



From the President

Lake Superior in its entire splendor was celebrated again this year on the 3rd Sunday of July. It remains a unique and compelling water body. This is the time of year to enjoy what we have, the inland sea of fresh water, wonderful vistas, unpredictable weather and incredibly edible fish. Why would anyone be complaining about the health and continued well-being of the lake?

For good reasons, we at Save Lake Superior Association continue to be concerned about the quality of the water in the lake. We also view activities detrimental to maintaining clean water along its shores, in its watershed and on its surface with a great deal of displeasure. SLSA was borne in 1969 in response to a lack of concern by enough citizens to have prevented the massive pollution from the processing of taconite ore at Reserve Mining Company. The lake's water turned green, the herring left the area, municipal water supplies were tainted with fibers and the green slime discharge coated the bottom of the lake. The pollution spread as far as the UP of Michigan.

If not for the sacrifices of our original membership and leaders, we would have much less to celebrate now. Current threats to the lake are less obvious and provide little visual stimulus. Even more disturbingly, the net effect of modern pollutants is irreversible for centuries. Many of these topics are covered on our website and Facebook internet sites. Read about mercury, sulfates, invasive species and the near 100 toxins being deposited in the lake each day. The effects on public health are cumulative. The lake does not cleanse itself. Water pollution costs society dearly.

LeRoger Lind



photo by Cynthia Lovold

Public cooperation keeps inland lakes 99% free of exotics.

There is at least some promising news in the constant battle to keep Minnesota's inland lakes and streams from heavy infestation of aquatic invasive species. Sea Grant states that less than 1% of these waterways were found to have zebra mussels, spiny water fleas, round gobies and others.

The agency attributes the halting of this scourge to the cooperation of boaters, anglers and the determined Minnesota citizenry and hope the public continues to be alert to practices necessary to curb or eliminate this threat for years in the future.

Meantime, a workable method of keeping additional invasives out of Lake Superior by containing them inside ballast tanks of lake and ocean ships has not been found. The total number of these harmful, unwanted critters has reached 87.

(one of the 87 that just came to our attention is the fishhook waterflea)

If you are so motivated you can get a copy of a 20 page pocketbook from Sea Grant that has an identification list of the invasives of the Great Lakes.

Aquarium official Sarah Erickson and wild rice expert Annette Drewes to be Annual Meeting speakers

Great Lakes Aquarium education director Sarah Erickson will be one of two major speakers at the SLSA Annual Meeting, Saturday, September 24. She will speak at 9a.m. and will focus on the Aquarium's newest exhibit – Aquatic Invaders. She will explain that the motivation for the display was the need to spread the word to visitors to help prevent the spread of aquatic invasive species in the Great Lakes.

Originally from the seacoast region of New Hampshire, Ms. Erickson moved to the North Shore of Lake Superior in 2004. She lives in Duluth with her husband and daughter. Ms. Erickson has been an employee of GLA since 2005. She manages educational staff, programs, and exhibits at the Aquarium. She was formerly a field instructor at Oregon Museum of Science and Industry's Outdoor School, Audubon Vermont and Hartley Nature Center; outreach educator for Minnesota Sea Grant and the MN DNR's MinnAqua Program, and a naturalist at Wolf Ridge Environmental Learning Center. Ms. Erickson has a bachelor's in biology from Smith College (Northampton, Massachusetts) and a Master's in environmental education from the University of Minnesota Duluth.

Dr. Annette Drewes will be the 10:15 a.m. speaker. She will focus on her work with the Save Our Rice Alliance (SORA) and discuss what she has learned over the last few years as she crisscrossed northern Minnesota and Wisconsin engaging harvesters in conversation. Dr. Drewes holds an MS in Environmental Education Studies from Bemidji State University and a BS in Fisheries and Wildlife from South Dakota State University, Brookings. She received her Doctorate from the Nelson Institute for Environmental Studies at the University of Wisconsin, Madison in 2008.

Again the annual meeting will be held at the Trail Head building in the Split Rock State Park. The site, amid a birch forest that graces the shore line, is perched literally within a "stone's throw" of Lake Superior. This ideal location inspirationally serves us well in underscoring the primary reason for the existence of SLSA; the struggle to maintain the health and beauty of this beloved Jewel.

Please join us at the Trail Head at Split Rock on **Saturday, September 24.**

Coffee and goodies will be ready at the start of the 8 AM

registration. The program begins at 9:00. A potluck picnic will follow. Please join us!



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Lakes Superior and Baikal both affected by global warming!

Russia's largest lake is experiencing an abnormal rise in temperature at roughly the same rate as our lake and the scientists believe this is the result of winters in which ice failed to form to the extent it historically had done. Ice reflects sunlight back into the atmosphere. Open water is warmed and retains heat.

Baikal holds the record for volume with its 5,500 cubic miles of water, compared to Superior's 2,900 cubic miles. This could be a factor in the small difference in the degree increase total; up 3.8 in Baikal and 4.5 in our "big pond." Baikal stretches over 400 miles in Siberia and is just 35 miles wide. Because it could be relied upon to freeze over, temporary train tracks were laid every winter over the ice to shorten the distance around its southern route. (one winter the ice weakened and a train still lies on the lake bottom.) Today the rail line use of the firm ice cover has been reduced.

The Russian lake began forming an estimated 25 million years ago and the evolution of aquatic life there resulted in 2,500 species, including the world's only fresh water seals, and a thousand plant species. It's an ideal site to study textbook examples of convergent evolution. In my visit to the Lake Baikal aquatic museum I noted mounted fish that looked nearly identical to our walleyes and northerns. Scientifically, however, they were alike only in appearance.

Glenn Maxham, author

Adjusting existing permits to suit the mining industry? Outrageous!

The Gogebic Taconite company says it doesn't like Wisconsin regulations governing mining. Too outdated and too vague, they say. The company's solution to get what they want? Wait to start operations until the legislature can custom-make new laws to its liking.

We can only imagine how the environment in the Penokee Iron Range in Ashland and Iron Counties will fare with the industry having provided its "input" in draft legislation earlier this spring.

The state's DNR has been given a deadline to decide on the "new and improved" version of the laws. The carrot at the end of Gogebic's stick? Employment of 700 workers with salaries of \$60,000 and a company outlay of up to 30 million dollars. Of course there's a caveat. This will happen only if the rewritten regulations meet Gogebic's expectations..

If the taconite mining proceeds, as it likely after lawmakers gobble up the carrot, would you care to make a bet that Gogebic's promises will actually be met over time? In Minnesota, Wisconsin and elsewhere the environment continues to be the sacrificial lamb...and the flock is growing ever smaller..

Good news on Stryker Bay....maybe.

Will the “entombment” of Stryker Bay pollution keep the toxic coal tar sludge permanently confined under tons of sand, or can we expect to see insidious leakage as “oily blooms” at some time in the future? The conclusion of the five year-long, \$65 million dollar clean up announced last month means, we hope, an end to the nightmarish condition of an otherwise highly attractive segment of the St. Louis River estuary.

Ideally, the industry-caused contamination mess that accumulated over a century of abuse would have been totally dredged and rendered harmless but the sheer volume of the residue made this remedial alternative financially unfeasible. Instead, like the age-old solution of curing a problem by “sweeping the dirt under the rug”, it was treated experimentally with the admission from the outset that there is no firm guarantee that the Pandora’s Box will not reopen.

It has been known for decades that the pools of coal tar, 13 feet deep in some spots, was a threat to the health of humans and aquatic life and eventually the bay was designated as a Superfund site. Tests revealed it was a virtual cesspool of pollutants including carcinogens such as mercury, lead, and polyaromatic hydrocarbons. It’s now topped with close to a trillion pounds of sand!

Long term monitoring will be essential to determine whether the flushing of the bay by the St. Louis River on its way to Lake Superior will show a reduction (but not an elimination) of these toxins in the flow.

By no means can the end of work on Stryker Bay be viewed as the conclusion of pollution problems in the estuary. Next to be tackled is another chunk of Superfund land and water at Spirit Lake where the former U.S. Steel mill dumped its industrial waste...another can of worms or, more accurately, bucket of vile sludge.

The “plague” of blacktop surfaces and sealants!

Blacktop surfaces have long been on the list of undesirables by those concerned with reducing or avoiding toxic pollutants in the environment. The assessment of harm from such paved surfaces now includes recognition of the damage from the black sealant sprayed on the blacktopping after its installation.

Urban water sources have been especially vulnerable according to a recent U.S. Geological Survey project that declared the runoff from driveways, parking lots and playgrounds treated with the spray has resulted in the alarming increase of toxic residue of pollutants classified as PAHs; polycyclic aromatic hydrocarbons. They are a likely cause of human cancers and are a hazard to aquatic and animal life as well.

Palmer Lake in suburban Minneapolis was among the 40 urban water supply sources checked by the USGS and found to have 25 times more PAH levels than a similar water body in Portland, Oregon.

Research into the accumulation of dust in apartments next to paving in which the coal tar sealant was used revealed the PAH level was 25 times greater than apartments where the sealant wasn’t applied. Some communities have banned the use of sealants with a coal-tar base and the Home Depot no longer sells it.

This summer saw the blacktopping of miles of urban roadways in Duluth and on Highway 61 on the North Shore. In the latter case the proximity of the highway so close to Lake Superior guarantees that water runoff from rain and snow melt will reach the lake. At this time we do not know whether coal-tar sealant is being applied. Even without this treatment it’s virtually certain some toxics will seep into the lake.

PolyMet Update, July 2011

PolyMet Mining Corporation is junior Canadian entity incorporated in Minnesota to extract copper, nickel and associated minerals from the Duluth Complex of sulfide ores near the Boundary Waters Canoe Area. The latest news from PolyMet is their use of a \$4 million loan from the Iron Range Resources and Rehabilitation Board



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(IRRRB) to purchase land to trade with the U.S. Forest Service. PolyMet needs to purchase 6700 acres of forest service land for its proposed open pit copper-nickel-precious metal mine.

What the announcement didn't mention is that the land exchange must be addressed under environmental review. PolyMet is in the process of preparing a Supplemental Draft Environmental Impact Statement (SDEIS) after the original DEIS received a rating from the EPA (Environmental Protection Agency) of Environmentally Unsatisfactory-Inadequate, in February of 2010.

To further complicate matters, in order to facilitate permitting, PolyMet has agreed to simplify its metal processing. The original plan was to produce copper wiring on site. PolyMet now proposes to ship out all metals in semi-processed form, thus eliminating the need for a second autoclave. While temporarily reducing some of the highly reactive waste (acid producing), it would also reduce PolyMet's profits.

The mining of low grade ores in the state of Minnesota cannot be done without the lowering of environmental standards by governmental agencies. Due to the fact that our agencies have not forced the taconite mining companies to comply with current standards, the St. Louis River watershed is contaminated with mercury, sulfates, and heavy metals. Now the agencies are preparing to allow more contamination. The Minnesota Pollution Control Agency is preparing to change water pollution standards

to allow more sulfates into the watershed. Sulfates are part of a bio-chemical process whereby mercury is converted into methylmercury, the form that accumulates in fish tissue. Sulfates in the watershed are also implicated in the decline of wild rice within the watershed.

The copper-nickel mining companies are taking advantage of the fact that mining has been a part of the Iron Range for the past 100 years. The permitting of PolyMet would be the foot-in-the-door that would give the mining of sulfide ores a green light. Copper-nickel mineralization is contained in highly disseminated, low-grade quality (less than 1%) ores embedded throughout the geological formation that underlies Superior National Forest. The mining of sulfide ores would require perpetual treatment of waste water leaching from the huge volumes of stored mining and processing waste.

Mining is a risky business. We know that taconite mining is polluting the St. Louis River watershed, but we don't know how to clean it up. Are we willing to accept more pollution, and are we willing to turn what remains of the Arrowhead into another mining district?

Extracted from article by SLSA member, Elanne Palcich

Save Lake Superior Ass'n
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Membership Dues

Please check your Newsletter mailing label for expiration date. If the year is not current, it needs to be updated.

Membership dues increased January 1, 2010.

Repeat of new dues structure:

ALL EXCEPT LIFETIME ARE PER PERSON PER YEAR.

\$10 Fixed income	\$50 Sustaining	\$200 Lifetime
\$20 General	\$100 Benefactor	(per person)

The Lifetime option is only available to new members or members whose label is currently up-to-date.

Please designate your choice when you renew.

We appreciate your interest as well as your support.