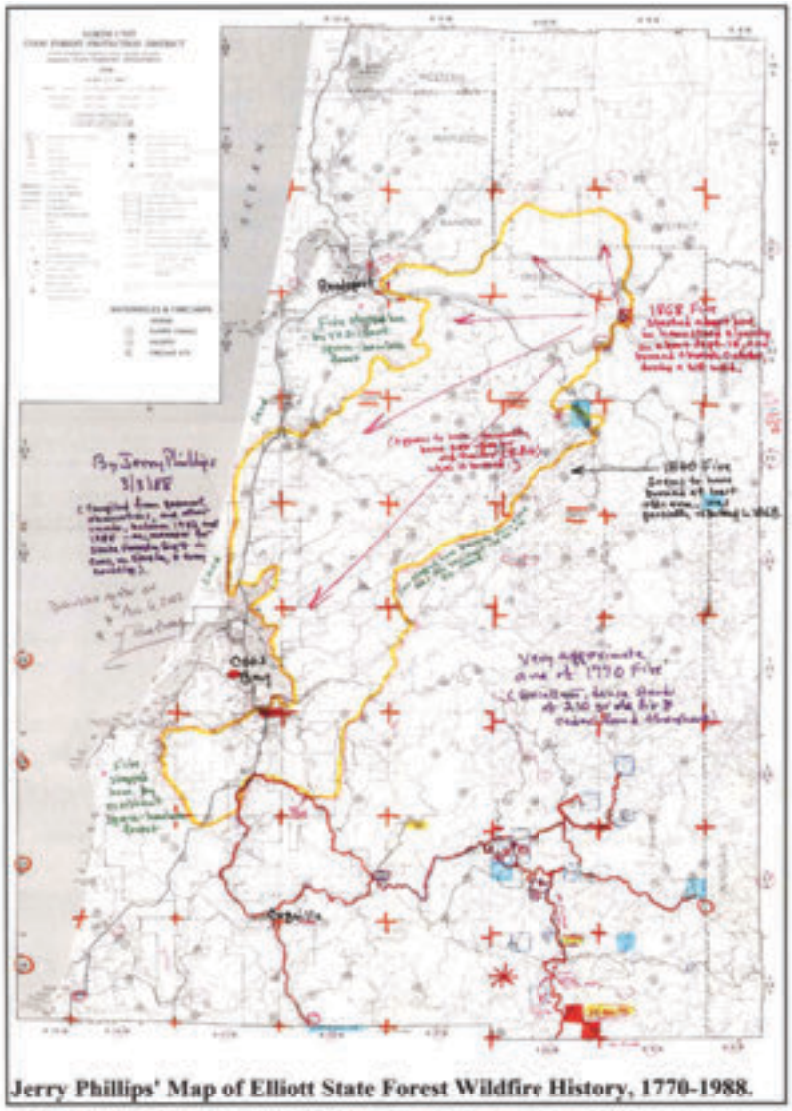


Chart of Elliott State Forest Timber Harvesting History, 1950-2022.



Jerry Phillips' Map of Elliott State Forest Wildfire History, 1770-1988.

150 miles-per-hour were recorded.

The next several years were spent on roadbuilding and "clean-up" salvage sales from the damage, causing 200 miles of additional road construction to reach 250 areas of "blow-down" and more than 300 mmbf in timber sales by 1966. Jerry was "Sales Coordinator" for this monumental task.

In 1970, Jerry was made Forest Manager of the Elliott and in 1984 he was selected "Oregon Forester of the Year" in recognition of his excellent work as a forester and as manager of the Elliott under unprecedented circumstances, and for the Forest's subsequent, and significant, economic contributions to the Common School Fund and to local communities.

"Retirement"

The first time I recall meeting Jerry in person was March 3, 1988, at his home on Kingwood Avenue in Coos Bay. His wife LaRose was a gracious hostess. They raised their five children in this hilltop house they designed and built together, 30 years earlier.

I was a middle-aged forestry student from OSU, conducting Oregon Coast Range wildfire history research under Professor Dick Hermann; Jerry was the widely acknowledged expert on the topic for Coos County; and we both had a strong interest and common history in Douglas fir forest management and reforestation. Memory says we had previously only talked by phone or corresponded on these topics.

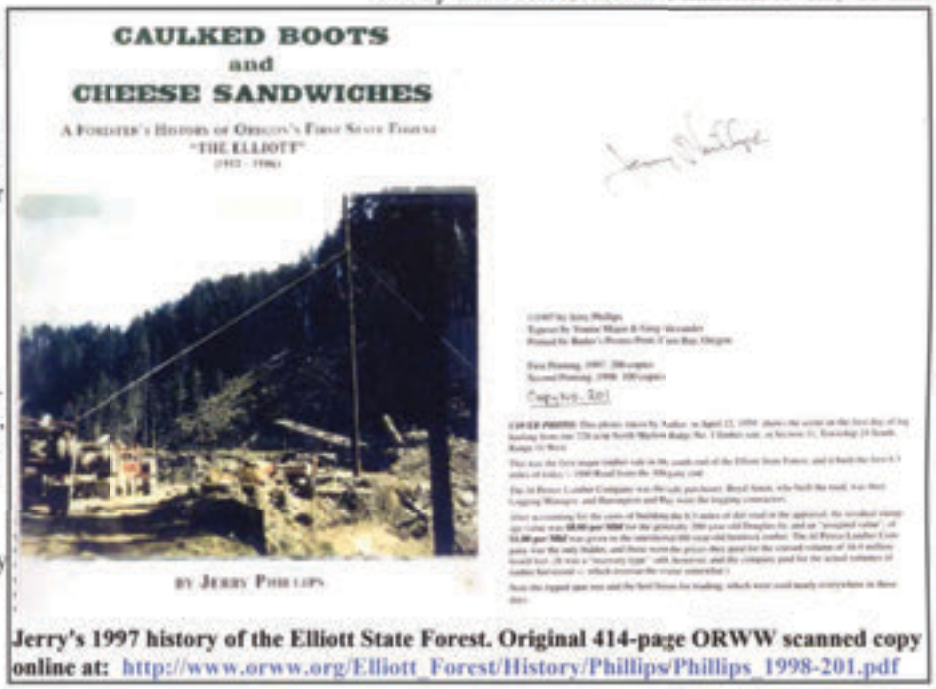
The focus of discussion was Jerry's hand-annotated fire history map of the Elliott that he created for me earlier that day. The map and subsequent discussions became an important part of my PhD research and, also for the next three decades, at the center of our ongoing discussions of spotted owl politics and Elliott Forest planning.

Jerry retired the following year, at age 62. Clark Seeley, Klamath Falls District Forester, who started his career as a "Forester Trainee" on the Elliott, replaced him:

"But four pairs of spotted owls had been observed in our Mill Creek canyon when I walked out the front door of our Coos Bay office on my last day of work, May 31, 1989, so things were looking a little bit ominous (even though "experts" said owls required old-growth)."

"Now what?" For the next seven years Jerry focused on researching and writing the history of the Elliott State Forest, which book he considered "almost another of my children."

In 2000 Jerry was nationally recognized as a "Fellow" of SAF, which organization dates to 1905 and has had tens of thousands of members. The Oregon State Society is the largest in SAF, with 15 chapters and 800 members. In most years, the Oregon Chapter might select one or two members deserving this honor, awarded for "long-standing service to forestry at the state, local and national levels," so this



Jerry's 1997 history of the Elliott State Forest. Original 414-page ORWW scanned copy online at: http://www.orww.org/Elliott_Forest/History/Phillips/Phillips_1998-201.pdf

was a significant recognition of Jerry's career and his high standing among peers. Much of this recognition, Jerry believed, was due to his written history of the Elliott.

The subsequent discovery of spotted owls all through the Elliott, in second-growth stands as young as 60 years, and it's listing as "threatened" by the federal government in 1990, had changed everything, again. Then marbled murrelet and coho populations also became listed and HCPs ("Habitat Conservation Plans") became legally required, greatly reducing the Elliott's log sales and road maintenance.

A new plan, with HCPs, was developed in 2011 and challenged in court in 2012 by a collaboration of Portland and Eugene environmental organizations. All timber sales on the Elliott, and on other State Forests, was halted. Rather than challenging this ruling, the State Land Board, led by the Governor, decided to sell the Elliott. When this sale was determined to be illegal, the Governor publicly and privately requested ideas for a new management plan for the Elliott.

In late 2017, Jerry, David, Wayne Giesy, and I took a drive through the Elliott and discussed possible strategies for returning the Forest to active management for local jobs and for meeting Common School Fund obligations. We had been spending a lot of time together on the Elliott, recording oral histories based on Jerry's book, and determined that "public education" was needed for people to better understand the issues involved. Oral history recordings and transcriptions were later deposited in OSU Archives as the basis for their new "Elliott State Forest Collection."

David has funded a "Jerry Phillips Endowment" for North Bend High School forestry students. The 2017 recipient was attending Southwestern Oregon Community College (SWOCC) when we contacted Tasha Livingstone, SWOCC forestry instructor, to gauge potential student interest in studying the Elliott. Tasha quickly agreed to spring-term field trips to the Forest and the related development of a draft recreation plan -- another first for the Elliott. These educational field trips, five or six a year and based on Jerry's book and oral histories, were led by Jerry, David, and me and have taken place annually ever since -- with plans already in place for 2023.

While working on the Elliott the past few years I have had the pleasure of meeting and listening to a number of the most knowledgeable and experienced foresters, historians and forest scientists I have ever known. I have greatly enjoyed helping to preserve their thoughts and works and have gained incredible insights while listening to, and recording, their stories of the Elliott.

One of my first assignments on the Elliott was digitizing Jerry's 435-page history of the Forest that he spent seven years writing after his retirement in 1989. This was the basis of the oral histories that followed and were then developed into the field trips for Tasha's classes. The oral history recordings totaled more than 25 hours and the resulting transcriptions were more than 900 pages long. So I thought I knew him pretty well.

When I met Jerry in person for the first time -- and knowing he had been a forester on the Elliott for 38 years and as its long-time successful manager, I expected a hardened, gruff individual, tough as nails and tall – like Sam Elliott, but maybe a bit sterner and more reserved. Instead, I was greeted by one of the kindest and most thoughtful people I have ever met. Also, he was clean shaven and a lot shorter than the movie star.

There are always a lot of smiles and laughs when Jerry tells his stories of working on the Elliott, the process of buying and selling the timber there, the stories of the people he met and worked with, and the history of logging and logging roads. Learning with him is always fun. Jerry's attachment to the Elliott is widely recognized and why the Forests' remaining stand of old-growth is named in his honor: the Jerry Phillips Reserve.

*****Excerpt from "Dinosaurs of the Elliott State Forest," by McKenzie Peters, *Evergreen Magazine:*** http://www.orww.org/Elliott_Forest/References/History/Peters_20210725.pdf

David provided funding to help create a permanent ORWW educational website to share the students' work with the interested public and for the use of future SWOCC and OSU forestry students. The 2020 pandemic resulted in these field trips with Jerry and David being videotaped for "distance learning" needs, which were then added to the ORWWmedia YouTube Channel for the same purpose -- student and public education regarding forestry, and in particular, the Elliott.

In the 1970s Jerry was instrumental in securing, through trade, 50 acres of Weyerhaeuser old-growth as a permanent reserve. For this reason, and others, his contemporaries affectionally considered him to be "one of the first environmentalists." Local humorists called this exchange "Jerry Phillips Private Reserve," a play on words of a popular beer commercial at that time. In 2019, the Oregon legislature made it official, and "Jerry Phillips Reserve" became a reality and an Elliott destination.

Earlier this year Jerry got pneumonia and his daughter Sally and granddaughter Shasta helped nurse him back to health. He lost some weight, took a few drives through the Elliott with David, was looking forward to his trip to California, and then died, on vacation, at peace and with family. His work continues. A wonderful life and a great legacy.

This article is courtesy of Evergreen Magazine.

IN CONCLUSION

I have no idea as to how to end an autobiography, but I guess I'll just say that I have had (and am having) a blessed life, with a few "speed bumps," as everyone has. And I am so thankful for the help that so many people have given to make it that way.

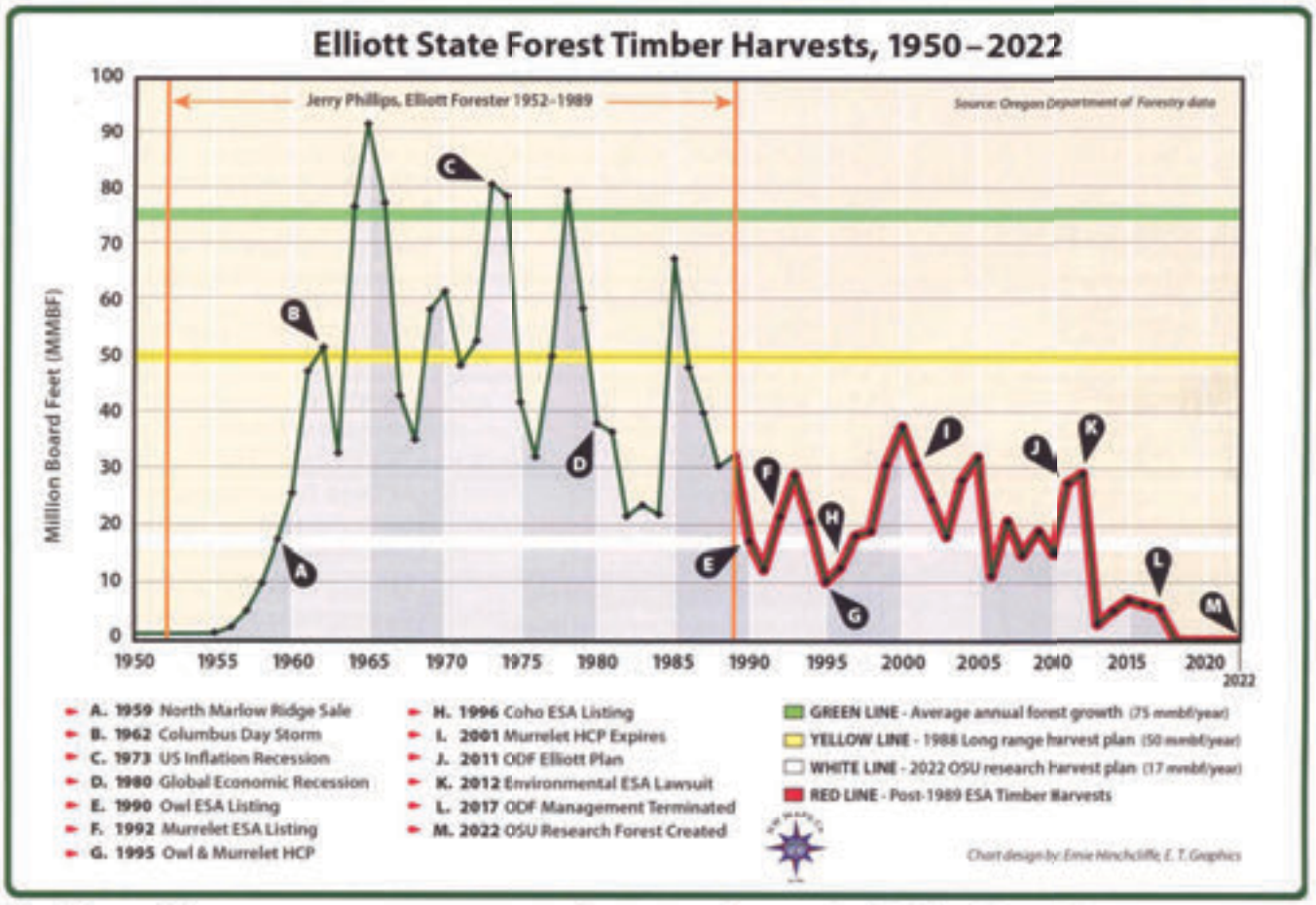
Also, I want to add that I do believe that God has a plan for each person's life, and almost certainly no one completely lives that plan, but for much of my own life I did try. I will always be grateful that He did guide me, and that while I am a sinner, I am a forgiven sinner, and that I am a John 3:16 Christian.

by Jerry Phillips
May 4, 2009

Final paragraphs and dated signature of Jerry's unpublished 2009 autobiography, *Jerry:* http://www.orww.org/Elliott_Forest/History/Phillips/?hillips_20090504.pdf

HCPs, LSRs, the ESA & Western Oregon Wildfires, 1987 - 2022

By Bob Zybach, Ph.D



The Green Line represents average annual amount of growth of Elliott State Forest trees; The Yellow Line represents average allowable cut for the Elliott in the 1988 harvest plan; The White Line represents OSU's planned annual harvest of the Elliott w/ no snag salvage; The Area between the Green Line and Red Line represents Elliott fuel increases since 1989.

During the past 35 years, beginning in 1987, western Oregon has experienced the greatest number and extent of catastrophic forest wildfires in its history. Almost all these deadly events took place or began on federal lands managed by the US Forest Service (USFS) or Bureau of Land Management (BLM) under regulations developed from the 1973 Endangered Species Act (ESA) and administered by the US Fish & Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and/or National Oceanic and Atmospheric Administration (NOAA).

It's the government, so acronyms are obligatory. They are also a form of purposeful obfuscation that help conceal the fact that management of our nation's forests has largely transitioned from the long-term profitable management of trees, wildlife, and recreational facilities by professional foresters, to costly passive management of "critical habitat" by wildlife biologists and computer modelers. Tax-producing loggers and tree planters have largely been replaced by taxpayer-funded agency "ologists," their university modelers, and seasonal wildfire fighters in the process.

This transition took place slowly at first, beginning in the 1960s and creation of Wilderness Areas and the National Environmental Protection Act (NEPA); accelerated in the 1980s with invention of ESA "Habitat Conservation Plans"

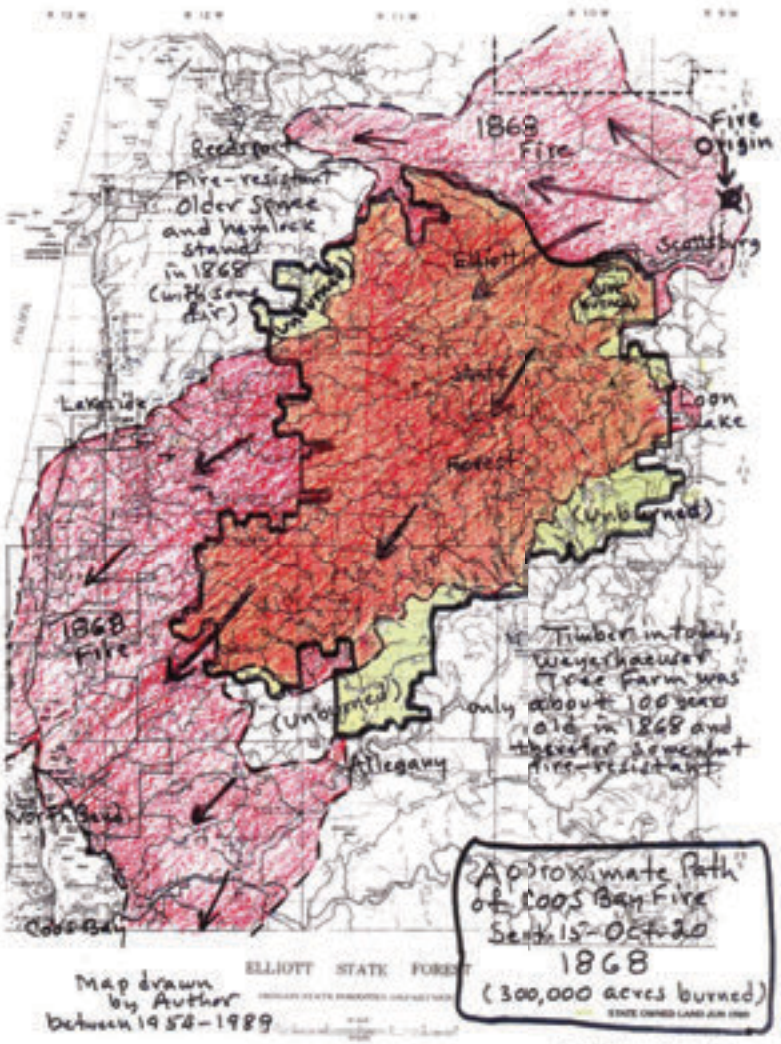
(HCPs) and the development of taxpayer funded lawsuits made possible by the Environmental Access to Justice Act (EAJA); and then was almost entirely completed on federal lands in 1994 with the adoption of the Clinton Plan for Northwest Forests (NWFP). Federal access to, and control of, HCPs on state, private, and tribal lands remains a work in progress [see Graph].

From 1952 until 1987 -- also 35 years -- there was only one forest fire more than 10,000 acres in western Oregon, the 1966 43,000-acre Oxbow Fire. Since 1987 there have been at least 36 such fires, with at least eight being more than 100,000 acres. Almost all these fires have taken place on federal lands designated as Wilderness or regulated as NWFP-created "LSRs" (Late-Successional Reserves), "AMRs" (Adaptive Management Reserves), arbitrary streamside buffers ("Riparian Reserves") and other "Congressionally Reserved Areas" -- all now managed, in large part, by USFWS and NMFS for "critical habitat" of select plants and animals.

As the federal government is making the transition from actively managing its roads and forestlands for timber production and recreation to passively managing them for hypothetical habitat requirements of select species, the incidences of large- and catastrophic-scale wildfires have increased 3,600%!

This predictable result was made possible in large part by an endless string of anti-logging lawsuits initiated by a small number of nonprofit environmental organizations.

The Center for Biological Diversity (CBD), Portland Audubon, Cascadia Wildlands, and a few others -- with expensive legal teams often unknowingly funded by taxpayers via the EAJA -- have regularly used ESA listings of spotted owls, marbled murrelets, and coho as surrogates to greatly reduce active management of our public forests. Complex NEPA procedures are often the basis for these "successful" filings, and deadly wildfires have often followed. As predicted.



Jerry Phillips' map of the 1868 Coos Fire in relation to present-day Elliott State Forest. This area reburned in 1879, creating the "Big Burn" homesteaded by the Goulds in 1884.

HCPs and The Elliott

I have been writing about forestry, wildfire, and wildlife issues on a regular basis for Oregon Fish & Wildlife Journal for more than 10 years. My previous article in this series regarded the life and career of long-time Elliott State Forest manager, Jerry Phillips. The Elliott history chart at the beginning of this article was also used to illustrate Jerry's great success during his career on the Elliott from 1954 to 1989.

The Elliott was Oregon's first state forest. It was established in 1930 by trading about 70,000 acres of the Siuslaw National Forest located south of the Umpqua River for Common School Fund properties of similar value that were scattered around the State. Previous articles in this series have looked closely at the history of the Elliott and of Oregon's Common School Fund -- which has been managed by law since 1859 for the benefit of Oregon schools by the State Land Board (SLB), composed of the Governor, State Treasurer, and Secretary of the State.

In 1930 the Elliott was mostly covered with young Douglas fir and red alder trees that had seeded in following the catastrophic 1879 "Big Burn" wildfire and several subsequent decades of livestock grazing, firewood gathering, logging, and clearing fires by the Gould's, McClay's, and others who had settled in the area.

In 1955 the Oregon legislature gave the Oregon Department of Forestry (ODF) the responsibility to manage the Elliott more actively as its young timber was growing to merchantable size. The first major logging sale on the Elliott was a stand of mostly 200-year-old Douglas fir on North Marlow Ridge [point A on the graph] in 1959.

Then, on October 12, 1962, everything changed. The Columbus Day Storm [point B] swept over the Elliott without warning. Winds exceeding 150 miles-per-hour blew down 100 million board feet (mmbf) of 70-year-old second-growth timber in a matter of hours. The next several years

were devoted to building more than 200 miles of road needed to reach 250 areas filled with toppled "blow-down" -- dead trees that had to be harvested while they still had value and before being infested with beetles or rot. The graph tracks the subsequent annual increases and decreases in harvesting between 1963 and the present. Note the impacts of the 1973 [C] and 1980 [D] recessions on harvest volumes.

In 1988, the Elliott adopted a long-term annual harvest plan average of 50 mmbf, based on the Forest's continued growth and Jerry's continuing success managing natural and human events affecting its development. He retired the following year, as spotted owls were first being discovered on the Forest, and the year after that – 1990 -- the federal government listed the northern spotted owl ["NSO"] as an ESA "threatened species" and the Elliott's 1988 harvest plan was shelved that quick [E].

Elkhorn Ranch, ca. 1894. The Gould family homestead was established near the center of the 1930 Elliott Forest and 1879 "Big Burn" reburned snags from ca. 1775 and 1868 wildfires.

Two years later, in 1992, the marbled murrelet was also listed [F]. Marbled murrelets are birds that spend their entire lives at sea, mostly offshore from Alaska. They can fly more than 60 miles-per-hour and only come ashore some years in early summer to nest a single egg. Small populations of this bird also live in the ocean offshore from Oregon, Washington, and California and occasionally nest on large lateral limbs of Douglas fir, redwood, hemlock, spruce, or bigleaf maple. Adults gather fish daily from the ocean on a high-speed beeline to feed a hatchling until it becomes a fledgling and can fly after four or five weeks -- at which time it immediately also makes a beeline for the ocean, never to return to its nest.

Then, in 1995, spotted owl and marbled murrelet HCPs were developed by the USFWS and adopted by the SLB and ODF for the management of the Elliott [G]. In 1996, coho salmon were also given federal listing [H]. These three animals, spotted owls, marbled murrelets, and coho, have been the basis for most ESA lawsuits filed to stop active management on western Oregon forestlands ever since.

The marbled murrelet HCP expired in 2001 [I] and in 2011 [J] ODF completed its new Elliott Forest Plan, calling for an annual harvest of 40 mmbf -- well below the conservative 1988 plan, but significantly greater than the average harvest since the spotted owl was first listed in 1990.

The following year, 2012 [K], a coalition of environmental groups – Portland's Audubon Society, Eugene's Cascadia Wildlands, and Tucson, Arizona's CBD -- sued the State of Oregon, alleging that the new Elliott plan was illegal. Logging jobs on 28 active sales in State forests were immediately halted as one result.

Rather than contest the court's ruling, the Governor and SLB decided to sell the Elliott at a fraction of its pre-ESA value instead. When this sale was ruled illegal, they trans-

ferred ownership to Oregon State University (OSU) for research purposes, terminating ODF's decades-long management role in 2017 [L]. When this transfer was also ruled illegal, the 2022 Oregon State legislature voted to rename the Elliott as the "Elliott State Research Forest" (ESRF), with OSU responsible for its management.

Currently, remaining tasks for the SLB are to "decouple" the Elliott from its legal obligations to the Common School Fund, to develop a new federal HCP, for OSU to develop a functional operating plan, and to locate funding needed to begin proposed research operations.

The current document "puts the cart before the horse" by proposing a major experiment before conducton such an analysis and without developing on the ground familiarity with the property. In addition, the experiment OSU has proposed as badly flawed, compromises developmentof the long-term research potential of the forest and lacks significant revelance to management of Oregon's forests. The proposed experiment violates basic principals essential to production of statistically vaalid and socially convincing outcomes, Futhermore, the focus on Triad, an academic concept related to land allocations at regional scales, has no relevance to pressing forestry issues facing Oregonians. Jerry Franklin and Norm Johnson, November 28, 2020 review of proposed OSU research and management plan for the Elliott.

Top Left: Ground Fuels. Top Right: Ladder Fuels. Bottom: Crown Fuels. Photographs by McKenzie Peters, NW Maps Co., Mt. Thielsen Trail, August 23, 2020.

In 1994, John Beuter, OSU Forestry economist, was hired by the Oregon Board of Forestry (BOF) to do an economic analysis of the Elliott -- which, despite its new spotted owl status, could still boast 80,000+ forested acres, 2.5+ billion feet of merchantable timber, 550 miles of rocked access roads, and many miles of prime salmon and trout streams. Given recent ODF management history and 1994 ESA restrictions, Beuter concluded: "Selling the Elliott is the only marketing alternative likely to significantly increase net annual income to the CSF [Common School Fund]."

Fifteen years later, in 2009, John Charles, Cascade Policy Institute President and CEO, testified:

"Unfortunately, this recommendation has been consistently ignored by the SLB. Had it been followed in 1995, the CSF today would be worth at least $3 billion, even after the market declines of 2008. Instead, it is only worth about $1 billion. Even by the standards of legislative appropriations, one would think that $2 billion in lost asset value for school funding is something to be concerned about."

Following the 2012 environmental lawsuit, the Elliott began losing even more millions of CSF dollars annually to legal costs, and by 2016 its value had deteriorated to an estimated $220.8 million -- a number determined by Roger Lord, senior appraiser of Mason, Bruce & Girard (MB&G), at the direction of the SLB and developed specifically for the purpose of selling the Forest. This number represented the synthesis of three separate independent Elliott appraisals that

had varied from only $192 million to $262 million.

This contracted value was premised on the sale being to the private sector with primary legal constraints to future management only being the Oregon Forest Practices Act (OFPA) and state and federal ESAs. The CSF would somehow be "decoupled" by this sale which, curiously, was not allowed to be even a penny more than $220.8 million. As stated, the sale to a single bidder (of 50 solicited) was ruled illegal and voided.

In 2017 Senator Ted Ferrioli requested that Wayne Giesy and I develop an independent forest management plan for the Elliott that accommodated wildlife habitat requirements while maintaining regular employment for rural workers and continuing to make payments to the CSF. Wayne met several additional times with Senator Ferrioli and had at least two personal meetings with Governor Brown to discuss this proposal.

The resulting "Giesy Plan Alternative" was publicly delivered as requested and has been described in some detail in earlier articles in this series. In part, it adopted the conservative 1988 standard of 50 mmbf/year average annual harvest for an initial 20-year research period. This amount is only about 2/3 of the annual growth of the Elliott and less than 2% of the Forests' estimated 2.5+ billion feet of standing timber, so more volume in older trees of greater value -- dollar and habitat -- would have existed by the end of this two-decade experiment.

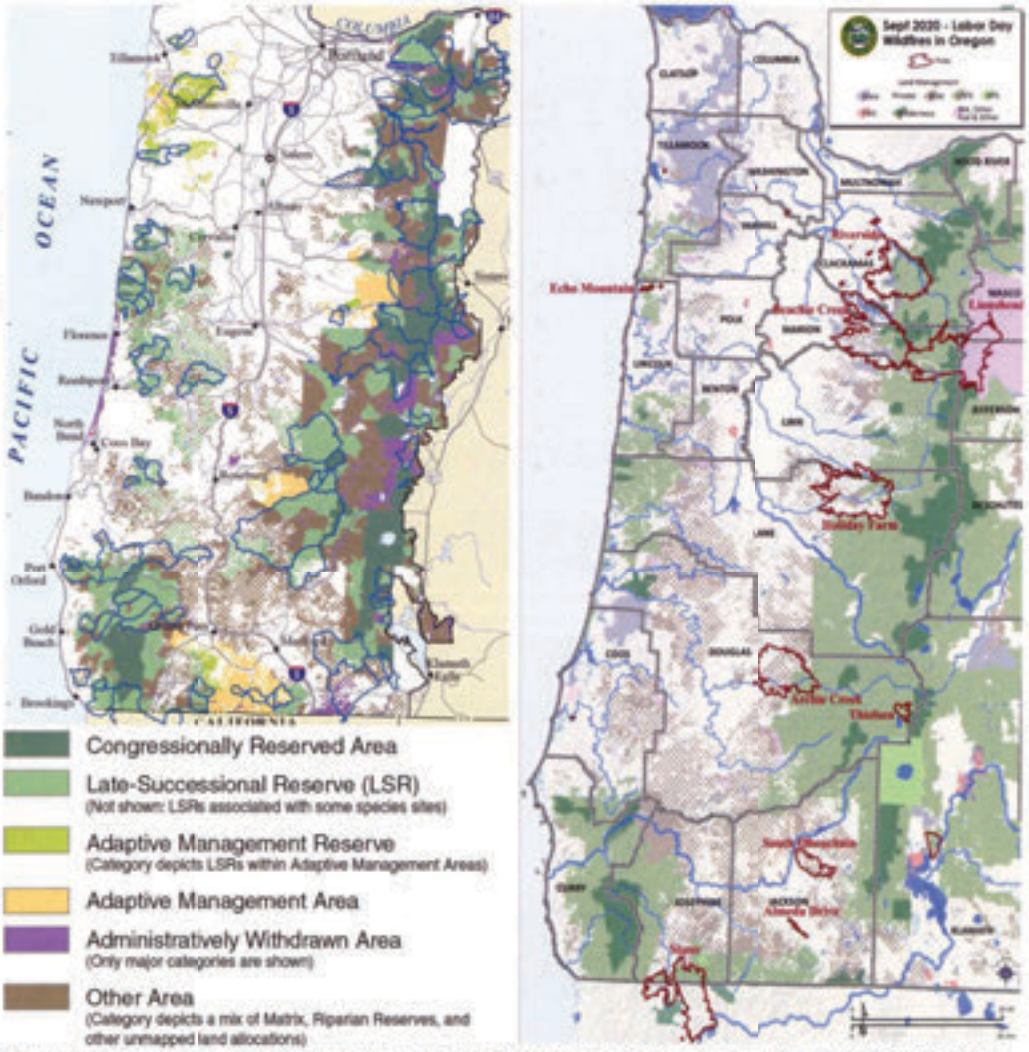
At Senator Ferrioli's request, Christine Broniak, then Economist for the Oregon Legislative Revenue Office, estimated potential CSF income based on a 50 mmbf/year average harvest. She used sales prices of Elliott timber for the previous three years of $367.50/mmbf and the "Producer Price Index" to estimate an annual School income of $23 million, or $460 million total for Oregon schools over the proposed 20-year research period.

According to Broniak's math, Oregon schools have hypothetically lost more than $100 million potential income since 2017, and several hundreds of millions more if these numbers are considered for the entire period from 1990. And, despite being publicly and privately requested by the Governor, the Giesy Plan Alternative proposal has never been openly discussed or considered by SLB, Department of State Lands (DSL), Oregon Board of Forestry (BOF), or OSU.

Also in 2017, ODF Forestry Division Chief Liz Dent provided a "conservative estimate of 8.8 direct and indirect jobs for every million feet of harvest" at a public meeting of the SLB. Using that multiplier, the loss of 50 mmbf in timber sales also resulted in the loss of 440 needed rural -- and tax-paying -- jobs when Elliott sales were ended.

In 2022, Lord reduced the MB&G evaluation of the Elliott even more, down to only $99 million! In an August 29 public letter to Geoff Huntington -- now with DSL rather than OSU -- the reasons given for this devaluation were based on the "Market Value" appraisal method used in 2016 vs. the "Investment Value" appraisal method being used 2022.

The principal reasons for this further devaluation of the



The map and legend on the left are from the 2004 BLM and USFS report on the 1994 Clinton Plan for Northwest Forests. "Congressionally Reserved Areas" are largely Wilderness Areas, created in 1964 and after, and Oregon's only National Park, Crater Lake. The map on the right shows the Labor Day wildfires in 2020: note the correlations between federal Reserves and major wildfires. This pattern is consistent with the entire 1987-2022 time period -- most fires are on federal Reserves.

Elliott were given as: 1) less acreage available for timber production and 2) less intensive harvesting of those reduced acreages, resulting in 3) lower annual harvest volumes produced at greater costs. Not a good investment. Worth $99 million at most.

HCPs and Oregon Taxpayers

In addition to the never-ending Elliott HCP process, two other major HCP projects are currently taking place in western Oregon -- one for the remaining State Forests still being managed by ODF, and another for the 10 million forested acres owned by private landowners.

Beginning in 2019, Kate Brown organized and convened a select number of environmental organizations, forest landowners, and timber industry representatives together in a series of backroom meetings to develop a "Private Forest Accord" (PFA). This "agreement" would pay landowners money in the form of tax credits instead of logging and reforesting their lands -- and producing jobs and tax revenues -- as they otherwise legally and currently do.

According to the Oregon Wild website (September 21, 2022):

"Ever since the Private Forest Accord agreement between Oregon Wild, our conservation allies, and the logging industry was announced in late October 2021, we've been trying to think of ways to describe the magnitude of the changes that are coming to Oregon's private forest laws.

"Much like the adoption of the Northwest Forest Plan, the passage of the Private Forest Accord does not mean that all issues related to private lands logging are settled. There is still more for communities, Oregon Wild, our partners, and the logging industry to do."

In other words, in addition to devaluing the private properties and putting more people out of work, and having unwitting taxpayers cover the loss in profits with "tax credits" -- the environmental community is also assuming there is "still more . . . to do." Best guess is that lawyers are expected to be involved.

By these general methods, politicians, government bureaucrats, university modelers, and environmental lawyers -- through ESA, NEPA, EAJA, ETC -- have taken almost complete control of our federal forests since 1990. And now they are using USFW and NOAA agencies to gain similar legal access and direct control over private, state, county, and tribal roads, streams, and forestlands. If successful, further rural physical and economic damage and increased severity and extent of local wildfires and directly related losses of homes and wildlife are predicted.

October 2020 unthinned, roadside forest stand on BLM land on Thunder Mountain following Archie Creek Fire. Photo by Matt Hill, Douglas Timber Operators (DTO).

October 2020 photo depicts adjacent roadside stand on BLM land that was thinned and pruned according to prescription, ca. 2015. Photo by Matt Hill, DTO.

HCPs and ODF

In November 2018, the Oregon Board of Forestry (BOF) directed staff to develop an HCP for 17 federally listed species: spotted owls, marbled murrelets, 10 fish (including three separate runs of coho), three salamanders, martens, and the infamous red tree vole. This long-term plan would cover about 640,000 acres of ODF-managed land west of the Cascades, not including the Elliott. If the HCP is approved by USFWS and NOAA, ODF would be assured ESA compliance -- and direct federal access and control -- for 70 years.

For this HCP, "Spotted Owl Habitat" is defined as "includes modeled nesting, roosting, and foraging

habitat," and marbled murrelet habitat "includes modeled suitable and highly suitable habitat." Note that these are not scientific documentation of actual birds or habitat -- they are computer "models" of someone's unstated biases and assumptions.

Who, exactly, is determining "suitability" for these imaginary birds? And how? The only "accountability" we get for these printouts is that they are "peer reviewed" by "experts." That's not how science works, and it is certainly not how successful resource management has ever been performed. These are nameless people paid by taxpayers to "model" the directions of committees comprised of professional "experts" and government bureaucrats. What could go wrong?

And the result is a mapping of 275,000 acres of the 640,000 as "critical habitat," with another 164,000 acres of modeled "nesting, roosting and foraging habitat" to be created over the course of the 70-year agreement, meaning that a total of 439,000 -- or 70% -- of our State Forests would be removed from production and put into the hands of federal managers during all of that time.

My concerns with HCPs are: 1) they give federal access and control to private and state lands for decades; 2) they are expensive and costs taxpayers significant money, instead of generating tax revenues; and 3) these government "critical reserves" have a predictable habit of ending in wildfire and killing millions of wildlife supposedly being served.

LSRs and the Clinton Plan

According to Wikipedia (September 19, 2022), the stated purpose of the Endangered Species Act was to protect species and "the ecosystems upon which they depend." The detailed entry contains significant links to CBD and other environmental organizations and writings and makes the following claims:

"About one million species worldwide are currently threatened with extinction. North America alone has lost 3 billion birds since 1970. These significant population declines are a precursor to extinction. Half a million species do not have enough habitat for long-term survival. These species are likely to go extinct in the next few decades without habitat restoration.

"As of January 2019, there are 1,467 total (foreign and domestic) species on the threatened and endangered lists. However, many species have become extinct while on the candidate list or otherwise under consideration for listing. A 2019 report found that FWS faces a backlog of more than 500 species that have been determined to potentially warrant protection."

Certainly, Wikipedia is not an entirely credible source, and some of these statements can be debated, including a general definition of "ecosystem." Instead, ecosystem dependency is defined as: "the present or threatened destruction, modification, or curtailment of its habitat or range" -- apparently a problem of "destroying" or even "modifying" habitat of a species with a known "range."

So now we enter the concept of "critical habitat," which is literally defined as "a habitat area essential to the conservation of a listed species, though the area need not actually be occupied by the species at the time it is designated." In other words, actual occupancy of an area supposedly critical to stop the extinction of a named animal, isn't necessary! A computer model can do the job just fine:

Critical habitat must be designated for all threatened and endangered species, under the Endangered Species Act, with certain specified exceptions. Designations of critical habitats must be based on the "best scientific information available" [BAS, really] and in an open public process within specific timeframes. Unless deemed necessary for the species' continued existence, critical habitat do not include the entire geographical area occupied by a species.

To meet this monumental requirement, the Clinton Plan invented the concept of "Late-Successional Reserves" in order is "to protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old-growth related species including the northern spotted owl." With millions of species facing extinction and waiting to be listed, there was only so much "critical habitat" research time and expertise available, so LSRs were created over vast areas of our public forests to account for them all.

Professional predictions that these massive reserves, including Wilderness Areas, LSRs, and streamside buffers would eventually turn into bonfires were ignored, and generally remain unacknowledged to this time. Instead, we get "climate crisis" excuses, WUI acronyms, and massive preventable wildfires almost every year now. We can do better, and have in the past. These are new problems, they are self-inflicted, and they can be fixed. If there is a will.

Conclusions

There is no evidence that HCPs have had any positive effect on targeted spotted owl, marbled murrelet, or coho populations in western Oregon over the past 35 years.

There is documented proof that the adoption of passive approaches to forest management greatly increases accumulations of ground fuels, ladder fuels, and canopy closures, and thereby leads to greater likelihoods of deadly major- and catastrophic-scale wildfires.

Attempts to affect targeted wildlife species by creating Wilderness Areas, Riparian Reserves, LSRs, HCPs and computerized "critical habitat" models in western Oregon during the past 35 years have been at a great cost of billions of dollars, tens of thousands of lost rural jobs, hundreds of thousands of burned forest acreages, thousands of lost homes, millions of killed wildlife, episodes of major air and water pollution, and losses of human life.

There is no evidence that these massive investments have resulted in a single additional owl, murrelet, or salmon.

Let There Be Light: The ABCs of HCPs

By Bob Zybach, Ph.D

Dr. Mike Newton, Oregon State University forest scientist, attaches a thermistor one foot above Big Rock Creek, Polk County, July 7, 2003. These record air and water temperatures every 1/2 hour for seven years as the basis of the Cole/Newton 2013 study of forest management effects on stream temperatures. Photo by Liz Cole.

In an earlier version of this article, published here in 2016, the explanatory subtitle was in the form of an apology: "Note: This article is about government-funded science, so there will be a lot of acronyms. The most important are EPA, ESA, BOF, DEQ, and PCW. Sorry."

Now we have HCPs in the news. And for the same reasons: government bureaucrats and political activists attempting to stop active management of our fish-bearing forest streams through arbitrary regulations based on "modeling." Not on common sense, relevant experience, or actual science.

The following facts and statistics are based on the work and research of Mike Newton, a friend and mentor since the 1980s. Mike was recognized as an international expert on the use of forest herbicides and was a much-trusted advisor regarding the safe and effective use of these products in the course of my work as a reforestation contractor.

Sadly, Mike passed on last year after a lengthy and debilitating illness. Still, his research on riparian buffers should be front and center in the current debate regarding HCPs ("Habitat Conservation Plans").

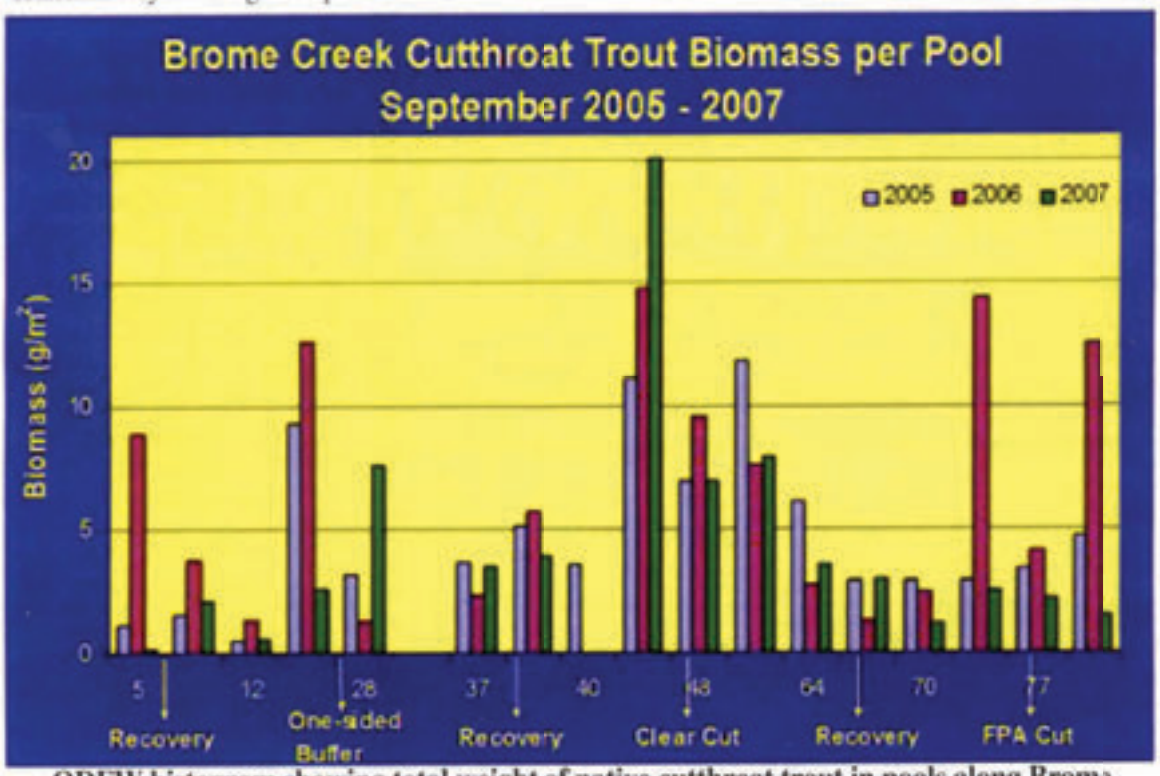
The Oregon Board of Forestry (BOF) is a seven-member citizen Board charged with directly supervising the State Forester and Oregon Department of Forestry (ODF), implementing policies, andadopting rules and regulation that

"promote sustainable management of Oregon's public and private forests."

The BOF is also charged with implementing, through the Oregon Forest Practices Act (FPA), water quality standards established by the Oregon Department of Environmental Quality (DEQ) and approved by the national Oceanic and AtmosphericAdministration (NOAA) and the Environmental Protection Agency (EPA). A recent focus of their assignment is the EPA Protecting Cold Waters Rule (PCW, of course) that was adopted in 2003 by the Environmental Quality Commission (EQC) on a 3 to 2 vote.

The DEQ criterion for applying the PCW is: 1) when the ambient temperature in a stream is below 64-degrees F.; and 2) salmon, steelhead, or bull trout are present; then 3) there can be no human causedincreases in a stream's "seven-day moving average of daily maximum temperatures" of 0.5 degrees F.or more. This would apply downstream of logging operations. A major problem is that the 0.5-degreeF. variation is the minimum increment that can be technically measured -- and there is reasonable speculation this may have been the primary reason that number was chosen.

Despite this difficulty, the BOF voted 4-3 on November 5, 2015, to adopt new riparian rule to meet thePCW standard when regulating streamside buffers on private and state forestlands. "Buffers" are vegetation -- preferably trees -- maintained along creeksand rivers in order to minimize water temperature gains. They are regulated as either a fixed minimum width beyond the high-water mark of a stream, or as afixed minimum number and size of trees that must be retained during a harvest operation.



ODFW histogram showing total weight of native cutthroat trout in pools along Brome Creek in Douglas County for each of three years following three kinds of harvests. The three harvests occupied 1000 feet of stream length for each unit and were individually separated by 1000 feet of unharvested forest ("Recovery"), where water cooled. The numbers along the horizontal axis are consecutively numbered pools along Brome Creek, of which three pools in each cut or uncut unit were inventoried. Pool 5 was at the downstream end of the study.

Regulated buffers in western Oregon contain some of the potentially most valuable timberlands in the world, and border some of the world's finest fishing streams.

PURPOSE

Ostensibly, the adoption of rules to meet the PCW by the BOF is intended to protect local salmon, trout(steelhead), and char (bull trout) species ("salmonids") listed by the Endangered Species Act of 1973(ESA). Yet, this decision was apparently reached in part by purposefully ignoring ODF's own scientific studies of the past 20 years that directly challenge the need for an arbitrary EPA/ EQC/DEQ/BOF/FPA PCW Rule requirement in the first place.

In addition to this suspect "one size fits all" regulatory approach to homogenizing western Oregon streams and fish, much of the public discussion by BOF members and multiple "expert witness" EPA and NOAA representatives seemed based on several erroneous assumptions and beliefs contradicted by previous research: e.g., that salmonids are very sensitive to minute changes in water temperature; thatdirect sunlight is bad for fish; that trees on the north side of a stream somehow contribute to cooling its waters; that warming of headwater streams is cumulative downstream, rather than ephemeral.

That is how the BOF voted 4-3 -- displaying all of their apparent beliefs, assumptions, and biases, and after having been scientifically demonstrated to be wrong. At least four members must have simply been convinced to ignore fact for some reason and adopt a highly suspect and arbitrary PCW standard instead: one that would be extremely expensive to

enact and likely counterproductive to the BOF's stated intent (and legal obligation?) of "protecting" ESA fish with "the best scientific data available."

In 2016 a "rule advisory committee" was formed to meet with ODF staff to write new rule language tobring to the BOF for approval, with a September target date.

This expected "new rule," when enacted, will predictably -- in common with current proposed HCP rules: I) cost private sector jobs, 2) reduce potential income to landowners, 3) reduce tax revenues to state and federal governments, 4) increase government jobs and expenditures, and 5) likely reduce the size and numbers of fish within newly regulated streams.

Further, the newly adopted standard and supporting assumptions seem to have little logical or scientific value, despite all the acronyms. How did this circumstance come about? And can it be fixed?

LOCAL PROBLEMS

In the 50+ years since enactment of the 1963 Clean Air Act and the 1964 Wilderness Act, several additional major bureaucracies have been created by the federal government to ·'protect the environment"' by using the "best available science" (yep, BAS): EPA became law in 1970, ESA was created in 1973, the Clean Water Act (CWA) and the Department of Energy (DOE) in 1977, and the NW Forest Plan (NWFP) in 1994, as examples.

Computerized "models" of "habitat" and "climate" and "fire return intervals" and the number of government scientists, politicians, technicians, and support teams and services needed to develop and implement these products into policies and management plans accelerated rapidly following the creation of these agencies.

These new squadrons of specially-trained federal bureaucrats seemingly had a mission. Everyone wentto court over the new laws and regulations, "peer reviewed" publications became a cottage industry,and lawyers became wealthy on both sides. At least that's how I remember it.

While these new bureaucracies focused on the environment and the management of the nation's air,water, minerals, forests, grazing lands, and wildlife (ostersibly for the "benefit of all Americans"), rural Oregon businesses, counties, families and communities -- in common with many othersthroughout the western US -- were being directly affected by unemployment. bankruptcy, family problems, severely degraded infrastructures, and the increasing threat and frequency of deadly catastrophic wildfires.

Meantime, national wealth, power, and privilege have become increasingly centered in WashingtonDC. By many estimates this circumstance has been due, in large part, to the myriad new federal laws,policies, regulations, and passive resource management decisions of the past 50 years -- based largely on legally required "best available science" approaches to the management, care, and "wise use" of ournation's common resources. West of the Rockies.

Many of these unfavorable situations have been brought about by insidious and incremental changesin federal and state environmental policies and the new rules and regulations that result -- an almostinvisible process by which private landowners and businesses can be legally required to abandon theuse of their own properties, to strictly adhere to contradictory resource management laws, and/or deal with exponential increases in required paperwork filings and tax payments needed to pay for thesechanges.

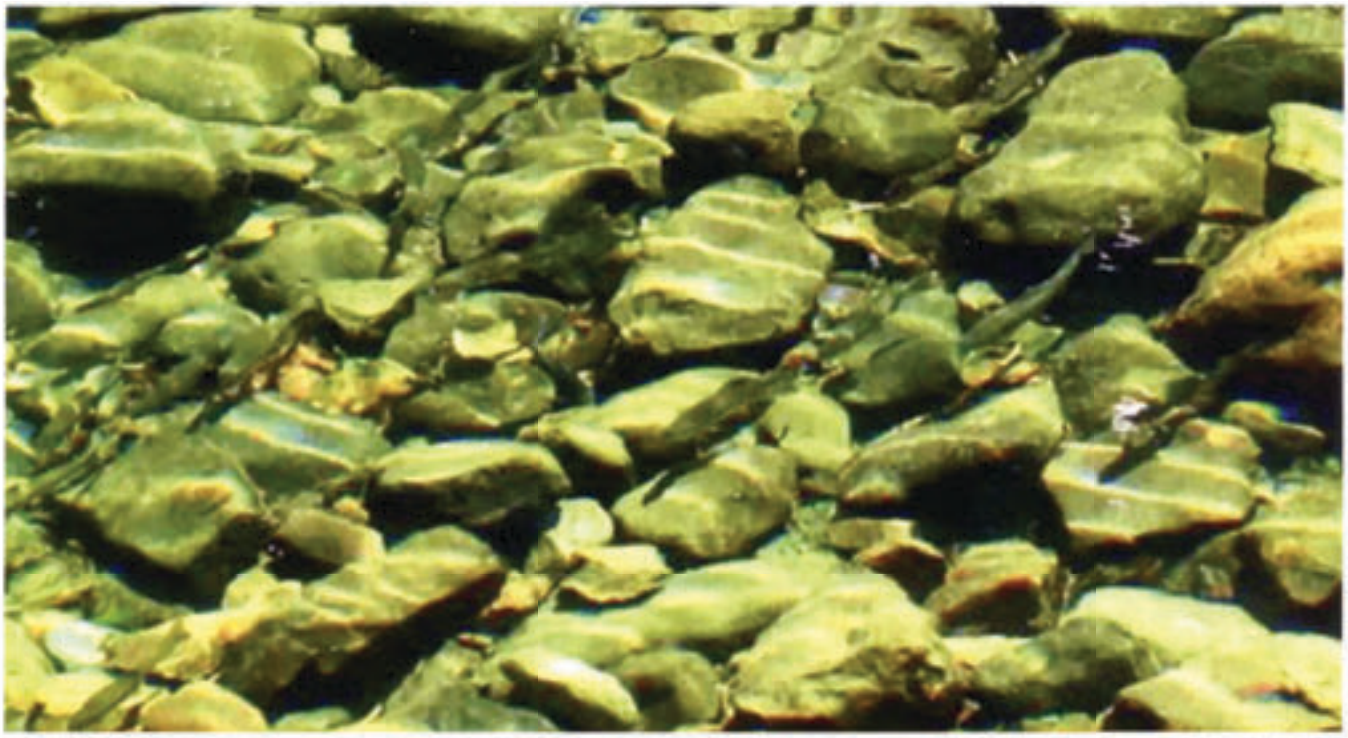
The option is, of course, to "hire a lawyer and go to court" -- where agency scientists, modelers, andtechnicians will be paid by taxpayers to be "expert witnesses" for the government.

The recent BOF decision to use an arbitrary federal standard to somehow rationalize increasing streamside buffers on private forests and timberlands -- supposedly to protect endangered salmonids --is a good illustration of this process. It is difficult to comprehend the great amount of time andresources that has made it possible, or the exact thinking of those who have promoted these results.

RELEVANT RESEARCH

John Westall is an environmental and analytical chemist who taught at Oregon State University(OSU) for almost 30 years and conducted peer-reviewed research for EPA and DOE before his retirement. In 2014 he wrote a detailed and comprehensive 37-page analysis of the scientific basis forthe PCW Rule. This work has been refereaced by the Oregon Small Woodlands Association (OSWA), of which he is a member.

Westall's studied conclusion: there was no apparent



Native rainbow trout in full sunshine, Blue River headwaters, Lane County, August 24, 2013. Photo by Aaron L. Zybach.

logical or scientific basis found in thedocumentation for the PCW Rule decision. There was only guidance from the EPA, with no specific reference to any scientific studies that justified their advice. Somebody apparently just made it up,maybe only because they could. The actual science that addresses these issues was seemingly ignored, and apparently because it challenged the Rule.

Most of what we know about salmonids and water temperature came from research on this topicconducted over a 40-year period by Geoffrey Green and J. R. "Roly" Brett. The two scientists operatedindependent of one another, beginning about 1950 and continuing (Brett) until the I 990s. Theirfindings remain true to this time:

- The warmer the water, the more productive for well-fed salmonids, up to about 64-degrees F.;above which temperature growth tends to decline.
- The "maximum steady temperature limit" for salmonids is about 77 degrees F., with prolongedexposure to higher temperatures increasingly lethal.
- Salmonids are very resilient to changes in water temperature and typically recover fairly rapidly and completely from non-lethal temperatures.

To summarize: most salmonids and other native fish species do best when the water temperatureaverages about 64 degrees F. Prolonged temperatures of 77 degrees F. and higher can be fatal; however, salmonids recover rapidly from higher (and lower) temperatures after being subjected to them when they are not fatal. Naturally, fish can swim and moderate their own temperature in moststreams when the sun is out, so localized stream temperatures are not the only factor in their survivaland growth.

In 1995 ODF began increasing the size of required buffers along fish-bearing streams, mostly for stated reasons of keeping the water cool for fish. About the same time they began hiring Mike Newton and others to study the effect of these buffers on water quality. This research demonstrated that minor temperature effects of sunlight directly heating water in clearcut logging units completely disappear within 500 feet of leaving the operation and entering a shaded area.

ODF RipStream. This study was implemented following the adoption of the PCW as a joint effort between State and private landowners "to address the potential for Small and Medium Type F Streams to experience 'short-term temperature increases' with the current forest practice rules." A total of 33 western Oregon streams were studied with buffers on planned logging units following the existing FPA guidelines. Eighteen were private sites with planned clearcuts and 15 were State lands, with eight clearcuts and seven partial cuts. Temperatures were measured for two years before harvest andseveral years following harvest. A number of private sites showed no temperature gain, and averagetemperature gains were about 1.0-degree F. for all units.

Fish, oddly, were not evaluated. Stream reaches with some direct sun on them were the mostproductive for both the food chain and the fishery, as determined by Oregon Department of Fish & Wildlife (ODFW) biologists -- if they didn't exceed 71 degrees F. So far as known, none of the 33RipStream study area streams ever even reached that temperature.

The study was eventually found to be poorly designed and plagued with implementation and maintenance problems. Greg Peterson, an environmental engineer with 40 years' experience as a civilengineer and project manager in water/wastewater systems, produced a highly detailed analysis

ofthese problems for OSWA. His conclusion was that RipStream's "study results and fundamentallyflawed computer model have some major limitations." His detailed assessment rightfully calls intoquestion much of the value of the project's published findings.

OSU WRC. In 2002 OSU collaborated with Roseburg Forest Products (RFP) and ODFW to conduct a 10-year paired watershed study on Hinkle Creek, a tributary of the Umpqua River in Douglas County. This work was part of the OSU Watershed Research Cooperative (WRC), an organization with twoother large watersheds under close examination. Study streams ranged from eastern Douglas County tonorthern Lincoln County, all in western Oregon, in both the Coast and Cascade Mountain ranges.

• Streams in the WRC study ranged from summer temperatures of 50 to 68 degrees F. -- all wellwithin the desired range for salmonids.

• Paired watershed studies clearly show minor and temporary increases in stream temperature create no harm to fish and could likely be a benefit because of the positive impact to organisms ("food") fish feed on.

Cole/Newton 2013. The research design and methods developed by Newton and Liz Cole to conduct aseven-year study on four watersheds in western Oregon are the current gold standard by which streamtemperatures are monitored in the Douglas Fir Region. Peterson openly praises the quality of theirwork and the reliability of their findings and conclusions.

The four streams studied by Cole and Newton were low to medium elevation headwater subbasins of600 to 1000 acres each. Following two years of discharge, and air and water temperature readings in theabsence of harvest units, three treatments were made in each subbasin: 1) a clearcut removing all vegetation to both edges of 1,000 feet of stream; 2) a clearcut with a single 40-foot buffer on the south side of 1,000 feet of stream; and 3) a clearcut with 50-foot buffers on both sides of 1,000 feet of stream.

Each harvest unit was separated from adjacent harvests by 1,000 feet of stream of untouched forestcover. Between 24 and 32 thermistors were installed at intervals of 330 feet for about 8,000 feet along each stream and above and below every confluence to measure changes in air and water temperature every 1/2 hour in summer and fall.

By good fortune, Cole and Newton were able to correlate their findings on temperature with fish biomass (total size and weight) measure on Brome Creek, collected under the direction and supervision of ODFW fish biologist Jim Brick. The Brome Creek histogram illustrates their findings:full sunlight on the unbuffered stream produced twice as much biomass as any unharvested unit -- andeach of all three harvested units produced more fish than any one of the uncut units. As predicted.

CONCLUSIONS

The DEQ standard of 64 degrees F. for most salmonids and their habitats in western Oregon fits neither the streams nor the fishery. The streams vary so much, and the environments in which they flow vary so much, that one standard cannot be made to adapt the fisheries that are acclimated to those particularstreams. Neither the water or the fish are as static or as homogeneous as the standards -- they never have been, and they never can be.

Observations of highest stream fish productivity occurred when streams were fully exposed to sun; sometimes when summer temperature peaks were well above standard criteria (64-degrees F.),revealing serious and costly flaws in the regulatory process. The occurrence of a brief period of relatively very high temperature may well be masked by the rapid growth fish may show before and after that event.

Stream reaches with some direct sun on them were the most productive for both the food chain and thefishery, as long as they didn't exceed 71-degrees F. To this point, none of the 33 RipStream study areastreams ever reached that level.

The notion of requiring more shade when less shade equates to more biological productivity ofstreams represents a conflict between regulatory convenience (meeting an arbitrary numerical criterion) and resource sensitivity (increasing fish biomass).

Many streams are far too cold for optimum fish metabolism, yet the PCW prohibits operations thatwould provide both a more productive temperature range for fish, and a more efficient (safer and more profitable) harvesting operations.

The EQC's adoption of the PCW as a state water quality standard was apparently driven by EPA guidance that suggested any human-caused temperature increases in a forest stream will stay with the water downstream. This turns out to be incorrect. These studies show the increase temperatures from a timber harvest is ephemeral, and temperatures recover downstream quickly because of the dynamics associated with water temperatures in forest streams.

POTENTIAL SOLUTIONS

What can be done to correct this systemic and largely self-inflicted problem? Some specific ideas have been suggested by several people close to this situation over the past few years:

Due Process. The BOF has the statutory option to petition the EQC if it feels a standard conflicts withresearch and monitoring findings. This is clearly such a conflict. Is it worth the effort?

Common Sense. Greg Peterson recommended that any BOF policy "should be based on actual outcome from scientific research, common sense, and practical experience to meet the PCW for forest streams."

Logic. John Westall argued for a more logical approach to management of resources, to "consider the entire habitat carefully, evaluate the evidence, and make the best rational, scientifically based decisionthat we can."

New Rules. Mike Newton believed science-based rules should be adaptable to "allow data-driven flexibility so that rules fit environments, and where management options and streamside vegetationmanagement converge to improve both timber and fisheries."

Last Word. My view is: "let there be light." Both for the sake of the fish and for the transparent review of scientific research funded with taxpayer dollars. Then maybe this type of costly misdirection will stop happening. HCPs say probably not.

Requiem For A Boondoggle: The Elliott State Research Forest

By Dr. Bob Zybach

McKenzie Peters, NW Maps Co., records Jerry Phillips and David Gould for ORWWmedia "distance learning" video at the Elliott State Forest Jerry Phillips Reserve. April 29, 2020 photo by Bob Zybach.

On November 13, 2023, Oregon State University President Jayathi Y. Murthy shocked both sides of the never-ending Pacific Northwest "Timber Wars" with her public letter removing OSU from the seemingly-never-ending "Oregon State Research Forest" boondoggle.

In short, her letter was addressed to principals and representatives of the State Land Board (SLB) and Department of State Lands (DSL) saying that OSU would not continue with the five-year project as initially agreed, thereby guaranteeing Senate Bill (SB) 1546 would sunset on December 31, 2023.

No one was expecting this decision. Supporters of active forest management, local jobs, and the Common School Fund were thrilled; while environmental activists, birdwatchers, and Endangered Species advocates were dismayed. A totally unexpected and final decision from an entirely unexpected source, and just weeks before everything would have become law.

1. SB 1546 History

So what is/was SB 1546, and why did supporters and detractors respond so emotionally to its demise? The controversy surrounding the management of the Elliott State Forest ("the Elliott") began in 1989 and the discovery of spotted owls within its 90,000 acres of mostly large, second-growth Douglas fir, cedar, spruce, and hemlock trees. This finding was followed by the bird's federal listing in 1990 as an "endangered species."

The listing was then followed by a federally mandated "HCP" (Habitat Conservation Plan), and subsequent similar listings and planning processes for marbled murrelets and coho; thereby legally covering ocean-dwelling seabirds, land-based owls, and an iconic salmon that famously travels through both environments.

The more HCPs and HCP planning, the fewer field forestry and related local jobs -- until the inevitable environmental lawsuit in 2012 completely stopped all commercial harvesting. Oregon's First State Forest, which had provided hundreds of local jobs and hundreds of millions of dollars to Oregon Schools, was now broke, losing money, with no jobs, and growing ever closer to a series of catastrophic wildfires that had occasionally characterized its history since time immemorial.

What to do? The Elliott State Forest, by federal law, is a Common School Land property managed solely for the benefit of Oregon schools and, since 1859, by the State Land Board, which is comprised of the Governor, Secretary

of State (SOS), and the State Treasurer. The SLB, in turn, directs the DSL in the actual management of these lands.

In 2015, Governor John Kitzhaber resigned in some disgrace, SOS Kate Brown ascended to Governorship and appointed future state Democratic Party chair, Jeanne Atkins, as her replacement. Ted Wheeler, future Portland Mayor, was State Treasurer at that time, and the three decided the best strategy for the Elliott, due to its recent losing ways, was to cut-and-run. They would sell the Elliott and give the money to the Common School Fund and not have to deal with it anymore.

The Elliott, 2012-2023. Selection of articles about the Elliott State Forest, its history, management, and wildlife by Dr. Bob Zybach, from *Oregon Fish & Wildlife Journal*, 2012 -2023; and article by McKenzie Peters ("The Dinosaurs of the Elliott State Forest"), *Evergreen Magazine*, July 25, 2021. http://nwmapsco.com/ZybachB/Articles/Magazines/Oregon_Fish_&_Wildlife_Journal

Through some controversial methods, influenced largely by the lawsuit, the Elliott was appraised at only $220.8 million: 1/3 to 1/4 of its appraised value in 1995, and far less than its estimated billion-+ dollar value on the open market at this time. Oddly, an offer to sell at the announced price went to just 50 organizations with the curious restriction that purchasers could only bid the appraised value -- no more, and no less. The assumption seemed to be that they wanted to sell to an environmental organization, and that was an amount they could likely raise. But not much more.

Even more oddly, there was only a single respondent to the offer, a Roseburg lumber company, so the SLB voted to accept it, then they voted to reject it, and then the courts ruled they couldn't legally sell it anyway. So Kate Brown began to ask people, both privately and publicly, to develop a management plan that retained public ownership.

That story has been well covered in previous articles in this series, but the public SLB meeting in which the environmental groups and other organizations offered their ideas ended with the new Treasurer, Tobias Read, saying he had been meeting with OSU representatives and developed an option where the university would purchase the Elliott for only 120.8 million and it would be managed by the College of Forestry.

OSU President Ed Ray and Forestry Dean Thomas Maness were said to be representing OSU's interests in the negotiations, but Ray was retiring, and Maness was too ill to work and sadly died in 2018 -- the same year that career Democratic politician Vicki Walker was appointed by Brown to be the new DSL Director.

In reality, negotiations were almost entirely conducted between Treasurer Read and OSU Forestry Chief of Staff Geoff Huntington, with likely input from Portland Audubon environmental lawyer, Bob Sallinger, and representatives from Cascadia Wild and maybe others involved in the 2012 lawsuit.

Huntington was key. Although he was representing OSU Forestry in the negotiations with DSL and SLB, his degree was in environmental law from the University of Oregon. During his senior year at UO he co-founded and was senior staff editor of the first issue of the Journal of Environmental Law and Litigation. He had begun lecturing forestry students at OSU on the Endangered Species and Clean Water Acts in 1994 but had worked his way up to Chief of Staff over the years. With the illness of Dean Maness followed by the appointment of an interim Dean, Huntington was able to spend nearly full-time in Salem on his efforts to transform the Elliott.

Shortly after my "Elliott Forest Boondoggle" article was published in January 2020, the planning team for the

Map included in 6-page "Giesy Plan Alternative" presented to State Land Board on February 14, 2017. ORWW Elliott subbasins with 4 principal coho runs in relation to ancestral Indian lands and foot trails.

party was hired to conduct an independent analysis of financial viability; 5) the SLB approved an Elliott forest management plan ("FMP," of course), and 6) the OSU Board of Trustees authorized the university to participate in the ESRF's management.

The deadline was extended to December 31, 2023, but an HCP and an FMP have still not been completed after 5+ years, the third-party financial analysis seriously questioned the viability of the proposal, and President Murthy's letter made it clear that the Trustees would not be voting to accept these results.

2. OSU Trustees

The OSU Board of Trustees was created by the 2013 Oregon legislature to be responsible for governing the affairs of OSU. Members are appointed by the Governor, confirmed by the Oregon Senate, and include the University President. The 15 members meet several times a year and are charged with overseeing OSU's finances, educational programs, and selecting a new President when circumstances dictate.

The first OSU President hired by the Trustees to replace Ed Ray was F. King Alexander, who resigned in March, 2021 after only nine months on the job. In June, 2022 Jayathi Y. Murthy was hired from her positions at UCLA as a professor and dean of engineering to replace Alexander and began her new job in

Elliott changed again: Ray retired, Tom DeLuca was hired to replace Dean Maness, and Huntington transferred from OSU to DSL under curious circumstances and continued to lead planning. Brown and Read stayed in place and continued to support his efforts.

Despite agreeing to a series of one- and two-year timeframes for OSU to finish a management plan and an HCP for the Elliott, they have never been completed. The delays kept costing more millions of dollars, and OSU was getting cold feet at the dawning realization that this project was a money-loser and political battle that the University couldn't afford to adopt.

By 2022, OSU had decided to not accept any financial losses for management of the Elliott, and the planners thought a good alternative strategy would be to form an entirely new State agency to accept responsibility -- one funded by taxpayers rather than timber revenues: the Elliott State Research Forest Authority, or, in government-speak, the ESRFA. This proposal was adopted by the Oregon State Legislature as SB 1546.

SB 1546 was conditional. The ESRFA would become an official State agency responsible for managing the ESRF on January 1, 2024 if six conditions were first met "on or before July 1, 2023": 1) payments to the Common School Fund (CSF) for $220.8 million were completed; 2) the SLB voted to "decouple" (sell) the Elliott from its trust obligations to the CSF; 3) a final HCP was published; 4) a third-

September.

SB 1546 and its Sunset Clause was adopted three months later, in December 2022, and subsequently discussed in some detail during the January, 2023 OSU Board of Trustees meeting -- and particularly the requirement for the Trustees to formally authorize OSU participation in the management of the Elliott by July 31. The presentation was informative, and no action taken or proposed.

sis was showing that OSU had over-estimated the Elliott's income by nearly 20%, and public sentiment was rapidly growing critical of the increasingly costly government-imposed HCP management restrictions on other State and private forestlands.

These 11th-hour additional restrictions and carbon credit requirements may have been a "bridge too far," but a November letter of concern from the Confederated Tribes

West Fork Millicoma ("Bob Jacobson") Fishing Camp. SWOCC spring-term forestry students on Elkhorn Ranch field trip. Jerry Phillips and Instructor Tasha Livingstone Davison on far left and field guides Bob Zybach and David Gould on far right. April 23, 2019 photo by Wade Gould.

The October 20 Trustees meeting was different. Forestry Dean DeLuca's update on the status of SB 1546 was not at all positive and included some serious concerns about meeting the new December 31 sunset deadline.

The previous week, on Friday the 13th, Geoff Huntington had sent out an email at 4:55 PM to Vicki Walker and Brett Brownscombe at DSL with new demands for OSU and the Elliott. Huntington was now working directly for the new Governor, Tina Kotek, on the project, and Brownscombe was his hand-picked successor at DSL. A few minutes later, after the traditional 5:00 Friday "quitting time," Brownscombe forwarded Huntington's email to OSU and Elliott planning principals, including DeLuca.

The timing was not an accident. The December 31 deadline was fast approaching and now Huntington wanted OSU to agree to a flat 17 mmbf/year harvest schedule for the Elliott -- which grows 70-80 mmbf/year -- and to develop a "carbon credit" program for the Forest as a method to help off-set financial losses associated with the minimal logging sales and multi-million-dollar annual research budget.

Meantime, the HCP was still floundering, the draft management plan had grown to more than 600 pages and was nearly undecipherable, the independent financial analy-

of Coos, Lower Umpqua, and Siuslaw Indians (CTCLUSI) was definitely the final straw. The Elliott was the ancestral home to these Tribes, and they were not at all happy with the current draft plan. They were requesting a pause in the planning process to reconsider their involvement.

3. OSU Murthy Letter

On Monday, November 13, OSU President Murthy sent an email addressed to Huntington, now representing Governor Kotek, Vicki Walker, DSL, and representatives for Treasurer Read and new Oregon SOS, LaVonne Griffin-Valade -- who had been recently appointed to the position by the new Governor. Two of the three SLB members were now dealing with the Elliott for the first time, but Read and Huntington were still running the show.

Murthy's letter was concise, to the point, and clearly pointed out the reasons for her decision:

"It is with great disappointment that I share the unfortunate news that, at this juncture, I am not prepared to make a recommendation to Oregon State University's Board of Trustees that they authorize OSU to participate in the management of the Elliott State Research Forest (ESRF). Regretfully, I find the currentt rajectory of the planning process is on a course that will fail to deliver the public good

Hunting in the Elliott. (L) Jenna Goin and grouse shot near Elkhorn Ranch. September 22, 2018 photo by Amelia Harvey. (R) Amelia and bear shot near Johnson Creek. May 24, 2018 photo by Alex Harvey.

anticipated and falls well short of the 'world class research forest' envisioned by the State, OSU, Tribal Nations, and other stakeholders who have been engaged in the planning process."

She further stated that this conclusion was reached through "a consideration of multiple factors" and referenced recent public opposition to HCPs and CTCLUSI opposition to the forest management plan.

Response from Walker was swift, and she posted a public "Message" to the DSL Elliott website the following day, on November 14, that included the following comments:

"While deeply disappointed, I appreciate OSU's transparency in acknowledging they believe they are unable to manage the forest according to their research design, even as they still desire to see the Elliott State Research Forest become a reality . . ."

"Oregonians across the state came together in support of a research forest and collaboratively created the foundations we are continuing to work from: the Elliott as a publicly owned forest that has completed its obligation to funding schools, but will continue to contribute to conservation, recreation, education, indigenous culture, and local economies as a research forest."

Walker's message ended with a "commitment to the vision of the Elliott State Research Forest" and a determination "to work collaboratively with the prospective board, Tribes, stakeholders, and partners to map out options and actions needed for the research forest to become a reality."

The CTCLUSI response was equally swift. On the day following Walker's post, and just two days after Murthy's letter (which they "applauded"), the Tribe produced a Press Release that included the following sentiments:

"OSU's decision demonstrates that it values its partnerships with the original inhabitants and stewards of these lands. We believe that putting the majority of the Elliott into reserves is misguided," said Tribal Council Chair Brad Kneaper. "Doing so ignores the fact that these forests have been stewarded by Tribal people since time immemorial. We traditionally used fire, pruning, harvesting, and planting to create a healthy and diverse landscape. As a result of this Tribal stewardship, the forest was not simply a closed-canopy forest. It included open areas such as meadows, and it included young as well as old trees. The forest was healthy, and helped to provide the Tribe with the culturally important species such as deer and elk, salmon and lamprey, berries, and cedar on which our people and our culture thrived."

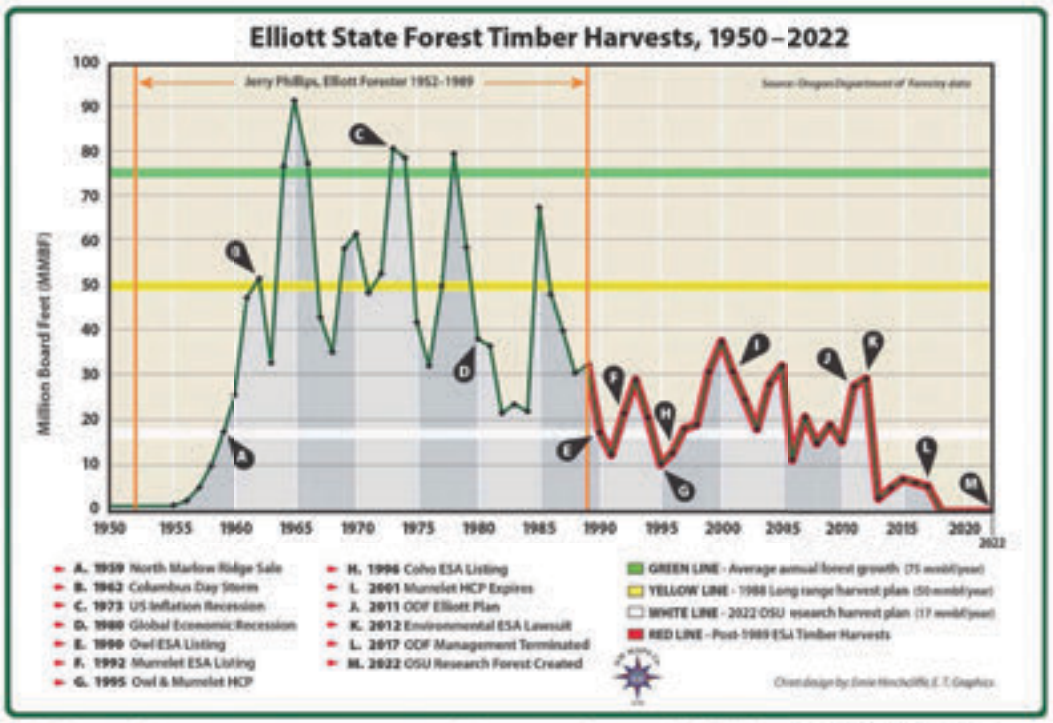
"While reserves are promoted by some as a way to protect imperiled species that depend on old forests with large trees, the Tribe questions this approach. " Over time, these no-touch reserves will grow into an uninterrupted expanse of dark closed-canopy forest," said Chair Kneaper. "These overgrown conditions lack diversity. They provide very little in terms of habitat for threatened species. They're also prone to catastrophic, unnatural wildfire. These forests depend on human stewardship to maintain more open and diverse forest conditions, which benefits plants and animals as well as people."

4. SLB Meeting

The critical SLB public meeting to address the Elliott was scheduled for December 12. Rather than ratifying the OSU Elliott Plan as expected, and thereby creating a new State agency for its implementation on January 1st, the SLB elected to only hear an informational update and recommended next steps.

Two of the three SLB members were new and attending their first public meeting on the Elliott, while 5-year veterans Walker and Brownscombe were presenting their thoughts on the OSU decision and what they thought should be done next.

Of the six points required to adopt SB 1546 and thus create a new State agency in the process, only two had been met -- and it was debatable as to whether the "decoupling" of the Elliott from the Common School Fund for pennies on the dollar was even legal; a concern that was being debated in the courts. The HCP, after nearly 30 years, was still not completed; the draft FMP had become irrelevant; the financial plan was short tens of millions of dollars with no fix in sight; and the OSU Board of Trustees didn't even bother to vote on it.



The Green Line represents average annual amount of growth of Elliott State Forest trees; The Yellow Line represents average allowable cut for the Elliott in the 1988 harvest plan; The White Line represents OSU's planned annual harvest of the Elliott w/ no snag salvage; The Area between the Green Line and Red Line represents Elliott fuel increases since 1989.

What next? So far as the HCP, Walker was determined to soldier on, and testified to the following:

"I intend to keep the HCP effort moving, and like I said, I indicated failure is not an option because not completing the HCP raises risks on a number of fronts, significant risks, including increased costs, we have already spent a great deal of money on this HCP, but also reduced certainty for research forest viability and management . . . we haven't done any significant management for a decade, and we're -- we're wasting a forest. So, that's my plan on the HCP."

Although the CTCLUSI had expressed a strong interest in continuing to work with OSU in conducting research on the Elliott, the existing "Triad" research design did not seem to serve a useful purpose, and the design itself was debatable. In publicly reviewing this proposal, renowned forest ecologist and "guru of old-growth" Jerry Franklin made the following comments:

"The current proposal, in my view, falls far short . . . First, I find the concept of conducting an experiment that essentially involves the entire property at the outset of OSU's stewardship to be inappropriate . . . committing it all to an experiment of any kind along with committing all of the financial resources necessary to sustain it is not – to use a kind word – prudent . . . There are so many important things to be done and this is not one of them . . . I do not think that it does credit to the institution or yourselves; you can do much better than this."

I am personally in agreement on this point, "we can do better" with both Franklin and CTCLUSI Chair Kneaper, who had written on behalf of his Tribe on December 5th:

"The lands that we now know as the Elliott are part of the Tribe's Ancestral Territory and have been stewarded by the hanis (Coos) and quuiich (Lower Umpqua) people since time immemorial. The Tribe continues to rely on these lands and its resources to practice and sustain our culture and heritage. The future stewardship of these lands, as well as the Tribe's role in that stewardship, is of utmost importance to the Tribe. The Elliott can serve as a model for other forests, demonstrating how Western Science and Indigenous Knowledge can be braided together to promote ecological, cultural, community health, and watershed health. As such, we are very interested in seeing the Elliott operated as a research forest."

During the past dozen years I have written a series of more than 20 opinionated articles for this magazine regarding the Elliott, its wildlife, its management, and the opportunity for meaningful research. Maybe now is a good time to revisit the Giesy Plan Alternative and begin discussions with DSL, OSU, and CTCLUSI to help develop a better research design -- and in such a way as to involve local people and Oregon schools in a management plan that is self-supporting. Other thoughts?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