

MINNESOTA

ENVIRONMENT



MPCA — 40 years of environmental history

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In the year 2047

MINNESOTA

ENVIRONMENT

Information and solutions for improving
Minnesota's air, land and water

Volume 7, Number 1

*The mission of the Minnesota Pollution
Control Agency is to work with Minnesotans
to protect, conserve and improve our
environment and enhance our quality of life*

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From the Editor

In 1969, two years after the creation of
the MPCA, a booklet was published.
It was called *Your Minnesota Pollution
Control Agency*, and its opening page
still resonates today.

"Just as owning a broom so you can
clean up after yourself is part of the
cost of owning your home, so pollution
control is part of the cost of living, part
of the cost of doing business and part of
the cost of government. ... [The MPCA
uses] ... the same sort of judgement
you make when you choose between a
broom and a vacuum cleaner for your
home. ... The role of the MPCA is
also one of teaching. The staff ... tries
to teach individuals, industries and
municipalities how to do the best job of
pollution control at the least cost. They
do this impartially, just as consumer
organizations report impartially the cost
versus quality of brooms and vacuum
cleaners."

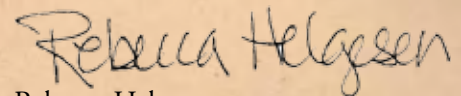
This year we celebrate the 40th
anniversary of the creation of the
MPCA. Some environmental problems
haven't changed (wastewater treatment,
air pollution) and some are newly
recognized (climate change, airborne
mercury). Our purpose remains the
same, though: to help keep our air, land
and water clean and safe.

Our mission today incorporates
different strategies than we used 40
years ago. In 2007, partnerships are
key to environmental protection
— partnerships with industry,
municipalities and even individuals. The
time is past when the MPCA alone can
take responsibility for our environment.
We need all Minnesotans to be our
partners, and we're not afraid to ask.

The MPCA still handles "typical"
pollution issues, but we have
conservation goals, now, too. We urge
Minnesotans to buy green products
and services, conserve resources and
act on their environmental knowledge.
We urge you to learn ways you can
help keep our air, land and water clean.
With you — Minnesota farmers,
plant operators, business owners,
environmentalists, citizens and students
— we can cope successfully with the
complex issues that face us today.

To learn more about your role in
environmental protection, go to the
MPCA Web site at [www.pca.state.
mn.us](http://www.pca.state.mn.us). We look forward to being your
partner for another 40 years!

Sincerely,



Rebecca Helgesen

Correction: In the previous issue of
Minnesota Environment, the *Emergency!*
issue, the article "Lust is the Word" (p. 10)
erred in describing a gasoline leak in 2005
at a gas station in Minnetonka. The article
incorrectly named the station, and also said
inaccurately that residential drinking water
wells in the contamination area were sealed.

A petroleum leak was reported to the
MPCA in August of 1994, not 2005,
at an Oasis Market gasoline station. We
incorrectly identified the station as a Fina
station (it was not a Fina station at the time
of the leak).

During the course of the assessment,
sealing residential wells was considered but
not done. Today, some residential wells
are monitored, though all homes in the
neighborhood are connected to city water.

— Editor

Cover Photo: Concerned citizen George Serbesku shows Governor Karl Rolvaag dead ducks resulting
from the disastrous oil spill on the Mississippi River (April 2, 1963).
*Minnesota Historical Society, St. Paul Dispatch-
Pioneer Press News Negative Collection*

Minnesota's environmental movement... ahead of the federal curve

In 1967, before the federal Clean Water Act or Clean Air Act and three years before the U.S. Environmental Protection Agency was established, the Minnesota Legislature created the Minnesota Pollution Control Agency.

What led to the MPCA's creation? According to Sir Isaac Newton, for every action, there is an equal and opposite reaction. In this case, many actions over a long period built enough momentum for development of a state agency devoted to controlling pollution.

During the early years of the state, communities and businesses routinely dumped raw wastes into streams and lakes. In 1885, to control diseases spread through poor quality drinking water, the first legislation was passed to prevent pollution of rivers and other sources of drinking water. Responsibility for polluted state waters rested with the State Board of Health — later the Department of Health — for many years.

In 1945, because too many communities dumped raw sewage into lakes and rivers, the legislature authorized a new state Water Pollution Control Commission. One of the Commission's jobs was to encourage communities to build wastewater treatment plants to stop the flow of raw sewage into rivers and lakes.

In 1962, Rachel Carson's book *Silent Spring* outlined the dangers of pesticides such as DDT. The book raised the public's consciousness of the environment, prompted public outcry and, some say, set the national environmental movement in motion. Environmentalists demanded not only protection of the natural world, but new regulations and punishment for those who broke them. As the environmental movement gained attention, national leaders, including presidents John F. Kennedy and Lyndon Johnson, added environmental issues to their political agendas and legislative programs.



Duck rescuer Mrs. Serbesku holds a survivor of the 1962-63 oil disaster. *Minnesota Historical Society, St. Paul Dispatch-Pioneer Press News Negative Collection.*

Close to home, 1962 was significant in Minnesota. Late that year, Minnesota witnessed two of the most catastrophic oils spills in the history of the state.

In December, sub-zero temperatures caused a pipeline break at Richards Oil in Savage. The ruptured line released a million gallons of oil into the Mississippi River. Shortly thereafter, a storage tank at the Honeymead plant in Mankato burst, releasing more than three million gallons of soy oil onto the ice of the Minnesota River. Oil from both spills slowly traveled downstream.

With the spring thaw, the tragic results were evident. Although Governor Rolvaag activated the the National Guard to coordinate cleanup (a project rather quaintly known as Operation Save-a-Duck), and citizens volunteered to rescue and rehabilitate oil-covered ducks, it was not enough. The survival rate of oil-coated ducks was dismally small. Despite everyone's best efforts, more than 10,000 waterfowl and countless beaver, muskrats, turtles and fish died.

Because of this and other major environmental incidents during the next few years, the Minnesota Legislature finally created the Minnesota Pollution Control Agency in 1967. Its mission was to protect the air, land and waters of the state.

Minnesota's environmental timeline

1800s

Garbage, sewage, sawdust and industrial waste are dumped directly into rivers, impeding boat navigation and creating epidemics.

1872

Minnesota Board of Health established.

1885

First state pollution legislation.

1945

Water Pollution Control Commission established.

Dec. 7, 1962

Pipeline breaks in Savage, sending more than one million gallons of oil onto Minnesota River ice.



George Serbesku holds up two dead beavers, victims of the oil spill. *Minnesota Historical Society, St. Paul Dispatch-Pioneer Press News Negative Collection.*

Minnesota's air, land and water are indeed cleaner today than they were 40 years ago, despite a population that grew from 3.5 million to 5.1 million, and corresponding growth in industry and transportation. The Twin Cities is one of only three major metropolitan areas in the country that today meets all federal ambient air quality standards. Minnesota is one of only 11 states to meet those same stringent standards statewide. In addition, compared to 1990 levels, mercury emissions from Minnesota sources have been reduced by 70 percent.

In 1967, we were ahead of the federal curve in recognizing and taking action to safeguard our environment. We're still ahead of the federal curve and continue to maintain our reputation as a national model of environmental protection.

— Nancy Miller



MPCA photo

MPCA Citizens' Board

In 1967, when the Minnesota Pollution Control Agency replaced the State Water Pollution Control Commission, the entire agency consisted of seven citizens appointed by the governor. In order to deal with the complex environmental issues, professional staff were soon hired.

The agency has grown considerably since then to include the state's leading environmental scientists and engineers, and a variety of other experts, inspectors and permit writers.

But the concept of the Citizens' Board remains intact.

The Board sets the MPCA's policy and direction, and takes action on significant or controversial issues. Under the authority of delegations from the Board, the commissioner of the MPCA directs the day-to-day work of approximately 800 staff.

The Citizens' Board now consists of the commissioner and eight members appointed by the governor to four-year, staggered terms. One member must be knowledgeable in the field of agriculture, and one member must be a representative of organized labor.

The agency's commissioner, currently Brad Moore, serves as the Board's chairperson at monthly meetings. Meetings are open to the public. The Citizens' Board schedule can be found at: www.pca.state.mn.us/about/board/bdschedule.html.

— Dan McLean

Jan. 23, 1963

Soybean oil storage tank collapses in Mankato, releasing three million gallons of oil onto the ice of the Blue Earth and Minnesota Rivers.

Spring, 1963

More than 10,000 ducks and more other wildlife die as the oil-laden ice melts into the rivers.

1967

MPCA established by the legislature, taking over authority from Water Pollution Control Commission and with added air quality and solid waste authority.

1969

State water and air quality standards adopted.



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In the bad old days ...

Many older folks remember the days when smoke billowed out of the smokestacks that lined the Minneapolis and St. Paul skylines. Both large and small businesses produced unregulated air and water pollution 40 years ago, and this became the major focus of the newly-created MPCA. However, even at the time, agency staff recognized that the practices of individuals also added significant contributions, particularly in terms of waste disposal and vehicle emissions.

It was sadly routine 40 years ago for home and business owners to dump garbage and unwanted items in woods, wetlands and ditches, leaving ugly mysteries — often headline-making and sometimes toxic — for others to clean up 20 or 30 years later. Many containers of liquid wastes broke open and leached into the groundwater that Minnesotans used for drinking.

In cities, oil, paint and other polluting liquids were regularly dumped down drains and sewers, only to end up in rivers and lakes. Hazardous waste was casually stored and disposed of without regard for the danger it could pose, either immediately or in the future. Old, dirty, industrial sites were vacated

and left too polluted for any further use, blighting cities and towns.

As late as 1976, 450 communities in Minnesota still had no or inadequate treatment of sewage and industrial waste. More than 40 percent of industries in the state did not treat their own wastes but simply dumped them in rivers and lakes.

Before trash removal service was mandated, people often burned garbage in backyard burn barrels. Air quality in residential neighborhoods was occasionally smoky and unpleasant in the 1960s. Mrs. Walter Gehrke of Minneapolis wrote a letter to the *Minneapolis Star*, saying, “I would like to know what one ordinary individual can do to help herself from being gassed to death without wearing a gas mask... trash burns in our neighborhood, smoldering seven to eight hours at a time, making it impossible for us to open our windows” (*Letter to the Editor, July 21, 1965*).

“Most backyard garbage-burning has ceased in the metro area, but it still takes place in rural areas,” says the MPCA’s Mark Rust. While Minnesota law banned burning industrial waste,

garbage, and hazardous wastes, the law still allows farmers to conduct open burning if regularly scheduled trash pickup is not reasonably available. Rust says that as a result, in 2005, more than 45 percent of rural Minnesotans — less than half of whom are actually farmers — still burned their garbage, releasing a variety of toxic fumes into the air.

After the advent of catalytic converters in the 1970s, gasoline in cars burned cleaner. Some drivers, though, removed the devices illegally, willing to trade cleaner air for what they perceived as better performance. The *Minneapolis Tribune* reported on February 26, 1967, that “Some car owners in the Twin Cities have disconnected anti-smog devices on their autos, apparently assuming the devices impair gas mileage and engine performance ... one service manager received calls to disconnect the devices and had also seen devices that had been manually placed out of order.”

It took years of hard work by citizens, local government, legislators and the MPCA to bring us to where we are today. Although we continue to have plenty of environmental work in front of us, we have made tremendous strides in cleaning up and preventing a great deal of pollution in Minnesota.

— Jen Groebner

Minnesota's environmental timeline (cont'd)

1970

First Minnesota air-monitoring station set up.

Congress creates U.S. Environmental Protection Agency (EPA).

Congress enacts the federal Clean Air Act.

First national Earth Day observed April 20.

1971-1972

Federal Water Pollution Control Act enacted.

First air pollution alert called in Twin Cities Feb. 10-11, 1972 (sulfur dioxide).

200,000 gallons of fuel spills at airport, ends up in river.

St. Paul Dispatch photo



MPCA photos

The way we were: 40 years of environmental memories

Although the focus on protecting and improving the environment remains the same as it always has been, both the work of the MPCA and the nature of pollution have changed.

“We got the obvious problems under control,” says Rod Massey, 1972 hire and longtime MPCA division director. “You no longer see the disgusting streams and rivers or the black smokestacks.”

The nature of Minnesota's pollution has evolved from the 1960's billowing black smokestacks, unnavigable rivers and illegal dumps to microscopic particles and toxic pollutants measured in parts per billion. In a quirk of perception, though, says emergency response supervisor and unofficial MPCA historian Stephen Lee, “the better it gets, the worse things seem.”

In the mid-1960s, many Minnesota rivers and lakes were heavily polluted; almost any action was better than nothing. Some communities dumped raw sewage into waterways. Waste flowed from timber harvesting, often clogging rivers so badly that boats could

no longer navigate. Harold Wiegner, who joined the MPCA in 1969, remembers dipping a small magnet into Lake Superior and pulling it out covered in iron mine tailings that had been dumped into the lake.

“Back then, everything seemed so clear. There was a right way and a wrong way. Things are so much more complicated today ...”

Mary Palmer, MPCA

Wiegner also recalls using old-fashioned methods to do his work. “Engineers did calculations with slide rules, and draftsmen turned sketches into designs.” He also had to camp out overnight to collect water samples. Today, no one camps out, and computers help analyze water samples.

Craig Affeldt remembers when phosphates were banned from household detergents in the 1970s (about half the phosphorus in wastewater came from detergents). Too much phosphorus makes algae grow

rapidly in lakes and rivers, choking out other life and causing problems for boaters and swimmers. Thirty years later, as a St. Croix River basin coordinator, he brokered an agreement between Wisconsin and Minnesota to work together to reduce phosphorus in the St. Croix.

Engineer Don Kyser joined the MPCA in 1969 as one of the first solid waste employees. “There were only five of us,” remembers Kyser. Their first job was to conduct 1,500 dump surveys. “We were just finding all the dumps then.” Kyser later moved to the Waste Management Board, later the Office of Environmental Assistance (OEA), where he helped communities develop solid waste policies. With the 2004 merger of OEA and the MPCA, Kyser is back where he started — but with a difference. Now he helps local governments plan recycling and resource recovery.

Technology bytes

Technological advances have changed the way most MPCA work is accomplished. Like other employers, the MPCA once had steno and typing

MPCA regional offices established in Duluth, Brainerd, Rochester, Marshall and Fergus Falls (later moved to Detroit Lakes).

1973-1974

Legislature passes Minnesota Environment Policy Act.

MPCA authorized by EPA to regulate hazardous waste management and some water permits.

1975-76

PCBs found in Mississippi and Minnesota River fish.



MPCA photos

pools. A copy of a document could be made only with carbon paper as it was being typed. Juline Holleran was hired as a legal secretary in 1977. Her assignment was to type documents related to the Reserve Mining case. “There were so many legal briefs to type!” she recalls. Peggy Hicks started in 1976 as a clerk-stenographer and used shorthand to take minutes of Citizens’ Board meetings. “I remember when they finally bought me a transcribing machine!” she says. “It sure allowed me to take more accurate minutes.”

When Roger Karn started inspecting sewer ponds in 1972, he had to draw pictures of facilities to illustrate problems. After bringing one city into compliance by drawing a picture for the mayor, the MPCA bought him a camera. Today no inspector leaves the office without a digital camera. One inspector has a pilot’s license and helps other staff take aerial photos of pollution problems.

Anne Jackson remembers filing wastewater discharge monitoring reports on handwritten index cards. When personal computers were first put into the office, Jackson admits she thought “no one is going to put

computers in their homes!” Today, many businesses submit permit information electronically, and most of the environmental data collected by the MPCA is available online.

Environmental partnerships transform work

John Hensel was hired fresh out of engineering school in 1972. He’s witnessed many changes in how the MPCA works. “Rather than being the ‘big regulator,’ we now work in partnership more,” says Hensel.

Recent retiree Loren Voigt joined the MPCA in 1976 and has seen community involvement grow over time. “For many years, environmental groups weren’t plentiful. Now there are several well-organized groups.”

Voigt says the MPCA is doing a much better job reaching out for public opinion and is pulling more people into decision making. Rod Massey agrees. “As we try to solve more complicated problems that involve choices and complex solutions, we are bringing the public into decision making.”

Mary Palmer joined the MPCA in 1973. “Back then, everything seemed so clear,” she reflects. “There was a right

way and a wrong way. Things are so much more complicated today, and we need everyone around the table.”

Gene Erickson found his true calling when he joined the wastewater operator training program in 1974. Not only have his visual aids switched from slides in a projector to slides on a laptop, the technology used by wastewater treatment operators has evolved as well. The MPCA wastewater training program is so well regarded that in the 1990s, the EPA invited Erickson and his colleagues to travel to Moscow with them to help improve the city’s wastewater treatment. Long eligible for retirement, Erickson says, “I just enjoy what I do.”

“I think our biggest challenges are still ahead of us,” says Gary Pulford, a solid waste manager who first joined the agency in 1970. “Our pollution problems are about the way we live, work and play just as much as they are about pipes and stacks,” he continues. Pulford isn’t ready to retire either. “I don’t know what I’d do. You can only remodel so many times.”

— *Barbara Skoglund*

Minnesota's environmental timeline (cont'd)

1979-1980

Legislature passes Waste Management Act.

MPCA's Hazardous Waste Strike Force identifies 25 dump sites.

1982-1983

Acid Rain Control Act passed.

State Superfund law enacted.

1985-1987

Williams Pipeline explodes in Mounds View; two die.

Legislature enacts laws to control pipelines, underground tanks, polluted runoff, household hazardous waste, and establishes Clean Water Partnership to help local governments improve lakes and streams.

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Today's environmental challenges: less visible but more complex

“The most obvious environmental issues we face today are those that challenge the entire planet,” says Bill Sierks, MPCA manager for energy and climate change. “We’ve gone from solving environmental problems that states and communities could tackle to problems that require a regional or global approach.”

Forty years ago, government used regulations to address smokestack industries, filthy rivers and lakes, and garbage piled in town dumps. These regulations have resulted in cleaner air, water and land. Today, we face different stresses on our environment — from rising population, increased energy consumption, and changes in how we use land.

“Before, rules and technological fixes could address problems without requiring people to change their behavior,” said Sierks. “Now we face problems, like air pollution from energy use, that require us to make behavior changes like how we drive.”

Shifts in farming

Wayne Anderson is the agricultural liaison for the MPCA. He has worked for the MPCA for 34 years, and has seen a dramatic shift from mostly family farms to larger, more industrial ones.

“Forty years ago Minnesota had 100,000 farms with relatively few animals each. Today, we have about 30,000 feedlots, with about a thousand of those having more than a thousand animals.”

Intensively-farmed animals produce a great deal of manure in one place. This must be managed if it is not to damage the environment.

“The technology of feedlots has changed, from a barn and open manure ponds where runoff was a major pollution issue to confined buildings with manure storage systems,” Anderson said.

“Now, one focus is on how to get the most benefit from the manure, which is to get it onto the land in a way that minimizes odor by injecting into the soil or tilling within 24 hours of application.”

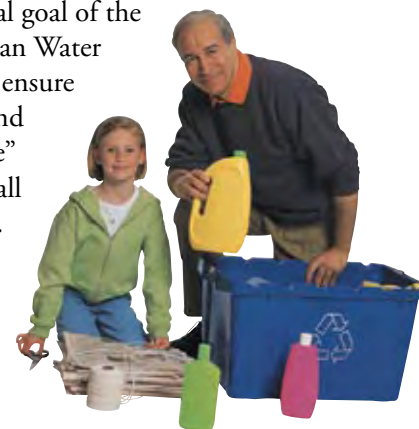
Anderson added, “Producers are doing a better job at using the manure. It used to be considered waste. Now farmers are using the waste as fertilizer.”

Pollution from all of us

It isn't all smokestacks and industry anymore. We are facing greater challenges now from nonpoint sources of pollution, meaning non-industrial but numerous sources, such as family yards, farms, small businesses, vehicles and recreational activities. These sources individually produce small amounts of pollution, but when added together, they make big amounts.

According to the MPCA publication, *Minnesota Environment 2005 — How are we doing?* (www.pca.state.mn.us/publications/reports/mne-2005.html), “Minnesota’s lake and stream quality ranges from very good in some parts of the state to very poor in others. Although Minnesota has assessed only a small portion of waters, many are unhealthy for aquatic life or unsafe for swimming and other water recreation. Many lakes and streams also have advisories limiting fish consumption because of unsafe mercury levels.”

The original goal of the federal Clean Water Act was to ensure “fishable and swimmable” waters for all Americans. To address the nonpoint pollution



Mayflies return to Mississippi River in metro after 30-year absence, indicating water quality improvement.

1988
Legislature enacts Ground Water Protection Act.

1990-1991
Congress enacts Clean Air Act Amendments.

Legislature limits mercury in batteries.

Vehicle inspection begins in Twin Cities due to violation of federal carbon monoxide standard.

Legislature enacts “spill bill” after pipeline rupture near Grand Rapids that spills 1.7 million gallons of crude oil.

challenge, the act was amended in 1987 to deal with polluted runoff from farm fields, roads, and residential sources.

We are creating more waste

While Minnesota’s recycling rates are the second highest in the country, this is outpaced by increases in how much garbage per person we throw away. Studies show that much of our garbage has more value if it is recycled or composted than if it is landfilled or incinerated. Garbage represents wasted energy and natural resources and, when disposed of, creates air and water pollution.

New challenges require new approaches

“The top environmental problem we face is climate change,” said Sierks. Wayne Anderson agrees that carbon and climate change are a priority. He acknowledged that this has not been much of an issue for the agricultural community, but he says it will be.

Both Sierks and Anderson agree that a broader, more global approach will be necessary to deal with nonpoint pollution and climate change.

“I’m working on the hypoxia issue in the Gulf of Mexico. It seems strange, but a lot of pollution in the Gulf of Mexico originates in midwestern states, including Minnesota, and travels down the Mississippi. In other words, in today’s world, sources of pollution may be very far from where the problems are; the same is true for mercury pollution. Today’s problems are bigger, global and more complex,” said Anderson.

— Laurie Gustafson

Enforcement and penalties

The MPCA uses environmental rules and regulations to protect Minnesota’s environment. These rules and regulations set standards for environmental quality and limits on pollutants that can be released from facilities. When these rules and regulations are broken, it is called a “violation.”

The MPCA does not set monetary penalties for the majority of environmental violations. Many enforcement actions simply require that the problem be corrected.

When the MPCA does set a monetary penalty for a violation, the dollar amount is determined using a formula that takes into account:

- The risks a violation posed to public health or the environment;
- Whether the violation was an isolated incident or part of a pattern of violations;
- The damage the violation caused to Minnesota’s natural resources;
- Whether the violation was intentional or accidental;
- How quickly a violation was reported to appropriate authorities;
- Whether a business gained an economic benefit from the violation;
- How prompt and cooperative the party was in correcting the problem.

MPCA’s 10 largest enforcement penalties

1. Koch Refining, 1998: \$6.9 million.
2. Darling International, 1996: \$4 million.
3. Marvin Windows, 1990: \$2 million.
3. Koch, 1989: \$2 million.
5. Reserve Mining, 1977: \$1 million.
5. 3M Co., 1989: \$1 million.
7. Potlatch Corp., 2005: \$725,000.
8. Koch, 1989: \$600,000.
9. USG Interiors, 2005: \$555,791.
10. Boise-Cascade, 1991: \$535,000.

For more information on enforcement, go to www.pca.state.mn.us/rulesregs/enforcement.html

Source: MPCA



iStockPhotos.com

Minnesota's environmental timeline (cont'd)

1992-1993

Land Recycling Act enacted to speed cleanup of brownfields.

Train derails and spills benzene into Nemadji River forcing evacuations in Duluth and Superior.

1994-1995

Landfill Cleanup Act creates the Closed Landfill program.

First deformed frogs found by students near Henderson.

Office of Environmental Assistance established.

SEA Grant photo



MPCA photos

EXTRA, EXTRA: reading between the headlines reveals an evolving MPCA

We Minnesotans love our state. So when something happens that compromises the quality of our environment, it's news. Looking back at pollution stories that made headlines during the past four decades shows the many environmental problems we've overcome.

News articles about pollution have by no means disappeared, though. Nowadays, instead of stories about big business, we're just as likely to see stories about the role that individuals and communities play in preventing and reducing pollution.

Headline: Lake Superior inundated with taconite tailings

One of the biggest pollution stories in the country — not just Minnesota — began in the 1960s, when public concern grew about the Reserve Mining company's practice of dumping waste from processing iron ore pellets into Lake Superior. These "taconite tailings" were potentially hazardous because of their similarity to asbestos fibers, which are known to cause cancer.

In 1972, the federal government sued Reserve Mining for violating the federal Water Pollution Control Act, the Refuse Act of 1899, and the common law of nuisance. The five-year-old MPCA joined the case as a plaintiff. During the next 10 years, there was a series of seemingly endless rulings, appeals, ruling reversals, permit issuances, permit revocations, court orders, court order reversals and other actions for and against Reserve Mining.

Finally, in 1980, Reserve Mining stopped dumping tailings into Lake Superior and began disposing of them on land. The MPCA had scored a major victory.

The story did not end there. In 2006, more than 2,000 barrels of contaminated grease and other hazardous waste were found in a landfill on former Reserve Mining property in Silver Bay. Leaks have contaminated groundwater there. In May 2007, workers finished removing the last of the barrels, making a total of 12,507.

Headline: Superfund rides to the rescue

The word "Superfund" was frequently in the news in the 1980s and 90s. Superfund was first created by the federal government in 1980, partly in response to headline-grabbing situations such as the birth defects of children born in Love Canal, New York. It placed the financial responsibility for cleaning up polluted sites with facility owners, operators and waste generators. If they did not clean up, Superfund would do so, and send the business the bill. Three years later, in 1983, Minnesota became the second state in the nation to create its own state Superfund law — the Minnesota Environmental Response and Liability Act (MERLA), in part to provide a 10-percent state match to federal cleanup dollars.

Superfund spawned complementary legislation and programs, including now familiar ones such as community right-to-know, environmental justice and emergency planning. Superfund also stimulated the science of toxicology,

1996-1998

Ten-year, \$332 million Twin Cities sewer separation completed; fecal coliform drops in metro Mississippi River.

MPCA levies \$6.9 million fine against Koch Refining for air, water and hazardous waste violations, the largest civil penalty ever issued in Minnesota for environmental violations.

1999-2000

Twin Cities declared in attainment with carbon monoxide standard; vehicle inspection program ends.

Feedlot rule revision requires 30,000 feedlots to be registered.



cleanup technology, community participation and risk assessment.

Minnesota's state Superfund sites reached a total of 230 in 2002, after many of the worst had been cleaned up. For more information about the MPCA's Superfund program, including a searchable database of sites, see www.pca.state.mn.us/programs/superf_p.html.

Minnesota created another variation of Superfund called the Voluntary Investigation and Cleanup Program, or VIC, which helps property-owners with a contamination problem they did not cause. If they agree to investigate and, if necessary, clean up their property, they can receive liability protection. VIC has put more than 11,000 formerly-contaminated acres back to productive use. Other states and the EPA have used Minnesota's VIC as a model for their own voluntary cleanup efforts.



Headline: Toxic fog rolls in, residents roll out

In late June 1992, three Burlington Northern liquid container cars derailed into the Nemadji River where it flows into Lake Superior. The resulting spill of the chemical benzene vaporized into a chemical fog that spread over Superior, Wisconsin and Duluth. More than 50,000 people were evacuated from both cities.

MPCA emergency responder Steve Lee was visiting EPA officials in Chicago when they got the call. The spill was considered a Wisconsin event, but Lee accompanied EPA staff to the scene. Being an eyewitness provided Lee with a key lesson in dealing with an emergency involving different local, state and federal jurisdictions.

Most important, said Lee, "is to have a single incident command system in place," meaning that all local, state and federal emergency responders use one standard method of working an emergency. "With that standardized training, emergency responders who may not know each other can work together and respond effectively," Lee said. "This has been a key focus of the MPCA's emergency response program ever since the Nemadji spill."



MPCA photos

Headline: 500-year flood socks Red River valley

Until 1997, most of Minnesota's big environmental stories involved either accidents, lack of preparedness or intentional misdeeds. In 1997, Minnesota faced a new kind of environmental event. In the spring of that year, record snows and heavy spring rains combined to create a 500-year flood in the Red River valley in northwest Minnesota. The flooding caused widespread devastation along the Red and its tributaries from Breckenridge all the way to the Canadian border. In East Grand Forks, out of 2,500 homes, only 27 were undamaged.

Fortunately, the MPCA had learned the lesson of the Nemadji spill. "We immediately established an incident command center in Detroit Lakes," said Doug Bellefeuille of the MPCA's Detroit Lakes office, "and worked with emergency responders in cities such as Ada and East Grand Forks to coordinate pollution control and cleanup efforts."

Minnesota's environmental timeline (cont'd)

2001-2002

MPCA and St. Paul Police Department partner to train Clancy, the first mercury-detecting dog in America, in order to help eliminate mercury from Minnesota schools.

MPCA organizes and co-sponsors the first Living Green Expo.

2004-2005

Legislature combines MPCA and Office of Environmental Assistance into one agency.

MPCA reports to legislature that mercury emissions in Minnesota have declined 70 percent from 1990 levels.



Headline: Un-Golden Pond — frog stories leap to front page

When a news story runs for a long time, we say it has legs. That's true in more ways than one in the curious case of the malformed frogs.

In August 1995, students studying wetlands near Le Sueur, on the Minnesota River between Minneapolis and Mankato, discovered large numbers of frogs with deformed, missing or extra legs, as well as other deformities.

By the end of the next year, the MPCA had received more than 175 reports of malformed frogs in two-thirds of the state's counties. Malformed frogs were also reported in other states. The story garnered media attention across the U.S. and in other countries, with ABC's television show *Nightline* devoting two entire shows to the frogs.

In 1997, researchers from the MPCA and the University of Minnesota released findings of studies in two wetlands with large numbers of malformed frogs. Results showed that something in the water caused abnormalities as the tadpoles developed.



Researchers were unable to identify just exactly what that "something" was.

Because of its many other responsibilities, the MPCA ended its formal participation in malformed frog research in 2001. Other scientists continue to work on the issue. The MPCA maintains a heavily-visited Web page about the frogs to this day (www.pca.state.mn.us/hot/frogs.html).

Headline: Point, nonpoint, what's the point?

In the past 40 years, permitting processes have been developed that allow businesses and communities to build factories and wastewater treatment plants while keeping air and water pollution relatively low.

With the vast majority of these "point sources" of pollution now in compliance with environmental regulations, some of the best opportunities for protecting Minnesota's environment involve "non-point" sources, pollution that results from smaller, more individual sources.

Getting people to make wise choices that reduce runoff, increase recycling levels and reduce energy use requires education and voluntary compliance.



That's why today you may see headlines about efforts like cleaning up Minnesota's impaired waters using partnerships with watershed districts, lake associations and landowners. Since 1987, the MPCA has provided funding and technical assistance for more than 1,000 such "clean water partnership" projects, which have significantly reduced non-point sources of water pollution.

Headline: Minnesota River gets an extreme makeover

The idea that we're all part of the problem and all need to be part of the solution was captured in a challenge by Governor Arne Carlson as he stood on the banks of the Minnesota River in the early 1990s. He asked citizens to help make what many people considered the state's "dirtiest" river once again "fishable and swimmable" within 10 years.

Since then, more farmers have set aside land in conservation programs and adopted best management practices to help prevent soil and nutrients from reaching the river. Communities are improving sewage treatment systems to reduce dumping bacteria into the river.

MPCA photos

2006

MPCA Citizens Board approves the first statewide TMDL for mercury in the nation.

MPCA presents the new Eco-Experience at the State Fair.



Watershed groups are working on projects throughout the Minnesota River basin to reduce contaminants.

While Carlson's vision has not yet been fully realized, there are encouraging signs the battle is being won: a 2005 phone survey of 673 Minnesota River basin residents showed that 96 percent agreed that they had a responsibility to protect water quality for future generations. Another sign: the blue sucker — absent from the river for decades because of too much sediment — is now once again reproducing there.

Headline: Mighty Mississippi cleans up

Once upon a time, the Mississippi River would have given the Minnesota River a good run for the title of dirtiest river. For much of the river's history since the settlement era, the Mighty Mississippi in Minnesota was a Mighty Mess, receiving untreated wastewater from every town, factory and home along its banks. Even after wastewater treatment, pollution continued to be a problem where the river flowed through the heavily populated Twin Cities. In the 1980s, special funding was approved to separate the Twin Cities'

2007

Workers finish removing 12,507 leaking barrels of hazardous waste buried over a period of 40 years at the old Reserve Mining site in silver Bay. Cost to Minnesota taxpayers: \$13 million.



combined storm and sanitary sewers to reduce sewage overflows during heavy rains. In 1996, the Twin Cities became one of the few metropolitan areas in the country to accomplish this goal. Recently, mayflies returned to the river after a long absence, a sign of improving river health.

Headline: Everything old is new again

Not all of Minnesota's environmental headlines have focused on what's wrong. Minnesota is one of the top recycling states, with a rate of 44 percent, just behind Oregon. This success didn't come about by accident.

In 1980, Minnesota adopted the Waste Management Act, which established a waste management "hierarchy." The best way to reduce waste is not to create it to begin with. Re-using and recycling waste is good, too. The worst choice for health and the environment? Send garbage to a landfill.

In 1989, the Governor's Select Committee on Recycling and the Environment (SCORE) recommended

Minnesota passes Next Generation Energy Act, which sets aggressive greenhouse gas emission-reduction targets. Minnesota Climate Change Advisory Group begins meeting to develop specific emission-reduction activities.



MPCA photos

a stable source of funding for recycling efforts. That helped boost Minnesota's recycling rate from 25 percent in 1991 to today's 44 percent.

The bad news is that the amount of garbage each of us generates is rising. If this trend continues, the state's landfill capacity will be reached in about 10 years.

Tomorrow's headlines

Solving the many environmental issues we face now and will face in the future will take time, thought and yes, money. Solving them will also, more and more, require us to engage individual Minnesotans in taking charge of their own environmental attitudes, behaviors and practices.

But that's another story.

— Dan Olson

In the year 2047:

Lee Frelich, Director of the Center of Hardwood Ecology, University of Minnesota



Explore Minnesota

Climate change will bring Minnesota a warmer climate

by 2047. That means a longer season without ice, and that means more evaporation. If evaporation predominates over precipitation, which is the most likely scenario, the levels of lakes could fall quite dramatically and rivers could slow or dry up, because more water would be evaporating.

Some lakes will warm up, and that will change the species of fish that live in them. There'll be fewer cold-water habitats that support trout, for instance, and more lakes with carp and other fish that live in warmer waters.

There are two possible climate scenarios about trees. One scenario is warm and wet, which will probably result in forests like those in Ohio, with sycamore, black walnut and oak. Our northern conifer forests could change to oak, sugar maple, white pine and hemlock. The second scenario, warm and dry, would result in more savanna and grassland in presently forested areas.

I don't think there's much of a future for lynx and moose in Minnesota. They are boreal [northern forest] species, and if the boreal forest disappears, they will, too. That goes for a number of warblers, too.

Laura Kelnhofer, Sierra Club, Northstar Chapter, Population Specialist



MPCA photo

The U.S. population is not increasing as

quickly as some other countries, but our environmental footprint is much greater because we have higher levels of consumption. We need to slow population growth worldwide and, at the same time, teach people to use resources more wisely.

In the 20th century, the world's human population multiplied from 1.6 to 6.1 billion people. During this same period of time, CO₂ emissions grew twelve-fold. Population, consumption patterns and global warming are inextricably linked in their collective environmental impact. Industrialized countries' wasteful consumption patterns demonstrate that it is not just the size of a country's population that influences climate change, but also the proportion of resources a country consumes. Although the U.S. makes up only five percent of the world's population, we create 25 percent of the pollution that causes global warming. The average U.S. family affects the environment 40 times more than a family in India and 100 times more than a family in Kenya.

Minnesota's population will increase by more than a million people in the next 20 years, which will affect all our resources.

David Morris, Vice-President, Institute for Local Self-Reliance



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The problem with the environmental movement until very recently

was that its goal was to "clean up the planet." The first question is, "what do you mean by clean?" You end up with Ph.D. chemists and parts per million and technical regulatory bodies. It becomes an absolute black hole.

If we use human ingenuity to extract useful work out of all the resources we currently waste, then we can get from here to there. If we harness the sunlight that falls on our roofs, the heat energy that's underground, the wind that blows in our backyards and the plants available within 100 miles of our gas tanks, then we reduce waste and pollution and increase sustainability.

Based on how well we've done in the past 40 years, I think we won't be very far along that path in 40 more years. On the other hand, one can be optimistic. After the oil shock of 1973, we had to invent new technologies. Solar cells were developed, wind turbines built and ethanol plants set up. We've built standards, warranties and maintenance, the infrastructure to support these new technologies. In 2007 and the future, we have to bring them from one or two percent of the economy to 30, 40 or 100 percent of the economy.

**Greg Pratt, Research Scientist,
MPCA**



NRCS photo

The seminal environmental issue of our time is climate change, and this will determine what I think Minnesota will be like in another 40 years. We are utterly dependent on fossil fuels now, and we're facing some structural deficiencies because we're going to run out of a lot of them.

I think our climate is going to change. We're doing a big experiment, and we don't know what the end result is going to be. I think we can safely say we're going to lose the boreal forest in Minnesota.

We don't live very sustainably on the land, and I think that's going to come back to bite us. Technology can only save us up to a point. As we see shortages — and we're already starting to experience some — resources like water and fuel will become scarce and people will start to fight for them. We don't really recognize the seriousness of what's before us.

I hope that by 2047, the internal combustion engine will be a thing of the past. But even with future non-polluting cars, that won't solve congestion and environmental problems.

**Peter Gillaspay, Minnesota State
Demographer**



U.S. Census Bureau

In 40 years, Minnesota's demographics will look very different than today. Our population will have grown from 5 million to more than 6.5 million. Our "over 65" population will almost double, from 12 percent to 21 percent. More than a quarter of a million Minnesotans will be 85 or older.

Families will be smaller and older, and there will be more single folks, perhaps causing reverberations in the housing market. The labor market may be depressed due to a limited number of young workers, restrictions on immigration and other factors.

Urbanization and expansion of the metro area will continue. Because of the trend toward concentrating more population in the metro area, regional counties may merge to broaden the tax base.

Demand for water will be huge nationwide, even in Minnesota; and competition between residential and agricultural use will grow. As dry areas of the country continue to experience growth (e.g., the southwest), these folks will look with lust (and thirst) at our water. Imagine piping Lake Superior water to Phoenix! It's already been proposed.

For an imaginary look at a Minnesota 25 years in the future, see the *Not*

Yet Gazette, a fictional newspaper showing one possible future. The stories, although fictional, reflect demographic trends projected for Minnesota (www.demography.state.mn.us/notyet/).

**Peter Ciborowski, Global
Climate Change
Scientist, MPCA**



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Here's an interesting fact: if the world stopped emitting CO₂ today, temperatures would stop rising in about 40 years. But the world will not stop emitting CO₂ today, so temperatures will continue to rise.

Climate changes of the magnitude scientists expect — we are, after all, talking about returning the earth to a level of warmth not seen for tens of millions of years — aren't necessarily slow or linear. There can be surprises and dramatic, unexpected shifts. However, we can make educated guesses from the science and climate history we have to work with.

In general, northern latitudes are more strongly affected by climate change. My best guess is that Minnesota will:

- On average, be about four degrees F warmer
- Have shorter winters, of one and a half to two months
- Be wetter, with more precipitation in fewer, more intense events
- Possibly have drier summers, or at least more frequent periods of drying between fewer but more intense rains
- Plant hardiness zones have already shifted dramatically in this state. Much of Minnesota was Zone 3 or 4. Southern parts of the state are now Zone 5. This rewrites the rules for plant and animal species.

U.S. Bureau photo



**Randy Kramer, Bird Island
farmer and
Chairman
– Board of
Water and Soil
Resources**



Minnesota SEA Grant

I see a lot of change coming in agriculture during the next decades. The use of technology will continue to advance, both in equipment and in crop varieties and genetics. By using global positioning systems, farmers will be able to be more precise in applying fertilizer, which will benefit the environment by using less fertilizer overall. The advancement of genetically-modified crops will allow more efficient use of fertilizers and chemicals.

But weather will always be a factor for agriculture. If the warming trend continues, the climate in Minnesota in 40 years could be like Kansas is now.

The development of bio-energy is just getting started and will be a win-win situation. So far, what we've seen is just the tip of the iceberg. Energy needs will create economic incentives for alternative crops such as switchgrass and other cellulosic materials, which will benefit both farmers and the environment. We could see many alternative crops over the next 40 years, for energy and for new uses such as clothing and medicines.

Economics will be the main driving force for change. If our cheap food policy continues, I see farms getting larger; in some cases, farms may get too large. Otherwise, many farms will continue to need an off-farm income to stay in business and receive health insurance. I see people from other cultures getting involved in agriculture. Overall, I'm excited about the future of agriculture. I hope to farm for another 10 or 15 years, and that the next generation will carry on.

**Mike Robertson, Minnesota
Chamber of
Commerce,
Environmental
Policy
Consultant**



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Looking ahead to the future of the Minnesota business community, I believe our trend toward attracting high-tech industries, such as those involved in medical research and medical technology, will continue. I think we will still have a good mix of businesses, and that agriculture will remain our dominant sector.

I also see fast and sustained development on the Iron Range, as steel prices continue to rise and we find ourselves with a competitive advantage in providing inexpensive feedstock. Accompanying that will be a boom in non-ferrous metal mining. Mid-century may well be the high point for the precious metals industry in Minnesota.

Climate issues and aggressive greenhouse gas reduction targets will drive change statewide, while high fuel prices and the need to develop renewable energy options will top the list of concerns for business. A changing climate will cause a significant impact, not only on the way we do business but on the way we live, affecting our natural resources, our forest resources, and, of course, our agriculture. Water quality will continue to be of concern, as the state works with agriculture and urban areas to address complex non-point water runoff issues.



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Dave Kleis, Mayor of St. Cloud



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In the future, it's going to be imperative that cities, counties, townships cooperate more and do more joint efforts. A new wastewater treatment plant, which we will build in the next 10 years, is an example of five cities (St. Cloud, Sauk Rapids, Waite Park, Sartell, St. Augusta/St. Joseph) working together, to meet standards and to keep costs down.

In St. Cloud, we're already doing a number of things to reduce consumption of energy and to reduce waste. We're in the midst of a \$30 million project for a library that will have a green roof. It's something that's being used around the world as an energy-saver, but we'll be the first city to do so in central Minnesota. We're looking at other energy savings: as we build new police and fire stations, we're planning on making those as energy efficient as possible.

In the coming years, I think you'll see more rail in Minnesota. Hopefully, the North Star commuter line will extend as far as St. Cloud and beyond. Forty years from now, you'll see rail lines to Rochester, Duluth, Minneapolis and St. Paul, like a rebirth of the rail networks of a hundred years ago. Ridership of mass transit has increased in our area, and I think you'll see continued growth in that. Also, we've seen Minnesota pretty much lead the nation in biofuels, and I expect this to create considerable change in our area.

Most cities now do a good job of planning cooperatively and regionally to minimize environmental impact. You'll see a lot more of that in years to come, including probable consolidation of local government units — cities, townships, counties.



Tame or toxic?

The headlines are worrying: “*Are Pharmaceuticals in Your Watershed?*”; “*Hormones, Other Organic Wastewater Contaminants Found in Streams*”; “*Personal Care Products are Environmental Pollutants.*”

“The general population has historically banked on consumer

products being safe, but we’re entering a period when all of us need to be more cautious and ask a few more questions,” says Laura Solem, MPCA toxicologist with the Risk Evaluation and Air Modeling Division.

“Consumers need to understand the practical consequences of creating demand for new, high-tech, better, faster-working products,” Solem adds. “We have to consider the environmental persistence of new chemicals and their long-term effects on human health.”

Solem works in the growing field of emerging contaminants, meaning chemicals in our environment that we are only beginning to learn about. For example:

- PFCs (perfluorochemicals from product coatings), recently found in drinking water in the Twin Cities east metro area
- Endocrine (hormone) disruptors in certain fertilizers
- Nanoparticles in certain creams and lotions that pass into the your bloodstream

Solem expects many of today’s emerging contaminants to be in our air and groundwater for decades or even centuries. She is skeptical that we can “science our way” out of all of these challenges. She’s hopeful, though, that environmental awareness and new technologies can help turn the tide.

“I see our focus on pollution prevention and resource conservation as helping us move in front of the curve to take care of some of these pollutants,” she adds. “But I’m not sure we’ll ever be able to predict which ‘X, Y or Z’ will be the next big problem.”

— Colleen Coyne



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www.pca.state.mn.us



National Cleaner Air Week

Clip from the *Minneapolis Tribune* of October 22, 1970, shows Barbara Baker, Minneapolis Queen of the 22nd Annual National Cleaner Air Week (now called Air Quality Awareness Week and moved to spring instead of fall). The purpose of the balloon launch about to take place was to demonstrate how air currents carry pollutants. We’d love to hear from you, Ms. Baker, or any other participants in National Cleaner Air Weeks! Contact the editor at becky.helgesen@state.mn.us.



The Good Old (Polluted) Days...

To the editor:

Regarding all this flap about air pollution, water pollution, etc., I have lived in Minneapolis all my life, 61 years, and I think the air has never been cleaner. When I was a little boy, all homes and industries were heated with soft coal. After a new snow, it was dirty grey in 24 hours. Also, the railroad yards and roundhouses were belching black smoke 24 hours a day.



I wonder how many remember the streets laden with horse manure, which in the hot, dry summer, pulverized by the horse-drawn traffic, was blown about by the wind?

Few of us had garbage cans. We burned garbage in the kitchen range in winter and either buried it in summer or threw it over the fence into the alley. That was a catch-all in those days; any dead cat or other refuse could be hidden behind the old high-board fence in the alley.

As for water pollution, we used to swim under the Plymouth Avenue Bridge at a “resort” called Garber’s Bath I remember the river was so brown you couldn’t see more than 10 inches into it. My father used to warn us not to swim towards the main channel, as there was a big sewer emptying just across from the island on the west bank.

I have been to the West Coast, the East Coast, seen many big cities, but none more free of air pollution than Minneapolis. I will say, however, that our real estate taxes are too high, when you consider what it costs to live here because of our long, hard winters.

— Henry Leinfelder, Minneapolis; *Minneapolis Star*, May 13, 1967



MPCA exchanging fishing tackle for lead-free

Loons, eagles and other birds can be poisoned by ingesting fish that have swallowed lead sinkers. Ingesting just one sinker can kill a bird. Anglers can help keep toxic lead out of the environment by trading in lead-containing sinkers, jigs and other weights at tackle exchange events sponsored by the MPCA and the DNR. In exchange, anglers receive lead-free fishing tackle. Fishing tackle exchanges will run through mid-August at locations around Minnesota. For dates and locations, go to: www.pca.state.mn.us/oea/reduce/sinkers.cfm.



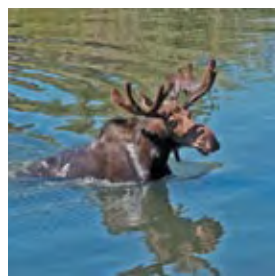
Free statewide air pollution alerts sent to your e-mail

If you or someone you know has respiratory or heart problems, or you would just like to be aware when air quality is unhealthy, sign up for the MPCA's secure and free e-mail air health alerts <http://aqi.pca.state.mn.us/hourly/> and, in the far left column, click "sign up for e-mail notices of air alerts." Next, enter your e-mail address and click the "join or leave" button. If the air quality index (AQI) becomes unhealthy anywhere in Minnesota, you will be notified by e-mail.

Minnesota Supreme Court agrees with MPCA

In a May 17 decision, the Minnesota Supreme Court overturned a lower court ruling, saying that the MPCA had the authority to interpret the federal laws it enforces, and was correct in issuing a permit for a new wastewater treatment plant for the cities of Maple Lake and Annandale three years ago. Thirty-two communities have had wastewater treatment proposals on hold while this case made its way through the courts.

Climate change takes center stage



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On April 20th, Governor Pawlenty convened the first meeting of the new Minnesota Climate

Change Advisory Group. The group includes private citizens, industry and environmental organization representatives. Its task is to develop comprehensive plans for reducing greenhouse gas emissions in Minnesota. Minnesota also recently joined the national Climate Registry as one of 31 founding member states. The Registry measures, tracks and reports greenhouse gas emissions consistently across borders and industry sectors. This is a critical first step in developing programs to reduce the greenhouse gases that contribute to climate change. For information on climate change in Minnesota, see www.pca.state.mn.us/hot/global_warming.html.

Lake Superior conference to be held in October

A bi-national conference on Lake Superior will take



place at the Duluth Entertainment and Convention Center Oct. 29-31, 2007. Session topics will include invasive species, climate change, lake levels, fisheries and toxic pollutants. Conference sponsors are the U.S. EPA, Environment Canada, Lake Superior Binational Program, and the Sea Grant programs of Minnesota, Wisconsin and Michigan. For more information, go to: www.seagrant.umn.edu/superior2007/

Windows, air conditioning — take your pick

You've probably heard that rolling down your car windows creates aerodynamic drag, using more gasoline than if you use your car's air conditioning. Others think air conditioning burns more fuel.

Neither is right. The automotive Web site www.edmunds.com and consumer watchdog www.consumerreports.org compared fuel economy at highway speeds with and without air conditioning, and studied how open windows affected gas mileage. They found little significant difference in fuel economy under either condition. *Consumer Reports* says that a vehicle's air conditioning uses about one mpg. Open windows made no measurable difference in gas mileage, even at 65 miles per hour. Edmunds notes, however, that installing a truck bed cover dramatically improves gas mileage in a pickup truck, because the shape becomes more aerodynamic.

Other *Consumer Reports* fuel-saving tips include:

- Drive smoothly. *Consumer Reports* notes that frequent starts and stops reduce mileage by 2-3 mpg.
- Shut off the engine if you'll be idling more than 30 seconds.
- Drag rises with speed. Slowing from 75 to 55 mph boosted gas mileage 33 percent in both the sedan and a large SUV.
- Remove car-top carriers unless you need them. At highway speeds, more than half the engine's power goes to overcoming drag. Removing a car-top carrier raises gas mileage about six mpg.



Plan ahead for winter heating

Use of outdoor wood-fired heaters has increased in recent years, causing complaints about smoke and concerns about air pollution. Key manufacturers now offer new models that burn 70 percent cleaner; a special orange hang-tag will identify these. For more information, see www.epa.gov/woodheaters.

Power plants making major pollution reductions

Current and upcoming pollution reduction projects at nine Minnesota power plants will dramatically cut emissions of sulfur dioxide and nitrogen oxides over the next couple of years. The plants include Xcel's Alan S. King, Riverside and High Bridge plants;

Minnesota Power's Boswell, Laskin and Taconite Harbor plants; Rochester Public Utilities; and Ottertail Power's Hoot Lake plant. Emissions reductions range from 45 percent to 98 percent.

Awards and more awards

Three Minnesota healthcare facilities were recognized at the national Hospitals for a Healthy Environment Environmental Excellence Summit. Ridgeview Medical Center (Waconia) received the Environmental Leadership award. Hutchinson Area Health Care (Hutchinson) and University of Minnesota Medical Center-Fairview (Minneapolis) received the Making Medicine Mercury-free award.

Minnesota applicants captured two awards in the EPA's Clean Air Excellence Awards, which recognizes outstanding efforts in achieving cleaner air. The recipients were the Minneapolis Environmental Services Sustainability Initiative, and 3M's Sustainability Program Reduces Air Emissions Worldwide.

Home Depot to display environmental labels

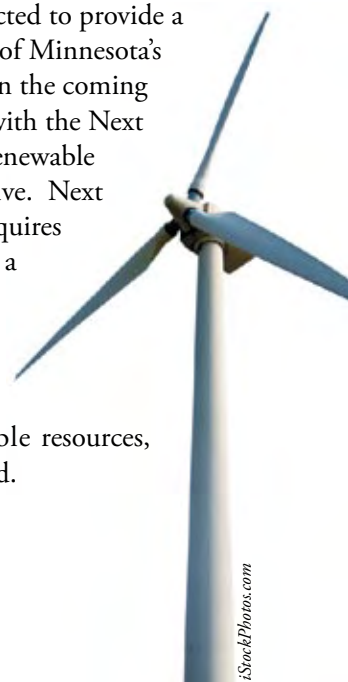
The home-improvement chain, Home Depot, announced in April that it would label nearly 3,000 products that promote energy conservation, sustainable forestry and clean water. The plan, which will include 6,000 products by 2009, would be the largest green labeling program in American retailing. The new "Eco Options" label can be found on many common items, including compact fluorescent light bulbs, organic plant food, window sealants, cleaners and wood products.

Newsweek reports St. Cloud State professor's fish studies

Newsweek's June 4 issue featured an article about Heiko Schoenfuss, director of St. Cloud State's aquatic toxicology lab, who studied minnows to learn about emerging environmental contaminants such as household cleaners, soaps and medicines. Schoenfuss' study last year exposed male minnows to chemicals found in common cleaners and the environment. He found that, as adults, the minnows did not behave as male minnows and were unable to reproduce. He is now studying walleye found in the Mississippi River.

Minnesota closing the gap in wind energy

The American Wind Energy Association (www.awea.org) says that Minnesota is the fourth-ranked state in wind energy output, following Texas, California and Iowa. The association expects Minnesota's output will top 1,000 megawatts in 2007. One megawatt of wind energy produces enough electricity to serve 250 homes. Wind energy is expected to provide a large segment of Minnesota's energy needs in the coming years, in line with the Next Generation Renewable Energy Initiative. Next Generation requires that, by 2025, a quarter of the electricity Minnesotans use comes from renewable resources, including wind.



News headlines from the 1960s and 1970s

Minneapolis Star,
Minneapolis Tribune,
St. Cloud Times



Minnesota Pollution Control Agency

520 Lafayette Road North
St. Paul, Minnesota 55155-4194

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