The policy states: "The federal government intends to work with the provinces and territories to encourage the provision of safe and sufficient water supplies for Canadians". The over-all goal of the federal water policy is to "encourage the use of freshwater in an efficient and equitable manner consistent with social, cultural and environmental needs".

To achieve this goal the policy identifies two major objectives: first, to protect and enhance the quality of the water resource and, second, to promote the wise and efficient use of water.

To achieve these objectives the policy has outlined specific tasks. These include establishing research advisory mechanisms with representation from scientific and applied research personnel, developing and maintaining with the provinces and territories water data and information systems directed to improving the knowledge available for managing Canada's water resources.

It also talks about promoting co-operative federal and provincial endeavours as well as undertaking and supporting research and development in these issues.

The policy further emphasizes that it endorses an integrated approach to water management, taking into account all water uses and water related activities within whatever political, administrative, economic or functional boundaries that are defined. I interpret that as an approach that is synonymous with joint federal-provincial territorial planning.

The critical point to make here is that the 1987 federal water policy gives a firm commitment from the federal government to become directly involved with water management in co-operation with the provinces and territories.

That commitment, although it has been well intentioned, I submit has as yet remained unfulfilled. It is time that the government replace the rhetoric with action.

In a recent document entitled *Water 2020*, which was put out in 1988 by the National Science Council, the report states that the water use problems facing Canadians can only be solved when we apply science to achieve our goals.

The growing scale of cultural and technological developments which pose threats to water quality requires that water science become central to all policy decisions.

Canadian water policy requires strong leadership. However there has been little evidence of that leadership in water science today. The research is fragmented among many different departments and co-operation between agencies, to say the least, is weak indeed.

The federal government has 22 departments and agencies with different responsibilities for water. For example, pesticides, a major contaminant of inland waters and a potent toxin to aquatic life, are regulated by Environment Canada while exhaust emissions, which is a causative factor in acid rain, are the responsibility of Transport Canada.

As a result, we have at best an *ad hoc* and unco-ordinated response to complex environmental problems rather than an integrated approach to monitoring, control and conservation.

Today, in some federal departments, scientific excellence is imperilled by a dispirited research population that is struggling to find the appropriate challenges and an effective policy role. As of 1988, Environment Canada had only five Ph.D. level scientists in ground water research working at its two national research institutions.

There is no national, long-term, co-ordinated program in water science research today. Partly as a consequence of that, Environment Canada has over the past seven years lost many top notch scientists to the United States. To be blunt about it, the present political and administrative structure is totally incapable of developing the integrated policy and the programs that are needed to tackle our water related environmental problems. We must adopt a new approach if we are to find effective solutions.

What are the solutions? There is an urgent need for the federal government to develop a national plan for water use and conservation. This plan has to be backed up by strong legislation.

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The National Science Council has recognized the need for increased research and development in water science, including the need for the development of a comprehensive water resource inventory, the develop-