Fire as a Management Tool in Our Forests Assignment T-3 NRES 623

Do the words "uncontrolled wildfires" cause you fear? Have you ever cancelled a vacation due to the area being consumed by wildfire?

Both are true for me. In 2012, we cancelled a family vacation to the YMCA of the Rockies in Estes Park, Colorado due to the raging wildfires that were rapidly encroaching the park. We were afraid! We did not want to take unnecessary chances, so we cancelled our trip. Good thing, too, because Estes Park burned that summer! (1) How sad and scary for the residents of that popular and beautiful destination!

Fire is dangerous! Fire is life threatening! Fire is bad! Well, the first two statements are certainly true! But fire – despite its destructive properties, is not always bad! We need fire to return to our forests, using a controlled, low intensity, permit yielding, methodically planned, and approved method. This is known as a prescribed burn. And we need to use it! The *2005 Comprehensive Hixon Forest Plan* recommended the use of Prescribed Burns (8). It stated that without management, Hixon Forest would cease to exist as soon as ten to thirty years in the future! We are there! It is 2015! Furthermore, despite the recommendations, I have not been able to find any documentation of prescribed burns occurring in the forest with any regularity. We must take action!

Therefore, I am writing you about supporting prescribed burns. Forests have long been part of our history, here in Wisconsin. It is difficult to find a period of time when some part of our economy, socialization, or ecology has not been affected by events shaped by Wisconsin woodlands. However, our management of forests has changed.

First, let me remind you of how fire was used historically as a management tool in forested areas. For nearly ten thousand years, fire was used by the indigenous peoples of Wisconsin (1). Fire was used as a frequent practice by Native Americans to drive game, increase visibility, and maximize foraging of food such as berries (1). It is thought that all Wisconsin acreage was burned every four to five years, starting either by lightening strike or by indigenous ignitions (2, 9). These low intensity, frequent fires were common in our area prior to European Settlement and found helpful to manage native species, in addition to the aforementioned reasons (1). These species, both plants and animals, became dependent on fire to sustain their habitats (4). The diversity of species has declined in Hixon Forest (8). It is not a stretch to blame some of the lack of diversity on the absence of fire (4).

Our European ancestors, once settled in Wisconsin, began to manage the land differently. With the advent of intense logging, high grading was used frequently. Wildfires became frequent but destructive, burning hot while consuming slash and any remaining trees. The increased settlement and hot fires, led to fire suppression (3). The "fire regime was strongly altered after the area was settled by European

immigrants". In fact, in some places fire was suppressed completely (3). Suppression of fire has remained true for our local area, with few exceptions, since the 1930's or over three quarter's of a century. Clearly, the value of fire in managing forested land was not and has not been seen as useful.

And what might that value be, you ask? There are plenty of benefits to prescribed burns. The terms prescribed burns refers to purposely setting regulated fires (5). Please refer to the following list of the benefits to using a prescribed burn for forest management:

- Help restore native naturally occurring communities (4)

- Restoring Eco-systems to historic conditions by doing the following (2):

-Controlling invasive species
-Preserving biological diversity
-Improving Wildlife Habitat

Are you concerned for animal safety? Contrary to popular belief, prescribed burns do not harm wildlife (2)! In fact, it may improve components of habitat such as nesting conditions and increased availability of preferred food sources (2, 5). The burn produces a thicker, younger cover to be used for future nests and burrows (2).

-Managing Wilderness Fuels

This refers to reducing the amount of ground debris and dead debris that accumulates when forests go unmanaged or managed by other means. The debris that accumulates acts as a more hazardous fuel that burns hotter and ignites in an uncontrolled manner. This extremely destructive fire is the type that humans and their communities can be protected from with the regular use of prescribed burns (2). This is wildfire!

-Minimizing the spread of disease and insect pests
-Removing threatening or unwanted species
-Improving habitat ecology
-Recycling nutrients back into the soil
-Promoting growth of native plants that had adapted to the stimulus of fire

Furthermore, using prescribed burns helps to promote sustainable forestry (6). We need to put recommendations and plans to use prescribed burns into action! The *Department of Forest Ecology and Management's Forestry Facts* (1995) states that prescribed burning can be a valuable forest management tool (7). The reasons stated in their document include: reducing unwanted vegetation and logging debris, preparing sites for tree planting or direct seeding and perhaps most importantly, reducing the potential for destructive wildfires by lowering fuel accumulations (7).

I wonder if the residents near Hixon Forest understand that their homes are at a greater risk of burning from wildfire than from a prescribed burn! It is true! Prescribed burns are controlled, regulated, planned, and monitored! Wild fires are just that – WILD – and very difficult to control (5)! The media exposes us all to the danger of these wildfires when they occur. Instead, we need to expose the public to the benefits of controlled fire.

Why is Hixon Forest in need of prescribed burns? As of the assessments in 2005, the most acreage in Hixon Forest contained mature oak stands. It was cited that there was much wood fiber nearing the end of its lifespan (in 2005). At that time, the most frequently occurring natural community was dry prairie. Hixon also consisted of (and still does) some Blufflands. All three of these finding are consistent with areas conducive to prescribed burns (4, 5, and 9). The oak stands need regeneration and fire can provide that by killing off shrub and lesser tolerant trees (5,9). Dry prairie and blufflands also respond well to prescribed burns that will assist in regenerating native species (5).

As suggested in the *2005 Comprehensive Hixon Forest Plan* and numerous other resources, regular prescribed burns are a key component of a comprehensive forest management plan (8, 9). At this time, you may be wondering who can be consulted for help on planning a prescribed burn. Recently, prescribed burns have been reinstituted on some lands in La Crosse County. The Mississippi Valley Conservancy has been conducting prescribed burns since 2006 on select areas (4). They could act as a resource to start the process of reinstituting prescribed burns in Hixon Forest.

Quercus Land Stewardship Services is another group that uses fire to assist in the management of Wisconsin Forests (10). They are committed to using fire as a tool to restore the ecological foundations of our forests (10). The Wisconsin Prescribed Fire Council can also be utilized to help local communities understand the benefits to prescribed burns and assist in reinstituting them as a necessary part of forest management (10, 11).

Finally, I want to make you aware of the next educational event at the Upper Mississippi Wildlife and Fish Refuge on Brice Prairie. This free event will discuss the environmental benefits of prescribed burns in our area (11). I will be going, will you? Let's move past our fear and restore our forests to their natural and more ecologically sound state! Regular prescribed burns are a key component of a comprehensive management plan for forests (9). If you are in need of additional information to convince you to support the use of fire in forest management, please consult my list of references or visit the Lake States Fire Science Consortium for further reading materials and webinars at www.lakestatesfiresci.net (12).

References:

1) Millennia of Coexistence: Native American Inhabitants and the Environment http://www.ecologyandsociety.org/vol12/iss2/art17/main.html#Settlement

2) Prescribed Fire Management – United States Department of Agriculture – Forest Service: Chequamegon-Nicolet National Forest http://www.fs.usda.gov/detail/cnnf/home/?cid=STELPRD3799791

3) Polo, J. A., Hallgren, S. W., and Leslie, D. M. (2013). Effect of long-term understory prescribed burning on standing and down dead wood material in dry upland oak forests. Forest Ecology and Management, 291, 128-135. http://www.biosurvey.ou.edu/download/publications/1-s2.0-S0378112712006548-main.pdf

4) Howe, G. (2006). Prescribed Burns: An Ancient Natural Process Reintroduced. Mississippi Valley Conservancy News and Views, 9 (2), 3-5. http://mississippivalleyconservancy.org/LinkClick.aspx?fileticket=-ixpjaYVTD8%3D&tabid=86&mid=525

5) The Benefits of Prescribed Burning on Private Land. (1994). State of Minnesota Department of Natural Resources. http://files.dnr.state.mn.us/assistance/backyard/privatelandhabitat/benefits_prescribed_burning.pdf

6) Hutnik, B. Prescribed Fire as a Woodland Management Tool. Wisconsin Department of Natural Resources. http://wisaf.org/images/Prescribed_Fire_as_a_Management_Tool.pdf

7) Holaday, S. & Martin, J. (1995). Forestry Facts: Prescribed Burning and Wildfire. No. 9, UW-Extension. Department of Forest Ecology and Management, School of Natural Resources, College of Agricultural and Life Science, University of Wisconsin/Madison.

8) Hixon Forest Comprehensive Plan. (2005). City of La Crosse Planning Department. http://lacrossehistory.org/environment/Adopted_Hixon_Plan.pdf

9) Wisconsin's Oak Woodland. (2012). http://neswi.com/wp-content/uploads/2012/12/oakWoodlandFactsheet.pdf

10) Prescribed Burning by Quercus Land Stewardship Services. http://quercuslandstewardship.com/about-2/services/prescribed-burning/

11) Barrett, E. (2015). A look back on the La Crosse logging industry. www.wxow.com

http://www.wxow.com/story/27876419/2015/01/17/a-look-back-on-the-la-crosse-logging-industry

12) Lake States Fire Science Consortium website www.lakestatesfiresci.net