

The Historical Role of Fire in Ohio

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“One bright morning in June, 1769, the figure of a stalwart, broad shouldered man could have been seen standing on the wild and rugged promontory which rears its rocky bluff high above the Ohio river, at a point near the mouth of Wheeling Creek. ... As he leaned on a long rifle, contemplating the glorious scene that stretched before him, a smile flashed across his bronzed cheek.... The fresh green foliage of the trees sparkled with glittering dewdrops. Back of him rose the high ridges, and, in front, as far as eye could reach, extended an unbroken forest.”

Thus did Zane Grey in his novel *Betty Zane* express the common perception of pre-settlement Ohio: one vast forest, unbroken, untrammelled, untouched—a land where a squirrel could travel for hundreds of miles without ever having to touch the ground.

In truth, the Ohio landscape was not untrammelled, as Zane Grey’s pioneers building their fort where Wheeling, West Virginia now stands were soon to discover. Nor was it unbroken. While most of it did support a complex variety of forest types, at least 5% of Ohio was covered with ponds, marshes, prairies, beaches and other open habitats. Some of these places can be accounted for by the presence of too much or too little water, or special geologic situations, but many do not appear to correlate to any known or suspected natural conditions. While we may be uncertain as to the cause of such openings in the primeval forest, the early settlers had no such doubts.

They blamed the Indians. S.P. Hildreth, early historian of Marietta, Ohio, writing in 1848, said:

“The yearly autumnal fires of the Indians...had destroyed all the shrubs and undergrowth of woody plants....and in their place had sprung up the buffalo clover, and the wild pea vine, with various other indigenous plants and grapes, supplying the most luxuriant ...pastures to the herds of deer and buffalo....” (Hildreth, 1848, pp.484-485).

To the first White settlers, it seemed obvious that the rich ground they found here would naturally support trees unless some force acted to prevent their growth. Their observations suggested that the force involved was fire set by the native inhabitants of the land.

As Euro-American settlers came to dominance in the Ohio Country, their attitudes toward fire replaced those of the Indians they pushed out. These attitudes changed over time, but can be broadly categorized as follows:

Settlement to 1923

AMBIVALENCE

Early settlers recognized the danger fire presented to homes, barns, crops and other physical evidence of their advancing “civilization,” but were limited in means of combating it.

On the other hand, they used fire to help clear their land for farms, to eliminate brush and to rid the woods of “vermin.” The tradition of annually “clearing the woods” with fire could still be found well into the 20th century, and may actually still exist in certain localities.

Early settlers also used fire in hunting, as explained by James B. Finley in his book, *Pioneer Life in the West*:

“Another plan is adopted late in the fall, which is to make fire-hunts; which is done by setting fire to the leaves in a circle including an area of several miles. As this fire advances toward the center, it drives the coons up the trees, and the deer and other game are brought together into what is called a pound, where they are shot.”

This state of ambivalence was not to last, however.

1923-1979 SUPPRESSION

In 1910, brutal wildfires ravaged the West and led to the first major attitude adjustment regarding fire in the environment. The extensive damage these fires caused led to a perception of fire as entirely bad, and the young National Forest Service decreed that total suppression would henceforth be the official policy.

“Wildfires are bad, a scourge to man and beast.”
(R. F. Hammatt, 1949)

Fire ruined valuable timber, opened land to erosion, destroyed wildlife and cost money. It degraded ecosystems and reduced biodiversity. As a result, fire as a major force affecting the landscape was eliminated.

However, after a few decades of battling every fire into submission, researchers began to notice some interesting changes: ecosystems were degrading and biodiversity was being reduced. A reappraisal of the total suppression policy seemed to be in order.

In Ohio, studies of the vegetation cover of the state at the time of settlement brought to light something that had been forgotten: the primeval forest had not been one solid, heavy blanket, but had been torn here and there by ragged openings—some of them of considerable size: the Sandusky Plains, the Darby Plains, and the Pickaway Plains.

Period journals emphasized the openness of the Ohio landscape. For instance, John Heckewelder writing in 1789 says of a site near the Walhonding River:

“We soon came to a plain where, except for a few trees standing by themselves, nothing but grass was to be seen.” (Heckewelder, *Travels*, p. 248).

George Croghan, an early Indian trader in the Ohio Country, in his journal of 1760 to 1761 frequently mentions “clear woods and level road” when writing of the east-central part of present Ohio. Traveling near Sandusky Bay he notes, “...level road and clear woods, several savannahs....”

As historical writings, memoirs and journals of the soldiers, missionaries, traders and government agents who had seen the Ohio Country in the eighteenth and early nineteenth century were scoured for information, it became obvious that fire had played a large role in creating the pre-settlement landscape. As an example, James Smith, writing of his life as a captive of the Indians between 1755 and 1759 tells of participating in a “ring hunt” in the Sandusky Plains:

“...we kindled a large circle in the prairie....” he says. “...as the fire burned in towards the centre of the circle, the deer fled before the fire: the Indians...shot them down every opportunity.... The rain did not come on that night to put out the outside circle of the fire, and as the wind arose, it extended thro the whole prairie which was about fifty miles in length, and in some places nearly twenty in breadth. This put an end to our ring hunting this season....”

(Smith, p. 100)

There are not only many reference to burning prairies, which might be expected, but also to burning woodlands, which is more surprising. Baron Rosenthal writing of his experiences as a volunteer soldier during the disastrous expedition against the Indians on the Sandusky River in 1782 notes that :

“The woods were on fire at different places.”

No less a personage than George Washington himself, in his journal of a trip down the Ohio River in 1770, makes the following rather enigmatic statement:

“The Ohio from the mouth of the Kanhawa runs thus...to the mouth of a creek on the west side & to the hills which the Indians say is always a fire....”

Even Zane Grey, writing in the early 1900's, had some awareness of fire in his idealized landscape, for that same frontiersman looking down on the pristine primeval wilderness saw a wide level clearing below him where:

“...a few scattered and blackened tree stumps showed the ravages made by a forest fire in the years gone by.”

In light of this mounting tide of information, our attitude toward fire in the landscape has changed again.

1970-Present ACCEPTANCE

Now it is one of acceptance of its importance in certain situations and under carefully controlled conditions. This, for some, grudging change of opinion has raised some very important questions:

- * What ecosystems require fire?
- * How much do they require?
- * When and how should fire be applied to them?
- * What role, if any, did Native American populations play in putting fire into the landscape?

The answer to the first question is integral to the management of natural areas in Ohio. If fire-dependant ecosystems were part of the pre-settlement Ohio landscape, then fire must also have been present in that landscape, and fire will have to be allowed if those landscapes are to be retained.

As it happens, there are 4 major landscapes in Ohio that appear to be fire-dependant:

1. prairies,
2. savannas(landscapes of widely-scattered trees with a prairie understory),
3. oak-hickory woodlands and
4. “barrens” (a rather floppy term which was used by the early surveyors to cover everything between a savanna and a woodland; the Oak Openings near Toledo are perhaps the most familiar example).

The importance of fire to these systems is emphasized by the fact that, once it was eliminated, these open areas quickly grew into forest unless they were grazed or kept open by some other management technique.

The second and third questions—How much fire do these landscapes require, and when and how should fire be applied to them—relate to management decisions which are beyond the scope of this presentation except to say that fire apparently raged across the country more often than we might think. Hildreth records that the fires were annual affairs, coming in the autumn season.

The answer to the last question—what if any role Native American populations played in putting fire into the pre-settlement landscape—has a tremendous impact on modern land management. If human-induced fire was an important component in creating and maintaining the pre-settlement landscape, then human-induced fire could help—and may even be necessary—to restore and retain it.

The documented evidence of Indians setting fires is overwhelming. Those of us sitting here two centuries later might well ask, “Why did they do so?”

Observers at the time noted that Indians burned the land for several reasons. One, which benefited White settlers as much as Native Americans, was to clear underbrush and make travel easier. McClure, writing in 1772, says:

“The woods were clear from underbrush...and there is scarcely anything to incommode a traveler in riding almost in any direction, in the woods of the Ohio. The Indians have been in the practice of burning over the ground that they may have the advantage of seeing game at a distance.”

(McClure [1772] 1899)

Thus the open, “cathedral-like” forest commented on by so many early travelers was apparently a result of intentional management by the native occupants of the ground.

Indians also burned to open the surroundings of their villages and remove potential hiding places which enemies might use to approach them undetected. They also used fire as an offensive weapon. Joseph Buell, a soldier stationed at Fort McIntosh, writes that:

“Captain Strong discovered a number of Indians with their arms at a little distance from the garrison.... By their behaviour, we imagined they designed some mischief. They set the woods on fire in several places, and we expected them to fall on the garrison [Ft. McIntosh] in the smoke, and were alarmed lest the fort should take fire; the wind, however, became more calm, and we received no damage.”

(Buel, in Hildreth, 1848, p. 143)

The most common reason Indians burned was to improve hunting by making game easier to see and encouraging the growth of new herbage that would attract the animals.

In this regard, the best answer comes from the Indians themselves. In 1805, a band of Kickapoo Indians in the Illinois country was accused by White Settlers of setting fire to destroy property. The answer made by Oulaqua to Governor William Henry Harrison at Vincennes presents a rare opportunity to hear a native voice speaking on the place of fire in the Indian’s world, and deserves to be quoted at length:

“He that made us, made us and made fire, it is the master of life we are accused of having set fire—we did it and we also saw white people do it. The Deer was put on the Earth by the Master of Life, and we endeavor to make our wives and children live, and if we are not permitted to set fire we cannot live. You then want us to die.... In all Counsels we have been we are desired to hunt and not go to war, now we are quiet and hunting, and we believe to do right; it is impossible to hunt without setting fire.... ...if we set fire to the weeds or grass, it is to live on the game, we have no other means to subsist.... Why do you reproach us of setting fire? You are glad to receive our skins, without which we would have none. We are not the only ones who set fire, the Kaskaskians, the Shawnese and the Miamis have set fire, as well as us.”

(Oulaqua of the Kickapoos in Harrison, 1975, pp. 178-9)

We can learn several things from this interesting speech. First, Indians, like people everywhere, were not above pointing a finger at someone else when they got into trouble. We also see that White settlers were using fire for their own purposes. Finally, we learn that the Kickapoos were not the only tribe to utilize fire. The Kaskaskia, Shawnee and Miami Indians—tribes who were also found in Ohio--burned the land.

The use of fire in the landscape almost certainly did not originate with the historic Indians. Archaeology shows that pre-historic cultures also used fire for domestic and mortuary purposes. The Ft. Ancient culture appears to have lasted nearly to White contact, and may have been ancestral to the Shawnee or some other Historic Indian tribe. There is no reason to believe that their usage of fire differed greatly from that documented for historic Indians.

Although no cultural continuum has been proven that allows us to carry assumptions concerning fire usage by late pre-historic peoples back into the mound-builder era, there is plenty of archaeological evidence of fire in both Hopewell and Adena sites.

Indirect evidence comes from the mounds themselves. Although covered with old-growth forest when first seen by White explorers, the larger mound complexes would have been very difficult to lay out and construct in a wooded environment.

The land almost certainly was open, presumably prairie. If so, it must have been either remnant prairie remaining from the Xerothermic period when a warming climate and extensive drought allowed the western prairie to extend as far east as central Ohio, or prairie resulting from an artificial clearing of the forest. If the latter, it is hard to see how such vast extents of land could have been cleared without fire, given the technological status of the mound-builder cultures.

The earliest evidence of human occupation of the New World dates to the last Ice Age. Given the glacial climate which these Paleo-people had to endure, it is not unreasonable to assume that they utilized fire, and in fact, hearths radiocarbon dated to 16,000 years before the present have been excavated at the Meadowcroft Rockshelter in Pennsylvania .

Going even further back, charcoal fragments have been found in Sangamon glacial soil of pre-Wisconsinan age. The context as reported does not indicate whether the charcoal resulted from natural (that is, lightning-caused) or anthropogenic fire, but its presence does prove that fire was a force in the environment during the late Pleistocene.

This raises the striking possibility that fire has been involved in forming Ohio's landscape since before the last glacial advance. If so, then the ecosystems developing today in the absence of fire are something totally new on the face of the land. The past 80 years of fire suppression may well prove to have been an unwitting experiment on a vast scale. How does all this help us manage land today?

A study of the original vegetation in a small part of eastern Clark County, Ohio, originally done to guide management of Gallagher Fen State Nature Preserve at the junction of Beaver and Sinking Creeks, shows how the various fire-adapted landscapes interacted at the time of earliest White settlement, and hints at the role fire played in maintaining them. The study area extends from the center of Springfield 6 miles east and from 2 miles south of Interstate 70, 12 miles north.

Beginning with records of the original land surveys completed in 1805 and 1806, and using soil surveys, geological maps and historic documents to fill in details, a map of the broad landscape types found in the study area by the first settlers was completed.

Yellow represents what the surveyors called "prairie"-- open areas filled with grass, sedges and herbaceous growth which tended to cover alluvial river valleys and glacial outwash deposits. Green areas show swamp forests. Orange locates probable savannas on well-drained slopes. White represents oak-hickory forests, and striped areas show what the surveyors called "barrens."

It is easy to see how fire could have kept the prairies open since most of them are interconnected with nothing to stop the advancing flames. It is also easy to see how fires started on the prairie could readily spread into the adjoining oak-hickory forest to create the barrens, especially given the generally westerly winds of the region.

The surveyor notes do not explicitly define the term "barren" in this context, but we do get a hint of their appearance and the means of their formation here and there. The notes for several lines in and near the study area mention burned woods, and in Range 8 Township 4, the surveyor says, "Much dead timber Fire burning the woods." As for where the fire came from, it is interesting to note that an important Indian trail cut across the center of the study area, and that the large Shawnee village of Peckuwe lay less than 4 miles to the west.

Today the stream valleys in the nature preserve are filled with swamp forest, and the former savannas and barrens of the high ground are thick with young trees and invasive honeysuckle. Over the past 20 years, an extensive program of cutting and treating invasive woody growth, and reapplying fire has been maintained. As a result, the prairie, the savanna and the barrens have reappeared. The original landscape was there all the time, waiting for fire to return.

At last we are beginning to give fire its historical place in Ohio's landscape, using it to restore fire-dependant ecosystems and battle the rampant spread of exotic species. We can only hope we're in time.

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