

It's time to revive NAWAPA water plan

by Nicholas F. Benton

Lawmakers from states at the low end of the Mississippi River are now fixated on getting extra water from the Great Lakes to relieve the drought-inflicted record low levels on their waterway. This has caught up official Washington in a completely fruitless debate.

Even if the Supreme Court were to lift its decree limiting the amount of water flowing out of Lake Michigan through the Chicago and Illinois Rivers into the Mississippi—the present ceiling is 3,200 cubic feet per second (CFS)—the capacity of the connecting canal is only 10,000 CFS, meaning that the maximum in additional water would be only 6,800 CFS.

While experts estimate that this would lower the level of Lake Michigan three-quarters of an inch, it would raise the level of the Mississippi by only one foot at St. Louis, Missouri—just below the outlet of the Illinois River—and less than five inches downriver at Vicksburg, Mississippi.

The move would unleash a hornet's nest in relations between the United States and Canada. While U.S.-Canada treaties do not give Canada any say over lake water diversion, the political impact would be large nonetheless. And the fact is, any proposal anywhere that suggests diverting water from one region that uses it to another region that needs it is doomed to fail. Given the unreliable behavior of the Great Lakes, which were themselves at record low levels barely a decade ago, there is good reason for inhabitants there, on both sides of the border, to resist the idea that their water should go somewhere else.

Remember NAWAPA?

If anything, the publicity over the unlikely prospect of diverting Great Lakes water into the Mississippi is only one more illustration that the continent's water needs have been neglected for the last 20 years. In fact, a genuinely sound proposal to divert unused surplus water from the northern-flowing rivers of northwest Canada and Alaska was abandoned by Congress.

The "water from Alaska and Canada" proposal, labeled the North American Water and Power Alliance (NAWAPA) by visionary engineers at the Ralph Parsons Company in

California, who prepared an in-depth feasibility study of the concept in the early 1960s, demonstrates how 180 million acre feet of surplus water—neither being used now or in the foreseeable future by anyone—could be diverted to provide for the water needs of most of the continent.

An enormous amount of the fresh water that hits the land mass of the Earth in the form of rainfall and snow lands in the northwestern corner of the continent, and flows untouched in giant rivers northward into the Arctic Ocean and westward into the northern Pacific. By tapping a mere 15% of this water, and diverting it southward by gravity flow from high elevations in the Canadian Rockies, virtually every serious water shortage on the continent would be alleviated, and almost limitless potentials for new development created.

According to the NAWAPA plan, almost 500 million acre feet of water would be stored in a giant reservoir in the so-called "Rocky Mountain trench," 500 miles long and 50 miles wide, along the British Columbia-Alberta border. From there, water would be delivered in a number of directions.

First, it would go eastward across the Canadian plains into the Great Lakes, providing irrigation throughout its route, as well as a navigable canal ultimately connecting the Great Lakes to the Pacific Ocean. This water flow would provide the ability to regulate the level of the Great Lakes and St. Lawrence Seaway for the first time.

Second, it would go southward over the Sawtooth Mountain range in Idaho, across Utah and down to southern California, Arizona, New Mexico, and northern Mexico. This would relieve the pressure on the now-overtaxed Colorado River, annually providing 10 million new acre feet of water to California alone, and 22 million acre feet to Mexico.

Third, it would cut diagonally across Montana to the Dakotas and southward, to recharge the depleted Ogallala Aquifer on the High Plains, and flow abundantly into the Mississippi by way of the Missouri.

The ambitious plan exploits the only source of fresh water on the continent that is truly surplus, at least until inexpensive large-scale desalination or weather modification methods are perfected.

In the early 1960s, when the plan was first studied, it was estimated it would cost \$100 billion and take 20 years to build. However, many advances in construction technology have occurred since then, including development of double-curvature, thin-arched dams, high-strength concretes and robots for use in grading and leveling, and smoothing over and troweling trapezoidal water-bearing canals. These, combined with a "crash program" approach, could be utilized to complete the project in less than a decade.

As far as cost is concerned, it was established in the original study that NAWAPA could pay for itself in 20 years through sale of water and abundant surplus hydroelectric power. A joint U.S.-Canadian-Mexican government-backed corporation, funded through long-term bonds, could pay for the entire project without costing taxpayers a dime.