# A National Water Strategy for Canada: Approach, Content and Governance

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## *1.0 Introduction*

Water-related issues are of increasing concern in Canada today with problems such as population growth, drinking water contamination, ecosystem health and the uncertain effects of climate change becoming more critical. Responsibility for water resources in Canada is vertically and horizontally dispersed through government, resulting in a complex system in need of a unified vision and strategy. This paper outlines the content and nature of a proposed national water strategy for Canada.

## *2.0 Background and Context*

While provincial governments assume responsibilities for the management of water resources, there are numerous reasons why a federal strategy is also needed. Long-standing problems most appropriately addressed at the federal level persist, and new ones are emerging (see table 1; Morris *et al*., 2007). However, a significant barrier to the development and implementation of an effective national water policy in Canada to date has been the federal government's hesitancy to become involved in natural resource matters over which provincial governments have power.

**Table 1. Issues for water resource management in Canada**

| **Persistent issues** | **Emerging issues** |
|---|---|
| Water scarcity | Climate change |
| Safe drinking water, especially on First Nations reserves | Groundwater mining |
| Discharging untreated wastes | Energy production for oil and gas extraction |
| Aquatic habitat and species conservation | New pollutants such as pharmaceuticals in drinking water |
| Water damming and diversion | Invasive species |
| Bulk water exports | |

The federal government released a Federal Water Policy in 1987, but there has been no visible progress on its implementation since 1994 (Morris et al., 2007, p.18). In a climate of budget cuts in the 1990s, funding for research and management programs declined, leaving insufficient resources to implement and enforce existing laws (Morris et al.,

2007, p.20). Since then there have been mounting calls for renewed federal action on water resources.

If the content of a national water strategy is to move from ideas to implementation, effective governance is essential. For guidance in developing this aspect of a national water strategy, Canada should look to the European Union's Water Framework Directive of 2000 and its subsequent implementation. The combination of standards, criteria, institutions, and processes together within the EU Water Framework Directive serves as a comprehensive and exemplary legal document which provides the foundation necessary for development of good water governance principles (GWP, 2002; Kaika, 2003; Barreira, 2006). The implementation of this directive as a whole involves:

- The limitation of sovereign rights of member states,
- Moving from the protection of specific waters to an approach for protection and use based on the ecological cycles of river basins, and
- Specific obligations for public participation (Barreira, 2006).

Many elements of this directive could be applied to the Canadian context. With this in mind, we will now describe the national water strategy which we propose for Canada.

## *3.0 A Proposed National Water Strategy*

### 3.1 Approach

A national water strategy must be informed by science, recognize the complexity of the systems involved, and acknowledge future uncertainties associated with climate change. It must enable forms of management that can adaptively respond to new knowledge and unexpected environmental changes (Loucks & Beek, 2005). Sustainability of the water system is integral, as is the necessity for coexistence of safe and healthy human settlements.

Good governance is a key component of our approach to a national water strategy and is rooted in the ideals of integration. This integration is across time, space, and jurisdictions, and with the involvement of stakeholders (Cardwell et al., 2006). It is a bottom-up, collaborative approach but also relies on legislation at the federal level to enable lower levels of government to set standards and provide enforcement. The discretionary approach to environmental policy in Canada must be strengthened by a national water strategy in order to promote compliance and to reach its goals (Hill et al., 2007).

### 3.2 Content

The dominant themes of the 1987 Federal Water Policy are water system protection and enhancement as well as realistic water pricing and valuation (Environment Canada, 1987). A comprehensive report published in 2007 by the Gordon Water Group of

Concerned Scientists and Citizens, *Changing the Flow: A Blueprint for Federal Action on Freshwater,* addresses most of the same concerns with the addition of issues that have emerged since 1987, such as climate change adaptation, water use targets in Alberta's Oil Sands, aquatic invasive species, safe drinking water on First Nations reserves, and mapping of aquifers (Hill et al., 2007).

A national water strategy should adopt the following goals:

1. To ensure drinking water quality and provision to all people in Canada
2. To ensure ecological integrity of aquatic ecosystems and their harmonization with safe and healthy human settlements

To achieve these goals, a national water strategy must address the following issues:

1. **Climate Change**: Adaptation and resilience
2. **Drinking water:** Setting of enforceable standards
3. **Pollution and invasive species**: Monitoring and control
4. **Groundwater**: Increase mapping and mitigate against contamination
5. **Water scarcity**: Public education and conservation
6. **Science and monitoring**: Increase funding
7. **Interjurisdictional and international water conflicts**: Prevent bulk water exports
8. **Water infrastructure**: Innovative strategies to address ageing municipal infrastructure
9. **Water pricing**: More study to determine if pricing can promote conservation

Aside from issues that have recently come to the forefront due to changing understanding and current events, the Gordon Water Group's blueprint document covers essentially the same topics as the 1987 Water Policy, which suggests a failure in implementation of the 1987 policy. The next section addresses implementation, and how to ensure that a new national water strategy will not likewise fall into obscurity.

## 3.3 Implementation

The ability to implement major changes spanning all scales of water management requires a high level of cohesion and understanding between participants at all scales, and emphasizes the need to foster social capital through public participation (Kaika, 2003). In addition, numerous negotiated agreements must be reached within and between municipal, provincial, and federal governments. These processes cannot be rushed; indeed, time is a critical factor in implementation. For this reason, developing goals around a timeline is an essential component of a national water strategy. Below is a sample timeline for the implementation of our proposed national water strategy. This timeline was developed using the European Union Water Framework Directive as a guide and employs the concept of multiple management cycles (WISE, 2007a; WISE, 2007b):

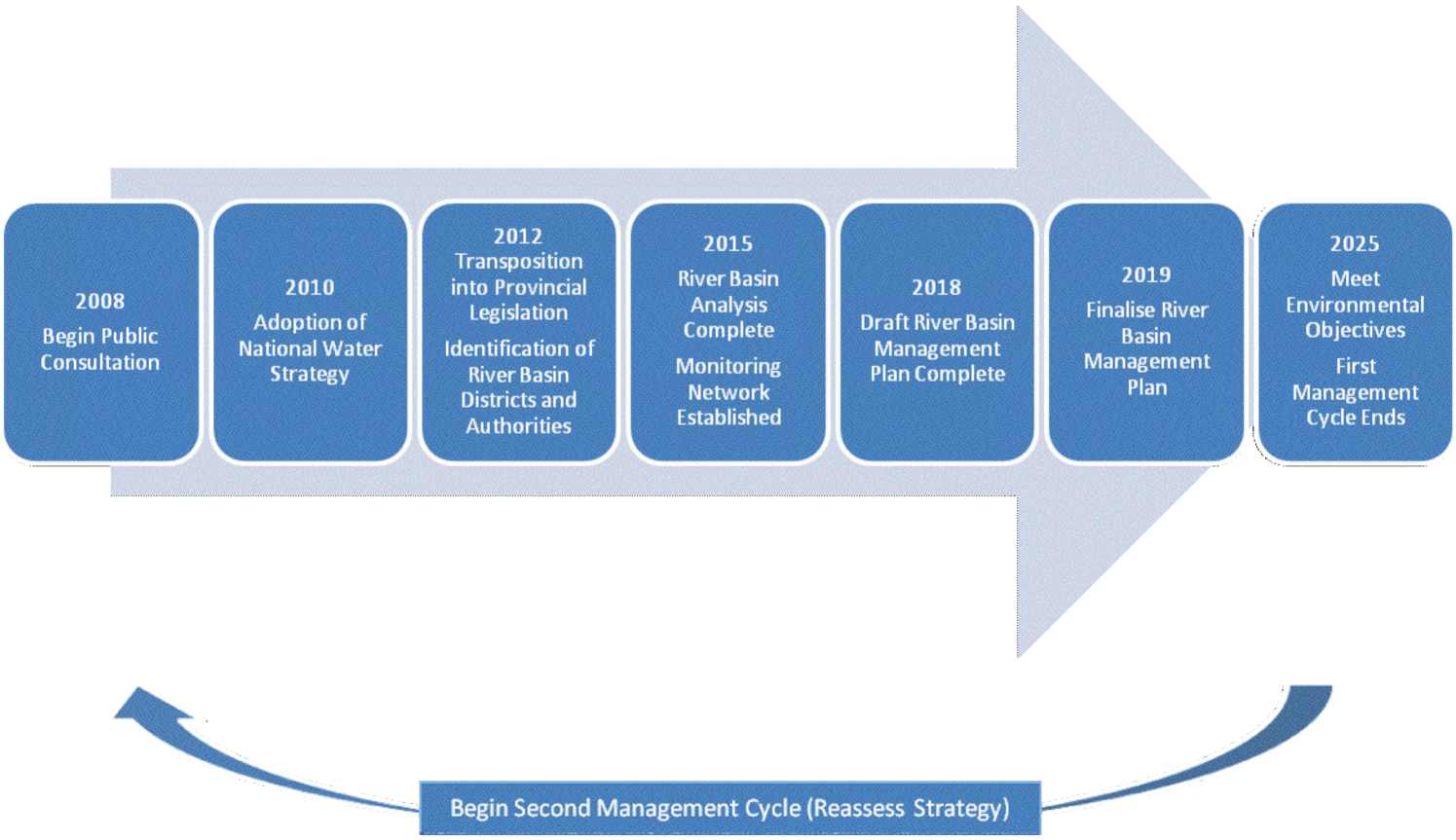


**Figure 1. Sample implementation timeline for a national water strategy in Canada**

## 4.0 Conclusion

Successful development and implementation of a national water strategy will require that all Canadians make concessions and adapt to change. We must answer difficult questions about how we as a society choose to perceive water and whether our water should be treated as a commodity (Barlow, 2007; Woods, 2007). We must address social issues alongside environmental issues, move from a government to a governance approach, and consider how our individual actions impact those around us.

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