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**INTERBASIN WATER TRANSFERS AFTER NAFTA**

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## Interbasin Water Transfers After NAFTA: Is Water a Commodity or Ecological Resource?

### I. Introduction

As demand for fresh water escalates in the southwestern United States and Mexico, Canada's water resources may be drained, if proponents of interbasin water transfers have their way. Continent-wide water transfer proposals, initiated by engineers in the 1960s, are being revisited as possible solutions to water scarcity in the desert southwest. Continuing development in the region, coupled with the drought of the 1980s, tax the existing supply beyond sustainable levels. As a result, Canada's abundant fresh water sources may regrettably provide a quick fix, while the harder tasks of improved water management and better land-use planning are ignored.

Fueling the renewed interest in international water transfer projects is the pending North American Free Trade Agreement (NAFTA). NAFTA and the U.S.-Canada Free Trade Agreement of 1988 (FTA) essentially prevent Canada or any of her provinces from placing restrictions on the export of water. The trade agreements thus provide new hope for developers, agribusiness and policy makers anxious to build a continental water system.

This brief memorandum underscores the need for the wise management and conservation of North America's fresh water resources. Moreover, it seeks to unite concerned groups in a continent-wide network aimed at monitoring and preventing efforts to divert Canada's water resources to the southwestern United States and Mexico. Recent trends indicate that commercial interests, which view water not as a dwindling ecological resource but merely as a commodity, are successfully lobbying policy makers to resurrect the interbasin water schemes at the expense of the continent's hydrological integrity. Should

Canada, the U.S., and Mexico enact NAFTA, environmentalists fear that water's essential ecological role will be sacrificed for the sake of unsustainable growth in arid regions of the continent.

The next section of this memorandum briefly describes the primary continent-wide water transfer projects still under consideration, such as the North American Water and Power Alliance (NAWAPA). The third section discusses relevant trade law provisions, including FTA, NAFTA, and the General Agreement on Tariffs and Trade (GATT). The fourth section discusses other trends making the construction of large-scale transfer projects more likely. The final section offers recommendations for future activities to move us from the current myopic policy patchwork to an ecologically sounder, conservation-oriented water policy.

## II. Major Interbasin Water Transfer Proposals

During the 1960s, engineers drafted several proposals for massive water projects to transfer large quantities of water from Canada to the southwestern U.S. Canada has twice as much surface and underground fresh water as the U.S., while comprising only one-tenth of the U.S.'s population and industry. Because water is needed in the southwestern U.S. in quantities greater than traditional modes of transportation, such as trucks or tankers, could feasibly handle, hydrological engineers have dreamed of shipping water via massive dams, canals, and pipelines.

Despite gaining widespread initial support, the proposals succumbed to economic and political realities and were dropped. They have never been completely shelved, however. Many observers believe that some recent water development projects—for example, the

Oldman River Dam in Alberta—are part of an attempt to construct these larger schemes piece-by-piece.

The three most ambitious as well as environmentally damaging projects that have been proposed – the North American Water and Power Alliance (NAWAPA), the Great Replenishment and Northern Development Canal (GRAND Canal), and the Alaska-California Subsea Pipeline project - are discussed briefly below.<sup>1</sup>

### 1. The North American Water and Power Alliance (NAWAPA)

NAWAPA was first proposed in 1964 by the Ralph Parsons Engineering Company from Pasadena, California. The project contemplates damming virtually every major river in Alaska and British Columbia, including the Yukon, Susitna, Tanana, Skeena, Peace, Churchill, MacKenzie and Fraser rivers. The "excess" water would be diverted into the five-hundred mile, natural depression known as the Rocky Mountain Trench that runs the length of British Columbia. The depression would store up to 400 million acre feet of water.<sup>2</sup>

Water would move down several different paths from the reservoir. From the northern end, a canal would run southeast linking with the Great Lakes and the Mississippi River. Water level in the Great Lakes would rise; hydroelectric output at Niagara Falls

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<sup>1</sup>There are several other similar schemes, including the North Thompson or "Clancey Diversion" project to divert water from British Columbia to California, the "Eco-Vision project in Nevada, the diversion of the Columbia River to California, and a major interbasin transfer project in Kansas. These are not addressed in detail, because they can be considered simply as down-sized versions, or components, of the larger schemes discussed in this paper.

<sup>2</sup>An acre-foot of water is the quantity of water necessary to cover one acre with one foot of water. One acre-foot equals 325,851 gallons, enough to sustain two average U.S. households for one year.

could increase and ocean-going vessels would move up the Mississippi to St. Louis. Some water would be shunted off toward the Columbia Basin to produce additional electricity near the southern end of the reservoir.

Most of the water, however, would make the long journey southward and travel along both sides of the Rockies towards the Great Plains and to the southwestern deserts. Idaho would receive 2.3 million acre-feet; Texas, 11.7 million; California, 13.9 million; and Mexico, 20 million.

The plan, monumental and breathtaking in its scope, would be the largest engineering project in the world. Although initially NAWAPA picked up several influential supporters, it eventually stalled because of social, environmental, economic and political opposition. The estimated cost of the project was between \$100 and \$200 billion dollars, and could not be considered cost-effective under any reasonable estimate.<sup>3</sup> The plan also emerged just before the first major upswelling of environmental concern in the 1970s. Its environmental consequences would be virtually unimaginable, destroying the Northwest's salmon runs, flooding thousands of miles of wilderness, and displacing hundreds of indigenous peoples.

One of the important reasons for NAWAPA's inability to gain support initially was that the requisite level of international cooperation seemed impossible. NAFTA, however, has changed all that. As discussed in greater detail below in Part III, if NAFTA is implemented, it will remove virtually all of the international political obstacles to large-scale

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<sup>3</sup>Closer scrutiny of the economic arguments is now warranted, especially in light of more realistic water pricing policies, increased water scarcity and the elimination of political obstacles to the water transfers. As the marginal costs of supplying the Southwest with water from other sources increase, the relative economic merit of the transfer schemes improves.

water transfers—and make it very difficult to prevent commencement of projects like NAWAPA through national or provincial regulations.

## 2. The Great Replenishment and Northern Development Canal (GRAND Canal)

The GRAND Canal is eastern Canada's version of NAWAPA. Indeed, the two projects could be interconnected in time. The GRAND Canal scheme was first conceived in the 1950s by Thomas Kierans, founder and president of the Grand Canal Co. Ltd. The project is still very much alive, and has been backed at times by many of Canada's leading engineering firms, including Bechtel of Canada and Lavalin; the massive utility, Hydro-Quebec; Quebec Premier Robert Bourassa; and Prime Minister Mulroney.

The GRAND Canal scheme contemplates construction of a huge dike across the northern end of James Bay, an arm of Hudson Bay. The many rivers feeding into the bay would fill a freshwater reservoir the size of Lake Ontario. The water would then be channeled into the Great Lakes, where it could be pumped into Saskatchewan's Lake Diefenbaker and other points in western North America. The total estimated cost in 1985 was \$100 billion.

The GRAND Canal idea can be seen as an extension of Quebec's efforts to become a major supplier and exporter of hydro-electricity. The controversial LaGrande River hydroelectric projects, and the other James Bay projects under construction by Hydro-Quebec, are significant steps toward realization of a GRAND Canal-like project. Although built primarily for hydroelectric generation, the \$20 billion LaGrande complex is integral to any scheme for sending James Bay water south. The next stages of Hydro-Quebec's plans, which it is currently implementing, involve damming or diverting all the remaining major

rivers flowing into James Bay by the year 2001, at a cost of \$44 billion. After completion of that phase, all that will be necessary to complete the plan will be the canals to the Great Lakes, a relatively inexpensive addition.<sup>4</sup> Moreover, the high energy needs for pumping water west and south will provide a welcome demand and justification for the hydroelectric facilities.

### 3. The Alaska-California Subsea Pipeline Project

Alaska's Governor Walter Hickel has recently been promoting an undersea pipeline 1400 - 2100 miles long to transport over four million acre-feet of Alaskan water to Lake Shasta in northern California.<sup>5</sup> The federal Office of Technology Assessment (OTA) was sufficiently interested to organize a workshop and conduct an investigation into the economic feasibility of the project.<sup>6</sup> The OTA study concluded that at \$110 billion, the pipeline could not compete economically with other options available to California. The delivered water would cost between \$3000 to \$4000 per acre foot (\$2.40-\$3.25 per cubic meter).

The pipeline option attracts some supporters in part because it may present less environmental damage than other water transfer schemes. As contemplated, the pipeline would take water from the mouth of the Copper or Stikine rivers. Thus, it would probably require smaller storage reservoirs to regulate the flows of the rivers. Moreover, the riparian

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<sup>4</sup>For more on the James Bay projects, see SEAN McCUTCHEON, *ELECTRIC RIVERS: THE STORY OF THE JAMES BAY PROJECT* (1991).

<sup>5</sup>The Alaska-California subsea pipeline is not directly affected by NAFTA. As discussed below, NAFTA has essentially streamlined the diplomatic channels for transferring water, making a Canada-to-California pipeline more likely. This could drastically reduce the estimated cost of a pipeline project, making it far more economically feasible.

<sup>6</sup>U.S. Office of Technology Assessment, *Alaskan Water for California? The Subsea Pipeline Option—Background Paper* (1992).



zones and the river flows would be affected less than if water were diverted from the headwaters. Nonetheless, the pipeline could change coastal salinity and temperature, thus endangering critical salmon and marine mammal habitat.

Although the report concluded that the pipeline was not economically competitive with other options currently available to California and that "California does not currently need the large volumes of imported water that could justify a major inter-basin transfer," the report leaves the reader with the uneasy feeling that it is only a matter of time before large-scale transfers become necessary. After emphasizing the role global warming could play, the report analyzes the fifty-year outlook in the following way:

Although the current trend is away from interregional water transfers, at some point, then such schemes could again receive serious attention. A subsea pipeline to transport water from Alaska, diverting some water from the Columbia River or various proposals for diverting water from Western Canada's rivers, as well as other expensive options such as tankering water, might then be considered. Moreover, although the Eel and Klamath Rivers in northern California are now part of the National Wild and Scenic River System, they too could be tapped if current law is changed in response to concerns over global climate change.<sup>7</sup>

This conclusion for the longer term (fifty years) should alarm environmentalists. None of the long-term options the report emphasizes offers an environmentally benign future. That a federal report could so easily contemplate withdrawing two rivers from the protection of the wild and scenic designations is remarkable, and illustrates once again the single-minded view of water developers.

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<sup>7</sup>OTA Subsea Pipeline Report, at 11.

### III. NAFTA and Large-Scale Water Exports from Canada

Some of the political and economic obstacles that have effectively blocked NAWAPA and the other massive inter-basin transfer schemes no longer exist in the current climate that has spawned NAFTA. The goal of NAFTA and the 1988 FTA is to create a North American free trade bloc, so that goods and services can flow freely throughout the continent. Among the goods and services covered by the agreements are natural resources such as water. As a result, local, provincial or even national attempts to prevent or restrict Canadian water exports to the U.S. or Mexico would be subject to the review of an international panel. As currently contemplated, that panel would not be bound by any environmental standards and its proceedings and final rulings both may be kept secret. Efforts to protect instream values will likely be subordinated to international economic views of water as a commodity. Moreover, international agencies have historically been more difficult for environmentalists to influence than national or local authorities. In any event, understanding how the free trade agreements affect water exports will now be a necessary first step in mounting any effective campaign.

#### 1. The U.S.-Canada Free Trade Agreement (FTA)

The water export issue arose initially in the late 1980s during the debate over the FTA, which appears to preempt Canada from taking any unilateral actions to restrict large-scale water exports. FTA, like NAFTA discussed below, prohibits any party from placing export restrictions (including, for example, export taxes or quotas) on any goods subject to its provisions. Water implicitly qualifies as a "good" under the FTA, because it was not specifically excluded as were other natural resources. The conclusion that water is included

under FTA's general provisions is also supported by the inclusion of natural waters in the tariff provisions.<sup>8</sup>

Although the Canadian government disputes that it has lost control of its water exports due to the FTA, Canada passed an amendment to its FTA implementing legislation that specifically states nothing in the legislation or the FTA applies to water. The implementing legislation, however, would not be considered by an FTA dispute panel if the U.S. were to complain that Canada was violating the FTA by withholding water exports. The FTA dispute panel would have good cause to rule in the favor of the U.S., if Canada places an export restriction on water. Canada need not automatically submit to such a ruling, but it might be subject to trade retaliation by the U.S. if it chose not to comply. Such retaliation, or the threat of such retaliation, may be enough to force the Canadian government to allow large-scale water exports.

## 2. The North American Free Trade Agreement (NAFTA)

NAFTA is in many ways just an extension of the FTA. It, too, opens the possibility that Canada would be legally bound to make water available to the U.S. under the same conditions as water is available inside Canada. Despite the controversy that arose over the FTA, Canadian negotiators did not seek a specific exemption in NAFTA for water. According to a government spokesman, they reasoned that Canada's Federal Water Policy of 1987, likely NAFTA implementing legislation, and other solely Canadian statements rejecting these exports insulate Canada's water resources from the NAFTA regime. Moreover, all of the parties to NAFTA supposedly understood that large-scale water exports

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<sup>8</sup>Tariff Item 22.01.9.

were not included in the negotiations according to the spokesman. Additionally, asking for a specific water exemption might have provoked counter-offers from U.S. and Mexican negotiators for their own additional exemptions. As a result, the actual text of NAFTA supports the claim that large-scale transfers of Canadian water to the U.S. and Mexico cannot be prevented on the national or local level. First, consistent with the FTA's tariff treatment of water, NAFTA considers water as it would any other good by including it in its tariff schedules. The other relevant NAFTA provisions and explanations are discussed below.

**a. The Principle of National Treatment**

One of the basic principles of free trade is that similar goods and services should be treated similarly regardless of whether they are being traded domestically or internationally. This principle of national treatment is embodied in Articles 102 and 301 of NAFTA. Each states that each party, province or state must accord no less favorable treatment to goods and services of other parties than the most favorable treatment accorded to any similar, directly competitive or substitutable goods and services. Article 102 makes national treatment one of the underlying objectives of NAFTA. Article 301 specifically accords this national treatment "to the goods of another Party in accordance with national treatment provisions of Article III of the [GATT]." As GATT tariff schedules typically include all types of water, including large-scale exports, and because both NAFTA and the FTA specifically

include water in their tariff provisions, NAFTA's national treatment principle appears to apply to large-scale water exports.<sup>9</sup>

NAFTA and the FTA, by extension, apply this national treatment principle to the provision of services (Article 1202) and to investment (Article 1102). Thus, neither the provision of construction or engineering services, nor the flow of capital, can be disproportionately impeded. Construction, engineering and investment are key components of any large-scale water export development project. Under the trade agreements, Canada retains no ability to control a large-scale water export plan by regulating foreign service providers or investors.

**b. The Prohibition of Import and Export Restrictions**

Another major goal of the trade agreements is to eliminate import and export restrictions between the parties. Under Article 309, except as provided in NAFTA, "no Party shall adopt or maintain any prohibition or restriction . . . on the exportation or sale for export of any good destined for the territory of another Party."<sup>10</sup> This provision prevents Canada from restricting exports of its water, whether large-scale or otherwise, regardless of the intent of the parties that negotiated the agreement or the unilateral proclamations of an individual government.

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<sup>9</sup>That NAFTA's national treatment principle applies to water exports is buttressed by Canada's chosen exceptions to national treatment in NAFTA Annex 301.3 which apply to exports.

<sup>10</sup> The term "good destined for the territory of another Party" is not specifically defined in NAFTA. There is, however, no specific exemption for water and, given that water is included in most GATT tariff provisions (as discussed above with reference to the national treatment principle in Article 301), water would seem to be included among the goods that must be exported and imported without restriction.

There are certain exceptions to Article 309 allowed under NAFTA. Article 315 permits export restrictions if they are consistent with certain GATT exceptions, discussed below, and certain specific Article 315 conditions. Although, generally speaking, the exceptions are meant to be applied in the context of an effort to restrict the supply of a good that is already being exported by a Party, the provisions would also generally apply to initial refusals to provide goods.

### c. Resolving Disputes Under NAFTA

Critical to understanding the threat NAFTA poses to water supplies is understanding the process by which the Parties will resolve future conflicting interpretations of NAFTA. NAFTA and the FTA contemplate the use of dispute panels, which are traditionally composed of international trade specialists. As conceived in Chapter 20 of NAFTA, the trade panel will meet and make its decision in almost total secrecy; even final panel reports may be withheld. The decision will be based wholly on trade expertise and the text of the agreement. Outside scientific expertise may be provided to the panel only if both parties consent and only to the extent of resolving questions of fact. Either Party may, however, request a report by a scientific review board. Perhaps most important, only governments can raise complaints under NAFTA; no citizen participation is permitted.

Given the closed and myopic dispute resolution format, a dispute panel is even more likely to find a large-scale water transfer consistent with NAFTA. Without a specific exemption in the text for large-scale water exports, Canada will have few arguments to

support export restrictions on water transfers.<sup>11</sup>

#### d. Discussion of NAFTA

The present language of NAFTA and the FTA strongly suggests that large-scale water exports cannot be restricted. Moreover, if Canada resists such a claim, the resulting dispute would be heard by a pro-trade biased and closeted trade panel. Although Canada, like any party, can technically ignore any trade panel decision it does not like, parties to trade agreements rarely attempt this action because it threatens to unravel the entire treaty structure. Threats of retaliatory measures along with the possibility that panel decisions favorable to the Canadians may be ignored provide powerful political pressure to compromise, and eventually to comply, with otherwise painful acceptance of the panel decisions.

The ultimate contours of the NAFTA package are far from certain as supplemental agreements and implementing legislation have yet to be crafted. Congress's approval of NAFTA in its current form is not guaranteed. President Clinton's previous pledge to seek supplemental agreements as part of NAFTA may require increased public access in the dispute resolution process. If this change occurs, it improves the chances for environmentally sound decisions by the panel. More beneficial for preventing large-scale water transfers would be a supplemental agreement between the parties specifically exempting large-scale water transfers from the free trade regime.

In the meantime, Canada can continue to look outside of NAFTA for potential

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<sup>11</sup>Democratizing NAFTA's flawed dispute settlement process (and other trade decision making processes which are closed to public participation) should be one of the major goals of any environmental campaign addressing trade issues.

legislative solutions to the problem of large-scale water transfers. In 1987 in response to growing U.S. interest in Canadian water, the Canadian government issued its Federal Water Policy, which promised to "prohibit the export of Canadian water by inter-basin diversions; and strengthen federal legislation to the extent necessary to fully implement this policy." Legislation that would uphold this commitment, the Canada Water Preservation Act (Bill C-156), was introduced in the House of Commons in 1988, but was not passed. The proposed Bill prohibits large-scale exports of water and defines such exports as those wherein "the daily mean discharge of the water exported exceeds one cubic meter per second" and those wherein "the quantity of the water exported during a calendar year exceeds twenty thousand cubic decameters."

Bill C-156 or other Canadian legislation cannot alone prevent the U.S. or Mexico from claiming that such legislation conflicts with the provisions of NAFTA. Canada's laws have a better chance of surviving a NAFTA challenge, if carefully crafted to ban all interbasin transfers. Water within a basin is arguably an exhaustible natural resource and, under Article XX(g) of GATT, an export restriction can be allowed if it applies equally to domestic transfer schemes. Even then, a NAFTA panel might still reject the argument and invalidate the restriction. As described above, unilateral export restrictions would likely be prohibited under NAFTA.

### **3. The General Agreement on Tariffs and Trade (GATT)**

As mentioned above, NAFTA incorporates certain GATT exceptions to the general rule against export restrictions. The most relevant exception regarding water restrictions is found in Article XI of the GATT, which allows those temporary export prohibitions "applied



to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party." To rely on Article XI, Canada would have to demonstrate a "critical" shortage of water; moreover, any use of the Article XI exceptions could only be "temporary" in nature. Given Canada's abundant supply of freshwater, this particular exception is unlikely to justify limiting exports.

The other relevant GATT export restriction exception is Article XX(g), which permits restrictions relating to the conservation of exhaustible natural resources as long as the restrictions are made effective in conjunction with domestic restrictions. Again, this may be a tenuous argument given Canada's robust water supply, which though finite, is renewable. In certain basins, at least, Canada might be able to apply a uniform prohibition against interbasin transfers of water. This would apply to both domestic and foreign parties equally and would seem to fit within the exception if water is ruled an exhaustible resource in the basin.

In addition to the requirements defined Article XI and XX(g) of GATT, NAFTA also requires that each of three complex conditions of NAFTA Article 315 are met. First, the export restriction must not decrease the proportion of the total supply of the good which is exported to the other party as compared to the proportion prevailing in the most recent 36-month period. This condition would presumably be met as the proportion of the water supply that is exported could not possibly be reduced below its current levels, which is essentially zero. Second, Canada cannot directly impose a higher price for exports of water through, for example, licenses, fees, or taxes than the price charged when consumed domestically. Third, any restriction cannot disrupt normal channels of water supply to the

U.S. Again, this would not seem to bar an initial restriction on the export of water, as there currently exists no normal channel of supply.

#### **IV. Other Trends Moving Us Toward Water Transfers**

In addition to the movement toward a continental economy under NAFTA, there are several other important trends that make large, inter-basin transfers of water more likely. Any environmental campaign to fight such transfers must understand these trends and be prepared to respond to them. At least five trends can be identified that suggest the next round of water transfer proposals may meet with greater support.

##### **1. Major Components of the Interbasin Transfer Schemes Are Already Constructed**

When NAWAPA and the other water transfer schemes were first unveiled in the 1960s, they seemed too big to be taken seriously. Since that time, however, several projects have been completed that form critical components of the proposed water transfer schemes, decreasing the incremental costs of completing the transfer schemes. For example, projects such as the Oldman River dam in Alberta, and the Rafferty-Alameda dams in southern Saskatchewan, supported in part by \$40 million dollars from the U.S., are important links for regulating the flow of British Columbia water into the Missouri or Souris basins.

Even more ominous are the dams on the LaGrande River flowing into James Bay. These dams are just the first phase of the massive James Bay hydroelectric development program being carried out by Hydro-Quebec. The GRAND Canal system is a relatively modest extension of that program. Not only will the reservoirs constructed for the James Bay projects serve to regulate and store the water before it is pumped south and west, but

the enormous amounts of energy generated can be used to pump the water.

These recent projects do not necessarily have to be part of an overt conspiracy, in order for them to have the effect of making a large-scale water export scheme more likely. Their existence may in fact simply reflect the tendency of hydrological engineers to control and "develop" all available water resources. Given the rate of dam-building on the continent and the power of such companies as Hydro-Quebec, it is easy to see how eventually all of the component parts of the major water schemes will be built independently. All that will be needed is to connect the reservoir "dots."

## **2. Obstacles to Water Marketing are Disappearing**

Because the decline in available water threatened the growth of the increasingly powerful urban and industrial centers in the west, many states have modified their legal regimes to allow water marketing.<sup>12</sup> Water marketing simply refers to a system where water is "wheeled" to the user who needs it most and often is willing to pay the most for it. Ten years ago selling water to the highest bidder was impossible, because most water was locked up in agricultural water rights guarded by the archaic doctrine of prior appropriation.<sup>13</sup> Agriculturalists finally agreed to sell their rights and to support water

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<sup>12</sup>Colorado is widely viewed as the leader of the water marketing movement. California law still does not allow water marketing, although there is growing pressure to adopt it.

<sup>13</sup>Although water laws vary from state-to-state and from province-to-province, the doctrine of prior appropriation is the primary legal doctrine for allocating water in the western United States. The doctrine allocates water to the first person who applies for it, providing the person puts the water to a beneficial use in a certain amount of time. Until recently, beneficial uses were usually limited by law to out-of-stream, consumptive uses such as irrigation, and municipal and industrial uses. Instream uses of water – for example, to protect fish, promote aesthetic or spiritual values, or otherwise make a river a river – are considered waste and not awarded legal protection.

marketing schemes, when it became clear that they could make considerably more money from selling their water rights to urban users.

This trend has actually been furthered by environmentalists and native peoples' efforts to free up agricultural water for instream uses. Their attacks on the doctrine of prior appropriation have added to the urban voices. The resulting loose alliance of municipalities, environmentalists and native peoples are slowly freeing water from agriculture's grip. Once freed from the historical anomaly of the prior appropriation doctrine, however, water may simply flow to the highest economic bidder.

Although water marketing arguably results in marginal increases in instream flows because industry may need instream water for dilution purposes, environmental concerns will ultimately not be able to compete adequately in the free market. Water marketing reforms perpetuate the view of water as merely an economic commodity, thus reinforcing the system's bias against ecological, spiritual and cultural values of water.

The trend toward water marketing is an important development for proponents of interbasin water transfers because it has weakened or eliminated many of the local, state or provincial legal obstacles to water transfers. Where ten years ago, it was virtually impossible to conceive how water would ever flow through the labyrinth of local laws necessary to complete a large-scale interbasin transfer, now allocation is increasingly being conducted through the market.

### 3. The Gap Between the Cost and the Price of Water is Increasing.

The marginal cost of supplying water is increasing. For example, many communities in California are looking toward desalination as a major new source of freshwater; yet desalination takes large amounts of energy and coastal land. It is thus very expensive, averaging well over half the marginal cost of estimates for the most expensive water transfer schemes. Nor, given its demand on scarce energy and land resources, is desalinization likely to provide the Southwest with all the water it will need. Conservation is the most economical choice for the region, but there is little political will for implementing conservation measures, because there is no influential lobby that benefits from them, as compared to the large engineering and water delivery companies that want to see supply increased.

Although the price of supplying water is increasing, in most cases outdated pricing policies continue to subsidize the end-user, particularly agricultural users. Public funds pay for most of the water development projects, and the marginal cost of water production is only rarely reflected in the price paid by the farmer. For example, agricultural users today in California pay only 10% of the estimated costs of providing the water. Although water subsidies have come under increasing attack, they are a long way from being eliminated. Until they are eliminated, conservation efforts may never gain the political support needed to be implemented. Current policies provide few incentives for increased water use efficiency; it is easier, more effective and less costly for water users to lobby for greater public support of water development projects. Unless water conservation efforts are greatly increased, the southwest's demand for Canadian water will not significantly decline.

Moreover, if huge water subsidies continue to be the hallmark of governmental water policies, then how seriously should we take arguments that large-scale water transfer schemes will never be built because they are too costly. The history of water development projects has always reflected non-economic projects supported by the public for the benefit of a few water users.

#### **4. Water Transfers: The Inevitable Response to Southwestern Development**

Population and water demand has been increasing in Mexico and the southwestern United States. California's population, for example, has increased over 25% since the 1980 census.<sup>14</sup> This, coupled with the drought and the reallocation of Colorado River water, which left California with significantly less water, has greatly increased the costs of California water. Municipal water in southern California is currently selling at \$500 per acre foot. Mexico's economic boom, which will only increase after NAFTA, will add additional demand for the water.

For many years now, water in the West has not flowed downstream, but toward money. And in the future, the greatest demand and the most money will be coming from the southwestern U.S. Yet, the region simply does not have many choices for improving its own water supplies. Increasing water efficiency and making drastic changes in land-use development patterns are the most environmentally sound options, but if history is any judge, building the political will for these policies will be possible only if other sources of supply are withheld. There are always powerful constituencies favoring large development projects. Unless California begins an ambitious program of desalination plants, which are costly and

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<sup>14</sup>*California Cuts Water Use to Repair Bay Damage*, N.Y. TIMES, Dec. 11, 1992.

pose their own environmental problems, the only other choice will be to push for a large-scale water transport schemes.

## 5. The Effects of Global Warming on Water Allocation

Regardless of whether the drought of the 1980s can be attributed to global warming, climate change is coming. Most likely, this will severely aggravate the southwest's water shortage. Engineers and other proponents of large-scale water transfers are already using global warming as a powerful rhetorical tool for pushing their pet projects. As global warming becomes more widely discussed in political circles, environmentalists will be facing renewed arguments for continent-wide water planning and management.<sup>15</sup> The power of this argument to nullify environmentalist's concerns over water transfers should not be underestimated. As environmentalists successfully raise the public's awareness of global warming's consequences, the public may be more willing to adopt the promise of a technological fix (i.e., a water transfer) than to accept the behavioral changes required in avoiding global warming in the first place.

## V. Recommendations for Future Activities

Controlling the use and transfer of water, including hydroelectricity, could be the key leveraging mechanism to shift the continent's current development patterns toward sustainability. In the southwestern area of the continent, development is slowly being forced to adjust to water scarcity for the first time. This pressure would release if large-scale water

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<sup>15</sup>See Ken MacQueen, *GRAND Canal*, *WORLD PRESS REV.*, Mar. 1991, at 53 (discussing global warming and water pricing). Donald Gamble, executive director of the independent Rawson Academy of Aquatic Science in Ottawa states: "If global warming turns out to be what we think it is by the beginning of the next century, no price will be too high for water." *Id.*

transfers were allowed. In the Northeast, energy may be the scarce resource that pushes the society toward sustainability. This pressure, too, could be released if Quebec's hydroelectric potential is completely developed. To counter the interests of agribusiness, industry, cities and engineering firms, a continent-wide environmental campaign could be organized that includes indigenous peoples, commercial and sport fisheries, and environmentalists.

Although the critical role of water in development clearly warrants a broad campaign, it may be more practical and effective in the short term to integrate water into existing efforts. The water issues discussed above are clearly related to such diverse efforts as monitoring the trade agreements, reforming agricultural practices and protecting the rights of indigenous peoples. The role of large corporations in water development, particularly Hydro-Quebec, also presents a good opportunity for integrating concern over water into efforts to monitor transnational corporate behavior. Regardless of whether water is ultimately the focus of a separate environmental campaign or is integrated into other efforts, the following specific recommendations should assist environmentalists in forming future strategies.

### 1. Monitoring NAFTA and Water

Negotiations are far from over with respect to NAFTA; there is still sufficient time to persuade policy makers to exclude explicitly water from NAFTA's purview. The Center for International Environmental Law (CIEL) Greenpeace and others are already working on NAFTA issues, and part of this network's initial activity should be to pressure for amendments to NAFTA and FTA to exclude specifically large-scale water transfers. Such amendments would lay to rest fears that the current trade agreements contemplate the



unrestricted export of water. Alternatively, the U.S., Canada and Mexico should be persuaded to sign a Memorandum of Understanding that NAFTA and the FTA do not include water and that the laws of the country where the water is originally located should prevail in any trade tribunal. Finally, pressure should be increased in Canada to pass the Federal Water Policy there. The legislation should prohibit all interbasin transfers.<sup>16</sup> The U.S. could also be persuaded to pass such legislation as part of NAFTA's implementing package.

Over the longer term, CIEL is also developing a network with Canadian, Mexican and Chilean lawyers and environmentalists to track implementation of NAFTA on certain key issues. The issues, of course, are different for each country: whereas industrial issues dominate the debate with Mexico, natural resource issues – particularly water – dominate the environmental agenda with Canada.

This network and other long-term efforts to monitor NAFTA should be launched with a conference on water issues, including NAFTA, water transfer schemes, dam decommissioning<sup>17</sup> and other current issues. For maximum political effect the conference

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<sup>16</sup>Some states have such legislation. For example, in an effort to prevent pressure from California to access the Columbia River, Oregon recently prohibited all interbasin water transfers.

<sup>17</sup>No dam has yet been decommissioned in North America, but several are good candidates. The Oldman River dam may lead the list, but there is considerable pressure for removing a dam on the Elwah River in Washington and the Savage Rapids Dam on the Rogue River in Oregon. Not only could groups working on this issue come together to discuss strategy, successes and failures, but by coordinating efforts and resources, and targeting the most vulnerable and environmentally damaging dams, the environmental community might be able to set a valuable precedent somewhere (perhaps on the Oldman). The conference could also articulate clear principles for when dams should be decommissioned.

could be held on the 49th parallel and should highlight the issues around NAFTA and the North American hydrologic cycle. Ideally, the conference should be planned for August or September when water supplies are scarce.

## 2. North American Water Task Force

The conference should launch a North American Water Task Force to monitor implementation of NAFTA and the development of large interbasin water transfer projects. The network should be used as a continent-wide clearinghouse of pertinent information. The task force could also organize specific investigations into some of the ongoing water transfer schemes and provide peer review for the resulting reports.

There is already an informal water working group, organized by the National Audubon Society, that follows major water issues worldwide. This group could form the starting point for such a task force. Interested indigenous peoples and organizations, such as the Lonefighters National Communication Network, the Cree, and the Okanagan communities of the Columbia River Basin should be full partners in the association.

## 3. Investigation into Water Transfer Schemes

A review of the literature on North American water transfer schemes leaves one with the nagging suspicion that there is more to the situation than meets the eye. Environmentalists should consider completing a full investigative report on water transfer schemes. This report should be fact-based, including discussions of ways to stop or modify water transfers, particularly those involving international transfers. It should be a major report, with discussions of actual water transfer plans, a review of the economics of water

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supply, a thorough review of NAFTA in its final form, as well as a discussion of national and international strategies to modify or prevent transfers both after they are announced and in advance.

One major focus of the report could be the role of Hydro-Quebec. Hydro-Quebec, along with senior Quebec government officials, is the primary driving force behind hydroelectric development in the James Bay area.<sup>18</sup> Because there is no obvious market currently willing to purchase or use much of the electricity planned from the region, the GRAND Canal scheme will continue to be pushed. This would put the electricity to use, and provide an ostensible excuse for further development. The investigation should concentrate in part on how Hydro-Quebec is financing the James Bay development projects. Hydro-Quebec raised substantial portions of the LaGrande River complex development costs through the private bond market. By all accounts, the return on that project probably does not warrant further investment in the region. A careful investigation into the company's financial reports could threaten their bond rating and ultimately their ability to raise additional capital.

#### **4. Reconceiving North American Legal Views Toward Water**

Most legal regimes for owning or using water reflect only an economic view of water. Archaic doctrines, most notably the doctrine of prior appropriation mentioned earlier, are the single most important legal impediment to wise resource management in the West.

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<sup>18</sup>Hydro-Quebec is also a good target because of its worldwide role in water development. It has played a critical role in the Gabcikovo project on the Danube, the Three Rivers Gorge project in China, and many of the other most environmentally damaging projects currently being proposed.

Ignored by the law is any protection for spiritual, cultural and ecological values of water. There have been several efforts in various parts of the U.S. and Canada to find a legal mechanism for protecting "in-stream" uses. These include instream water rights, the public trust doctrine, wild and scenic river designations and Native American water rights. The effectiveness of these techniques should be analyzed in a report that is accessible to local environmental activists and Native American leaders. The report should also borrow heavily from existing indigenous laws and rules toward water, as well as the science of ecology, thus providing a new framework for protecting spiritual, ecological and other instream values.

The international legal system also needs reform. Although the movement towards recognizing access to water as part of a basic human right is an encouraging move away from the view of water as merely an economic commodity, traditional international rules on shared river systems, among others, need ecological reform.

The report should ultimately set out a new law and ecology framework for water. It should be peer-reviewed by the Task Force described above to include a collaborative and innovative approach to the situation.

##### 5. Increasing Indigenous Sovereignty Over Water

A number of indigenous peoples and organizations are interested in allying with environmentalists that oppose water transfers. The burden of large-scale water development projects fall disproportionately on North America's indigenous peoples. Many of the rivers yet to be dammed flow through their lands; they depend on the rivers culturally, ecologically and economically.

Throughout the continent, indigenous peoples are fighting to assert their rights of self-

determination, including their rights over local resources. In the U.S., this battle for empowerment has led to a growing and effective movement to enforce treaty rights to water. Although still facing an upward climb, indigenous peoples in the U.S. have won several major victories in recent years reaffirming their rights to water. For the most part, although not always, these rights coincide with environmental goals of protecting instream uses. Both environmentalists and indigenous peoples could benefit from further research regarding the implications of NAFTA to indigenous sovereignty over water resources.

There is understandably great interest among indigenous leaders in water-related issues. In addition to the work of the Loners National Communication Network on the Oldman River dam and the Cree in fighting the James Bay projects. Okanagan elders in British Columbia have expressed an interest in working with CIEL and others to articulate their traditional rules for fishing and water in ways that will more likely be honored by the dominant legal system. Okanagan leaders have also expressed their interest in participating in an international strategy to counter the threat of interbasin water transfers.

## VI. Conclusion

Water has been, and will continue to be, the key to development in the western part of the North American continent. NAFTA and other trends suggest that large-scale interbasin water transfers will meet with less resistance in the future than they have in the past. NAFTA has formally moved the economics and politics of water to the international level. The environmental community now needs to track these developments, organize an effective and well-informed coalition, and take a continent-wide view of water conservation in order to work effectively in the post-NAFTA era.

