The Nawapa plan to 'green' the deserts

by Marcia Merry

The water and land surveys done in the United States after World War II showed that for an expanding population and healthy economy in North America, more water would have to be supplied to the arid western regions, or else, growth of population and economic activity would have to be concentrated in the existing, well-watered regions of eastern Canada and the United States, as well as southern Mexico.

As the hydrologic patterns reported elsewhere in this *Feature* show, the western watersheds overall do not have the potential to support expanded water withdrawals unless their flows can be augmented from outside.

In the 1950s and early 1960s, very effective designs were drawn up for the technological and geographical engineering to provide additional water. If these proposals had been implemented, the ecological degradation now worsening in the West would not have occurred.

The plans for water provision were based on bringing water from the Yukon southward—water which otherwise flows, unused, into the Arctic Ocean. Further, the plan was to bring northward the surplus water of Central America, to water the arid northwest of Mexico.

These continental water diversion plans were realistic, because in the immediate postwar period, technologies were still too costly and primitive for desalinating large volumes of the water of the Pacific Ocean or the Gulf of Mexico. Though large in scale, the engineering tasks involved were not inherently complicated. Moreover, the postwar development of the technology of peaceful nuclear explosives (PNEs) promised to greatly cut construction times and revolutionize methods for large-scale earth-moving projects round the world.

Plans for the Mexican hydraulic projects were worked up by the College of Civil Engineers in Mexico City. Called the Hydraulic Project for the Northwest (Plhino) and the Hydraulic Project for the Gulf of the Northeast (Plhigon), the designs would move water though canals and existing river beds to the dry northern states of Sonora, Sinaloa, and Tamaulipas.

The Pasadena, California-based Ralph M. Parsons Co. designed the northern projects for Canada and the United States, which at the time was called Nawapa—the North American Water and Power Alliance. In parallel with this, the state of California—the most populous, water-short area of the United States after the war, pursued projects under its 1957 California Water Plan, arising from its 1947-57 water resources survey. And in the meantime, the large pre-war projects—Colorado River, Columbia River, etc.—provided water for economic growth.

In 1966, U.S. Senate hearings were held on the feasibility of Nawapa, chaired by Sen. Frank Moss (D-Utah), head of the Special Subcommittee on Western Water Development of the Senate Interior Committee. Senator Moss said that with the expected success of putting a man on the Moon, the U.S. public and policymakers had reason to look forward to the completion of Nawapa.

However, within a decade, Nawapa and Plinho-Pligon were politically all but dead and buried. The California plans fell behind schedule, then they were drastically scaled down. International opponents conducted massive campaigns in the name of environmental protection, population reduction, and cost-cutting, and otherwise launched dirty tricks against groups and persons backing such projects.

Development economist Lyndon LaRouche kept the infrastructure issues alive through his political campaigns and the policy groups which he initiated. In 1982, the National Democratic Policy Committee issued a mass-circulation report promoting such water development projects, with the title, "Won't You Give Your Grandchildren a Drink of Water?"

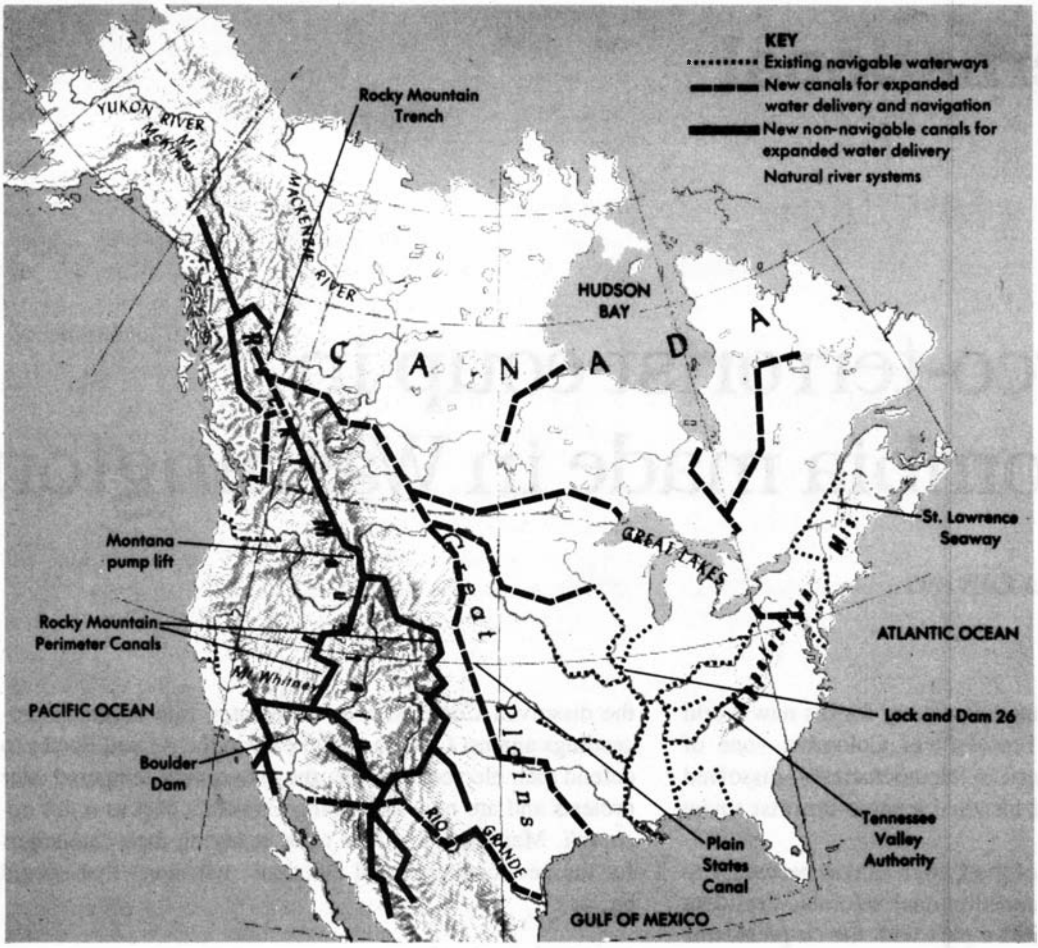
Now today, the merit of the projects comes again into focus, because despite 25 years of anti-technology propaganda, people can potentially see the awful results of preventing infrastructure improvements. Desalination plants are on the agenda in California. Alaska Gov. Walter Hickel has proposed the construction of a plastic offshore pipeline to carry water from his state to southern California. These initiatives show that once again, there is emerging a mood to solve problems, rather than to succumb to anti-growth propaganda and national economic devastation.

The scope of Nawapa

The basic concept of Nawapa is shown in the map on page 37, based on the plans of the Ralph M. Parsons Co. in 1988. The northwestern region of North America receives about one-quarter of all the rain and snow that hits land on the planet every year, and most of this cascades, untouched by anyone, northward into the Arctic Ocean, or westward into the Northern Pacific. The Nawapa scheme would divert up to 15% of this flow, beginning with channeling it into a natural wonder reservoir—the 500-mile-long Rocky Mountain Trench in British Columbia. This is a 10-mile-wide geological formation that could hold almost 500 million acre feet of water.

From here, the water would flow in three directions:

1) eastward across the Canadian Plains provinces, providing water for irrigation there, as well as a navigable canal that would connect the Pacific Ocean to the Great Lakes, allowing for the regulation of Great Lakes and St. Lawrence



The North American Water and Power Alliance

Source: As elaborated by the Fusion Energy Foundation, 1982.

Seaway levels for the first time;

2) southward across the Sawtooth Mountains in Idaho, through Utah and Nevada into southern California (where it would provide 10 million acre feet a year), Arizona, New Mexico, and northern Mexico, where it would provide 22 million acre feet a year, alleviating the burden on the overtaxed Colorado River;

3) southeast across Montana and the Dakotas, where it would recharge the depleted Ogallala Aquifer on the High Plains, and augment the flow of the Missouri and Mississippi rivers, and link the Canadian Plains with the Mississippi by a navigable canal.

How fast can it be built?

Construction time for the entire Nawapa design is estimated to be 20 years, after the first 5-8 years of feasibility analysis, engineering reconnaissance, and various levels of governmental approvals. This timetable is based on traditional construction methods, not the time-saving nuclear methods that could be developed and applied.

However, any timetable at all is now subject to the constraints of the economic decay in the U.S. economy. The best development that could take place under the circumstances is for the project to proceed in stages. Under the original projection, after Year 8 of construction, it would be possible to produce and sell 5 million kilowatts of electricity. After Year 9, some 23 million kW would become available, and the first flow of 15 million acre feet per year (mafy) of water would begin. In 12 years, there could be 31 million kW of electricity, and 39 mafy of water.

The cost

In the 1960s, the cost of Nawapa was figured at $100 billion, which today would be $300 billion over a 30-year period, or, depending on the pace, $10 billion a year. The phases of construction would have significant positive effects throughout the economy. Parsons' Nawapa engineer Nathan Snyder reported in 1988 to a gathering of the Institute for the Advancement of Engineering: "Much experience has been gained in accomplishing large projects in Alaska and Canada. For instance, Parsons managed the design and construction of $4 billion oil and gas recovery and processing plants and infrastructre on the Alaskan North Slope. This was done under the budget and time schedule planned under the most severe weather conditions in a remote area. Even now, the massive hydroelectric complex constructed along La Grande Rivière in Quebec shows definite proof by the Canadians that a program such as Nawapa can be accomplished."