

## Printing up pride

Superior artist supports queer community, Black-owned businesses and more.

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## Fish guts

Believe it or not, somebody wants 'em.

in Outdoors, Page D1



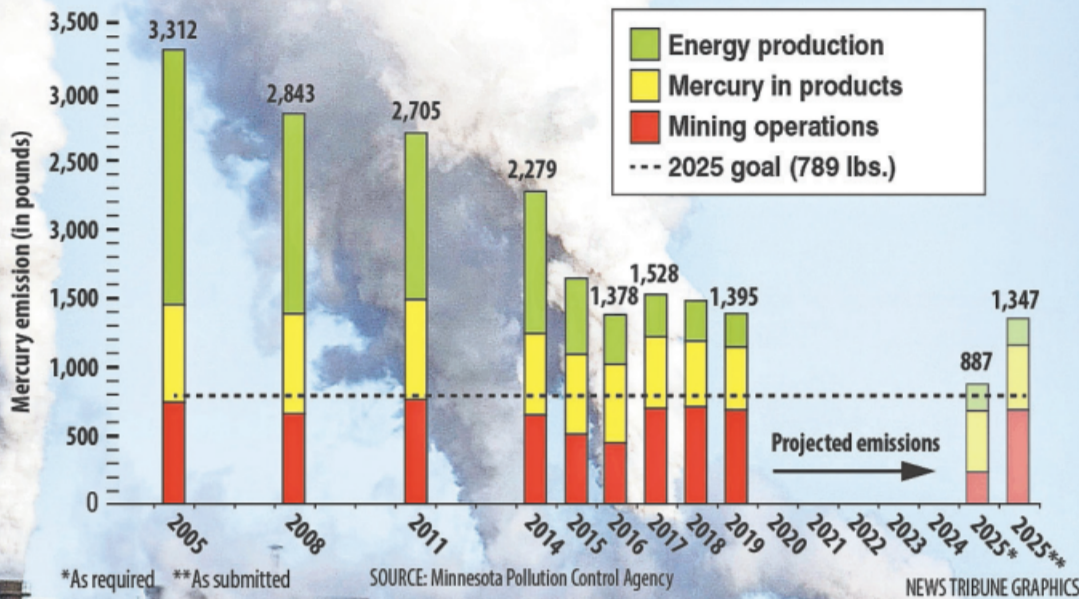
# DULUTH News Tribune

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## Mining operations, mercury in products and energy production



## UMD math department head to step down

By Andee Erickson  
aerickson@duluthnews.com

The head of the University of Minnesota Duluth's mathematics and statistics department announced he will step down from the leadership role come August, after two years of chairing a department through the aftermath of a gender-discrimination investigation.

Sellers announced his decision to his department during a meeting on May 21, prior to the contract year ending on May 23. The News Tribune obtained a recording of Sellers's announcement through an anonymous source who attended the meeting. The News Tribune typically does not allow sources to go unnamed, but makes exceptions on rare occasions.

"We've faced many challenges together, especially over the last three semesters, which have been impacted by COVID," Sellers told the department. "I've also personally dealt with a number of opportunities and challenges over the last two years here at UMD."

UMD hired Sellers to chair the department in 2019 after a national search. By that point, the University's Office of Equal Opportunity and Affirmative Action had already begun investigating complaints filed during the 2018-2019 academic year regarding a hostile work environment toward women in the department.

Shortly after associate professor Tracy Bibelnieks announced she'd be resigning from the department in April, the News Tribune reported that the investigation found the collective conduct "by a number of department members" did violate the university's policy prohibiting discrimination and created an environment "that

UMD: Page A7



Sellers



Snyder

# MINES AND MERCURY

## Taconite plants not on pace to reduce mercury by 2025

By Jimmy Lovrien  
jlovrien@duluthnews.com

The Iron Range's taconite plants say they can't meet the state's mercury reduction requirement because it's too expensive and/or not technically possible, putting the state at risk of missing its 2025 mercury reduction goal set more than a decade ago.

Minnesota has made strides in curbing mercury emissions, mainly through the retirement and retrofitting of coal-burning power plants, but to come close to reaching its goal of 789 pounds of mercury emissions each year across all sources by 2025 — a 93% reduction from 1990 levels of nearly 11,300 pounds of mercury per year — the iron ore mining and pellet

industry is required by the state to reduce its mercury emissions by 72% by 2025: from 806 pounds per year (the maximums from 2008 and 2010) to 226 pounds per year.

However, according to plans filed in 2018 by the state's taconite plants, only two operating plants have agreed to reduce mercury emissions, resulting in an expected industrywide reduction of just 15%, or down to 685 pounds per year, by 2025.

"It's disappointing and it's frustrating that we're not on track to meet those goals," Craig McDonnell, the MPCA's assistant commissioner for air and climate policy, said in an interview. "Nobody enters into negotiations thinking you're going to set a goal that you can't meet. So

in 2009, my presumption would be that everybody thought we could meet this — we're not on pace."

Combined with the expected emissions from power plants and product use and disposal, the failure of the taconite industry to meet its 2025 goal would mean 1,347 pounds per year of mercury emissions — well above its statewide goal of 789 pounds per year across all industries.

"Despite significant reductions from some sectors, the MPCA projects that the state will not meet the plan's 2025 statewide reduction goal. Meeting that goal will require significant reduction of mercury emissions from the taconite mining sector and further reductions from mercury use in various products," the MPCA warned in its report

on air emissions to the Legislature earlier this year.

The level of mercury in taconite generally increases from east to west along the Mesabi Range and is released into the atmosphere through stack emissions as the pellets are fired, or hardened, in the pelletization process, according to a 2003 report from the Department of Natural Resources.

Mercury, a powerful neurotoxin, is then brought down into water bodies by rain and snow and into fish. While the MPCA estimates about 90% of the mercury in Minnesota comes from outside the state, McDonnell said the state and others all need to work to reduce mercury in the atmosphere.

"Minnesota has folks who

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Maria Lockwood / Forum News Service

The Gordon fire tower rises above trees to the west of U.S. Highway 53 May 26, a sure sign to motorists that they are passing the town of Gordon.

## Fire tower reopens to the public

By Maria Lockwood  
Forum News Service

Memories are made at the Gordon fire tower.

"I think just about everybody that I've talked to about it from the local community has a story about going up the tower," said Jesse Smith of Gordon. Some have been up it 100 times, others have left their initials on the underside of the cab.

"There's somebody visiting tomorrow that got engaged on it," said Smith, a member of the nonprofit Friends of the Bird Sanctuary group. "Everybody has a story like that. On

our Facebook page, every time we put a picture on there, most of the comments are like memories like that. There's a lot of them on there."

"Here's a fun fact," said Judy Aspling, president of the friends group. "At the bottom, there was always a sign that said 'no climbing.' At the top there's always been a guest book."

Wednesday, the tower offered a clear view of waterways, wildlife, green trees and the spring sky. A turkey vulture flew past the cab; a formation of geese flew over the water below; a dragonfly sat sunning on a strut;

an eagle searched for dinner from the top of a tree. Exploring the cab, 100 feet above the ground, turned up everyday items — sunscreen, aspirin, two decks of cards, aluminum foil, puzzle books — as well as the tools of the fire-spotting trade.

The tower has been a fixture on the town of Gordon landscape since 1935. The fact that it was still standing Wednesday is due to a timely connection, a nonprofit that made a commitment, cooperation at the state, county and local levels, and an outpouring of

TOWER: Page A7

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Today  
Partly cloudy  
High: 59 Low: 45

Tomorrow  
Cloudy  
High: 65 Low: 50



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# DNR terminates Mesabi Metallics leases

**Editors note:** This story was also published in the News Tribune's Friday e-edition.

By Jimmy Lovrien  
jlovrien@duluthnews.com

The Minnesota Department of Natural Resources has terminated the leases for Mesabi Metallics, the beleaguered iron ore mine and half-built processing plant near Nashauk.

The DNR started the 20-day process to terminate the company's leases earlier this month after the company failed to meet a last-chance requirement set by the state after years of missed lease requirements and deadlines. Namely, it only made half of the required \$200 million available by May 1, blaming the COVID-19 crisis in India, where its funder Essar is based. Last week, the DNR added to the list of unfulfilled requirements when it deemed one of Mesabi Metallics' lenders as not credible.

The state agency announced the lease termination in a news release Thursday and said it will follow up



with the company on any equipment that needs to be removed from the site.

The future of the mine and plant site are not yet known. Though Minnesota's two other iron ore mining companies — U.S. Steel and Cleveland-Cliffs — have both expressed interest in the site.

"The DNR has not made any decisions on future leasing of the state minerals in the area," the DNR said. "DNR will take the time necessary to consider proposals from credible entities before deciding how to proceed."

On Wednesday, Ravi Ruia, co-founder of Essar Global Fund Ltd.,

took out a full-page advertisement in the Minneapolis Star Tribune urging Minnesotans to support the project.

"Despite the progress we made, we regret there were some setbacks due to circumstances we could not control, which is not unusual for a project of this scale. But in spite of these setbacks, we are still here to make sure this project will move forward this summer as planned. We are going to get this done," Ruia wrote.

Since 2007, iterations of Mesabi Metallics — the former Essar Steel Minnesota project that has had multiple owners,



2018 file / News Tribune

A crane sits next to the partly constructed Mesabi Metallics pelletizing building.

managers and names — has floundered through construction stoppages, bankruptcies, missed deadlines, late payments and other legal battles. In the works for more than a decade, the project sits about half-finished. While Essar walked away from the bankrupt project in 2015, leaving behind \$1 billion in debt, the Mumbai, India-based company reentered the picture after settling some \$260

million of debt.

Cliffs, which owns a patchwork of land at the Nashauk site, has long urged the DNR to award it the leases and permits instead so it could build a hot-briquetted iron plant at the Nashauk site; and has even threatened to close Hibbing Taconite when it runs out of ore in 2025 if it cannot get the Nashauk leases and supply the Hibtac plant with Nashauk ore.

This month, after the DNR announced its intentions to pull Mesabi Metallics' leases, U.S. Steel also expressed interest in the site. The company said ore from the site could help feed its Keetac pellet plant and said it was interested in building a direct-reduced iron facility on the site to supply electric arc furnaces.

The DNR has said leases can not be transferred to other companies.

## MINES

From Page A1

really are practicing the subsistence diet and eating a lot of fish — a healthy, lean source of protein, typically. And that's a positive thing," McDonnell said. "However, it's not a positive thing when a fish tissue is impaired with mercury ... it's a neurological toxin and it has devastating effects on particularly young kids."

The Minnesota Department of Health in 2011 found 10% of Minnesota infants born in the Lake Superior basin had mercury levels above the U.S. Environmental Protection Agency's reference dose for methylmercury, the type of mercury in fish.

### Too expensive, tech isn't there, companies say

In plans filed in 2018 to the MPCA, the companies said reaching 72% reductions at most plants was too expensive or not compatible with existing processes and technology.

Of the six operating plants, only the two with the least amount of mercury emissions proposed any additional reduction: Northshore Mining Company in Babbitt and Silver Bay, and Minorca Mine in Virginia.

Cliffs' Northshore Mining, which emits the least amount of mercury, was the only plant that said a 72% reduction in mercury was possible. It could reach that by shutting down its coal-fired power plant on site and changing work practices on its indurating

## ABOUT MERCURY

Mercury, a potent neurotoxin that can harm human health even in small amounts, is found naturally in the Earth's crust. While it is released into the environment from volcanic activity and weathering of rocks, its largest source is human activity, including burning coal and processing taconite iron ore, among other industries.

Mercury that falls to Earth can come from local and regional sources, but 90% of mercury in Minnesota originates from outside the state. That mercury can become toxic — called methylation — as it moves through the environment, falling back to Earth in the rain and snow and into water bodies. It can build up in small creatures, fish and animals that eat fish, including loons, eagles and people.

For fetuses, infants and children, the U.S. Environmental Protection Agency says the primary health effect of methylmercury is impaired neurological development. Methylmercury exposure in the womb, which can result from a mother's consumption of fish and shellfish that contain methylmercury, can adversely affect a baby's growing brain and nervous system. Impacts on cognitive thinking, memory, attention, language, and fine motor and visual/spatial skills have been seen in children exposed to methylmercury in the womb. Recent studies have shown that the developing nervous system of the fetus may be more vulnerable to methylmercury than is the adult nervous system.

furnace, resulting in a drop from 41 to 12 pounds of mercury per year.

Minorca Mine, now owned by Cleveland-Cliffs, in 2018, then under ArcelorMittal, said it would reduce mercury emissions by 22% — from 67 to 52 pounds per year — by using "the existing wet scrubber controls with solids removal to prevent the reintroduction of mercury into the induration process. Minorca determined that the 72% mercury emissions reduction for the indurating furnace was not technically achievable or without unacceptable

environmental impacts by any of the potentially available mercury emissions reduction technologies," the company said in its plan.

The other four plants — U.S. Steel's Minntac in Mountain Iron and Keetac in Keewatin and Cliffs' Hibbing Taconite in Hibbing and United Taconite in Eveleth and Forbes — said reaching 72% reduction in mercury emissions was cost-prohibitive or not technically achievable.

Technologies were often well above the \$7,100 per pound of mercury reduction that the taconite industry considers as an acceptable cost. Some



File / News Tribune

Steam rises out of the stacks at United Taconite in Forbes.

technologies would run into the hundreds of thousands of dollars per pound, the companies said.

But McDonnell of the MPCA said the agency is "bullish" on activated carbon injection, which can control mercury emissions coming out of the stack.

"We want to understand how we can work with companies to install control technology like that," McDonnell said.

Cliffs did not respond to the News Tribune's request for comment.

In an emailed statement, U.S. Steel spokesperson Amanda Malkowski said the company is in compliance with the mercury rule and noted the 2018 plans are still under review by the MPCA.

"U.S. Steel continues

its commitment to environmental protection, as shown by the ongoing mercury air emission reductions that have taken place at Keetac and Minntac for over 15 years," Malkowski said.

Two plants that are not operating — Mesabi Metallics and Mesabi Nugget — said they would reduce emissions by 72% and 50%, respectively. However, Mesabi Metallics in Nashauk is half-built and just lost its leases while the Mesabi Nugget iron nugget plant near Aurora, which opened in 2009, has been indefinitely idled since 2015.

### MPCA looks to federal enforcement

McDonnell said the MPCA still believes 72% mercury emission reductions at each plant

by 2025 is achievable and said the agency wants to work with companies to make it happen.

He would not specify what regulatory actions the MPCA could take against the companies to ensure they meet the 2025 goals but acknowledged the agency understands both the importance of the taconite industry to the state and the seriousness of mercury pollution.

"We're in that cross — that tough spot," McDonnell said.

But the agency is urging federal regulators to step in.

In September, the MPCA petitioned the EPA to set mercury standards on the taconite industry, something the federal agency has avoided for more than 30 years despite orders from U.S. Congress and a federal appeals court.

Through that, McDonnell said the EPA could require taconite plants to use a standard mercury-reduction technology across the industry.

"(Taconite plants) are the biggest driver right now for our (mercury) air emissions in the state. ... That's why it's critical to continue to work with EPA to push on this," McDonnell said.

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