

Fire Burners to Firefighters: The Nez Perce and Fire

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ABSTRACT

This article presents results from an interview-based case study examining burning practices of the Nez Perce tribe in the Inland Northwest in both their contemporary and historical policy context. Despite the lack of a prominent fire tradition, our interviews uncovered a legacy of knowledge and cultural traditions linked to fire and a variety of contemporary fire practices on the reservation performed by land-management professionals and individual tribal members. Many of these practices, particularly those involving broadcast burning, have diminished over the years. We examine the reasons for this and the potentials for mitigating some of the practical and policy constraints to such burning. We conclude that the nontribal community still has much to learn about fire from those who have lived in fire-adapted landscapes longer than anyone else.

Keywords: fire policy, Nez Perce, indigenous burning

Although there is a growing literature on the human dimensions of fire in forests and rangelands in the United States (Kumagai et al. 2004, Daniel et al. 2007), there is still much to be learned about the views, knowledge, and practices of the inhabitants who have the longest experience in this regard, viz., members of Indian tribes who have inhabited North American landscapes for thousands of years (Stewart 2002). Early generations of European-American professional forest and range managers disdained traditional tribal burning practices and punished the practitioners. They have given way to the current generation, some of whom would like to know a

great deal more about where, how, and to what effect tribal people have used fire on the landscape. They believe that this information could help inform their fire and land-management decisions.

Coincident with this search for new understandings is recognition that a significant proportion of tribal lands and communities are located in the wildland–urban interface (WUI), closely abutting nonnative communities and land holdings and at high risk for wildland fire. This fact is the basis for the Tribal Forest Protection Act of 2004, which came in response to wildfires that crossed from federal onto tribal lands. The act seeks to reduce wildland fire risk by providing

funding for tribal populations to conduct fuel treatments, encouraging agreements with federal agencies (i.e., US Forest Service), and promoting programs that reduce fire risk on lands adjacent to tribal holdings. The reasoning behind this act is that tribal and nontribal communities are interdependent in the mitigation of wildfire risk, even if their methods, policies, and cultural approaches vary.

There is a large and still growing literature on the historical use of fire by various tribes (White 1980, Boyd 1999a, Turner 1999) and of the ecological impacts of historic burning (Hessburg and Agee 2003). We can also assume that tribal forestland managers have not been immune to the fire exclusion policies that have influenced forest management in the United States through the mid-20th century (Ross 1999, Pyne 2001). But we can say very little about tribal peoples' current fire knowledge, views, and practices, and this understanding is critical if policies such as the Tribal Forest Protection Act are to be successful. In addition to successful policy implementation, understanding how tribal cultures have evolved in their approach to and uses of fire can help tribal and nontribal policymakers, land managers,

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and people live with fire today. Accordingly, this case study was undertaken to document current, and to the extent possible, historical burning practices on the Nez Perce Reservation located in Northern Idaho and the reasons for these practices. In addition to filling a void in the research literature, we believe such research can promote (1) more socially and ecologically sound land management by marrying traditional tribal fire knowledge with modern land-management techniques and (2) a cross-fertilization of tribal and non-tribal knowledge, ideas, and techniques concerning fire and its use to facilitate more collaborative fire and land management.

Literature Review

The Nez Perce is one of the most written about Western US tribes (Joseph 1997, McWhorter 1992, Walker 1998), and although we know how tribes used fire in the past, research has not documented how Nez Perce past practices have evolved into current use. What has been documented is the Nez Perce tribe's historical land occupation and use. As late as the mid-1800s the Nez Perce occupied and moved seasonally through some 13 million ac currently found in the states of Idaho, Montana, Oregon, and Washington (Baird et al. 2002, Walker 1998). This land base was reduced to about 5 million ac in the Treaty of 1855 and then to 800,000 ac in the Treaty of 1863 (Colombi 2005). These events coincided with the forced settlement of these seasonally migratory people whose range even before the introduction of the horse in the early 1700s extended at times as far away as the Great Plains (Walker 1998). The posttreaties land base held in trust by the US Government's Bureau of Indian Affairs (BIA) was further reduced under the terms of the 1887 Dawes Act, which maintained some land held in common for the tribe, allotted parcels of land to individual tribal families, and opened acreage for white settlement (Colombi 2005). The family allotments and common land holdings were further diminished over time through conversion of allotments from trust status to fee simple and losses to tax defaults. The net result today is a greatly reduced and fragmented land base with the tribe as a minority landowner within its own reservation, controlling 13% of the approximately 770,000 ac within the current reservation boundaries (Colombi 2005). Less than 5% of the reservation land is forested, with about 30,000 ac in tribal

forestland and an additional 5,000 ac divided among 140 individual allotments.

As noted previously, the use of fire by Native Americans has been documented in a variety of settings (Stewart 1951, Shinn 1980, Barrett and Arno 1982, Boyd 1999a, Stewart 2002). The earliest explorers and settlers described native use of fire in their letters and journals and some of these settlers followed suit and implemented these burning practices on their farms (Stewart 1951, Shinn 1980). Generally, fire was used by tribes to improve production of food and medicinal plants, clear undergrowth to facilitate travel, improve forage production for wildlife and later livestock, and drive game animals (Bancroft 1875 [cited in Stewart 2002], Stewart 1951, Boyd 1999a). Similar practices have also been documented among Pacific Northwest tribes such as the Salish and Kootenai (Barrett and Arno 1982), the Spokane (Boyd 1999b), and the Colville (Spier 1938 [cited in Stewart 2002]). Following the US policy of suppressing forest fires in the wake of the 1910 fires, tribal burning practices were also suppressed during this time (Shinn 1980, Ross 1999), contributing to the increased fuel loads and changing species mix of the western forests and rangelands (Ross 1999).

In the Inland Northwest, Shinn (1980) claims that widespread use of broadcast burning can be dated to the Pleistocene, although the varied topography limited the regular use of burning. There are only small kernels of information about fire use by the Nez Perce. Marshall (1999) describes Nez Perce setting fire to Camas fields to improve the yield of this important root as a food source. Walker (1998) mentions the use of fire in entrapping game animals. The use of fire as a means of war against the Snake tribe (traditional enemy of the Nez Perce) is documented by McWhorter (1992). Our goal is to expand this literature to include research findings related to Nez Perce tribal members' historical and current use of fire and the cultural, economic, and ecological reasons for engaging in these uses.

Methods

The methods used in the study were qualitative and inductive (Strauss and Corbin 1990). The use of these methods made it possible to capture the rich and encompassing range in worldviews and personal histories of Nez Perce tribal members' use of fire.

The inductive nature of the study led us to use theoretical rather than statistically

based sampling in the selection of study participants. In theoretical sampling, subjects are selected on the basis of their knowledge or experience in a particular domain. During the summer and early autumn of 2006, three fieldworkers interviewed a total of 55 people: 45 tribal members[1] and 10 nontribal members. People were identified through a chain referral process. Of the tribal members interviewed, 14 worked for the tribe, 3 in fire management positions. Nontribal members interviewed either worked for the tribe or had particular knowledge of traditional Nez Perce land management. Nez Perce tribal members were paid a small stipend for their time.

Interview topics covered personal experiences with fire; knowledge of historical uses of fire; and views of management of family, tribal, federal, and private lands. Interviews were tape recorded and transcribed. Interviewing was only discontinued when the fieldworkers, in consultation with local advisors, reached the judgment that all relevant categories of subjects were represented in the data (Charmaz 2000).

Transcripts were coded using AtlasTi v.4 software (Scientific Software, Berlin, Germany). Themes related to fire use and land management were allowed to emerge from the interview data—a process referred to as thematic analysis (Silverman 2001). Thematic analysis is an inductive method for identifying and expressing patterns in qualitative data; statements are coded into categories reflective of observed patterns in the data, which are then situated into larger themes and illustrated by representative quotations (Aronson 1994, Boyatzis 1998).

Observational and interview notes were also coded to identify themes and emergent patterns. Related quotations and observations were compiled after an in-depth review of the transcribed interviews, a process dubbed the "discovery" stage by Maykut and Morehouse (1994). The fieldworkers then identified and accounted for observed anomalies or apparent contradictions in the data, a process referred to in the literature as progressive falsification (Strauss and Corbin 1990). Finally, the emergent themes were refined and representative quotations for each theme were selected.

Results

Our elders are mostly gone and our land has changed. We no longer use fire in the ways of the past as much because we have learned to

Table 1. Fire uses of the Nez Perce.

Area	Who	Where	What and why	Historical roots (if known)
Tribal lands	Professionally trained forestry/fire management tribal employees and certified outside agencies	Tribal trust land covered under management plans	Clean up of landing slash piles from timber sales, timber cutting permit activities, site preparation for reforestation, hazardous fuels reduction Wildlife habitat improvement Weed burns	Productivity of traditional foods Forage for wild game and horses Insect control Forest management Campsite clearance
Allotments	Nonnative farmers forestry/fire tribal employees, experienced tribal members	Leased land within the 1863 reservation boundary Some ceremonial sites Timber sites	Agricultural land productivity (primarily nonnative farmers) Cleanup of landing slash, timber sales Fire prevention and insect control Habitat improvement for wild game	None
Around the house	Fire crews, experienced tribal members, forestry/fire tribal employees	Not close to neighboring private land	Fire prevention, weed control, insect control	Formerly the same as tribal lands (much broader application than current)
Cultural	Tribal members	All lands	Focus of social gathering Sweat lodges bonding/acceptance Spiritual rituals, To mark birth, death of tribal members Entertainment	All current practices historically rooted

adapt. We have gone from fire burners to fire fighters.

To better understand which aspects of historical knowledge and practice are still relevant to modern-day use and management of fire in and around tribal lands, we need to explore what is still known about presettlement fire practices.

Current Uses of Fire and Its Historical Roots

Table 1 is a summary of current fire practices and (where known) their historical roots on the reservation as described by our informants and discussed in detail in the following sections.

Cultural Uses. Fire maintains its significance for tribal members as part of cultural (including spiritual) practices, and interviewees could readily link current uses to the traditional practices of their ancestors. Interviewees also made it clear that the sharp distinction an outsider might make between cultural use of fire and the manipulation of fire to influence the landscape is not a meaningful one to the Nez Perce. *All* fire use has a cultural dimension. Therefore, to get the full picture of land-based fire practices by the tribe and their cultural context, it was important to document to the extent possible, all types of fire use, rather than only the ones a forester might immediately recognize as materially important from a land-management perspective. One tribal member explained,

It [fire] influences Nez Perce culture because we use it in traditional ways, in traditional ways only, for ceremonies, for sweats and our

prayers and we use fire when someone passes away, we burn all their things.

As this quote suggests, fire is most commonly used for sweats and related ceremonies. Sweats are often conducted for ceremonial purposes such as celebrating a birth (or a naming), to commemorate death, or at informal social gatherings. These uses include the central importance of fire in ceremonial rituals such as memorial services for the deceased, social functions related to sweat houses, and as a way promote health. As one tribal member articulated,

Fire in a traditional sense needs to be there for the Nez Perce you know. I think it'd be a sad day when you have to heat up all your rocks [for a sweat lodge] with propane . . . because that wouldn't really be Nez Perce.

A number of interviewees related historical examples of how fire was used around the home or campsite, primarily for cooking and heating. Although fire is not commonly used for everyday cooking tasks as it once was, it is used for preparing traditional foods, and woodstoves still heat many homes. Thus, it appears that much of the cultural significance of fire still remains among Nez Perce tribal members. However, we found that many of the traditional uses of fire for land management have been reduced and transformed in the current period, a topic to which we now turn.

Use of Fire as a Management Tool.

The tribal members interviewed for this project showed some knowledge of the way their ancestors had used fire to manipulate the landscape to increase plant productivity and to improve wild game habitat. How-

ever, they were also very aware that many of these practices were no longer conducted to the extent that they once were on lands held by the tribe or on individual allotments. As one tribal member said,

I am aware that from the old, old people that they used to use fire in a lot of ways . . . but they use fire in ways that we probably don't quite understand, especially in the upper reaches where our people would . . . it's a pretty important place where our people gather huckleberries toward the end of summer and other types of foods, too, but he was remarking on how he didn't recognize it the last time he was up there.

Fire was often used to prepare or improve food gathering sites, although much of this has ceased. Historically, as the various bands moved from lower to higher elevations during the warmer months, they returned to traditional sites to gather wild food crops such as camas root, berries, and mushrooms. Several interviewees related that these gathering grounds were burned at season's end to improve productivity:

In summer time they [would] go to higher elevations, and at those higher elevations . . . are going to be camas grounds and these camas grounds were just sort of significant with this burning issue . . .

Interviewees also stated that fire was also used to improve deer and elk habitat. In addition, summer camps were often burned as they were vacated for the season to “clean them up” and to promote productivity of grasses for horses. Some interviewees had childhood memories of burning with knowledgeable grandparents and family members:

I used to watch my grandfather go out there and burn trash and weeds and things like that. . . . so that's a way of kind of controlling your destiny and your land and also enriching the soil like the farmers do all over the Palouse and all over they burn the crops

Tribal members continue the tradition of burning around home sites in the spring to clean up brush and debris that has accumulated during the winter.

Burning is still used on trust lands managed by the Tribe's Forest Management Program, and to a certain extent, on forested allotments (Nez Perce Tribe 2005). Despite the general decline of burning practices on tribal lands commented on by interviewees at the time of the fieldwork, a number of those interviewed indicated that they would like to see these practices continued and expanded for the health of the local environment. [2]

These results indicate that while the traditional *practices* of fire as a land-management tool have been limited, tribal members' understanding of their importance has not:

What really inspired me for more (use of fire) . . . , was the benefits of going back to that unit a year later and seeing the morels that were in . . . right where the burn was at. . . . I realize why we burn so much, you know, in terms of a deliberate act.

The Evolution of Fire Practices

. . . this time of year [summer] we wouldn't even be here in the valley, we'd be up in the upper areas and if fire would sweep a field, we would move . . . but now that's not the way things are, I mean you get into a sedentary existence and so the laws and the norms are all altered to fit those new circumstances that we have and I think fire can show that our program is still a reflection of that reality and that change in settlement times . . .

It became clear through interviews with tribal members that traditional burning practices related to land management on the reservation have been limited by a number of factors. Tribal members could clearly identify the factors that have limited and shaped fire use on reservation lands. These limiting factors fall into three primary categories: (1) those related to land tenure changes, particularly fragmentation of the land base; (2) permitting and management regulatory frameworks; and (3) the legacy of fire exclusion. This relationship is depicted in Figure 1.

Land Tenure. We have referred to the restrictions imposed by the shifting land tenure arrangements relative to the tribe. The shrinking of tribal land holdings and fragmentation of what remained (allotments and conversion to fee simple ownership) make the use of fire problematic both from a

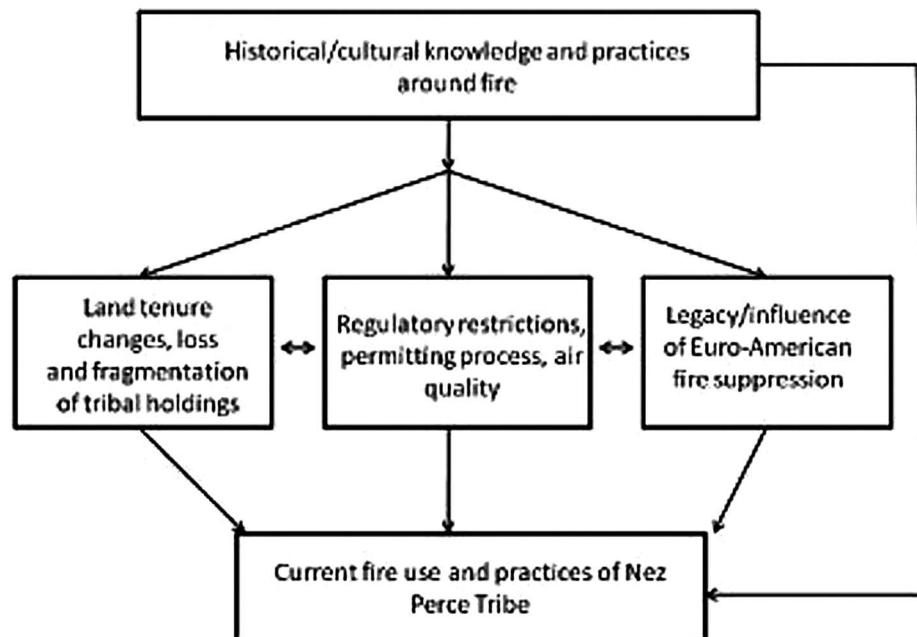


Figure 1. Evolution of fire practices among the Nez Perce tribe.

physical/ecological standpoint and, most significantly, from a legal one. As one tribal manager explained,

. . . we're still doing a very limited amount (of prescribed burning) compared to other reservations because of; basically because of the fragmented ownership that the Nez Perce tribe has . . . and the liabilities of having fire cross the boundary on the private land.

Many interviewees indicated they were most concerned about the financial liability that could occur if a fire they started on their land spread to the home or property of adjacent landowners. This is particularly pertinent to Nez Perce Reservation landowners; interviewees explained that nearby reservations (Spokane and Colville) have larger contiguous tracts of common land where damage from an escaped fire is less likely, "if they lose a fire across the line, more than likely they're still on tribal land for miles and miles; they can put a line around it and keep burning the next day."

Regulatory Framework. One constraint on contemporary reservation fire use is the requirement that Tribal forestry managers obtain permission from the allotment holders before including their lands in these treatments. The difficulty here is that over subsequent generations, ownership of allotments has often passed to a large number of geographically distant relatives, a process known as fractionated heirship (Colombi 2005). Thus, forest managers must obtain majority allotment holder approval through

powers of attorney. In addition, federally required burn plans must now be written by a qualified Burn Boss Type II, reviewed by an independent Burn Boss Type II or Type I, and approved by the line officer, in this case, the BIA superintendent (USDA and US Department of the Interior 2008). In addition, burning on tribal lands is limited by air quality issues (Nez Perce Tribe 2005). Smoke from agricultural burning has long been a source of contention in the region and tribal members or managers are required to obtain an Environmental Protection Agency–approved smoke management permit in compliance with the Federal Air Rules for Reservations. In addition, burning permits related to safety (issued jointly by the tribe and the state) are required for the period of May 10th through October 20th.

The Legacy of Fire Exclusion.

I think in today's society, fire is kind of viewed as a bad thing . . . kind of . . . it's kind of viewed as more of a pest . . . when it gets out of control. . . .

This quote and the interview data suggest that the tribe has adopted at least some of the ideas and practices that are part of the legacy of fire exclusion described by Pyne (2001) and others. For example, interviewees described hazardous fuel conditions in and around some residential areas. This has led to very understandable concerns for the potential of wildfire harming residences, structures, and people:

We have seen so much fire suppression over the years [that conditions are] very volatile[and could lead to] a very huge wildfire . . . to get things to more of a natural level and well managed . . . with respect to fire, it can be tricky.

The buildup of fuels around areas of human habitation and concerns related to those conditions are not unlike circumstances found in many nontribal WUI communities. Coincident with this buildup of fuels and the professionalization of land management has been the development of a firefighting culture and economy within the tribe:

Our role has changed from one of promoting fire and burning the landscape more frequently to now suppressing fires, it is (the) economy of our men, our men love to go fire-fighting you know, I mean that's just natural for us.

Despite these influences, it became apparent to us that at least some of the more historical practices by the tribe have been retained.

I think there'd be a lot of people willing to be able to support controlled burns on tribal properties because it is important. The fire is an important element here to our Indian people and does take care of the earth, you know, it's—the fire is good, but also it's also bad, just like anything else.

Discussion and Implications

Fire is very important. In our traditional and cultural belief . . . you have to follow your beliefs. If you don't follow your beliefs and you lose them, fire will never be important to you.

The primary theme that emerged from the data concerning the evolution of fire use on the Nez Perce reservation is that of a hybridization of knowledge and practices from a traditional culture with those from the now-dominant culture. The story of Nez Perce fire today is one of the blending of traditional knowledge, western science, and technology with the constraints of a people settled on a small portion of the land they once occupied, often in the vicinity of nontribal neighbors. It is also the story of a tribe living with a set of evolving rules and understandings concerning fire that are constantly being renegotiated between itself and the larger society.

. . . we still consider the fire sacred today because we use it to heat our rocks and to do our cooking, it's just a part of the way of life that we had, but now in the more modern day, we have house fires and we have arsonists, you know, so there's a different concept of fire . . . (it) depends on how you look at it and who you are . . .

In many ways the conditions restricting fire use on tribal lands are the same as those in any WUI area.

Because of the similarities between fire issues on tribal land and WUI areas, this study contains lessons for both tribal and nontribal land managers. Although the Nez Perce are not widely viewed as having a particularly prominent fire tradition, our fieldwork suggests there remains a legacy of fire knowledge and links to spiritual and cultural beliefs among Nez Perce tribal members. Such an understanding can be useful for managers on and off the reservation wanting to reintroduce or increase the use of fire in local ecosystems in ways that are acceptable to tribal members and other citizens alike. This cultural connection to fire is perhaps the greatest difference between tribal and nontribal communities, both of which are faced with similar issues of wildfire danger and fire use in the current era of increased risk of catastrophic fire. Thus, professional land managers working with tribal populations would be well advised to take account of those cultural connections as well as site-specific knowledge of historical anthropogenic (i.e., burning camas fields) and nonanthropogenic fire patterns in designing management strategies (Carroll et al. 2004).

In the new era of land management, there is a need for integration of traditional and scientific knowledge to solve contemporary problems. Documentation of traditional fire practices helps transmit such knowledge from elders to young tribal members and thus ensure its perpetuation. A research project such as ours can support this integration of knowledge by taking specific steps to share what we have gathered with the tribe.

Our fieldwork documented three general constraints to contemporary fire use on the Nez Perce Reservation. The first constraint is a shrinking and fragmented land base. The tribe is currently addressing this constraint through an active program of land reacquisition (Colombi 2005). Although land acquisition is clearly a long-term process, strategic selection of sites to purchase could contribute to the opportunity for a return to increased fire use in selected areas in the future.

The second constraint is regulations restricting fire use that could be partially mitigated by additional investment in the training of tribal employees. Also, potentially helpful would be negotiations among tribal departments and of the tribe as a whole with other

government authorities/neighbors in the interest of allowing additional burning in locations and at times that it is needed or desired.

The third constraint has been created by decades of fire exclusion, and policy related to fire exclusion is in flux nationally. The Nez Perce and other tribes can contribute to the broadening of the understanding of the role of fire in wildland ecosystems by examining and documenting knowledge among their own members.

A more general lesson to be drawn from the Nez Perce for the nontribal community is that of its long history of adaptation in the face of changing climatic, environmental, and social conditions. This has been done by the application of a combination of traditional knowledge and newly acquired information to the solution of new problems and opportunities.

At least part of this adaptability has involved the acceptance of fire as a natural part of the world and its use in a variety of situations. Fire that once may have increased forage for game (and then facilitated its capture) later improved pasture productivity for horses. Knowledge of and comfort with fire gained by its use to clean up an area left during seasonal migration has now evolved in modern times for use in managing fuels and fighting uncontrolled fires to protect a reservation community. Such adaptability is an example for other WUI communities that have counted on government agencies to exclude fire for decades and have suffered catastrophically when that failed. We now recognize that many of these attempts to exclude fire were actually counterproductive. Managers and professionals are attempting to better understand the role of fire in forest and range ecosystems and incorporate it into their management strategies (Arno 1976, Barrett and Arno 1982). The experiences of tribal members and tribal land managers with fire use can help build this understanding. This research has documented that a legacy of such knowledge exists even in a tribe that is reputed to not have retained a particularly strong fire tradition. We encourage researchers and managers to turn to other tribes in an effort to explore what other knowledge about tradition burning practices remains.

Definitely there's need for more tribal perspective on land management practices because you know, from a very, very young age it was always instilled on us that, you know, we're the ones with the most experience here as far as people go, the Nez Perce are, and the only ones with more experience than us are the animals.

Endnotes

- [1] Tribal members are enrolled Nez Perce members. *Tribe* refers to the federally recognized Nez Perce Tribal Agency.
- [2] The most recent data available on reservation burning indicates that for the year 2008, 285 ac of forestland were burned along with 775 individual slash piles. This contrasts with 45,611 ac of agricultural field burning, which was on both private lands as well as tribal and allotted lands leased to nontribal farmers (Simpson 2009).

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