

Features

Story of a Harbor

The Port of Milwaukee is bigger than Chicago's and vital to our economy. It's our doorway to an exotic, international marketplace. by Leah Dobkin

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photo by David Bader

On Oct. 3, 2008, the cargo ship *Federal Yukon* left the port of Brunsbüttel, Germany, loaded with 10,261 metric tons of fertilizer and 20,416 metric tons of steel transported from Hamburg, Germany. The ship was headed for the Port of Milwaukee to unload that cargo, but I was supposed to get aboard en route to observe how such transportation works.

Easier said than done. The idea was that I could board in Port Huron, Mich., but the *Federal Yukon*, it turned out, was not even going to dock there. It was simply picking up a new pilot, who would board while the ship was moving (by law, pilots can only be on duty a certain number of hours, and the ship was due for a shift change). And so, as the *Federal Yukon* got near Port Huron, a 50-foot pilot boat, the *Huron Belle*, caught up to the big ship, matching her speed, and they tossed down a narrow gangway. Gulp. The new pilot climbed aboard and I gingerly did the same.

There, I got a friendly greeting from Captain Grenville Noel Concessio and his chief officer, Prijit Kumar KunhIRaman. I was also introduced to Ismail Shekem, the new pilot who had climbed aboard with me. KunhIRaman was from Sri Lanka, Concessio was from India and the pilot was from Kenosha, Wis. The rest of the crew were Indian and had boarded her from colorful places like Lianyungang, China, and Balboa, Panama, and had originally come from equally exotic places I couldn't even pronounce, towns like Kalloppa, Kerala and Bentia Bhat Quepem Goa.

The ship itself was just as international. Built in 2000 at the Oshima Shipyard in Japan, it carried a Hong Kong flag and was leased by Fednav, a shipping company headquartered in Montreal. On its latest voyage, the *Federal Yukon* arrived at the St. Lawrence Seaway 13 days after leaving Germany, having successfully navigated 10 heavy storms.

Exotic and dangerous as all this sounds, it's really a routine connection to the Port of Milwaukee, which operates as this city's doorway to the world. There are five major transport connections that go through the port: international ocean traffic that enters through the St. Lawrence Seaway; U.S. and Canadian ships that arrive via the Great Lakes; river barges that travel up the Mississippi and Illinois rivers and then north through Lake Michigan; trains that come from most of the 50 states and Canadian cities like Montreal and Vancouver to pick up or unload cargo; and trucks using interstate highways to connect to Milwaukee's port.

The *Federal Yukon* is one of about 270 such vessels that annually connects Milwaukee to more than two dozen countries. Beyond that are also 447 barges, 7,200 railcars and 159,000 trucks that each year transfer a dizzying array of imports and exports through the port.

Waterborne traffic to Milwaukee has grown even as the number of ships has declined. That's because today's ships are so huge. The *Federal Yukon* is more than two football fields long and can carry more than 36,000 tons of cargo. It takes a mammoth engine three stories high to propel all this cargo. The noise levels require ear covers or you would quickly go deaf. The ship has a complex assortment of safety and

navigational equipment and backup equipment all blinking to different tunes. There are three GPS units, radar, and an electronic chart data system called the Hexus. The chief engineer and his assistants maintain thousands of pieces of equipment that all work together to move and steer the ship.

All with the goal of moving cargo. Most of the ship's space is devoted to storage. Below its deck are six cargo holds that, during my voyage, were stuffed with items like very expensive steel coils (used to make finished products such as refrigerator doors) and tin plates (used to produce anything from beer cans to Slim-Fast cans to baby jar covers). All were carefully lashed down, then checked and rechecked.

Such precautions are critical, for if the cargo shifts during a storm, the ship could be in danger. A vessel carrying heavy, odd-shaped steel could potentially shift the balance of the ship or poke a hole through the hull, dooming the ship and crew. A vessel carrying heavy cargo is called *avery stiff ship*, which tends to have *quick snap rolls*.

Many of these international vessels avoid Chicago and land instead in Milwaukee. For years, the Port of Milwaukee has drawn more waterborne commerce than its huge southern neighbor, and this surprising trend is growing: Businesses importing and exporting commodities in Illinois are increasingly using Milwaukee's port because of the traffic problems connecting to Chicago's.

"We're in competition with Chicago with steel imports," says Eric Reinelt, director of the Port of Milwaukee. "We're in competition with Green Bay for cement and salt. We're in competition with Houston with heavy-lift cargos. It depends on the commodity. We are all friends in some things and competitors in other things."

A key advantage for Milwaukee's port is that it boasts the second-largest crane on the Great Lakes. Though one of the smaller ports in the nation, it is one of the few to make money, with a gross profit of nearly \$2 million in 2007. The port generated nearly \$80 million in revenue in 2007. Some 2,000 jobs depend on the port, either directly or indirectly.

The port boosts the metro economy (and that of regional cities like Chicago) because it reduces the transit costs for millions of tons of materials. Cargo ships and barges offer the lowest costs and cleanest and safest mode of transportation. It would take 180 railcars or 692 trucks to carry the same load as just one cargo ship.

Take coal, for example. Coal is transported by barge from the port to the WE Energies plant upriver. If trucks were used, it would take 120 trucks per day at an additional \$15 million in transportation costs, extra costs that would be passed on to consumers. Using the waterway also saves some 4.5 million gallons of fuel. Our roads would be more congested and our air more polluted if we did not have the barge as a transportation option. The same cost advantages apply to asphalt, cement and containers.

"In addition to the environmental benefits of water transportation, having a port also gives area manufacturers and employers a competitive edge in domestic and international marketplaces," says Milwaukee Mayor Tom Barrett.

Milwaukee, in short, would be a far different place without its port. The cement and asphalt that comes through the port is used to construct the Marquette Interchange and other roads, buildings, driveways and parking lots. The coal generates our electricity and the steel and other commodities are used by area manufacturers. About 90 percent of all commodities that come through the port are used or generated within a 100-mile radius of Milwaukee's harbor.

Imports and exports that swirl through our port every day mirror our society. They reflect where we came from and where we are heading. Milwaukee was founded because of its port, and from the early days of French fur traders to its new alternative renewable energy niche, the Port of Milwaukee continues to evolve and change our city.

Schooner Days

As 19th-century American settlers and traders came to the western shore of Lake Michigan, they searched for the best locale for a port, and soon gravitated to Milwaukee, which had the largest bay and deepest river on the western shore. The confluence of the Milwaukee, Menomonee and Kinnickinnic rivers created a convenient inner harbor for Native Americans and settlers trading beaver pelts and corn.

The first commercial cargo vessel came to the fledgling village of Milwaukee in 1835. As trade grew, schooners replaced canoes, and by the 1870s, as many as 30 ships a day were bringing in immigrants and building materials for a growing city, along with lumber, pelts, coal and grain.

The port was then just a series of docks along an extensive canal system lined with coal and lumber terminals. The Marcus Center for the Performing Arts used to be a lumberyard 150 years ago.

“People risked their lives daily to move commerce,” Reinelt marvels. “What brutal lives they must have led, working on crude ships. It just engendered such stubbornness, courage and risk-taking.”

Many died on these ships. The Great Lakes is littered with shipwrecks, but most vessels ran into trouble within a mile of shore. Reinelt describes the demise of a three-masted schooner, the *M.J. Cummings*, in 1894. Its captain had successfully battled a six-day storm coming from Buffalo, N.Y., and anchored in Milwaukee for safety en route to Racine. The storm was so powerful, the ship couldn't hold, and it got sucked back into the storm.

“Milwaukeeans stood helplessly on the bluffs,” Reinelt says. “They saw the crew in trouble, but could do nothing but watch the sailors die.” Six of the ship's seven crewmen died that night.

By the late 1800s, there were probably 1,000 sailors at the port each night. The streets were boisterous with many bars, and crewmen would get into trouble, Reinelt notes. Sailors were nicknamed *dockwallopers* for the fistfights that occurred down at the docks. *Jack Tars* was another term for the sailors.

“Tar was used to seal ships so they won't leak, and these old schooners had the odor of tar all the time,” Reinelt says. “The crewmen who worked and lived in the ship took on that odor in their clothing and skin.”

By the turn of the century, steamships had mostly replaced the schooner. In 1911, one of the biggest years for the Port of Milwaukee, steamships transported a total of 9 million tons of commodities, mostly coal. By contrast, in 2007, the port moved nearly 4 million tons.

The unending stream of coal ships up and down the Milwaukee River meant drawbridges on major thoroughfares like Wisconsin Avenue were constantly going up and disrupting street traffic. “It was a disaster,” says Reinelt.

City leaders sought a way to relocate all that coal and transit out of the Downtown area, and soon turned to Jones Island. At the time, Jones Island was inhabited by the Kaszubes, a western Slavic people, and German fishermen. Having never obtained deeds for the land, they were considered squatters by the city of Milwaukee, and by 1940, all had been evicted to make way for the shipping port.

Ship chandlers, like the Joy Company, which later turned into Laacke and Joys outdoor sporting goods store, sold ship supplies like tar, rope, hemp and sails. There was a lot of shipbuilding here, particularly at Jones' Shipyard on Jones Island. Impressive four-masted schooners were built in Milwaukee. “Maritime commerce and all the industries that supported maritime commerce were a big part of this city's history,” says Reinelt.

The commerce evolved from beaver pelts to pig hides and then cattle hides. Milwaukee historian John Gurda says it was common to have tens of thousands of hogs entering the port. “The insides went to packing plants and the outsides went to tanneries,” he says.

To tan those hides, there was a huge trade bringing bark from hemlock trees in the Upper Peninsula to make tannin, an acidic chemical compound that prevents decomposition and imparts color onto leather. As late as the 1970s, the port had ships come in and take out hides from the slaughterhouses. They would load 10,000 tons of hides on a ship.

Equilla McCoy remembers those cow hides well; the memory is burned into his nostrils. McCoy may be the port’s most senior longshoreman, with 45 years of experience.

“We loaded and unloaded a lot of hides,” he says. “They were full of maggots and stunk like something rotten. They were in a deep tank and they were all juicy and you had to walk around in all that crap. When I got off work, I had to catch the bus. I had all the room I wanted on the bus because nobody was sitting by you.”

As coal declined as a fuel source, oil became a new staple of port commerce. Oil tanks were built in the late 1940s in the Jones Island area by companies like Shell, Conoco and Mobil. Ships transported oil to these companies, which then pumped it into the West Shore Pipe Line running south to Chicago or north to Green Bay. By the late 1970s, oil refineries connected directly to the pipeline and didn’t need barge transport. But the port is likely to get involved in such transport again: The alternative energy company Innovation Fuels will distribute biodiesel from its new plant being developed at the port.

One overlooked commodity delivered to the port today is salt: A million metric tons is delivered annually to be dumped on our roads in winter. Those tall mountains you pass off the Hoan Bridge are mounds of salt, imported here by four companies, including one that mines it from ancient beds under Cleveland, Ohio, and Lake Erie.

Nearly 2,000 feet beneath Cleveland is a 9,000-acre salt reserve, a vast honeycomb of underground rooms stretching 3.5 miles out under Lake Erie. More than 400 miles of underground roads link rooms of salt, where giant machines excavate in near darkness. Established in 1961, the mine has been operated by Cargill Deicing Technology since 1997. Cargill and the three other companies that ship their salt here are quite tight-lipped about details of their operations. Sometimes the port can be a very mysterious place.

Rescues and Ghosts

Eric Reinelt has shipping in his blood. His grandfather worked for the Hamburg America Line, which is now Hapag-Lloyd, one of the world’s biggest shipping companies. Reinelt worked on ships in Europe in his late teens, then got a degree in international relations. His first job out of college was with a Milwaukee shipping agency that represented Polish, Japanese and Yugoslavian shipping lines. He booked cargo and completed all the manifests, customs and immigration documentation.

The Port of Milwaukee hired Reinelt as its marketing director in 1983, and in 2004, he was promoted to port director. He’s worked on port-related jobs for 38 years and has also spent that time collecting information about the port’s history. He regaled me with story after story.

For instance, the tale of the *E. M. Ford*, which was docked in Milwaukee on Christmas Eve 1979 and loaded with 5,850 tons of cement mix from Michigan. The ship’s captain allowed all the crew to leave because of the holiday, despite a severe storm warning.

As the storm rolled in, the ship broke from its mooring cables and crashed into the dock, ripping huge holes in the bow and stern. Water flooded in, mixed with the load of cement, and the ship sank. The ship’s crew later discovered a 3-foot thick crust of solid cement covering the bottom of the boat. The port had to hire workers to clean up the mess, and they spent weeks chipping away the cement.

Then there was the incident in 1997: A Russian ship left Gdynia, Poland, bound for Milwaukee with 500 tons of sauerkraut that was (as it turned out) rather poorly packaged. Halfway across the Atlantic, the ship ran into rough weather and all the packaging shattered, spewing sauerkraut from the containers onto the deck of the ship. To make matters worse, it was the middle of summer. The stench arrived ahead of the ship in Milwaukee. Dock workers had to not only unload the sauerkraut run amok, but also clean the ship in that reek and heat.

Joe DiGiorgio, the port's harbormaster, has his own stories to tell. After 33 years at the port, he has seen it all. He's also the facility's security officer and works closely with the Coast Guard, the Department of Homeland Security, the FBI, the local police and fire departments, and Customs. In his off time, he's a magician, and he visits nursing homes and hospitals to perform his act.

As he began telling me anecdotes, he pulled out a little red light, stuck it in his ear and then pulled it out the other ear. Magic! Sometimes the harbormaster applies his rabbit-out-of-a-hat abilities to such tasks as plucking a boy out of a sink hole in a salt pile.

It was 8 p.m. one night when DiGiorgio got a call from a security guard saying he found some footprints heading up a salt pile, but none coming down. As it turns out, two boys had climbed up the salt mountain and one had fallen into a sinkhole. The boy was up to his neck in salt by the time DiGiorgio and 20 firefighters found him.

That reminds DiGiorgio of the story of a father who dropped his son and the boy's friend off at Jones Island. He told them he'd pick them up in a couple of hours and "go play," DiGiorgio recalls. It was summertime and the salt piles were tarped, and soon the two boys were sliding down them. The friction was terrible: They burned their butts and ended up in an emergency room.

Reinelt has his own tales of rescue, with an international twist.

One day two Russian crewman from a docked ship asked him for help shopping. Reinelt dropped the men off at Kmart and returned to his office. After a short while he got a call from the 2nd District police station informing him they had arrested two Russian crewmen for shoplifting.

When he arrived at the station, he explained to the officer that in many foreign countries, shoppers take a personal tote bag and fill them with their purchases before heading to the checkout. The men were let go, but when Reinelt got back to the port, their agitated captain demanded to know if they had been photographed.

It turned out the crewmen were cadets in the KGB training school. The captain was concerned that their photographs would be shared with the CIA and FBI. Reinelt believes the captain was a colonel in the KGB and that the crewmen's KGB careers were probably over as a result of this incident.

Then there was the Yugoslavian crewman who wanted to purchase a used car. "I took him over to 27th Street," Reinelt recalls. "He picked out a car and negotiated the price. Everything went well until the salesperson handed him the receipt. The seaman looked with disappointment and said, 'I cannot accept this receipt because it does not have a stamp on it as in my country.' So I suggested he go outside with the salesman and learn some more about the car. I used the time to look around. I did find a stamp; it was one of those Summerfest stamps with the two eyes and a smile. I stamped the receipt with it, smeared it a little bit and signed it 'Henry Kissinger.'"

The crewman was satisfied, Reinelt recalls, and the Summerfest/Kissinger stamp entered international lore.

What with all the vessels and sailors that have sunk to the bottom of the lake, ghost stories inevitably get told. Consider the case of a tugboat, the *Wisconsin*. In 1941, the boat rolled over, killing all the crew on

board, but the boat was salvaged and still operates today. Many people have reported seeing the dead engineer on board and others have felt an eerie presence, according to the tugboat's current captain, Chip Walsh.

Not that it seems to bother Walsh. He literally lives at the port. Next to his tug, which he uses to transport coal up the river and assist large ships in docking, he has a trailer complete with a hot tub and barbecue. All the comforts of home.

There are sailors who refuse to work on his boat, Walsh says. "They're spooked by it. I think it's cool. The ghosts haven't bothered me a bit." Walsh believes the ghost is friendly because it hasn't hurt anyone.

Timmy Kossa, a tugboat deckhand, says he's had contact with the ghost. Kossa says there are a lot of weird noises that you can't explain on the boat. One day about six years ago, he was the only person working aboard the boat.

"I was down in the lower engine room fixing a valve, and all of a sudden I heard an overwhelming voice just echoing throughout the whole boat. It sounded like singing or whatever the heck it was," he says.

Kossa climbed up from the bottom of the boat and looked out on the dock. "My vehicle was still the only one there. There was no one else on board that boat besides me."

On another occasion, Kossa says, he actually saw a ghost. "It was fast – I was working at one end of the engine room and I looked over and saw someone walk by real quick. He was wearing his rain gear."

After all, wouldn't a ghost know when it was about to rain?

The New Boom

Water transit seems so old-fashioned that many may think the Port of Milwaukee's heyday was the 1950s or '60s. In fact, the port has done better in the last five years than at any time in the intervening decades.

The port's gross income in 2007 increased 24 percent over 2006, and its 2008 traffic was expected to decline, but only slightly. The port's strength is that it's well-diversified and connected with so many modes of transportation. Most ports do not have all these connections that enable Milwaukee to offer competitive shipping deals for Europe, South America and Asia in addition to the U.S. and Canada.

Politically, the port owes its stability to the leadership of one man: former Mayor Daniel Hoan. Holding office from 1916 to 1940, Hoan was a strong supporter of the shipping industry and of keeping the waterfront property in the public domain.

"After World War I, there was a lot of political pressure from City Hall to do what Chicago was doing – letting private industry develop its waterfront," says Reinelt. "Mayor Hoan refused to do that and it's only for that reason the Port of Milwaukee is still owned by the city."

The city spent many millions in the 1950s and 1960s, improving the port's infrastructure and building heavy-lift docks to prepare for larger ships coming from the newly built St. Lawrence Seaway. The seaway, along with the interstate highway system built in the 1950s, helped increase traffic to the port.

The port, in turn, gives back to the city, adding to the coffers by generating an annual income above expenses. Last year's figure was \$6 million, which helps underwrite the city's budget and lower taxes.

The Port of Milwaukee is particularly competitive in dry bulk, large heavy-lift items and odd-shaped specialty items, such as the nearly 30-foot black Italian sculpture that came in on a rusty Russian ship and now sits at the MGIC Plaza Downtown. The port also handled 70-foot blocks of ice for international ice

sculpture contests and transported those impressive cement lions proudly perched on the stairs of the Zeidler Municipal Building.

The port business is not always a smooth one, though. Complications arise from changes in government laws, regulations and tariffs. For example, in 1984, 180,000 tons of wheat, corn and soy cereal from the USAID-Food for Peace Program went through the port en route to Africa, Asia and South America. But, the next year there were zero tons because of successful maneuvering by lobbyists of U.S. Flagships out of Houston, who worked through Congress to snag the business.

“U.S. Flagships’ costs were twice what the costs were here in Milwaukee,” says Reinelt. “So it certainly took money away from the food relief part of it and gave it to U.S. Flagships.”

Helping to replace the Food for Peace cargo was an increase in steel imports to Milwaukee, which grew from 35,000 tons to 150,000 tons. Then the U.S. steel industry successfully lobbied Congress to put tariffs on the steel. Steel imports to the Port of Milwaukee declined by 60 percent the following year.

On the Great Lakes and other U.S. waterways, cargo moving between ports is governed by the Jones Act. This federal law requires domestic waterborne commerce to be carried on ships that are owned, built and crewed by Americans. According to John Norquist, Milwaukee’s mayor from 1988 to 2003, though the Jones Act was enacted to protect the shipping industry, it actually hurt it by making it harder to enter U.S. waterways.

Safety regulations can also affect business. For example, wind turbines were big business for the port until 2007, when a truck rolled over in Menomonee Falls and spilled the big tower section of a turbine onto the highway, clogging traffic. This prompted the Department of Transportation to develop stringent regulations: Trucks could only carry wind turbines for small periods of time during late-night hours. This put a stop to the transport of wind turbines through the port, Reinelt says, as it was more practical to haul them from the ports of Duluth, Minn., or Menominee, Mich.

Still, WE Energies is looking to build wind farms throughout Wisconsin. So Reinelt is slowly making progress with the Department of Transportation: They will now allow the wind turbines to be transported from 9:30 a.m. to 3:30 p.m. on weekdays in addition to some weekend hours, thus avoiding high-traffic times.

“When the government gets in the action, it can be disastrous,” Reinelt says. “Overnight with a stroke of a pen, I may lose an entire market.”

On the other hand, laws reducing regulations can sometimes help port business. In 1980, the federal Staggers Rail Act deregulated the truck and rail industries. “It was a highly regulated market, but after the Staggers Act, people could quote what they wanted,” says Reinelt. “That really opened up transportation around the U.S. for investment, more road building, more trucking companies. What we call independent owner/operators started blossoming in those days.” Deregulation created new markets for the port.

Today, the port faces a number of challenges: invasive species, post-9/11 security, land constraints and condo creep. The major challenge for the port, Mayor Barrett says, “is to maximize the use of existing land and continue to prosper in an era of limited public funds for improvements. The city is working closely with private partners on development projects and directing investments in growing industries, such as wind energy and biodiesel fuel production.”

Beyond its complex transport business, the port interacts with a wide range of players, including the Lake Express passenger ferry and cruise ships that have their own berth Downtown in front of Discovery World, the lakeside museum financed by Michael Cudahy. The port also leases property to the UW-Milwaukee

Great Lakes WATER Institute, which will likely expand to include a water research park. Indeed, the harbor can be home for a wide range of living things.

The configuration past the inlet of the Milwaukee River and Kinnickinnic River on the southern part of the port, says DiGiorgio, is like a giant Indian fishing basket, and provides the best fishing hole in the area. He says that salmon and trout swim up there and then can't find their way back out.

"Last winter we caught five fish," says DiGiorgio. "I'm hoping we have 25 this winter."

Deer have also been known to visit the port. DiGiorgio remembers one day when two deer were grazing on some grass and jumped into the river after being spooked by a front-end loader. They were swimming around, frightened, tired and unable to get out because of the 8-foot-high walls along the river. Someone called the Department of Natural Resources, but was told the DNR would shoot them, DiGiorgio says. He didn't want that to happen, so he enlisted his brother Bill and Dave Corcoran, a port employee, to help save the animals. By this time, the deer had swum to the end of the marine basin, a dead end where ships dock for winter. DiGiorgio describes what happened next:

"We lassoed them with two ropes and then we heaved them up. Now that's not when the job is done. The job is done when you get the ropes off of them. You have to tackle the deer and work the ropes off of them. The first deer got free, but he didn't take off as you'd expect. He slowly walked across the street and watched us from there and just waited for his sibling. Then we got the second one out and the other deer went to him and they both trotted off together."

Just two more exotic visitors who arrived and departed from the Port of Milwaukee.

Breakage at the Breakwater

The 3.7-mile-long breakwater protecting Milwaukee's waterfront was built in the early 1890s by the U.S. Army Corps of Engineers to provide safe entry into our harbor. It needs major repairs.

Although originally designed to safeguard commercial navigation, it also provides flood and storm protection for the Milwaukee Art Museum, Discovery World, the Summerfest grounds and the Lake Express, the first high-speed catamaran-style auto/passenger ferry in the United States. The breakwater also protects municipal and private marinas, the 9th District U.S. Coast Guard Station, a coal-fired power plant and the Milwaukee Metropolitan Sewerage District's wastewater treatment plant.

"There are smaller breakwaters in front of the art museum and Discovery World, but they are designed to handle waves inside the breakwater," says Larry Sullivan, chief engineer at the Port of Milwaukee. "If the breakwater was breached, it could cause damage to the structures and flooding. There could also be damage to the wastewater treatment plant."

The breakwater was first constructed from timber crib core sections – wooden frames that were constructed on shore, floated into position, and filled with rocks. Most timber cribs had a concrete or stone superstructure added later, and Milwaukee's also had steel sheet pile reinforcement added. Deterioration is most extreme in breakwaters built with timber cribs because the wood decays rapidly when exposed to the air during low lake levels. Lake levels have been relatively low in recent years, especially in Lake Michigan.

The breakwater was actually built for just a 50-year lifespan. But for more than 100 years, it has endured storm surges with up to 21-foot waves, massive ice floes that have engulfed the breakwater's rugged face, and punishing winds that create waves powerful enough to move these rocks weighing many tons. Sullivan says the breakwater isn't in danger of collapsing, but some sections are in poor shape, particularly the breakwater's steel structures, which show signs of serious rusting.

The U.S. Army Corps of Engineers is responsible for ongoing maintenance of the breakwater. “Emergency repairs were completed to a section that failed back in 1993. This area was reinforced with repairs in 1996,” says Thomas Johnson from the U.S. Army Corps of Engineers Lake Michigan Area Office. “But further repairs are still required.”

He says the Corp of Engineers has identified Milwaukee’s breakwater as a top priority for funding. However, funding for such repairs is being held at a minimum. “Other priorities, like the global war on terrorism, have been the main reason,” says Johnson. The Corps of Engineers estimates the cost to repair the entire 4,760 linear feet of breakwater could run \$15-\$20 million.