

Invasive Species, Water Levels, Pollution Are Worrysome, But There's Grandeur on Great Lakes Ship

Great Lakes: From page 2

Skelding, national campaign director for Healing Our Waters – Great Lakes Coalition. “No one predicted it could have happened so quickly. We can't protect the Great Lakes if there's no water in them.... The cocktail of assaults may be pushing the Great Lakes toward a tipping point, an irreversible change in the food web.”

Part of this assault is the introduction of 182 invasive species such as the zebra mussel, which began disrupting the food web on Lake St. Clair in 1988 and has clogged many water intake pipes since, at an annual cost running in the billions of dollars.

Typically, “salties” (oceangoing ships) reaching the Great Lakes from overseas via the St. Lawrence River have discharged invasive species along with their saltwater ballast once they reached lake ports. Lakers have unwittingly transported these invasive species in their freshwater ballast, from one point on the lakes to the next.

Zebra mussels have made lake water look cleaner than before. But for Mr. Skelding, the clarity of water is a problem.

“Sure, zebra mussels filter water,” he said, “but when the water is clearer, sunlight penetrates deeper, and organic material proliferates and absorbs much-needed oxygen in the water that is needed by fish and microorganisms.”

The result: “Dead zones.”

Now a new pest is closing in on the lakes: Asian carp from the

Mississippi and Illinois rivers have nearly found their way through the Chicago River to Lake Michigan.

“What gets into the Great Lakes can work through the country like a computer virus and dismantle the biology of systems,” said Cameron Davis, president of the Chicago-based Alliance for the Great Lakes (AGL), a citizens' group of 6,000 professionals and volunteers working for clean water in the Great Lakes. The choke point is a 10-mile stretch of the Chicago River, the Chicago Sanitary Ship Canal.

“The bad news is,” Mr. Davis continued, “even if we know where the choke point is, we are having a hard time taking action.”

The Great Lakes Compact is expected to give federal, state, and provincial governments more muscle to take preventive action against invasive species.

Storms and surges a danger

Venturing “light ship” (without cargo) across the stormy lakes of autumn can be unsettling. When 50-knot northerly winds lash the surface of Lake Erie, sending some lakers into sheltered anchorages, Captain Wheeler decides to maintain course. Lake Erie is shallower than the other Great Lakes and

more likely to be whipped up by storms. Ships at anchor off Toledo, Ohio, may suddenly find themselves aground when a short-term natural effect called “seiching” (pronounced “SAY-shing”) drives surface water toward Buffalo, New York, at the eastern end of Lake Erie.

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Despite a few seasonal blips, a 30-year trend shows that water levels are declining. This is one of the main reasons the Great Lakes Compact was rushed into law. Canadian and American entrepreneurs alike had been seeking ways to commercialize the freshwater resources of the

Great Lakes, hoping to send it by pipe or ship to thirsty markets in the U.S. Southwest and overseas.

Still, the Healing Our Waters – Great Lakes Coalition predicts that lake levels could drop this century by one foot on Lake Superior, three feet on Lakes Michigan and Huron, 2.7 feet on Lake Erie, and 1.7 feet on Lake Ontario.

Water levels are also a challenge for American ship operators, the largest of whose vessels are

“1,000 footers” designed to carry 70,000 tons. The largest Canadian bulk carriers, like the *Canadian Leader* of the Upper Lakes Group, carry only half that much.

“Water levels are very important to us,” said Glen Neksavil, vice president of the Lake Carriers Association, a trade association based in Rocky River, Ohio, which represents 16 American companies operating 63 vessels exclusively on the lakes. “When water levels were high back in 1997, some of our ships were carrying 70,000 tons of cargo per trip. This year, they are carrying 66,500 tons.... Our largest ships lose 270 tons of cargo for each inch in draft caused by lower water.”

“The U.S. Army Corps of Engineers estimates they have a backlog of 17 million cubic yards of sediment in virtually every U.S. port on the Great Lakes,” said Mr. Neksavil. “That would cost \$230 million to dredge. The Harbor Maintenance Trust Fund is funded by a tax on cargoes, and currently has a surplus of \$4.8 billion, which I think the government is using to balance its books.”

Drinking-water safety an issue

The *Canadian Leader* slows at Ambassador Bridge, on the Detroit River between Lake Erie and Lake St. Clair, long enough to pick up mail for the crew. Tundra swans and snow geese laze on the sparkling water.

Detroit draws its drinking water from the river, and the concentration of ships, steel mills, and car

plants here reminds one how dependent Great Lakes communities are on freshwater resources.

“Drinking water from the Great Lakes is the envy of the world,” Mr. Davis said.

But a series of scientific reports has raised concerns about drinking water in Detroit and other communities. Trace amounts of pharmaceuticals flushed down toilets have found their way into river water. Byproducts of chlorine treatment and disinfection, coliform bacteria, and lead also pose health risks. Canadian petrochemical plants at Sarnia on the St. Clair River are also a concern.

Sewage overflows are a major problem.

“During heavy rainstorms,” Mr. Davis said, “it's easy for treatment plants to risk being overwhelmed. There are two things we can do to help: conserve water, so that we're not using as much, and use ‘green infrastructure,’ like rooftop gardens, to cut the amount of stormwater that needs to be treated.”

On to Thunder Bay, Ontario

Under cover of night, the *Canadian Leader* transits the Soo Locks on the St. Marys River between Michigan and Ontario, passing a huge wind farm on the Canadian side. Then it's 18 hours of steaming out of sight of land, across glittering Lake Superior, before docking at a grain elevator

in Thunder Bay to pick up a 28,000-ton load of durum wheat.

Lake Superior's temperature is rising, said Jay Austin, an oceanographer at the Large Lakes Observatory of the University of Minnesota at Duluth.

“Temperature is the most important environmental variable” in a lake, he said. It determines “the chemical reaction rates, the metabolism rates of fish, phytoplankton, and zooplankton, and the spawning rates of fish.”

Mr. Austin and his colleague, Steve Colman, are deploying an array of moorings at different depths in Lake Superior, from just below the surface to some 1,300 feet down, just above the lake bottom.

“Surface water in Lake Superior is warming faster than the air temperature,” he said. “Lakes Michigan and Huron also seem to be experiencing the accelerated warming phenomenon, although not Lake Erie.”

Less ice cover in winter means more evaporation, which in turn lowers water levels, stressing ecosystems. Mr. Austin said change on this scale is hard to imagine, much less control.

The warming of the Great Lakes is its latest challenge, he says – perhaps its most serious one.

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5-Year Work Plans Announced by County Road Commission

Roads: From page 1

this year you may see that some of the full-timers don't even come back in the summertime.”

In other business, commissioners approved an agreement worth about \$38,000 with the Sault Ste. Marie Tribe of Chippewa Indians, which will be paying for salting sections of Three Mile Road and Mackinac Trail through the winter. The tribe is asking the commission to apply straight salt on a portion of both of the roads. Salt will be applied on Three Mile Road from M-134 to Rocky Road and Mackinac Trail from the I-75 business loop to Ingalsbe Road.

Commissioners approved hiring Jason Cameron of Newberry as a mechanic to fill the position vacated by Hugh Bigelow, who was promoted to be the West District garage foreman. Road Commission Manager Dirk Heckman made the recommendation.

Mr. Cameron is a certified diesel mechanic, certified in anti-lock brakes and air conditioning, and can perform electronic diagnostics, said Mr. Heckman. He is expected to begin work in early January.

The union contract calls for a nine-month probationary period.

Commissioners and township representatives attending the meeting discussed the proposed \$1.5 billion state transportation stimulus package that includes a proposed change in the gas tax and vehicle registration fees. It had just passed the House of Representatives as the commission met Tuesday and was slated to be considered by the Senate Thursday. The state's gasoline tax, which is 19¢ a gallon, was last raised in 1997.

The Senate, meeting Thursday, let the package die and now it is expected to be considered again in 2009.

St. Ignace resident Judy Luoma suggested people contact elected state officials and ask for help.

Eric Cadea, an assistant development engineer with the Michigan Department of Transportation office in Newberry, presented the state's five-year projects for Mackinac

County. Plans include the following:

Continued work on the Cut River Bridge in 2009 and enhancement and erosion control on US-2 east of the Cut River Bridge, road preservation on the I-75 by-pass and US-2 to High Street in St. Ignace, and safety work on I-75 from St. Ignace to north of M-123.

In 2010, road projects include preservation work on US-2 from Brevort Lake Road to Martin Lake Road and bridge work on I-75 over the Carp River.

In 2011, safety work at the intersection of Borgstrom Road and US-2, and road preservation work on US-2 from Borgstrom Road to west of Hiawatha Trail.

In 2012, I-75 bridge work over Hoban Creek.

In 2013, road preservation on US-2 from M-117 to Naubinway.

Working with townships, the county road commission also approved a plan for road improvement projects for the next five years. Townships are required to pay 20% of the local share of the work and engineering costs.

Under the new road commission policy adopted last month, townships will be required to pay 50% of the cost before the project begins.

Al Garavaglia, supervisor from Hudson Township, said his township would like to receive the engineering plans when they pay the 50% costs.

Mr. Heckman said that would not work because the commission needs the money to help pay for design, engineering work, necessary permit fees, and construction materials.

“We don't necessarily get too heavily involved in a project until we know the township is on board,” he said, “and we have a signed agreement back from the township.”

At that time, the road commission would bill the township the 50% and continue with the design and permitting process.

“Maybe you are familiar with the permitting process,” said Mr. Heckman, “but some of these wetland issues require mitigation, and mitigation is on the average \$10,000

to \$20,000 per acre now. We need to start the process about a year before the project actually takes place. We can have a significant amount of resources tied up in just the permitting and the mitigation before you turn a load of dirt or start anything on the road.”

Commissioners approved a contract with MDOT for a road safety project on John Martin Road, including realignment work at the intersection of M-123. The project is expected to cost about \$42,000 and will be funded by the Federal Surface Transportation program.

Commissioners approved a health care savings program for employees and commissioners. The program allows retiring members to put funds into a savings program that will earn interest tax-free and can be withdrawn to pay doctor bills, premiums, co-pays, and any medically related costs.

Five-year county road commission projects include improvements of the following roads:

In 2009, Black Point Road to Worth Road to Charles Moran Road, and Charles Moran Road in Brevort Township.

In 2010, H-40 west of Rexton, Sandtown Road from Manistique Lake to Gould City Road, Three Mile Road to Townline Road South, Swede Road east of M-129.

In 2011, H-40 west of Gilchrist, Simmons Road in Marquette Township, East Lake Road north of Charles Moran Road, and Mackinac Trail north of M-134.

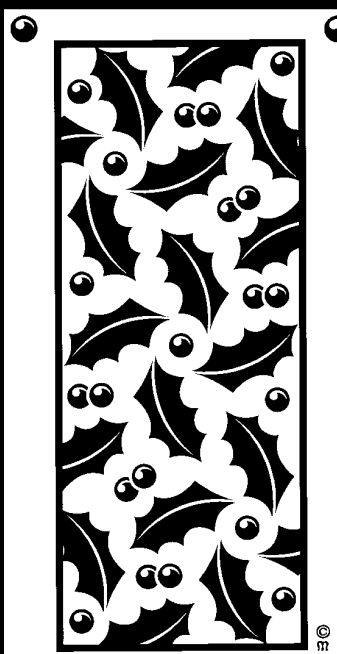
In 2012, Charles Moran Road east of M-123, Three Mile Road north of Rockview, and Naubinway Road in Garfield Township.

In 2013, South Curtis Road east of West County Line Road.

The county road commission plan next will be reviewed by the Rural Task Force, which meets with MDOT. Once the plan is approved, Mr. Heckman begins the process of preparing road agreements with the townships.

Road commissioners will present their budget to the county commission Monday, December 29, at 6 p.m. at the courthouse.

The commission next meets Tuesday, January 6, at 1:30 p.m. at the Road Commission building on North State Street in St. Ignace.



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