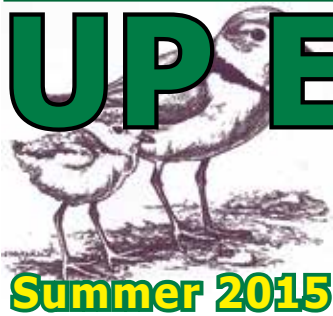


# UP Environment



**UPEC: The UP's oldest grassroots environmental group.**

**Join us for UPEC's next Board meeting: Sat., July 11  
at the Clear Lake Education Center, 1 to 4 p.m.**

**Summer 2015**

## **Understanding biomass: More than meets the eye**

*By Doug Welker, UPEC Board Member*

Biomass has many meanings. One could argue that burning coal, natural gas, or petroleum (including gasoline containing ethanol) obtained through the global commodity market is a type of biomass utilization. However, the UP's energy and economic future may be increasingly tied to the production and utilization of "Made in the UP" biofuels.

Currently, local biofuel use occurs on a modest scale. Some of us heat homes and/or domestic hot water with firewood. Some UP schools, as well as commercial buildings, use firewood at least in part for space heating and industrial processes. The impact of the associated wood harvesting and burning is mostly minimal (unless you live



***A railroad tie chipper operates at the L'Anse Warden electric power plant. In 2014, Michigan Legislature's redefined railroad ties and tires as biomass and renewable, thus legal as combustion additives.***

*Photo courtesy of Michigan DEQ*

downwind from one of those smoky, polluting outdoor wood furnaces). If some business interests and politicians have their way, the impacts of biofuel production and use may be far beyond minimal, and to a greater extent that impact may be negative. For example, SB 910, forbidding lim-

its on emissions from wood stoves, was introduced by UP State Senator Tom Casperson and signed into law by Governor Rick Snyder in 2014.

Why the push for local biofuels? In part it's driven by Public Act 295, the Clean, Renewable and Efficient Biomass . . . . . See Page 3



***An excavator-mounted jack hammer removes the top portion of the Sturgeon River Dam in the first stage of drawing down the impoundment.***

*Photo by Bill Ziegler*

## **Dam removals restore freely flowing rivers**

*By Bill Ziegler*

When engineers design a hydropower dam, part of the process involves calculating the structure's lifespan for safe operation. In general, most dams designed to produce hydropower have a lifespan of about 50 years. With considerable repairs, power companies can sometimes double the initial lifespan of the dam to about 100 years. About 25% of Michigan's hydropower dams are located in the UP's Menominee Watershed. Many of Michigan's hydropower dams were built between 1900 and 1930, and a number of them are nearing their realistic extended lifespan. In the Menominee Watershed, 76% of the dams are older than 85 years.

In the 1990's, We Energies entered into a collaborative effort with state and federal natural resource agencies (including the Federal Energy Regulatory Commission – FERC) to relicense most hydropower dams in its system at Dam Removal . . . . . See Page 6

# Sylvania appeal not likely to be heard before late summer

By Robert Evans, UPEC Board Member

In the Winter 2014 issue of *UP Environment*, we reported that the U.S. Forest Service (USFS) had prevailed in U.S. District Court in a lawsuit involving the use of gasoline-powered motor boats within Sylvania Wilderness. The lawsuit against USFS had been filed in May 2014 by David and Pamela Herr, who own a seasonal cabin on the portion of Crooked Lake that is just outside of the wilderness boundary. In a strongly-worded decision last September, Judge R. Allen Edgar dismissed the Herrs's lawsuit, ruling that the statute of limitations for filing such a suit had long expired. Edgar also wrote that the Herrs suffered no injury to their riparian rights in any case, since they were well aware of the USFS motorboat regulations in Sylvania when they purchased their property in 2010.

On October 27, 2014, attorneys for the Herrs filed an appeal in the U.S. Court of Appeals for the Sixth Circuit. The appeal essentially repeats many of the arguments put forward in the original lawsuit, including a claim by the Herrs that a 2013 letter sent to all property owners on Crooked Lake by USFS, asking for their cooperation in adhering to the gas motorboat regulation, was "decisional" in nature. The USFS has always maintained that the 2013 letter was **not** decisional, and that the decision regarding gas motorboats had been made back in 2006 when the Ottawa National Forest Land Management Plan was issued. Edgar agreed with USFS in his September 2014 decision, which led to his finding that the six-year statute of limitations for filing suit against USFS in this matter had expired well before the Herrs filed their suit in May 2014.

UPEC, Friends of Sylvania, Sylvania Wilderness Cabins, and Tim Schmidt (owner of Sylvania Wilderness Cabins) were previously granted intervenor status in this lawsuit. The intervenors were given the opportunity to file responses to the Herrs's appeal argument, along with the response filed by USFS. In March, 2015, both USFS and the intervenors



*Signs have been posted many years about the Sylvania motorboat restrictions, yet various parties have ignored them.*

filed their response to the Herr's appeal argument.

As of this writing, the Appeals Court has not determined any date for hearing arguments in this case. However, it appears likely that it will be at least late summer or fall before the court takes up this matter.

UPEC and the other intervenors hope for a decision on this appeal prior to the 2016 boating season. Once a final decision is announced, this newsletter will provide an update.

## **Don't forget those Econo Foods slips!**

Thanks to you and Econo Foods, UPEC recently earned several hundred dollars from grocery receipts. That may not seem like a lot, but when you're a non-profit organization every little bit helps. Of course, that amount could be even higher if more of us save our slips and send them in! Either save receipts throughout the year and mail them to us, or give them to a UPEC board member—whichever is more convenient. It's one of the easier low-cost ways you can offer your support. Thanks!

## **About UPEC...**

The Upper Peninsula Environmental Coalition has a five-decade track record of protecting and seeking to enhance the unique environmental qualities of the UP through public education and monitoring of industry and government. UPEC seeks common ground with diverse individuals and organizations to promote sound planning and management decisions for all the region's natural resources.

*UP Environment* is published quarterly and available online to share with family & friends. Send comments or contributions to UPEC by standard mail at P.O. Box 673, Houghton, MI 49931, or e-mail us at [upec@upenvironment.org](mailto:upec@upenvironment.org). You can also visit us at [www.upenvironment.org](http://www.upenvironment.org) and Facebook.

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# Biomass no energy panacea, needs balanced use

*Biomass . . . . . From Page 1*  
Energy Act of 2008. This law requires Michigan electric providers to include at least 10% renewable energy in their energy mix by 2015. In theory this would accelerate the development of wind and solar energy, but energy from forests and farms is also to be in the mix – and there was no provision to keep biomass from providing the majority of that 10%. Michigan's forests became an easy target for supplying woody biomass for energy.

In the UP, biomass would come mainly from harvesting trees. The methods of harvest and the tree species utilized vary. A pellet plant would produce pellets from wood chips and might use woods with higher heat value, such as maple (species often burned in standard wood stoves). Wood pellets are burned in special wood stoves and furnaces, typically designed to automatically feed pellets to the combustion chamber, and in some commercial and industrial facilities. A typical source for larger scale operations might be smaller tree branches left after logging ("slash") and perhaps small trees. Some argue that there is an important niche for a large pellet plant in the UP, since pellets must now come mainly from Minnesota and Wisconsin.

Remember PA 295? That act has been the catalyst for numerous proposals for UP biomass-burning facilities to produce electric power. But how effective would that be toward achieving the renewable energy goal? Michigan's current electricity production capacity is about 30,000 megawatts (MW). If half of the 10% "quota" comes from biofuels, these plants would need to have a capacity of 1,500 MW. Marvin Roberson, forest ecologist for the Michigan Sierra Club, estimates that it would take the entire annual growth from 10,000 acres of forest (for a plant

in the Traverse City area), to provide 1 MW of capacity ([energyjustice.net/content/trees-are-not-solution-our-electricity-needs](http://energyjustice.net/content/trees-are-not-solution-our-electricity-needs)). Five percent of the renewable energy quota (1,500 MW of capacity) would require the dedicated woody biomass production from about 15 million acres of Michigan forests.



**Whole-tree harvesting leaves minimal organic matter threatening biodiversity and site productivity.** Photo by Ian Schackelford

Michigan has about 11 million acres of forest, and only a fraction of that would be available for harvest. The argument that forest biomass could make even a dent in the "renewables quota" is therefore unsubstantiated and misleading.

Consider too that forests harvested for biomass are forests not harvested for valuable hardwood products (veneer, etc.), pulp and paper mills, space heating, liquid biofuels, etc. Competition for limited forest resources will result in conflicts between power plants and other forest product users, as well as those who value the ecological and recreational values of forests. An additional negative impact of "biomass forestry" is that fewer jobs are created when an area is harvested for biomass as opposed to high-quality hardwood products, or even pulp for paper mills, because of the highly mechanized means of much biomass harvesting.

The State of Michigan has increased the availability of biomass for power plants by redefining biomass. For several years the L'Anse Warden Electric Plant has burned not just wood from local forests, but treated railroad ties

and even tires. In part, this is because wood brought to the plant is typically not dry or seasoned, so it is difficult to maintain sufficiently high combustion temperatures to allow proper combustion to take place. Adding tires in particular to the mix raises combustion temperatures, but also adds toxic components to the stack gases. Drying the wood prior to combustion would also raise the combustion temperature. Boiling off water in the wood during combustion results in essentially the same amount of energy loss as it would take to dry the wood prior to combustion, and drying the wood first would allow for more controlled combustion. The combustion process also emits ash that is deposited on the ground

and snow downwind from the plant.

The Warden Plant's legality had been questioned since the plant began burning these "additives," so Michigan's Legislature passed HB 5205 in 2014 to classify essentially all combustible materials, including tires that might go into a landfill, as appropriate for biomass burning plants. These materials now count as renewables for PA 295.

Our regional research-oriented facility, Michigan Tech, has many faculty members and graduate students working on biomass-related research. Most of this research seems predicated on the assumption that "biomass is good." While the tone of this article seems critical of biomass, I am not opposed to biomass for energy if:

- The scale is appropriate and small enough;
- Forest management practices consider ecological values;
- Toxic components are not part of the fuel mix; and
- The public is well-informed about the pros and cons, and local control of the siting of biomass facilities is provided.

## LS Youth Symposium Reflections. . . . . From Back Page

pose. I've spent much time finding connections among and integration within the hard sciences and humanistic inquiry, so would like to venture that LSYS is about helping young folks achieve a degree of holistic insight and reflective, measured action with regard to their places and responsibilities within our region and the world.

Doug Welker's biomass article and Bill Ziegler's dam removal story point to human activities that can be disjointed and short-sighted misuses of technology and science with inadequate appreciation for the surrounding biological and social cultures. Yes, our carbon-spewing species needs energy alternatives amidst over-population and over-consumption, but a head-long rush into biomass, as a lowest common de-

nominator of forest productivity, may make matters worse, even if it generates short-term profits and some jobs. Welker's prescription for a measured, appropriately scaled use of biomass therefore makes much sense. Ziegler's account of dam removal to restore spawning habitat and fisheries viability also points to the wrong-headed rush into hydropower as an energy, water management, and fisheries panacea.

As I've refamiliarized myself with Lake Superior's far-flung communities, I've learned how mill closures and mine layoffs have reduced populations and induced a sense of community tragedy. In the UP we need only look to Ontonagon County to see an example of this dynamic, but communities like Ashland, Marathon, Terrace Bay, and Nipigon have had similar trajectories in recent years. And our larger cities have also experienced demographic and economic stagnation.

As someone whose ancestors' bones lie buried in an abandoned Marquette cemetery, I accept I am in this region because of its legacy of exploitation, extraction, and boom-bust economics. Yet, with that legacy has come a deep love for this liquid-forest landscape, its intertwined cultures, and the bracing seasons – including the waves of insects we now encounter. Perhaps tourism can help us chart an economic future, yet there can be an extractive mentality among those who collect travel experiences. Visitors may appreciate an area, yet I wonder if only caring, committed, and creative residents can truly steward our incredible region in a democratically biocentric spirit.

LSYS is one example of an effort to shape and support future steward who will integrate science and technology with place-based cultures and insights into what being human is about in this region. These young people will be challenged with figuring out how to utilize and sustain the region's fragile and limited resources in a balanced and ecosystemically productive manner. It is our job to listen to these young folks – to support, honor, and believe in them.

### **Birch bark basket follow up**

Roger LaBine will offer a follow-up workshop to the birch bark basket activity at the March *Celebrate the UP!* Because the bark wasn't supple enough, it couldn't be shaped into baskets. Anyone who participated in March is welcome to attend, as well as newcomers. Roger will be in Baraga on Saturday, July 18 (tentative date; site TBD). Please contact him at [tc.ricekeeper@gmail.com](mailto:tc.ricekeeper@gmail.com) to sign up and for updates.

### **Bike tour to unify Lake Superior communities around water**

Surrounding Water ([benweaver.net](http://benweaver.net)) is Ben Weaver's bicycle, musical, and stewardship tour around Lake Superior with a vision to unify communities through song, discussion, and storytelling. Acting as a charter bearer to the Great Lakes Commons, Ben will use the visionary Commons Charter in his performances as an invitation to a broad and inclusive conversation concerning the state of fresh water within each of the communities he visits. Ben will be carrying his guitar and banjo on his bicycle and looks forward to the following (and perhaps more) UP concert stops:

- July 12** Houghton. Hosted by FOLK and UPEC.
- July 13** Big Bay, Thunder Bay Inn. Hosted by YDWP.
- July 15** Marquette, The Ore Dock. Hosted by SWUP and YDWP.
- July ??** Sault Ste. Marie, LSSU Cisler Center Galley Plaza. Hosted by Three Lakes Group Sierra Club.

**Keep checking [benweaver.net](http://benweaver.net) for lake tour updates!**



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## Youthful Stewards of the Lake

Nearly half of the 2015 Lake Superior Youth Symposium participants in Thunder Bay, Ontario were from the Upper Peninsula, with UPEC scholarships helping many of those youths attend the event. Youths gathered May 16 at Old Fort

William Historical Park for dinner, activities taking them back to fur trade times, and a campfire with songs and fun. Can you spot some familiar Yooper faces in this group photo taken on the Great Hall front porch? Photo by David Clanaugh

## Announcing our first-ever photo contest

Summer is the time to max out on outdoor activities with your camera in tow! When taking summer photos, consider submitting some of them to UPEC's first-ever photo contest. Or if you have photos on file from the other seasons, you may also submit them in these four thematic categories:

- Nature panoramas and landscapes
- Humans engaged within the natural world
- Close-ups of hidden or overlooked beauty
- Wonderful fluid water

Each category has latitude open to the photographer's interpretation. Photos must be from the UP with one submission per category per person. The deadline is Aug. 15.

Please send high-resolution (1 megabyte or larger) photos to [upec@upenvironment.org](mailto:upec@upenvironment.org). Provide your name and a description for each photo indicating the place and other aspects of the scene or subject. Also indicate in your email

## Remembering & honoring those who share UPEC's stewardship values

*UP Environment provides a place to remember and honor people dear to us in the name of environmental protection and stewardship. Your gift in Honor or Memory of others enables them to continue to participate in UPEC's work. Summer, with its many memories, is perfect for making this type of gift. If you want your contribution to honor or remember someone, please provide relevant information with that contribution.*

Memory of Larry Haack by Lorraine Haack

Summer 2015

that you grant permission for UPEC to reproduce the photo in its newsletters and website.

In recognition, winning photos will be published in the fall and subsequent UPEC newsletters and may be part of an on-line photo gallery. Start snapping and having fun!

## UPEC launches new website

Thanks to the hard work and inspiration of Web Master Connie Julien and My Web Maestro web designers, UPEC's website has a new look, easier navigation, and integration of on-line platforms like FaceBook. If you are thinking about submitting a photo for UPEC's photo contest, visit the photo gallery for inspiration at [upenvironment.org](http://upenvironment.org) -- otherwise just enjoy checking out the new website.

### How to Contact Your State Legislators

37th District Senator Wayne Schmidt

571-373-2413 [SenWSchmidt@senate.mi.gov](mailto:SenWSchmidt@senate.mi.gov)

38th District Senator Tom Casperson

517-373-7840; [SenTCasperson@senate.mi.gov](mailto:SenTCasperson@senate.mi.gov)

107th District Rep. Lee Chatfield

517-373-2629; [LeeChatfield@house.mi.gov](mailto:LeeChatfield@house.mi.gov)

108th District Rep. Ed McBroom

517-373-0156; [EdMcBroom@house.mi.gov](mailto:EdMcBroom@house.mi.gov)

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110th District Rep. Scott Dianda

517-373-0850; [scottdianda@house.mi.gov](mailto:scottdianda@house.mi.gov)

For more info: [www.legislature.mi.gov](http://www.legislature.mi.gov)

# State's only 'high dam' decommissioned in Dickinson Co.

*Dam Removal . . . . . From Page 1*  
one time. We Energies owns the majority of hydropower facilities in the Menominee Watershed. This process was very comprehensive and the power company carefully evaluated the long-term viability of its dams. After careful evaluation, We Energies determined it was not economically feasible to extend the lifespan of the Sturgeon Dam on Dickinson County's Sturgeon River.

The 50-foot-high Sturgeon Dam was the only dam in Michigan with a "high dam" design. The dam was arch shaped like some of the famous western United States dams and was designed to spill over the top of the dam rather than through gates like most Midwestern dams. The dam was built in 1920 and its viability had declined over time. We Energies decided to not relicense the dam. The plan was to decommission the dam, included removing the dam and all structures related to the project.

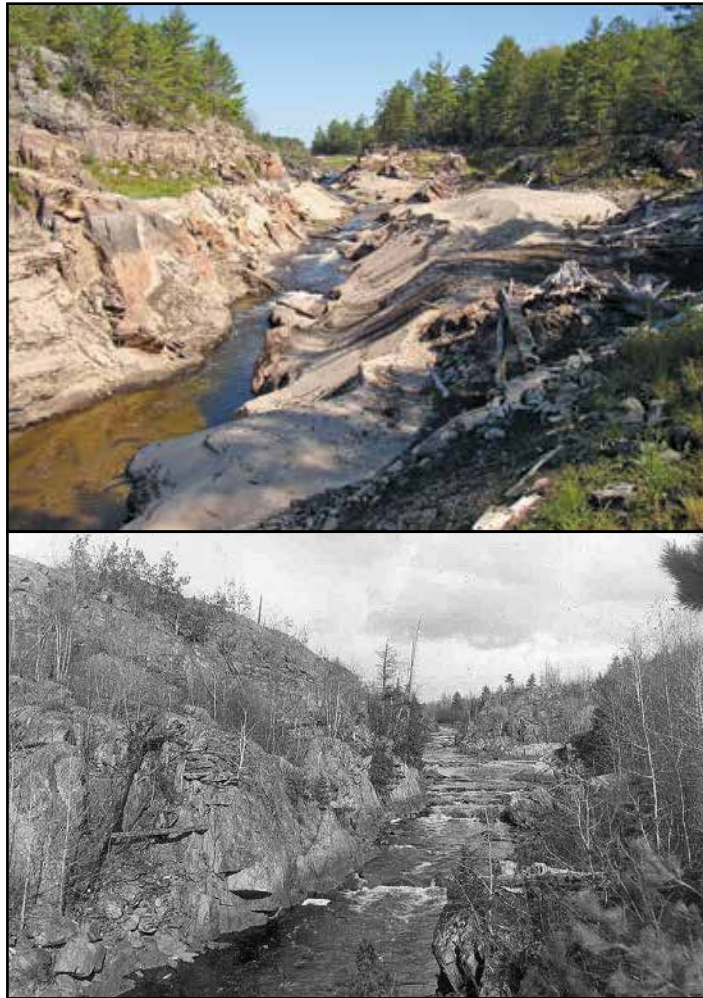
The dam's design limitations included the inability to completely draw down its backwater. This complicated the process of safely and properly removing it. It was very important to draw down the backwater gradually to avoid suddenly releasing downstream a large quantity

of sediment and sand. This was done by cutting off 15 feet from the top of the dam structure during the first year (2003) of the process. This allowed for a partial drawdown of the backwater and allowed time for the sediment release to be captured in a downstream constructed sediment trap. I was assigned to monitor the process of restoring the river habitat.

The company waited two years for the channel down-cutting to stabilize. This also allowed part of the large sediment load just above the dam that was dewatered to also stabilize. In 2005, the remaining portion of the dam structure was removed to finish draining the impoundment. The sediment that moved downstream as the old stream channel reestablished itself was caught in the sediment trap. The

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entire dam structure, old power house, and outbuildings were removed. This process resulted in a restoring over three miles of stream habitat along with a gorge, a series of rapids, and small falls. This lower section of the Sturgeon River is now predominantly smallmouth bass habitat.



*Top photo, the stream channel reestablishing itself in the old gorge, cutting through the deposited sand. Bottom photo, gorge and rapids on the Sturgeon River in 1920 prior to construction of the "high dam".*

*Top photo by Bill Ziegler; bottom photo courtesy of We Energies.*

Dewatering the impoundment revealed some interesting log driving structures and artifacts from the late 1800's pine log drive days. Upstream of the Sturgeon River Dam the historical Waucedah Dam was exposed. This log driving dam was relatively well preserved, having been protected from weather and flood events during over 80 years of being inundated with the Sturgeon Dam's backwaters. In addition to a relatively well-preserved log driving dam structure, there were also pine logs that still had visible log drive marks. The marks were used by the log owners to label the pine logs for sorting at the mills downstream at the Menominee River mouth.

In a different portion of the Menominee Watershed, another dam was considered for removal. In the upper portion of one of the UP's premier brook trout streams, a dam blocked the access of brook trout to an

extensive area of the river's best spawning habitat. Working with members of the Menominee Range Chapter of Trout Unlimited (TU), I (as the area fisheries management biologist), had surveyed the Iron River's brook trout spawning areas. Brook trout require adequate ground water (spring water) percolating up through clean gravel to successfully spawn and generate successful natural reproduction. After extensive fall spawning surveys with local TU members, we determined that most of the critical brook trout spawning habitat was located just upstream of the Wild River Road Dam near the headwaters of the Iron River.

The Wild River Road Dam was a low-head dam that had

*Dam Removal . . . . . See Page 7*

## Yes! I Want to Partner with UPEC in Making a Difference!

Please complete and give this to a UPEC board member or mail to UPEC; PO Box 673; Houghton, MI 49931  
Or you can contribute on-line through [justgive.org](http://justgive.org) at UPEC's website at [www.upenvironment.org](http://www.upenvironment.org)

**I'd like to support UPEC's goals by enclosing a contribution for (please check one):**

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UPEC is a 501(c)(3) nonprofit organization; your contribution is tax-deductible. Your support helps us work together to protect and enhance the UP's unique natural environment. Please consider making a gift membership to help us expand our circle of people working together. You may also contribute in **Memory** or **Honor** of a family member or friend.

*Also consider enclosing a note with your contribution with feedback about this newsletter and UPEC's work.*

Gift Membership (please provide person's name and mailing address on reverse side of this form)

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I'm already a member, but I'd like to make additional contributions to these UPEC funds:

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(Make check to MCCF with UPEC in memo line.)

*Check your newsletter's mailing label for your membership status. Phone & Email information is optional – UPEC does not share members' contact information with any other organizations. Thanks for your Support!*

## Dam removal gradual to minimize sediment releases

*Dam Removal . . . . From Page 6*  
been constructed without legal permits, and it blocked the Iron River at the road crossing. The dam had a small backwater that initially had provided a slack-water trout fishery. As typically happens over the years, sediment filled in the backwater area. Each year during autumn, brook trout instinctively moved upstream and built up relatively high numbers just downstream of this in-stream barrier just short of the Iron River's ideal spawning grounds.

The TU chapter took on removing this dam as its major project with technical assistance from the DNR Fisheries. TU members secured the necessary DEQ permits and gradually removed the upper portion of the low-head dam structure in 2005. After the sediment that was dewatered behind the dam was naturally vegetated and

stabilized, the remaining portion of the dam was removed in 2006. This was a process similar to what had occurred at the Sturgeon River Dam to avoid a large and dramatic release of sediment. The gradual dam removal was successful in avoiding excessive sediment release. Sediment in the old flooded area is now stable and covered with natural vegetation. The upper reaches critical brook trout spawning habitat is now directly connected to the majority of Iron River and its brook trout population. This movement beyond the old barrier is evident because brook trout no longer concentrate below the Wild River Road during their annual pre-spawn movement.

Dam removal can be controversial, with emotional arguments by people who prefer impoundments to free-flowing stream habitat. My for-

mer District Fisheries Supervisor Gary Schnicke used to say, "many people act like the concrete dams were deposited by the receding glaciers during the ice age." No one has any illusions that most of the state's dams will be re-

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***'As dams age . . . opportunities arise to restore some stretches of streams to quality free-flowing habitat.'***

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moved. Dams will always be a part of our state's stream systems, although as dams age and become unsafe and not worth maintaining, opportunities arise to restore some stretches of streams to quality free-flowing habitat. In other cases like the Wild River Road Dam, a dam's impoundment becomes heavily degraded. These negative effects (blocking the prime spawning area) outweigh keeping the unproductive dam.

**Upper Peninsula  
Environmental Coalition**

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*Protecting and maintaining the unique environmental qualities of Michigan's Upper Peninsula by educating the public and acting as a watchdog to industry and government.*

**LSYS engages our youth in holistic thinking and acting**

*By David Clanaugh, Editor*

Over 150 youths and adults from the Lake Superior Basin and adjacent areas recently attended the biennial Lake Superior Youth Symposium (LSYS) in Thunder Bay, nestled between the Sleeping Giant (*Nanabozho*) and *Animiki-wajiw* (Thunder Mountain/Mount McKay). Two years from now LSYS likely will be in the Duluth-Superior area; two years ago it was in the Keweenaw.

My seventh-grade daughter and I had the privilege of joining the UP group that constituted almost half of the gathering. LSYS provided incredible experiences for daughter and father as we participated in workshops, field trips, and group activities geared toward our region's unique environments, cultures, and histories. I can't begin to discuss all the neat things available to participants, so I encourage you to Google "2015 Lake Superior Youth Symposium." Also check this link for some great radio coverage with eloquent voices from a UP teacher, Cindy McCormick, and one of her Jeffers students, Haley Makela: [cbc.ca/player/RA-DIO+HOLDING+PEN/Masseys/ID/2667278940/](http://cbc.ca/player/RA-DIO+HOLDING+PEN/Masseys/ID/2667278940/)

As I've reflected on the richness of LSYS and its charge to the youths and their adult guides, I've realized that the topics (Biomass and Dam Removal) of front-page stories in this newsletter are directly relevant to the symposium's *Youth Symposium Reflections*. . . . . See Page 4



*Jeffers students show off their problem-solving strategies for addressing a local recycling issue. Thursday evening at the symposium, each school group tackled a local environmental challenge and consulted with students from other schools to identify additional solutions.*

*Photo by David Clanaugh*

**Please review your membership status**

*Check your mailing label above for your membership status with UPEC. When you renew, please consider an additional level of support as part of UPEC's efforts to safeguard public lands, wildlife habitat, and prudent environmental policies.*