

Ralph Pentland's* Speaking Notes – Draft/Check against Delivery

(Including a Contribution from Norm Brandson)**

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INTRODUCTORY REMARKS FOR THE SESSION ON WATER POLICY, PROTECTION AND MANAGEMENT

I should note at the outset that I have no current affiliation with any government at any level. So whatever views I express here today are strictly personal. I would propose to do three things before we open things up for discussion: first I will take a very quick look at the evolution of Canada – U.S. water issues; second, I will do a cursory comparison of water policies in our two countries; and third I will describe several current water issues in the Midwest region. I was also asked to offer some specific suggestions along the way, so I will do a bit of that as well.

So, let me start with a very quick glance at Canada – U.S. water relations over the past century, and guess a little about the future. Until about 1965, water resource development was the theme in both countries, and multiple use and coordination were the means most often alluded to. In the context of Canada-U.S. relations, that translated mainly into projects of mutual advantage. Some of the more notable examples included the St. Lawrence Seaway and the Columbia River Treaty.

Between 1965 and about 1990, there was a dramatic change in conventional wisdom about water management. We suddenly realized that one person's effluent was another person's intake, and the public interest did not always coincide with the private interest. The high degree of interdependence created by technology suggested the need for a more systemic approach to water management, with mathematical models often serving as the tools. Some examples included a more systemic approach to Great Lakes water level regulation, an ecosystems approach to environmental quality under the Great Lakes Water Quality Agreement, and extensive use of mathematical models in examining the downstream impacts of proposals like the Garrison Diversion Unit in the Dakotas.

As we moved into the most recent period after about 1990, the globalism and competitiveness agendas began to overwhelm water managers in both countries. One of the consequences was a significant hollowing out of environmental and water management agencies. Under those circumstances, one would expect Canada – U.S. water relations to suffer, and they have. For example, the significant gains that were made in cleaning up the Great Lakes between 1970 and 1990 have been mostly reversed. On transboundary issues like Devils Lake, traditional forms of binational fact-finding simply no longer take place, leading to a continuing source of friction.

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In today's world, it is difficult to look very far ahead without thinking about global issues first. Just a few of the global issues we hear about these days include things like: the growing impacts of climate change; environment-related health issues; price shocks and conflicts brought about by competition for energy and other scarce resources; the impending end of the green revolution in agriculture; and the likelihood of massive migrations of water and environmental refugees. On the other side of the coin, we will likely witness significant movement towards a new greener economy. And if history repeats itself, we will also experience a lot of things we haven't even thought about yet – some of which will be pleasant surprises, and some of which will be very unpleasant.

All of these things will have implications for regional water resources. Some of the implications are reasonably predictable, and within the control of regional water managers. Others are neither predictable nor controllable. So regional water managers will have to become very ingenious at coping and adapting. One thing they definitely should do is under these circumstances is to maintain as much resilience as possible in aquatic ecosystems, in order to leave enough room to cope with the unknown and the unpredictable.

There are at least three obvious things we can do to maintain that resilience. First, we can keep as much water as possible in its major natural drainage basins. A second is to minimize the impact of water pollution. And a third way is to use water as efficiently as possible. In a very oversimplified sense, those three simple principles constitute a universally sound, 20 word water policy – that is, “keep water in its natural basins, treat it and its watersheds with respect, and use it as efficiently as possible”.

I would now like to do a quick comparison of water policies in our two countries based on those three principles. First, with respect to keeping water in its natural basins, nine of Canada's ten provinces have now passed laws prohibiting removals of water from major river basins, with minor and well-defined exceptions. The tenth province just hasn't gotten around to it yet. The federal government has complimentary legislation for boundary waters, and is planning to do the same for transboundary waters.

On the advice of the eight Great Lakes states, the U.S. government has passed a Compact that prohibits bulk removals from the Great Lakes Basin, with exceptions similar to those in Canadian legislation. I think that represents sound water policy. In the long run it also represents sound social and economic policy. If laws similar to your Great Lakes Compact were in place everywhere in the U.S., a few of our minor boundary water frictions would disappear overnight.

Turning to water pollution, things get a lot more complicated. Generally speaking, Canada and the U.S. have somewhat similar pollution control regimes, but the outcomes are quite different. In Canada, there are relatively few national environmental standards, and only a token amount of federal enforcement. The provinces have generally asserted their constitutional prerogative to set and enforce their own standards, even after participating in prolonged exercises in cooperative standard setting.

What we have ended up with is a somewhat “soft” water pollution control regime , based to a large extent on closed door negotiations, gentlemen’s agreements and very sparing use of actual enforcement. The lack of transparency that accompanies our decentralized system offers very conducive conditions for this approach.

While the U.S. outcome may not be stellar among all industrialized nations, most recent research suggests that it is nevertheless superior to Canada’s. There is a recent book on that topic entitled “Green Leviathan” by Inger Weibust. There seems to be two main reasons for your better overall performance. First, the U.S. does have enforceable and more rigorously enforced national standards. Even though state policies continue to be very sensitive to concerns about competitiveness, federal floor standards seem to modify that concern enough that some states even exceed federal standards. A second reason seems to be that the U.S. system is much more transparent than ours, possibly because your non-governmental sectors are much larger and more vocal than ours.

Several comparisons have been made, based on matching sets of data from the U.S. Toxic Release Inventory (TRI) and the Canadian National Pollutant Release Inventory (NPRI). For example, in 1998, Canadian economist Nancy Olewiler concluded that toxic releases per job and per dollar of output from Canadian manufacturing industries were 50% higher than releases from comparable U.S. manufacturing industries. Earlier this year, Canada’s Pollution Watch looked at data for the Great Lakes basin and concluded that “on a per facility basis, Canadian NPRI facilities emitted to the air, on average, almost three times more known carcinogens and more than twice the reproductive/developmental toxins than U.S. TRI facilities.”

Unfortunately, in both countries regulators are reluctant to regulate, and those being regulated are reluctant to be regulated. That reluctance seems to be based on an instinctive belief that requiring firms to reduce pollution will reduce both the firms’ profits and the jurisdiction’s productivity and competitiveness. But that instinctive belief runs counter to a rich body of empirical evidence assembled over the past twenty years, which suggests that jurisdictions with the strongest environmental regulation also have the highest levels of productivity and competitiveness.

The evidence regarding individual firms is a bit more mixed. Stronger regulation may create small and very temporary losses in jobs and profits, but three to four years later, many of those same firms will have gained in both productivity and profits due to innovation and waste minimization. For example, a recent study of 17 Quebec manufacturing industries demonstrated that environmental regulations have a significantly positive impact on productivity growth rates, using lagged results. The positive effect was most pronounced in those sectors that are most highly exposed to outside competition.

Empirical evidence also suggests that the type of regulation is important. Regulations based on outcomes tend to produce better economic results than technology based regulations. And incentive based approaches like environmental taxes and cap-and-trade work even better. But, it is important to recognize that incentive based approaches have their limitations, especially when it comes to the protection of health and safety.

In any event, if you are looking for one policy shift that may be beneficial in all of your respective jurisdictions, you might want to take a look at the potential economic benefits of more effective environmental regulation.

Our two countries also have somewhat similar policy approaches regarding the management of water uses, but again the outcomes are quite different. In most of the western states, a system of water rights combined with the prior appropriations doctrine reflects the relative scarcity of water and provides a measure of certainty in times of shortage. The riparian doctrine in the eastern states reflects the realities of a region historically blessed with an abundance of water. It does not provide a basis for the allocation of water. Instead, it limits water use to lands adjoining or overlying the water, and requires water to be used “reasonably”. In Canada we also have water rights systems in the western provinces, and a form of riparianism in the east, sometimes including a permitting system for larger users.

In recent years, western states have gradually begun placing more value on environmental and in stream uses, moving them in the direction of a more riparian view. At the same time, some eastern states are beginning to move towards a sort of regulated riparianism, for example under the Great Lakes Compact. That is because in situ uses, contamination of existing supplies, and gradual climate change are all impacting on the perception of overabundance. The same thing kind of policy convergence is beginning to happen in Canada as well, but it is happening at a much slower pace here, so we will have an opportunity to learn from the U.S. experience in our own policy evolution.

Total water use in the United States probably leveled off in the 1980s. Some of the reasons include more realistic pricing of water and wastewater services, the migration of heavy industry offshore, and incentives to encourage more efficient irrigation. Those three trends are common to Canada as well. But there are also other reasons that are more unique to the U.S., including the imposition of more stringent environmental regulations, and market-like arrangements which result in the transfer of water from lower value to higher value uses. For these and other reasons, total water use continues to rise in Canada at the same time as it has stabilized or possibly begun to decline south of the border.

One of the reasons Canada may be more constrained than the U.S. in moving to more market-like approaches to water allocation is the fact that we have weaker counterbalances. For example, every U.S. state has public trust laws, which provide a measure of protection for the broader common good as markets reallocate water. We have no similar laws in Canada. Empirical evidence, for example in some South American situations, suggests that market-like approaches do not work well in the absence of appropriate counterbalances.

Now I would like to turn to a few specific regional examples that some of you may be familiar with. Let me start with a particularly good example, namely Great Lakes diversions and consumptive uses. In that case, roles and responsibilities are clear, and everyone is playing their appropriate part. The International Joint Commission fulfilled its advisory role through Study References about 1980 and again about 2000, the two federal governments have facilitated as necessary but stayed out of the way in day-to-day management, and state and provincial governments negotiated and are jointly managing technically sound umbrella agreements.

There are, and always will be local problems, but those are being dealt with appropriately at the local level under the umbrella of the U.S. Compact and state-provincial agreement. That top-down science/policy and bottom-up decision/action model is one that holds out a lot of promise in many other situations along our common border, as well as within our individual countries.

Great Lakes water quality management is unfortunately much more complex; roles and responsibilities are less clear; and the outcome in recent years has not been good. Today, the Great Lakes face a new set of concerns. New toxic chemicals are showing up in fish and sediments. These include fire retardants, plasticizers, pharmaceuticals, and personal care products that likely pose a risk to human health, fish and wildlife. Many areas around the lakes are re-experiencing nuisance algae growth; and beach closings are becoming more common. Most designated areas of concern have not yet been cleaned up, and mercury from coal fired generating stations appears to be increasing.

Non-native species are threatening to upset the balance in biological systems and water chemistry. Climate change is contributing new challenges, for example warmer waters are leading to longer periods of anoxic conditions or dead zones in bottom waters, and more intense storms are leading to increased erosion and pollution from farmlands. Airborne emissions of potentially carcinogenic chemicals, many of which likely end up in the water, remain very high.

The two federal governments are currently negotiating a revised Great Lakes Water Quality Agreement. Two public meetings are apparently being planned for late September, although I suspect that may be delayed. In a joint document dated July 9, thirty-six citizens groups from our two countries expressed serious concerns that the renegotiation process was too shallow, that it lacked rigor, and that it was happening too fast. There are also some good analyses by individual groups such as the Canadian Environmental Law Association. These documents set out very specific recommendations for the consideration of the negotiators.

I would suggest that this negotiation process is critically important to state and provincial governments, who will inevitably be called upon to implement major parts of the resulting agreement. So for anyone interested in this topic, I would suggest that you take a serious look at the recommendations from the citizens' groups, communicate with some of their leaders, and engage in both the public and intergovernmental processes.

I will mention just a few of the proposals that I have heard from independent experts:

1. The agreement should call for the development and implementation of a binational strategy for the elimination and reduction of toxic chemicals of concern, including cancer causing chemicals, endocrine disruptors, and reproductive and developmental toxicants.
2. The agreement should commit the two governments to supporting a strong international agreement to eliminate mercury from industrial sources and consumer products.

3. Recognizing that the surest way to reduce loadings is to ban the most harmful substances, the virtual elimination of persistent toxic chemicals should continue to be an integral part of the agreement.
4. Current efforts in specific areas of concern should remain focused on contaminant pollution and be accelerated. In addition, watershed plans should be developed and implemented for all parts of the basin. These plans should recognize climate change as a significant factor in increasing non-point sources of pollution.
5. Specific water quality objectives should be a cornerstone of the agreement in order to judge progress. The full range of regulatory measures, including performance and incentive based regulations should be considered to meet those objectives. Emissions to air, many of which likely end up in the water, should be included in the regulatory regime.
6. Management and accountability arrangements need to be strengthened. The primary management body should be more inclusive, report through the semi-independent International Joint Commission (IJC), and be held accountable for developing and implementing work plans and meeting specified outcomes. The IJC, with the assistance of the Science Advisory Board should be mandated to report to governments and the public on the adequacy of the efforts.

I would like to touch on just one more Great Lakes issue. The International Joint Commission is currently conducting a review of upper Great Lakes water levels. The problem that should be particularly concerning to some states and Ontario is declining mean water levels on Lakes Michigan and Huron. Over the past century, mean levels have dropped by as much as two feet due to a combination of man-made factors, especially dredging in the connecting channels. Over the next few decades, there is a high probability that the decline will accelerate, possibly as a result of ongoing erosion in the connecting channels, but more likely as a result of climate change. Many state and provincial interests would be seriously impacted by any significant drop in levels.

The Plan of Study calls for an evaluation of whether there is “ongoing erosion” in the St. Clair River that has significantly increased the conveyance of the river. It also notes that, even if there is no significant conveyance change, climate warming may affect Lake Michigan-Huron water levels to such an extent that mitigation measures may be desirable to maintain lake levels. Sometime between now and 2012, the end date of the study, a judgment will have to be made about the wisdom of installing control works of some type in the St. Clair River. State and provincial officials have had minimal involvement in the issue to date. However, considering the seriousness of the matter, and the potential impact on state and provincial responsibilities, more involvement would likely be advisable.

While the Upper Lakes Study only impacts on a few of your jurisdictions directly, I wanted to touch on it because the insights that emerge there are likely to be more generally applicable. As climate change intensifies, there will be ever increasing pressures to compensate for changes in the hydrologic regime by building heroic engineering works. My own instincts suggest that would generally be a mistake – that if we tried to do that we would waste a lot of resources and energy, and likely end up making things worse at least as often as we make them better.

It seems to me that we should adapt to climate change by doing all the things we should be doing anyway. I think you all know what those things are – conserve water, conserve energy, control pollution, and make incremental adjustments if and as necessary on a relatively local scale.

Moving a bit further west, just two months ago a new Study Reference was issued to the IJC requesting the Commission to examine and report on new and emerging water quality issues and water management needs in the Lake of the Woods and Rainy River Basin. What is different about this one is that it aims to facilitate a basin wide approach by promoting communications, collaboration and coordination among all stakeholders using an integrated, ecosystem approach.

This new study will fit within the IJC's relatively new International Watersheds Initiative. To be successful, it will have to build on evolving international experience which recognizes that, as water issues become more complex, more bottom-up decision making and action will become an absolute necessity; but that those bottom-up actions must still take place in the context of top-down policy frameworks and the transfer of knowledge to local citizens in an understandable way. The approach is still in its infancy, and state and provincial governments will no doubt be called on to play their appropriate science and policy roles.

My own experience with Midwestern water issues has been mainly as a federal official and a consultant. To give you a different perspective, the following two examples were contributed by Norm Brandson, a former senior official with the Manitoba provincial government.

Norm's first example – examples really – is a series of water projects in the U.S. portion of the Hudson Bay drainage basin that could have impacts on Canadian waters. Some of you may be familiar with the Garrison Diversion project, a proposal to move a large quantity of Missouri River water into the Hudson Bay basin for municipal, agricultural and industrial use. This poses a concern as these two basins, unconnected for millennia, contain organisms that could cause ecological disruption if transferred to the other watershed. The IJC examined and reported on this proposal in the late 1970's and recommended that it not proceed until both national governments could agree that it would not impair Canadian waters.

The project has resurfaced in a somewhat modified form as the Red River Valley Water Supply Project (RRVWSP), and is proceeding through the process requirements of the NEPA. Another proposal to transfer Missouri River water for municipal purposes (on a much smaller scale than the RRVWSP) called the Northwest Area Water Supply Project is well underway and is being challenged in U.S. Federal court by Manitoba with the support of the government of Canada. They allege that the potential risk to Canadian waters has not been taken into account.

Finally, there is a third project, the construction of a drain from Devils Lake, North Dakota connecting the Lake to the rest of the Hudson Bay basin through the Red River and Lake Winnipeg. This self-contained watershed, not connected to the rest of Hudson Bay basin for several hundred years, is experiencing severe flooding due to a prolonged wet cycle. The drain is intended to reduce this flooding; however there are Canadian fears that it poses a similar threat to the transfer of Missouri River water. Negotiations have occurred between the various parties, but the issue of possible transfer of harmful organisms remains outstanding and several issues have been tested in the courts.

We do not intend to argue the merits of any of these projects. Each has strong support as well as heated opposition for the reasons already noted. What is troubling is that none of these projects, one of which is already operational and another partially constructed, has involved the International Joint Commission in its traditional binational fact-finding role. Instead our two national governments have resorted to a closed door bargaining process, and when that has proved unsuccessful parties who feel threatened by the projects have gone to court.

Hopefully this represents only temporary amnesia and our two countries will recall the many instances of the wise counsel of the IJC in resolving complex and contentious water issues. Neither “let’s make a deal” nor “talk to my lawyer” is a productive way to resolve differences of opinion relating to shared waters. The Boundary Waters Treaty is the envy of the world. There really is nothing else quite like it. Hopefully our two federal governments will reacquaint themselves with its value which lies in its use.

Norm’s second example is the state of Lake Winnipeg, the 10th largest freshwater lake in the world. Its contributing watershed contains parts of four Canadian provinces and four U.S. states, an area of over 900,000 km.² This lake is in serious trouble. Its present condition is being compared to the state of Lake Erie in the 1960’s when scientists declared that it was “dying”. The main culprit is nutrient enrichment and the sources are diverse – agricultural, municipal and industrial – and are spread throughout the huge watershed. More than half the nutrient loading comes from outside the Province of Manitoba.

Why should jurisdictions in the Lake Winnipeg basin (outside of Manitoba) care about the state of Lake Winnipeg? Lake Winnipeg represents a natural treasure. Perhaps we can draw a parallel to the U.S. territorial waters of the Gulf bordering Louisiana, Missouri and Florida. Canadians feel a deep sense of loss in the enormous damage suffered from the recent oil disaster, even though at best we might be visitors to that region. Because Lake Winnipeg is really only a sum of what flows into it, it also represents a kind of mirror that gives us an early indication of how well or badly we are doing in preserving lakes and rivers in the several jurisdictions that share the basin. Although it is much more than a symbol, Lake Winnipeg can be a talisman for energizing water management throughout the basin.

The old saw “think global, act local” has no more appropriate application than the restoration of Lake Winnipeg. Lake Winnipeg represents a unique challenge to our bi-lateral relations on water. It is not a “boundary water”. It is wholly contained within one of the jurisdictions in its watershed. Eight sub-national governments contribute inflows. But we all have an interest in its health. Can we work together towards a common objective in this vast watershed? If we can it will make other Canada-U.S. water issues seem less daunting; but if we can’t it may signal the continued erosion of confidence in the Boundary Waters Treaty and further resorting to power politics and litigation in Canada-U.S. relations on water.

I might just sum up with a couple of very general observations based on close to 50 years of dealing with and observing binational water issues of this type. One of the things I have observed over the years is a steady increase in state and provincial involvement in what used to be almost exclusively a federal enterprise. That increased state and provincial involvement has generally been highly beneficial.

The other observation I would make is that the waters that our two countries manage together have historically been better managed than most of the waters in our individual countries. One reason for that may be that they simply get more attention. But, another important reason is the fact that, in individual cases, one country or the other tends to lead and the other follows. For example, at the time of the first Great Lake Water Quality Agreement in 1972, the Canadian commitment was greater, and the U.S. commitment very soon caught up. Today, as the Agreement is once again being negotiated, the level of commitment in the U.S. is very clearly greater than that in Canada. If history repeats itself, we will do the catching up this time around, and the citizens on both sides of the lakes will be better off as a result.

As I understand it, we will now move to an open discussion for the rest of the session. I would be happy to answer any questions you may have, but I am sure you would also like to take this opportunity to share experiences and ideas among yourselves.