



# Chicago Tribune

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## U.S., allies attack Libya



JIM WATSON/GETTY-AFP PHOTO

President Barack Obama said the U.S. would play a limited role. Americans will lead the assault on Libya's air defenses, however.

**Jets, cruise missiles begin strikes to protect rebel areas as Gadhafi vows reprisals on civilian, military targets**

• Allies launched more than 110 missiles at more than 20 targets.



U.S., French and British forces blasted Libyan air defenses and armor, drawing intense volleys of tracer and anti-aircraft fire over Tripoli early Sunday at the start of a campaign to protect rebel areas that will severely test Moammar Gadhafi's powers of survival.

Attacks by French jets and more than 110 cruise missiles fired from U.S. and British warships in the Mediterranean Sea cheered rebels who found themselves retreating in the face of Gadhafi's superior firepower.

Gadhafi condemned "flagrant

military aggression" and vowed to strike civilian and military targets in the Mediterranean.

President Barack Obama said U.S. forces would play a limited role in the campaign. But the U.S. will have to lead the operation in its early days because it has the greatest capability to destroy Gadhafi's air defenses, a key to controlling Libya's airspace, the Pentagon said.

"We have every reason to fear that, left unchecked, Gadhafi will commit unspeakable atrocities," said Secretary of State Hillary Rodham Clinton. **PAGES 19, 20**

### Drew's son makes a name for himself

Senior valedictorian Tom Peterson steps out of father's shadow

By Erika Slife  
TRIBUNE REPORTER

Alone in the public library in Bolingbrook, Tom Peterson scanned the rows of books when one piqued his interest — a book about stress.

Inside was a stress calculator that listed questions about life experiences and rated the responses. Out of curiosity, the oldest son of Kathleen Savio and Drew Peterson began to answer: Are your parents divorced? Check. Have you lost a parent? Check. He continued through the quiz and tallied his answers.

The results astonished him. His stress level, according to the book, was off the chart.

"I looked at it and I said, 'Wow,' and I giggled a little bit," Peterson, 18, recalled. "I felt like, 'Wow, I must be a wreck right now. I must be an emotional disaster,' you know?"

On the contrary, the lanky, sandy-haired teen will graduate as valedictorian from Bolingbrook High School in June. He is first in a class of 817 students, with a 4.808 GPA, and has his sights set on Harvard, Boston University, UCLA and Northwestern — to name a few — to study neuroscience. His classmates voted him most likely to succeed.



Tom Peterson

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#### NATION & WORLD

### Radiation found in Japan's food supply

Tests show milk and spinach with elevated levels, officials say. **PAGE 21**

**FUEL FEARS:** Tons of spent rods still sit in pools in Zion. **PAGE 6**



## After three decades, we're still DUMPING IN THE LAKE

Work on the Chicago area's Deep Tunnel project started in 1975. But the system's final element now isn't expected to be complete until 2029.

TRIBUNE PHOTO 1998

### Despite billions of dollars, the Deep Tunnel has not solved the region's water pollution problems. Can it be fixed?

By Michael Hawthorne  
TRIBUNE REPORTER

Billed as an engineering marvel and national model, Chicago's Deep Tunnel was designed to protect Lake Michigan from sewage overflows and put an end to the once-frequent practice of dumping human and industrial waste into local rivers.

But nearly four decades after taxpayers started paying for one of the nation's most expensive public works projects, billions of gallons of bacteria-laden sewage and storm runoff still routinely pour into the Chicago

#### TRIBUNE WATCHDOG

River and suburban waterways during and after storms, according to records obtained by the Tribune.

Lake Michigan, long considered the sewage outlet of last resort, has been hit harder during the past four years than it was in the previous two decades combined.

Between 2007 and 2010, records show, the agency in charge of Deep Tunnel dumped nearly 19 billion gallons of stormwater teeming with disease-causing and fish-killing waste into the lake, the source of drinking water for 7 million people in

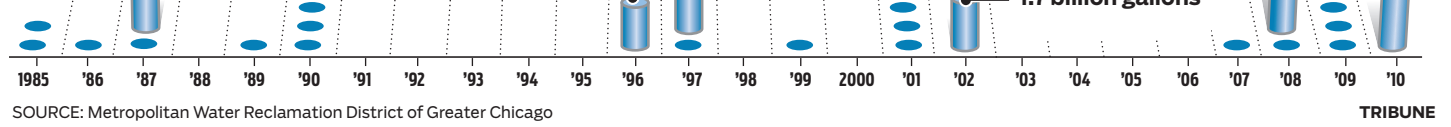
Chicago and its suburbs. By contrast, 12 billion gallons poured out between 1985 and 2006.

Most of the recent overflows into the lake came during two monsoonlike storms in 2008 and 2010 that were among the most intense downpours in Chicago history. Yet

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#### Sewage and stormwater released into Lake Michigan

Billions of gallons since first Deep Tunnel section opened in 1985




SOURCE: Metropolitan Water Reclamation District of Greater Chicago


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# Promise of tunnel unfulfilled

Continued from Page 1

even a rainfall as small as two-thirds of an inch can force sewage-tainted runoff into the Chicago River and other waterways.

By now, this pollution was supposed to be an unsavory part of Chicago's sewage-choked past. When they broke ground on Deep Tunnel in 1975, officials at the Metropolitan Water Reclamation District of Greater Chicago vowed that their subterranean labyrinth of tunnels would "bottle rainstorms," clean up local waterways and enable the region to meet federal and state water-quality standards. The district also said the project would reduce flooding in Chicago, a city built on a swamp.

The tunnels, nine to 35 feet in diameter and up to 300 feet below city streets, have been fully operational since 2006. But the system's final element, a giant flood-control reservoir, now isn't expected to be complete until 2029 — more than half a century after construction began. Taxpayers have spent \$3 billion on the project, and the meter is still running.

Though there is no question that the completed tunnels have kept billions of gallons of polluted water out of the lake and area waterways, the ongoing sewage overflows are prompting an investigation by the U.S. Environmental Protection Agency.

Agency officials described chronic sewage overflows as threats to human health and wildlife but declined to answer specific questions, citing potential legal action. The agency brokered settlements last year with nine other Midwestern cities that demand more aggressive sewer upgrades.

"Addressing this problem is one of my top priorities," Susan Hedman, the Obama administration's top EPA official in the region, told the Tribune.

In a series of interviews, district officials said they are doing the best they can with the sprawling plumbing system that winds beneath Chicago and its Cook County suburbs.

"There may have been some optimistic statements made when the district started this project," said Thomas Granato, the agency's acting director of monitoring and research. "We face a monumental challenge to deal with all of this water. It's not as good as we want it to be."

Like many older cities, Chicago long ago built sewers that combine waste from homes and factories with storm runoff. When it rains, sewers quickly fill up and spill into local streams through overflow pipes. If waterways are saturated to capacity, locks and gates to Lake Michigan are opened to prevent flooding of streets and basements.

Deep Tunnel was intended to prevent those overflows. Most of the project has been funded by federal grants awarded under the 1972 Clean Water Act, the landmark law that called for all of the nation's lakes, rivers and streams to be clean enough for fishing and swimming. The first phase, digging 130 miles of geological ductwork, was intended specifically to "eliminate waterway pollution," according to district records.

Today, thanks to four decades of improvements including the completed portions of Deep Tunnel, stretches of the Chicago River are pleasant enough that restaurants and housing developments are rising along its banks and kayakers paddle its waters.

But the river system still isn't clean enough to meet water-quality standards and remains among the nation's dirtiest waterways.

Last year alone, sewage overflows into local streams contained an estimated 335 million pounds of suspended solids, a technical term for human and industrial waste and debris contaminating the water. Signs caution that the waterways are "not suitable for any human body contact" and "may contain bacteria that can cause illness."

District officials now say that while building the tunnels, engineers realized that they would need to rely more on the second phase of the project — the flood-control reservoirs — to reduce pollution. Another complicating factor is that the district was forced early on to limit how fast water drained into the system. Shortly after the first tunnels were opened, rapid changes in water pressure shot geysers of sewage out of ventilation shafts along city streets, in one case flooding the car of a 61-year-old Bridgeport woman who had stopped above a manhole grate.

Despite those issues, the district says the tunnel system is working. It estimates that in a small area near O'Hare International Airport, the fully completed tunnels and reservoir helped prevent about 97 percent of sewage overflows into surrounding streams between 2005 and 2009. That compares with 64 per-



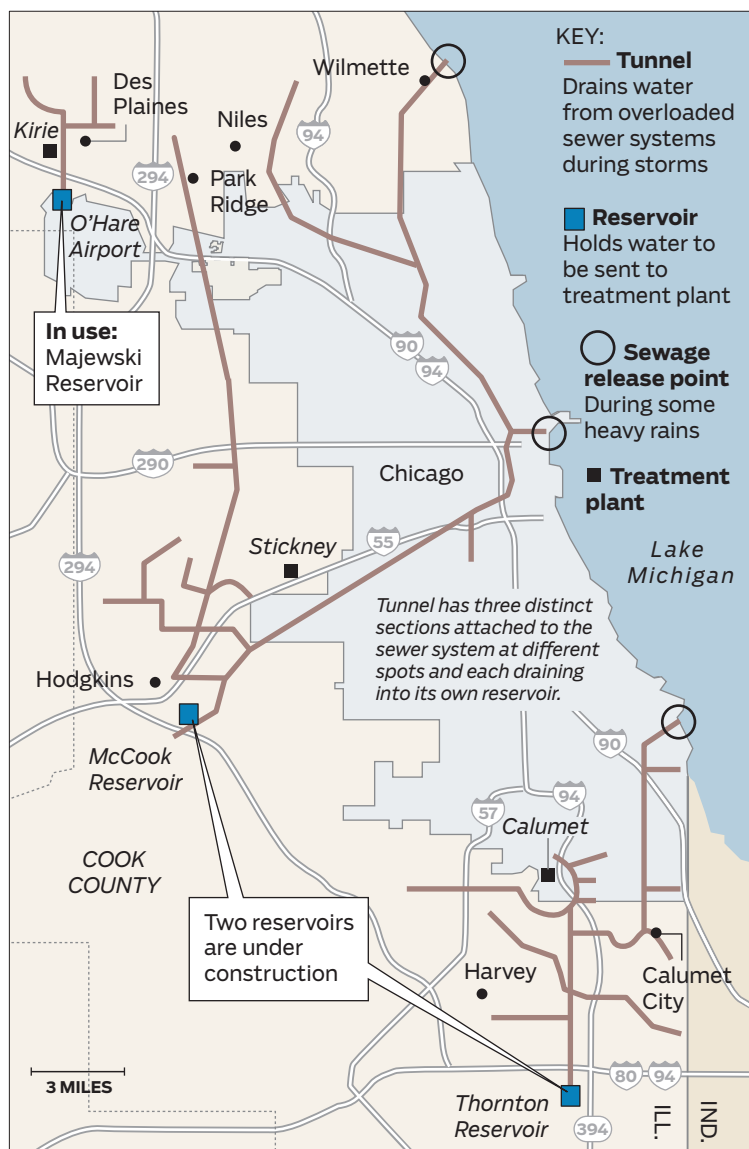
HEATHER CHARLES/TRIBUNE PHOTO

John Krzos, a systems dispatcher with the Metropolitan Water Reclamation District of Greater Chicago, works in the agency's control room.

## Where Deep Tunnel flows

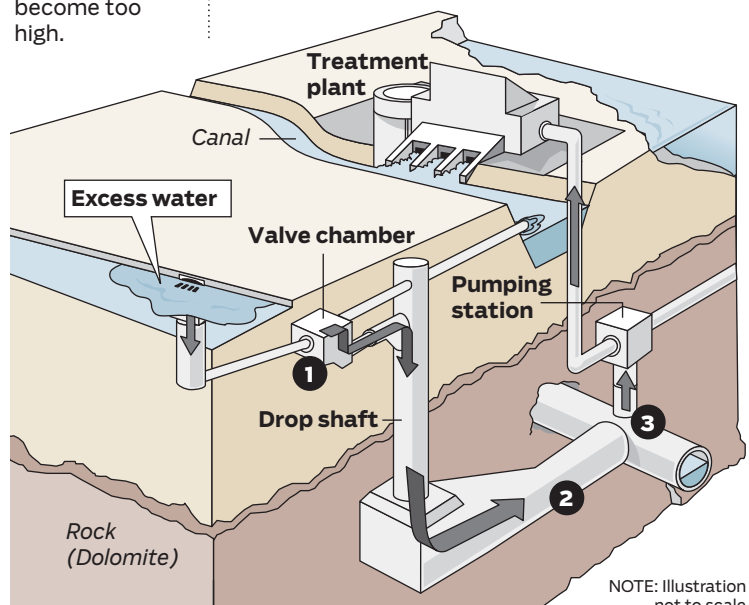
Deep Tunnel, begun in 1975 and costing more than \$3 billion so far, was designed to handle all of the area's sewage and storm runoff. But even though it holds billions of gallons, storms can overwhelm the system. As a result, polluted water still frequently overflows into local streams and, during the heaviest rains, into Lake Michigan.

### DEEP TUNNEL ROUTES



### HOW DEEP TUNNEL WORKS

- 1 Excess sewage and rainwater enters a valve chamber, which opens when levels become too high.
- 2 The water flows into a vertical shaft, where it is directed to Deep Tunnel about 300 feet below ground.
- 3 The tunnel serves as a reservoir until the water is pumped up to a treatment plant, where it is treated and discharged into local waterways.



SOURCE: Metropolitan Water Reclamation District of Greater Chicago

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cent in the much larger region between Wilmette and Western Springs, where tunnels are built but a reservoir in McCook is still under construction.

"The only reason we're at the point we are now is because (Deep Tunnel) has been so successful," Granato said. "It's sort of misled people into looking at the waterways as a natural system, some-

thing that with a little more effort can become... pristine."

A state rule-making panel last year designated stretches of the river system as suitable for "limited-contact recreation," a legal term for activities other than swimming. That likely means the district will need to disinfect wastewater from three big treatment plants, a germ-killing step

## Reservoir snag prolongs risk of sewage backups

The Deep Tunnel system was intended not only to curb water pollution, but also to prevent sewage from backing up into basements, a soggy routine for many Chicago-area residents after big storms.

Officials in charge of the massive project promised that flood-control reservoirs near O'Hare International Airport, southwest suburban McCook and south suburban Thornton would capture deluges of storm runoff funneled into giant tunnels and dramatically reduce flooding. When officials unveiled the project in 1972, they projected it would be complete by 1983.

But in recent regulatory filings, the Metropolitan Water Reclamation District revealed that its main reservoir, designed to be 11 times larger than Soldier Field, won't be operational until the end of the next decade. They blame the

latest delay on declining federal support and the recession, which dried up demand for limestone at a McCook quarry that will be converted into the district's biggest retention pond.

As a result, Chicago and three dozen suburbs, stretching from Wilmette to Western Springs, are expected to remain at risk for sewage backups for years to come. Areas most prone to basement flooding include some of the city's poorest neighborhoods, according to a study commissioned by the Chicago Department of Water Management.

"The district said they would capture and treat all of this runoff," said Rob Sulski, an Illinois EPA engineer who oversees the Chicago River. "But they just can't handle what Mother Nature is delivering."

— Michael Hawthorne

that every other major U.S. city already is required to take.

The ultimate legal authority on the river, the U.S. EPA, thinks the district needs to make waterways even cleaner. Among other things, sewage overflows will finally need to be eliminated, the agency has written in letters to the Illinois Pollution Control Board.

Environmental groups also are threatening to file their own lawsuit to nudge federal and state officials to crack down on the district.

"These sewage overflows violate federal law," said Ann Alexander, senior attorney in the Midwest office of the Natural Resources Defense Council.

"They shouldn't get to say 'we're working on it' to make their legal problems go away."

For more than four decades, district officials have defended Deep Tunnel as the best way to protect their top priority: Lake Michigan. Before the project, they have noted, the district had been forced to dump sewage into the lake 21 times between 1948 and 1978.

"It's my job to clean up our water and keep pollution out of Lake Michigan," Terrence O'Brien, the longtime president of the district's elected board, said last year in a TV commercial aired during his unsuccessful bid for Cook County Board president.

What O'Brien and others don't mention is today that record is worse, even though a great deal of the Deep Tunnel project has been built. By the end of 2010, records show, the district had allowed sewage to flow into the lake 24 times since 1985, the year the first tunnel went into operation.

It's unclear what it would take to prevent the sewer system from polluting the lake and area waterways, or how much it would cost.

In other Midwestern cities, including Cincinnati, Cleveland and Indianapolis, legal settlements require local officials to build more effective sewers dur-

ing the next two decades. Many of the projects are modeled in part after Deep Tunnel but are required to be effective enough to limit sewage overflows to twice a year.

Some communities also are embracing solutions that rely on more small-scale projects, many of which are similar to ideas that Deep Tunnel critics proposed decades ago.

As part of Mayor Richard Daley's efforts to promote Chicago as a green mecca, the city has repaved 140 alleys with porous pavers or pervious concrete that allows rainwater to seep into the ground rather than drain into sewers.

The mayor also has pushed for green roofs that help sop up stormwater, including one atop McCormick Place that returns about 50 million gallons to Lake Michigan every year.

Studies show the initiatives are effective, but they remain small in scope. Cleveland is turning vacant properties into stormwater sponges that each year will soak up 44 million gallons of rainwater. New sewers in the Ohio city, estimated to cost \$3 billion, will capture more than 4 billion gallons.

"It's time for a different way of doing business that treats our freshwater as an asset," said Scott Bernstein, co-founder of the Center for Neighborhood Technology and an early proponent of what is known today as "green infrastructure." "Add up more and more of these small, locally oriented projects and you'll get a big bang for your buck."

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[chicagotribune.com/deeptunnel](http://chicagotribune.com/deeptunnel)

Look back at photos from the Deep Tunnel project through the years, including excavation work and residential damage that homeowners said was caused by the project.