

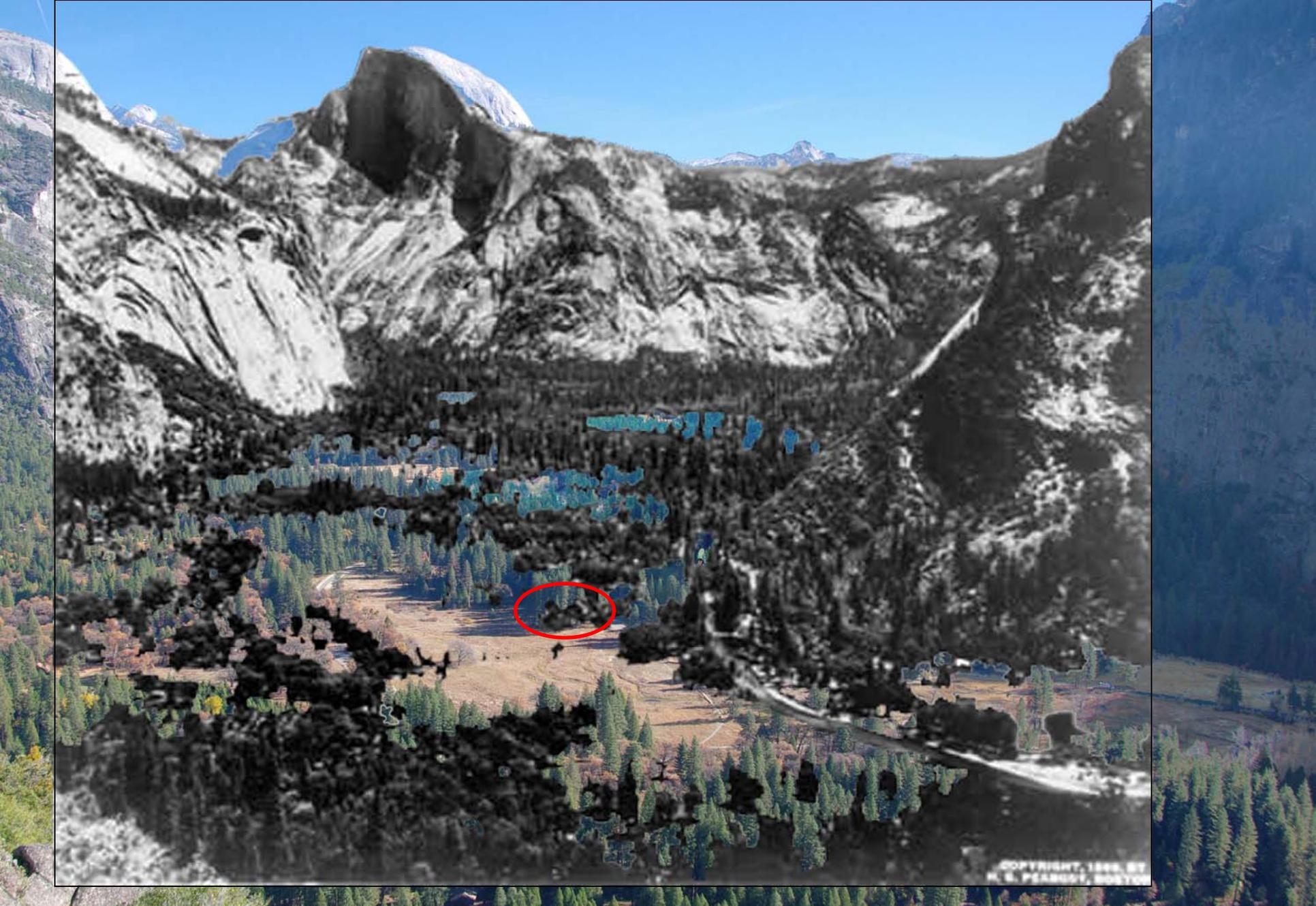
*MEADOW ENCROACHMENT IN YOSEMITE VALLEY
A QUESTION ON INHERENT REVERSIBILITY*



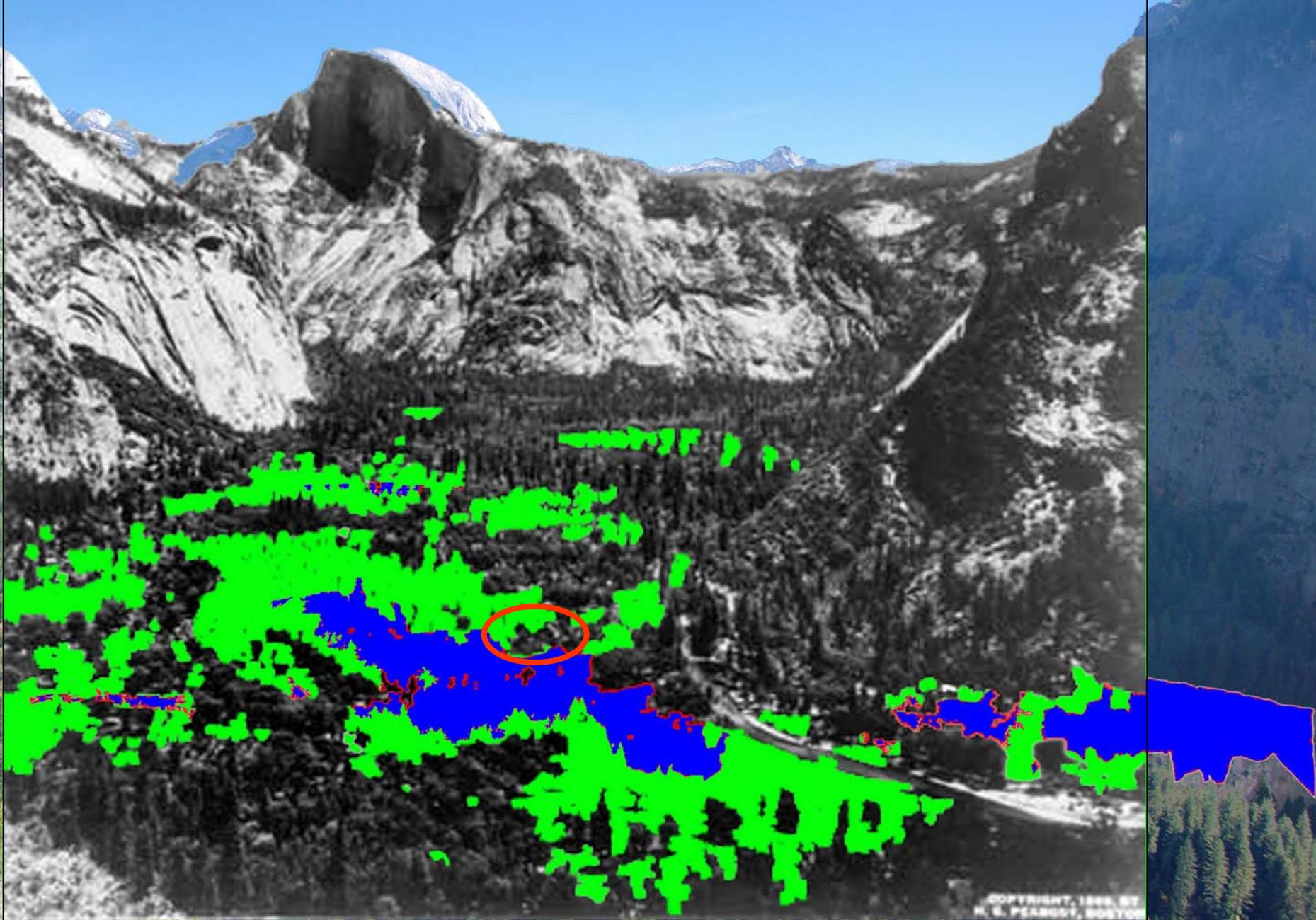
This is Yosemite Valley in 1899, barely forty years after the Ahwaneechee were expelled. Note how the conifers are spaced, interspersed with oak and brush. On the far end of the meadow, there a number of what appear to be small conifers. There even appear to be row crops on the lower left. Watch what happens inside the red circle.



This is a photo I took from Columbia Point in 2008 (adjusted to bring up the shadows). Let's superimpose a mask of Peabody's photo to compare where and how the land has changed.



This is Peabody's photo with the meadow removed on top of my retake. Cook's meadow remains, but it is far smaller than in 1899. It is hard to appreciate what this represents, so we'll take the illustration a step farther.



The blue fraction is currently grassland. The green is what was once meadow but is now conifer forest. Notice the flecks of black in the green. Those were seedling trees in 1899. Now let's take a look at that circle.

Here are the trees in the circle.

This stand density is fairly typical of the lower elevations of Yosemite and the surrounding National Forest. It is very doubtful these trees would survive a late season crown fire.

Everybody knows it, especially the Park Service.

So, why don't they thin them?

There would be lawsuits, fines, transfers to Canyonlands...

The only tools the Park Service is allowed to use are "Natural," even when presented with an un-natural stand density like this. So they keep pitching, "Fire is Natural," in the hope that the customers will accept the results of this management process if (or when) it blows up.

As you can see, the trees are crowded against the edge of the meadow and filling in instead of spreading.

As they slowly convert the soil, they have moved into the meadow perhaps 30 feet (10m), if that much.





This is the same meadow in what appears to be a slightly drier area to the west (oaks do not grow where it is boggy). The uniformly small trees in this patch suggests rapid intrusion. But if it's rapid now and the process has been going on in this meadow for a hundred sixty years, why isn't this spot covered over already?



It takes time to convert a soil to a condition such that the seedlings take. Note that the groundcover is different among the trees on the left than the open area to the right. As the trees drop needles the acidity climbs in the soil. As they populate, they dry it out too. That change favors a different distribution of microbial populations in the soil.



The process slows as it continues toward soil that is less favorable to conifers, with the forest showing more signs of decadence in the shade near the edges. The retention of older needles further in on the branches indicates that they get plenty of water. As the trees fill in the grasses leave. The meadow sedges have very harsh edges; there is little palatable forage.



This is a drier spot slightly to the north. As the soil horizon rises, the grasses are gone entirely. No palatable forage, no wildflowers, no acorns, no bird flyways, hardly any groundcover at all... and no view for which the customers pay good money. This forest has become explosive. What to do?



Protect it from the customers! To me, it looks more like they could have used some help thinning this out.



So, the Park Service burns it to reduce the under-story “ladder fuel.” While the fire reduced the ignition hazard, the catastrophic hazard obviously remains. We are still in what was once meadow, but they did not get grass (lack of sun?). Most of what came up looks to be *Artemisia dracunculus* (tarragon). Note the bare soil in the foreground. There is now so little organic matter in this soil that, if there was a severe fire, it is doubtful the native perennial grasses or meadow forbs would establish before weeds became dominant. In most areas I saw, there was relatively little “species richness” and a lot of bare sand, indicating either a very depleted seed bank, or perhaps that the plants the tribes cultivated here do not establish in these soils without intentional propagation.



Here is that Artemisia again. To me this is fascinating, because there is a lot of this plant in both full sun and deep shade, especially where there has been fire. It suggests that tarragon is dominant here as a post-disturbance species (it does make a LOT of seed). While the Indians did use it for medicinal purposes, it has spread far wider than medicinal use would justify in a system cultivated to feed people. If tarragon takes over bare soil on the Valley floor after a fire, it would indicate that the other food-bearing plants we know were once there do not establish on their own, whether because of a depleted seed bank or some other reason. Again, this suggests that Yosemite's former variety was more an artifact of active Ahwaneechee cultivation than merely "harvesting Nature."



With so much bare soil, there are other perils of the “just burn it” mentality nearby. You may recognize our old friend from Zion, Canyonlands, and (soon) Mesa Verde: cheat grass. Burn cheat and it will send you a “thank you” note. It’s not just here on the Valley Floor...



Cheat and thistles can be found almost 2,000 feet above the Valley, such as this spot on the Yosemite Falls Trail. With weeds reproducing in nooks on massive rock walls and washing or blowing down to bare soil in the Valley every spring, the chance that they would be controllable affordably after a fire seems remote.



There is also non-native dog tail grass (*Cynosurus echinatus*) almost as high up. Animals disperse dog tail quite effectively and it grows in both full sun and deep shade, so it's a baddy. When that seed goes over a cliff and washes down the slope (which it probably already has), who will take responsibility for killing ALL of it for years to come. After a series of fires, what will stop it from dominating the disturbed slope below?



There is dog tail grass in and around these transplants in the Valley (in the foreground and on the left). The plants the Park Service believes the Ahwaneechee maintained by fire, are not sprouting in significant numbers in newly burned areas, especially black oak. Not far from this spot, ALL of the new oaks to be seen were nursery trees in cages. Browsing by deer is insufficient reason the black oak did not “come back” after the burns (we have many deer on our place, but get oak seedlings aplenty). This again suggests that the original presence of the black oak may have been agricultural. In this spot, there are a number of species being introduced, which is understandable because it is often hard to tell what soil or cohorts the plants prefer. It did seem to be an odd selection, but I could not discern if it was functionally intentional, aesthetic, or experimental.

The popularity of Cook's Meadow has led to substantial alteration of its natural features. This project, with the help of employee volunteers from Chevron, will provide for continued visitor access while restoring the health of the meadow for future visitors to enjoy.

PROJECT COMPONENTS:

- Removal of an abandoned roadway and artificial ditches
 - Eliminating exotic plants
 - New perimeter bikeway connecting Sentinel Bridge and Yosemite Village
 - Replacing asphalt footpaths with boardwalks
 - Planting native vegetation
 - Design, fabrication and installation of educational exhibits
- **Cost:** \$237,060
- **Completion expected:** FALL 1999

This project is being completed with a grant from **THE YOSEMITE FUND** utilizing gifts from Friends of Yosemite and Chevron.



THE YOSEMITE FUND
Providing for Yosemite's Future

You can support Yosemite improvement projects by contributing to the Fund at P.O. Box 637 Yosemite, CA 95389
For more information call 1-800-4MY-PARK

This spendy custom sign betrays much about the governing mindset. It cites "natural features," as if they know what those were. The corporate elitists "restored" it, with "completion expected" in 1999 (they put the sign in first), as if nothing ever need be done again. Virtually all the cash went to capital projects serving the tourist business (try doing road and drainage work with the trucking costs in Yosemite for anything less than \$250k). After blaming customers for the damage, they ask for their money, pitching it as "MY PARK." They quite apparently think it's theirs.

Cook's Meadow is less than half the size it was in 1850. The "Restoration" project did nothing about soil or conifer encroachment. Fruit bearing shrubs, annual forbs, and deciduous trees are still under-represented by historical standards. Exotic species are both present and capable of colonizing should a major disturbance ensue. These processes continue today, even though they could eventually displace the meadow entirely. Meanwhile, Chevron, the Park Service, and the Yosemite Foundation get away with promoting the bizarre idea that one can "restore" a living changing thing and walk away believing it has been "preserved for the future."

Ironically, Yosemite Valley was acquired by force from tribes who would never have let the process get this far. Since they were expelled, "preservation" and fire-suppression have assured that the meadow is eventually doomed, BUT... is that a bad thing? Well, it depends upon what whoever-is-in-charge wants. Pollen studies show that even the grassy meadow was a result of the change in management. 500 years before the Ahwaneechee were expelled; **the Valley had been primarily a conifer forest**. Yosemite had been a remote battleground between Miwuk and Paiute tribes, both of whom evidently preferred more productive ground. It is likely that someone eventually torched the conifer forest in Yosemite Valley **so that they could *make it more productive*** by farming. It was not at all uncharacteristic for California Indians to introduce and tend crop plants. For example, black oak only spread as far as an animal will carry acorns; they were most likely planted here.

Once the Indians were gone, cattle were brought in for vegetation management; hence the grass. Grass was what the managers wanted. Today, it's an unhappy struggle between the Park Service, activists, and customers who bring in most of the cash. Tourists want trees, but not if they get in the way of the "Natural" view. They want wildlife, even if the animals preclude growing the plants that would return the Park to its former state. The Park Service acquires its assets by pitching this wacky idea that "Nature" means "no people," so a chainsaw is out. As the forest heads toward a decadent monoculture ready to explode, the "managers" hold their breath, doing what they can while taking a paycheck from customers they despise. If it burns, the wildlife will just have to "deal with it," which effectively means if they survive the fire they will starve to death, just like they did in Yellowstone after the 1988 fire.

Most tourists would find a catastrophic fire a hard sell and they don't like stumps or smoke either, so thinning is out. Nobody would pay much for such crummy trees as they have in Yosemite, even if there was a saw mill within affordable trucking distance (which there isn't thanks to the same philosophy, never mind that John Muir himself once worked at a sawmill in the Valley). Of course, few care about overstocked trees because most people believe "Nature" *should* be "preserved." The problem with that idea is that it is physically impossible.

So, what if the Valley did burn catastrophically, just as it did 650 years ago? How would they re-establish "native" plants without a very destructive weed battle?

The condition of land ultimately reflects the historic preferences of those in charge. Today, it's "the public," that is, until the bureaucrats and activists close the Park off to automobiles per the Yosemite Valley Plan, to "save" it from their customers and keep it to themselves (better employee housing is a top priority of the plan). In reality, this hugely unpopular plan is only the first step. The bureaucrats have grander dreams they don't really tell anybody about, because they know for a fact that most people won't like what it might take to get there.

Why? Is it all that bad?

Well, like any bureaucratic plan it is hugely expensive, it will employ lots of scientists and consultants who get pay for play, and the outcome will demand minute control over those "annoying" and clueless customers. Fortunately, the goals haven't been infested with the likes of the Park Service's preference for cryptogamic crusts in Zion and Canyonlands. They want to "restore" the Valley to a state similar to the way the Indians had it, but note, that is NOT what was "Natural" 500 years before that. The bureaucrats know, just as any rational person would, that people can make the land more productive and beautiful. They want it that way too; **most everybody does.**

Considering what we saw in Mesa Verde and the Kaibab Plateau, there is reason to doubt their eventual success. Perhaps that is because there is a serious moral problem here besides misrepresenting a product taken at gunpoint from its original owners and then taking the credit for its beauty while not knowing how to run it.

The reality is that there will NEVER be enough people or money to truly bring the land to express its full potential with packs of ravening lawyers, bureaucrats dominated by procedure, manipulative foundations, scientists fanning their egos from ivory towers, and a distracted public imbued with the power of emotive whimsy... ALL trying to call the shots over "their park" from remote locations. Hopefully you have recognized that this is about covetousness for land on the part of *every one* of these groups without real accountability for a productive outcome.

Restoring land starts with people who live there, know a little spot intimately, and have serious stake in its productivity from generation to generation, effectively a network of private plots, the way it was with the Ahwaneechee.

Why is that so hard to accept? Well, it's really quite simple: If the Park was cut up into privately controlled plots, it wouldn't be "our park" any more.

Now to be honest, I once felt possessive about Yosemite too, but you know, since acquiring the commitment to make one of my own, that urge to own just isn't there.

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