Near Vast Bodies of Water, Land Lies Parched

The New York Times
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August 12, 2001

SOUTH ELGIN, Ill. - People who live at the emerald edge of this Chicago suburb have noticed that something seems out of whack this year. The water that once sustained a little pocket of life - beavers, muskrats, frogs and cattails - has disappeared, and the land around it looks puckered, despite a wet spring.

A dried-up wetland was odd enough in a township that gets as much rain as Seattle every year, in a region where floods are a fact of life, and the summer humidity can make it seem like being inside the mouth of a dog. But it could foretell something bigger, even more out of character, according to a study that has stunned people in the Chicago metropolitan area.

Parts of six counties in a region that borders one of the world's largest freshwater sources, Lake Michigan, could be in for serious water shortages within 20 years, the report by a regional planning commission said. And while the June report surprised people who live near a lake system that contains one-fifth of the world's surface fresh water, it did not surprise a handful of corporations that have been saying that water will be for this century what oil was for the last.

This year, with shortages appearing in places that have never doubted the future of their supply, many parts of the country have discovered water may indeed be a commodity more precious than oil.

Cities are cutting deals to siphon water from far away, destinies are being reshaped and species put in peril by new plans to dip straws into underground rivers or withered rivers.

A general warming trend, sprawl that covers the sponge of land that normally replenishes the nation's vast underground reservoirs, and the growing demands of agriculture and expanding cities are the reasons most often cited for accelerated water shortages.

The problem, which used to be limited to the arid West, has dominated community concerns in some of the most unlikely places.

Florida's reservoirs below and above ground are badly depleted and becoming briny with saltwater seepage. The water shortage is so bad

in parts of the state, despite a recent tropical storm, that people have been hauled into court and fined for violating strict water rationing standards.

In Kentucky, more than half of the state's 120 counties ran short of water or were on the verge of shortages this year before heavy rains brought relief.

In the Pacific Northwest, where water is the master architect of a lush land, too little water has been promised to too many people, leaving farms and wildlife to wither in places like the Methow Valley in Washington or Klamath Falls, Ore. - precursors of coming water clashes, according to many experts. And a report released Thursday found that even in the suburbs around Seattle, on the wet side of the Cascade Mountains, demand for water is outstripping supply, raising the prospect of shortages within 20 years.

Some major American cities in the Southwest, including El Paso, San Antonio and Albuquerque, could go dry in 10 to 20 years. But a number of towns in New England and the well- watered half of the Midwest are also facing the prospect of running out of water in a generation's time.

Here in the Great Lakes region, a fourth year in a row of declining water levels has caused millions of dollars in losses for shipping companies, marinas and other businesses and prompted further restrictions on future water withdrawals for expanding suburbs.

"A lot of people just can't believe that we may be running out of water, living this close to the Great Lakes," said Sarah Nerenberg, a water engineer with the Northeastern Illinois Planning Commission, which conducted the study on shortages.

The federal government, which controls water to 31 million people in the West but has far less control elsewhere, has offered little guidance for struggling regions. In the absence of single power broker, a veritable free-for-all has emerged, with private companies and individual states and cities cutting their own deals.

In northeast Kansas, for example, the water shortage is so severe that state officials are discussing plans to build a pipeline, costing as much as $200 million, to the Missouri River to keep the area from going dry. But most of the water in the Missouri is already spoken for, other users say, setting up the kind of conflict that is endemic to the West.

Some of the other big rivers that have long sustained American communities, from the Ipswich in Massachusetts to the Rio Grande in the Southwest, are running thin. The Rio Grande, drawn down by farmers and fast-growing cities in New Mexico and Texas, is down to a bare trickle where it snakes through Big Bend National Park in Texas. It is so braided with chemicals and salt that fish, birds and animals that use it are dying, park rangers say.

The problem in Chicago's suburbs is typical of the predicament facing other traditionally wet areas. Water looks abundant here in Kane County, for example, which lies between the nation's biggest river, the Mississippi, and one of its biggest lakes, Michigan. But appearances are deceptive.

Most of the nation's fresh water - about 60 percent - is out of sight. It comes from below ground, in rivers and pools known as aquifers. These aquifers are being depleted at the same time that surface water in lakes and rivers is stressed by growing demands and heat.

Many of the nation's biggest aquifers, such as the 175,000-square-mile Ogallala in the southern Plains, have long been depleted by farming. To the east, the underground river that brings water to the nation's most bountiful rice crop, in Arkansas, will be dry in less than 15 years, hydrologists say.

Global warming, which has been blamed for increased evaporation rates of surface water and low mountain snowpack that feeds major rivers like the Colorado and the Columbia, is cited by many scientists as the biggest single culprit in some of the emerging water shortages.

Last December, federal researchers said a gradually warming climate could reduce levels in the Great Lakes by five feet at the end of the century, but they also noted that the lake levels fluctuate, regardless of climate changes. And a strict agreement signed by the governors of all the states surrounding the Great Lakes and two Canadian provinces has made it unlikely any new communities can tap into the big basin of fresh water.

Sprawl is coming in for its share of blame as well. In the Chicago area, hydrologists say land that would normally soak in water and replenish aquifers has been paved over, effectively blocking water needed to refill the underground basins.

In past shortages, people tapped into Lake Michigan. When Chicago was coming of age, it reversed the flow of the Chicago River, draining water out of Lake Michigan instead of into it. Now, the so-called collar counties around Chicago, which are expected to add 1.3 million people over the next 18 years, find that the lake is off limits and supplies below ground are not being adequately replenished.

It was the prospect of these growing national water scarcities, combined with a global problem in which nearly a billion people do not have access to clean drinking water, that prompted Enron, the Houston-based energy conglomerate, to enter the water business.

Already, bottled water costs more than gasoline in most stores, but nearly 90 percent of all municipal water systems are publicly owned. Enron, the nation's No. 1 marketer of natural gas and electricity, saw water as a commodity that would eventually be deregulated, just as electric power was in California. If that happened, Enron would be free to buy and sell water to the highest bidders - no different from oil or megawatts.

The company set up a Web site to trade water, and went prospecting for liquid gold. The people at Enron followed a trail already blazed by a fellow oilman, T. Boone Pickens, who has been buying underground water from farmers in hopes of selling it to parched cities in Texas, and the Bass brothers, who bought 46,000 acres in the desert of Southern California, only to be stymied by legal and technical problems over underground water rights.

"In the next 10 years, the United States will experience serious water shortages," Rebecca Mark, chief executive officer of Enron's water division, Azurix, told business leaders in Texas two years ago as she outlined plans to lay a claim to a global industry worth about $400 billion.

At the same time, another top Enron executive, Roger Fragua, told a Congressional subcommittee, "Just as Enron led the evolution of natural gas and electric restructuring, we are excited to take a similar role in the water industry."

But Enron discovered that water was not as easily corralled as oil or gas. Public agencies and consumer groups, many critical of Enron's role in the debacle of energy deregulation in California, fought the company and others pushing for privatization.

This year, after two years of foraging for water, Enron's water

spinoff collapsed, reporting losses of more than $300 million and retreating from the stock market. A spokesman for the company, Keith Miceli, said Enron was "disappointed that the global market for water did not develop for us."

Other companies, most based in Europe, have had more success.

"I still think we're moving toward privatization, but water is different than oil - it's so much more emotional," said Deborah Coy, a water market expert at Schwab Capital Markets. "Look what's happening: you've got shortages all over the world."

Mr. Pickens plans to pump water from the Ogallala and pipe it to cities in Texas. In Southern California, a private company, Cadiz, is negotiating with the agency that provides water for 17 million people to store water from the Colorado River in a Mojave Desert aquifer and then sell it back in dry years.

The plan has won approval from the board of the Metropolitan Water District, which has been draining water from far-flung places throughout California since the early 20th century. But environmentalists oppose it, saying it could suck dry the vital springs that keep bighorn sheep and desert tortoises alive in the Mojave.

"The urban areas are going to get the water they need," said Thomas J. Graff, a water expert at Environmental Defense. "The real battle is at the margins - between the environment and agriculture."

Farms use a majority of American water. At a time when most farms are subsidized by the government - failing to make money in a global market - many water experts say it is inevitable that water to meet future needs will have to come from agriculture. The same amount of water it takes to support just 10 farm jobs can support 100,000 high-tech jobs, said Peter Gleick, a water expert with the nonprofit Pacific Institute in Oakland, Calif.

Some are concerned that the fight over water will come down to a numbers game, involving mass transfers from one group to another, and ultimately leaving out wildlife in wetlands and along rivers.

"Already, in some places of North America, we have freshwater species extinction rates that rival those of the tropics," said Sandra Postel, an author of two books on water and director of the

Global Water Policy Project, in Amherst, Mass.

"What worries me a lot is when we start to think that drinking water can only come from a bottle," Ms. Postel said. "We're not just talking about something like oil, or pipes and transfers. We're talking about a public good, something that keeps everything alive."

Certainly here in the suburbs, facing an advance guard of new houses, some longtime residents said they realized the value of water only when it was gone.

"We were just appalled by what happened this spring," said Sue Schudel, who has lived in South Elgin for 45 years. "The cattails were all dead. The pond dried up. We'd never seen it like this."