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It All Went Up In Flames: An Analysis of Northern California's Colonial Fire Policies

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Abstract

In recent years, California has experienced an onset of cataclysmic wildfires as a direct result of colonial fire policies. Fire suppression policies simultaneously damaged Northern California ecology and contributed to the genocidal attack on the cultural practices of indigenous communities who live in reciprocity with the land. Fire has a long history in California; indigenous peoples used fire as an ecological management tool and as a cultural resource, namely for basketry and harvest. Colonial policies expelled fire from California in an attempt to control the land and subjugate the native communities living on it. Environmentally, removal of fire resulted in fuel buildup and the loss of oak forest ecosystems. In addition, indigenous peoples were isolated from their ancestral knowledge of fire tending and their practices of basket weaving. There was unity in fire policy—it was an attempt of land domination and a great cultural harm. Eventually, scientific research upended suppression policies, and significant strides have been made by the California government to return fire back to the land. Indigenous traditional ecological knowledge and fire expertise continue to build a brighter future for California lands and peoples.

Introduction

In the recent autumns, it seems more often than not that I have opened my window expecting the endless blue of California skies, only to see a sinister orange haze and drifts of white ash settling like foreboding snowfall. The advent of increasingly destructive fires has been mainly attributed to climate change, but the truth is more complex. The brunt of the blame for these seasonal catastrophes falls on the shoulders of colonial fire policy—fire suppression outlawed indigenous fire practices, inciting immense ecological and cultural damage. We face the consequences of this wrongdoing today, as hotter and deadlier fires raze the California landscape (see fig. 1). This paper explores the unity in the eradication of indigenous culture and attempts of controlling nature in Northern California as expressed through colonial fire policy. By observing California's history of fire—first as a natural phenomenon and then as an ecological and cultural tool utilized by native peoples—we may understand how the state's ecology was ultimately damaged through colonial fire policies that intertwined objectives of cultural erasure and dominance over the California landscape. The detrimental effects of colonial fire policy have been felt most keenly by indigenous communities, and this paper concludes with



Fig. 1. Fire burns a neighborhood in the Palisades (Gomes).

observations of the ongoing healing processes through the legalization of cultural fire that are taking place today.

California's History of Fire

When early Spanish colonists first set their sea-weary eyes on the Californian coast, they christened it “The Land of Fire” (17), as ethnobotanist M. Kat Anderson tells us in her book *Tending the Wild*. They were initially describing the fields of poppies that swathed the hills in an incandescent gold (see fig. 2), but this title turned out to be quite apt for another reason (Anderson 17). California's history of wildfire dates back to over 12,000 years ago, when lightning would strike ablaze everywhere but mountaintops and deserts (Anderson 17; Stephens et al. 206). Over millennia, Californian nature has grown into this heavy fire regime. Californian vegetation has adapted to not only tolerate but to require fire to achieve full development (Anderson 17). According to a study done by UC Berkeley researchers, approximately 4.5-12.0% of California burned every year before the mid-Holocene epoch (Stephens et al. 210). It was these primordial fires that colored the hillsides in wildflowers—the constant blazes cleared brush and opened the land to the multicolored carpets of fiery blossoms, so the Spanish



Fig. 2. The so-called “Land of Fire:” California poppies in bloom (Randklev).

name was surprisingly astute. The constant burning was intrinsic to California's Eden-like appeal; it crafted the vibrant hills, lush forests, and verdant prairies—exactly what made the state so attractive to colonial forces. But this ecological flourishing was not simply the result of lucky lightning strikes; the indigenous people of California followed the natural fire regime and soon became the architects of the land.

After the increase in human population during the mid-Holocene epoch, the main cause of fires shifted from lightning to human activity. Indigenous people from across the state of California used and continue to use fire to their advantage for both ecological and cultural purposes (Stephens et al. 206). As MacArthur research fellow Robin Kimmerer stated, “application of fire is viewed by many indigenous groups as a spiritual responsibility to the land, a tool that was given to people to fulfill the caregiving responsibilities for the land and to promote world renewal” (Kimmerer and Lake 38). Indigenous communities believed fire was a sacred instrument of rebirth, one that was beneficial to the land it was applied to. Incoming European colonists did not share this outlook—the dominant Western perspective regarded fire as synonymous to destruction. This divergence in perspective would later become the groundwork for the colonial fire regime that settled over Northern California like a dark cloud of ash.

Indigenous Uses of Fire

Native peoples used fire as an ecological management tool across the state, especially in California's northern regions. Their firetending was beneficial to the land. The Yurok tribe in Northwestern California used fire to manage the forests and prairies they lived in for thousands of years (Cultural Fire Management Council). Yurok tribe member Margo Robbins, who also serves as the executive director of the Cultural Fire Management Council, describes her people's

fire practices as “the primary tool we used to keep the land healthy, to make good habitat for animals and people” (Robbins). She details the benefits of the burns her people conducted—the remnant charcoal and ash would be absorbed by the groundwater and subsequently clean it of toxins, purifying the Klamath River (see fig. 3). Robbin’s description of Yurok fire practices



Fig. 3. An aerial view of the Klamath River (Hartwick).

indicates the expertise of the Yurok in tending to the land around them. Fire had clear and tangible benefits to California ecology—benefits that were understood by indigenous fire sciences. This traditional ecological knowledge was backed by thousands of years of living in harmony with California nature; it was a deep wisdom that European settlers entirely lacked. It also was a knowledge that extended beyond the Yurok peoples.

Other Northern Californian tribes applied fire to their environments for similar reasons. Virgil Bishop of the North Folk Mono people described their fire practices of burning stagnant

deergrass growth, used for basketry and harvest, by explaining that ““some of that stuff just stays there and doesn’t produce anything, so they would burn it and it would come back in again better than it was—full of vitality with many stalks to get” (Anderson 145). In indigenous culture and belief, fire was reciprocity. Native peoples conducted burnings to improve the health of the land, which in turn increased the yield of the vegetation that grew on it. There was no notion of exploitation in fire use, or in any indigenous harvesting practices. There was symbiosis in fire—the burned vegetation grew back healthier, allowing for a more fruitful harvest.

Perhaps the most relevant use of fire by the indigenous people of California was to modify forest structures. In the film *Firelighters: Fire is Medicine*, Margo Robbins calls her people (the Yurok) “ecosystem engineers” (Zeig) as she describes the way they would set low intensity fires to clear the flammable shrubland understory of forests, allowing old growth trees to thrive. Burning the understory encouraged cavities to form in these large trees; after the interior of the trees had rotted away, birds and small animals would carve out homes and live inside the giant oak trees (Zeig). Standing in a primeval, impossibly green forest, she points out the spacing between towering, wide, ancient tanoak trees—there is an equidistant balance in the forest, remnants of native land management. The balance is symbolic of the relationship between the Yurok people and fire. They lived in amity, each benefiting from the other. Indigenous ecological stewardship stemmed from the belief that people and environment were meant to be one in the same—take care of the land, and it will take care of you, as shown by another, greater benefit of understory burning.

The primary objective of understory burning was shared by the Yuroks and by other Northern California indigenous peoples: it reduced fuel buildup and thereby the risk of hotter, deadlier, uncontrolled fires that threatened nearby villages and settlements. The neighboring

Karuk tribe burned their tanoak forests annually to prevent biomass buildup. The Maidu set forest fires every year to protect themselves against highly destructive wildfires. Preventing biomass buildup was central to the health of the California wilds. Minor controlled burns (see fig. 4) would act as small reliefs, beneficial to both the land and to the indigenous people living



Fig. 4. A low intensity fire burns through the understory of a forest (Ecosystem).

on it. There was a shared harmony, a dual purpose. The manner in which the understory was burned was also reflective of traditional ecological knowledge held by native peoples for centuries. Nellie Lavell of the North Fork Mono described the fires of her people and other indigenous communities in Northern California, saying, “every year fires were set and they never got hot enough to burn the big trees” (Anderson 152). Traditionally, burns would occur in the autumn or spring to prevent high intensity fires (Anderson 153). This reflects the ancestral knowledge of the land that native peoples used to fuel their fire practices. Indigenous technology

and land knowledge kept the fires safe and relegated to demarcated areas. Through living in symbiotic harmony with their environment, indigenous people cared for the land—allowing them to harvest cultural materials in kinship.

Indigenous people also used fire for cultural reasons; predominantly, fire was employed in the creation of basket materials. Native basketry requires straight and slender plant growth—fire was an apt tool for creating a variety of basketry plants (Kimmerer and Lake 38). Native weavers primarily used plants that were under three years old, untouched by natural



Fig. 5. Woven Mono basket, 1920 (California Historical Design).

imperfections such as lichens and insects. Mono elders recall the burning of “buck brush, deer brush, sourberry, redbud, button willow, black oak, chokecherry, blue oak, interior live oak, willow, and leatherwood”

(Anderson 222). This practice predates European contact by several thousands of years. Baskets weaved with woody materials (see fig. 5) can be found across nearly all of California’s indigenous communities, and they all share characteristically straight and smooth branches—which as Anderson describes, are “the type of material produced by a shrub after it has been pruned or burned” (224). Baskets were created for many uses, ranging from cooking baskets to burden baskets for cumbersome loads to baby baskets for small children to be cradled in (Anderson 226). So, fire served a cultural purpose in conjunction with an ecological one.

Baskets were integral objects in indigenous communities across Northern California; they had both utilitarian and artistic purposes. Additionally, the use of fire to create baskets serves to ground the abstract idea of reciprocity—when indigenous people burned the land and the trees, they fostered ecological health and wellness. In return, the plants that grew in the rich soil left behind a material central to indigenous life: basketry woods.

Early Fire Policy

The careful symbiosis that crafted California's idyllic landscape, built on indigenous ecological management of wildfire, was soon upset by the arrival of Spanish colonizers. They brought with them disease, genocide, and a different perspective of fire—one that would destroy the reciprocity between the environment and the indigenous people living in harmony with it. California's first colonial policy was authored by newly conquered Alta California's governor, José Joaquín de Arrillaga. In it, he described indigenous fire tradition of burning prairies as “childish” and bringing about “mass damage,” deeming it a “very harmful practice” (Thomas). He enacted a policy of banning cultural fire, which would become the established colonial practice from when he wrote the law in 1793 into the 1970s.

This decree had a twofold effect. Firstly, in an act of blatant racism, it discredited the traditional ecological knowledge of the indigenous peoples of California. It replaced the fire regime that had been tended by the inhabitants of California for millennia—and by nature itself before that—with a colonial perspective on ecology. It demonized the fire that had shaped the rich landscape imperial Spain had found so appealing. Through the banning of fire, indigenous peoples could no longer employ fire in the interest of environmental health. Additionally, the incredibly patronizing language of the decree was a reflection of the racism that fueled colonial fire policy—a trend that would long outlive its author and the administration he penned it for.

Secondly, it criminalized one of the most central parts of indigenous culture—which cemented the edict as a core part of colonial Spain’s genocidal practices. By outlawing indigenous fire practices, the Spanish were attempting to destroy thousands of years of shared native heritage by alienating indigenous people from the materials they required for basket weaving and harvest. Unfortunately, fire suppression did not end with Spanish colonial rule; it continued to thrive even after California was annexed by the United States.

The synthesis of California government policies in banning indigenous fire applications and furthering genocide is perhaps most clearly displayed in a single act that addresses both: An Act For the Government & Protection of Indians. It was drafted at the first meeting of the California State Legislature, and it acted as the first American fire suppression policy in California when it was approved in 1850. The act criminalized setting fires to prairie lands or preventing their extinguishment, with the cost being a harsh “fine or punishment” (An Act). This, however, was a brief two lines in the center of the decree. The main goal of the act was to legalize the subjugation of indigenous people through enslavement. Any white Californian was given permission to round up any native person they deemed a vagrant and auction them off into forced labor. White people were also permitted to take an indigenous child and, with judicial permission, “have the care, custody, control, and earnings of such minor” (An Act). This act was an immensely racist piece of writing instrumental in understanding the unity in fire suppression to eradicate indigenous culture and control Californian ecology. In the same breath, it criminalizes indigenous cultural practices through the banning of fire and legalizes their enslavement. After this decree, prohibiting cultural fire was cemented into the California legislature for the next hundred years.

Fire Suppression & Its Effects

In the beginning of the 20th century, a series of calamitous fires devastated the Northwestern United States, culminating in changes to national fire policy. The first of these was a sequence of fires that burned Idaho, Montana, and Washington for months on end in 1910, despite every effort to put them out. Fire historian Stephen J. Pyne wrote that, “mass fires stormed across the landscape, disintegrating prepared firelines like tissue paper tossed into a furnace” (245), in reference to the destruction that took place. The depth of the devastation forced fire protection policies into the spotlight. Twenty years later, the same region was blighted



Fig. 6. Tillamook smoke and fires ravage the forests of the Oregon Coastal Range, 1933 (Oregon Department of Forestry).

by the disastrous Tillamook fire season (see fig. 6). Pyne called these fires “extraordinary” (239). The first spark, “stoked by the heaviest fuels in the country” and “blistered by the rushing east wind,” (Pyne 239) caught on August 14th, 1933. It quickly “became a conflagration” (Pyne 330).

Fuel buildup is the primary reason that fires in the 21st century are so catastrophically damaging. Fire suppression policy is built on the immediate extinguishment of all fires, including small intensity burns. This created a nearly fifty year buildup of highly flammable vegetation and organic matter in densely packed forests—an environment ripe for the proliferation of much larger, hotter, deadlier fires to ravage. Such is the “fire suppression paradox” in which “putting out a fire today, we make fires harder to put out in the future” (Kreider et al. 1). The advent of fuel buildup was precisely what indigenous understory burnings prevented. Low intensity fires were set in order to prevent high intensity blazes that threaten human life; through fire suppression, neither indigenous fire tenders nor the natural lightning strikes were permitted to allow the land relief from fuel accumulation. It is now that we face the consequences of colonial fire policy, when burns hotter than ever turn homes and lives into plumes of smoke clogging up blue California skies.

Another ecological harm done upon California by fire suppression is the encroachment on oak forests by coniferous tree species. Oak forests, an essential part of California’s ecosystems for millennia, were cared for and tended to by fires. Through fire suppression however, their numbers were drastically reduced as they were crowded out by thirstier, less fire resistant conifers. According to a general technical report by US Forest Service researchers, “oak woodlands have suffered substantial losses in area and ecological integrity in the post-settlement era due to land conversion and widespread fire exclusion” (Cocking et al. 505). Beyond the building of fuels, California’s ecology was ultimately harmed by fire suppression. Oak trees have dwindled as a result of colonial fire policy—the effects of which would be felt widely, as they are of great ecological importance in forests. Declines in oak tree populations negatively impacts the “survival of many mammal and bird species” as they are “mast producers” (Cocking et al.

509); they provide sustenance to wildlife with acorns. Oak trees are “key to sustaining acorn-dependent wildlife in parts of northern California” (Cocking et al. 509). Destruction of oak trees led to the decreased health of whole forest ecosystems. The relationship between oak trees and fire (see fig. 8) is emblematic of California fire ecology; the biology of the state does not



Fig. 8. A California oak tree stands mighty and tall after a fire (Holt).

simply benefit from low-intensity blazes, it is reliant upon fire. Through fire suppression, this millennia old dynamic was shattered. In a semblance of irony, oak forests were similarly colonized as the indigenous peoples were by invading conifers, which lessened biodiversity and shrunk the habitats of native flora and fauna. Additionally, because the encroaching conifers are not fire tolerant, they are a part of the immense fuel buildup overtaking California forests.

Not only did fire suppression mar the cohesive balance of California ecology, it also strived to expunge indigenous cultural practices. As a result of fire suppression policies, Northern California native peoples experienced a loss in ancestral fire knowledge. This loss

fractured a shared kinship between fire and indigenous peoples that had been forged and tended to for thousands of years. Karuk tribe Chairman Russell Atebery described his community's mourning of a "sacred intergenerational knowledge passed down since time immemorial," saying "our people have been hurting for over a century by fire suppression laws" (Caballero). Fire suppression was another attack levied by the US government in its intentional destruction of indigenous culture. By isolating the Karuk and other indigenous people from their burning heritage, the government almost entirely erased an incredibly central aspect of indigenous life. Beyond that, the traditional ecological knowledge of peoples who spent millennia carefully listening to the wilds, measuring plant growth and shifts in seasons, and setting fires in reciprocity and kinship with the lands they lived on was forced into the exile of lost memory. In this way, the adoption of total fire suppression policy was an act cohesive with the American genocide of indigenous peoples; it aimed to kill culture.

This annihilation of culture can also be seen from another perspective: after the 10 a.m. policy was adopted, access to basketry woods and other traditional harvesting was severed. This was especially true for the tribes who used hazelwood to weave—namely the Karuk and the Yurok peoples. Burned hazelwood grows as other basketry woods do: straight and slender, making it ideal for weaving (Anderson 223; Avitt). Without the fire that it was adapted to endure, hazelwood grows in knotted tangles (Avitt). Hazelwood was specifically employed in the making of baby-carrying baskets (Goode). Without fire, the Yurok and Karuk were unable to follow the ancestral knowledge carried by their tribes and create traditional baby baskets



Fig. 9. Traditional Yurok baby basket, made of hazel (Harrsch).

(see fig. 9). The baby baskets are symbolic to the tremendous loss of cultural knowledge—with the baskets, elders may carry the new generation through life's beginnings, guiding and shaping how they engage with the environment around them. Without fire tending, these baskets could not be made. The knowledge, shaped by thousands of lives, could not be carried into the future.

Other basketry materials that were lost to fire suppression include redbud and sourberry (Goode et al.), both of which the North Folk Mono tribe burned and utilized in basketweaving (Anderson 223). Beyond their utilitarian purposes, baskets were a form of artistry and expression in Northern Californian indigenous communities. By outlawing the methods in which the necessary materials could be harvested, fire suppression policies worked to squash native art and expression. This furthered the ongoing genocidal erosion of native identities—basketry art was intrinsic to Northern California indigenous identities, and the destruction of the materials it required effaced the ancestral cultural heritage behind it.

California's Return to Fire

Scientific research eventually brought about the end of the 10 a.m. policy for the betterment of California's people and ecology. Questioning of the policy started as early as the 1950s, but serious consideration only began after UC Berkeley professor A. Starker Leopold put forth a series of papers calling for prescribed burns, which was soon followed by a multitude of findings of the benefits of applying fire to California forest ecology (Hao; "U.S. Forest Service Fire Suppression"). This information was treated as novel and welcomed by the US Forest Service, despite the fact that indigenous peoples had been applying this idea for thousands of years prior. This displays the deliberate undervaluing of indigenous sciences as an effort of genocide—by writing off traditional ecological knowledge, fire suppression policies and other legal harms fell more easily into place. Nevertheless, the research led to positive change: the

Forest Service slowly adopted a “Let Burn” policy, allowing naturogenic fires in federally managed forests to continue burning after they were sparked. In 1970, in the face of mountains of research proving what the original inhabitants of California had always known to be true, the Forest Service finally abandoned the 10 a.m. policy, and it began to encourage prescribed burnings. The new “Let Burn” policy faced a significant setback in 1989 after the fires in Yellowstone National Park (see fig. 10) invited more stringent limitations, but it ultimately held



Fig. 10. Flames lick the tops of Yellowstone trees amid plumes of smoke (Lewelling).

strong into the 21st century (Hao; “U.S. Forest Service Fire Suppression”). Although through the evolution in fire policy, fire was returning to California ecology, indigenous peoples were still not permitted fire lighting rights. In spite of their long histories of fire kinship, native communities were not consulted for their expertise in prescribed fire due to the continuous devaluation of traditional ecological knowledge. This would finally be amended almost 100 years after the 10 a.m. Policy was set in stone.

In 2022, California Governor Gavin Newsom developed a plan in conjunction with indigenous leaders. In it was a recognition of the importance of prescribed burns as done by tribal communities for centuries before colonialism in caring for California’s ecological

landscape as well as a drawn out scheme for setting fire to 400,000 acres of California annually with low intensity burns. The order also allowed tribes to conduct their own burns as sovereign nations (“As Trump cuts fire response...”). This marked a major shift in fire policy—indigenous peoples of California were at last consulted for their millennia of expertise. Fire was returned to



Fig. 11. California’s Wildfire Task Force tends to a prescribed burn (California Wildfire & Resilience Task Force).

them and the land (see fig. 11). Additionally, the California government was now working to remedy the massive accumulation of understory growth that posed—and continues to pose—a threat to all of its citizens by using indigenous applications of beneficial fire in conjunction with tribal communities and native fire experts. The plan was a watershed moment; California once again let the light back in.

Beyond the state government, a number of different tribal organizations have reconnected with their heritage through fire. One of the most active and significant is the Yurok-led Cultural Fire Management Council. Their cultural stewardship plan is titled “Skey-wok kee’we Mech,”

translating to “It Needs Fire” (Cultural Fire Management Council). Executive director Margo Robbins described the Council’s first burn, which was done “in a traditional hazel gathering area” (Robbins). She elaborates, elating “the whole community celebrated because we had basket weaving materials again, we had put fire on the ground!” (Robbins). Through adventures and



Fig. 12. A Yurok burn restores fire to the Klamath River (Cultural Fire Management Council).

evolutions in fire policy, fire tending is being restored to indigenous communities. The Council details their plans to burn the “over-accumulation of dead and down woody debris that feed the ever increasing number of wildfires” and the fuel buildup in the forests on Yurok lands. Once again, indigenous fire tending is rekindling reciprocity (see fig. 12). From the burned trees and vegetation comes basket material, allowing reconnection to ancestral identity through artistry. Additionally, the burning of the understory restores the health of the Yurok forest. The work of the Cultural Fire Management Council represents the endurance of indigenous people in their

devotion to their ancestral ways of reciprocity through fire. Despite centuries of colonial fire policy and other acts of genocide, cultural fire still burns in California's hearth.

Through policies of suppression, Northern California indigenous peoples were starved of one of their most integral cultural resources: fire. Colonial fire policy disallowed basket weaving and prevented traditional harvesting practices in a purposeful attempt to suppress indigenous cultural practices that depend on burning. The ecological effects of fire suppression were similarly pernicious. Nearly 200 years after the first banning of burning, we reckon with larger and worse fires as a result of the buildup of fuels. With growing recognition of indigenous fire science has come state-sponsored support for cultural and prescribed burns, empowering us to undo some of the damage wreaked by colonial fire policy. As we heal from the effects of fire suppression, it remains vital that we listen to indigenous fire experts who have been tending California's ecology for centuries.



Fig. 13. Indigenous fire expert Margo Robbins applies good fire to Yurok lands (Cultural Fire Management Council).

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Annotated Bibliography

An Act for the Government and Protection of Indians. Chapter 133, 1850 Statutes of California.

This law from 1850 delineates how the government is meant to handle its authority over the indigenous peoples of California. It outlines a series of instructions, all of them relating to the subjugation of indigenous peoples. It allows for the enslavement of native children with judicial permission, requires proper treatment of enslaved children (with a fine for ten dollars if broken), allows for complaints from indigenous peoples to be made to judges in offense of a white person but does not allow these statements to lead to conviction, bans all prairie fires, and allows the forced labor of any native person deemed a vagrant by a passing white person.

The law was frankly upsetting to read in its entirety. It was incredibly racist and inhumane, which is cohesive with the Californian government's past treatment of indigenous peoples. I found its clearly genocidal intentions eye opening, especially because of how it was so intertwined with actions of banning fire. From this colonial perspective, it is clear that fire played an integral role in indigenous cultural practices; efforts made to suppress fire in this way directly related to efforts made to subjugate and enslave the indigenous peoples. I found this text to be an interesting and deeply significant case study of colonial fire policy.

Anderson, M. Kat. Tending the Wild: Native American Knowledge and the Management of California's Natural Resources. University of California Press, 2013.

M. Kat Anderson, an acclaimed ethnobotanist, synthesizes the methodology and the effects behind indigenous fire use in California. She describes the methods in which fires were created and the reasons behind their creation—which were both ecological and cultural. She lists the plethora of reasons that native peoples used fire to shape their environment, from pest management to understory burnings. She also provides a table that connects specific tribes with wooden materials and plant ages necessary for them to weave baskets, as well as a table displaying how recently burned plants were employed in the creation of other cultural objects. Anderson additionally quotes members of the North Folk Mono sharing their experiences of fire use. She briefly touches on how fire suppression disrupted the manner in which fire could be applied for ecological benefit.

I found Anderson's book to be incredibly well researched. She cites primary sources from the indigenous communities she is reporting on. Additionally, for every point or idea she conveys, she uses multiple native peoples to evidence her claims, allowing me to observe a comprehensive portrait of indigenous fire use in California. Although her research is quite detailed, her pages on fire are mostly focused on a few specific tribes in a singular geographical region—far North and Northwestern California. I would have liked to observe the fire use of indigenous people outside of the region; namely, in the South with mentions of Chumash and Tongva fire tending.

Cocking, Matthew I., et al. "Conifer encroachment in California oak woodlands." Treesearch, 2015, pp. 505-514. US Forest Service Research & Development, <https://research.fs.usda.gov/treesearch/50018>.

This research article is a technical report from the US Forest Service that was later presented at a symposium for the study of oak tree futures. It delineates how fire exclusion negatively impacted oak populations by allowing the encroachment of conifer trees such as firs and junipers in Northern California and the Pacific Northwest. It provides images of encroachment. It also analyzes the effects of this invasion on California oak woodlands, citing damage to wildlife as well as decreases in water quality. It includes slight mentions of indigenous fire tending. It also presents the argument that conifers significantly contribute to fuel buildup in California forests.

Although quite technical, this article was very informative in my attempts at understanding conifer encroachment. It used an ample amount of jargon, making it a bit inaccessible to the average reader, but this is understood as it was meant to be presented to botanical experts. I found the images of forest structure it included to be helpful in understanding the visual openness of historical oak forests, and how they became overgrown with conifers. These pictures aided my understanding of fuel buildup.

Hao, Claire. “This one fact will completely change how you think about California wildfires.” *SF Chronicle*, 15 October 2022, <https://northlab.faculty.ucdavis.edu/wp-content/uploads/sites/195/2022/10/sfchronicle.com-This-one-fact-will-completely-change-how-you-think-about-California-wildfires.pdf>.

This periodical provided a brief history of fire suppression, compiled from multiple research papers. It coupled text with videos depicting cultural burnings of the Yurok tribe as well as footage of wildfires razing California. The article also contained a brief timeline of the evolution and decline of fire suppression policies from 1793 to 2022, supplemented with other important fire events. In addition, the piece summarized the effects of fire suppression on forests, providing visual clarity with graphics depicting its impacts leading to severe changes in forest structures. It ended with a feature of the cultural fire applications of the Karuk tribe in present day, again including photographs of fire lighters.

I appreciated the emphasis on visuals in this periodical. Many of the concepts within my research were difficult to fully grasp until I saw pictures and graphics—especially in reference to forest structural changes before and after fire suppression. Additionally, the timeline was extremely beneficial in keeping my research chronologically organized. It was an excellent reference point. However, the narrative structure of the article was difficult to follow as it jumped from topic to topic without a clear path. It was still useful as a reference point to structure my own argument.

Kimmerer, Robin Wall, and Frank Kanawa Lake. “The role of indigenous burning in land management.” *Journal of Forestry*, vol. 99, no. 11, 2001, pp. 36-41. *Proquest*, <https://www.proquest.com/docview/220810384/fulltextPDF?pq-origsite=primo&searchKeywords=the%20role%20of%20indigenous%20burning%20in%20land%20management&sourcetype=Scholarly%20Journals>.

This research article underscores the benefits of indigenous cultural and prescribed burns to the American landscape with an emphasis on the damage caused by fire suppression. It is structured around a call to action towards policymakers and forest managers to consider traditional indigenous knowledge of fire when creating future legislation. It outlines the philosophy of

reciprocity behind indigenous fire practices and its many advantageous effects on the American environment. The paper highlights the division between indigenous peoples and European colonial forces regarding their perspectives on fire, and it explains how Western fantasies of controlling nature ultimately brought about volatility and danger. It ends by urging political bodies to listen to aboriginal expertise in the realm of fire policy.

Despite being a dated work, Kimmerer and Lake's paper provided an inclusive overview of the effects of American fire suppression. At times I found the findings to be a bit generalized, but this is understandable when accounting for the scope of the paper, which encompassed the entire United States. It was beneficial as well to gain an extended perspective of fire suppression and its effects beyond California. I found the dialogue surrounding the two modes of thinking—indigenous and colonial—and how they related to fire suppression policy to be especially helpful in shaping my analysis of specific policies. The call to action at the end spotlighted the importance of fire legislation in caring for the environment. I appreciated how it pointed to a clear solution and path forward.

Pyne, Stephen J. *Fire in America: a cultural history of wildland and rural fire*. Princeton University Press, 1982.

Fire in America is a documentary history of the American fire landscape. It studies in detail case fires of the Pacific Northwest and how they contributed to the advent of fire policies. It traces the clear development of US Forest Service policy as a result of the Tillamook and 1910 Fire Seasons, providing personal details about the important personnel involved. Pyne also uses excerpts from journal entries and diaries to supplement the emotional aspect of fire, outlining the fear and desperation of the firefighters. He also balances personal accounts with statistics, allowing for a holistic view of the fire history of Northern California and the rest of the country.

Pyne is a diligent historian of fire. The book is very technical, which made it a bit dreary and drab to read but incredibly helpful from an analytical research perspective—which is exactly what I was looking for. It also provided primary insights into the horrors of the early 20th century fire season, which worked to level my perspective on the validity of the drafting of the 10 a.m. Policy—previously I had been absolutely baffled at the choices of the US Forest Service, but upon understanding the deep desperation of the firefighters, survivors, and country as a whole, I better understood why fire suppression policy was first enacted.

Thomas, Jordan. "A Note from the Fireline | Climate Change and the Colonial Legacy of Fire Suppression." *The Drift Magazine*, 21 October 2020, <https://www.thedriftmag.com/a-note-from-the-fireline/>.

This opinion article is a retelling of Jordan Thomas' experience. In it, he provides a perspective grounded in history and in emotion. He walks the reader through his experience on the fireline as he learned from joining a group of wildland firefighters in their trade, wading through California country landscape. Thomas describes the vivid richness of the California wilds, and elaborates on the history of the land. He analyzes fire policy chronologically, quoting primary sources and texts that he analyzes in the context of his description of what he sees out in the wilderness.

I was hesitant about using this source in my research paper because it was grounded more in opinion than in fact as a personal essay type of article. I overcame this hesitancy when I realized it contained one of the only quotations from California's first fire policy of suppression under Spanish colonial rule. Despite being mainly opinion based, the article contains a great deal of primary sources that ground its argument in history. The primary sources Thomas utilized were difficult to find outside of the article, making it vital to my research on the specific wordings of early California fire policy as it had direct quotations of the legislature.

Zeig, Sande, director. *Firelighters: Fire is Medicine*. Performance by Margo Robbins, Public Broadcasting Service, 2024. *YouTube*, <https://www.youtube.com/watch?v=AskCYsXWKpA>.

Firelighters is a documentary film that captures how Northern Californian indigenous communities returned ancestral fire tending to their lands. It focuses primarily on women-led Yurok and Karuk burnings. The film documents burning practices that stem from traditional ecological knowledge and are applied to understory growth by the fire lighters, while also documenting the joys these burnings bring to indigenous peoples. The film also focuses on the efforts of the Yurok and Karuk to educate their communities on fire tending. Margo Robbins has a central role in explaining fire practices to the audience, as well as the benefits that the return of fire has brought the indigenous peoples and their forests.

I found *Firelighters* to be a beautiful film. It was incredibly helpful to put a face to one of the most prominent names that showed up repeatedly in my research of how fire was being restored to Northern California indigenous communities: Margo Robbins. Through the visual medium of film, I was also able to see exactly how fire tending was applied by indigenous hands to indigenous lands. Additionally, it reflected the importance of fire to indigenous communities, which I was able to observe through the physical joy (namely, smiles) of the community depicted in the movie—this comprehension was only made possible through a visual medium, such as film.