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# Voodoo Vegetation Modeling Dooms Native Forests and Wildlife Habitat

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> "Misinformation abounds; we read in scientific literature that native juniper trees are invasive … pinyons are often regarded as such, and both are treated as if they were

undocumented immigrants".

– David Charlet, Shah-Kan-Daw, *Anthropogenic simplification of vegetation structure.*

Utah's Dixie National Forest just released a scoping letter for the "Pine Valley Wildlife Habitat Improvement Project". It's the latest in a never-ending barrage of federal agency Pinyon-Juniper, Sagebrush and other woody vegetation killing projects that are turning public lands into hot, dry, ugly, weedy wastelands. This one targets 320,000 acres of the Pine Valley Ranger District north of St. George, including 250,000 acres of Inventoried Roadless Areas. The landscape includes an immense laccolith (a lens shaped mass of igneous rock). It lies at the intersection of three Ecoregions – Great Basin, Mojave and Colorado Plateau – and is high in biodiversity. California Condor, Peregrine Falcon, Northern Goshawk, Townsend Big-eared Bat, Spotted Bat, Elk, Mule Deer, Wild Turkey, Flicker, Grey Vireo, Broad-tailed Hummingbird, Virginia's Warbler and Brewer's Sparrow are listed as species of concern. There's resounding silence about Pinyon Jay, a species whose population is plummeting as its pine nut producing forest habitat is being obliterated by federal agency vegetation "treatment" projects.

The Forest Service relies on a modeling report by

The Nature Conservancy prepared under a Challenge Cost-Share Agreement. The report proclaims that TNC can foretell the future with "Landscape Conservation Forecasting TM" modeling.

*"Future conditions of the District's major ecological systems, under alternative management scenarios, can be predicted with computer state-and-transition models".*

TNC's crystal ball is trademarked, perhaps to create the illusion that this is cutting-edge stuff, or to dissuade activists prying into the process. Assumptions abound, with value judgements on the worth of plant communities heartily thrown into the mix. Crested wheatgrass seedings (exotic cattle forage grass) are considered "benign". "Encroaching" native Pinyon, Juniper and Ponderosa Pine trees are "high risk" or "bad actors".

Predictably, TNC finds that the Forest's woody plant communities, even Serviceberry (a whopping 70,000 acres) and Cliffrose (11,000 acres) categories, are drastically "uncharacteristic". Serviceberry is 100% "departed" from the condition TNC claims it should be in. Who knew there was a major Serviceberry and Cliffrose health crisis on our National Forests? There's not. It's all about how the

modelers contrived to define and categorize what the plant community living in a particular land area should be.

Categorizing the plant community as what an agency desires to be the dominant plant species, rather than what is present or what the late successional stage actually is, clears the way to justify destroying mature and old growth woody plant communities – reducing them to bare dirt, ash, and the ultimate goal, grass for livestock forage.

If you were to go out on the Dixie Forest and look at TNC's Serviceberry sites, you would see PJ, some Ponderosa Pine and a variety of shrubs growing there. It's the conifers that are the project's target. TNC states the major problem in Serviceberry sites is *"tree encroachment by Pinyon-Juniper and Ponderosa Pine"*. The Dixie Forest can apparently get the most "bang for the buck" (a consideration in the TNC report) by slaying these trees. Why have trees when they can be replaced with exotic grass for cows instead? Any Serviceberry or Cliffrose plants present are likely to be killed as collateral damage in the vegetation purge being set in motion.

TNC models the outcome of various forest destruction methods. For Serviceberry, these are: Chainsaw-Lopping, Herbicide+Plateau+Seed,

Hypo-Hatchet-Spyke, Contractor Masticate+Herbicide+Seed, Inhouse Masticate+Herbicide+Seed, Rx Fire, Thin+Herbicide+Seed. A stench of herbicide wafts from the screen just reading about it.

The Spyke HydroAx (I had to Google it) is an herbicide squirting ax that mainlines poison into a tree trunk. Seeding is to be done using exotic grass. The type of chemical generally referred to as "herbicide" is not revealed. It's likely to be the persistent plant poison Tebuthiuron, sold as Spike, that kills a broad range of woody vegetation. But who knows, it could be 2,4-D, glyphosate (Round Up), drifting Dicamba or a toxic brew of them all. Outside Roadless areas, all methods except chainsaws and fire are modeled for use. Inside Roadless areas, TNC finds "*a modest amount of tree encroachment which is high risk*", so the forest would be Spyke hydro-hatcheted or burned in an "Rx" fire. They delight in making plant killing sound beneficial. Following deforestation, watersheds are proposed to be doused with Plateau (Imazapic) herbicide that interrupts plant seed germination and is touted as preventing cheatgrass.

There's already a big cheatgrass problem on this heavily grazed Forest that suffers many kinds of human impacts, with flammable cheatgrass carpeting understories of trees and shrubs in

some areas, especially dominating in wildfire sites. Project disturbance will only make matters worse. Cheatgrass thrives in machine disturbed soils, hot deforested sites, and torn up cryptogamic crusts. These crusts are vital components of arid ecosystems, a living soil covering of lichens, mosses and blue-green algae that help prevent weeds, limit erosion, and sequester CO2. TNC's vegetation community descriptions and modeling are dead silent about crusts.

Cheatgrass relishes the hot, dry conditions created by clearing the land of micro-climate moderating woody plants. It loves cattle grazing – trampling tears up soils, manure and urine nutrients abound, and a half ton dispersal agent spreads seeds all over the place.

A new scientific paper has yet again demonstrated that livestock grazing causes cheatgrass. Project disturbances will generate the perfect storm of conditions for cheatgrass to dominate in this chronically grazed landscape. No amount of herbicide will prevent it. TNC models project outcomes with "proper" livestock grazing, without detailing what this means. If it is grazing under the Forest Plan standards, the weeds stem from those failed policies. Another recent paper warns that frequent fires from annual "arson grasses" are causing forest loss.

*"… with climate change and human assistance we are moving to a grass world".*

*"The grasses are, more or less, like kindling". If someone lights a match and throws in the middle of a forest, it is unlikely a fire will start, but throw it in a field of cheatgrass "and odds are that it's going to catch.*

This raises the specter that arid mountains are fated to become treeless as cheatgrass and other annual weeds drive fire after fire, precluding native plant recovery. Proposing radical disturbance of the Pine Valley project in a landscape highly vulnerable to weed expansion is madness.

TNC's cheatgrass cure-all is Plateau herbicide. I've seen its handiwork in plenty of places. BLM revels in spraying this chemical in its cattle-centered fire rehab projects, and its own woody vegetation assaults. Plateau does not discriminate between cheatgrass seeds and native plant seeds when it halts germination. It disrupts natural recovery that may be taking place. Spray hype ignores that Plateau (plus 2,4-D or other chemicals that may be mixed in if cheatgrass has already started germinating) can kill the perennial native grasses and forbs that survived fires. BLM sprayed it to "control" cheatgrass after the Holloway Fire in

eastern Oregon. Result: Gray stripes of dead herbicide-killed bunchgrass and lots of cheatgrass. In the aftermath of the 2015 Owyhee Idaho-Malheur Oregon Soda Fire, BLM spent vast sums on aerial spraying of Plateau. There's now an explosion of cheatgrass and seas of expanding medusahead.

TNC's Pine Valley modeling for Wyoming Sagebrush (85,000 acres, 100% "departed") and other communities follows the Serviceberry pattern in lockstep. Areas occupied by trees are categorized as sage sites, found to be highly "departed" and "uncharacteristic". In the immortal words of Ely BLM whose massive PJ killing projects have long relied on TNC methods, the forests are "out of whack". This can only be cured by laying them to waste. For the 100,000 acres of Pine Valley Pinyon-Juniper forest that TNC concedes is present, 83% of the PJ is in a state of "Departure". Across the landscape, TNC finds "*an out of balance build up of conifers*".

Landfire website information is key in TNC, BLM and the Forest Service categorizing plant communities in an earlier successional state as the norm, with minimal woody vegetation cover. Clicking on "BPS" at the Landfire site takes you to a TNC "Conservation Gateway" site. TNC has long been deeply involved in generating the data that underlies the manipulation of woody vegetation
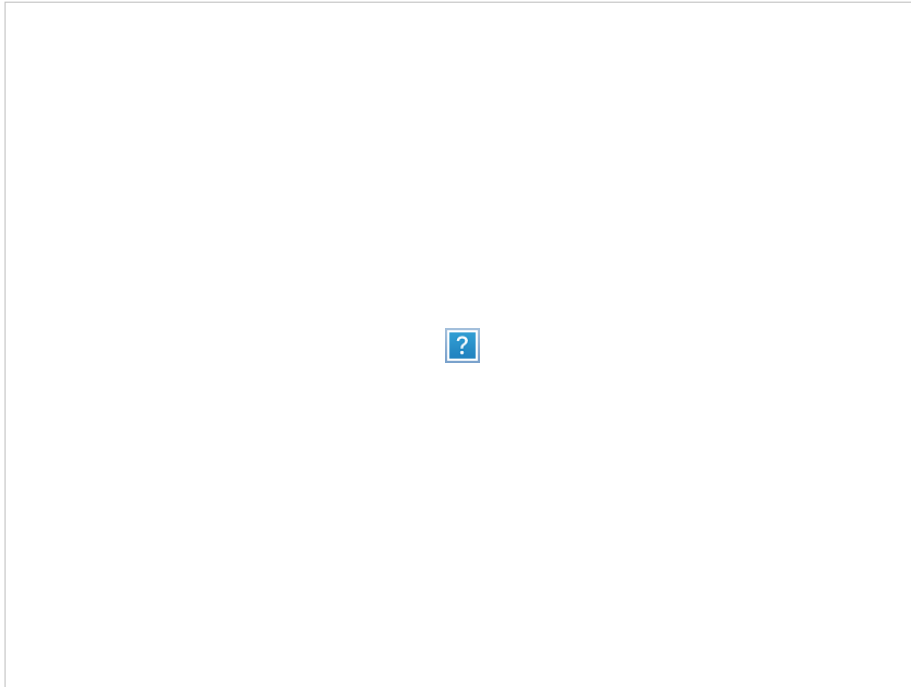
communities, with work supported by taxpayers through Challenge Cost Share grants. The FRCC site is cited as a joint government and TNC site:

*"Homepage of the Interagency and The Nature Conservancy Fire Regime Condition Class website, USDA Forest Service, U.S. Department of the Interior, The Nature Conservancy, and Systems for Environmental Management"*.

I truly don't understand the whole circular reasoning process. I do, however, understand enough from reviewing scores of agency documents using BPS, FRCC and similar model artifices and classifications to justify radical deforestation and sagebrush destruction, to believe that this methodology has become a huge problem for conservation of wildlife habitats and biodiversity. I encourage other activists and scientists more skilled than me to critically examine it. The BPS and FRCC categories are used as the basis for finagling ways to attack late successional forests and shrubs. This lays the foundation for disrupting natural plant succession, preventing mature forests from developing, and destroying those that exist. Here's a typical goal from an Ely BLM document: *Move the landscapes within the watersheds towards Fire Regime Condition Class (FRCC) 1, with a mosaic of seral stages attaining the potential cover percentages*

*of grasses and forbs for the respective biophysical
settings (BpS).*

What Ely BLM does to a PJ forest that TNC's models proclaim to be "Out of Whack."

In Pine Valley, TNC admits that PJ grows in the similar elevation and precipitation zone as Serviceberry, but points to a hodgepodge of references at the Landfire site to proclaim that Serviceberry, not PJ is what should be present. "Departure" is based on the difference between the plants on the land now and the plants that are claimed to have been present under pre-settlement conditions.

Fire return intervals and Fire Regime Condition Class from Landfire data (which TNC has been deeply involved in, and funded for, developing over the years) are used to divine pre-settlement plant "reference" communities. These fire return intervals are used to plot the "Historical Range of

Variability" (HRV). FRCC uses the "departure from HRV". The modeled plant community is called the Biophysical Setting (BPS). Monocultures of flammable cheatgrass and old growth forests can end up in the same agency FRCC category, Class 3. How can that be? Under the models, cheatgrass burns too frequently (which is true), and mature forests and sage have not burned frequently enough. Hence, the only recourse is "treatment". Somehow it is only ever the forests that get treated by the Feds, not cheatgrass monocultures. Placing plant communities in FRCC Classes 2 and 3 is used by agencies for fire risk fearmongering. Class 1 is the stark ideal.

A cardinal rule seems to be to never look outside the artificial world you are creating, to see what evidence is around you. Never consult historical sources from or about the early settlement era – such as explorer or settler journals, Mining District records, the early Interior Department's General Land Office survey records or other sources. Never look at all the past agency veg clearing projects that drastically altered communities. Never look at what the land can tell you, the weathering stumps of very old trees, or blackened soils from charcoal processing. In this case, that extends to never look at the Forest's Website. There, up until recently, by a photo of a stone monument to Mountain Meadows Massacre

victims, was a photo of charcoal kilns from the region's iron ore mining and other evidence of considerable early settlement era disturbance.

The Dixie country is no stranger to trickery and deceit. At Mountain Meadows in the project area, the Mormon's Utah Territorial Militia (Nauvoo Legion) armed Southern Paiutes and coerced them into joining a militia attack on an emigrant wagon train bound for California. The Whites plotted to pin the attack on the Paiutes. Militiamen disguised themselves as Native Americans but feared some emigrants had seen through their disguises. Using a white flag of truce, they led all the emigrants over 8 years old to slaughter. John D. Lee, the only militiaman to be convicted, believed Brigham Young may have ordered the attack and concealed evidence. Surviving children recounted seeing the militiamen washing off war paint.

Back to the TNC report. It's full of little boxes and connecting lines, called "state and transition models". These diagrams of little boxes make it all appear very complicated – when basically they represent disrupted plant community succession stages. The modeling rigamarole is aimed at keeping woody plant communities from existing on the land as a late successional climax stage, i.e. a fully developed forest and/or shrubland.

The modeling is also infused with value judgments

about the "benign" nature of crested wheatgrass, forage kochia and other plants the Forest Service and cattlemen prefer, in developing something termed "Unified Ecological Departure" defined with nonsensical jargon. This can only be cured by huge influxes of federal funds totaling as much as $550/acre for PJ mastication and herbicide, or $800/acre for "aspen thinning".

**The West's Arid Forests Are Being Ripped Apart Based on Modeling Chicanery Targeting Woody Plant Communities**
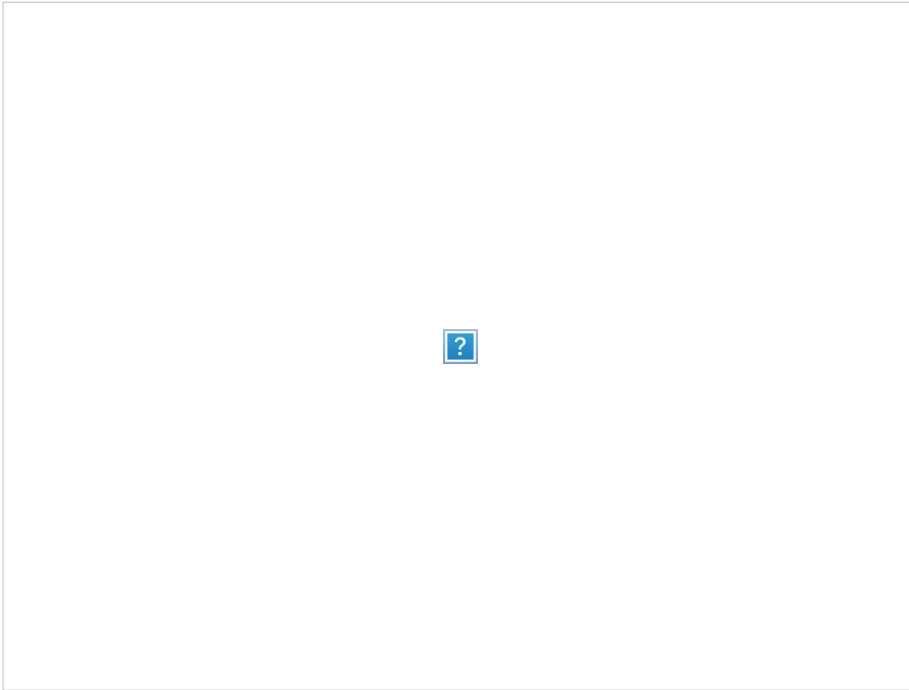
Beautiful wild places and irreplaceable wildlife habitat across public lands are being destroyed based on these convoluted modeling schemes. In Bodie Hills Bi-State Sage-Grouse country of California and Nevada, a TNC report is used by BLM as a basis for manipulation across the landscape. In Montana, TNC is aiding cattle ranchers in targeting lower elevation Douglas fir for eradication.

Nevada Ely BLM Watershed Assessments (Cave and Lake Valleys, South Steptoe, Egan Johnson project and many others) are masterpieces of the Dark Arts and arcana of modeling deception in support of landscape-level attacks on forests and sagebrush. Fire return intervals and other information embraced and/or developed by TNC undergird the documents. The 2019 Ely BLM Long
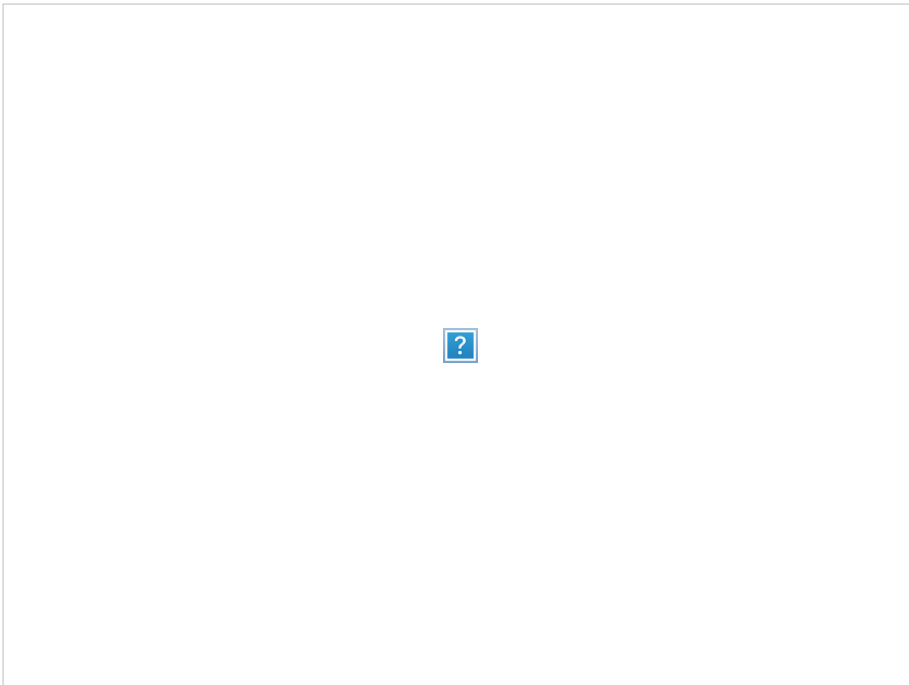
and Ruby Valley Watershed EA continues to use TNC Biophysical Setting (BPS) info via the Landfire site's link to TNC's own conservation.org website.

In Idaho, Owyhee BLM, NRCS, TNC and cattle ranchers long schemed to destroy the ancient juniper forests on Juniper Mountain by using bogus fire return intervals and other information from the Landfire site to model the trees out of existence. If a short enough fire return interval is used, the modeling finds that forests can't exist because the land burns too often. This aids BLM and the livestock industry immensely in Rangeland Health Assessment process. It provides a tree scapegoat that distracts attention from livestock damage. The land is defined as unhealthy because there are junipers present. Rather than deal with the cows, the agency gets rid of the trees. Abracadabra. Ancient forests vanish.

Voodoo vegetation modeling map for Juniper Mountain, used to justify napalming many thousands of ancient Western Juniper trees across the rugged mountain. The map's left sidebar has no indication of any juniper at all being present. Zero juniper communities are mapped.

Juniper Mountain was covered in Western Juniper forest before the trees were modeled out of existence, and fated for "treatment".



Six-foot diameter charred stump of Western Juniper after the Juniper Mountain forest was napalmed by BLM.

## These projects destroy native vegetation to

generate more cattle forage across the West – all the while claiming lofty goals of "restoring" pre-settlement plant communities, fire suppression, "saving" sage-grouse or other species, when in fact they are doing just the opposite.



Expanse of Juniper Mountain Western Juniper, some still smoking in the aftermath of Owyhee BLM's "Rx" burn.

The Dixie Forest modeling madness is mirrored in methods being used by federal agencies across the West. Ignore what is on the land now – especially mature and old growth forests. Ignore crusts. Use the shortest fire return/disturbance intervals you can get away with. Ignore history. Conjure up plant community categories heavy on grass and short on woody plants. Categorize plant communities growing in the elevation and precipitation zone where Pinyon-Juniper grows as

some other type of plant community with shorter fire return intervals. Design Ecosites and other models to justify keeping the land in a permanent state of arrested development, where there's more grass and less woody plant cover. Cloaked in scientific garb, TNC operates as an agent, enabler and tool of government and corporate policies tailored to benefit the livestock, logging and other industries, getting government grants for its work.

Sagebrush communities can't rest easy either. Mature and old growth sagebrush with denser canopies exceed the amount of cover the models allow. Sage with splendid crusts but sparse grass cover, or sites where the cows have killed off understory plants, are similarly found to be deviant and "uncharacteristic". Sagebrush that provides crucial habitat for Pygmy Rabbit, Brewer's Sparrow, Sage Thrasher, Sage Sparrow and Sage-grouse must be mowed, roller-beat or otherwise abused. Passive restoration, removing grazing disturbance to heal understories, is verboten.
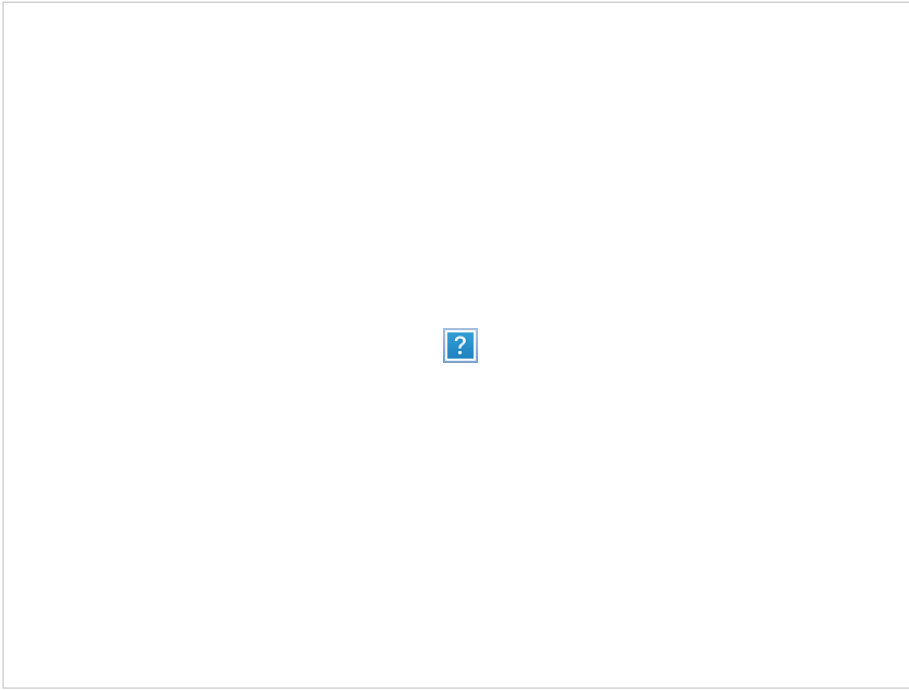
Here's my non-trademarked Future Forecasting (even without consulting what happens when the Wheel of Fortune is reversed in the little Tarot book I found soggy in the street one day):

Intertwined wild cards of climate change, weeds and grazing, now rule. Arid mountain ranges are
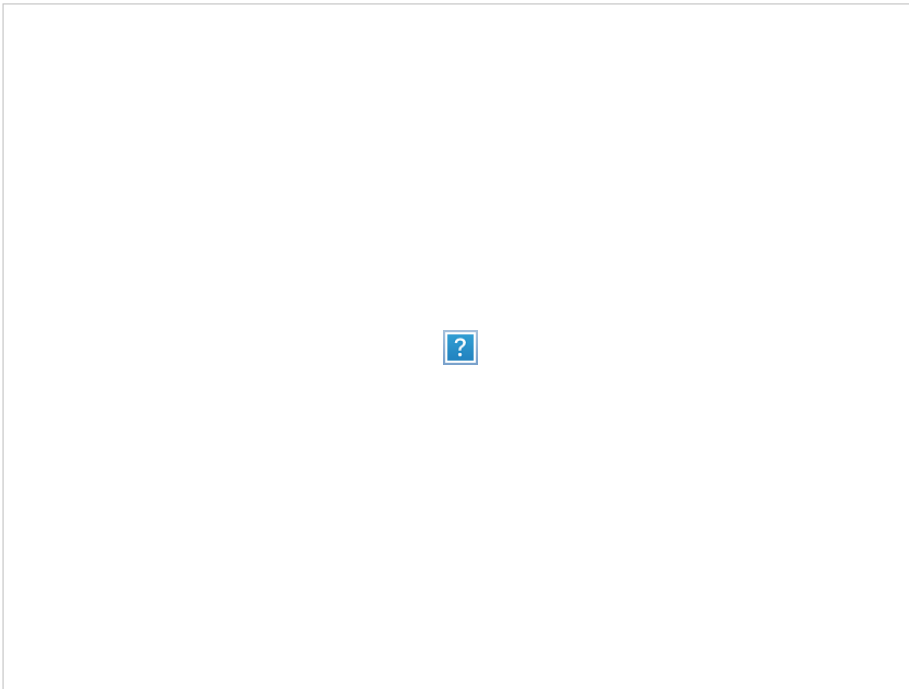
becoming treeless. They are under siege from hotter temperatures, climate-driven fire and other stresses. Federal deforestation projects that denude mountains of climate-moderating trees and woody plant cover worsen the Climate Crisis. They fast forward potentially irreversible forest and shrub community loss.

David Charlet's Shah-Kan-Daw paper, written after a trip to Iran in the Bush Iraq War years, lays out the path the public lands are on. What happened to Iran's forests and shrubs over many millenia is happening to the arid West in a heartbeat, less than 200 years. Federal projects based on flawed models are driving ecosystems past a point of no return.

Instead of elaborate scheming to justify killing more trees and shrubs under a relentless Manifest Destiny management mindset, we must preserve all that we have. Shred the heap of BLM and Forest Service plans authorized or in the works, based on dodgy models designed to disrupt native woody communities. End weed-causing grazing. Apply the funds saved to developing bio-controls for annual grasses. Reforest and restore shrubs across our public lands.

Cheatgrass and other weeds thriving 2 or 3 years after BLM cut and burned junipers in Pole Creek on Juniper Mountain.



A wall of cheatgrass and bulbous bluegrass from Owyhee BLM Pole Creek juniper burning –continuous tinder dry grass where four years ago there was forest cover.

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