Paying Attention Could Pay Off

Remember way back twenty or thirty years ago? Back before local news was all about getting permits to grow and how unfair regulation is. Funny, thirty somethings don't. The history of activism and resistance that many old-timers take for granted, or used to, is lost until someone writes a book, or reads one at least.

How about way back forty years back when our governor in his first round at the helm of state, in his eligible bachelor, ascetic, '*moonbeam*' phase ushered in the **Forest Practice Act- A plan to use science and apply studious scrutiny to timber harvest practices, to conserve and protect valuable public resources.**

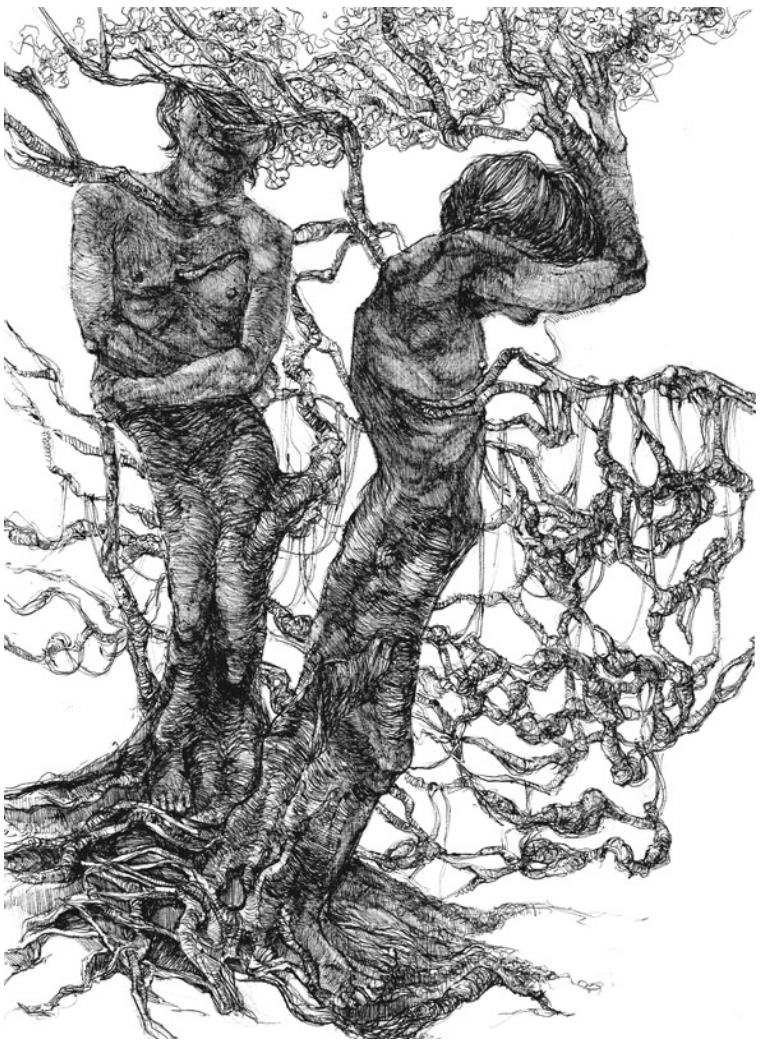
Given the corporate agenda of the Board of Forestry, that went about as well as could be expected. Academic forestry, rooted in preconceptions and bottom-lines that favored exploitive management could only make the forests as natural habitat suffer. Any allowance for Natural process was narrowed down to a mere survival of significant examples. and the new idea of **'*cumulative impact*'** became myopic and meaningless when the scope of general destruction world wide is factored in.

Laws don't change quickly...I actually went to the trouble of drafting a fantasy Forest Practice Act reform bill in the early '90's, it made sense to me, given the stated goals, contrasted with the actuality, on the ground:
'A moratorium on harvest, pending review! etc...'Alas, who was I, no standing, no possibility of progress, and yet we could feel it in our gut- The rules were wrong, they were abused, and they made little difference in the long run.

Now science is catching up, and questions everything we think we know.

German Forester **Peter Wohlleben,** author of the best selling **'*Hidden life of trees*'** says: "*We all learn in school that evolution advances by pitting each individual against every other in the struggle for survival. As a forester, I learned that trees are competitors that struggle against each other for light, for space. But we are now learning that individuals of a species are actually working together, they are cooperating with one another.*

Mother trees suckle their children, they feed the young tree just enough sugars produced by its own photosynthesis to keep it from dying. Trees in a forest of the same species are connected by the roots, which grow together like a network. Their root tips have highly sensitive brain-like structures that can distinguish whether the root that it encounters in the soil is its own root, the root of another species, or the roots of its own species. If it encounters its own kind, I don't know if scientists yet know how this happens, but we have measured with radioactive-marked sugar molecules that there is a flow from healthy trees to sick trees so that they will have an equal measure of food and energy available...Trees make decisions. They can decide things. We can also say that a tree can learn, and it can remember a drought its whole life and act on that memory by being more cautious of its water usage."



We have been viewing nature like a machine. That is a pity because trees are badly misunderstood. We just see trees as oxygen producers, as timber producers, as creators of shade. I always ask people, ***"Who would think of, say, elephants in such terms?****" We don't look at elephants just as commodities or as mechanical and insentient objects. We recognize them as marvelous beings. On the other hand, nobody thinks about the inner life of trees, the feelings of these wonderful living beings.*

We have this essentially arbitrary caste system for living beings. We say plants are the lowest caste, the pariahs because they don't have brains, they don't move, they don't have big brown eyes. Flies and insects have eyes, so they are a bit higher, but not so high as monkeys and apes and so on. I want to remove trees from this caste system. This hierarchical ranking of living beings is totally unscientific. Plants process information just as animals do, but for the most part they do this much more slowly. Is life in the slow lane worth less than life on the fast track?

Perhaps we create these artificial barriers between humans and animals, between animals and plants, so that we can use them indiscriminately and without care, without considering the suffering that we are subjecting them to.

Humans are weakening ecosystems by indiscriminately cutting timber. We destroy tree social structures, we destroy their ability to react to climate change. We end up with individuals that are in a bad shape and susceptible to bark beetles, which can only infest trees that are already sick. A tree that is healthy can get rid of them. So the beetle is winning because we have degraded ecosystems to the point where they are unable to respond effectively to threats.

We are told that forests and woodlands need management, but it is just plantations that need management because they are unstable systems that can be destroyed by storms, by insects, by fire. It's like a farm with hundreds of acres of corn. It is highly likely that insects or fungi will kill these plants because there is just one species. It's the same thing with monoculture tree plantations. Natural systems, with a variety of species, are much more resilient.

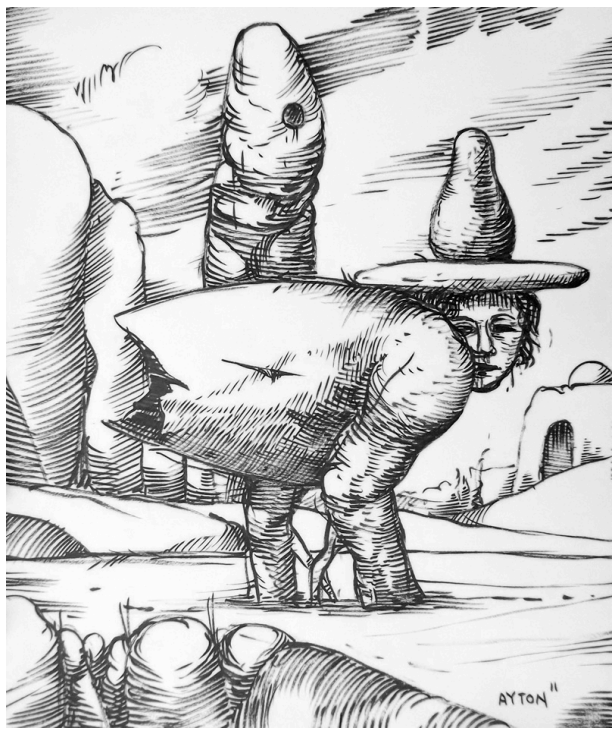
While it is true that trees may grow faster when we remove their comrades, because more sunlight means more photosynthesis, they actually grow too quickly for their own good. Trees should grow very slowly in the first 200 years, which we can call their youth. If they grow too fast in the beginning, they will waste all their energy in the rapid growth and will be out of breath, exhausted, and die early. It is similar to industrial meat production where a pig, for example, is fed too much so that it grows prematurely and in five or six months it can be sold and slaughtered. But the animals are unhealthy.

Faster growth makes trees less healthy and more susceptible to illnesses."

Then there is the work of Dr. Chad Hanson. From a report for the JohnMuirProject.org titled: 'The Myth of 'catastrophic' Fire.' Something to consider as post fire "salvage logging" will become the standard operating procedure on the ground now burning.

"Ecologically "healthy forests" are those that have an abundance of low, moderate, and high-intensity fire effects, and an abundance of large snags. We need more, not less fire, and large dead trees and downed logs to keep our forest ecosystems healthy. "Thinning" projects designed to prevent high-intensity fire and reduce future large snag densities are not promoting "forest health", and post-fire "salvage" logging is profoundly destructive ecologically. Moreover, if suppression policies achieve their stated goal, many wildlife species that depend upon habitat created by high-intensity fire will be put at risk of extinction.

Fortunately, the means to protect homes from wildland fire are well understood, and fundamentally practical. The most recent science clearly shows that the only effective way to protect homes from is to reduce the combustibility of the home itself, by using fire-resistant siding and installing simple items like guards for rain gutters (which prevents dry needles and leaves from accumulating), as well as by creating "defensible space" through the thinning of brush and small trees within 100 feet of individual homes. If these simple measures are taken, the evidence clearly indicates that there is very little chance of homes burning, even in high-intensity fire, Currently, however, only 3% of U.S. Forest



Service fuels reduction projects are conducted adjacent to communities – and much of that 3% is well over 100 feet from homes.
We do not need to be afraid of the effects of forest ecosystems of the western United States. Wildland fire is doing important and essential ecological work. It is keeping countless wildlife species alive. Our challenge, in the new and emerging paradigm, is to make certain that homes are protected so that we can allow wildland fire to do its vital and life-giving work in our forests. In short, we need to stop our futile battle against wildland fire and learn to live well with it, reminding ourselves that western U.S. conifer ecosystems evolved with and are adapted to it. Excluding fire from these ecosystems is like trying to keep rain out of a rainforest.

Bird species richness and diversity increases in heavily burned patches, which generally occur within a mix of low- and moderate-intensity effects. Woodpeckers feed upon bark beetle and wood-boring beetle larvae in snags and excavate nest cavities in snags; Mountain Bluebirds and other secondary cavity- nesting species use nest holes created the previous year by woodpeckers; granivores such as the Red Crossbill feed upon seed release from cones following re; shrub-dwelling species like the Blue Grouse nest and forage within shrub growth scattered throughout high-intensity patches; while aerial insectivores (animals that feed upon fying insects) such as the imperiled Olive-sided Flycatcher prey upon the native bark beetles that are abundant in snag patches. Likewise, mammalian species, such as the Sierra Nevada Snowshoe Hare, which is listed as a Forest Service Sensitive Species, depend upon post- shrub habitat following intense fire. Populations of small mammals experience overall increases shortly after high-intensity fire, and amphibians are positively associated with the large woody material that gradually accumulates in the decades following such fire effects. As well, ungulates, such as deer and elk, forage upon post- fire flora, and large predators frequently seek their prey in burned patches. Studies have detected higher overall bird species richness in intensely burned versus unburned forest in the western United States. In one snag forest area resulting from the Manter Fire of 2000 in the southern Sierra Nevada, a total of 111 bird species were observed.

Fire extent in general remains heavily suppressed in western U.S. forests such that historic annual extent of burning was several times greater than the annual extent of burning under current conditions . Using more conservative estimates of historic fire extent, annual burning in forests prior to fire suppression was still several times higher than it is now. Western U.S. conifer forests remain in a serious fire deficit. Even high-intensity effects are in deficit currently, relative to the extent of high-intensity fire prior to re suppression and logging.

High-intensity fire was previously assumed to have been rare and of limited extent in most western U.S. conifer forests, largely because fire-scar studies documented frequent fire occurrence in most historic conifer forests, and it was assumed that frequent fire would have kept surface fuel levels low, preventing high-intensity fire. The problem, however, is that fire-scar records cannot detect occurrence of past high-intensity effects, wherein most trees were killed.

Historic data and recent reconstructions of historic fire regimes indicate that high-intensity fire was common in most conifer forests of western North America prior to fire suppression and logging, even in pine-dominated forests with frequent fire regimes **-Joshua Golden**

Read the full report at *johnmuirproject.org*
Peter Wohlleben was interviewed at:
e360.yale.edu