

Duluth Seaway Port Authority

Winter 2010-11

NORTH STAR PORT

Science and reason prevail

Wisconsin DNR proposes scaling back ballast rules

With little fanfare, the Wisconsin Department of Natural Resources (WDNR) released a report just before the holidays proposing to scale back its ballast rules for oceangoing ships to complement ballast

Wisconsin would require oceangoing ships to continue performing mandatory ballast water exchange at sea before entering the Great Lakes St. Lawrence Seaway.

The WDNR is being commended by government regulators, environmental advocates and maritime leaders alike for the careful, thoughtful and scientifically sound manner in which it balanced the need to protect the environment of the Great Lakes while recognizing the needs of the commercial shipping industry and the thousands of jobs shipping supports in this region.

It should be noted that, in conducting its feasibility study, the WDNR consulted with a number of parties, relying heavily on the work of the Great Lakes Ballast Water Collaborative (see related story, Page 18).

I join my colleagues across the U.S. and Canada in commending the WDNR. The agency listened to reason and adopted a science-based approach to research. Ultimately it is proposing a set of ballast regulations that not only reinforce work done two years ago by the Minnesota Pollution Control Agency but also establish the foundation for developing achievable ballast treatment standards that all Great Lakes states — even New York (see *North Star Port* Fall 2010, Page 2) — can adopt. That is vital as we move to stop the introduction of aquatic invasive species without threatening the vitality of this international trade corridor.

water discharge standards set by the International Maritime Organization (IMO). Requirements would not become effective until 2012 for new vessels and 2014 for existing oceangoing vessels. The report reflects the latest science about reducing risk from invasive species and was issued after an exhaustive, yearlong review that concluded:

The Harbor Line
Adolph Ojard
Port Director



■ There are no ballast water treatment technologies currently available to meet the WDNR's original standard of 100 times that of the IMO's.

■ Even if such technology were commercially available, there are no testing facilities in the world that could confirm whether the higher WDNR standard was being met.

■ No commercial vessel will install any ballast water treatment system on an existing or new vessel at this time ... unless and until that system is approved by the U.S. Coast Guard.

Under the WDNR proposal,

Seasonality of shipping

Historically, the shipping season in this region was centered on the freezing and thawing of natural ores. The processing of low-grade taconite into dry iron ore pellets in the late 1960s and early '70s created a free flowing product that could be transloaded and shipped independent of temperature. Yet a pilot project demonstrated that, while technically feasible, it was not economical to ship iron ore pellets year-round.

So it remains today that the entire Great Lakes inventory system is built around the seasonality of shipping. During the non-navigation season — the approximately 60 days between when the Soo Locks close in January and reopen in March — raw material inventories at the Head of the Lakes are built up as trainloads of iron ore pellets, coal and grain are moved into position for the start of the shipping season. Concurrently, like amounts of raw materials in stockpiles on the Lower Lakes are being depleted as they are consumed at steel mills and power plants and distributed from commercial docks.

During winter layup, the ships must also be renewed. With a limited, defined number of sailing days, vessels scheduled to sail in the spring must be thoroughly maintained, as any failure or delay could disrupt the supply chain and negatively impact a customer.

Winter's a busy time for docks, locks, shipyards and fleets as you'll see in this edition. I invite your attention to highlights on Pages 6-11.

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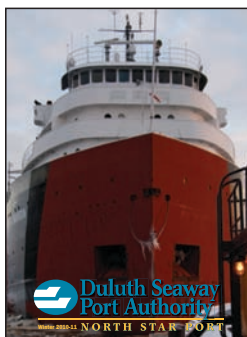
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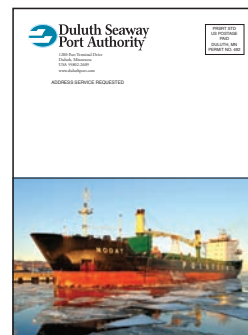
On the covers



Bob Horn

On the front:
The *John G. Munson's* arrival on Jan. 19 officially closed Duluth-Superior's 2010 shipping season.

On the back:
The *Nogat* brought the Twin Ports' oceangoing season to a close with her arrival on Dec. 15 and departure two days later.



Robert Weilton

Strong finish to 2010 navigation season

Everyone watches favorite indicators for signs of economic recovery. For those who look to the transportation sector as a barometer of economic activity, 2010 was great cause for optimism — not only in the Port of Duluth-Superior but also across the entire Great Lakes St. Lawrence Seaway System.

The Twin Ports finished the 2010 navigation season at 39.8 million short tons — a 28 percent increase over totals reported at the close of the 2009 season.

Led by an 80 percent rebound in iron ore shipments for the steel-making industry, the Port also saw strong performances in limestone, coal and project cargo (wind turbine components), coupled with a 68 percent surge in grain as America's heartland helped meet the



Duluth handled 12 shiploads and three unit trains of wind turbine equipment in 2010. Here, the *SE Verdant* discharges the first of two shiploads of towers from China; the second shipment arrived on Dec. 9.

global demand for wheat after crop failures in Russia and other countries.

“While it may still take us a few years to return to tonnage totals nearer our five-year averages, we are encouraged by the significant recovery seen in 2010,”

said Adolph Ojard, Port Authority executive director.

“Tonnes mirror optimism in other sectors that this nation's economic recovery is gaining momentum, which bodes well for an equally strong start to the 2011 navigation season.”

2010 Season Recap: Notable Firsts & Lasts

- 1st Laker out 3/20/10 *James R. Barker*
- 1st Laker in 3/23/10 *John D. Leitch*
- 1st Grain out 4/06/10 *J.W. Shelley*
- 1st Saltie in 4/07/10 *Federal Elbe*
- Last Saltie in 12/15/10 *Nogat*
- Last Saltie out 12/17/10 *Nogat*
- Last Laker out 1/15/11 *Presque Isle*
- Last Laker in 1/19/11 *John G. Munson*



The *John G. Munson* gets a nudge toward her winter berth from the tug *Nels J.*

Robert Welton

Munson arrival ends season

The 2010 Duluth-Superior shipping season came to an end on January 19 when the *John G. Munson*, with the assistance of the tug *Nels J.*, backed into her layup destination

at Port Terminal Berth 4. The Coast Guard cutter *Alder* and the *Nels J.* broke ice for the *Munson* and then, as the *Munson* neared her berth, the *Nels J.* further assisted by blow-

ing a clear path to the dock with her powerful bow thruster.

Altogether, 10 lakers are wintering in Duluth-Superior this year.

10 lakers call Duluth-Superior home for winter layup

VESSEL	ARRIVAL DATE	CARRIER	LOCATION
<i>American Victory</i>	11/12/08	American Steamship Co.	Fraser Shipyards
<i>Edward L. Ryerson</i>	5/18/09	Central Marine Logistics	Fraser Shipyards
<i>Adam E. Cornelius</i>	1/06/10	American Steamship Co.	Fraser Shipyards
<i>H. Lee White</i>	1/04/11	American Steamship Co.	Fraser Shipyards
<i>American Spirit</i>	1/12/11	American Steamship Co.	Enbridge Dock
<i>Roger Blough</i>	1/14/11	GLF/Key Lakes	Port Terminal Berth 1
<i>American Century</i>	1/17/11	American Steamship Co.	Garfield Dock C
<i>James R. Barker</i>	1/17/11	Interlake Steamship Co.	Midwest Energy
<i>American Integrity</i>	1/18/11	American Steamship Co.	Elevator M
<i>John G. Munson</i>	1/19/11	GLF/Key Lakes	Port Terminal Berth 4



Jerry Bielicki

Just dropping in

A crew member drops over the side of the *American Century* to help with tying up at Garfield Dock C.



Robert Welton

Polsteam's *Nogat* took honors for last saltie in and last saltie out, arriving on Dec. 15 and departing on Dec. 17. Here, she is assisted by a pair of tugs from Great Lakes Towing.

Port of Duluth-Superior 2010 season at a glance

- Overall tonnage: 39.8 million short tons—up 28%
- Iron Ore: 14.6 million short tons—up 79%
- Grain: 2.7 million tons—up 68%
- Coal: 18.5 million short tons—up 1%
- Other: 3.9 million short tons—up 30% (includes limestone, cement, salt, etc.)
- Wind turbine components: 172,000 freight tons
- 991 vessel visits—up 37%

To see the full January 2011 and Season Final 2010 tonnage report, plus historic tonnage figures for the Port of Duluth-Superior from past years:

<http://www.duluthport.com/port-stats-tonnage.php>

Three extra days

Officially, the 2010 season came to an end in the Twin Ports on January 19 with the morning arrival of the *John G. Munson*, the last vessel in for winter layup.

The U.S. Army Corps of Engineers, instead of closing the Soo Locks on Saturday, Jan. 15, kept the locks open three days longer to enable companies on the Lower Lakes to stockpile an additional half million tons of iron ore and western coal combined. "Industry appreciated how hard Coast Guard icebreakers and local tug operators worked to keep shipping channels open and docks accessible in heavy ice conditions to extend the season," said Adolph Ojard, Port Authority executive director.



Carmen Paris, U.S. Army Corps of Engineers

The tug *Invincible*, with the integrated 579-foot barge *McKee Sons*, was the last vessel of the season to traverse the Poe Lock at the Soo. The tug/barge cleared the Poe at 3:43 a.m. on Jan. 19. She was downbound to Detroit after loading iron ore pellets in Silver Bay.

Layup? Yes. Down time? No way.

You don't need a calendar to tell when fall changes to winter in Duluth-Superior. As the North Country's days grow shorter, you see homeowners putting away their lawnmowers and getting out their snowblowers. Highway crews begin mounting plows on their massive trucks. Big box retailers tout ever-bigger flat screen TVs for bowl games. Bears and curmudgeons seek seclusion for their winter hibernations.

And along the Twin Ports waterfront, the shipping industry kicks into a new season. The Port welcomes the concept of "layup" — and flatly defies the idea of "down time." Cold and ice can stop the movement of ships, but the shipping shutdown does not ease the sense of urgency on the waterfront. We are now in the heart of the winter maintenance season. Engineers, welders, pipefitters, mechanics, electricians and other professionals

CN/DMIR

Iron ore pellets in by train and out by ship. Crushed limestone in by ship and out by train. That's the summer-time drill at the CN/DMIR ore dock in Duluth. But in colder than a witch's heart winter, stone doesn't arrive, and pellets stop at the stockpile.

Meanwhile, the iron ore mines on Minnesota's Iron Range keep feeding 140-car unit trains, and the dock has to store them. Some of the mines keep on needing limestone for their flux pellets, and the dock has to tap its stone reserve and send the rock up the hill.



Inventory management plays a key role in a successful layup season at the CN/DMIR dock.

Courtesy CN/DMIR

and tradespersons are swarming over boats and infrastructure. This is when the industry pays serious attention to maintenance as ships and equipment are taken offline for a few precious weeks of vital, heavy-duty maintenance. Inventory management is a key part of the layup season, too, as stockpiles of iron ore pellets and coal grow even as reserves of limestone are diminishing here at the Head of the Lakes.

On this and the next five pages we present a look at the layup season in Duluth-Superior with text and pictures on the themes of boats, docks and operations with other direct connections to the waterfront. Space and time did not allow us to visit with every maritime entity in the Port, and we regret that. But we hope we have presented a picture that illustrates the volume and intensity of work that goes on even when our ships are not moving cargo.

— Stories by Larry Fortner



Courtesy BNSF Taconite Facility

Bucket wheel reclaimers will get a lot of attention at BNSF during the lull in shipping.

And, along the way, maintenance projects also demand time and attention. The dock, after all, represents a major long-term investment.

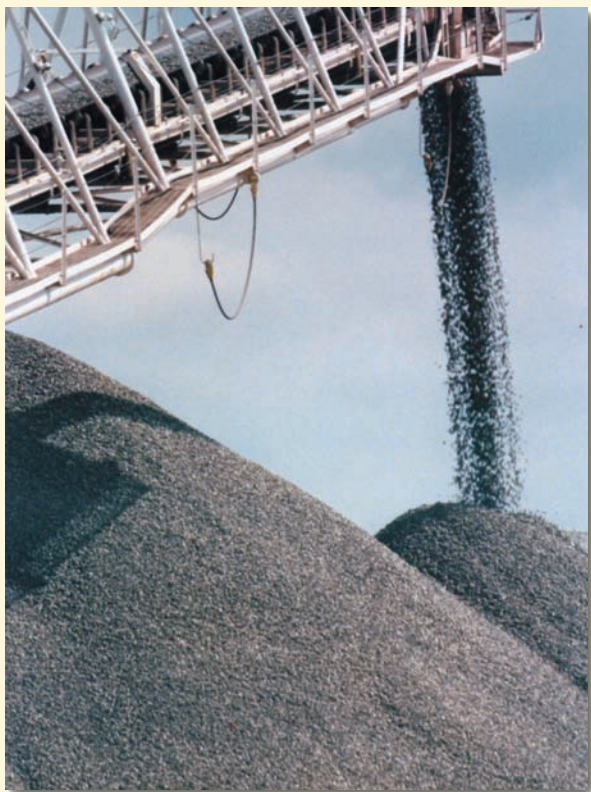
The CN dock had about 500,000 tons of stone on the ground at the time of receiving its last delivery of the season. It had very little in the way of iron ore pellets left on the ground. Over the next couple of months, the status of the two stockpiles will gradually reverse. By spring breakup, millions of tons of pellets will be stockpiled and awaiting shipment, and there will be plenty of room for the first 2011 arrival of limestone. The changes in inventory make an intriguing sideshow for commuters on the northbound lanes of I-35 that skirt the CN/DMIR property.

BNSF

After 10 months of steady, high-performance work, the crew of the BNSF Taconite Facility in Superior loaded its last boat, took a deep breath — and got down to work of a different sort. "This is when we really kick into motion," said Stan Ujka, facility manager. "A lot of equipment got worn out during the shipping season. Now we have two months to focus on repairs."

The ore dock has "several miles of belts" that need attention along with myriad other components — some fixed, some moving — that make up a complex modern ore dock.

"One thing we'll be tackling are the bucket wheel reclaimers," said Ujka



Crushed limestone is one of Hallett Dock's key commodities.

(pronounced OY-kuh). The reclaimers are used to pick up pellets off the stockpile and move them onto conveyors. The winter's work also will include refurbishing loading hoppers' steel plate linings. They wear out eventually due to the abrasion they incur.

Much of the work, Ujka said, will have to be done outdoors, not a happy prospect in a part of the world where the temperature can reach well into double digits below zero. But then, nobody ever said that operating such a site is easy work.

Whether the crew is working outdoors or in, Ujka said, the operation will continue to receive pellets from Minnesota's Iron Range on the 180-car unit trains that call on the site in Superior all year long.

Ujka is not worried about where he'll put the pellets. "We've got plenty of room right now," he said. About 320,000 tons were stockpiled when the last ship left the dock, and only days later the pile had grown to about 530,000 tons. But the site has room for 5 million tons, an amount that Ujka knows will not be reached by the time shipping resumes in March.

'Til then, maintenance will be the order of the day. The 1,400-foot dock that loaded 172 ships in the season just ended makes up the heart of the operation and creates plenty of opportunity for repair. "We have enough maintenance work to keep everybody busy," Ujka said.

Hallett Dock

The shipping season's winter shutdown slows, but does not stop, the pace of work at the Twin Ports' Hallett Dock Co.

Hallett brings in and moves out products by ship, truck and rail. The company isn't receiving commodities by ship at this time of year, but salt,

limestone and other materials are moved off the dock at all times of year.

October, November and December were "crazy," in the words of Mike McCoshen, president, as highway departments in the northern half of Minnesota and northern third of Wisconsin stocked up on road de-icing materials.

After Christmas, Hallett could reduce its workforce while keeping enough personnel on hand to handle regular maintenance and outgoing truck cargoes of limestone (for iron mines and sugar beet processors), coal and de-icing salt. Commodities are stored on one of the company's

outdoor docks or in its bulk storage building, which can hold 20,000 tons.

Hallett describes itself as a business of transloading, stockpiling and delivering a variety of bulk commodities from its two docks and one bulk storage building in the Duluth-Superior Harbor.

Hallett loads and/or unloads about 60 ships per year and has the capacity and equipment to handle over 1 million tons of goods annually. Its location allows easy access to the ports of the Great Lakes, the Saint Lawrence Seaway and Europe.

"You really couldn't ask for a better location," McCoshen said. "It's very easy to bring materials in and take them back out quickly and efficiently, which is important when you're dealing with large quantities of goods. It provides safe, dependable access, and water is really the most economical form of transportation."

The slower pace of the layup season, McCoshen said, gives the company's personnel "the opportunity to look for ways to improve our performance." It also gives McCoshen and other senior leaders time to hone proposals for new business. "This is a good time for kicking tires," he said.

Midwest Energy

From March 2010 to January 2011 the Superior Midwest Energy Terminal was busy. Now, during the supposedly slow Great Lakes layup season, it barely has time to catch a breath.



This coal feeder system and the ground around it at Midwest Energy spend most of their lives under mountains of coal. They are exposed briefly during the shipping lull for inspection and maintenance.

The terminal moved nearly 19 million tons of low-sulfur coal by season's end. It was on the receiving end of cargoes on 123-car unit trains from the Powder River and Hannah basins. That coal in turn was loaded into Great Lakes freighters for delivery to customers on Lake Superior and down the Lakes. Some coal — about 2 to 3



The rotary car dumper at Midwest Energy was due for some major work during this layup season.

percent of the annual total — also goes out by truck, not just during layup season but throughout the year.

The Terminal is owned and operated by Midwest Energy Resources Company (MERC), itself a wholly owned subsidiary of the Detroit Edison Company. Detroit Edison accounted for a little more than half of MERC's 2010 total shipments, meaning that MERC has to find what the company calls "third-party customers" for the rest of its capacity. That's why Fred Shusterich, president of MERC, says, "I'm as busy during the layup season as I am in July and August. At this time of

year we've got a slew of contracts coming up. We're doing a lot of marketing and finalizing deals."

But MERC's "down time" activity is hardly contained to the marketing end of the business. This is also a time of vital maintenance and repair on major components of the Terminal's coal-handling equipment.

The Terminal shut down its coal-receiving operations on Jan. 10. (It receives coal exclusively by rail). It planned to resume receiving coal on Feb. 14. In those few action-packed weeks, the Terminal would focus on its rail unloading equipment, especially the rotary dumper, which unloads cars without uncoupling, and the car indexer that moves the train along, one car at a time.

When work on the unloading equipment is complete, the company turns its attention to the loading side. For example, the center stockpile reclaim areas for coal have been cleaned out and refreshed, and the

feeders are examined and repaired as necessary.

"What we do is basically an overhaul," Shusterich said. "We take the equipment apart, inspect it, repair or replace it and put it back together." "We do preventive maintenance all year long," Shusterich said, "but this is when we do our real heavy-lift work."

The entire MERC workforce of 92 (including 60 hourly employees) stays on duty during this critical time.

They're on deadline. The *James R. Barker* is spending its winter layup tied up at MERC. Come mid-March, it will be impatient to get back to work.

Workers swarm over boats and infrastr

Great Lakes Fleet

As the eight self-unloaders of the Key Lakes/Great Lakes Fleet tied up at their respective layup berths in three Great Lakes ports (with the 1,004-foot *Edwin H. Gott* being repowered at Bay Shipbuilding in Sturgeon Bay, Mich.), life for employees of the Fleet got "extremely busy," said Capt. Bill Peterson, fleet administrator, who works out of GLF headquarters in Duluth.

In effect, employees at the Fleet are wearing different hats at this time of year. "This is when we shift from moving cargo to doing repairs," Peterson said. "This is not down time for us."

The number of employees stays pretty steady year-round, as some crews shift from labor on the Lakes to work on shore, serving perhaps on work teams, security and port watch.

The pace for year-round onshore workers picks up now, as daily reports on the progress of maintenance and repair are filed from the Fleet's layup sites. The purchasing department is busy with daily flurries of activity as equipment is secured — on time and on budget. Safety and operations procedures are reviewed and fine tuned.

"We'll have our big fitout meetings in February," Peterson said. If needed, instructors will be called onboard to brief crews on new equipment.

"Our boats are so hard-pressed during the year that we need this time to refurbish them," Peterson said, and he draws an analogy between vessel maintenance and car care: "This is when we pull in for an oil change — or an overhaul."

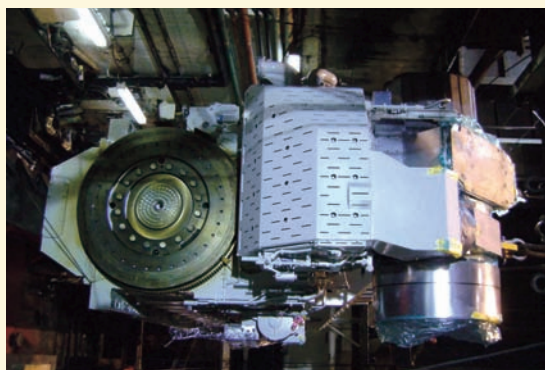
'This is when we shift from moving cargo to doing repairs'

**— Bill Peterson,
Key Lakes/
Great Lakes Fleet**

structure during the intense layup season



Out with the old (above) and in with the new (right) for the *Edwin H. Gott*.



Courtesy Great Lakes Fleet

Gott repowering on schedule

Old propulsion engines have been removed from the 1,004-foot *Edwin H. Gott*, and two brand new MAK engines have been installed. The new engines are designed to increase fuel efficiency and significantly reduce air emissions and the *Gott's* carbon footprint.

The ship, which arrived at Bay Shipbuilding Company in Sturgeon Bay, Wis., on Nov. 22, is already off dry dock and in the wet basin, where wiring and piping work continues.

"We're right on, if not slightly ahead of schedule to have her fully operational by the first week or two of the 2011 navigation season," noted Bill Peterson, Key Lakes/Great Lakes Fleet administrator. "The design team did a great job planning all steps of this project, and the shipyard has done an extraordinary job with its workmanship."

If work continues at this pace, the *Gott* should make its first upbound trip by the end of March. That's great news for steel plants on the Lower Lakes as the *Gott* is one of the largest U.S.-flag vessels working the lakes, carrying iron ore from the ports of Duluth-Superior and Two Harbors to Gary, Ind.; Detroit, Mich.; Conneaut, Ohio; and Nanticoke, Ont. A full load on a ship this size (70,000 tons when water levels permit) will keep a major steel mill in operation for more than four days.



Work on the *H. Lee White*, in drydock at Fraser Shipyards, includes dismantling and inspecting the propeller hub and blades.

Fraser Shipyards

Twenty-two inches of clear ice lay in the water just aft of the *H. Lee White* as she rested on blocks in the Fraser Shipyards at Superior. She had ice inside her ballast tanks, too — up to 42 inches of frozen mud.

The mud was the result of water being brought in from just off the bottom at dockside over the years when the *White* filled her tanks while loading and unloading. The frozen part came when the ship was moved onto the drydock blocks and the entire vessel was exposed to the zero-and-below temperatures that arrived in Duluth-Superior this layup season.

Demudding *White's* ballast tanks was the center of attention for about 20 laborers of the Fraser crew as they attacked the ship's inner ice with some very loud tools.

The *White*, one of 10 Great Lakes freighters laying up in Duluth-Superior this year, is at Fraser for its scheduled site and survey drydocking. Mike Peterson, yard superintendent for Fraser Shipyards, said that the winter's work on the ship will be "typical five-year stuff." That "typical stuff" will boost the Fraser workforce from 30 to 130 during the intense layup period.

The *White* is just one of five lakers tied up at Fraser. Three vessels are idle at Fraser and are not expected to move out when the 2011 season begins. The *American Spirit*, a *White* sister ship laying up at the Enbridge dock, would get engine overhaul and other maintenance.

In addition to refurbishing the ballast tanks, work on the *White* will include conveyor repairs and a rebuild on its 1,000-horsepower bow thruster. Custom-milled steel plates are strategically placed on the ground next to the ship for major steel repairs, including bulkheads and slope plates in three of the ship's cargo holds. Fifty or so welders and fitters would tackle the steel work.

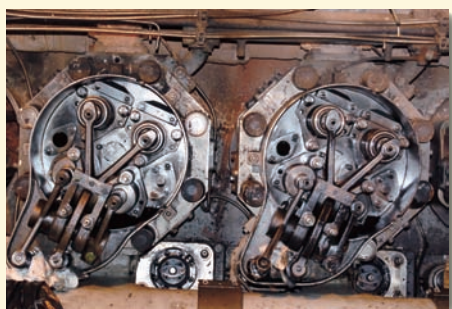
This can be a stem-to-stern enterprise, with “open and inspect” attention to virtually every component of the vessel. For example, the four brass blades — each at 4,500 pounds — of the *White’s* propeller have been removed so workers could remove and replace the propeller hub.

As work wraps up on the *White’s* stint in dry dock, she’ll get new black paint from her bottom up to her 18-foot mark.

To anyone not in the industry, all this work — the tons of steel from a custom mill in Texas, the heavy-duty tools and equipment, the very act of placing a 740-foot ship up on blocks — looks like a mind-boggling task. These guys don’t exactly make it look easy, but their skills and competence make it look doable.

As with all five-year surveys of a Great Lakes vessel, inspectors from the U.S. Coast Guard and ABS (formerly American Bureau of Shipping) will look over the ship and the work with an eye toward compliance with all applicable rules and regulations.

Those responsible for the care and operation of Great Lakes freighters will get this job done by the week of March 20, when the *White* leaves Fraser and gets back to work.



Cylinder heads on the *James R. Barker’s* propulsion engines undergo routine maintenance during layup.

Interlake’s R&M

People in the Twin Ports have 800,000 very good reasons for welcoming a Great Lakes freighter into a winter berth here. Make that 800,000 dollars’ worth of very good reasons.

Phil Moore, fleet engineer for the



Maintenance sometimes is all about turning wrenches, as here, aboard the *James R. Barker*.

Interlake Steamship Co., says his company will spend \$800,000 to \$1 million on each of its vessels in winter repairs. Many of those dollars stay right in the local economy.

Interlake has one ship in our Port this layup season. The *James R. Barker* tied up at the Superior Midwest Energy Terminal on Jan. 17. The *Barker* is a twin-screw “footer” (Great Lakes lingo for “thousand footer”) launched in 1976, and now she’s a temporary home to workers with myriad mechanical and technical skills. They’ve got a big job to do.

For example, nine of the 32 cylinders in her two diesel engines, built by the Fairbanks Morse division of Colt-Pielstick, are being overhauled. In mid-January, as work progressed, their innards were displayed on the deck of the engine room. Gearheads would drool at the sight of the exposed cylinders and pistons and rods that pack a punch with their 400 mm bore and 460 mm stroke. (For American gearheads, that’s 15.75 inches by 18.1 inches.)

This engine overhaul is on a five-year schedule, with work rotating through the cylinders, crankshafts, drive shafts, lifters and the like over that period.

Layup work also will be performed this winter on the *Barker’s* four Caterpillar D399 generator sets, each rated at 1,200 horsepower. The boat’s conveyor system also will get some

attention as will firefighting equipment and other repairs.

“It’s all kind of our standard winter maintenance,” said Moore. Standard, with a much-appreciated economic benefit.

In recent years, the ship that ties up at Midwest Energy has become the first of the season to leave Port, often for a quick run up the Shore to the Minnesota Power electrical generating plant at Taconite Harbor. The ship usually returns immediately to Midwest Energy for another load, this time for delivery in Detroit.

Boatnerds in the Twin Ports keep a close watch on the boat in the pole position. This year, as last, it’s the *James R. Barker’s* turn to set the pace.

Aerial Lift Bridge

Down time for Duluth’s famed Aerial Lift Bridge during this layup season means exactly that: the bridge is down for repairs, and it will stay down until shortly before it goes up to begin the 2011 shipping season.

The bridge got a major overhaul in 2000, with most of its works being totally revamped. It also got a partial paint job. Since then, inspection has revealed that the rest of the bridge needed repair and painting.

In 2007, \$5 million in federal stimulus money paid for the next phase

of revamping. In 2010, the bridge's north tower got minor repairs and was blasted and repainted. And this year the bridge is down again, this time for repair and painting of the south tower.

Lisa Marynik, design engineer for LHB Architects, consultant to the city of Duluth on the bridge for over 14 years, explained that this year's project, like last year's, started with the placement of scaffolding. Next comes wrapping the project in a fabric much like air bag cloth. Then comes the dirty part — blasting off the old lead-based paint down to bare steel, capturing and disposing of the old paint, and then applying three coats of zinc-based paint.

Marynik said the crew also would do some minor repair work during

the process. When this year's project is complete, the span that connects the two towers will still remain to be painted. That will come when the money comes.

That phase also will be done in winter. "We try to schedule rehab projects during winter months to ensure that the bridge is back in operation for the next shipping season so as not to delay or interfere with harbor traffic," Marynik said. Deadline for completion of this year's project: 10 a.m. March 14. "By then," Marynik said, "all the scaffolding will be down and the bridge can reopen."



Building a lacy network of scaffolding around the Aerial Lift Bridge's south tower is the first step toward painting it.

Soo Locks

The 100 or so employees of the Soo Locks will get no downtime during this winter's shipping shutdown. Instead, they'll be hard at work on maintenance and repair of the Poe Lock, the most important of four locks at the Soo.

Wayne Schloop is chief of operations for the U.S. Army Corps of Engineers Detroit District, which encompasses a huge area, including all of Michigan and parts of Minnesota and Wisconsin. Schloop said the plan for the Poe was to begin dewatering the lock immediately upon the close of the season and then begin major repair work.

The project will include parts replacements on the upstream and downstream operating gates and many other vital components within the lock.

The work is so extensive, Schloop said, that "we won't be laying off any of our seasonal workforce." He defined the project as taking "major preventive maintenance."

This kind of work, in the dead of winter, "takes a lot of dedication and perseverance," Schloop said. He could have been speaking for any number of people as maintenance projects get underway in virtually every port on the Lakes.

Working in the dead of winter 'takes a lot of dedication and perseverance' — Wayne Schloop, Soo Locks

"It can be a tough thing to do," Schloop said of the Poe project. Temporary, heated shelters, he said, would make the job a little easier.

An average of about 8,000 vessels a year pass through the locks, which bypass the rapids of the St. Marys River where the water level drops 21 feet from Lake Superior. The U.S. locks form part of the 1.6 mile St. Marys Falls Canal, which is owned and operated by the Corps. The locks' neighboring cities are Sault Ste. Marie, Mich., and Sault Ste. Marie, Ontario.

The other locks in the Soo system are the MacArthur, Davis and Sabin.

The MacArthur is suitable for saltwater and Seaway size vessels but not large enough for the largest lakers. The Davis is little used, and the Sabin is in caretaker status.

The Poe opened in 1968 and is 1,200 feet long, 110 feet wide and 32 feet deep and is the only lock capable of handling the current generation of big lakers. Its importance to Great Lakes shipping, obviously, cannot be overstated.

The Poe's winter-time workers will battle more than just the elements. They'll also be battling the clock.

"Our goal is to have all of the repairs completed by mid-March," Schloop said, "and be ready for the scheduled reopening of the Poe on March 25th."



When repairs are finished, the Poe gates will be painted as were gates in this neighboring lock in 2009.

Courtesy USACE

Mineland reclamation project in full swing at U. S. Steel - Keetac

For seven weeks beginning in early November, caravans of 17 to 35 trucks hauled a total of 30,000 cubic yards of dredge material from Erie Pier in the Duluth-Superior harbor north to Minnesota's

However, the soil characteristics of the planting area have been classified as poor — essentially ground rock with very little organic material for supporting plant growth.

“Dredge material from Erie Pier

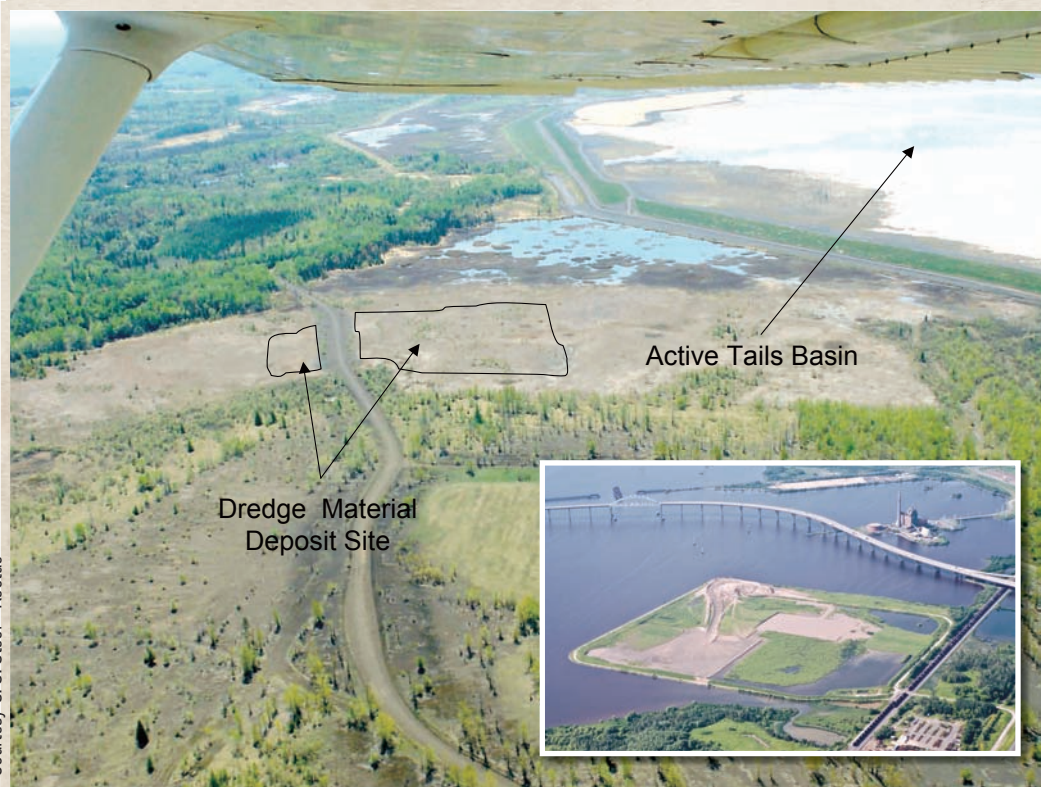
Erie Pier was originally established as a Confined Disposal Facility (CDF), owned by the Duluth Seaway Port Authority and operated by the U.S. Army Corps of Engineers (USACE), for handling

dredge materials taken from shipping channels in the Duluth-Superior harbor. With approximately 100,000 cubic yards of dredge material deposited onto Erie Pier each year, storage space is becoming limited; building a new CDF would cost upwards of \$25 million.

“Sixty percent of what we bring in is organic material,” noted Steven Brossart, USACE area engineer. “We’ve been working with the MPCA, the MNDNR and members of the Harbor Technical Advisory Committee for several years to certify the fine grain dredged mate-

rials for industrial use and to find opportunities to utilize those materials in projects across the region.

“The mineland reclamation project at Keetac will gain us one-half year of operating life at Erie Pier. Additional projects hold the potential for utilizing all 2 million yards at Erie Pier, which would allow us to continue operating it as a beneficial Processing and Reuse Facility for years to come.”



Aerial photo shows dredge-materials deposit site and active tails basin. Inset: Erie Pier, Port of Duluth-Superior.

Iron Range to be used for a 35-acre mineland reclamation pilot project at the United States Steel Corporation – Keetac tailings basin.

That tailings basin is approximately 6,000 acres in size, with 2,500 acres of it being active. The remaining acreage is used for water storage, wetlands and prairie grass or wooded buffer areas. Annually, the company seeds hundreds of acres of native meadow grasses and plants 12,000 to 20,000 native trees.

is attractive because it will provide a high level of natural organics and a nitrogen source valuable to plant growth,” said Jeremy Smolich, U. S. Steel – Keetac plant manager.

“Dredge materials are being spread across a test site on the northeast side of the tails basin. Later this spring, native trees and grasses will be planted to reclaim that site for habitat and enhance it as a natural buffer for the active tails basin.”

Duluth Minerals opens roller mill just a stone's throw from Hallett Dock 5

To say that Duluth Minerals fast-tracked construction of its roller mill on the western edge of our harbor would be an understatement. The company's brand new industrial and agricultural minerals processing facility was fully operational on Jan. 1; no small feat, considering that its concrete foundation had been poured just six weeks earlier.

Earlier in the year, Duluth Minerals had signed a long-term lease with Hallett Dock Company to build a mill just a stone's throw from the Hallett stockpiles it would need to feed its hopper.

In fact, to supply operations during this first winter, 35,000 tons of limestone were discharged at Hallett Dock 5 before the close of the Great Lakes shipping season.

"All the infrastructure is in place here. We strategically chose this location to facilitate the transport of raw materials by water," noted David Dunning, Duluth Minerals president. "Having a high-volume processing facility literally next door to Hallett allows us to stock inventory and reduce our overall cost of operation."

According to Dunning, the chemistry of Great Lakes stone makes it a highly desirable commodity. "Customers are more demanding today when it comes to mineral quality," Dunning said. "We acquired this high-quality limestone from Rogers City [Michigan] to meet the specs of one of our major clients."



Who needs an exterior? Duluth Minerals got its processing equipment in place — and went to work uncovered. Operations now. 'Skin' later this year.

The new company launched operations with a 10-year contract in hand to process 100,000 tons of limestone per year of roofing grade filler for a Twin Cities company. The roller mill will also process other grades of calcium carbonate for animal feed.

Dunning hopes to develop other opportunities, too. "Many of the larger taconite plants grind their own stone, but some of the smaller plants could also use us to grind/supply limestone for their flux pellets," he said.

"We built flexibility into this facility to enable Duluth Minerals to add other product lines [e.g. talc and clay] as demand warrants."

Owners plan to finish the building's exterior this summer; in the meantime the plant is fully operational. Duluth Minerals, with its four-person staff, is already shipping out 12 to 15 truckloads of processed stone per day.

Plans are to add employees and another shift or two in the months ahead. At full capacity, the plant will be able to process over 300,000 tons per year.



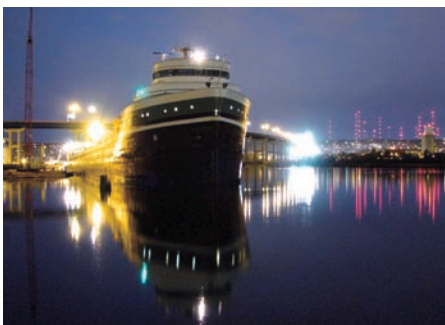
Crushed limestone is Duluth Minerals' stock in trade.

MARAD invests \$4 million in GSI facility in harbor

In November, as part of the Obama Administration’s Great Lakes Restoration Initiative, the U.S. Department of Transportation’s Maritime Administration announced a \$4 million allocation for the Great Ships Initiative (GSI) testing facility in the Duluth-Superior harbor. In an effort to prevent the spread of aquatic invasive species via ships’ ballast tanks, and through a cooperative agreement with the Northeast Midwest Institute, MARAD is providing both funding and technical expertise to help upgrade the GSI ballast water treatment technology facility — the only fresh water testing facility of its kind in North America.

‘Ships of the Night’ exhibit at Great Lakes Aquarium

Mary T. George, who has been shooting photos on our waterfront for 30-plus years, will have a collection of her work on display at Duluth’s Great Lakes Aquarium in March. An opening reception for her *Ships of the Night* exhibit is set for March 2 from 5 to 7 p.m.



The *Edward L. Ryerson* is one of the ships featured in Mary T. George’s photo exhibit.

Port Authority’s calendar celebrates maritime heritage

When local photographer Travis Chadwick shot this spectacular image of Tall Ships® Duluth, he not only captured a bit of maritime history but also the top slot in this year’s Port Authority calendar contest.

It’s Chadwick’s image on the Port Authority’s 2011 calendar that now graces the offices of nearly 11,000 maritime enthusiasts across the country and around the world.

Chadwick, 34, grew up in Duluth and has lived in Superior since 2003. He works for Charter Films, a company that engineers and manufactures plastic films used in a variety of applications that include food packaging, labels, banners, surface protection and more. Married with two young children, Chadwick started shooting photos at age 12. “Other than a basic starter course, I am all self-taught,” he said.

The calendar image was shot just after 7 a.m. on July 30. Public response to Chadwick’s winning image was impressive; the Port Authority was out of calendars by the first week of the New Year.

To see more of his images: www.travischadwickphotography.com. Thanks to Chadwick and to all of the gifted artists and photographers who submitted over 80 entries. We appreciate the time and talent they devote to chronicling maritime activity here in the Port of Duluth-Superior.



Port Passing

George N. Eskolin

George N. Eskolin, 85, of Superior, died Oct. 18, 2010, in St. Mary’s Medical Center, Duluth.

He was born on May 3, 1925, in Maple, Wis. He married Mary Aschenbauer on Aug. 31, 1957.

He was employed on the Great Lakes by the Interlake Steamship Company retiring, as a captain, in 1987 with over 40 years of service.

Capt. Eskolin was a member of Cathedral of Christ the King Catholic Church, the Shipmasters Association and the Harbor Club.

In addition to his wife Mary, George is survived by one daughter, Gayla (Joe) Ceccacci, Galveston, Texas; one son, Jim (Pam) Eskolin, New Brighton, Minn.; five grandchildren; and three great-grandchildren.

Duluth project cargo sets record

Heaviest dimensional cargo via CP rail moves west from Duluth to Canada

The week of November 12 marked a milestone in project cargo movement at the Head of the Lakes as crews handled the heaviest ever Canadian Pacific (CP) direct, single-line rail move from the Port of Duluth-Superior to western Canada.

Two 300-ton dimensional transformer components, along with crates of accessories, arrived on Nov. 5 at the Port Authority's Clure Public Marine Terminal from Germany by way of Rotterdam aboard the freighter *Tracer*. Crews from Lake Superior Warehousing Co. discharged the high/wide/heavy cargo directly onto specialized railcars waiting dockside.

One, a brand new 20-axle railcar managed by SRT, had just recently been introduced into American service. A train composed of this car and eight others (including a 16-axle railcar) left Duluth later that week and made its way along a 1,200-mile CP clearance route northwest to Lethbridge, Alberta, where the transformer will be installed and eventually power the Montana Alberta Tie Line — the first international merchant transmission line in North America.

"When fully operational later this year, the 214-mile transmission line will interconnect the electricity markets of Alberta and Montana," said Paul Kos, director of engineering for Montana Alberta Tie Ltd., "opening up a huge potential for



Transformer components bound for Lethbridge, Alberta, made up the heaviest-ever CP single-line rail move from the Port to western Canada.

development in renewable energy projects in both countries."

"The Port of Duluth factored strategically in this single-line rail move," said David Walker, senior manager, CP Logistics Solutions. Since 2005, CP has handled the majority of wind energy components inbound to southern Alberta for wind energy projects in that region. CP completed upgrades to bridge infrastructure in Minneapolis-St. Paul a couple of years ago in order to accommodate the movement of more oversized/dimensional cargo through Duluth.

Duluth's Clure Public Marine Terminal — the farthest inland port on the Great Lakes St. Lawrence Seaway — is served by

CP with on-dock rail. "Utilizing Duluth's multimodal facility makes possible a single-line, cross-border rail haul that creates huge benefits for customers," said Walker. "CP is excited to have brought the two heaviest units through Duluth, one of our premier transloading partners."

"Our location enables us to collaborate with key marine and railway companies involved in transportation logistics," said Jonathan Lamb, vice president and general manager of Lake Superior Warehousing Co., the Duluth terminal operator, "not only for a transmission line project like this but also for renewable energy customers across the heartland."



Win a Duluth prize package in the First Ship Contest!
Check for details at www.visitduluth.com

Thanks for the lift

It isn't unusual to have fleetmates in Port at the same time, even oceangoing fleetmates. And it isn't especially notable to see one arrive on the same day that the other leaves. But on the same lift of the Aerial Lift Bridge? That's unusual! That's exactly what happened on Oct. 1, when the *Olympic Miracle* (arriving, heading for CHS) and *Olympic Melody* (departing, after loading at CHS) shared a bridge lift. Their respective captains exchanged friendly greetings with their horn blasts.

Tom Caine



Congressmen Cravaack, Duffy make joint visit

Newly elected U.S. Representatives Chip Cravaack (R-Minn. District 8) and Sean Duffy (R-Wis. District 7) met with Executive Director Adolph Ojard at the Port Authority on Nov. 30 for a briefing on the Port of Duluth-Superior, the shipping industry and key issues facing maritime commerce on the Great Lakes St. Lawrence Seaway.



Freshmen Congressmen Sean Duffy (left) and Chip Cravaack

MN2020 cites benefits of marine transport

A report released in December by Minnesota 2020, an online public-policy think tank, highlighted benefits provided by Minnesota's marine navigation industry: "[It] pumps a billion dollars a year into the state's economy, providing farmers, miners, foresters and manufacturers a low-cost, safe, energy-efficient way to export their products."

The report examined not only the numbers of jobs generated by

barge and ship traffic on the Mississippi River and out of the Port of Duluth-Superior but also how commercial waterways shipping boosts transportation safety, saves fuel and minimizes wear and tear on land-based infrastructure (i.e. roads and rail).

The report, researched and written by MN2020 Transportation Fellow Conrad deFiebre, validated the maritime industry's position as a major player in the state's

employment picture and economic development efforts.

Calling the industry "a valuable resource for Minnesota's economy," deFiebre referenced the need to address the backlog of dredging and infrastructure enhancement projects at ports and docks on the Mississippi and on Lake Superior.

Check out full-length "MN2020 reports" and other issues at:

www.mn2020.org/

Corrections

We make every effort to ensure accuracy in our reporting. Please note three corrections to news items in our fall magazine: 1) The photo credit for the inset grain loading image at the top of Page 9 should have been given to Mary T. George. 2) On Page 12, it was incorrectly reported that Superintendent John Tanner retired in June after 15 years with the Great Lakes Maritime Academy. Actually, Tanner retired from the Academy with well over 30 years of service, having served as superintendent for the last 15 years. 3) To see current and historic tonnage reports for the Port of Duluth-Superior (as referenced in the grain story on Page 10), the correct URL is: www.duluthport.com/port-stats-tonnage.php.

The Andrew and Phillip Fleet sails on

By Ken Newhams

The knock on the door of the *Duluth Shipping News* world headquarters in September 2003 came from an 8-year old boy named Andrew Meyer. I soon realized that he knew more about shipping in Duluth than I did.

Andrew still comes to my door

some months after that that Andrew appeared at my door for the first time. I found out why he wanted each issue so much. As soon as he received them, he created his own version of the *Duluth Shipping News*.

Today he not only publishes the now renamed *Swan Lake Shipping*

With that, and more they collected around town, they began to build a fleet of boats that now numbers 45.

The scope of their project is amazing. They build the boats and then launch them down their ramp and into the lake.

After initial testing, they load them with cargo, mostly coal and gravel and some iron ore pellets, and send them to another port, perhaps to Silver Bay, the new name for the next door neighbor. The *Swan Lake Shipping News* reports that the *Paul R. Tregurtha* made 15 trips last season and the *Walter J. McCarthy* 16.

The enterprise is not without mishaps; any shipping company encounters problems with the boats in its fleet. The boys bring their fleet into the garage for winter lay-up, but somehow the *Herbert C. Jackson* was left outside in the cold North Dakota winter. Spring came and the *Jackson* was retrieved, but not in the best of shape. Still, the *Jackson* could have been repaired, at least until Mother drove over it one day while she was taking the car out of the garage.

The real-world fleets have been known to cut up their boats and create new ones. It was not too long before the remains of Andrew and Phillip's *Jackson* became the Coast Guard cutter *Alder*.

Ken Newhams is the founder of the *Duluth Shipping News*:

www.duluthshippingnews.com

www.duluthboats.com



Andrew (left) and Phillip with part of their fleet, which they brought to Duluth earlier this winter.

when he visits Duluth with his family. The first time, his little brother Phillip (then age 6) was standing quietly behind him. With each passing year, both grew bigger and Phillip stood closer to his older brother. Following the family tradition, he, too, soon beat me in shipping knowledge.

Andrew was an early subscriber to my monthly newsletter (no longer published). My first contact with the family occurred when his mother called to tell me that her son had not received the latest issue. Her tone was serious. It was

News, he *creates* the shipping news. He and Phillip have built their own fleet of Great Lakes freighters. They sail the fleet, with cargo, in the shipping season when they visit their grandparents' home (now renamed the Port of Duluth-Superior) on Swan Lake, just over the state line in Minnesota from their home in Wahpeton, N.D.

Andrew had already built some small boats with wood, but that was mere child's play. A big breakthrough came when Phillip found Styrofoam in the basement left over from a repair project of Dad's.

Virtual organization: Great Lakes Ballast Water Collaborative

Neutral forum to discuss myriad science-based issues

The “Great Lakes Ballast Water Collaborative” can trace its origin to a meeting initiated by the U.S./Canadian International Joint Commission (IJC) and Saint Lawrence Seaway Development Corporation (SLSDC) in Detroit in September 2009.

This initial effort brought together U.S. and Canadian federal and state/provincial regulators and policymakers with multinational maritime carriers to discuss key issues concerning ballast water treatment.

As Terry Johnson, SLSDC administrator, said at that first meeting, “Never have there been in one room the breadth and depth of people that we have here today to address this issue...What we hope to accomplish is an exchange of basic knowledge from regulators to industry and vice versa, with also much to learn from our distinguished science panel. We also hope to develop better relationships between participants.”

Mark Burrows with the IJC added: “We support this activity because we believe regulations should be based on sound science.”

It quickly became clear that moving forward on meaningful and practicable ballast water regulations would demand the development of a unified vision made up by all stakeholder groups, in addition to greater levels of partnership between industry, regulators, the science community, and the general public.

It was decided that a virtual-organization – the Great Lakes Ballast Water Collaborative – was needed to provide a neutral forum to discuss regulatory philosophy, implementation practicability, the science of aquatic inva-

sive species (AIS) and ballast water, as well as information on available technological options, the physical realities of vessel construction and the nuances of maritime economics.

Questions raised at its first meeting, led to the development of a sophisticated, science-based approach to creating a shared body of knowledge. Participants used the Collaborative many times over the next year to address questions essential for implementing informed and functional ballast water regulation.

With pending action, the Wisconsin Department of Natural Resources (WDNR) engaged the Collaborative to assist with its Ballast Water Treatment Technology Assessment Report by conducting an in-depth review to determine whether specific ballast water treatment criteria could be met. A WDNR news release stated:

“The Collaborative concurred with the latest science and technology reports that treatment systems have not been approved to the level Wisconsin’s standard required and cannot be measured to that level to prove the treatment effectiveness. The group concluded that technology does not yet exist to verify whether a treatment system can rid ballast water of organisms effectively enough to meet Wisconsin’s [current] standard.” To read the feasibility report:

<http://dnr.wi.gov/org/water/wm/ww/drafts/BallastWaterFeasibilityReport.pdf>

Wisconsin is now proposing to modify its ballast permit to the international standard and, to provide added protection, to continue requiring ships to flush their ballast tanks at sea.

Breaking research shows that exchanging ballast water at sea can reduce, typically by 95 to 99 percent, the

number of invasive species that have the greatest chance of surviving and causing trouble in freshwater bodies, according to Sarah Bailey, PhD, a research scientist for of Fisheries and Oceans Canada, and a member of the Collaborative.

Wisconsin’s need for science-based information on ballast-mediated introductions of AIS, as well as realistic and accurate information on vessel structures, movements, and capabilities would not have been readily available or generally acceptable to many audiences without the broad participation represented by the Collaborative.

Interest in the work of the Collaborative extends far beyond the Great Lakes region, as evidenced by the active participation of the EPA, USCG, California Lands Commission and USGS in Washington State. In December, the SLSDC Deputy Administrator, Craig Middlebrook, was invited to make a presentation on the work of the Collaborative at the 6th Annual International Ballast Water Conference held at the headquarters of the International Maritime Organization in London, England.

The Collaborative continues to serve as a forum to vet important questions posed by its stakeholder members. It is working to help us better understand and prioritize the risk and consequences of trade patterns in the Great Lakes and to collectively find best practice protocols to address identified risks.

For more on the Collaborative or to review notes of its major meetings, <http://search.greatlakes-seaway.com>

By Craig Middlebrook, Deputy Admin., SLSDC, and Dale Bergeron, Minnesota Sea Grant



closing the season

Photos left to right, top to bottom: Robert Welton, DSPA, DSPA, Robert Welton, Lynn Wegner, Mary T. George and Diane Hilden (bottom two)



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