



UP Environment

UPEC: THE UP'S OLDEST GRASSROOTS ENVIRONMENTAL GROUP



Summer 2017

A MIRACLE HAPPENED by Horst Schmidt, President

As you can see in the accompanying article, the Mining Action Group (MAG) has sought funding to pay for a professional review of Aquila's Back 40 wetland permit application. Kathleen Heideman solicited grants and funds from recreational fishing groups and private individuals. A miracle happened! For her efforts, MAG received over \$9,000 to pay for the technical review.

Will this stop the company? We don't know. What we do know is that challenging not only the company, but the Department of Environmental Quality must be done to protect our environment in a world of ever increasing population and demand for metals found in ore bodies here in the UP.

At the same time state tourism touts wild nature through its Pure Michigan campaign. What makes the UP unique is its forests, lakes and streams. Unsustainable mining threatens our sustainable tourism industry. The siren song of jobs and tax revenue causes the state to bend its rules in favor of mining. Promises are made that technology and state oversight will prevent environmental damage. Once a hole is made in the ground we are creating long term problems that cannot be reversed.

The National Mining Association in a recent blog said: *"The problem is that regulatory policies governing minerals mining are now so obstructive that they almost guarantee mining investment goes elsewhere."* (<http://nma.org/2017/03/27/linkedin-blog-we-must-focus-on-minerals-mining-policies-to-rebuild-america/>)

Mining companies do go elsewhere. But in spite of the rhetoric, they don't give up here either. They prefer the lower risk from working in the US and Canada. In the UP there were hard fought battles that lasted years on the Eagle Mine, first with Kennecott, then Lundin. Ultimately, the latter received state approval, but it took a long time. What else did we gain? An agreement to monitor the environment paid for by the company. Success was achieved when County Road 595 was not allowed to be built so the mining company's trucks had a short cut through an undeveloped wild area.

Now we're going through another fight with Aquila Resources and the DEQ. This one has lasted 14 years, first

with the former Save the Wild UP, Front 40 environmental group and now MAG. Mining companies are like burrs. Once they get stuck on your clothes, its very difficult to get them out.

In the coming years, we expect Highland Copper Co. will develop its mine sites on the west end of Porcupine Wilderness State Park. We will be there. Exploration is going on wherever ore bodies are suspected. The Department of Natural Resources leases our public land to multinational mining corporations. That the state owns most subsurface mineral rights and leases them to these companies indiscriminately means surface owners' rights are secondary. The UP's volcanic origin means we become another cog in the world's insatiable appetite for finite resources.

We hope we can count on your support. Citizen resistance along with pro-environmental organizations are the miracles that keep the worst from happening.

THE BACK 40: ANOTHER ASSAULT ON THE MENOMINEE RIVER

The Upper Peninsula Environmental Coalition's Mining Action Group is working to secure an Independent Technical Review of Aquila Resources' Back Forty's Wetland permit application. If fully permitted by the Michigan Dept. of Environmental Quality (DEQ), the Back Forty will be an 800 ft deep open-pit sulfide mine on the banks of the Menominee River – only 100 feet from the water. The Menominee is the largest watershed in Michigan's wild Upper Peninsula. Milling (using cyanide and other chemicals) will take place on site; tailings and waste rock will be stored on site, and some waste will remain permanently. When mining is complete, the pit will be back-filled with waste rock and tailings. Nearly ALL of the Back Forty's ore and waste rock is considered "reactive" — capable of producing Acid Mine Drainage (AMD) when exposed to air and water. AMD pollution can devastate watersheds, and last hundreds of years.

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OUR GOAL

We seek an Independent Technical Review of the Aquila Back Forty wetland permit, to be completed by the Center for Science in Public Participation, which analyzes mining applications in order to provide “objective research and technical advice to people impacted by mining.”

PURPOSE

The Menominee River is endangered by the Aquila Back Forty, a risky sulfide mine proposal. We are working to defend the exceptional fisheries and water quality of the Menominee River from the significant environmental hazards of sulfide mining. Downstream impacts are especially feared, since the Menominee flows into Lake Michigan. This Technical Review will raise awareness about threats to

the Menominee River and Aquila’s proposed destruction of wetlands, in order to educate local residents and environmental stakeholders, and ensure that concerned citizens and regulators are made fully aware of all the impacts to be expected if Aquila’s wetland permit application is approved. We vigorously oppose the permitting of the Back Forty mine. We will ask regulators to protect the health of the Menominee River and deny the wetland permit.

SUPPORT

Thus far, the UPEC Mining Action Group and the Menominee River Front 40 have collaboratively secured small grants, donations and pledges from Freshwater Future, Superior Watershed Partnership, the Western Mining Action Group, Du Page Rivers Fly Tyers (DRiFT), Northern Illinois Fly Tyers (NIFT), Badger Fly Fishers, M&M Great Lakes Sport Fisherman, Wisconsin Smallmouth Alliance, and individual fishing enthusiasts throughout the Great Lakes area. Thank you!

About UPEC...

The Upper Peninsula Environmental Coalition and the recently formed Mining Action Group has a four-decade track record of protecting and seek to enhance the unique environmental qualities of the U.P. through public education and monitoring of industry and government. UPEC and the recently formed Mining Action Group, seeks common ground with diverse individuals and organizations to promote sound planning and management decisions for all the region’s natural resources.

U.P. Environment is published quarterly and available online to share with family & friends. Send your comments or contributions to:

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906-201-1949
upec@upenvironment.org
www.upenvironment.org
and Facebook

Attention ECONOFOOD Shoppers

We appreciate your receipts. If you haven't done it, now's a good time to start. The last time we got \$189. Not chump change. Very, very good! Send to PO Box 673, Houghton MI 49931. We'll put your contributions to good use.

HELP! With Summer - Winter Addresses

We're drowning. We sent out our newsletters. A lot came back. We pay 49 cents for each return. We support the US Postal Service more than we want. Why? They won't forward your newsletters to your winter addresses. Let us know when you expect to come to the UP and when, sadly, you depart in the fall. Then label one winter address, the other summer. You get the drill. We'll make sure you get them both ways. Guaranteed!



UPEC Officers, Board and Staff

- President: Horst Schmidt
- Vice President: David Allen
- Secretary: Grant Fenner
- Treasurer: Jon Saari



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Dire Straits: Don't Wait 'Til It's Too Late State of Michigan

By Liz Kirkwood - Director of FLOW - For the Love of Water



Every day that passes strengthens the case for decommissioning the riskiest pipeline in America. Two antiquated oil and gas pipelines known as Line 5 – owned and operated by Enbridge Energy Partners – cross the Straits on lakebed owned by the people of the State of Michigan. Inadequately maintained for six decades, the pipelines pose a serious risk to one of the world's great freshwater resources.

Every day, nearly 23 million gallons of oil and natural gas liquids flow through "Line 5," which starts in Superior, Wisconsin, and cuts through the Straits on its way to refineries in Sarnia, Ontario. The pipeline threatens the drinking water supply for 5 million Michigan residents and the Michigan economy. Line 5 has spilled at least 1.13 million gallons of oil in 29 incidents since 1968.

The latest evidence for decommissioning the pipeline is an Enbridge consultant's document made available by U.S. Senator Gary Peters of Michigan. It demonstrates that for years, Enbridge played fast and loose with safety by violating its own engineering expert's advice and routinely tolerating distances between pipeline anchor supports far beyond recommendations. One unsupported span was 286-feet long, nearly four times the allowable length.

Many organizations are contributing important work to decommission Line 5 as part of the Oil and Water Don't Mix campaign. FLOW's unique contribution has been a focus on the public trust.

The common law public trust doctrine governs the use of the lake's bottomlands. The doctrine dates back nearly 2000 years to the times of the Roman emperor, Justinian, and has been a part of English common law and our U.S. democracy for centuries. The public trust is a key legal principle that enables citizens and governments to protect our waters as a commons, owned and shared by the public for the use and enjoyment of all.

The State of Michigan, and not the federal government, is the chief steward charged with protecting our public waters and uses from a catastrophic oil spill under public trust law. Section (A) of the easement granted under the Great Lakes Submerged Lands Act Easement states that Enbridge: "...at all times shall exercise the due care of a reasonably prudent person for the safety and welfare of all persons and of all public and private property, shall comply with all laws of the State of Michigan and of the Federal Government." The company has fallen well short of this requirement thanks to its failure to properly maintain the pipelines, its lack of a credible spill response plan, and other acts of omission and commission.

FLOW has identified Enbridge's eight easement violations and actively used those findings to spur state and federal lawmakers and other elected officials to take action, authored numerous technical reports on risks and alternatives to Line 5, and helped produce the Patagonia supported film Great Lakes, Bad Lines. FLOW has concluded that the Enbridge "Line 5" oil pipelines suffer from rust, dents, missing supports, and encrustation by corrosion-causing invasive mussels, presenting an imminent hazard to the Great Lakes that the State of Michigan has a public trust duty to eliminate.

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Line 5 is a disaster waiting to happen. University of Michigan studies call the Straits the “worst possible place” for a Great Lakes oil spill, which could harm up to 720 miles of shoreline in Lakes Michigan and Huron. Enbridge’s data reveals that sections of Line 5 in the Mackinac Straits are cracked and dented and a segment on land has lost 26 percent of its original wall thickness to corrosion.



Enbridge lacks a credible plan to recover oil when ice covers the Mackinac Straits, or when it is windy, wavy, or dark. Under the best conditions, only 40% of an oil spill would be recovered.

Enbridge caused the nation’s largest inland oil spill in July 2010 when its Line 6B pipeline burst near Marshall, Michigan, and for 17 hours dumped a million gallons of heavy tar sands oil into the Kalamazoo River watershed. It took four years and over \$1.2 billion to clean it up, to the extent possible.

Enbridge and allied special interests recently have ratcheted up their claims that Upper Peninsula residents have no choice but to continue relying indefinitely on Line 5 for their propane supply. These false assertions won’t keep U.P. residents warm the next time Line 5 fails, or the state finally orders the decaying line to be retired, and the

propane stops flowing. Research by engineers working with FLOW shows that just 1-2 rail cars or a few tanker trucks a day sent from Superior, Wisconsin, could replace Line 5’s U.P. propane supply.

This isn’t just an environmental issue; it’s an economic issue. Key tourism-related businesses would pay enormously in the event of a spill. Tourism and recreation businesses on both peninsulas and on Mackinac Island would suffer dramatically. On the other side of the equation, only 10 percent of the petroleum transported by the pipeline remains in Michigan.

The State of Michigan has the power and duty to force the shutdown of the pipeline. By canceling the easement granted to the company, it can send the message that the risk to the Great Lakes posed by these pipelines is unacceptable. But the people of Michigan need to speak out to prod the state to take action.

We do not want Michigan’s iconic waters to be degraded by unavoidable pipeline rupture. Governor Rick Snyder needs to act decisively to decommission the pipeline. You can help by learning more about the pipeline here. We urge you to act today.

WHAT YOU CAN DO

- Visit the FLOW website at www.FLOWforWater.org to learn more and sign up for our email alerts and stay current with the very latest news on Line 5.
- Join us at a state public hearing in July once the draft reports are released on Line 5’s risk and alternatives. This is the time when the state will be deciding the fate of Line 5.
- Sign the citizen petition calling on Gov. Snyder and Attorney General Schuette to prevent a catastrophic oil spill by shutting down Line 5.
- Write a letter to the editor of your local paper. Elected officials at all levels read letters to the editor from their constituents.
- Help pass a local resolution. More than 70 communities and 12 tribal governments have passed resolutions calling for the shutdown of Line 5’s oil flow.
- Become a business supporter. Concerned businesses are spreading the word about how these aging pipelines threaten our state and local economy.
- Attend an event, make a donation, plant a yard sign, and learn about many more ways to make a difference in the citizen campaign to shut down Line 5.

Liz Kirkwood is executive director at For Love of Water (FLOW) in Traverse City. Reach her at Liz@FLOWforWater.org.

On the River by Dick Dragewicz



The Menominee River is my friend. So, I'm working to protect it from the problems the proposed Back Forty mine would give it. Initially my efforts were entirely selfish. I just wanted to make sure the river stayed clean and continued to provide me with terrific smallmouth bass fishing. I didn't want to lose the river to Aquila's polluting metallic sulfide mine.

Over time I've moved from this selfish approach to a broader perspective on the need to protect the river AND the surrounding environment from the Back Forty mine.

In the summer of 2006, my brother and I were introduced to the river's terrific bass fishing by my friend Dave. Since that trip I've fished the Menominee River every summer on



multiple two and three day trips. It continues to give me and my fishing friends lots of excitement when those bass, especially the big ones, are seen and when they strike at our flies. This valuable resource shouldn't be damaged or destroyed by the Back Forty mine.

On one of those trips, it may have been in 2007 or 2008, I noticed signs along the river and on roads that warned of the proposed Back Forty mine. So, I contacted Ron and Carol Henriksen to find out the purpose of the signs. At a meeting in Oshkosh they explained the risks of the proposed Back Forty mine. It was then that I started helping Ron and Carol on their mission to protect the Menominee River and its environs. My river protection efforts have expanded to working with Kathleen Heideman at UPEC and many other organizations.

Everyone needs to work together to persuade the State of Michigan to not allow the Back Forty mine to be developed. The risks are great and the State's resources are too limited to keep the area clean and pure so all of us can enjoy the river and its environment.

Celebrate the UP! A Success!

by Dave Allen

The annual March Celebrate the UP! at Three Corners in Marquette was a success. This was due to the many helping hands involved in bringing it off. Good presenters, good dancers (Maria Formolo and Carrie Biolo on Tuesday), poetry on Wednesday and Saturday, artists in the Huron Gallery, singers at the songwriting presentation Friday evening, presenters and panelists on Saturday - all deserve our thanks.

The board deserves thanks for helping run the Celebration - registering, set-up, room attendants and so forth. In particular, Kathleen Heideman organized wetlands-themed poetry readings, and an art exhibit in the Huron Mountain Club Gallery. Alexandra Maxwell helped organize the song writing competition.

And non-board members were crucially involved. Judy Allen, Puck Bates and Christine Saari spent the last hour organizing the goodies that they and others brought for the reception. Erick Ottem and John Rebers were around lending technical assistance.

But special mention must go to Mary Martin and Milt Bates. They were crucial parts of the Marquette organizing committee, which met weekly for months preparing the overall event. Milt helped Mary Burns set up her tapestries (as did Chris and Marc Troutd) on Friday and store them away later on Saturday. Milt prepared and read some poems. Milt introduced John Bates and Mary Burns. Mary was all over the place on Saturday, putting out fires, solving some crisis and coping with others.

It took many hands to put on the Celebration this year!

Ways to Support UPEC

Consider contributing to UPEC (including the Mining Action Group) in honor or memory of a special friend or loved one. When you make a gift on behalf of another person, we will send an acknowledgment of the gift to that person or his/her family, so please enclose mailing information. When you contribute on behalf of someone else, encourage them to become a UPEC member through your gift. Do you or someone you know have a wedding or other special celebration in the future? Consider making it a "green occasion" by designating UPEC as a recipient of honor gifts. UPEC has a JustGive link on its website that can help you to do this.

Thank You!

Sylvania Wilderness on Earth Day by Maggie Scheffer



“If your spirit needs renewing, and you need to make contact with things wild and free, come away to this special corner of the world -- Sylvania.” --- Bonnie Peacock, Sylvania -- Majestic Forests and Deep Clear Waters

On Earth Day, April 22nd, thirty enthusiastic hikers took a walk in the Sylvania Wilderness in Gogebic County. The hike was organized and sponsored by UPEC in cooperation with the Ottawa National Forest.

Beautiful weather and sightings of loon, swans, and eagles graced the early spring day. In accordance with Sylvania regulations, the group divided into three smaller groups of ten people each, and hiked three different trails:

the Mountain Lake trail, the Thompson Lodge Trail and Clark East Trail. The cool lead-up to spring delayed emergence of the early blooming ephemerals, but neither had the mosquitoes or black flies hatched, making for a pleasant 60 degree day of exploring for signs of wildlife and stopping to admire the old growth trees.

“The idea of wilderness needs no defense, it only needs defenders.” -- Ed Abbey.

As stated on the Sylvania Wilderness trail map, few wildernesses areas compare to Sylvania, with its thirty-four named lakes: some with sandy beaches, others surrounded by record size red and white pines. These glacier formed lakes are perched atop a watershed where precipitation can flow into Lake Superior to the north, Lake Michigan to the southeast, or the Mississippi River to the west. No rivers flow into these pristine lakes that are fed by springs, bogs and precipitation.

“Only people who understand trees are capable of protecting them.” -- Peter Wohlleben, The Hidden Life of Trees.

The Upper Peninsula has endured over a century of commercial logging practices that have thinned or cleared vast forests of native timber. It is rare to visit an area with an old growth forest such as the Sylvania Wilderness. Many of the climax species trees are 200 - 400 years old. Those species include sugar maple, hemlock, and yellow birch, which unlike other birches may live up to 250 years and produce abundant seed crops that feed many species of wildlife. Other species of this wilderness community include red maple, white and black ash, american basswood, white birch, black cherry and red oak. Cedar, black spruce, tamarack and alder thrive in the swamps.

The clear clean lakes remain pristine due to Ottawa National Forest regulations prohibiting gas powered motors in the wilderness area. Lake trout, bluegill and smallmouth bass are a few of the fish species that inhabit the lakes, while endangered and threatened species such as the gray wolf, fisher, lynx and bobcat make a home of the 18,327 acres of wilderness forest.

When left to their natural prolonged cycle of growth and decay, trees of an old growth forest often provide den habitat for porcupine, bear, skunk and squirrels. Rabbits and smaller mammals such as voles and shrews are bog dwellers, as are white tailed deer who find some respite from biting flies and insects in the direct sun of these open bogs. The fisher was reintroduced to the Sylvania nearly sixty years ago, around the time the Wilderness Act was signed.

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“A wilderness, in contrast with those areas where man and his own works dominate the landscape, is recognized as an area where the earth and community of life are untrammelled by man, where man himself is a visitor who does not remain....which is protected and managed to preserve its natural condition.”

-- The Wilderness Act of 1964.



After winding through 5-6 miles of forested trail, along the sandy shores of Clark Lake, and through towering hemlock cathedrals, hungry hikers returned to cars and drove to the Watersmeet Town Hall for refreshments and to share accounts of their hikes. To those for whom this visit to the Sylvania Wilderness was their first, we hope you'll return. To others who have visited before, we hope our wilderness paths cross again. For there is a certain peace to be found among wild things, as expressed by Wendell Berry:

***“When despair for the world grows in me
and I wake in the night at the least sound
in fear of what my life and my
children’s lives may be,
I go and lie down where the wood drake
rests in his beauty of the water, and
the great heron feeds.***

***I come into the peace of wild things
who do not tax their lives with forethought of
grief.***

***I come into the presence of still waters
And I feel above me the day-blind stars
waiting with their light. For a time
I rest in the grace of the world, and am free.”***

Wendell Berry, “The Peace of Wild Things”

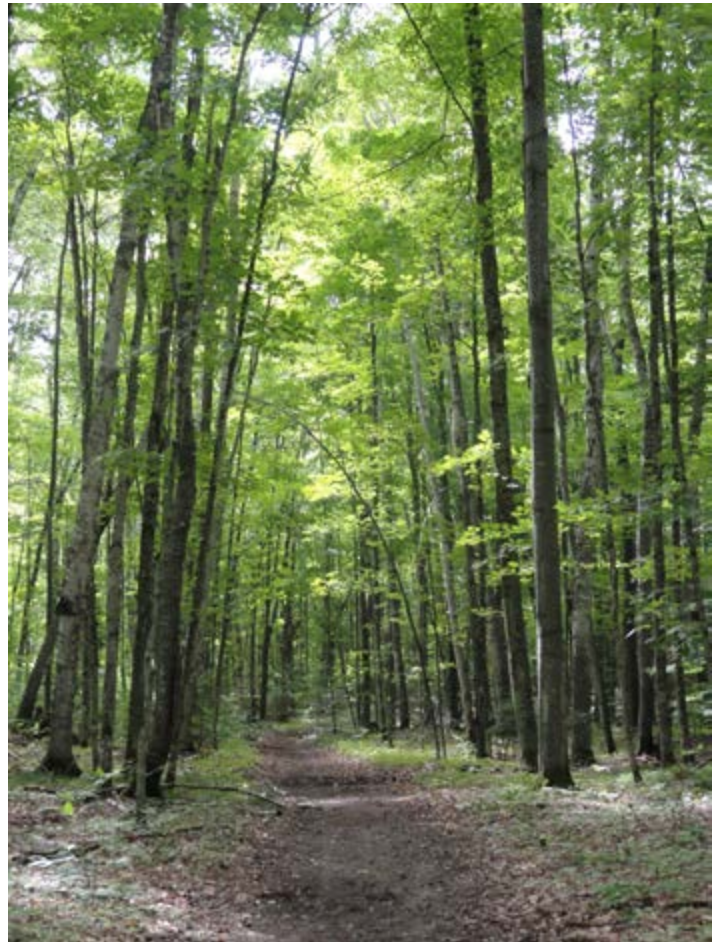
Sources:

Wendell Berry; Selected Poems of Wendell Berry

Peacock, Bonnie; Sylvania -- Majestic Forests and Deep, Clear Waters, 1986

Ottawa National Forest; Sylvania Wilderness and Recreation Area Map, Rules and Regulations.

Wohlleben, Peter; The Hidden Life of Trees; 2016



UPEC's Mission

“As the longest serving environmental organization in Michigan’s U.P., the Upper Peninsula Environmental Coalition (UPEC) strives to preserve the unique cultural and natural resources of the Upper Peninsula through public education, the promotion of sound land stewardship, and reasoned dialogue with communities, governments, industries and others with whom we share this land.”

Mining Action Group Updates

EAGLE MINE CONCEALS UNDERGROUND COLLAPSE

ACTION ALERT — Public Meeting on Eagle East Mining Permit

Michigan's Department of Environmental Quality recently held an important public meeting to discuss Lundin Mining's permit amendment request to expand Eagle Mine's operations to include the mining of Eagle East, and authorize the completion of 8 kilometers of tunnels to connect the Eagle and Eagle East orebodies! See our website or Facebook page for outcome details.

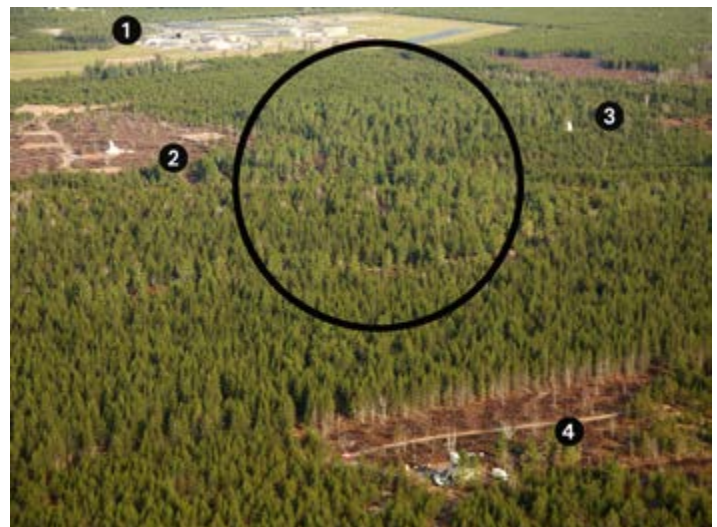
Eagle East is a new orebody located beyond the previously permitted project boundary. The mine's expansion will include environmental impacts not considered under the original mining permit – more mining will mean more tailings waste, more dewatering, increased air pollution, additional light pollution, more years of industrial truck traffic, and increased risk of contamination for the Salmon Trout, Yellow Dog and Escanaba watersheds. Questions about Eagle East:

- Lundin Mining claims the life of Eagle Mine will be extended only 1 or 2 years by extracting the Eagle East deposit. Is it worth the enormous environmental footprint — increased hauling, increased emissions, wastes at Humboldt Mill, increased discharge of pollutants to the Escanaba River, etc.?
- Lundin describes the combined ore as “Eagle ore” but Eagle and Eagle East are different orebodies, with different volcanogenic sources. The new Eagle East orebody contains higher grades of copper and nickel, as well as other toxic heavy metals. While Eagle is peridotite, Eagle East is predominantly pyroxenite. Why is the mining permit being amended? Shouldn't a new mining permit be required, with a full review of Eagle East's environmental impacts? Will the DEQ allow a mining permit to be stretched and amended indefinitely?
- Because the Eagle East deposit is located three thousand feet below the surface, the ore contains high quantities of entrapped salts from ancient brines. Why are the impacts of Eagle East's mining permit considered separate from connected concerns and cumulative impacts? For example, Eagle Mine's wastewater treatment plant will require a new crystallizer, and this will create long term water quality problems at Humboldt Mill, where ore will be processed. Eagle East waste tailings are expected to cause problems related to total dissolved solids in the Humboldt Pit and discharges to the Escanaba River.
- Last year's undisclosed “partial pillar collapse” at Eagle Mine draws the overall safety of the expansion into question. Mining experts have repeatedly warned that the Eagle orebody is filled with hard-to-map “smaller-scale discontinuities that could weaken the rock mass” which could endanger miners or cause a catastrophic collapse of the Salmon Trout River headwaters. Concerns about the underground rock failure at Eagle Mine must be addressed before the company's mining permit is amended. Was the stability of Eagle Mine dangerously overestimated from the beginning? Was the rock quality data misinterpreted, or fraudulent?

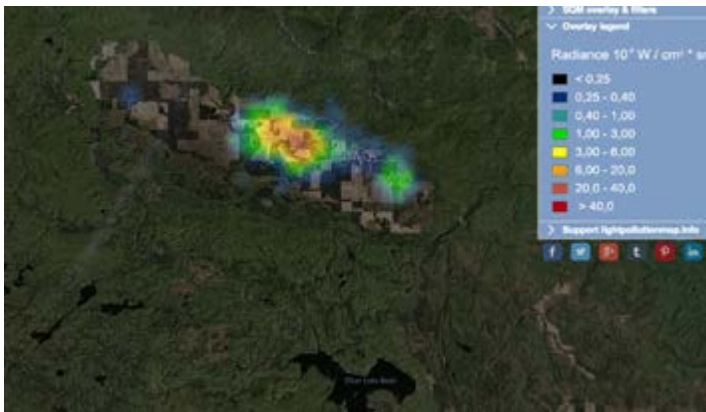
Written public comment on the Eagle East amendment will be accepted until July 6th, 2017. Send your comments to: DEQ-Mining-Comments@michigan.gov or mail them to:

DEQ Eagle East Permit Amendment
Office of Oil, Gas, and Minerals
1504 West Washington Street
Marquette, MI 49855

*Industrialization of the Yellow Dog Plains? Eagle Mine's environmental footprint expands with Eagle East exploration — far beyond the original mining permit. This aerial photograph shows (1) Eagle Mine facility, and active drill rigs in the (2) southern drilling area for Eagle East (3) northern drilling area for Eagle East and (4) eastern drilling area for Eagle East. * The general location of the Eagle East orebody, some 3000 feet below the surface, is outlined by the large circle. Photograph by Jeremiah Eagle Eye, May 2017.*



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Significant light pollution caused by Eagle Mine, Eagle East exploration, and ore truck facility on the Yellow Dog Plains. Source: VIIRS 2016 radiance data, www.lightpollutionmap.info

AQUILA BACK FORTY — Concerned Citizens Raise Funds for an Independent Technical Review of Wetlands Permit

The Mining Action Network of the Upper Peninsula Environmental Coalition will secure an Independent Technical

Review of Aquila Resources' Back Forty's Wetland permit application. "Our goal is an Independent Technical Review of the Aquila Back Forty Wetland permit, to be completed by the Center for Science in Public Participation (CSP2), which analyzes mining applications and provides objective research and technical advice to communities impacted by mining."

This Technical Review will raise awareness about threats to the Menominee River and Aquila's proposed destruction of wetlands, in order to educate local residents and environmental stakeholders, and ensure that concerned citizens and regulators are made fully aware of all flaws, errors, and omissions in Aquila's Wetland permit application.

Downstream impacts to fisheries and water quality are especially feared, since the Menominee River flows into Lake Michigan. American Rivers organization recently named the Menominee River to their 2017 list of America's Most Endangered Rivers, due to the threat that the Back Forty sulfide mine poses to the river.

Wetlands are especially vulnerable in Michigan; the state has lost about 4 million acres of wetlands since the early 1800's, or 40% of the total wetlands that covered the state pre-colonization. According to a 2014 report by the DEQ, Michigan lost 41,000 acres between 1978 and 2005, more than 1,000 acres per year on average. Wetlands are important ecosystems that provide numerous benefits, including water filtration, erosion and flood control, and provide essential habitat to a diverse array of species.

CSP2's technical review of the Aquila Back Forty Wetland permit is made possible by the generous support of groups and individuals concerned about the future health of the Menominee River. Working collaboratively, the Mining Action Group of the Upper Peninsula Environmental Coalition and Menominee River Front 40 have collaboratively secured small grants, donations and pledges from Freshwater Future, Superior Watershed Partnership, the Western Mining Action Group, DuPage Rivers Fly Tyers (DRiFT), Northern Illinois Fly Tyers (NIFT), Badger Fly Fishers, M&M Great Lakes Sport Fisherman, Wisconsin Smallmouth Alliance, and individual fishing enthusiasts throughout the Great Lakes area. Thank you!! **PITCH IN TODAY TO SAVE THE MENOMINEE:** <https://secure.anedot.com/upec-mag/menominee>

COMING SOON — MORE PERMIT AMENDMENT REQUESTS FROM EAGLE MINE

In the coming months, we expect to see at least two more SIGNIFICANT Permit Amendment Requests coming from Lundin Mining / Eagle Mine LLC. The permit changes are related to the environmental impacts of Eagle East ore once it reaches Humboldt Mill for processing – creating a large quantity of waste tailings.

1. Humboldt Tailings Disposal Facility (HTDF), aka the Humboldt Pit.

Eagle Mine intends to request a significant amendment to Humboldt Mill's Part 632 (mining) permit — they want to add ALL of the Eagle East waste tailings to the Humboldt Pit. These tailings are a slurry of reactive waste rock from milling, containing toxic amounts of salts, heavy metals (including valuable nickel and copper not captured during the milling process) and acid-generating material. Tails are deposited underwater (subaqueous tailings disposal) in the Humboldt Pit lake, dumped on top of the tailings already generated from milling Eagle ore, which were dumped on top of tailings previously left from Callahan's gold processing. This change is expected to nearly fill the pit with waste, and further alter water chemistry. Serious concerns include:

- Extremely limited monitoring data for the pit. Water chemistry of the HTDF pit water was sampled once, prior to Eagle Mine production. Subsequent pit data gathered by Eagle Mine has not been made available, despite requests from Mining Action Group and the Community Environmental Monitoring Program.

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THE NEW NATURE MOVEMENT, 2017: Not Going Back to Nature, but Forward to a Nature-Rich Civilization

by Richard Louv

See the young people in the photo? They're our true leaders. Natural Leaders. They don't demean others. They don't exclude. They're reaching out, reaching up. In 2017, they're the leaders who give us hope.

For many of us, thinking about the future conjures up images from movies like *Blade Runner*, *Mad Max*, *The Road*: a post-apocalyptic dystopia stripped of nature and human kindness. We seem drawn to that flame, but it's a dangerous fixation.

Not that there aren't reasons to be discouraged. Among them, a society in which people retreat into silos of their own kind, hard times for those who have been left behind economically, decades of nature-deficit disorder among children and adults, climate change, biodiversity collapse.

Despite undeniable successes, environmentalism is in trouble: some polls and political developments suggest a public with diminishing regard for environmental concerns. Americans continue to care deeply about the environment, but progress suddenly seems blocked.

Here's the problem with despair. It's worth repeating. Often. Martin Luther King, Jr. taught us that any movement — any culture — will fail if it cannot paint a picture of a world that people will want to go to. This is why, more than ever, we need a new nature movement, one that includes but goes beyond the good practices of traditional environmentalism and sustainability, one that paints a compelling, inspiring portrait of a society that is better than the one we presently live in. Not just a survivable world, but a nature-rich world in which our children and grandchildren thrive.

Inchoate, self-organizing, this new nature movement is already beginning to emerge around the world. It revives old concepts in health and urban planning and adds new ones, based on recent research, that shows the power of nearby nature and wilderness to improve our psychological and physical health, our cognitive functioning, and our economic and social well-being. Colorado University professor Louise Chawla describes the basis of the movement as “the idea that, as humans, we cannot only make our ecological footprints as light as possible, but we can actually leave places better than when we came to them, making them places of delight.”

In *The Nature Principle*, I suggested a few tenets for the New Nature Movement. Among them:

- The more high-tech our lives become, the more nature we need.
- Natural history is as important as human history to our regional and personal identities.
- Conservation is no longer enough; now we must “create” nature where we live, work, learn, play.
- Cities can become engines of biodiversity and human health.
- Energy efficiency isn't enough; now we must create human energy — in the form of better physical and psychological health, higher mental acuity and creativity — by truly greening our cities.
- The next wave of cutting-edge education will be the creation of natural learning environment, and the development of “hybrid minds.”
- This movement isn't about going back to nature, but forward to nature. The future will belong to the nature-smart.

Participants in the New Nature Movement include traditional conservationists, as well as proponents and producers of alternative energy, who create the underpinning. Physicians (particularly pediatricians) who prescribe nature experience and green exercise to their patients. Ecopsychologists, wilderness therapy professionals, and other nature therapists. Park professionals who help families fulfill their “park prescriptions.” Public health professionals and urban designers who work to increase nearby nature.



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WATERSHED AWARENESS -- 2017 by Maggie Scheffer

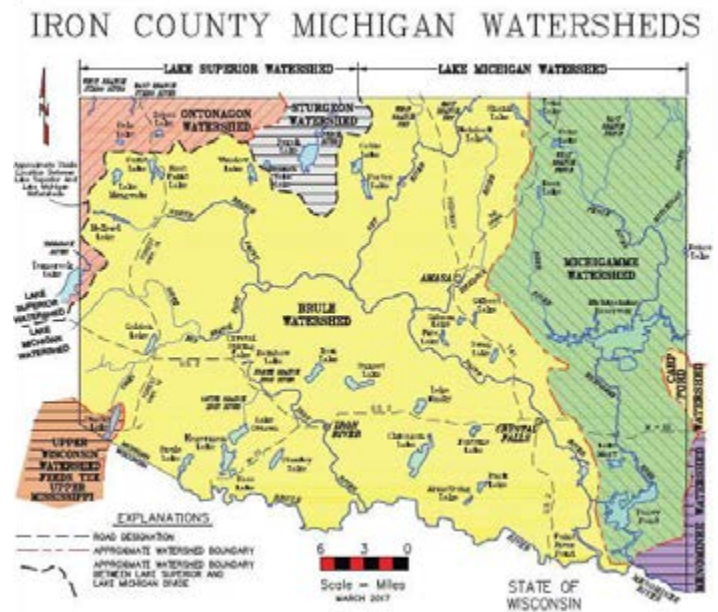
The Iron County Watershed Coalition (ICWC), in partnership with the Iron Baraga Conservation District has launched a “Watershed Awareness -- 2017” campaign for spring, summer and fall of this year. Events to celebrate and educate about the watersheds we live on are being scheduled around the county, with a week of kick-off activities that began May 19th.

Strong Foundation

The ICWC has been in existence for twenty years and in the previous two decades has produced substantial conservation benefits for our community. (Visit <http://www.ironcountywatershedcoalition.org/projects.html>).

Formerly known as the Iron River Watershed Council, the organization changed its name in 2012 to reflect its expanded concern for all Iron County watersheds. ICWC’s Watershed Awareness project has received the endorsement of UPEC with support through a Community Conservation Grant to help defray activity expenses.

The Iron County Watershed Coalition explains the purpose of the Watershed Awareness 2017 campaign: *“We recognize a need to energize the organization’s presence and purpose within Iron County. Participation in the organization is growing, indicating enthusiasm and an interest in nurturing healthy watersheds. Our Watershed Awareness events are intended to educate and engage our communities in projects that restore and preserve our watersheds for future generations.”*



The Need

A recent random poll of ninety local residents revealed that many people do not understand the meaning of “watershed” and therefore do not realize how our daily activities impact the watersheds we live in. It is the hope of the ICWC that the Watershed Awareness 2017 events will help correct this situation and develop watershed awareness among citizens who live, work, and play in our watersheds.

The Coalition defines a watershed as “an area of land that contains a common set of streams, rivers and lakes that all drain into a single larger body of water.” Within its boundaries, Iron County has seven major watersheds that drain into Lake Michigan, Lake Superior, or the Mississippi River. Through education, the ICWC hopes to develop a stewardship ethic, supportive of projects that will ensure the highest quality waters, will bolster our local economy and will promote the environmental integrity of the Great Lakes basin.

School Connections

Educators at West Iron County and Forest Park Schools were invited to partner with the ICWC in teaching students about watersheds. Elementary students created posters which are showcased at various locations and events in the community. A multi-media production by area high school students will be featured at ICWC sponsored events throughout the campaign.

Community Partners

Red Tail Ring, a Michigan duo performing original and traditional music on banjo, fiddle, mandolin and guitar, launched the Watershed Awareness campaign with a concert in Iron River on May 19th. Laurel Premo, one half of the duo

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- The original Humboldt permit was issued on the basis of modeling which predicted there would be chemical and thermal stratification within the Humboldt Pit, limiting how much oxygen can reach the reactive waste tailings. In the presence of oxygenated water, Eagle's waste tailings would generate sulfuric acid.
- What is current pit chemistry? New aerial photos reveal that Humboldt Pit is the color of teal-green chalk!
- Humboldt Mill has been experiencing effluent problems related to NPDES water quality limits and Total Dissolved Solids. Eagle Mine's discharge was found to be harmful to aquatic life.

2. NPDES Wastewater Discharge Permit for Humboldt Mill

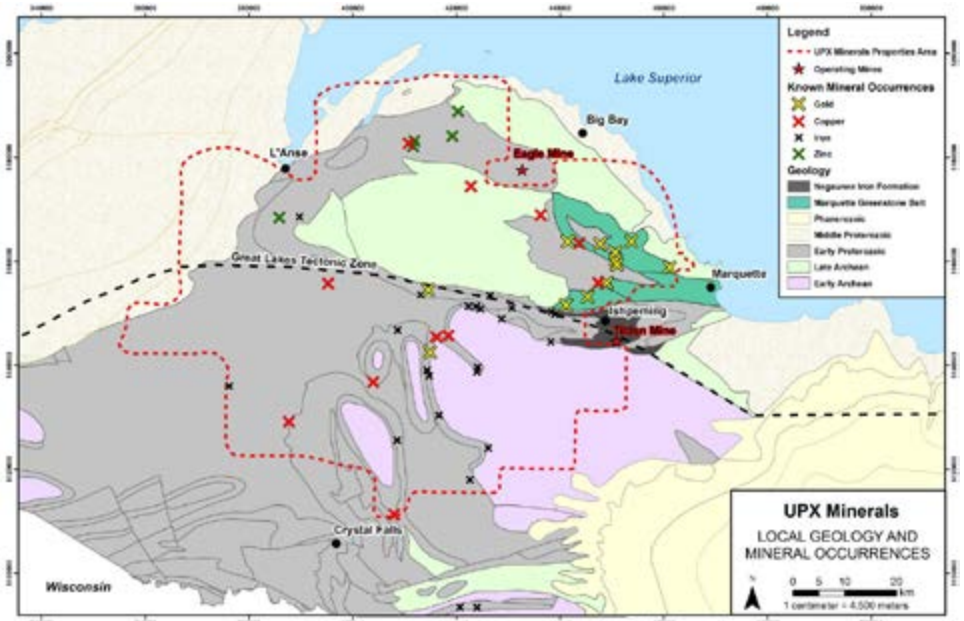
Eagle Mine's NPDES Permit currently allows industrial wastewater from the Humboldt Mill to be discharged into multiple wetlands feeding the middle branch of the Escanaba River, at sites pictured below. Now the mining company wants to install a new pipe to discharge wastewater directly into the Escanaba River, and they want to use the river as a "mixing zone." We believe that Eagle Mine will also request permission for a water intake station, removing water from the Escanaba River in order to pump it into a problematic "Humboldt Wetland Mitigation Bank" operated by an adjacent landowner, A. Lindberg & Sons. This seems to be a very unusual request. The Humboldt Wetland Mitigation Bank is a manmade wetland; the hydrology was disturbed after construction of a cut-off wall designed to keep contaminated waters inside the Humboldt Pit, which were previously escaping into groundwater.



ABOVE - The solution to pollution is NOT dilution. Eagle Mine wants to discharge the Humboldt Mill's treated wastewater directly into this section of the Escanaba River via a pipeline. Photograph by Jeremiah Eagle Eye, May 2017.

BREAKING NEWS — May 31, 2017 — Kennecott and Rio Tinto SELL OUT.

All of the Kennecott and Rio Tinto (RTX) "mineral properties covering approximately 447,842 acres in the Upper Peninsula of the State of Michigan" (UPX) have been sold to Highland Copper. According to Highland Copper's press release, the "acquisition includes all financial, geological, geophysical, geochemical, environmental and other technical information related to the properties including maps, geophysical and geochemical surveys, drill core, and other technical and operational information." This is a major chessboard shift, which the company claims positions "Highland as a dominant mining exploration and development company in the Upper



Peninsula of Michigan and offers the opportunity to build a pipeline of projects that could be developed in the future... RTX exploration effort was focused on Ni-Cu targets and the program ultimately led to the discovery of the Eagle Mine."

Map provided by Highland Copper shows UPX mineral properties area in the central U.P.

SNORKELING - a great way to study fish habitat selection and have a very relaxing experience on a warm summer day

by Bill Ziegler

Northern Michigan has many lakes that can be explored by snorkeling from either a boat or from shore. We are fortunate to have numerous clear water lakes where visibility is either very good or adequate to observe fish and the other habitat features underwater. I have been a certified SCUBA diver since 1978, although I find snorkeling to be much more relaxing and I see more fish using that latter method. I was SCUBA trained through my work as a fisheries biologist. I found that most of the other people trained with me rarely used this skill since they were reluctant to dive in either cold or poor visibility water with confining heavy wet suits and dive gear. Many water bodies in Northern Michigan are warm enough for skin diving which is rare outside of ocean waters of the Caribbean or Hawaii. Snorkeling is a great way to cool off after a hot day. As a bonus the basic equipment is not expensive. For example, choices in cover by fish through observations via snorkeling lead to better success when angling.



Snorkeling was useful as a fisheries biologist for the DNR. With Dan Milach and Jeff Griffith of Iron River, I found several spear guns and a burlap bag full of speared walleyes at the bottom of Ottawa Lake back in the late 1980s. Conservation Officer Frank Pairolero had observed several divers with spear guns throw all their gear and a bag off a pontoon boat as he approached. He mentally marked the spot and talked to me afterwards about the incident. Finding the evidence for him solved a walleye poaching problem. I routinely used snorkeling to evaluate all of the crib reefs that we constructed for fish usage and the reefs' condition. Similarly it often helped determine walleye habitat use during the Walleye Radio Telemetry study of Chicagon Lake. Snorkeling was also useful to determine what species of fish were present and their relative abundance in a few small remote lakes we managed. With some small remote lakes, netting is not very effective with fish species such as bass. Access with DNR electroshocking boats was not possible in these lakes.

To snorkel all you need is a good fitting mask, snorkel, fins and a swimmers inflatable vest. A red and white floating dive flag is a good idea if you snorkel in waters with significant boat traffic. We often make an afternoon of it with me snorkeling and my wife sitting or laying out in our boat. If you are snorkeling on a busy lake, you can anchor your boat to show other boaters you are swimming there and if necessary, the person in the boat can keep an eye on the snorkeler for safety reasons. If you snorkel from a boat an inexpensive boat ladder is necessary to allow you to easily reenter the boat.

Most effective fish viewing is done near shore, weed beds, downed trees, or on offshore structure (humps and bars) that is about 12 feet deep or less. To see fish it is best to imitate predator fish, and approach the fish holding cover slowly. Some species of fish will let you approach them very closely if you move slowly. SCUBA divers bubbles often spook fish and therefore snorkeling at the surface and breathing through your snorkel allows you approach them closely. When fish like bluegill and bass are on their beds they also hold their ground although one should minimize the disturbance during that vulnerable period for those fish. Some people ask about underwater spearing, although that is illegal for most species in fresh water due to their vulnerability underwater. A person can obtain an inexpensive camera housing to allow using most cameras underwater now. That way you can take photos of the fish and enjoy them after the dive.

Some species of fish are harder to approach than others. If you are careful you can sometimes see the skittish species but it is very hard to get close enough to get photos since the cameras are very short range underwater. Trout, muskie and larger pike are examples of fish that are harder to see. Sometimes difficulty finding them is more a function of their rarity with respect to muskie or habitat choice or to the trout and pike that typically spend most time in summer in deeper colder water.

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with family in Iron County, spoke of the scale of fresh water on the Earth, and our responsibility to protect it for future generations. Over one hundred people attended the concert and went away with an ICWC brochure outlining watershed facts, with a map of the watersheds in Iron County.

Dr. Gene Likens, internationally recognized limnologist and ecologist from the Brookings Institute in New York state spoke about watershed ecology at the West Iron District Library on May 25th. Purdue University students followed his talk with a presentation of the results of their water quality studies taken from samples of three tributaries of the Iron River in May, illustrating the impact of the local mining legacy on this river, and the continued need for remediation efforts a half century after mine closings.

A June 24th event, "RiverFest", was a day of fun and education for families and people of all ages. Beginning at 1:00 p.m. at the Klint Safford Memorial Park, children enjoyed water games, face-painting, and races; while adults tried their hand at fly casting with local sportsmen, watched a boat washing demonstration, and listened to live music. Food vendors set up booths to feed the hungry crowd.

An event on August 19th will provide an opportunity for water enthusiasts with canoes and kayaks to "Float the Paint"! Pre-register at <http://www.ironcountywatershedcoalition.org/> The four hour trip down the Paint River will begin at the Bates Amasa bridge with take-out at The Landing for food, music, watershed information, and fun.

While it is true that the general public will be given a dose of "Watershed Awareness" this spring and summer, the activities are also strengthening the commitment of members of the ICWC to protecting our local watersheds. It could be said that Iron County, Michigan is having its "Watershed moment"!



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It is hard to see in some brown stained Northern Michigan lakes and reservoirs all the time. If you are interested in lakes that are clear in the winter but summer visibility deteriorates significantly, it is best to snorkel them early in the season before algae and phytoplankton blooms make visibility poor. By buying a “shorty wetsuit” you can start snorkeling before summer water temperatures maximize and water clarity deteriorates. Northern Michigan’s “two story” trout lakes are the best in the later summer when visibility is limited in other waters. A list of these clearer two story trout lakes can be found starting on page 44 of the DNR Fishing Guide Trout Lake list. Look for Type B lakes.



Snorkeling for fish observation can be challenging depending on the species. Bass and bluegill and other panfish are present in almost all of the lakes and are easy to find, and relatively easier to approach. Observing walleye was more challenging depending on abundance and their habitat choices. When walleye are in weed beds slowly swimming over the bed looking down into pockets or at the edge of weed beds is an excellent place to locate them. A down tree top at the drop off or artificial fish habitat reef can be the best location to see large numbers of fish and diversity of fish species in relatively shallow water. Occasionally a diver can also find some lures lost on snags. Most of the fishing gear I find are jigs and their hooks soon deteriorate when they are snagged on wood. I did find a functioning rod and reel, a few lures and some anchors in the past.

Less expensive snorkeling packages can be found at most dive shops and some outdoor stores as well as on line. It is good idea to also have a GPS with you to mark a good future fishing site. I like to explore the area where I will spend time ice fishing next winter. Snorkeling and observing fish is a great way to spend a warm day or evening and many people find it extremely relaxing. It is enjoyable watching fish and there is no pressure to catch them.

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And citizen naturalists who are salvaging threatened natural habitats and creating new ones. New agrarians: community gardeners and urban farmers (including immigrants practicing what has been called “refugee agriculture”); organic farmers and “vanguard ranchers” who restore as they harvest. Urban wildscapers replacing their suburban yards with native species (slowly creating what botanist Douglas Tallamy calls “a homegrown national park”). Nature-aware champions of walkable cities and active living. And deep green design professionals: biophilic architects, developers, urban planners, and therapeutic landscapers, who transform our homes, workplaces, suburbs, and inner-city neighborhoods – potentially whole cities and their transportation systems – into restorative regions that reconnect us to nature.

In September 2012, the World Congress of the International Union for the Conservation of Nature (IUCN) passed a resolution declaring that children have a human right to experience the natural world, an essential ingredient if nature is to be protected from human excess — and a step toward seeking a similar declaration at the United Nations. At the same World Congress, leaders of national parks and protected areas throughout the world approved the “Jeju Declaration on National Parks and Protected Areas: Connecting People to Nature,” committing them to create a global campaign that recognizes the great contribution of these natural treasures to the health and resilience of people, communities and economies.

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The children and nature movement has miles to go before it can declare anything approaching victory. But it has already made inroads in policy and, more importantly, has planted the seeds for self-replicating social change, including at least 109 regional and state campaigns that have brought together businesspeople, conservationists, health-care providers and others.

These others include thousands of parents, teachers, law enforcement officials, librarians, artists, pediatricians, liberals and conservatives, anglers, hunters, and vegetarians. People who not only consume, but also restore nature. People who have found common cause.

The children and nature movement, like the larger new nature movement, is surprisingly diverse. Recent immigrants and inner-city youth are among the most persuasive advocates for nearby nature and outdoor experience — once they get a chance to have such experiences,

Not all of the individuals and groups I have mentioned would identify themselves as environmentalists. They do not necessarily see themselves as part of one movement —yet. However, consider the collective power if these forces came together to craft a positive vision of the future, a newer civilization based on a transformed human relationship with the natural world. We don't have to agree on everything to reach that goal. But we must agree that our species' connection to nature is fundamental to our shared humanity — and to the future of Earth itself.

Still feeling down about the future? Take another look at the faces of the young people in the photos above. Please join them.



Richard Louv is Co-Founder and Chairman Emeritus of the Children & Nature Network, an organization supporting the international movement to connect children, their families and their communities to the natural world. He is the author of nine books, including "Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder" and "The Nature Principle." His newest book, "Vitamin N," offers 500 ways to build a nature-rich life. In 2008, he was awarded the Audubon Medal. This essay is adapted from The Nature Principle. Reprinted with permission.

How to Contact Your State Legislators

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571-373-2413 SenWSchmidt@senate.mi.gov
 - 38th District Senator Tom Casperson**
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 - 107th District Rep. Lee Chatfield**
517-373-2629; LeeChatfield@house.mi.gov
 - 108th District Rep. Ed McBroom**
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