

ENCINO VISTA COMMENTS

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PREFACE: TO FOREST SERVICE AND OTHER PERSONNEL READING THESE COMMENTS

These comments are not to *you*, dear Forest Service people. However please note that it is far easier in English to address the vast entity that is the USDA Forest Service, as “You”.

I have done so! Please excuse it, and read it as towards that emergent entity, rather than any of you personally.

I appreciate your intentions are good, even the bureaucracy you exist within makes it difficult to fully grasp or address the real problems facing our ecosystems, our government, our world under climate change.

I respect all of you reading this, in your roles and intentions, yet ask you to see your larger embedding in a huge bureaucracy which is slow to recognize, adapt, or change course. The New Mexican forests you regard as already so degraded that burning them is the best treatment, are in the poor state that they are, not **despite** USFS treatment and practice, but **because** of it. It is time to stop doing the same thing but expecting a different result – not only for forest but within the bureaucracy. It is time to acknowledge the truth of motivations toward increased extraction of our largest and oldest trees and the coupled expansion of cattle grazing and subsidized allotments; these have counted as success in forest circles, but will no longer be as all our susceptible forest falls to regeneration failure and fire-induced dehydration of soils, trees and vegetation.

Please wake up to the larger-scale and longer-term impacts of your incessant negative (destructive: cutting, thinning, burning, removal of biomass) treatments. Our forests are no longer in the resilient state they were in even as late as the 1990s; they exist at a precipice in which **any more stress**, especially thousands of acres of unified fire stress, will destabilize forest processes including ecosystem services and ecological integrity.

Isn't your first, your very first, responsibility to our precious ecological forest, to **maintain it as ecological forest?** (Not just as the SFNF bureaucratic entity also know as the "Santa Fe National Forest".)

Your current actions and intended actions will definitively **NOT** do that. Please question why only negative/removal treatments are proposed for these forests, rather than positive supportive treatments and other regenerative approaches that would rebuild the extended Santa Fe National Forest ecosystems. I not only will point out problems with your current approaches, but alternatives to them as well as solutions to the problems themselves (briefly!).

Lastly, about me: I am an independent Complex Systems Scientist, my PhD gained in the Neurosciences from UCSD while doing large-scale computational modeling of neuronal circuitry at LANL, where I was trained not only in mathematical modeling by Bryan Travis, but in nonlinear dynamics, complexity analysis, and evaluation of high-dimensional systems. On returning from a postdoc at Oxford University, I switched fields to study with esteemed ecologist James H Brown at UNM. A consultant in multiple aspects of applied systems analysis since then, I have returned again and again to commenting on Forest Service projects as I see their predictable problems and negative impacts not only on the eastern SFNF whose boundary I live on, but across the nation.

FYI, I am being paid by no one to write these comments. Indeed, even my 2019 comments to USFS on Santa Fe "restoration" projects in which I predicted a megafire caused by careless prescribed fire in our risky drought-fueled environment were unpaid – yet correct.

It only took 3 years for that prediction to come true. While I wish my predictions that current USFS actions will induce regeneraton failure of ponderosa pine forest and induce succession of the Santa Fe NF and other NF's from *ecological* forest to unsuccessful rangeland and grazingland were unlikely to come true, my home sits adjacent to the SFNF, and I am watching these dynamics already occur.

Finally, please note that a version of these comments are being prepared (with references) for New Mexico governor Michele Lujan-Grisham, NM national and state governmental representatives, ecological experts and others, in preparation for the governor's new efforts to maximize water production on New Mexico forest. Consider this a heads up for likely upcoming talks on this topic, with New Mexico at the center.

We in northern New Mexico are the canary in the coalmine, at the intersection of profound drought and prescribed fire. Please listen to those objecting to your inability to grasp the complexities of fire on our landscape, and its inappropriateness for some of our national forest.

If the \$4billion cost of the Hermit's Peak Fire didn't change you, please consider how one or more further such escaped megafires will trash the reputation of the USFS, as well as its ability to implement prescribed and managed fire around the rest of the nation.

INTRODUCTION

I. Take a systems view

This report is my attempt not only at new solutions for USFS, but an initial updating of core science it is ignoring and the ramifications of that science under climate change conditions

Examining this specific case of Encino Vista, of the SFNF, of the treatment of NNM forest, and of the context of our current climatological and ecological circumstance is essential – in large part because USFS does not consider anything but the specific case, and not how it fits into larger circumstances to which we must adapt.

The Forest Service does not address these crucial, controlling conditions at all, except in a *microscopic* way. Yet choosing paths and solutions to the problems of these forests MUST be framed by critical conditions beyond our control, in order to address them correctly.

Understanding that fires are now starting under fire weather conditions induced by climate change, rather than excess fuels, should change the thinking around fire and its solutions. It is one thing to drop a lighted match onto pavement: the relative resilience to fire of pavement makes that match not inconceivably risky.

Drop a lighted match onto pavement coated by gasoline, however, and the risk is virtually 100%.

Dry forest is pavement with a slick of gasoline. Forest in drought however, and in a prolonged drought especially, is us standing in a deep gasoline puddle, lighting matches with abandon.

Perhaps that is why and how, the USFS in its recent efforts on the Santa Fe National Forest, has not only failed, but proved instead that prescribed burning under conditions of drought and climate change weather, will start the very megafires their technique claims to protect.

It is time to recognize that a one-size-fits all approach – flipping from “all fire is bad” , to “all fire is good”, let er rip, all forests love it and benefit from t regardless of its conditions, species, and local risks and conditions” – is no way to run all its forests on this continent.

Once again USFS makes the mistake of flipping a switch from off to on, rather than listening to local experts on local history, conditions, stresses and impacts.

For instance, current USFS statistics proclaim the safety of prescribed fire. Yet those statistics are unnecessarily amalgamated across the continent, lumping together prescribed fire in swampy or well-watered locales that received 50” of water or more or year, with for instance, southwest locations that receive a fifth of that rainfall, are in drought compared to their own norms, and have vastly worse statistics for the “success” of prescribed fire.

Three gigantic megafires were started by official, “prescribed” burns in the Santa Fe National Forest in 2022, whether pile or broadcast burns :

-Hermit’s Peak Fire (HPF)

-Calf Canyon Fire (CCF)

-and, though it has not been investigated in any way that the public is aware of, ALSO the Cerro Pelado Fire on the western SFNF.

Burning close to half a million acres , these three fires on the Santa Fe indicate that either

1. Personnel on the SFNF are wildly incompetent in their execution of prescribed fire, which is otherwise safe. If that were the case, we could expect a real shakeup in personnel, in the chain of command, and mass transfers of personnel **from** areas of fire responsibility to other arenas. Correction to the paid contractors, Forest Guild and others, would have been public, and blame shifted to such personnel so that the public could have faith in Forest Service personnel and practice, again. **No such actions have been taken or publicized.** A token scapegoat in the SFNF head was reassigned, but as to fire personnel executing these fires – as far as we, the public know, the same exact people are in charge of all major fire decisions on the Santa Fe.

You would think “three strikes are out”, but instead the Chief’s report on the \$4billion CCF/HPF disaster is hidden from public view under another name

[https://lessonslearned-prod-media-bucket.s3.us-gov-west-1.amazonaws.com/s3fs-public/2023-](https://lessonslearned-prod-media-bucket.s3.us-gov-west-1.amazonaws.com/s3fs-public/2023-02/Las%20Dispensas%20RX_Review.pdf02/Las%20Dispensas%20RX_Review.pdf)

[02/Las%20Dispensas%20RX_Review.pdf02/Las%20Dispensas%20RX_Review.pdf](https://lessonslearned-prod-media-bucket.s3.us-gov-west-1.amazonaws.com/s3fs-public/2023-02/Las%20Dispensas%20RX_Review.pdf02/Las%20Dispensas%20RX_Review.pdf)), with only a vestige of the report’s findings or changes due to it, to be found on government servers.

No accessibility, no reference to other USFS sites that reference changes made post these fires, and no lessons learned from the travesty of poor management, bad science, and outmoded metrics, techniques, and tools - as well as outright arrogance – that generated the CCF/HPF fires.

2. Training of personnel, whether in their understanding of fire, or of ponderosa/pinon forest ecology, is lax, incomplete, or outdated. I note that virtually the ONLY remediative action taken after the Hermit’s Peak Fire, was to plan for more fire training. This is creating a feedback loop of sunk costs, push for more prescribed fire, focus on doing fire better while ignoring all other ameliorative approaches.
3. Protocols for applying prescribed fire are incomplete, out of date, or wrong. I will point out numerous lacks in USFS science, its outdated metrics, its ignorance of conditions on the ground or the history of drought that currently governs New Mexico forest ecology.
4. Management of both personnel and protocols is flawed and allows profound mistakes in the application of fire, resulting in catastrophic consequences.

The Hermit's Peak Fire report, aka the Gallinas Las Dispensas Prescribed Fire Declared Wildfire Review 2022, showed that all of these factors were relevant – yet changes due to each of these factors were declared to be unnecessary.

It is hardly likely that We the Public will trust the USFS, given the reports findings were neither taken seriously, nor caused any real changes or updates in the application of prescribed fire on the SFNF.

PROBLEMS AND SOLUTIONS

PROBLEM: Many, many experts in hundreds of locales across the US are complaining to you – though you keep us separate, I have read comments from dozens of other projects, and the most learned and sensical, the most practical and the most solution-oriented, are complaining about the same things. The problem is, you refuse to listen to us, and in general our comments are ignored even when – as mine have – the problems we note for you are indeed acknowledged as problems.

The problem appears to be USFS bureaucratic resistance under new conditions, along with the mental inertia in adapting to those conditions – climate change, drought, unseen risk **brought** by USFS to communities, and the ecological destructiveness based on a purely extractive mindset that plans to resist change until proven wrong by the induced succession of our massive forests to grazingland, and the resulting loss of water production for ecosystems and human settlements alike.

SOLUTION: Upgrade the thinking of your decision-makers. Train all personnel not only in managing *fire*, which is a tool, but in understanding basic ecological principles that govern forest behavior. These are not solely the purview of the experts- they are needed to understand how, exactly, you are killing forest through a limited “fire” framing that ignores forest need to service the simplistic ideology of fire – which New Mexico forests in no way, **need** to thrive.

One example: the mulch, the groundcover, the understory, the specific feet of piled pine leaves buried beneath ponderosa trees – all of these are seen as fire risks, needed to be burned through prescribed fire. The real problem is that they are **ONLY** seen that way; they are not understood by even the fire ecologists in their usual ecological roles **AT ALL**. Yet they are all **critical** to a sustainable forest, in every instance protecting against water loss and the destruction of soil ecosystems by UV, protecting seedlings, and buffering the largest ponderosas and other trees in the same way mulch prevents your garden from drying out. Yet these basic simple principles – ones we readily apply to our own gardens – are somehow ignored as irrelevant for our forests.

The gigantic natural pillows of needles beneath ponderosa trees have been specifically targeted by prescribed fire advocates, yet that is how these trees maintain water and nutrient homeostasis while inducing rain and producing water for human systems and ecosystems alike.

The risks that prescribed fire and other purely negative treatments bring, are ignored; the impacts on communities are ignored; the economic, health, and ecological costs of your smoke are ignored; the ecological impacts on all species, all habitat, biodiversity, are ignored; and the profound mistake of not establishing our NNM forests as climate buffers, as optimizers of the critical ecosystem services they bring to human settlements – all ignored.

Choosing one preferential lens – ONLY that of fire risk – while ignoring other, more encompassing lenses of ecology, biology, and the physics of biogeochemical flows – is a profound error.

Please, listen! Your assumptions are and have been, wrong, and our forests, especially NNM forests, are degrading, losing biodiversity and ecological resilience with every implementation of negative destructive treatment.

PROBLEM :

To the public, and in its declaration in the Chief's report, it is clear that no lessons have been learned by USFS from its huge mistakes in starting multiple NNM megafires directly by USFS personnel and contractors, even now. This is demonstrated by the lack of even ONE reference to any changes or amelioration of problems seen in the CCF/HPF, on the FS.usda.gov website. – will we continue implementing fire as the number of out of control prescribed fires-become-megafires increases? Will drought and other critical systemic conditions and their implications ever be acknowledged?

Ignorance of local conditions – in large part due to constant short-term reassignment of personnel to different forests and ecosystem types – is profound. Lack of up-to-date scientific metrics to determine risk and appropriateness are missing.

SOLUTION:

Train, learn, be open-minded to new approaches and solutions, and stop using the need for personal career goals – and the To Do lists of logging and burning they generate – as the basis for decimating our forests through slash and burn.

The current ongoing tunnel vision of the USFS must cease, to now encompass the wider goals of our nation and our world.

This may require some deliberate reconfiguration of USFS career rewards, moving them toward more careful response, and punishing those who wreak havoc on national forests (rather than having them move or retire). Constant shuffling of personnel through different forests should cease, where it impacts the ability of managers and supervisors to manage forest for its long term ecological health and maintenance as an ecological forest, complete with optimized ecosystem services, biogeochemical flows, carbon sequestration, and protection of forest cooling and water production processes.

This would be very different than current aims and goals of the USFS, but it is indeed where the US government is headed. Why not meet them, propose new approaches, and begin to understand the dynamics and handling of the new climactic system we find ourselves in?

PROBLEM:

Lack of recognition of local conditions and the wide scale implication for drought on fire application.

Dry forest is more likely to burn – that is the current risk USFS tries to ameliorate with prescribed fire. But forest in *drought* – in drought for 6 years, no less, as the Santa Fe National Forest was in 2022, and is, even now, suffering from a high degree of moisture loss in vegetation, soil, surface water, and even aquifer support, that makes all fire dangerous. And not only in that moment, as USFS seems to think, but in inducing additional stresses that make fire more likely to be forest-killing, for years post such prescribed fire.

The last two years of almost-sufficient rain did not “cure” this current drought – trees, shrubs, rivers, vegetation and even soil are all still in recovery from the 2016-2022 drought.

SOLUTION:

The USFS must rapidly recognize the serious impacts of drought as a state-changer for all of its processes and plans.

PROBLEM:

USFS is using a very narrow set of views to make continent-scale, long term decisions. There is no Fire Risk Index that uses local ecological and environmental conditions, as well as weather conditions, to determine the higher risk brought by prescribed fire.

SOLUTION:

Develop such an index. (Contact me, I am working on this and can work with your scientists to validate this index.)

PROBLEM:

USFS is commanding vast acreage, on a scale that requires multi-scale analysis and generation of new paradigms – both for understanding forest, and for designing better management protocols and applications.

SOLUTION:

Use multi-scale, system analysis to begin to understand what broad brush approach can be safely used, and what increases risk – whether of fire escapes, of regeneration failure, of inducing early succession, of loss of water production. Please, your science is profoundly unsophisticated, with only fire ecology being elevated to the status of “current”, and all ecological science finding the dangers and problems of prescribed fire being virtually unknown by USFS personnel.

USFS is repeating the same mistake it made in its “no fire” Leopold period – it is addressing past conditions that are no longer valid, and mistreating and mismanaging our forests as a consequence. Further, its one-size-fits-all approach is notably inappropriate to the diversity of lands and ecosystems, and is provably unsafe in the Santa Fe National Forest.

PROBLEM:

It is time for a frank look at what will be required for humans to continue inhabiting specific locations, bioregions, and latitudes. While you may be unfamiliar with NNM conditions, conditions on the entire Santa Fe National Forest require examination to understand just how wrong your approach in cutting and burning 80,000 acres in the Encino Vista Project is for this huge forest, for this region, and in maintaining only water production and other critical ecosystems services.

SOLUTION:

Time for honesty on your poor management of this forest.

Time for new learning, training, and the installment of personnel who understand SFNF's forest ecosystems.

Time to cooperate with all local parties – including state and local government – to manage forests for the values they provide in ecosystem services and anchoring of local populations in New Mexico, as well as the climate anchoring and temperature cooling and buffering. These forests will literally determine the future of New Mexico, whether humans can continue living here for the next 20, 30 or 50 years – yet you are maximizing extraction and fire contracting, rather than the massive positive impacts these high altitude forests provide.

I note for your attention that 50 year Governor's Water Plan states a requirement for the state **to manage forest for WATER.**

PROBLEM:

Pyromaniacs have infiltrated contractor fire teams. I have personally been told that their aim is "get rid of all forest, if that removes the risk of fire". This is insanity, activated on our landscape. A thrill in fire, admitted by many, central to the formation of many groups– this tendency accounts far better for the crazy setting of Hermits Peak Fire on a red flag wind day, and the *continuous* setting of fires on a large area of that prescribed burn even when it was known the fire was out of control. At the same time, another team was out of radio contact because they deliberately chose another channel. It is imperative that we clean up the fire community, which has threatened locals here and blocked investigation. If you hear of my house burning down, you'll know why. Their antics could have been taken lightly at one time, but not in a super-dry, high-altitude region with high winds.

SOLUTION:

Frank discussion, and real investigation into the culture of fire being inculcated here, is necessary. Holding fire contractors responsible for misapplication of fire -for instance in the CCF/HPF fires – is now critical.

In case readers are unaware, the city of Santa Fe, NM was only prevented from inescapable danger by the consistent **eastward** winds during the months the CCF/HPF was active - a fact the Hermits' Peak Fire report does not mention at any point. (I make a further point that the city of Santa Fe and other cities that exist virtually within the forest footprint, is never assessed for risk or impacts that it bears from careless Forest Service actions in the Santa Fe National Forest)

The stakes USFS is playing with in regards to its contractors and their unaccountability are profound. It would only take one serious lawsuit to shut down the use of applied fire across the country; why not address problems locally so that fire is not so carelessly applied?

PROBLEM:

Recognize the heightened risks of fire on New Mexican forest!

SOLUTION:

Perhaps USFS has done a full hydrogeographical, ecosystem analysis of vegetation moisture and trees, soil productivity, and especially the vapor pressure deficit across the topographical landscape? This would enable determining what would be wise to transform due to its high risk. Shot canyons and other overgrown, completely inaccessible spaces could be treated with prescribed fire, as literally they are inaccessible to normal fire techniques.

But to treat so much of northern NM's forest landscape as denudable because there is a risk of fire due to increasing fire weather, is not only unwise but wrongheaded for virtually every goal of the forest service itself, not to mention local, state and national economics and indeed future.

PROBLEM:

USFS wants to keep extracting timber.

SOLUTION:

Optimize forest growth, resilience and integrity. Stop cutting so much mature anchoring-of-ecosystem timber, invest in positive/supportive techniques, not merely the destructive techniques that are the sole tool in your armament currently used for addressing NM forests. You fertilize and water other forests, why not here?

We did believe you, and think it was impossible, until you showed during the Hermit's Peak Fire what USFS could really do – you can reach in and address huge tracts of forest when you want to. Let's do it to optimize ecological forest and its water production here, that will support renewed timber growth for the future.

Dehydrating the forest through cutting, thinning, and the application of fire, will NOT do that.

MAJOR POINTS TO CONSIDER:

Your plans to start major fires and log mature trees for the Encino Vista Project illustrate the **insanity of doing the same action while expecting a different result**. This is a costly, deadly, mistake you are trying to embark all of us on – and almost completely outside of the public eye, since you did not fulfill your public communications duties to this Project, starting back in 2020 when you did not schedule a meeting for the nearby town of Canones, which you admitted at the meeting there last week.

Poor and unresponsive public communication, never remedied in any real way by *better* advertised meetings or organized discussion to explore other options. In fact, you the SFNF, have *not* explored better options than burning, thinning and removal of understory. You need a real discussion with the public, not the pretense of listening while you are mentally planning what to cut and burn to clear your To Do list.

These are irreparable decisions you plan to take on the Encino Vista Project- destroying irreplaceable mature forest and inducing its succession to grazing land (or “land more suitable for allotments”), will be the inevitable result . Fifty years ago, that could have worked, sure – but we are in a different system now, heating and increasingly unstable – your logging and burning will not be reversible under increasing climate heating conditions. Not only will trees not grow to the same maturity there, but as the Rocky Mountain Research Station has published, regeneration failure in ponderosa forest is already happening, and many other species will follow.

You are therefore planning to log mature forest that will never recover to recreate such trees again *ever*, due to our now likely permanent state of drought (we are technically still in the drought that ran 2016-2022; neither conditions nor precipitation have never recovered).

If you claim to want to restore forest health (by which, let us specify the health of the **ecological** forest, not the human construct of the SFNF (do please clarify which your proposed actions are **supposed** are to benefit, as a **specific request**), then you cannot kill the forest by various methods – not even multiple gigantic “oops! I burned your mountain forests down” .

EncinoVista’s proposed actions are vastly more likely than they have been, to kill forest- either slowly, by constant incursions, excess highly destructive roads, and by drying out the system through both cutting and logging, or by more escaped fires.

While you focus on “fuels reduction” coupled to logging and thinning, for financial reasons (timber and cattle) – you are actively destroying the resource you are in charge of. Please NOTE that you are taking these actions while ignoring all of their other consequences, except for those to you, the USFS. Encino Vista Project’s treatments will not be assisting the trees on 85,000 acres of forest – it will be killing 85,000 acres of trees.

Lastly, the Forest Service is ignoring its outright destruction of water production capacity in this region, which is critical to ecosystem and to humans. It will directly cost us, the people, in your reduction of water in the region, in terms of people, houses, habitability as well as causing government problems at local, state, national levels. Your destruction of these ecosystem services for the SFNF, the Jemez mountains, for northern New Mexico and the Southwest, is damaging to everyone and every species, to everything but the Forest Service as an entity.

Simply **those** consequences should be enough to make you rethink this path - and you, the local, young leaders in the USFS, will be the ones to change this picture. All of the problems

seen at the local level of USFS management do not magically turn out to be a “good” for the Agency, at the higher level – all of this increasingly leads to a worse about face, by Higher Ups, the longer an unthoughtful application of prescribed fire reigns. Yet all that is needed is to understand which forests are not in a state where fire can be contemplated, for instance due to persistent drought.

Yes, young FS personnel are in the same boat as they were when fire needed to be reinstated in forests that were fire-requiring, and USFS’ first about-face on fire occurred. Now we need another one that accepts that all forests are not the same and do not require the same one-size-fits-all, treatment. Because, quite simply, fire is **provably** not safe in the Santa Fe National Forest, and that certainly includes Encino Vista. Any meeting of fire with forest results in dehydration – and not just to trees and vegetation that s burnt, but to all vegetation and soil: heating dries out these systems, in a phenomena referred to in Australia as “fire follows fire”.

In fact it was recently proven in Australian forest by Philip Zylstra (2023) that prescribed fire changes vegetation physical patterning in such a way as to make emergent understory MORE prone to fire. This is not what is desired, here in the USA.

Yes, we as a nation need to discuss logging, finances, how the US fulfills its need for this resource – but I assure you, that our forests can be far more financially rewarding as an optimized and maintained mature forest (even if at risk from increasing climate weather mostly, NOT need for fuels reduction), then as a fire contractor paid millions to destroy Forest that we need to survive the future.

What you should do right now, as everything is in flux at local and state, national levels, is to pause all prescribed fire while you seriously investigate alternative approaches to cut-and-burn. Despite your “we are listening” words at USFS project meetings, there has been not even admittance that any other approach exists. In fact, the last time the SFNF investigated **any other approach, was 2001**, in a study which found local residents in the area of the SFNF preferred to use of *goats* to address undergrowth as a far less risky,

That was 23 years ago, and the close-mindedness of the USFS – which takes care to spend exorbitantly on “fire ecology” training while not even requiring a basic ecological training from all USFS personnel, even its leaders , has missed techniques, protocols, alternative approaches to even larger problems than fire¹

¹ Larger issues than fire include: climate change and ts overheating killing forest and other largescale ecosystems, inducing drought, drying up rivers, and losing human habitation due to flooding or loss of water resources and water production.

Along with not doing an EIS for Encino Vista, even though it is desperately needed, USFS has NOT done appropriate analysis of **the real costs** of its actions: economic, health, jobs, tourism as well as ecological, habitat provision, hunting and fishing, etc. Instead USFS is outright ignoring the huge role that ecological forest plays in cooling this region, in producing water and inducing precipitation; in sequestering carbon, in providing resources for local social and economic uses.

Note: ecological forest means TREES.

USFS has NOT done an appropriate reconsideration and analysis of **the risks** of this proposed action since its recent huge failures of prescribed fire, on the Santa Fe National Forest in 2022* HPF, CCF, CPF - despite the highly apparent need to do so.

Will you learn nothing till you burn your own house down?

(A SIDENOTE FOR USFS-

Burning by USFS is not like cultural burning in any way, nor will it produce beneficial effects that cultural burning can generate through its care, small size, intense monitoring with a large number of personnel, and specific, known targeted impacts.

The prescribed burning USFS does is the opposite of cultural burning in almost every way, and Forest Service indoctrinating people in "Fire is good now" mentality, using cultural burning as a starting point, is disingenuous, misleading and apparently leads to destructive pyromaniacs insisting on setting fires on New Mexico mountain forests in high winds. (A la the Hermits' Peak Fire.)

RECOMMENDATIONS

-Focus on opening up opportunities for new and better kinds of management on our forests. USFS on the SFNF has not even evaluated proven 21st century protocols for regenerative forestry, permaculture approaches to rehydration, seed planting, or biodiversity, nor has it tried, on the SFNF, to use extremely successful techniques for enhancing water production in similar environments using beavers, swales and ponding. These last techniques are already known and in pilot studies by USFS in Arizona's sky islands.

So are other modern tools like cooling and breathing gear for firefighters, , super-high-pressure hoses that can generate automatic responses to heat, drone or satellite early pinpointing of fire, or biodegradable fire retardant that can be sprayed directly on vegetation, fencing, housing, or the general WUI.

The US Gov already bought the sonic fire disruption inventors to the DOD; USFS already has a contract within the originator of a biodegradable fire retardant that can also act as a fertilizing nutrient, for instance – why aren't we applying these 21st century tools to reduce risk of fire?

In fact, why isn't USFS striving to preventively **reduce risk of fire** in northern New Mexico and its forests? This should be the first, and a major measure implemented by USFS. Yet it appears the only technique USFS is willing to apply is "fuels reduction" by cutting and burning – and given its lack of water placement in the case of an escaped fire at the Hermit's Peak site prescribed fire site, USFS does not even believe in mitigating its own risk in driplighting the dozens or hundreds of small fires that comprise a broadcast prescribed fire by having water on hand (see Hermit's Peak report).

Most fires (now roughly 80% even in the Southwest) are not due to lightning strikes, but to human firestarts, either purposeful or accidental. Last year on the eastern side of the Santa Fe National Forest, rangers regularly put out more than a dozen (or two!) campfires that are left untended, *each weekend* during summer. Not to mention starts by ATVs and other equipment, motorcycles and cars on thousands of miles of road surrounding the Encino Vista Project site, , or the constant starting of megafires by powerlines and equipment.

Humans start most of our fires, and the more access to remote forest sites by road, the more likely fire is started or brought by humans. Why don't most people, even in the area, know how dangerous their activities are? Where is the media campaign, with Smoky Bear truthfully telling us that we, humans, are mostly responsible for fire, and how and why to be careful?

Instead, it appears that USFS often uses any fire as cover to extend the range of a "wilderness fire". This technique appears to explain the many many slow reactions to fire – naturally started or not – here on the Santa Fe by USFS and other fire personnel. We who live on this forest constantly see such delays – 48h on the 2020 Medio wildfire, days on the Hermit's Peak Fire, more than a week of delay on the Calf Canyon Fire. These delays are incredibly dangerous in drought ridden and dry high-altitude forest, and indeed contributed to the ~350,000 acres burned in the CCF/HPF in 2022 – it created a months long burning of huge swaths of forest, endangered many villages, and even threatened the capital city of Santa Fe. Again – **only** propitious winds that steadily blew the USFS escaped megafire away from the city until the monsoon arrived, saved New Mexico's worldfamous City of Holy Faith, Santa Fe. **NOT actions of the USFS.**

That is a terrible thing to say, a terrible fact to know, one that renders local trust in the USFS moot, and causes locals to demand far more investigation and accountability, even now, on the escaped New Mexico fires USFS started through poorly executed prescribed fire, and ill-managed pile burns.

Where have you proven that we should trust you in any matter of fire n New Mexico, Forest Service personnel?

If you truly wish to regain the trust of the people of New Mexico, USDA Forest Service, you will

-conduct an open investigation into the protocols, training and personnel engaged in your prescribed fire and other fire handling programs. One in which you call locals in as witnesses, rather than taking only testimony for accountable USFS personnel.

-stop *pretending* to hold public meetings that are meaningful, and hold them. That means not wasting time slow-walking our questions, but answering them; and finding out while in a meeting, (through actual preparation perhaps, on our previous questions?) what the answers are to our questions, rather than delaying response then dropping it entirely.

I have personally been told more than six times in such meetings that my questions would later be answered by email. I have not yet had such a call. However, I did receive one call 9 months later from a project head in response to an inquiry phone message. That person was unsure what my question had been, but she was willing to help me – before she left the next week for a new posting.

If you do not have enough personnel to answer your phones or answer questions, then you do not have enough trained (in *ecology*, not just in *fire*) personnel to manage and train personnel according to USFS in setting fires while understanding consequences.

-staff your positions fully before taking on *elective* dangerous fire work that has already destroyed more than a dozen local communities. Those needing to rebuild burnt houses due to USFS in 2022, are still waiting the mobile housing promised them by USFS.

Two years later, all but TWO people have no supported housing. Yet you plan to start more such fires, AND you want our trust? It cannot be given until there is a true good-faith effort by USFS at the SFNF, to address the more than 14 mistakes it amalgamated to cause the Hermit's Peak Fire.

SFNF did not even have enough personnel (or training? Executive function? Seriousness?) to complete the main prescribed fire checklist, before starting the Hermit's Peak prescribed fire. Again, without water staged on hand, without sufficient or appropriate personnel – without even correct radio contact between teams spreading fire on the mountain. . The result was a devastating megafire – and you have literally not yet shown us that you would do any of this differently.

Time for new approaches

New Mexico's mountain forests are also sky islands, and arguably USGS's best scientist, Craig Allen, has proposed the biggest alternative to cut-and-burn, negative treatment forest management: rehydration of our forest ecosystems. Where is evaluation of this approach,

which would bolster not only water capture but forest production of water, and especially, water production *capacity*?

Where is the huge but necessary overall evaluation of the forest for its water resources, its hydrogeographical damage and tendencies, and the topographical analysis and design by which we can not only maximize our water resources and production for our critical future needs, but we can use a related analysis for large-scale fire planning and outright risk minimization.

Where is the analysis of which roads can be decommissioned, of the tens of thousands around Encino Vista? Roads partition the forest, damage hydrological flows and thus forest health.

Where is the direct request and even funding by the USFS for burying the powerlines that have started many of California's megafires, especially during fire weather?

It is time for USFS to lead, in determining how to build and design to minimize fire, maximize its capture, and assist the forest to remediate its fire resilience, **without** the necessity to start needless, risky, expensive, fires.

We do not have the time, the resources, the trained personnel (as evidenced at SFNF's three escaped megafires in 2022) to do this in time.

And there is NO backup plan, either in place or if and when it is necessary. Where, even are the metrics we need to determine when it is too risky to burn in New Mexico? Especially as red flag high wind days are not respected by USFS(see HPF) , and we can expect further misreading of plans and protocols, mis-understanding of fuel models or correct siting of tests, misallocation of personnel, and even an inability to fill out the usual prescribed fire checklist?!

I specify the above because not just one of those things were *known* errors that led to the Hermit's Peak Fire, but **all of them** are documented errors that contributed to that fire.

Yet as far as the public knows, the same personnel at the SFNF are in charge of decision-making, planning and even the usual poor implementation of fuel models for prescribed fire. Even worse, USFS in the form of SFNF and the Santa Fe Mountains Landscape Restoration Program has not updated its tools for addressing fire, whether in analysis (VPD, vapor pressure deficit, along with soil moisture and vegetation moisture, have already been demonstrated to be far superior measures of the risk of fire. Yet USFS has defaulted to the inferior "relative humidity" metric which proved so useless at Hermit's Peak ()REF) and its tools for fighting fire on the ground where mostly developed in the 1850s, with a few exceptions. Where is the modern tech we need to address this problem, for you, USFS are mostly funding firefighters with shovels, rather than predictive computational fire modeling, the biodegradable fire retardant USFS has had in successful tests for years, coordinated drones for observation, tracking, and *early* fire extinction.

USFS is also using outdated science that gives mere lip service rather than recognition, to growing known climate change concerns and directions. Or to recognition of interdependent

network tree resilience, which illustrates why many trees left post-thinning, die from lack of supports, whether physical or biogeochemical in the form of water and nutrients. Or to the criticality of carbon sequestration (which will take a huge hit in the Jemez Mountains under the Encino Vista Project, which will be taking mature, even 100-year-old trees to satisfy overseas timber needs.

But is it wise to injure, or even destroy our needed, long term resources, for very short term financial gain for a very few people? USFS can replace these financial gains – indeed, please tell us, the public, how We the People can pay you the Forest Service, not to cut our trees and lose us the huge longterm benefits of water, erosion control, habitat anchoring, water storage, water generation and water production capacity of our **trees**.

Because in executing the Encino Vista and other similar Projects here, you, USFS, are destroying our water resources, and thus our future ability to live here - as well as killing species, habitat, biodiversity, and carbon sequestering for the future.

I realize this sounds extreme. However, not only have we seen this in the past, it is already happening on a great deal of our public lands here in the US, as well as in regions as diverse as Australia, Spain, and Canada.

POOR SCIENCE IS GUIDING LOCAL TO NATIONAL DECISIONS

USFS literally does not understand that heating by fire causes dehydration, with large scale fires causing large scale forest dehydration.

It does not know or recognize that under climate change, fires are no longer driven by fuels, but by climate weather – hot dry winds, especially coupled to drought. Thus it is using an outmoded strategy that will not prevent fire under new climate regime – but will have deprived us of the sustainable forest that humans require for water production and the regional boost of 10+ degrees of cooling.

SFNF up through Hermits Peak Fire in 2022, was unaware of Rocky Mountain Research Station findings that prescribed fire combines with other stressors – notably, drought – to induce ponderosa and other species regeneration failure. Ponderosa and many other species are overstressed by drought, bark beetles, and atmospheric overheating; when then stressed by even light prescribed fire, 25% mortality of all trees ensues (Bradley et al, 2016). Seedlings are particularly vulnerable, seeing a 100% mortality rate due to light prescribed fire.

These last things mean that not only is USFS and other cut-and-burn land management actively decimating our tree populations at multiple sizes and age classes, but that it is increasingly likely to induce regeneration failure in ponderosa and other key tree species in ranges with multiple stressors operating.

Given its ongoing drought conditions, removal of understory, addition of fire, and lack of any positive supportive treatment by the USFS, northern New Mexico ponderosa/pinon-juniper forest like the Santa Fe National Forest is at high risk for regeneration failure.

Encino Vista Project's 75,000 acres of logging and burning puts that area and its surrounds are at even higher risk of regeneration failure. This is especially true because the last two years of acceptable precipitation levels were nowhere near sufficient to restore the water basis left from the last 6 years, and the 2016-2022 extreme drought.

While regeneration failure can be addressed over small acreage, it is far different to address and treat a large landscape like that of the Jemez forested mountains successfully for regeneration failure – especially because it is not only due to the induced dehydration of fire, but to the increasing atmospheric heating.

There is thus a shrinking window of time in which we can ameliorate damage to the Santa Fe National Forest successfully – that is, in order to keep it *as* ecological forest, and not as temporary rangeland for cattle. By the way, such rangeland, shrubland, grass or grazing land is in fact, not likely to be successful even as sparse grazing for cattle – because grazing at these high altitudes (7000-9000 feet) and its intense UV radiation, is usually ameliorated by the shade cast by trees, understory, and groundcover, whether live or natural mulch. Without shade, protection, or the mediation of local precipitation and evapotranspiration by trees and other self-sufficient primary shade, lack of water means not even grass will grow, and succession continues to high desert. This is already the case on some FS cattle allotments, and can be seen throughout the SFNF.

This is unacceptable as management policy for a critical resource, as well as unacceptable to all those in this region – most unaware of the near-term impacts of USFS cut-and-burn actions. For instance, the city of Las Vegas, NM has already experienced far less stable weather – and especially winds – now that the buffering capacity and protection of the thousands of acres of forest above it, has been obliterated by the Hermit's Peak/Calf Canyon Fire. But the loss of ~400,000 acres

But the highest costs will be the now likely-permanent loss of cooling to the region, and significant water production due to loss of water production *capacity* – i.e., trees. Calf Canyon/Hermit's Peak Fire will cost the USFS and US government more than \$4 billion, and that does not at all cover the ecological loss to the region.

We plant trees in windbreaks to protect our houses from winds. Or to protect us from erosion, or to provide shade.

You are instead removing huge natural windbreaks, and destabilizing NNM's forest ecosystems that serve as climate and temperature buffers and anchors for this entire region, and to some degree, continental winds that are redirected by the Rocky Mountains and their forests.

The task of the USFS is to provide stable resources of many kinds – yet here USFS actions are actively destroying not only the resource, but its core benefits in terms of ecological buffering, water production, carbon sequestration, erosion control, habitat provision – that we in New Mexico depend on. And again, that is not even counting the intrinsic ecological loss and destruction of biodiversity of your cut-and-burn policies.

It is also not even counting the health and safety violations you bring to New Mexicans of all species. The risk USFS has *brought* to the SFNF is huge, and ongoing – for you have caused our latest huge fires here on the SFNF, and it appears you intend to bring the same risks back here, despite not addressing your flawed personnel, thinking, or outdated protocols.

LASTLY:

Apologies that this set of Comments on the Encino Vista Project is not as formal as I would like – I was unaware of the deadline (yes, due to your poor outreach, which goes project by project rather than forest by forest) – but all of my assertions here are substantiated by scientific and news references that I will include in my more formal upcoming Objections to this Project. In the meantime, I hope this reads in such a way that FS personnel can grasp the importance of a change in its scientific comprehension, its understanding of the longterm and huge scale of the damage they have already created on the Santa Fe National Forest, and the lack of tolerance that New Mexicans now have for any dismissive, unresponsive, and downright careless actions by the US Forest Service here on the Santa Fe National Forest.

We were here, we were witnesses, we know the conditions and the care they require – and that USFS and its contractors have provably NOT taken here on the SFNF.

Shouldn't it be "three strikes you're out" on the SFNF for the level of destruction you have wrought on this forest and northern New Mexico? Maybe give us a pass on any further fire, due to discernable conditions and impacts, rather than go full speed ahead with exactly the same problematic approach and mindset?

Use New Mexico as a testbed for new and emerging positive and beneficial techniques and protocols – you have a gigantic acreage that needs regeneration due to your escaped fires, to test them out.

Three gigantic fires in 2022 alone, with precursors to them earlier in the same forest?

Perhaps it's the forest, not you.

Why not check on that?

Best regards to the USFS team on this Encino Vista Project and throughout the SFNF, I hope this is at least thought-provoking as to how we meet the future with resilience and adaptation, ourselves. Thank you for reading.

Encino Vista comments
Valerie Gremillion

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