Pigeon River Country Association Newsletter

Winter 2019-2020

A Place of Refuge

The emergency warning arrives. It advises that fire storms have blocked roadway exits and are moving too fast to flee. "The safest option is to take shelter indoors immediately."

During our northern Michigan winter, half a world away in Australia, wildfires spread from thousands of blazes set by embers carried in windstorms into both remote and populated areas. How do you shelter in place? The sketchy advice from authorities: Go to a room that has at least two exits—a bathroom is usually the worst choice. Avoid sliding glass doors or big windows because they tend to shatter. Wear layers of natural fibers that won't melt, such as cotton or wool. Wear sturdy shoes. Take shelter before the fire arrives because extreme heat is likely to kill you before the flames reach you.

Contemplating such horrors from the environs of Pigeon River Country offers a stark reminder of what a treasure this forest is: a remote wooded landscape favored by lake-effect moisture from the Great Lakes, mild summers, and healthy, diverse vegetation. These are conditions that can change, governed by weather systems and patterns of use on a global scale. A forest visitor aware of the wildfire crisis in places like Australia might reasonably harbor a few moments of trepidation over the wooded surroundings that might one day get extremely dry and hot.

Our forest visitors tend to seek comfort in both winter and summer temperatures in the low 70s Fahrenheit, setting both home heating and air conditioning in that range. If the heat is turned up to 80, most active people find that uncomfortable. Set in the 90s would be unwelcome by most. Put at 100 degrees would make a dwelling unbearable.

Imagine setting the heat in your house to 110 degrees. Then imagine seeking relief outdoors in the shade of a tree, where the temperature is 115. That daytime temperature was reached several days in some Australian locations, and even rose in some places to 120 degrees—outdoors, in the shade.

What we have in northern Michigan is, relatively, a comfort zone—a rare location of more than 100 thousand acres of natural habitat that offers an ample quantity of comfortable shade, and even sun. It's a place with weather challenges, certainly, and threats to some wildlife populations, and still bearing some scars from raging fires of less than a century past. But, in this world of ours, surely a treasure to enjoy, think about, and conserve.

Michigan looks to red pines as a natural coolant

Letting some red pine grow longer might help combat warming of the planet, and some red pine stands in Pigeon River Country might make a good pilot project. The Department of Natural Resources will be seeking bids for the services of a "technical carbon consultant" who can "assist with exploring the feasibility … of selling carbon credits … to entities who want to offset their carbon emissions."

Growing some red pine longer here is a possibility. At its January meeting, the Pigeon River Country Advisory Council passed a motion supporting the idea, provided its implementation is consistent with input from DNR field personnel and the Concept of Management. The PRC is the only state forest with such a formal management guideline. The Concept suggests that the cutting of red

This red pine has been storing carbon for two centuries. *Photo by Dale Franz*

pine can be extended to 140 or more years of growth "on sites with a high suitability for pine, and if they are in travel corridors (vehicle and/or pathway) that present opportunities for aesthetic enhancement." Current practice typically harvests red pine in the Pigeon at about 80 years.

David Price, DNR Forest Planning and Operations Section manager, explained to the PRC Advisory Council that an industry emitting carbon dioxide in its operations could, under the plan being evaluated, buy credits in a growing forest to offset the company's carbon emissions. This would allow longer rotations in forest harvesting. Red pine in the PRC, when cut at about 80 years, is typically sold for utility poles or lumber. Revenue would come instead from carbon credit sales as the red pine keeps growing.

Absorbing carbon above current levels reduces greenhouse gases, while benefiting air and water quality and providing habitat for fish and wildlife, Price pointed out.

Just what does a red pine have to do with our weather?

The green needles, which grow in pairs 10 to 17 cm long, use the energy from sunlight to combine water and carbon dioxide from the atmosphere. The process, photosynthesis, produces sugars and oxygen. We breathe the oxygen. The sugars let the tree make cellulose from the carbon. Carbon-based cellulose is the primary structural component of all plant cells. So the carbon is tied up in all the tissues of the tree—its needles, stems, and roots.

That, in a (pine) nutshell, is how a forest ecosystem works, as explained by the Forest

A cluster of red pine needles, with one pair visible at bottom of image, bound in a red wrapping at their base. *Photo by Dale Franz*

Ecology Network. An ecosystem is a biological community of interacting organisms and their physical environment. Carbon dioxide is a greenhouse gas, a class of gases that can trap heat in earth's atmosphere. As the gases increase in the atmosphere, the extra heat they trap leads to a warming of the planet.

As the tree grows, it continues tying up more and more carbon. This would go on, in the case of a red pine, for four or five hundred years, until the tree begins to die of old age. Then it starts losing carbon through decomposition. Microorganisms produce energy by breaking down the dead matter, thus releasing some of the carbon back into the atmosphere. But until then, the pine stores more carbon than it gives off.

When an old pine eventually falls over it still contains vast stores of carbon. Soil microbes then gradually break down the tree to form soil organic matter. Thus much of the carbon that was fixed in the pine eventually returns to the atmosphere. Root systems are also broken down.

If the wood is burned, the carbon releases immediately. If the tree is used for paper products, the carbon generally remains fixed for a short while before it is released through burning or decomposition in a landfill. But if it is used for durable wood products such as construction materials or furniture, the carbon can remain stored for centuries.

When growing a pound of wood, a tree typically gives off just over a pound of oxygen and uses nearly a pound and a half of carbon dioxide.

Red pine (*Pinus resinous*) is naturally long-lived. One cut in Ontario, Canada, to accommodate a power line in 1992 was 500 years old. Another red pine, still growing in Ontario, is known to be 400-plus.

A single tree can store a ton of carbon by the time it is 40 years old.

Getting a trickle of revenue from what's under the forest

In the public controversy over extracting hydrocarbons from the sensitive lands of Pigeon River Country, a plan emerged in 1976 to create a stream of revenue to offset the degradation of natural resources that the activity caused. Royalties on the sale and lease of state-owned minerals are placed in what is now called the Michigan Natural Resources Trust Fund (MNRTF).

Pigeon River Country Discovery Center 1935 log ends.
Photo by Dale Franz

The oil and gas industry extracts the decomposed organic materials from beneath the surface of Michigan and siphons off a small portion of the revenue back to the state to acquire and develop public recreation lands. Currently, the fund issues some $20 million to $25 million a year in acquisition and development grants. The Pigeon River Country Discovery Center has just received a grant of $254,900 from that fund for 2020. The grant is about one percent of the total given out for the year by the fund for development.

The MNRTF grant money comes from trust fund interest and earnings, not the corpus itself, which is capped by the state's Constitution at $500 million. Three-fourths of the earnings is available to acquire land, and not more than one quarter is used for development grants like the Discovery Center project. Since 1976 the trust fund has awarded more than $1 billion in grants (to be precise, as of September 2019: $1,193,527,823).

The bulk of the Pigeon's Discovery Center grant will provide for needed capital improvements to and maintenance of the structure that houses the center. In addition, it will allow for some new exhibits and lighting, an exterior bench, improved ADA access, and some educational signs near the center, all in keeping with the low profile of the center.

The log building erected by the Civilian Conservation Corps in 1935 has withstood all the weather that has visited Pigeon River Country ever since: snow, sleet, thunderstorms, wind—but not without repairs along the way. For example, when volunteers were getting the building ready to open as the Pigeon River Country Discovery Center, they had to climb ladders to the roof to create a temporary water channel with caulk so that rain runoff would not flow directly onto log ends, which was causing rot.

But the shingle roof, 23 years old, is at the end of its life span and will be replaced using grant money. Other building expenses to be funded:

1. Install new "period appropriate" energy efficient windows to reduce major heat loss and therefore reduce operational costs, to reduce maintenance labor and eliminate the need to replace broken screens and to also improve building security.
2. Replace/repair seven rotting log ends and then inject a resin into the log to ensure longevity.
3. Replace/repair approximately 200 feet of caulk chinking that has separated from the log on the top. This must be done soon since the separation can cause water to seep in, causing rot.
4. Stain the entire building once repairs are made.

The curent windows are the original "garage type" in the main section of the building and 1935 double hung windows in the back areas.

The building was vacated in 2003 and sat empty for a dozen years. When the Pigeon River Country Association assumed custody of the building in 2015, repairs were made to ensure the Discovery Center opened in 2018 and was within budget. The grant will allow preservation of this historic building for decades to come, thus providing an educational facility focused on forest history and stewardship.

-- by Rudi Edel, Sandra and Dale Franz

State honors work to bring elk and others back from the brink

Because of the Pigeon River Country Association's "tireless work in elk conservation," The Michigan Wildlife Council (MWC) invited PRCA to participate as an honored guest at the Jan. 28, 2020 unveiling of the Michigan Wildlife Photo Mosaic exhibit at the Michigan History Center in Lansing.

Governor Whitmer and the Michigan Legislature approved a bipartisan resolution declaring July 2019 as "Michigan Wildlife Conservation Month" to "promote awareness of the nationally-heralded conservation efforts and emphasize the critical role hunters and anglers play in conserving, managing and

Mosaic of a bull elk. *Photo by Sandra Franz*

Closeup of some photos used as pixels in wildlife mosaics. *Photo by Sandra Franz*

protecting Michigan's wildlife." The idea of the mosaic is that people are necessary for wildlife management.

To commemorate Michigan Wildlife Conservation Month, the Michigan Wildlife Council launched a traveling Michigan Wildlife Mosaic Wall. MWC traveled to popular events over the summer and fall—a Tiger's game, the zoo, an MSU football game—in Detroit, Grand Rapids, Escanaba, Flint, and East Lansing. At these interactive events, more than 10,000 Michigan residents and visitors posed for free photos, were handed a 2" x 2" print of their photo, and then placed that photo sticker on a 4' x 8' board bearing a giant photo of a wildlife species. Each 2x2 print was taken with an iPad, which applied a color filter and assigned a location on the 4x8 board by column and row where the people would place their instantly printed photo. From a little distance away, the tinted prints on the completed board blend the photos of everyday folks doing everyday things into an artistic, color mosaic of one of the highlighted species. The mosaics were unveiled as an exhibit at the Michigan History Center in Lansing on Jan. 28 at an event hosted by the Michigan Wildlife Council.

Hunters, anglers, and conservationists who have been active on behalf of each species were invited to unveil its large mosaic panel. The PRCA was invited to help unveil the elk mosaic, along with Paul Beachnau of the Gaylord Area Convention & Tourism Bureau (and a former Advisory Council member), and Jeff Van Buren of the Rocky Mountain Elk Foundation.

The photo mosaics pay tribute to the many hunters, anglers, and conservationists who've brought Michigan's most treasured wildlife back from the brink of extinction. The six featured wildlife are elk, osprey, peregrine falcon, wild turkey, Kirtland's warbler, and

lake sturgeon. Colorful and engaging printed material provided by MWC provided statistics on each of the species' success stories.

DNR Director Dan Eichinger addressed the assembled guests, along with several state representatives, and called the Pigeon River Country "a place close to my heart" during his remarks.

Learn more about the Michigan Wildlife Council at HereForMiOutdoors.org.

Visible changes to forest coming in 2020

The Pigeon River Country Advisory Council at its Jan. 24, 2020 meeting took note of changes scheduled for later this year that "will bring short-term upheaval to the landscape," as described by Sandra Franz, who represents the PRC Association on the council. Following is her report.

The culverts at the Pigeon River Campground, known to many as "the Tubes," are failing and will be removed and replaced by a timber bridge across Ford Lake Road. *See Summer 2019 PRCA newsletter*.

This project will help protect the integrity and health of the Pigeon River and will conserve both terrestrial and aquatic resources while improving access for multiple user groups. The work is consistent with the PRCSF's Concept of Management, which states in the "Aquatic Resources" section: "Management activities on streams ... required to address erosion control, fish cover, or for convenience of people, will ... be designed to appear natural in keeping with the surroundings. ... Natural flow conditions of streams in the Pigeon River country should be ... rehabilitated when feasible." The river's flow will be restored to its natural velocity when the water moves unrestricted under the bridge. Eventually, the deep pool downstream from current culverts will fill with sediment as a result.

Interestingly, there was a timber bridge, or bridges, over the river before the culverts were installed. There are photos in the Discovery Center showing the Horsell children on the bridge in the late 1930s or early 1940s.

The Otsego County Road Commission will do the bulk of the work and is seeking bids for bridge construction and installation. The project, currently slated for August 2020, will be dependent on weather and on the road commission's schedule.

The Pigeon River campground will be open during bridge installation, although the campsite closest to the bridge, #19, will be closed during construction. The Shingle Mill Pathway will be temporarily re-routed.

Also this summer, **Cornwall Flooding** will be drawn down to make repairs to the earthen berm and the mechanism that drains the water out of the flooding. Cornwall Flooding will be drawn down 7 to 8 feet, and the roadway, a popular route for both humans and horses, will be closed during the time the work is being done. Cornwall Flooding is a popular multiple use recreation area—fishing, hiking, horseback riding, and camping—and will require a re-route of the equestrian Shore-to-Shore Trail that passes through the Pigeon.

Bids for the Cornwall work should be received by mid-March, and the goal is to complete the work this summer, although progress will be dependent on funding and weather. *See Summer 2019 PRCA newsletter*.

A timber cut of approximately 200 acres is planned for 1 3/8 to 1 1/2 mile along Osmun Road in the vicinity of Inspiration Point, likely to occur in the winter of 2020-2021. It was reviewed and supported by the Pigeon River Country Advisory Council at its July 2019 meeting. Red pine in that area is 90 years old—it was planted by the CCC—and is at or above its economic maturity.

Before the red pine is cut, the area will be treated to remove the invasive species growing

there: honeysuckle, autumn olive, black locust, barberry, and Siberian crabapple. After harvest, a roller/chopper (a big mower) will be used to further clear remaining small growth. The roots of hardwood trees, still intact under the soil, are expected to regenerate and be 3' to 4' tall within 3 or 4 years. Forestry's goal is to have the area, which is now a monoculture of planted red pine, to grow back to mixed hardwoods, more consistent with the Concept of Management's recommendations.

The principal goals of this proposed cut are:

- Treatment of invasive species;
- Restoration of elk habitat: acreage cut must be large enough to avoid overbrowsing, and the area will be replanted for soft mast and hard mast;
- Improvement of elk viewing area that will allow visitors to view elk without intruding on the animals' habitat.

The remaining 2020 Advisory Council meeting dates are:

Friday	April 24
Thursday	July 23
Thursday	October 22

all at PRCSF headquarters. A new, earlier start time is 5 p.m. for all meetings. The public is welcome, and there is the opportunity for public comment at every meeting.

Membership renewal reminder

Membership dues help provide a scholarship to a student intern who assists the forest manager in the summer, and help us protect the wild character of the PRC. Your membership expiration date is on your mailing label or email sending this newsletter. Please keep your membership current. Thank you!

Pigeon River Country Association Est. 1972

Visit our websites at www.pigeonriver.org
https://pigeonriverdiscoverycenter.org

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