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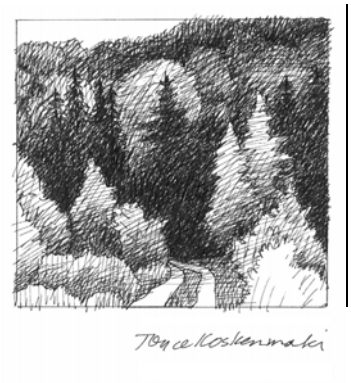

UPPER PENINSULA ENVIRONMENTAL COALITION

U.P. Environment

Upper Peninsula Forests: Past, Present & Future

By Greg Kudray

Ask someone off the street what the UP forests looked like before European settlement and you're likely to get a response that conjures up an image of unbroken forests of huge white pines. In reality though, the UP was mostly hardwood/hemlock upland forests with large acreages of wetland forests just as it is now. White pine was much more abundant in the past, but the broad mix of species we see now were also present pre-settlement. So, have decades of logging, catastrophic wildfires, and other human activities had little impact on our forest? The answer is definitely no, but how do we even know what was here before the big cut?

Pre-Settlement Upper Peninsula Forests

Researchers wanting to detail pre-settlement forests turn towards the original surveys of the General Land Office. During the mid 1800's, before widespread logging, surveyors subdivided the land into square mile sections. During that process they recorded the general character of the land and the locations of witness and line trees, noting the species and diameter. This original data can be used to recreate the relative abundance of species and trees in addition to providing a map of forest types. However, this method will only give a snapshot of the forest as it was during the mid 1800's. Scientists can look even further back by identifying pollen grains in the sediments of lakes and ponds.

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Hannahville Forging Ahead with Plans to Build Coal-Burning Power Plants

By Marcel Potvin

The Hannahville Tribal Council and its Economic Development Coordinator, Dave Anthony, are forging ahead with plans to build four, 250 Megawatt, coal-burning power plants and an ethanol plant about 15 miles west of Escanaba. An economic feasibility study is underway, but local citizens have raised many questions as to the logistics of the proposed development.

A group of concerned people primarily from the Bark River area has formed, calling themselves the "Citizens for Water and Clean Sky." They have elected officers, incorporated, published a website (www.cwcs.org), and are asking area residents to become involved in this issue.

Tribal Economic Development Coordinator Dave Anthony agreed to attend area township board meetings to answer questions about the power plant proposal. After skipping

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Inside this issue:

UPEC Action…

- *UPEC continues to develop our vision of sustainable forests and invites your response.*
- *UPEC Keeps tabs on Hannahville Power Plant , appointing board member liaison*
- *UPEC joins other groups, asking for environmental assessment of State Police Communications towers on Brockway Mountain.*

Newsletter Editor: Suzanne Van Dam

About UPEC...

The Upper Peninsula Environmental Coalition has a 27-year track record of protecting and seeking to maintain the unique environmental qualities of the U.P. by public education and watchful monitoring of industry and government. UPEC seeks common ground with diverse individuals and organizations, in order to promote sound planning and management decisions for all the region's natural resources. The *Upper Peninsula Environment* is published four times per year. Contributions and correspondence should be sent to: P.O. Box 673, Houghton, MI 49931 or e-mailed to: svandam@chartermi.net.

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UP Forests: Past, Present & Future

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The land of the Upper Peninsula emerged from glacial ice only around 10,000 years ago. Trees immigrated at various rates; light seeded pioneer species moved quickly while other species like beech and hemlock only arrived in the UP a few thousand years ago. Fluctuations in climate, wildfires, catastrophic windstorms, plant succession, and Native American activity all affected the forest, but by far the largest change occurred in the late 1800's with the beginning of widespread logging. A study of pollen sediments indicated that the change in tree species in only 150 years of settlement was 2.4 times greater than the change during the previous 850 years.

Early removal of large white pine gave way to a nearly complete harvest of all virgin forests. The extensive wildfires that followed altered soil characteristics and eliminated tree reproduction in some areas – sometimes creating a barren landscape that was not reforested for decades. As forests grew back, logging continued, and we are now entering a third generation of forests, much different than the original forest habitat of indigenous plant, animal, and insect species.

Upper Peninsula Forests Then and Now

A Michigan Tech study of a broad district comprising most of the eastern Upper Peninsula detailed forest changes that are probably similar across the region:

- Smaller current diameters for all trees except short-lived pioneers like aspen
- Much more aspen, balsam fir, jack pine, and red maple now
- Much less beech, hemlock, tamarack, white pine, and yellow birch now

When forest cover types (defined as an area dominated by a specific tree species) were compared, differences were again large. For example, more than 5 times more acreage is now aspen/birch as compared to pre-settlement forests.

A broader analysis of forest change across the Great Lakes region shows the magnitude of tree species change (Figure 1). There is also much greater fragmentation of the forest (Figure 2); polygons or contiguous areas with the same forest type are much smaller now. Original forests had larger patches of the same forest type; the current fragmented forest lacks the large blocks of interior forest that many species require.

Trout Lily: Photo, Linda Nagel

Send a Letter to Your Legislators

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Figure 1. Change in forest types of the Great Lakes region since European settlement (from Cole et al. http://biology.usgs.gov/luhna/chap6.html)

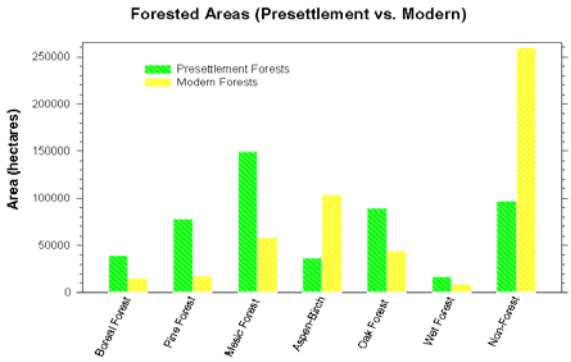
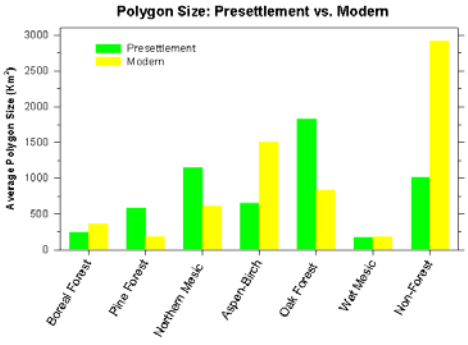


Figure 2. Forest type fragmentation since European settlement. (from Cole et al. http://biology.usgs.gov/luhna/chap6.html)



Trends

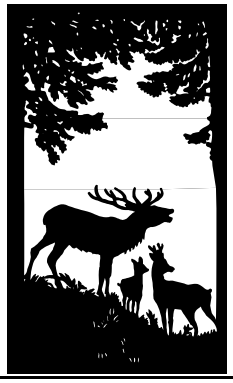
Current forest management will likely continue the post-settlement trend of smaller diameter trees and the high acreage of fast-growing "tree-farm" species like aspen. About every ten years the Forest Service conducts an inventory of forestland and discusses trends. However, these are always biased by the nature of the survey – they inventory nearly everything, which includes areas that are not readily available for timber production (steep areas, small private ownerships, wetlands, deer yards, recreation land, shorelines, riparian buffers, etc.). Nevertheless, some trends are apparent:

- The forested holdings of private landowners are getting smaller as subdivision increases.
- Many of Michigan's native plants are in trouble and weeds invade. Two percent of native plants are now gone from Michigan, and 22% are at risk. Alien plant invaders like purple loosestrife, garlic mustard, and spotted knapweed are serious problems.
- The rate of timber growth is increasing. This sounds good, but young trees growing back after a timber harvest naturally grow faster than the older trees they replaced.
- Timber removal has increased dramatically: a 31% increase in Michigan from 1979 to 1992 (the date of the last complete inventory). Since 1992 the rate of timber removals has accelerated.
- Timber growth exceeds timber removal for most species. This statistic is often cited as an indication of a forest in balance or even with resource to spare, however it should be realized that the growth/removal ratio is obviously much greater on lands unsuitable for timber harvest, confusing the comparison on lands that are actually our timberland base
- Some tree species are in trouble. Elms are virtually gone and there was a startling decline of more than 145 million cedar trees in the reproduction class size (trees < 5 inches in diameter) in Michigan from 1979 to 1992, a problem attributed to browsing from our unnaturally high deer population.

What does it mean?

Widespread timber harvesting after settlement has created woods that are hugely different than original forests. Many plants and animals have disappeared, unable to cope with the changed forest environment. Timber harvesting on most UP forestland will continue. What will future forests look like? It's our choice:

Will we expand production into forested wetlands? Uplands forests in the UP are almost fully utilized for timber production, but the large amount of wetland forests (see figure 3), are sometimes seen as an "underutilized" timber resource, a resource that has been targeted by State timber development advocates in the recent past. However, cedar and other wetland forests are the most biologically diverse forest ecosystems we have and, with present conditions and knowledge, are



Forest Facts:

- 84% of the U.P. is forested.
- Forest ownership is 39% public, 33% corporate, 28% private.
- Northern hardwoods forests of maple-beech-birch are by far the most abundant forest cover.

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UP Forests: Past, Present & Future

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nearly impossible to recreate after timber harvest. Is it possible to manage these forests for timber products and also preserve habitat values?

Will forest managers sacrifice some economic gain to protect habitat and environmental values? Preserving snag trees, spending money on building proper roads and then sometimes closing them, staying away from sensitive habitats, and leaving low economic but high habitat value trees like hemlock are all techniques that improve the ecological health of our forests, but they all also limit the economic return of the timber harvest.

Our most common forest type, northern hardwoods, can produce two main products, pulpwood or larger diameter saw timber and veneer. Pulpwood is a relatively low-value, worldwide commodity product while hardwood saw timber and veneer are high value specialty products, but the management decision is not easy. Managing for saw timber takes time and labor, entering the stand every 15 years to thin and improve the forest. Pulpwood harvesting is mechanized and maximizes the short-term economic return. The UP forests will look very different if pulpwood management becomes dominant in our maple forests.

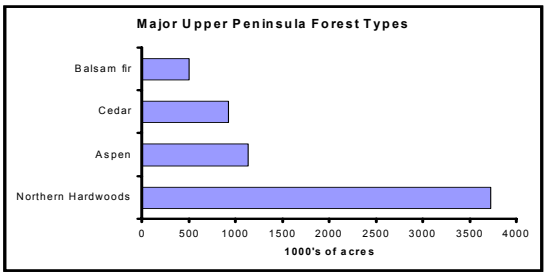


Figure 3: Current acreage of the most common UP forest types.

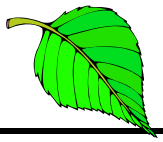
Go almost anywhere in the forests of the U.P. and you'll see evidence of timber harvest: recent stumps, stands of aspen whips, a maze of logging roads. But walk into a forested wetland—a forest untouched since the big cut—and here the story is usually different.

Ecological management techniques like preserving snags and fallen logs can help preserve habitat for the variety of creatures that depend on our forests. Though these strategies cost money, landowners can still harvest timber and preserve important habitats if they wish. Intensive timber management without regard for soil stability, species composition, stand structure and other important ecological components will continue to degrade the forest as habitat. We'll never go back to the early virgin forests but everything we do in forest management need not be considered fuel for the mills.

Greg Kudray, Ph.D. is a UPEC board member and is interested in forestry, ecology and wetlands. He owns an ecological consulting company, www.ecologyusa.com

Aspen in the Spotlight: UPEC's Panel Discussion

By Suzanne Van Dam



Many thanks to our presenters who served on our panel discussion, "A Controversial Tree: Aspen in the Spotlight" at UPEC's annual meeting. Presenters included *David Allen*, the Sierra Club liaison for UPEC; *Mark White*, a researcher with the Natural Resources Research Institute in Duluth; and *Chris Burnett*, a local forester and biologist. A special thanks to Bill Robinson, retired wildlife biologist who filled in for Terry Minzey upon very late notice. Minzey, a Michigan DNR employee, was told he could not participate in the panel due to potential legal ramifications with the pending lawsuit between the Sierra Club and the National Forest Service.

Sierra Club Lawsuit: David Allen gave a brief overview of the rationale behind the Sierra Club lawsuit against the National Forest Service, District 9. He explained that the Sierra Club is requesting a declaratory statement explaining the cumulative environmental impact, over acreage and over time, of managing the land for aspen. Allen pointed out that the lawsuit contained no language about stopping timbering on National Forest land and did not recommend changes in aspen management.

Changes in Forest Patterns: Mark White presented the recent and historic changes in forest composition, looking at both the structure and spatial patterns in the forests of the Northern Lake States using computer satellite imaging. The primary changes that occurred from 1850's to the 1990's were a general decline in the abundance of conifers and a corresponding increase in hardwoods. Studies documented a major decrease in later, successional forest trees over 100 years old. By comparing two contiguous areas, the recreational Border Lakes area in Wisconsin and the relatively undisturbed Sylvania Wilderness area in the U.P., researchers have discovered that the patches of forest in Wisconsin are now smaller, simpler in shape, and have less interior forest than they did in the past. Even within a 5 year period they were able to detect significant changes between the two areas, concluding that: 1) ownership and management status are the primary drivers of forest change, overriding natural processes such as fire, windfalls, etc.; 2) fragmentation is greatest on non-industrial private forests; and 3) upland conifer forests continue to decline while aspen abundance continues to increase.

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Aspen,
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Arboreal Prejudice: Bill Robinson debunked the idea that some trees are "good" while others are "bad," pointing out instead that certain trees have value for certain species. Although some environmentalists claim that old growth, climax forests are best for wildlife, Robinson argued that managed forests are not necessarily an "insult to ecosystems." New aspen growth, he explained, helps provide ideal habitat for woodcock, deer, grouse, chestnut sided warblers, indigo buntings and other edge species.

Managing Land for Diverse Purposes: Chris Burnett presented an array of nine silvicultural management alternatives, ranging from a conventional clear cut to simply leaving land undisturbed, which, he pointed out, does not necessarily mimic the natural dynamics of a forest. He described *patch cuts* (where small parcels of .5-10 acres of land are clear cut, allowing aspen and other phoenix species to thrive in patches), and *group selection cuts* (expanding gaps with reserves of mature trees), as especially promising for wildlife diversity.

In his summary, moderator Jon Saari pointed out that aspen and birch are not dominant tree species in any of the major tree communities in this region, except for boreal forests. They became abundant in the past as pioneering species thriving on man-made disturbances (logging and logging-induced fires), and have remained abundant due to their value as wood fiber in the pulp and paper industry and as habitat for game species, particularly deer and grouse. Aspen also fill a special market niche in the Upper Peninsula, he quipped, "the world's best sauna benches."

Thanks to Our Presenters : David Allen, Mark White, Chris Burnett, & Bill Robinson, and to Northwind Books in Hancock for donating door prizes at UPEC's Annual Meeting! UPEC also appreciates the generosity of Joyce Koskenmaki who offered her beautiful artwork for this newsletter, and to Steve Chadde who donated botanical postcards for UPEC correspondence.

Some Thoughts on Forest Sustainability

By Doug Welker

Sustainability: the survival and viability of the entire regional ecosystem

With the last issue of this newsletter, UPEC began a year-long dialogue on the state of the U.P. forests with, "Finding Our Pole Star: A UPEC Vision of Sustainable Forests." This article defines Ecological Sustainability as: *The survival and viability of the entire regional ecosystem, of the natural processes that govern its changes, and of the historic diversity of native plants and animals that have come to inhabit it*. This is one of three guiding principles to be used as indicators of how well the managers of U.P. forests are doing in providing sustainable forests. UPEC has also stated the need for "ground-truthing," determining whether our efforts toward sustainability have been successful by monitoring changes in the U.P.'s forests through time.

This definition of sustainability is one of a myriad. A search of the world wide web using the AltaVista search engine yielded 364,000 web pages which contain the word "sustainability," an indication of how widely this term is used and how differently it is interpreted. There is a Sustainability Institute, a Sustainability Web Ring, and a host of other sustainability-related sites. The following statements on sustainability were gleaned from a number of those pages, from other sources, and from contemplation on this issue:

1. There is no set definition of sustainability.
2. Just because something is sustainable doesn't mean it's desirable. For instance, we could sustain the U.P. in the condition of 100% wilderness that existed before humans arrived, but few would desire that or think it necessary.
3. More often than not, when one activity is made more sustainable, something else becomes less sustainable. There are exceptions, but decisions on sustainability usually involve tradeoffs between economic, social, and ecological needs.
4. What we determine to be a standard of sustainability must change with time. If we consider the historic diversity of plants and animals in the U.P. to be an indicator of ecological sustainability, do we revise that standard if global climate change produces an ecosystem which no longer provides habitat for moose, and if our bird population begins to resemble that of central Wisconsin?
5. A set, precise condition cannot be sustainable due to natural variations in ecosystems. All definitions of sustainability must include a range of acceptable conditions.
6. Current conditions should not necessarily be sustained. It may be necessary to attempt to duplicate some conditions of the past in order to keep current conditions from deteriorating further.

Forestry and environmental interests often have differing (though overlapping) views on sustainability. These groups do not

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Forest Sustainability,

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necessarily agree on the purpose of sustainable forestry, and their divergent viewpoints represent opposite ends of the spectrum.

One end of the spectrum is the ***ecocentric*** viewpoint championed by some environmental groups. An ecocentric viewpoint of sustainability believes that the needs of humans do not override the needs of the rest of the ecosystem to which humans belong. A premise put forward by the group Worldwise sums up this point of view:

"Central to the concept of sustainability is the acknowledgment that humans live within the ecosystems of the Earth -- not outside or "on top" of them -- and therefore share a responsibility for their care." (http://www.worldwise.com/whatissus.html)

At the other end of the spectrum, the human-based, or what I prefer to call the ***egocentric*** viewpoint argues that human needs are foremost but ecosystem needs also must be considered. The definition used by the American Forest and Paper Association is typical:

"To practice sustainable forestry to meet the needs of the present without compromising the ability of future generations to meet their own needs by practicing a land stewardship ethic which integrates the reforestation, managing, growing, nurturing, and harvesting of trees for useful products with the conservation of soil, air and water quality, wildlife and fish habitat, and aesthetics." http://www.woodcom.com/woodcom/afpa/afpabp02.html#principles)

A number of less partisan groups are attempting to find a middle ground between the ends of this spectrum, but doing so is a monumental task. We are dealing here with one of the most fundamental differences in human beliefs. It will remain a monumental task until we decide if humans are different from other organisms in some fundamental way. In other words, there will never be complete agreement on how our forests and other ecosystems should be managed, and for what basic purpose.

We must, though, do the best we can, working toward sustainability in a coordinated, systematic way. The following six-step process is one possible way to achieve sustainable forests:

1. Agree upon a ***definition of sustainability***. This definition may vary from place to place and from time to time, but all such definitions must be true to a core set of values, and relate to a common vision for the future.
2. Set forth ***principles***, which elaborate on the definition of sustainability. For example, "Provide for Natural Core Areas in addition to multiple-use forest."
3. Create a set of i***ndicators*** that can be measured in order to determine if these principles are being adhered to. Such an indicator might be "Number of acres of forest preserved in Natural Core Areas." To be of value, indicators must have certain attributes; they should be relevant, quantifiable, measurable, and practical. They may be ecological or social in nature.
4. Provide ***standards*** to match the indicators created in step 3. In our "core area" example, the standard would probably not be a set number of acres such as "200,000 acres across the U.P.," because the size and distribution of individual core areas are also important.
5. ***Monitor*** the values of indicators quantitatively, using uniform methods and by sharing relevant data.
6. ***Do something about it*** if the standards are not being met. If measured values consistently fall outside an agreed upon standard, management activities or regulations usually need to be altered. One should avoid routinely ignoring variations from a standard, or changing a standard to fit the observed data.

As one goes down this list of steps, greater difficulty is encountered in getting consensus among those working toward a sustainable forest. This is because the parties involved may not want to compromise, may prefer only to work within non-binding guidelines (which I believe have limited value), or may feel it's too much work to do monitoring and reporting.

At this point, UPEC's principles of sustainable forestry have their greatest value as an educational tool. They represent a vision with some specifics. Can they also find value if applied to a real-world situation such as the six-step process I've outlined above, and do opportunities to use such a process even exist on a large scale?

I believe they do, but there is a certain amount of bureaucratic inertia, corporate self-interest, and uncompromising environmentalism making those opportunities hard to come by. Without a clear, unified, and implemented vision of sustainability, however, I feel that progress toward a goal of sustainable U.P. forests will be slow at best.

Doug Welker is a UPEC board member and is involved in the preservation of the North Country Trail.

Why the Rift Between Ecology and Forestry—Aren't They One and the Same?

By Linda Nagel and Greg Corace

Some people define the practice of forest management as part art and part science. This definition implies an understanding of biological and ecological principles, development of creative solutions to complex problems, and an understanding of the social values that play into landowner objectives. Thus, forest management *is* applied ecology. As such, forestry has become increasingly more complicated due to divergent demands placed on forests, and rising debate over what represents the most sustainable and ecologically sound method of management. There is no better time than the present for dialog between extreme views in forest management. Although views will likely vary from interest group to interest group, we suspect that during this process more common ground will be found than stark differences.

Just like any other profession, forestry is filled with jargon that holds different meanings for various factions. "Sustainable forestry" is a term that has been used to describe a philosophy of forest management since the dawn of the profession. Over the past century, criteria for defining sustainability have ranged from purely economic to broad-ranging ecological values. UPEC has a specific definition of sustainability that is inherently different from landowners who emphasize investment and economic return in the management of land. Adaptive management, ecosystem management, and ecological forestry are other contemporary terms that are difficult to define, but clearly represent a vision of forestry that has evolved over many decades of success, failure, debate, and changing viewpoints.

In the two latest textbooks on the subject, silviculture is defined as applied forest ecology. Sound silvicultural treatments are developed after an initial assessment of current stand conditions and in many cases, an assessment of hydrology, soil, social issues, and habitat for animals and plants. Formulation of desired future conditions, and the development of a prescription (action) that falls within natural ecological boundaries is inferred through an understanding of vegetation development patterns that occur in any given forest type. Maintaining ecological integrity is an underlying objective of any management action, and requires consideration of the entire forest system, not just the trees. Sound silvicultural treatments, therefore, correspond with a diverse array of habitat requirements for species likely to inhabit the treatment site. Successful forestry practices require an interdisciplinary approach – cross-cutting between basic and applied ecology.

In the Upper Peninsula, like many regions of North America, a common progression occurred with land settlement. Forests were initially exploited for timber and fuel, and large tracts were cleared as trees stood in the way of transforming land into towns and productive agricultural areas. The profession of forestry began soon after, and was shaped by German influences. The first form of forestry was as custodian in the early 20th Century, with the focus on protecting forests from exploitation and fire. A period of sustained yield timber production followed, with the goal of assuring a continuous supply of timber. Multiple-use forestry emerged in the 1960s with an attempt to manage for a broad array of resources (the legislation states these main emphases: outdoor recreation, range, timber, water, wildlife, and fish).

It takes broadly-educated individuals with open minds to make a positive difference in providing stewardship for our forests.

Production forestry also emerged during this time, following the agricultural paradigm. The most recent form is popularly coined "ecological forestry," emphasizing ecological processes and

emulation of natural disturbances, with maintenance of ecological integrity a paramount concern. Forest management at large is no longer governed solely by choosing the option that maximizes economic returns. Today, the "products" of forest management may include habitat for neotropical migrants, blueberry production, or the protection of endangered plants as well as the wood products that are extracted. Multiple values are considered concomitantly, and objectives can be met with creative tools developed by collaborative efforts between ecologists and foresters working together toward common goals.

Historically, viewpoints on the natural world have led to various "ologists" seeing the world through their particular lens on the preservationist end of the spectrum, with managers such as foresters seeing the world through their lens on the opposite end. Sometimes this has been quite divisive, with one group seen as obstructionists, while the other represents (for some) a pillage and burn mentality. This contrasting focus of each "group" led to the prevailing trend of unproductive standoffs. Although land preservation (protection from treatment) is sometimes necessary for protection of endangered species or critical habitat, a conservation ethic represents a broader philosophy that provides for human needs as well as protection of resources.

The philosophical evolution of forest

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Why the Rift Between Ecology & Forestry

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management as applied ecology requires a new approach to traditional education strategies. The School of Forestry and Wood Products (SFWP) at Michigan Technological University represents an evolving program that is merging ecology with traditional forestry. The curriculum within the SFWP is being revised to better integrate the Applied Ecology and Environmental Science degree program with the Forestry degree program using an interdisciplinary approach.

The basic philosophy is that it takes broadly-educated individuals with open minds to make a positive difference in providing stewardship for our forests. The senior-level "capstone" course, for example, requires Forestry and Applied Ecology students to collaborate on an integrated resource assessment and to produce a management plan. In the near future, students will participate in a residency program to practice the best sustainable practices. Whether that means preservation, active management, or something in between, students will work together in a real-world setting to evaluate the merits of decisions guided by societal concern, ecology and economics. More information about these degree programs can be found at this website: http://forestry.mtu.edu.

Michigan Tech Students enjoy their new interdisciplinary curriculum , putting their academic skills to work in a real world setting.

Beyond the academic setting, students and professionals alike need a forum for discussing ideas, keeping abreast of new technologies, and cultivating an open mind. Organizations like the Society of American Foresters, the Ecological Society of America, the Wildlife Society, the Society for Conservation Biology, and the Forest Steward's Guild can provide access to not only individuals with similar viewpoints, but also an avenue for discussion (and yes, debate) over a number of issues pertaining to forest management. Students at MTU are encouraged to be active members in these organizations to facilitate their professional development as they pursue their academic interests.

We live in a society that extracts vast amounts of resources from a land that is magnificently rich and diverse. Preservation of special places, active management that is grounded in ecology and incorporates principles of conservation biology, and responsible extraction of *renewable* forest products to meet human demands represent components of a philosophy of land management that should unite extremist views. No piece of land can be everything to everyone. Nor should any piece of land be managed to meet one primary objective. What is certain is that common ground in caring for our forests has been identified. Education along with open and constructive debate is key to the process of elevating our management to the highest standards.

Linda Nagel, Ph.D. is assistant professor in the School of Forestry and Wood Products at Michigan Technological University. She is the coordinator of the Fall Camp curriculum where she also teaches the practice of silviculture. Greg Corace is forester on the Seney National Wildlife Refuge, and expects to complete his Ph.D. in wildlife ecology in fall 2002.

Hannahville Forging Ahead, continued from page 1

Coal-fired power plants produce sulfer dioxide and nitrogen oxides, harmful chemicals responsible for acid rain

the first meeting, he did attend the second meeting of the Harris Township Board on May 1.

Unfortunately, he penned a letter to the Teamsters Union requesting their attendance, rendering the nature of the meeting from informational, to confrontational. Estimates of the number of Teamsters were well over 200, perhaps over 300. The Teamsters stomped their feet on the bleachers, shouted, and answered questions directed to Dave Anthony and his engineer. One young woman in attendance questioned the sustainability of the plans for water use at the plant. Following this a man stood up from 10 feet away, screamed and shouted about jobs, and pointed his finger at her for nearly a minute, the entire time directing his tirade to the young lady. The crowd then erupted in raucous applause and bleacher stamping.

In another instance, a question was posed to the engineer about mercury emissions. A Teamster answered the question before the engineer, saying that mercury comes from runoff as a result of logging and not power plants. The handful of people wishing to get information at the meeting referred to the meeting as "a joke."

However, word travels fast in a small

Hannahville, Continued

Residents are concerned the proposed plant will drain local water supplies and emit mercury, which bio-accumulates in fish and causes neurological damage in humans, especially young children.

town. On May 14 at the Bark River Township meeting, Dave Anthony spoke to a standing-room-only crowd of well over 500 people. At the beginning of the meeting, the union representatives began to voice their support, but garnered claps from only about 50 people. The mood of the meeting was changed when locals began to voice concern about water use, mercury emissions, and high tension power lines. Question after question was asked of Dave Anthony and two of his engineers. Dave Anthony spoke down to the crowd, twice insisting that they "use their heads." One man asked a series of questions to which Dave Anthony could not or would not answer. Frustrated the man voiced his opposition and finished by exclaiming "and you ain't gonna get my vote!" To which the capacity crowd immediately jumped to their feet and cheered and whistled. By the end of the 2.5 hour meeting, Dave Anthony and his engineers were visibly fatigued.

The meagre amount of information gained from the meetings is indeed disappointing. The total demand placed on local aquifers and water resources for the coal burning power plant is nearly 11,000,000 gallons per day. There will also be a second system in which water would be recycled. However, in total, every day nearly 11,000,000 gallons of water will be turned into steam. The engineers are currently planning on using groundwater or piping water from Lake Michigan. In response to questions, the engineers guaranteed forcefully to everyone in attendance that no streams or bodies of water would be drawn down as a result.

However, when asked about the effects on wells in the area, they admitted that they had no idea how this pumping would affect local water. In one sentence they guarantee no problems and in the next they admit ignorance.

In another instance, someone discounted Dave Anthony's number of 1,000 permanent jobs resulting from this plant. The man stated that similarly-sized plants elsewhere employ less than half that number. The chief engineer forcefully assured the crowd of the number. However, the questioner persisted, saying that certainly, with such a prediction, he must have some kind of idea of the types of jobs created, in other words, what would all these people do? Once again the engineer pleaded ignorance saying that he had no idea what the composition of the workforce would be, but he was sure that it would be 1,000 permanent jobs.

The appetite of the power plants would require approximately 200 semi truck loads of coal from Escanaba through downtown Bark River to Wilson every day. People voiced concern over the need for larger roads and increased maintenance, in addition to the prospect of high tension power lines. One of Dave Anthony's promises, which was repeated many times throughout the night, was that "You will not hear it, you will not smell it, you will not see it." One must truly question either the intelligence, or virtue, of anyone making such a statement about a gigantic coal burning power plant and industrial complex.

While the massive opposition of the local citizens is encouraging, the attitude of the developers is equally disturbing. After nearly 2.5 hours of heated opposition, Dave Anthony and his ignorant but confident engineers were unruffled. Speaking with people after the meeting, he described this project as "huge" and "unstoppable," mirroring his answer to a local resident and mother, who asked if it mattered that all these people were opposed - the fate of the power plant will be determined by the economic feasibility study.

Dave Anthony spoke of the benefits of decommissioning antiquated coal burning power plants by putting this one on line. All coal burning power plants are antiquated! Coal powered the industrial revolution, but use of coal for energy peaked in the late 1940's. Even with the most advanced pollution control devices, coal burning power plants emit the most carbon dioxide per unit energy of any other energy source. They are also the leading source of mercury emissions. As global climate change becomes more real and world interest in reducing carbon dioxide emissions increases, our country also, will begin reducing carbon dioxide emissions, if not in 5 years, in 10 years. Even the CEO of British Petroleum, John Browne admits, "My colleagues and I now take the threat of global warming seriously."

Coal reserves are plentiful but the cost to future generations is too great. The Hannahville Tribal Council must look to the future. If energy production is a goal, sustainable, renewable energy sources should be investigated and given more thought than the occasional snide remark of Dave Anthony when questioned on the topic.

Citizens for Water and Clean Sky are meeting regularly and currently engaged in activities to educate the residents of the nearby towns and reservation on this issue.

Anyone concerned about the issues tied to this plant such as water use, emissions, increased mercury in the environment, sustainable development, etc., is encouraged to attend future meetings that will be held in the Escanaba area. Contact them at (906) 466-2535 or at (906) 466-2532 for more information.

Marcel Potvin is a graduate student at Michigan Tech and has recently been invited to act as a liaison between UPEC and Citizens for Water and Clean Sky.

Local Residents Challenge Proposed Coal-Fired Power Plant, Suggest Alternatives

By Gerry Nelson

Ed. Note: *Gerry Nelson is a spokesperson for Citizens for Water & Clean Sky, a citizen group that has formed in the Bark River area in response to the construction of the proposed power plant. After making a presentation to the UPEC board, he submitted this guest editorial to explain how a complex web of national energy policies, lax environmental regulations and economic incentives have driven a wave of construction of new coal-fired power plants. He questions the safety of these plants and offers some alternatives worth exploring.*

At the last meeting of Citizens for Water and Clean Sky, I was handed a May issue of the Rolling Stone. In this issue is the article "**Why I Quit the EPA"**. This article refers to Eric Schaeffer, who, until a couple months ago, was the chief of enforcement for the Environmental Protection Agency. The article begins with a question—"Is the Bush administration knowingly contributing to the deaths of thousands of Americans, as well as to the alarming rise in asthma attacks in children, in order to pay back its pals in the energy industry?"

During the last election, $9 out of every $10 in campaign contributions from coal fired power industries went to Bush. The Bush administration has allocated 2 billion dollars for the construction of "Clean Coal-Fired Power Plants." Any power plant constructed today is subsidized up to 50%. This essentially makes coal fired power plants look very attractive to investors. This coal subsidy creates an uneven playing field for clean energy alternates. Thus, wind, solar, and fuel cells are put at an economic disadvantage.

A study by John Spengler of the Harvard School of Public Health found that fine particle pollution from coal-fired power plants is responsible for 30,000 premature deaths of Americans every year, which is also backed by the *Journal of the American Medical Association*. Pollution from dirty power plants kill more people each year than drunk drivers or homicides.

What about the protection of our health by the government and the EPA? Ask Mr. Anthony [the Economic Development Coordinator for the Tribal Council] about the requirements on mercury and carbon dioxide emissions: **there is no restriction on emissions**. The EPA was to establish mercury emission standards for coal-fired power plants by the year 2000. They have done nothing and the proposal remains buried in committee. A bill (S-60) introduced by Robert Byrd of West Virginia will weaken or eliminate the restriction on sulfur dioxide and nitrogen dioxide emission that were established in the Clean Air Act of 1991 on Coal-fired power plants. Sulfur and nitrogen dioxides are responsible for acid rain. What does this essentially mean to residents that enjoy the clean air and water we presently have in the Upper Peninsula? If S-60 is passed, we will have little or no protection.

The push to get the proposed power plant underway is due to a realization by the coal-fired power plant industry that they have a windfall: 1) a 50% subsidized plant, which amounts to a give away of millions of dollars to the coal industry; 2) they will avoid state regulations by positioning the coal-fired plant on reservation land; and 3) if S-60 goes into effect, any plant that is under construction will be grandfathered in (i.e. the plant will not be subject to any restrictions that may come down the pipeline from a pro-environment government).

Ask Mr. Anthony, who continues to claim that the new technology is clean, why an industry would voluntarily put controls on mercury and carbon dioxide emissions, which cost millions of dollars, when there are no requirements for them to do so? A typical 100-megawatt power plant emits about 50 - 100 pounds of mercury a year. Thus, we can figure this 1000-megawatt plant will dump one to two **tons of mercury** every four years. Keep in mind just one drop of mercury in a 25 acre lake will contaminate the fish to the point that they should not be consumed. Mercury is a deadly neurotoxin, which, given the prevailing winds, will drop over the populations of Escanaba, Gladstone, Rapid River and Manistique. Since the vapor can be carried up to a 1000-mile radius, it has the potential to contaminate Marquette, the Sault, and our Great Lakes.

The other question Mr. Anthony should be asked is why he doesn't look at other energy alternatives. The south shore of Lake Superior is known to have a Persian Gulf of wind energy that is presently not being tapped. Why not purchase some land there and construct wind generators, which could generate hydrogen to power fuel cells or the electricity, which could be used directly.

Germany is presently using the equivalent of twenty – 1000 megawatt coal fired power plant from the wind. They expect to be completely free from nuclear power by the year 2025. England plans to run every 10th car on fuel cells or other zero emission fuel by 2010. The United States, however, invests $125 in Nuclear, Coal and Oil for every man, woman and child, while only investing 19¢ in clean technologies like wind, solar and fuel cells.

Unless the U.S. puts as many resources into developing clean energy alternatives as we are presently investing in ancient buggy whip technologies like coal, we will be positioning ourselves at an economic disadvantage in world markets. We also will continue to be held hostage by Arab countries, which we depend on for oil, while saddling future generations with health problems, cancers, and a degraded environment that not only will affect us, but the entire globe.

How Safe Are Coal-Fired Power Plants? Residents Want to Know...

Members of the newly-formed "Citizens for Water and Clean Sky have raised the following questions and concerns about the proposed coal-fired power plant in the Escanaba region.

1.WATER: Project consultants claim that water usage will be 10.8 million gallons per day. Will this amount be drawn from the aquifer affecting an area of over 600 square miles or will it be drawn from our Great Lakes?

2. MERCURY POISONING Mercury is a deadly neuro-toxin, which causes neurological disorders in the developing fetus and in growing children. Michigan and Wisconsin already have warnings on the consumption of fish from the Great Lakes and inland lakes due to mercury levels. Coal-fired power plants are the single largest source of mercury emissions, and even newer plants do not significantly reduce the amount of mercury released. Given the fact that there are **no** EPA caps on mercury emissions, how can local residents be assured that the lakes will not be further contaminated?

3. AIR QUALITY / POLLUTION Project consultants claim "clean coal" technology will not pollute or produce acid rain. While new technology makes these plants somewhat cleaner, coal-fired power plants still put more toxic pollutants into the air than any other form of energy production. Prevailing winds may carry emissions over Escanaba, Gladstone, Rapid River and Manistique.

Even new coal-fired power plants still put more toxic pollutants into the air than any other form of energy production.

4. JOBS: The project consultants have estimated the number of jobs at 1,000. However, the ratio of workers to the number of boilers elsewhere indicates employment of around 200 jobs. Residents are concerned about inflated promises of jobs while questioning the trade-off for a clean, healthy environment.

5. TRANSMISSION LINES Project consultants state existing right of ways will be used to get their product to outside markets. The lines will carry high voltage, which emits powerful electromagnetic radiation. Will the existing infrastructure support this or will land need to be condemned to allow passage of new high voltage lines?

6. TRANSPORTATION OF COAL Project consultants have not told the public yet whether coal is to be transported by train or by semi truck load. The Escanaba Power Plant uses 200 tons of coal a day to fuel its 26 megawatt operation. Imagine how much more coal it will take to operate a power plant 40 times larger! How will transporting this coal impact our highways and railroads?

Where to Find the Low-Down on Coal-Fired Power Plants...

Take Action!

Contact the Hannahville Tribal Chairperson—tell him your feelings about the proposed coal-fired power plant:

Ken Meshigaud
Hannahville Indian Community
N14911 B1 Road
Wilson, MI 498962

Or, Attend a meeting of Citizens for Water and Clean Sky. See their website for dates: www.cwcs.org or call (906) 466-2535 or (906) 466-2532.

:

Relevant information can be found in the following articles and websites:

"Fighting for America's Energy Independence," *The Nation*, April 15, 2002.

"Why I Quit the E.P.A.," *Rolling Stone*, May 23, 2002.

"The Dirty Coal Act: The National Electricity & Environmental Technology Act of 2002: S.-60," *Earth Justice*, http://www.earthjustice.org/policy/rider/display.html?ID=6.

"Voluntary Disasters—Bush's Environmental Work in Texas," *Policy Action Network*, http://movingideas.org/activism.

"The Toll from Coal," *National Wildlife Federation*, www.nwf.org.

Clear the Air, the National Campaign Against Dirty Power, http://cta.policy.net.

"Control of Mercury Emissions from Coal Fired Power Plants Using Fly-Ash-Derived Carbon," *National Center for Environmental Research*, http://es.epa.gov/ncer_abstracts/centers/cencitt/year3/material/hwang.html

"The Original Clean Coal Technology Program," *U.S. Dept. of Energy,* www.Fossil.Energy.gov.

The Power that Concerns Us: High-Voltage Cable Proposed Across Lake Superior

©By Katie Alvord

A 1120 MW power plant in Thunder Bay would supply energy to the power-hungry U. S.

A group of electrical utilities in Canada has announced plans to lay a high-voltage power transmission cable across Lake Superior from Thunder Bay, Ontario, to the Keweenaw Peninsula.

A March 2002 press release circulated by Northwest Energy Works, a group of six Ontario utilities including Thunder Bay Hydro, says these plans call for "exporting power from Thunder Bay to Pigeon River Ontario and then east under Lake Superior to the Keweenaw Peninsula."

This would be the first major high-voltage electrical cable under Lake Superior. Smaller cables and pipelines already lie under the Great Lakes for shorter distances in a number of locations.

The high-voltage cable across the lake would transmit electricity from a proposed 1120 megawatt power plant in Thunder Bay. The plant would be fueled by petroleum coke, a byproduct of oil refining. Officials hope to break ground this fall, and start generating power in 2004. They also hope to have the trans-Superior cable in place before the plant starts operating.

Electricity deregulation in Ontario, which began May 1, has generated a surge in power plant construction proposals, and increased interest in exporting some of Canada's inexpensive energy to the power-hungry U.S.

The proposed 90-mile trans-Superior cable would enter the lake at Pigeon River at the Ontario-Minnesota border, traverse the tip of Isle Royale, then head straight to the Keweenaw Peninsula. Once on land, electricity transmission would continue toward larger markets such as Chicago, likely via high-voltage overhead power lines.

The location at which the underwater cable would hit the Keweenaw will not be determined until the completion of engineering studies. At whatever point the cable transitions from water to land, a transformer station will be constructed, and possibly a conversion station.

In Michigan, the project would require approval at least from the Dept. of Environmental Quality (DEQ). It would also need approval from the U.S. Army Corps of Engineers. From the DEQ, the project will need a permit to lay cable on Great Lakes bottomland. With such projects, the DEQ looks for environmental effects such as impacts on bottomland, at the shoreline, and whether or not wetlands would be affected.

Jennifer Nalbone of Great Lakes United is one of several environmentalists expressing concerns about impacts of cables laid under the Great Lakes. "Of particular concern to the lake ecosystem is that the cables would have to be buried wherever they might be subject to ice scour," she explained. "In Lake Superior, that would most likely be necessary for the shallow coastal portions of the lake crossing."

Digging trenches for the cable might affect water quality, marine archeology and fish habitat. It could also stress fish populations and/or contribute to fish advisories, disturb contaminated sediments, and possibly dig up toxic hot spots under the lake, depending on the location. Additionally, at least one review has suggested the cable could affect electronic navigation instruments.

Great Lakes United would like to see all the Great Lakes closed to further utility transmission lines. Others have pointed out that the proposed power plant accompanying the cable will be upwind from Isle Royale.

That plant will be built in three stages. It will begin generating power at 120 megawatts, then add another 500 megawatts in each of two later stages to reach its full proposed capacity. How far the project goes will depend upon market demand, officials have said.

In addition to petroleum coke, which will come from Alberta, the plant might burn wastes such as sludge from sewage treatment plants.

Proponents claim environmental benefits for the power generation plant. Media materials circulated by Northwest Energy Works state, "the new generation facility would burn Petroleum Coke which is more environmentally friendly" than coal. However, the plant would still emit sulfur dioxide, nitrogen, particulate matter, and carbon dioxide.

Bob Olsgard of the Lake Superior Alliance says that organization is very concerned about this project, and points out that we could be pursuing more sustainable alternatives. "Remote communities all across the north -- from the Keweenaw to Northern Ontario -- could be making better, cleaner choices for renewable energy, providing power and yes, a few jobs, locally where they will do the most good," says Olsgard.

The project is currently at the proposal stage. UPEC will keep members apprised of future developments.

Katie Alvord is a freelance writer and the author of *Divorce Your Car: Ending the Love Affair with the Automobile (2000 New Society Publishers www.newsociety.com).*

Why Ban Jet Skis from Pictured Rocks?

Submitted By Katie Alvord, based on information from the Natural Trails and Water Coalition

Ed. Note: In the last newsletter, UPEC reported on an environmental review pending at Pictured Rocks National Lakeshore to decide whether personal watercraft (PWCs), also called Jet-Skis, should be permanently banned from the park. The Park is currently conducting an Environmental Assessment and will be accepting public comments soon.

The National Park Service Organic Act, the most important law protecting our parks, directs the National Park Service "to conserve the scenery and the natural and historic objects and the wildlife therein, and to provide for the enjoyment of the same in such a manner and by such as will leave them unimpaired for the enjoyment of future generations." Riding a PWC at Pictured Rocks may bring a joyride for a few individuals, but will impair the park experience for a multitude of other users, and disturb wildlife**.** There are many reasons why PWCs are icompatible with the purposes of Pictured Rocks:

Pictured Rocks is a place for safe recreation:
PWCs are disproportionately unsafe, comprising only 9 % of all registered vessels yet accounting for more than 30% of all boating accidents and nearly 40% of injuries. While most conventional boating deaths result from drowning, the leading cause of death in PWC wrecks is blunt-force trauma,

Riding a PWC for one day produces as much pollution as driving a car 100,000 miles.

with the top causes of PWC crashes being careless/reckless operation, operator inexperience, and excessive speed (they can go 60 m.p.h or faster). Reckless operators, combined with limited park budgets for enforcement, create a hazardous environment within the park.

Pictured Rocks is a place for clean air and water.
Most PWCs are powered by inefficient two-stroke engines that burn a combination of gas and oil. These engines discharge 25 to 30 percent of their fuel mixture, unburned, directly into the air and water. The average PWC, used one hour per week, will dump 50 to 60 gallons of its gas-oil mixture into the environment each year. Pollutants from PWCs also include a host of toxic and carcinogenic chemicals such as benzene, which in water, adversely affect a wide range of marine life, become more concentrated up the food chain and contaminate fish. PWCs also pollute the air, producing as much air pollution in one day as driving a modern car 100,000 miles.

Pictured Rocks is a place for wildlife observation and refuge.
Because PWCs are light watercraft, they can operate in sensitive near-shore and shallow aquatic habitat inaccessible to conventional motorboats. Scientists have documented adverse effects on wildlife, including interruption of normal feeding activity, avoidance of and displacement from habitat, decreased reproduction rates and mortality.

Pictured Rocks is a place for solitude, quiet, and enjoyment of the natural environment.
The high-decibel noise of even a single PWC engine can carry for miles. A small number of PWCs operating within Pictured Rocks can essentially eliminate the possibility of finding quiet within its boundaries. In today's noisy world, people seek solitude in national parks. The opportunity to experience the natural sounds of forest and shoreline should be protected, in keeping with the original intent of the park as a refuge for both humans and wildlife.

PWCs have disturbed the nesting areas of loons, a symbol of the North Woods.

Take Action! Send a Letter About Jet-Skis in Pictured Rocks

Read the draft version of the environmental assessment at: www.nps.gov/piro!

Write a Letter! Let the Park Superintendent know how you feel about Personal Water Craft.

Superintendent Karen Gustin
Pictured Rocks National Lakeshore
PO Box 40
Munising, Michigan 49862-0040
E-mail: piro_superintendent@nps.gov

***Effective letters* combine personal experience at Pictured Rocks with factual arguments such as those mentioned above!**

At the End of the Earth:
Communication Towers at Brockway Mountain May Pose Threat to Migrating Birds

By Suzanne Van Dam

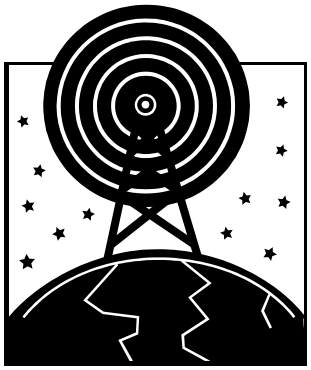
UPEC has joined the National Wildlife Federation and other groups in requesting an environmental assessment of a communications tower on Brockway Mountain in the Keweenaw Peninsula. The 450 foot tower is one of six in the Keweenaw, 60 in the U.P. , and 180 state-wide to be used for communication for the State Police. The FBI and 9-1-1 emergency services may rent frequencies.

According to local environmental groups and some townships, these towers were erected without conducting any environmental impact analysis, and the legislation that was rushed through the state legislature made it all but impossible for a township to oppose construction.

Joe Kaplan, a researcher at Michigan Tech, contacted the National Fish and Wildlife Services to see if the State Police (who are erecting the towers) would be bound by the National Environmental Policy Act (NEPA). NEPA regulations require that an environmental assessment be conducted on any federal action that might have an environmental impact. He discovered that the certifying federal agency is the Federal Communications Commission (FCC), who is responsible for determining adequacy of design, lighting requirements, interference with aviation, etc. Since the FCC is a federal agency, they are bound by NEPA legislation. The FCC has subsequently issued a cease and desist order on the construction of the last three State Police towers.

Though construction of the tower on Brockway has already been completed, it is not yet operational. Michelle Halley, attorney with the National Wildlife Federation, has filed a petition urging the FCC to require an environmental assessment before the tower becomes operational.

Why is the placement of a tower on Brockway Mountain particularly disturbing to environmentalists? Because the Keweenaw Peninsula is a tiny sliver of land jutting into Lake Superior, and is quite literally the end of the earth, the last stopping point for migratory songbirds and raptors. Like a weather system, the birds stall over the landmass by the thousands, milling up and down the shoreline in search of a safe path northwards.



There have been millions of documented kills from towers, including one tower in Kansas that had a mortality of over 10,000 birds in one night.

Though they have made this migration and survived this holding pattern for thousands of years, raptors and migratory songbirds now face new threats to their safe passage.

Songbirds feed by day and fly by night, explains Joe Kaplan. Because these towers are over 200 feet, they are required to have lights. During inclement weather birds can lose sight of the stars. Tower lights, especially the steadily burning red lights, become a false pole star, attracting the birds which are then hesitant to fly away from light into the dark. They then move into a circling pattern around the lights and can get trapped in the guyed wires, invisible to them on dark or foggy nights. There have been millions of documented kills from towers, including one tower in Kansas that had a mortality of over 10,000 birds in one night.

Raptors, though they use a different strategy for migrating, may also be affected by the towers on Brockway Mountain. Raptors gather here to catch the thermal air masses that help them migrate northwards in the spring. "They ride one thermal as far as they can go, and then look for another one," Kaplan explained. Their strategy is somewhat like hitchhiking, connecting one ride to another ever northwards towards Canada. When they arrive at the Keweenaw Peninsula, however, they are hemmed in by Lake Superior on all sides, and thus spend time searching the peninsula for safe passage over or around the lake. Some researchers speculate that the towers' communications frequencies may also interfere with raptor's sensitive migratory capabilities.

According to Joe Kaplan, there are ways to design a tower to reduce the impact on wildlife: shorter towers do not have to be lit, self-supporting towers cost more to erect but do not have the guyed wires that pose dangers to birds. "The question is not public safety versus birds, this is not two boxers in a ring. The full NEPA process would have considered many alternatives--the towers' placement, height, and lighting. To me it is inexcusable that they went to such lengths to avoid the environmental assessment."

The question is not public safety versus birds. This is not two boxers in a ring. The full (environmental) assessment process would have considered many alternatives.

Attorney Michelle Halley said addressing the need for short-term protection of the birds while the legal case and environmental assessment unfold was very important to her. She plans to request that the State Police institute low-cost, intermediary measures such as strobe-lighting and flagging of the guyed wires, in a good-faith effort. She hopes these mitigation efforts will be instituted before the next major threat to birds, the fall migration.

For more information, see: www.towerkill.com

Suzanne Van Dam is the UPEC newsletter editor and a free lance writer.

Help UPEC Become an Earth Share of Michigan Champion!

Ed. Note: Earth Share of Michigan provides UPEC with critically-needed funding for environmental projects, educational outreach, and program operation. Executive Director Lorraine Austin made a presentation at UPEC's annual meeting in May. She encouraged UPEC members to become more actively involved in Earth Share, and left materials and information with us on a variety of ways that UPEC members can help earn more funding for our organization.

Why become an Earth Share of Michigan Champion? The answer is simple. By letting your employer know you want the Earth Share of Michigan giving option at your workplace, and by choosing to give to Earth Share of Michigan in your campaign, you can help raise money for UPEC and hundreds of other environmental/ conservation organizations. Payroll deduction giving allows you to choose how much you can afford to give and do so in small increments throughout the year. With one gift to Earth Share of Michigan, you are protecting and preserving natural resources in your neighborhood, your nation, and your planet for future generations.

Here's what you can do:

- Find out who handles your workplace campaign, benefits package, or personnel issues, and let them know that you and other employees want to contribute to environmental causes. Hosting an Earth Share campaign is a simple and effective way for a company and its employees to demonstrate concern for the environment.
- UPEC can send you or your employer an Earth Share of Michigan information packet , which provides more details about setting up a workplace campaign at your company. **Send an email to Suzanne at svandam@chartermi.net or call UPEC's home office at (906) 487-9286 to request a packet.**

Once your company has set up a donating option, environmental giving is almost effortless on your part. The payroll department in your company deducts the amounts you designated to Earth Share of Michigan and/or any of its member organizations including UPEC from your regular paycheck each pay period. Your company will remit the donations to Earth Share to be distributed to the appropriate agencies.
It's that simple!

Earth Share OF MICHIGAN

www.earthsharemichigan.org

Help UPEC Earn Bucks from Books This September!

Pick up a few good books and help UPEC earn a few extra bucks for our education fund! B.Dalton Bookstore in Houghton will be designating UPEC as the non-profit of the month in September. While making your purchase, simply tell the clerk that you are with UPEC, and 10% of your sale will be set aside for UPEC's environmental education programs. For more information, call Frederike Greuer at (906) 482-6257.

Yes! I Want to Help UPEC Make a Difference!

Name:_____

E-mail: _____

Address: _____

City/State/Zip: _____

When available electronically, I would like to receive UPEC information via:
____regular mail ____e- mail

I would like to support the goals of UPEC by enclosing a contribution for: (Please check one)

_____Regular Membership ($20)
_____Supporting Membership ($50)
_____Student/Low-Income ($15)
_____I'm already a Member! Here is an additional contribution .
_____Contribute to the UPEC Endowment Fund.*

* **(**If you make your check out to the Marquette Community Foundation (MCF) and put UPEC FUND on the memo line, you can take a 50% tax credit on your Michigan state income tax (up to $200 for individuals, $400 for couples). OR, you can make a contribution directly to UPEC. As a 501 (c)3 nonprofit organization, dues and contributions are tax deductible.

Mail all contributions to:

UPEC
Box #673
Houghton MI 49931
E-mail us for more information at:
upecmichigan@yahoo.com

UPPER PENINSULA ENVIRONMENTAL COALITION

P.O. Box 673
Houghton, MI 49931

Phone: (906) 487-9286
Fax: (906) 487-9286
Email: upecmichigan@yahoo.com
www.upenvironment.org

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Explore Wild and Spectacular Places in the U.P. This Summer!

Volunteer Stewardship Days with the Nature Conservancy
Help restore a beautiful and ecologically significant area by volunteering your time as a land steward. It's a great way to get outside, meet people and make a difference! Confirmation letters with map will be sent to those who register for a work day. Upcoming TNC workdays include:

Pictured Rocks National Lakeshore, between Munising and Grand Marais
Tuesday, June 25; Sat., July 13; Wed. July 17; Sat., July 27, all from 10 a.m. to 2 p.m. Join us with the National Park Service as we remove invasive herbaceous species from the dunes, ages 18 and up.

Laughing Whitefish Lake Preserve
Saturday, August 31 from 10:00 to 1:00 Help us clear the new interpretive trail and install trail markers; best for ages 15 and up. (Register for both TNC work days through Janet Seeds at (906) 225-0399 or jseeds@tnc.org.)

Northwoods Conservancy at Seven Mile Point Welcomes Visitors, Needs Volunteers!
SMP is located on the north shore of the Keweenaw Peninsula, featuring sand, cobble, and bedrock beach. It has been designated as one of the most important bedrock shorelines in Keweenaw County because of its outstanding scenic, biological, and geological features**.** Summer Hours are weekends only , noon-sunset. For more information on how to preserve this special place or volunteer as a host, call Jane Griffith at (906) 337-0782 or see the website: www.northwoodsconservancy.org

North Country Trail Service Trip!
Enjoy the virgin forests of the Porkies and help work on the North Country Trail in the old-growth hemlock forests along the Presque Isle River. Joint Sierra Club/ North Country Trail Association service trip scheduled for July 7-13 (but it's fine to come for just part of the time). Camp for free at Presque Isle Campground. For more information, contact Doug Welker (dwelker@up.net, (906) 338-2680)

North Woods Native Plant Society Field Trip: Lake Superior Shoreline Near Eagle Harbor, MI.
Saturday, July 20. Meet at the public beach in Eagle Harbor on M26 at 10:30 am. Plant ecologist/botanist Steve Chadde of Pocket Flora Press will offer an optional visit to a population of redstem ceanothus (a state-threatened species found in Michigan only in the Brockway Mountain area). To get on the mailing list for this and other fieldtrips, email Sherry Zoars at: thezoars@excite.com