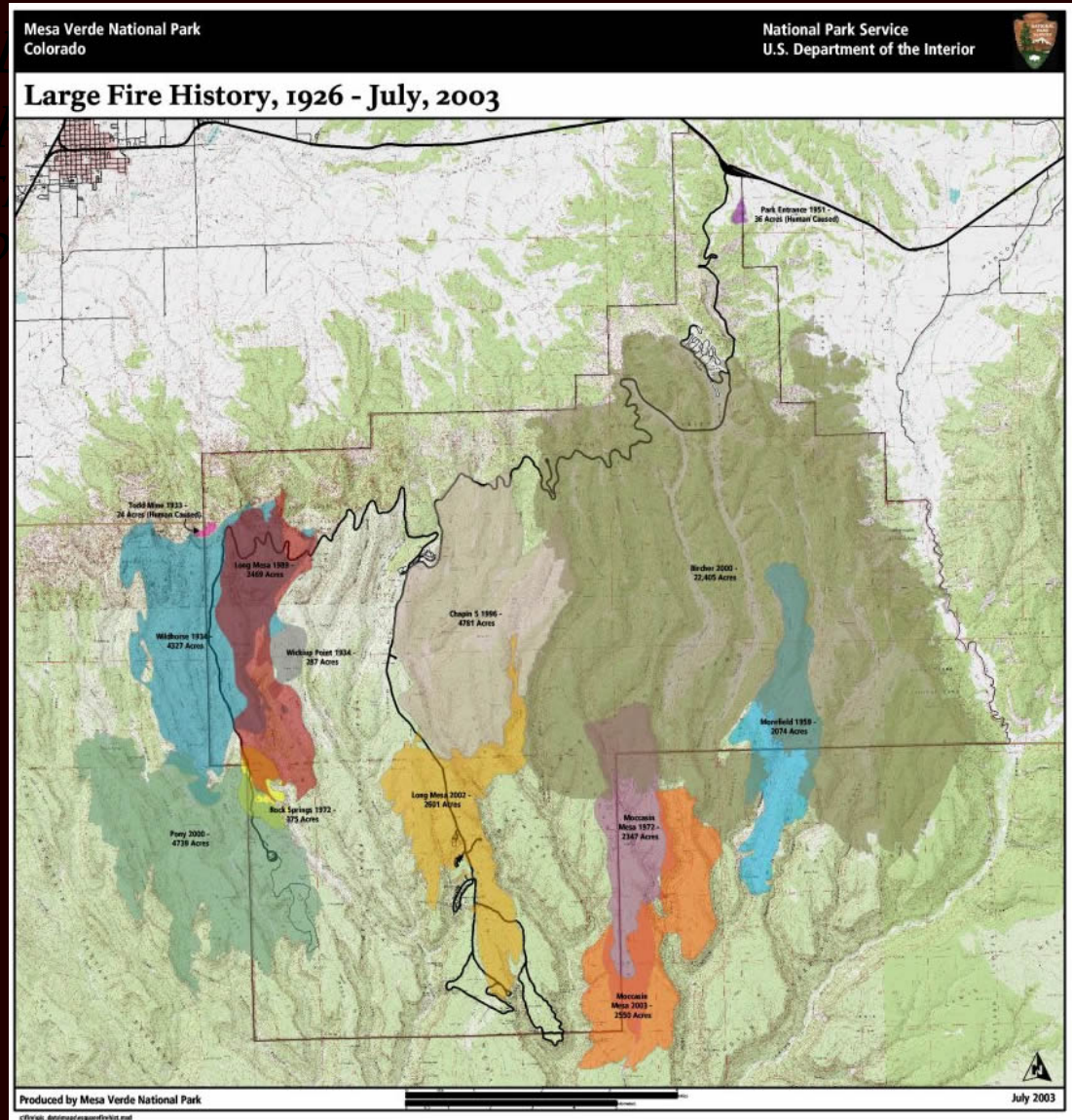


FIRE AFTERMATH, MESA VERDE NATIONAL PARK JULY 7 2005

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At right, the colored patches represent fires at Mesa Verde National Park from 1926 to 2003 (click on the map for the source link). At that site, you can read the Park Service's side of this story. Please note how carefully they understate the massive problems you will see here for public consumption. Over the last twelve years, most of the park has burned (the green, orange, olive, yellow, and gray sections). The black line is the road from which these photos were taken.



Most of what burned in this presentation was decadent Pinion Juniper or overstocked Gambel oak. There were also isolated spruce stands that were critical habitat for endangered species unique to this location.



This conifer forest once supported Blue Grouse, an isolated species that had been here since the late Pleistocene. Blue grouse eat spruce needles. What you see replacing it is not spruce but Gambel oak, packed so tightly that the only wildlife that could use it would be rodents. I'm going to insert a couple of my photos from another location to illustrate the process that leads to this condition.



This was the aftermath of a fire at a private ranch in the Antelope Valley, CA, in October 2004. I was on vacation with the family and stopped simply because I was happy to capture it, hoping to come back to compare the results. I had no idea what to expect (it is rare for me to witness regeneration in an area with a recent fire). It looked like a controlled burn that had got a bit out of control. In the foreground is Gambel oak.



I returned four years later (same spot, but closer to that very pricy fence with most of the galvanizing burned off). Similar to Mesa Verde, the Gambel oak has come back with a vengeance, albeit the foreground is more diverse.



There are some beautiful shrubs in here, along with dense re-sprout of Gambel Oak. There are open spaces for browsing animals. So, in this location, the results are mixed but include positive elements with the oak operating as a refuge for small prey species.



Once Gambel Oak re-growth gets about four feet tall, animals cannot force their way through. It's not a problem as long as the patches are small with open patches nearby and corridors between them as we saw in the prior photo. This patch is about 200 meters long before a small break.



Now we go back to Mesa Verde National Park. What was once a conifer forest with unique species, is now a huge solid mass of Gambel oak, impenetrable to all but very small animals. Biodiversity is obviously compromised. Food for animals requiring anything other than acorns is gone. So in addition to the loss of Blue Grouse habitat, it isn't much good for anything except rats and squirrels.



There are a few spruce left. Whether it is enough to prevent extirpation of the blue grouse is anybody's guess. Goshawks and Mexican Spotted owls were common here, so they'll be looking to pick off the remaining grouse. The reduction in habitat induces serious competition for remaining food.



The Park Service acknowledges that it might take 300 years for these spruce stands to recover (Erdman, 1970). But as we all know, "Fire is Natural," right? The outcome however, may not be, because the preconditions were an unprecedented fuel load, resulting from long-term human negligence. This forest may never recover.



The Park Service could have logged the fuel for pellets and not done nearly the amount of damage the fire did. They could have made money grazing the resulting grasses and forbs. They could have made money on hunting licenses. Unfortunately, the Park Service is neither structured nor staffed to do detailed habitat management. So they blew millions fighting fires that virtually destroyed the Park anyway.



'What's the big deal? It's all green.' Well, this is "Coyote Tobacco" (*Nicotiana attenuata*). It's medicinal in small amounts, but toxic as a forage diet. For what little wildlife escaped the fire, this is very little palatable food from which to eat, so they starve. If a private landowner had done this much damage the greens would have sued. They didn't.

They have what they want: a socialized commons, overused but underutilized, bureaucratic but under-managed.



As a bonus, there are more colors than green.
Meet Musk Thistle (*Carduus nutans*). Musk thistle spreads on the wind. It is fast and dominant. It is toxic to other plants. Let it get started, and you **will** have more, until you intervene. They didn't.



Given that it is in flower, they're about to get a **LOT** more.
As you can see, few plants can germinate in Musk Thistle.
Like many weeds, it puts chemicals into the ground that suppress germination of native plants.



Of course, cheat grass has no problem germinating after a fire, and is dominant for some of the same reasons. Eventually, the musk thistle gets crowded out by Gambel Oak. The Park Service solution? **Burn it again.** Guess what they'll get?



There are miles of this at Mesa Verde.
It's your park. It's "Natural." Isn't it pretty?



No?

You mean, this doesn't remind you of all those glorious Sierra Club photos showing how WONDERFUL everything is after a fire?



Well, sometimes it is, except this part of the fire wasn't "Natural."
In fact, it didn't burn at all.
The reason why is in this photo. Do you see it?



But here you see native grasses, shrubs, and the trees are still alive.

So, what was the difference?



Ooo! There's another clue in this picture!

Isn't it pretty?



I meant the stumps.

OK, they're not terribly pretty.



This was (gasp!) a clear-cut!!!
Except this was a politically-correct clear-cut
(the Park Service did it to save the campground).



Quite a contrast, eh? I like the clear-cut better than the burn, don't you? Not to mention this broad distribution of grasses, forbs, and shrubs. The Park Service, at great expense, thinned the forest at the edges with 20ft spaces between trees. The fire came up to the thinned zone, laid down on the surface, and the fire crews put it out.



They were clearly able to stop it along this part of the road where they had thinned it as well (it looks as if they'd used the road and fuel break as containment for a backfire).

Roads are another one of those things the Sierra Club and the Wilderness Society just can't stand.



In this case, the road probably helped confine this disaster. Here, on the other side, is what it probably looked like before the fire, “untreated.” This is the “precious, untouched, pristine forest,” environmentalists scream about, just like the one that was incinerated. Where is the cheat? Where are the thistles?



See the one lurking on the left? That's all it takes to colonize this place if the heat kills the perennial grass, UNLESS either somebody is combing those thistles out of the forest before the fire, for years... OR unless they are improving the ground so that the grass can resist the thistle. Yup, grazing again.



When the fire is so hot that it kills the perennial grasses, this is what happens:
Musk thistle, cheat grass, and scorched pinion juniper.



At which point, if you want it “Natural” you have only one option: wait until perennials take over again, which will then overgrow until it burns again. The eco-mantra is, ‘Just keep burning.’ I guess they just don’t care if they ever see native post-disturbance species here ever again... Don’t we call that “extinction”?



Optimally, four things would fix this: grazing, thinning, spot spraying, and hand weeding (as a preventative). If they would do it, **Mesa Verde could have more wildlife than the Deseret Ranch**, because it is warmer here with **average annual precipitation over 18"**. So, the kind of forest you get depends a great deal upon what you want.



Why not the whole park?
Why not the entire region?
War, famine, disease, and what?



It's a choice:
If you want "Natural," enjoy, because there's a lot of it, with more to come, good and hard.



But if you want one of those awful humans to grab a chainsaw, you can start out with a forest like this. Add a few cows, goats, and sheep on an intelligent basis and you just might restore habitat for wildlife. After about fifty years of careful work, it would be awesome.



With rangeland wildflowers like this right away.
Your choice.



These trees died of water competition due to overstocking and drought.
If you think they can burn this to “clean it out,” you are mistaken.
What it really needs is time, money, and effort.



Some of these aren't so thick. If there aren't any thistles and cheat, one might get away with a patch burn.

Such things are rightly a spot-by-spot decision made by people who have made the investment of time, education, personal effort, and intellectual observation for many years. Then there's accountability.



I'd hate to thin a rocky slope like that.
What do you bet there are rattlesnakes and scorpions up there?
Would you do it? It takes a special kind of person with a personal investment to take those kinds of risks.



The land is waiting for your decision. You can have it all, for a lot less than you are paying now. If you don't know what to do and no longer trust the bureaucracy that has run things for decades, don't you think it's time to hire experienced people with a long-term stake in the outcome and let them figure out how to make the most of it?

Notes:

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Slides were assembled and annotated by Mark Vande Pol.

Fire maps obtained from <http://www.nps.gov/archive/meve/fire/firemaps.htm>

Erdman, James A. 1970 Piñon-Juniper Succession after Natural Fires on Residual Soils of Mesa Verde, Colorado. Brigham Young University Science Bulletin, Biological Series, vol. 9, no. 3. Provo, UT.

