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# **Water Management Business Plan**

*Ministry of Natural Resources*

*June 10, 1996*



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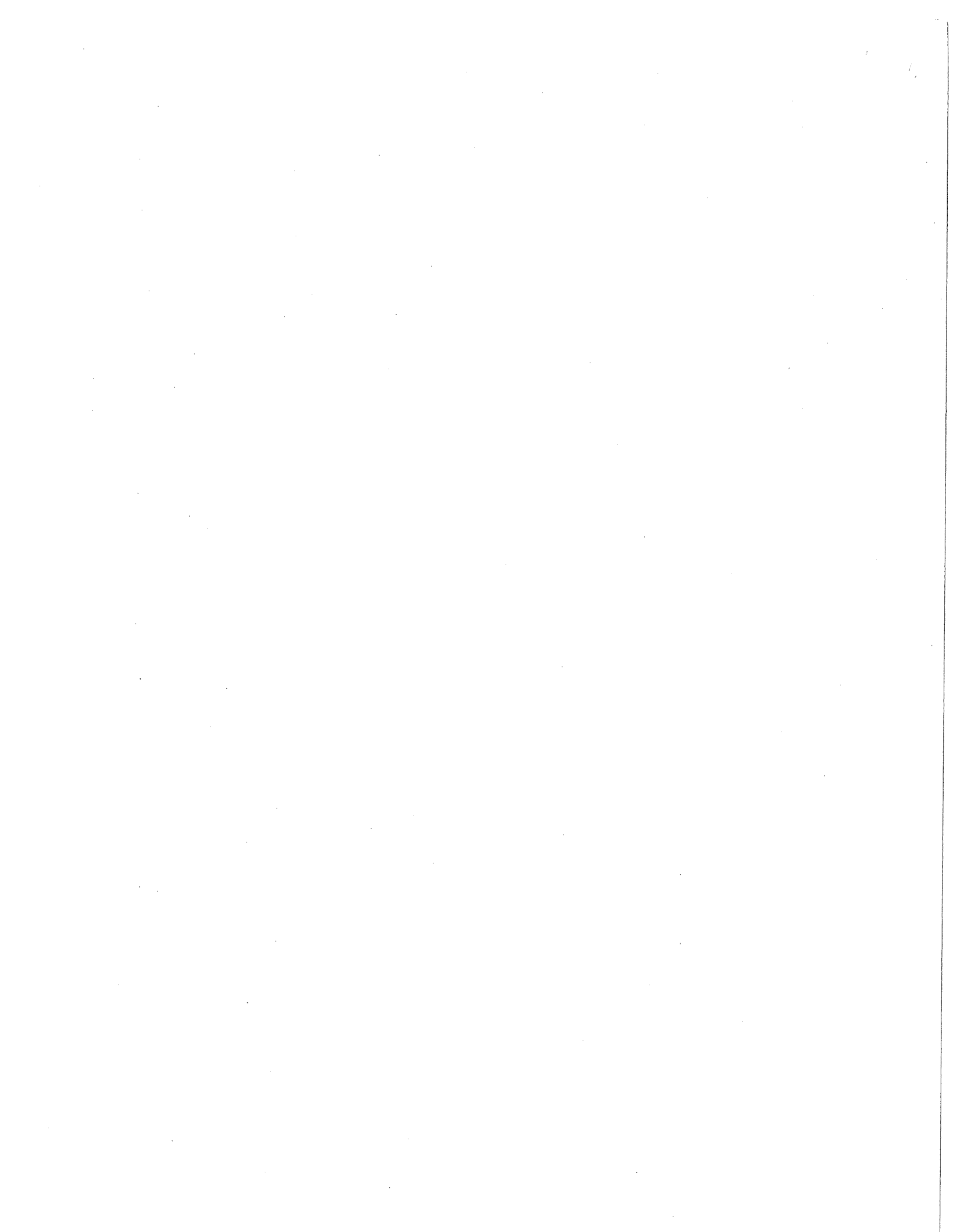


# **Table of Contents**

<b>Management Overview</b> .....	<b>2</b>
Key Messages .....	2
Changes in Responsibilities by Business Process .....	2
<b>Water in Context</b> .....	<b>7</b>
The Importance of Water .....	7
<b>Developing The Water Management Business Plan</b> .....	<b>10</b>
Business Planning Process .....	10
Emerging Pressures and Opportunities in Water Management .....	11
Goals and Considerations .....	11
Other Processes .....	12
<b>The New Business of Water Management</b> .....	<b>13</b>
MNR Role in Water Management .....	13
Policy .....	15
Planning .....	16
Operations and Compliance .....	16
Science and Information .....	18

## **NOTICE TO READERS**

Adjustments to the Human Resource and Fiscal Resource requirements described in this plan will continue to occur as this plan is integrated with other MNR program areas and is implemented in 1996/97 and beyond.



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# 1

## ***Management Overview***

### ***Key Messages***

The Ministry of Natural Resources is changing the way the province's water resources are managed. In response to changing government priorities and current economic conditions, the Ministry has substantially rethought the way it does business. The water management program will be refocused to ensure it is effectively aligned with the Ministry's vision of sustainable development and its mission of ecological sustainability.

The Water Management Business Plan places significant emphasis on three goals:

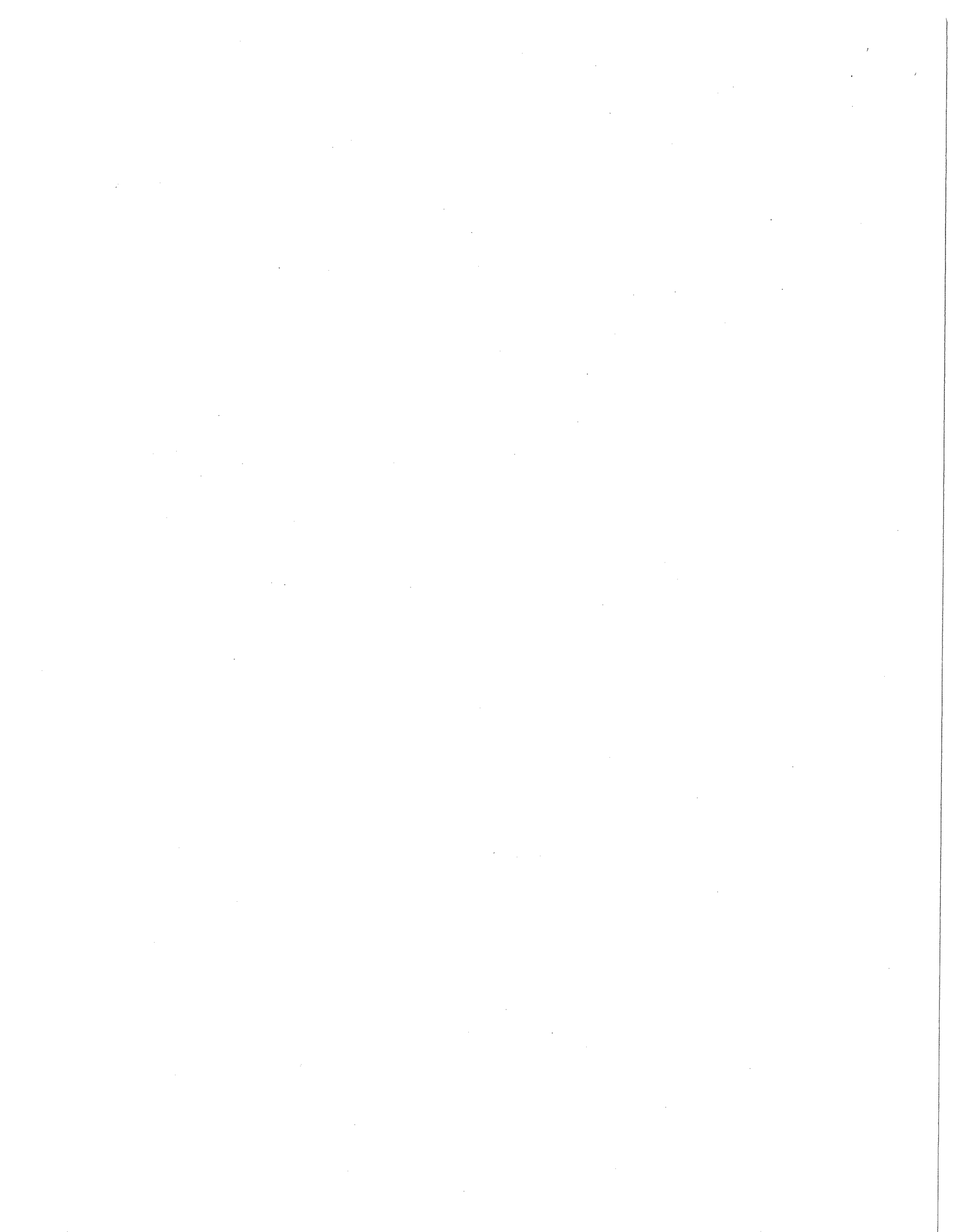
- ▶ Achieving ecological sustainability
- ▶ Supporting provincial economic interests
- ▶ Protecting life and property from natural hazards

With these goals in mind, the plan identifies a wide range of targets and opportunities. Emphasis will be placed on integrating MNR's role in water with the Ministry's other business areas and on coordinating policy priorities and actions with our water management partners. Some operational activities will be delivered by others. The Ministry will be strategic in the early identification and prioritization of emerging issues and will step back from involvement in plan review.

### ***Changes in Responsibilities by Business Process***

Water management is a fundamental element of achieving ecological sustainability. As such, the activities described in this Business Plan and the way they are linked to other resource management activities in MNR will be critical to the achievement of the Ministry's mission.

In the future, MNR will be looking more to influence the actions of others in achieving its



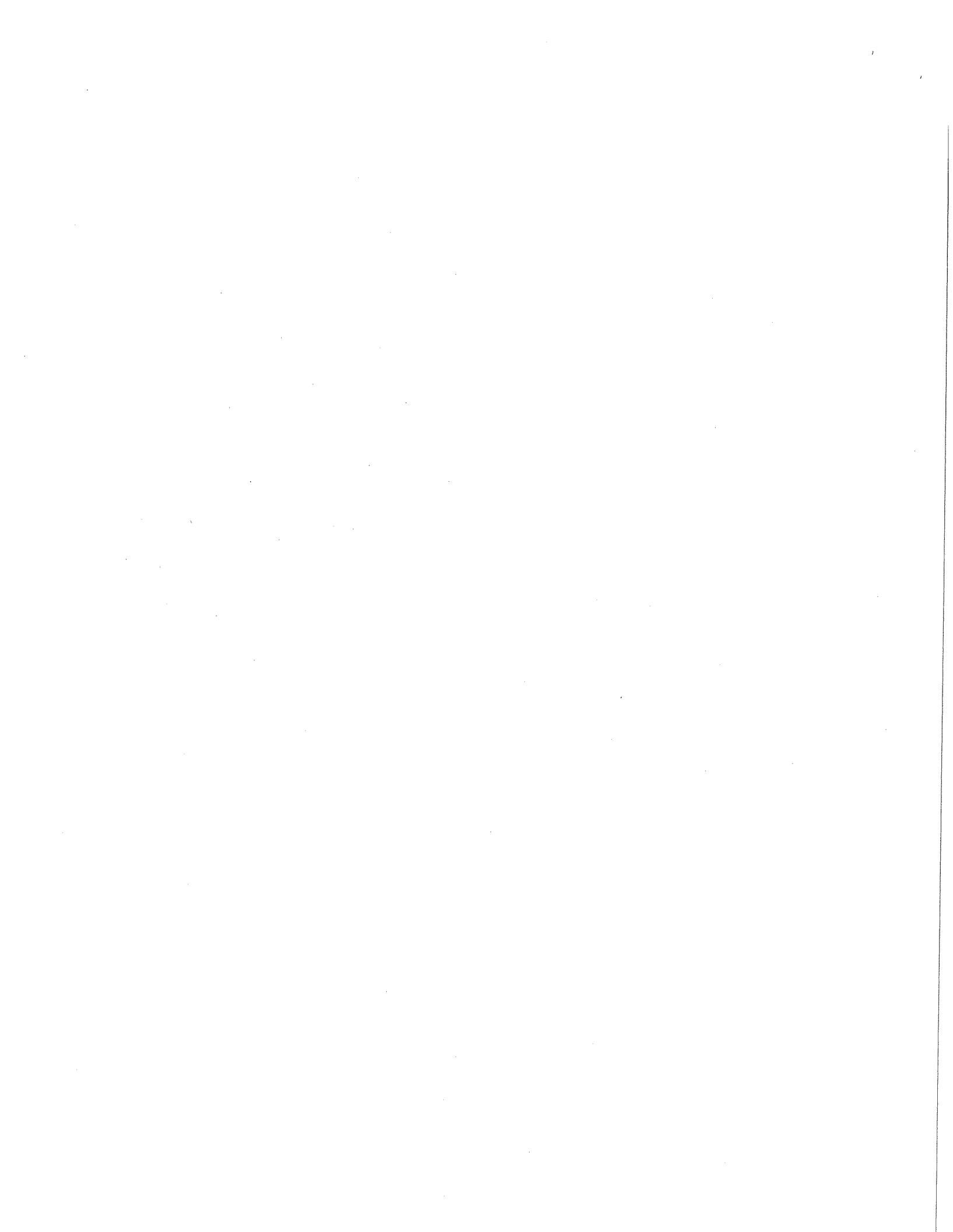
objectives rather than directly undertaking activities. In addition, permitting activities will be more focussed and, in most cases, significantly reduced. This direction reinforces the need for stewardship. As the Ministry moves away from direct involvement in a number of areas, it will need to rely on the abilities and interests of others to help fulfil its objectives.

MNR's role in the stewardship of water will require the development of strategic plans, the provision of information and the advancement of science and technology that will provide direction and assist stakeholders and aid in the development of partnerships with other essential water management players. Strategies for ecosystem planning will cause water resource management to become central to satisfying the goal of ecological sustainability.

The objectives for water management in achieving ecological sustainability, supporting provincial economic interests, and protecting life and property from natural hazards will be satisfied by refocussing and streamlining the four key business processes as follows:

#### **Policy and Program Development and Delivery:**

- within the context of a Water Quantity Management Framework, maintaining / enhancing MNR's role as Provincial policy lead for:
  - water quantity management;
  - water conservation and water apportionment;
  - water diversions and exports;
  - resource valuing strategies; and,
  - provincial/federal/interprovincial/international water quantity management issues.
- providing the Provincial policy and program lead with regard to ecological sustainability of water-centred ecosystems.
- providing Provincial approvals lead for intra- and inter-provincial water diversion proposals.
- continuing Provincial policy and program lead for protection of life and property from flooding and other water-related hazards on rivers, Great Lakes and inland lakes.
- administering water rentals, the master agreement and licensing for hydroelectric operations
- acting as Provincial lead for optimizing investment in infrastructure and economic opportunities related to water.
- fostering opportunities to streamline and more effectively integrate program development and delivery activities across Provincial Ministries and with other interests.
- refocussing policy and program development and delivery from being reactionary and issue oriented to being strategic, focusing on ecological sustainability, and appropriately valuing the resource.





### **Planning and Plan Input**

- leading and supporting, where appropriate, watershed-based resource management planning
- providing direction and input through policy, information and science support.
- providing strategic input to land use planning and major proposals involving or impacting on water.

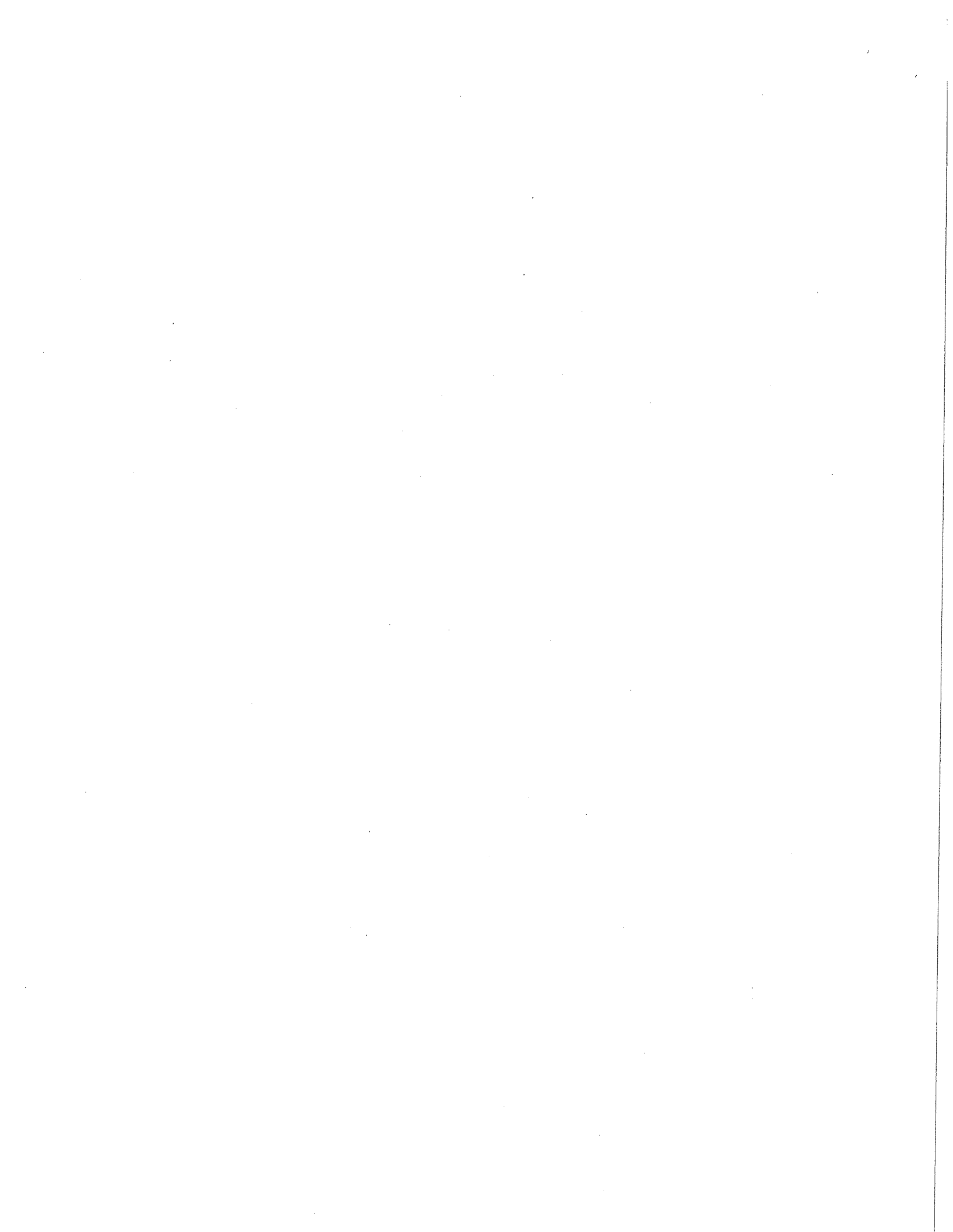
### **Operations and Compliance**

- maintaining flood forecasting, flood warning and flood risk assessment systems in partnership with others.
- re-focussing regulatory requirements for water related activities and construction activities in or around water bodies to focus on major permitting and devolving other regulatory responsibilities to local partners.
- developing a strategy for divesting / devolving ownership and/or operating responsibilities for MNR owned and operated water management structures.

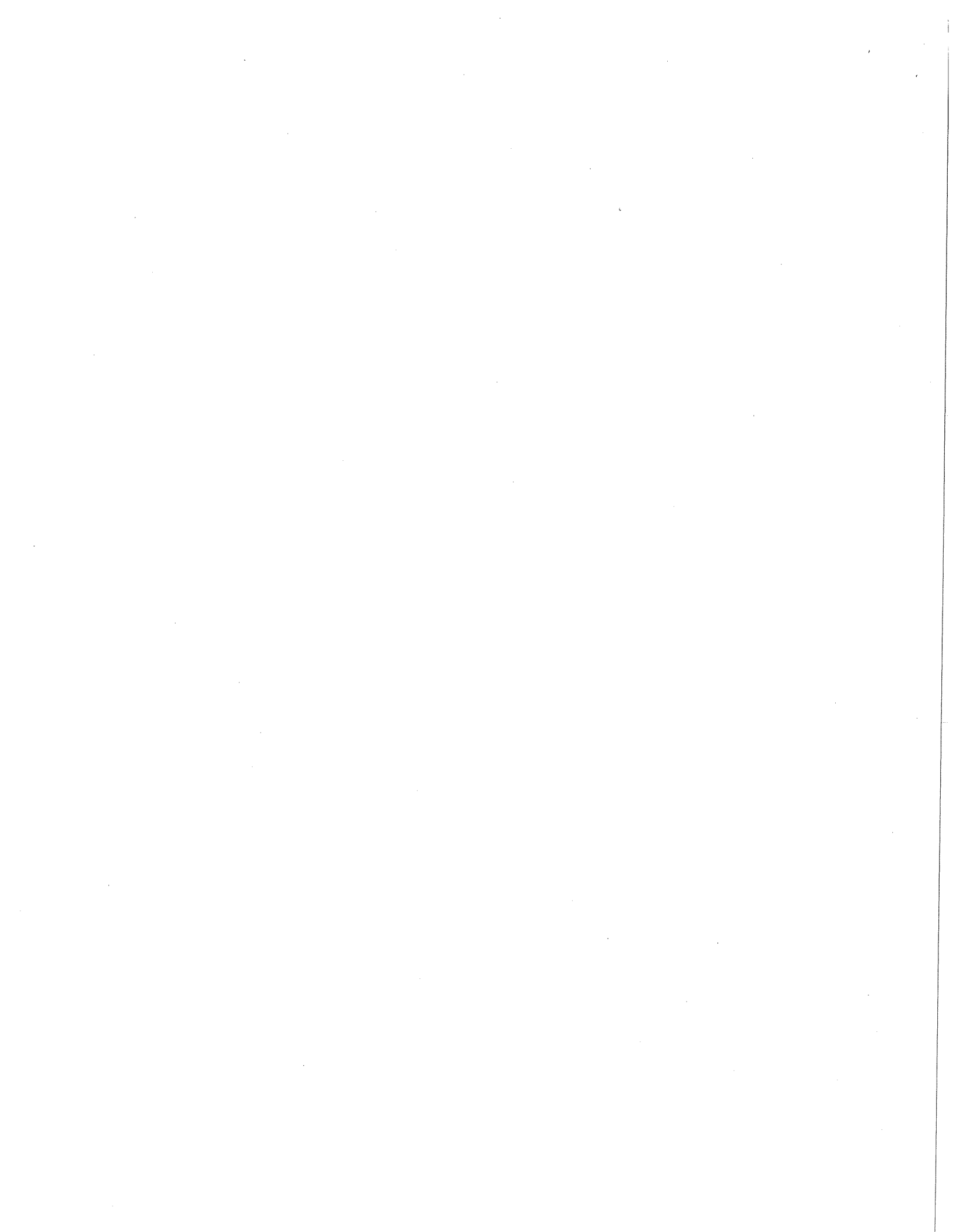
### **Science, Information, Research and Technology**

- advancing water management science in the context of hydrologic functions, watersheds, and ecological principles including:
  - research into best management practices relating to sustainable resource management and protection; and
  - analysing issues related to land/water interaction, surface/groundwater and water quantity/quality interactions and the interdependence among water and other natural resource components.
- providing provincial leadership in the development and management of information systems for water resources use/data
- advancing understanding of the social and economic contributions of sustainable water management.

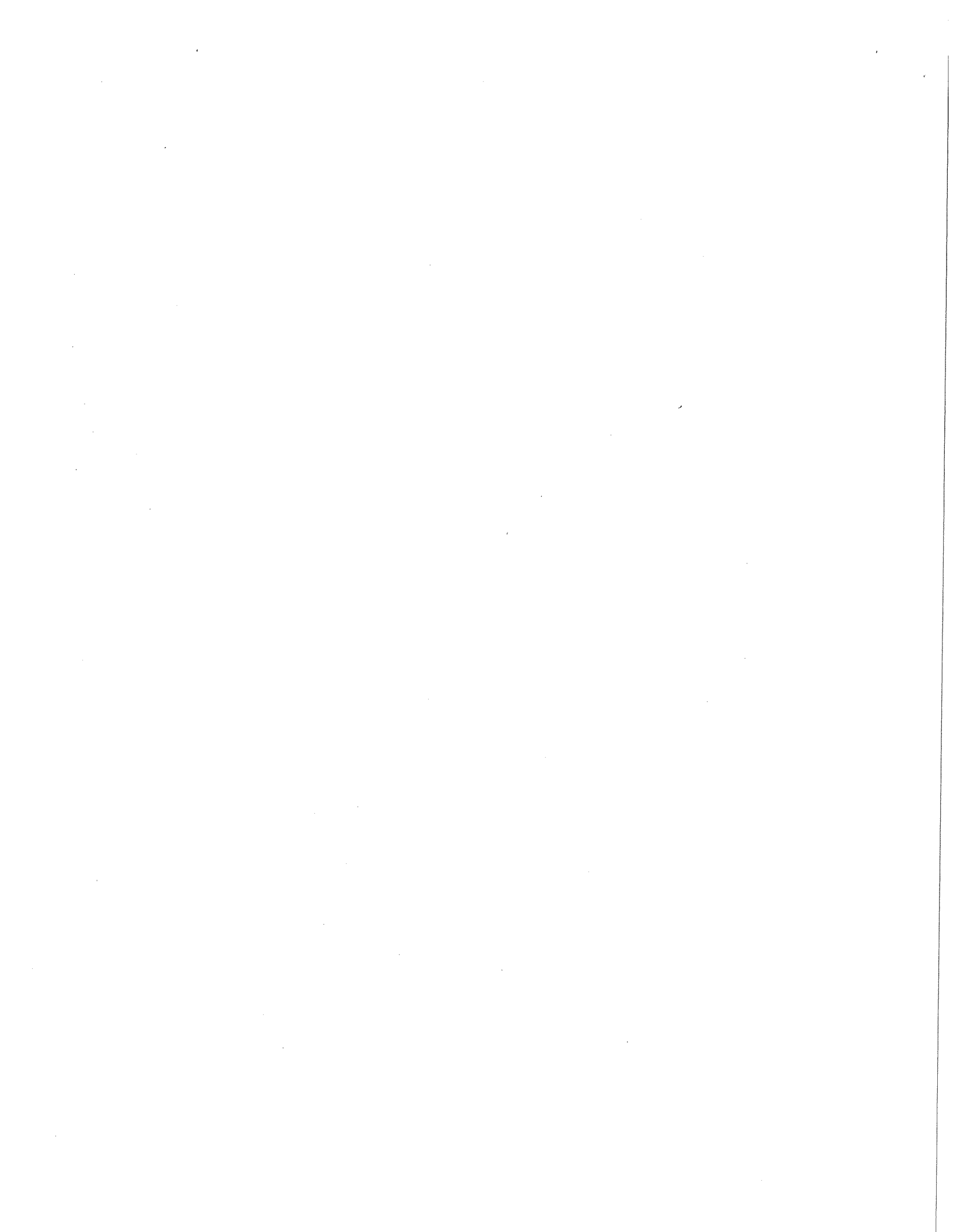
The following table (table 1) summarizes the current business related to water management by business process and indicates key changes in direction that are anticipated as a result of the implementation of the business planning process:



CURRENT	FUTURE
<p><b>POLICY AND PROGRAM DEVELOPMENT</b></p> <p>Development of Strategic Plans - such as participation in the Draft Framework for Water Policy and water related aspects of broad MNR plans such as Direction 90s</p> <p>Development and Input to Water Related Policy - providing advice and input to Planning Reform, Best Management Practices and other internal and external policy development</p> <p>Water Related Programs - development and implementation of water related legislation, regulations, standards, guidelines, and best practices</p> <p>Treaties, Agreements, and Protocols - provide input, advice and direction on waterpower agreements, inter-jurisdictional agreements</p> <p>Program Delivery and Policy Transfer - providing training, transfer, and education related water policy products and services</p> <p><b>PLANNING</b></p> <p>MNR Planning Functions - providing water related planning input to integrated resource management plans, water management plans, shoreline management plans</p> <p>Other MNR Planning Products - providing input to plans that include strong indirect reference to water such as Forest Management Plans, Park Management Plans, Fisheries Management Plans.</p> <p>Input to, and review of planning documents and proposals developed by others including - Official Plans and amendments, comprehensive zoning bylaws, special planning areas, permit applications, new hydropower facilities</p>	<p>Maintaining and advancing MNR's role as provincial policy lead for: water quantity management; water conservation, allocation, and consumption; diversions and exports; resource ownership and valuing strategies and; provincial/federal/international water quantity resource issues.</p> <p>Assuming Provincial policy and program lead with regard to ecological sustainability of water-centred ecosystems</p> <p>Provincial approvals lead for intra- and inter- provincial water diversions proposals</p> <p>Assuming Provincial policy and program lead for the protection of life and property from flooding and other water related hazards on rivers, Great Lakes and inland lakes.</p> <p>Administering water rentals, master agreement and licensing for hydroelectric operations and acting as Provincial lead for optimizing investment in infrastructure and economic opportunities related to water.</p> <p>Exploring opportunities to rationalize water management activities across Provincial Ministries and other interests.</p> <p>Providing strategic development and leadership in integrated aquatic/resource management such as watershed management planning and development of eco-region plans.</p> <p>Incorporating water into eco-region planning</p> <p>Providing broad strategic input and support local watershed management planning initiatives BUT NOT REVIEW of planning documents and proposals of others</p> <p>Providing leadership for water management planning on interprovincial and international rivers and the Great Lakes</p>



CURRENT	FUTURE
<p><b>OPERATIONS AND COMPLIANCE</b></p> <p>Management and ownership of 323 water related structures including dams and locks. This includes: operational planning, dam and lock operation and maintenance, monitoring and analysis.</p> <p>Management of non-MNR water related structures including: review and approval of new facilities, input to operation and maintenance of existing facilities to ensure a synergy with other users.</p> <p>Participation in water control boards (Lake of the Woods, Ottawa River) which do strategic and operational planning where water crosses provincial or international boundaries.</p> <p>Install and maintain navigational aids on some lakes and rivers in central Ontario.</p> <p>Natural Hazard management including hazard mapping, monitoring, flood forecast modelling, emergency response, issuing alerts.</p>	<p>Developing a strategy for divesting / devolving ownership and/or operating responsibilities for MNR water management structures.</p> <p>Re-focussing permit requirements for water related activities and administration of required permit approvals for major construction activities in or around water bodies.</p> <p>Maintaining Provincial leadership for flood forecasting, flood warning and flood risk assessment.</p> <p>Maintain Provincial roles in Water Control Boards</p> <p>Priorized monitoring, evaluation for enforcement related activities</p>
<p><b>SCIENCE AND INFORMATION</b></p> <p>Information generation and management to support Policy, Planning, and Operational activities</p> <p>Science and Information needs of the program are currently satisfied through heavy reliance on in both internal and external partners</p> <p>Commitment to the HydroMet agreement which provides hydrometric information through a multi partner agreement (federal government and Ontario).</p>	<p>Advancing water management science in the context of hydrologic functions within watersheds across the province including:</p> <ul style="list-style-type: none"> <li>. research into the development of better water management practices; and</li> <li>. analysing issues related to land/water interaction, surface/groundwater and water quantity/quality interactions.</li> </ul> <p>Increasing efforts to determine the social and economic benefits of water management and issues around water quantity management and water allocation on the Great Lakes.</p>



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# 2

## ***Water in Context***

### ***The Importance of Water***

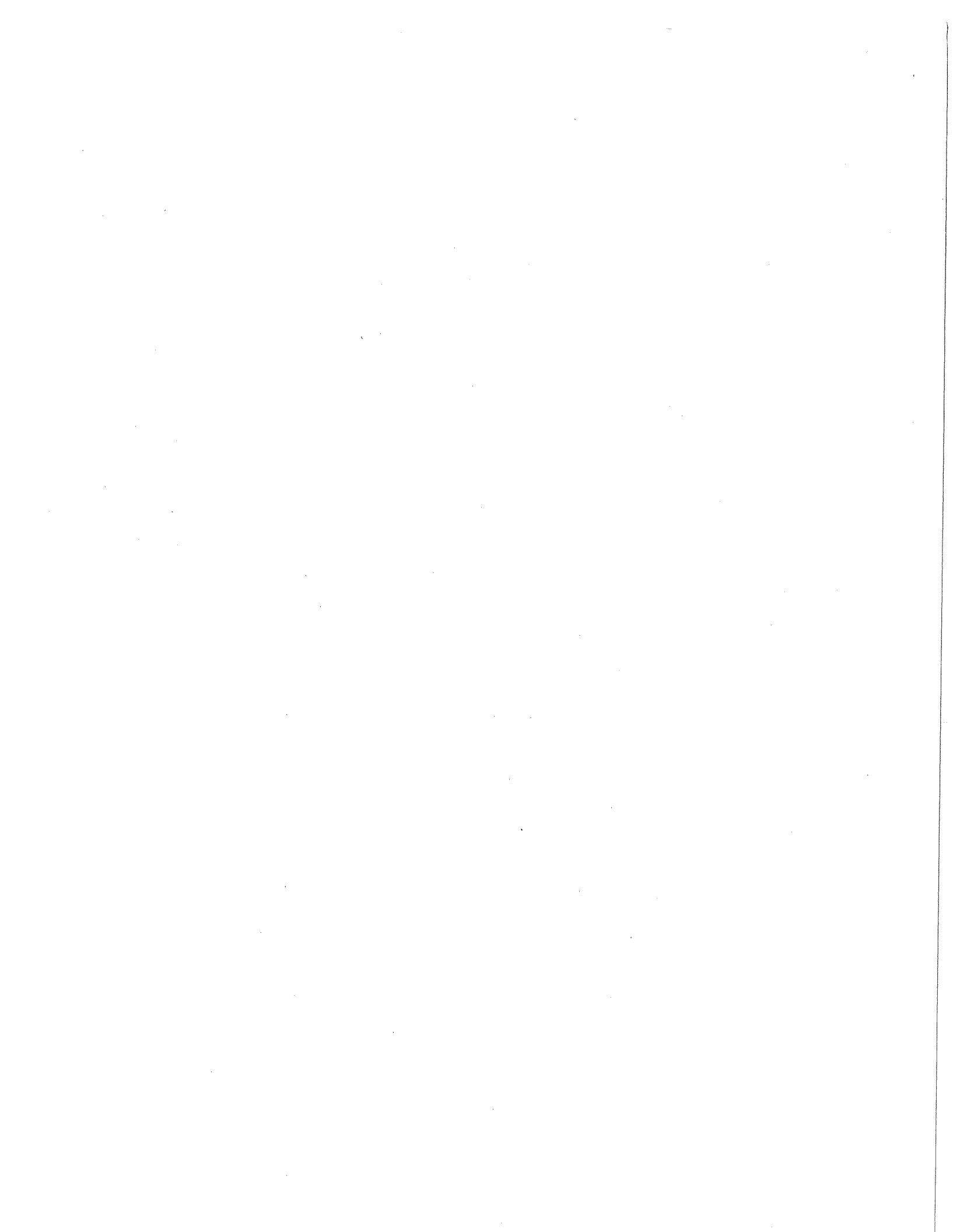
Water is our most essential natural resource. It is the lifeblood of the environment as all life requires water for survival. Most human activities impact upon or are influenced by water. A reliable supply of clean water also provides the foundation for much of Ontario's economy, making major contributions to the social, cultural, recreational and economic well-being of the Province.

Ontario's waters are being threatened by a growing range and complexity of issues. Traditional management issues such as flooding and erosion are being joined by growing pressures on resource supplies and by competing uses (e.g., industrial water users versus rural/municipal groundwater users) ranging in scope from local to international. Existing water resource development practices have contributed to reduced base flow in streams, lower water tables and reduced lake levels. These have negatively impacted on fish and wildlife habitat, wetland, water supply, and other uses.

Ontario is home to more than 227,000 lakes which cover one-fifth of the area of the province. However, contrary to general perception, our water supplies are finite. There is no more or less water now than when the earth came into existence. It is changing constantly in state and quality.

The average Ontarian uses 300 litres of water each day, second only to the US and almost double the European average. Ontarians withdraw 1.25 trillion litres of water per day from surface and groundwater sources -- twice the annual outflow on Lake Ontario. Water use is expected to increase at 2.5% annually which is 50% faster than the rate of population growth. Current use by Great Lakes States is more than double the Ontario consumption. Continued use at this rate will lead to a permanent, continual drop in Great Lakes water levels.

In terms of ecological sustainability, only 1% of the Great Lakes water resources are "interest" renewed by annual inflows. The rest is "capital," left by glaciation during the last ice-age and not renewable. Ecological sustainability is not possible if our consumption exceeds the renewable portions of our supply.





More so than any other MNR resource management activity, water management is shared with a range of federal departments, provincial ministries, regional and local municipalities and other agencies such as Conservation Authorities. Within the province, management is divided among the primary ministries of Natural Resources and Environment and Energy. Ministries with a smaller role include Agriculture, Food and Rural Affairs, Municipal Affairs and Housing, Transportation, Northern Development and Mines. At the federal level, management is divided between the Department of Fisheries and Oceans, and the Department of Environment, while at the local level, water management involves Conservation Authorities, upper and lower tier municipalities.

While water management responsibilities are widely shared, there is no common vision or overarching policy for water management in the MNR (or Ontario) to guide responses to current and emerging issues. There are many pieces of legislation that affect water. More specifically:

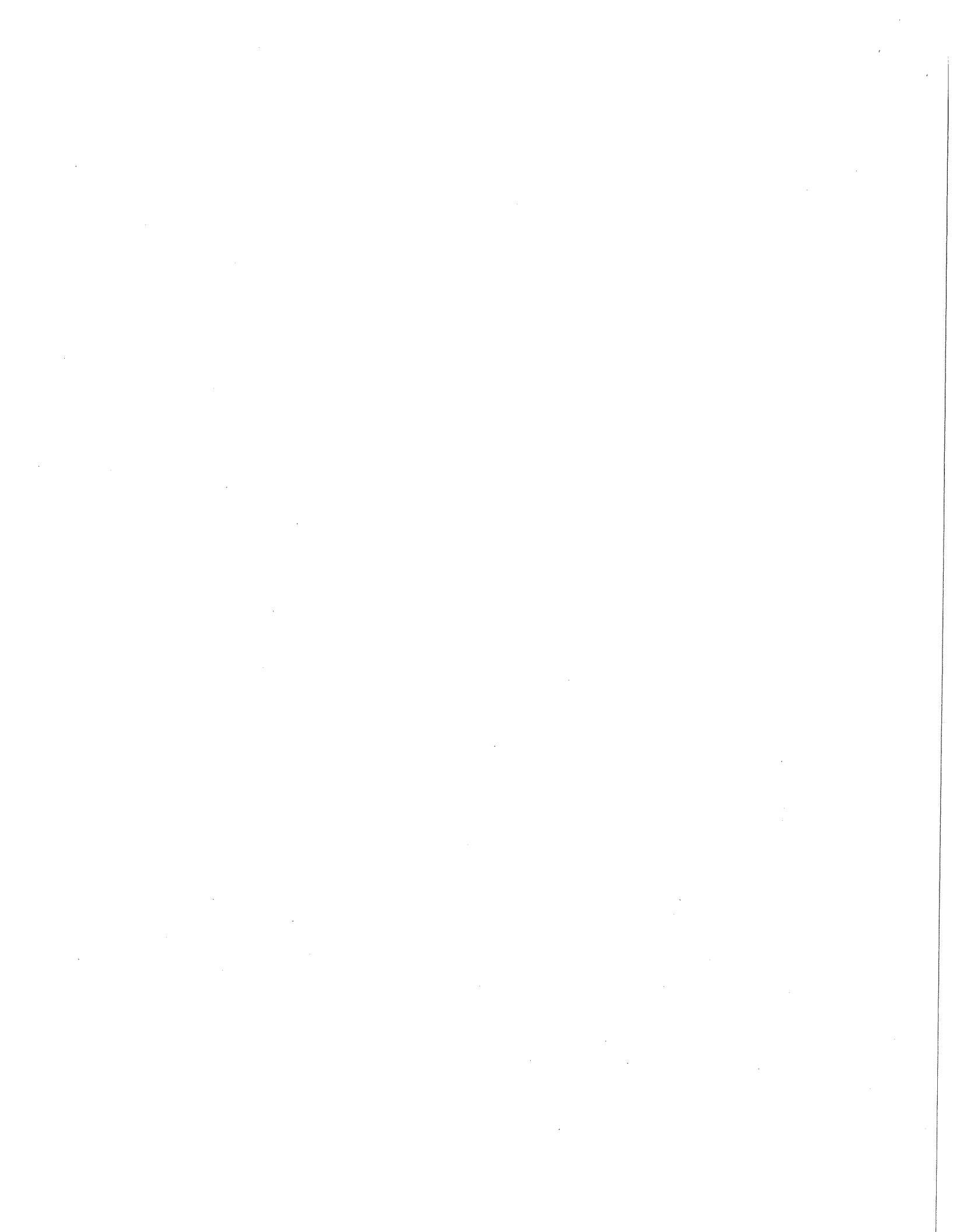
- there is a total of 42 separate pieces of provincial legislation address water;
- of these, MNR is responsible for 18 provincial acts pertinent to water management;
- there is a total of 17 separate pieces of federal legislation which address water;
- there is a Federal Water Policy prepared in 1987; and,
- several significant bi-national and inter-provincial agreements that impact on the provinces' interests and activities in water including Boundary Waters Treaty, Niagara Treaty, Canada/ Ontario Agreement, and numerous Boards of Control.

In addition there are a multitude of regulations, policies, programs, and management arrangements.

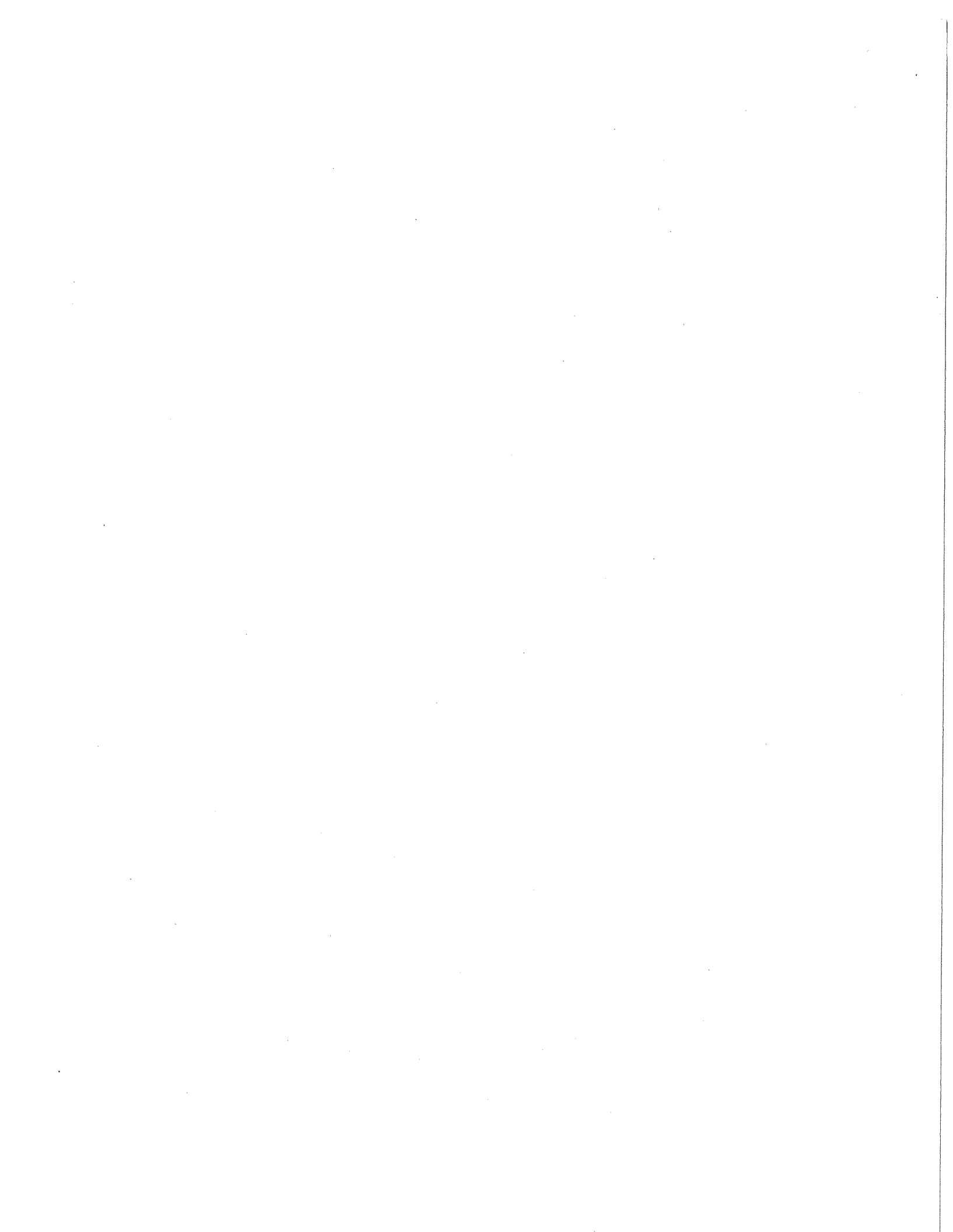
The result is a lack of, or confusion over, leadership and a need for streamlining. The absence of a strategic approach to water management has resulted in management gaps and overlaps which

#### SOME WATER FACTS AND FIGURES

- In 1994 the value of hydroelectricity produced in Ontario was \$2.134 billion while the sale of hydroelectricity to other provinces and the US totalled \$349 million. Waterpower royalties paid to Ontario totalled \$114 million.
- It takes 295,000 litres of water to produce one ton of paper. In 1994, close to 5.5 million tons of paper were produced with a total value in excess of \$9.5 billion.
- More than \$1.2 billion is spent directly by anglers undertaking fishing activities in Ontario. In 1995 recreational fishing generated more than \$17 million in license revenue. Indirect expenditures are substantially higher.
- In 1994, Ontario commercial fishing activities generated \$42 million in landed value, and over \$200 million in processed fish shipments resulting in royalties and licence fees to the crown of \$437,000
- 90% of Ontario agricultural water use is derived from groundwater resources, and contributes to the \$17 billion food industry.
- From 1990 to 1995 Ontario spent \$898 million on water infrastructure and has committed \$624 million more through 1998. Water conservation / efficiency could have reduced much of this spending.
- In 1990 the bottled water industry had sales of \$58 million which represents about 95 million litres of water sold.
- In addition, Ontarians use:
  - 120,000 litres of water to produce one automobile
  - 86,300 litres of water to produce one ton of steel
  - 10 litres of water to produce 1 litre of gasoline



have aggravated water management issues. There is little or no coordination of actions across the range of jurisdictions involved. It is becoming increasingly apparent that there is a need to develop and implement a policy or strategy that will provide the missing overall direction for water management in Ontario.



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# 3

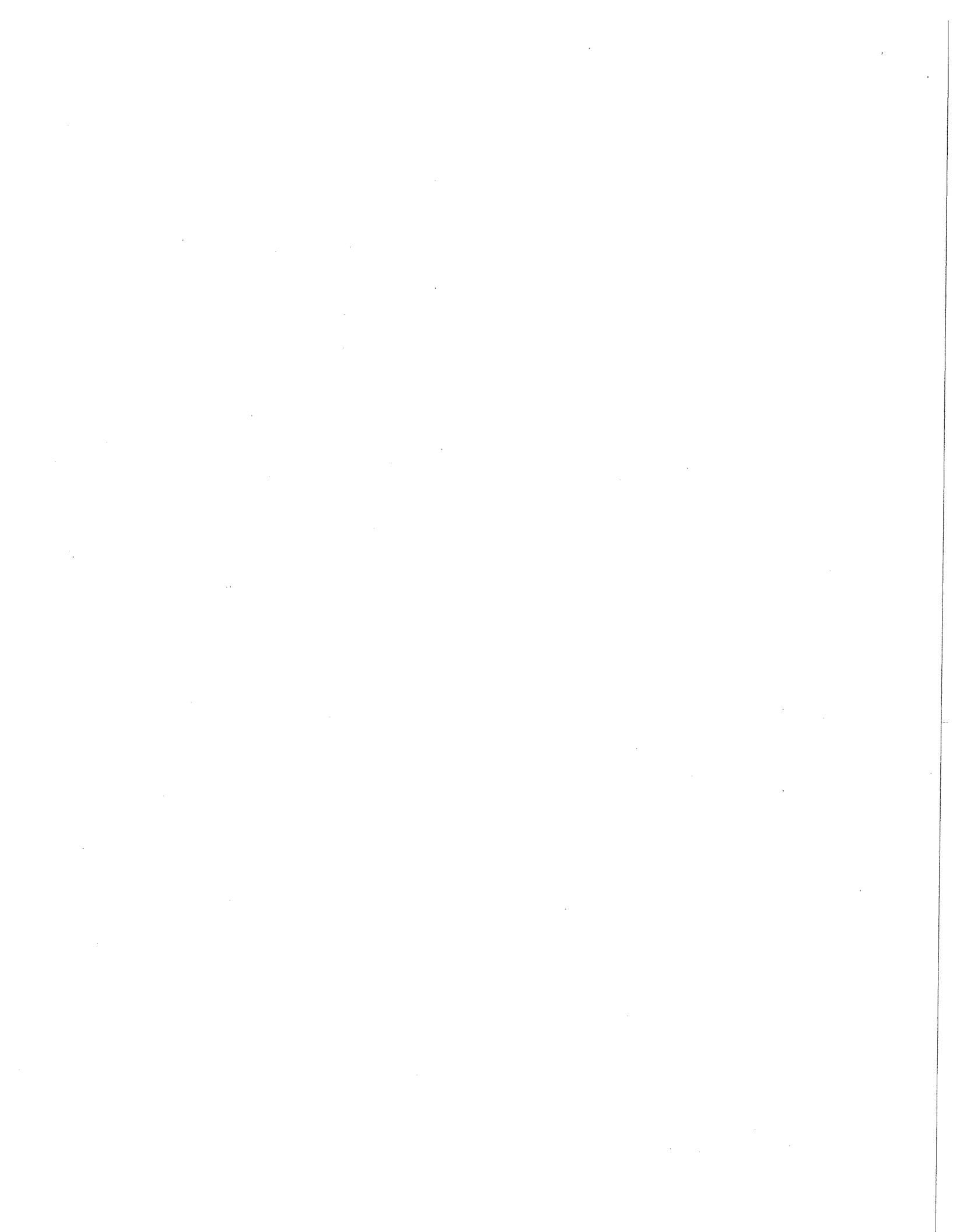
## ***Developing The Water Management Business Plan***

The Government has set the stage for all Ministries to take a critical look at the way they do business. The Ministry of Natural Resources has responded by undertaking a series of program reviews to help define essential business, how that business should best be conducted and, ultimately, what form the organization should assume in the future. The Water Management Business Review is one of these reviews.

### ***Business Planning Process***

The Water Management Business Review was primarily developed over the course of two workshops. Participants were MNR staff from across the organization involved with water management issues from a variety of perspectives. In addition, extensive consultation and interviews with staff from across the Ministry.

- ▶ 46 individuals representing policy branches, regions, districts, and specialty areas of the Ministry provided input to a survey through extensive interviews which was used in the development of baseline data.
- ▶ 67 individuals participated in two workshops covering five days. The workshops' first established and refined the current business in water as well as issues and pressures facing the Ministry that related to water then developed a vision of the future business and the processes required to implement it.
- ▶ 28 people acted as the Core Group and provided valuable input, advice, and direction in the development and review of the draft report.
- ▶ A final draft report was circulated to members of the Ministry's Executive Committee for review and comment. A follow up presentation to EC was also made.



## ***Emerging Pressures and Opportunities in Water Management***

In developing the Water Management Business Plan, a review of emerging pressures and opportunities was analysed.

Expert opinion from Ontario, Canada, the US, and the United Nations suggest that water management activities and issues will increase dramatically over the foreseeable future. An increase in demand for water resources will result from:

- increased consumption by a growing population situated in the Great Lakes Basin and growing interest by the United States in using Great Lakes water to supply areas outside the basin;
- potential changes to Ontario Hydro resulting from the MacDonald review and resurgence in hydroelectric development interest because of competitive advantages and aging nuclear generation capability (already one reactor at the Bruce generating station has been taken out of service permanently);
- renegotiation of water related tenure documents such as the Ontario Hydro Master Agreement, Niagara Treaty, and several private waterpower lease agreements; and
- increased pressure from neighbouring jurisdictions for withdrawals.
- Federal divestment of a wide range of water related activities and related government restructuring and downsizing

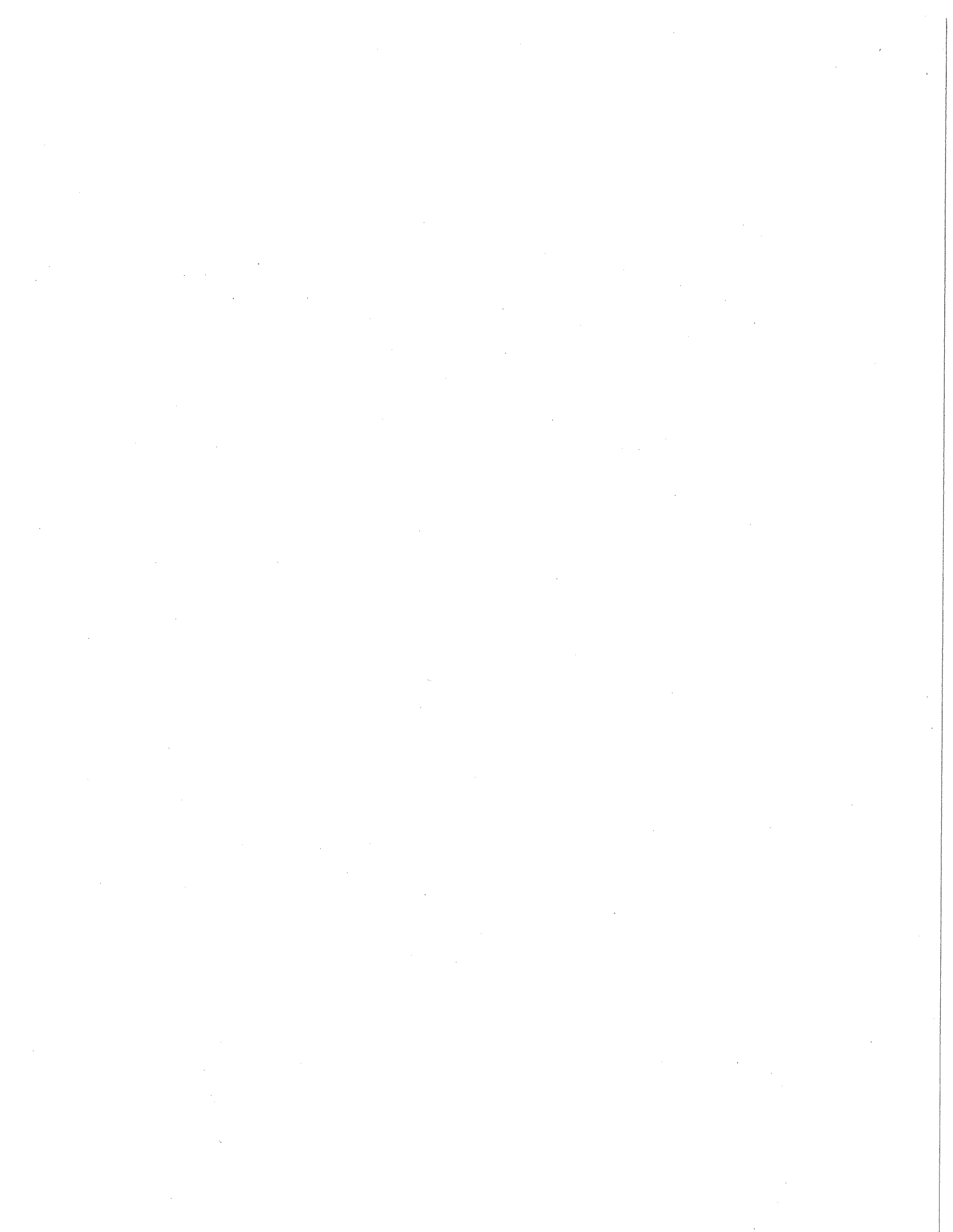
## ***Goals and Considerations***

Based on the policy directions provided by the Provincial Government in the *Common Sense Revolution* and an analysis of the water management issues facing the Ministry, the business planning process developed goals to guide the development of alternatives and options and recommendations. Three goals were identified:

- Achieving ecological sustainability
- Supporting provincial economic interests
- Protecting life and property from natural hazards

Apart from these goals, four underlying considerations were applied to the wide range of alternatives developed. These considerations included:

- exploring the potential for divestment and devolution of current water management responsibilities;
- identifying opportunities for expenditure reduction and business integration





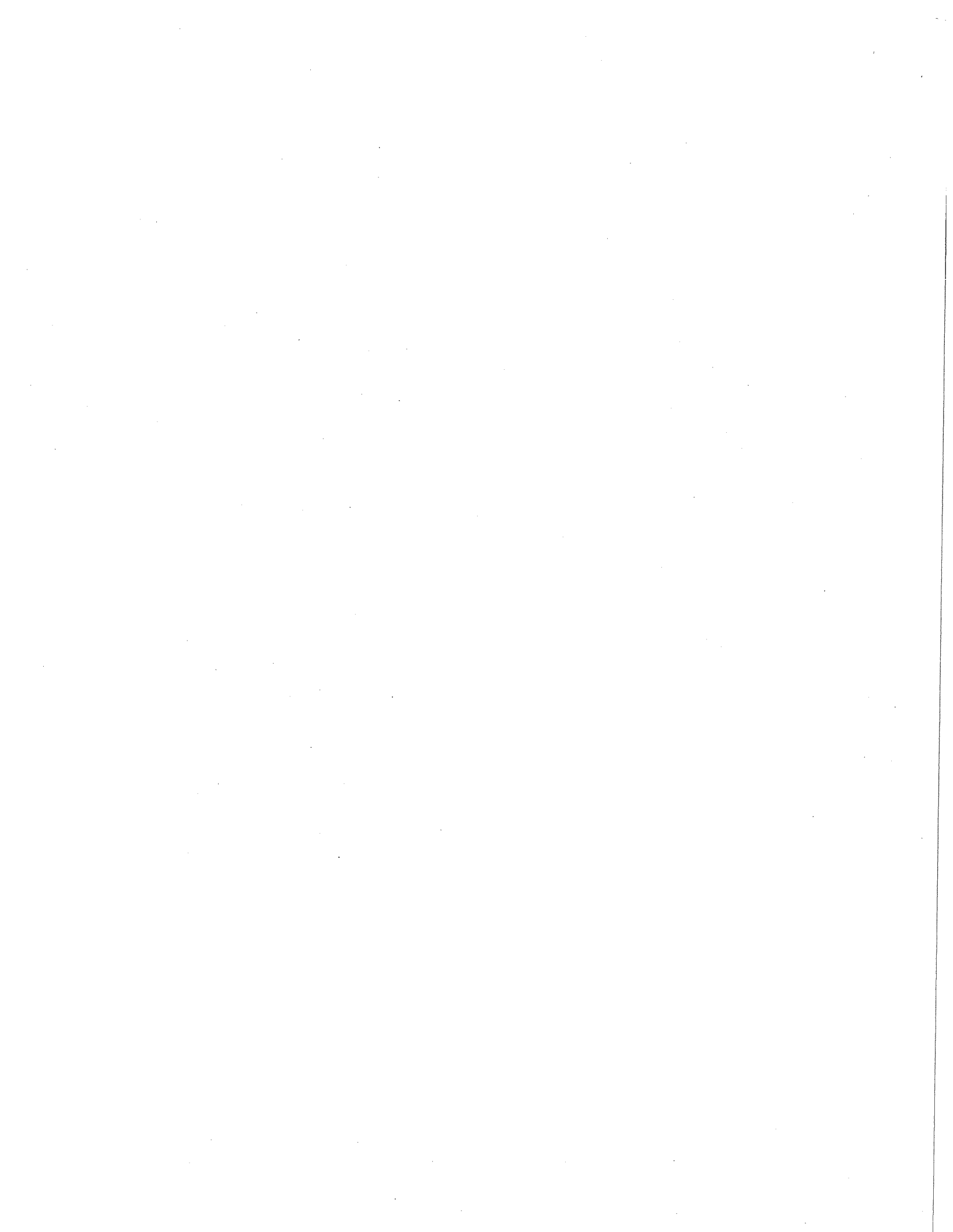
- with other business plans both within the Ministry and in other Ministries
- identifying resource valuing opportunities; and
  - encouraging stewardship of water resources with our resource management partners.

### ***Other Processes***

In addition to the above mentioned processes, the development of the plan included an extensive and exhaustive review of the current business of water management in the Ministry of Natural Resources. This review was undertaken by small groups divided into the four business processes of policy, planning, operations, and science and information.

After the current business was identified, alternative delivery mechanisms and options were developed. These alternatives and options developed by assessing the emerging pressures and opportunities in water management identified above and applying the goals and considerations also identified above. A determination of essential business was also made to further focus alternatives

Upon completion of this analysis, recommendations were developed. These are identified in the following chapter.



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# 4

## ***The New Business of Water Management***

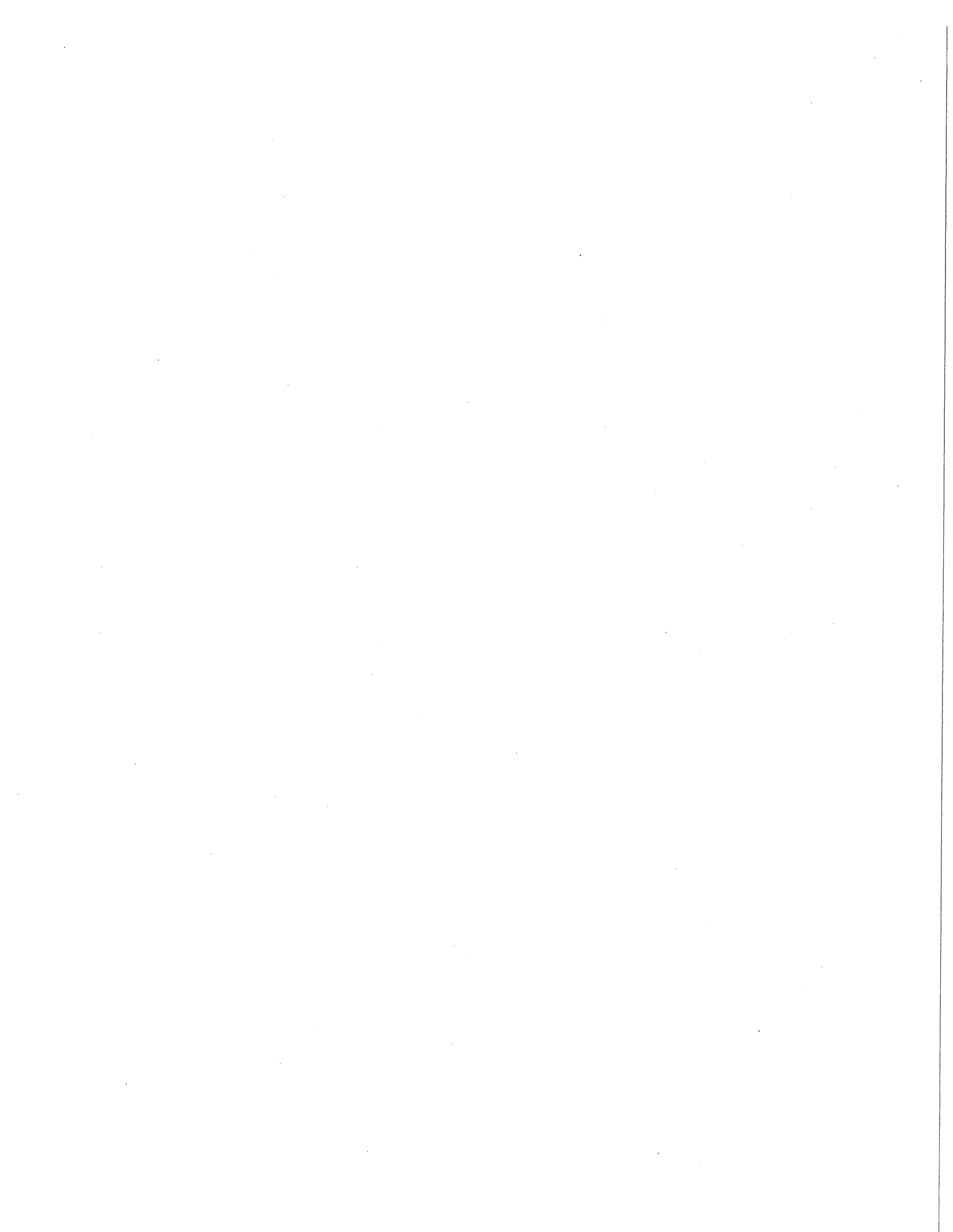
### ***MNR Role in Water Management***

The Ministry of Natural Resources has significant responsibility for the effective management of Ontario's water resources. Ministry responsibilities in water management can be grouped into three categories: **water conservation / management and economic development** (primarily levels and flows management and provision for hydroelectric generation), **aquatic ecosystem management**, and **hazard management** -- historically the area of greatest emphasis. Water management activities are divided among the Operations Division (primarily Great Lakes Branch, Regional Engineering offices, CA Operations, Aviation, Flood and Fire Management Branch and Districts), Science, Information and Research Division (Aquatic Ecosystems Research Section) and Policy and Program Division (Aquatic Ecosystems Branch, Resource Stewardship and Development Branch, Land Use Planning Branch).

MNR is responsible for an extensive water management infrastructure that is suffering from deterioration and competition for scarce resources. This includes 325 MNR-owned dams and locks that are currently the focus of the Dam Management Scoping Exercise. MNR also has a shared responsibility for the 38 Conservation Authorities that manage a significant infrastructure in partnership with the province and local municipalities. Many of these structures provide economic (i.e., hydropower, tourism), social benefits (i.e., recreation) and contribute to the safety of the Province's residents. The Ministry also provides input to and participates on a number of Water Control Boards and has been a key player in ensuring that the construction and maintenance<sup>2</sup> of agricultural drains do not adversely impact on the province's resources.

More recently, increasing demands and expectations have been placed on the Province and on the Ministry with regard to issues of:

- conservation and allocation of water;



- water exports;
- water transfers between watersheds;
- DFO and DOE divestment of responsibilities related to fisheries, water level monitoring, and navigation; deteriorating infrastructure; and
- protection of hydrologic functions.

Because water provides for extensive benefits to individuals and industry, major opportunities also exist for managing water for the enhancement of both the economy and the environment. Such benefits offer an opportunity to ensure that the costs of managing water are appropriately assigned to those that benefit.

MNR's role in addressing these issues is to define the "line" between resource use and resource protection to ensure the long term sustainability and health of aquatic resources and ecosystems. The Ministry must be in a strong position to respond to these issues, to protect life and property from the hazards associated with flooding and erosion and to ensure the continued availability of the water resource for future generations.

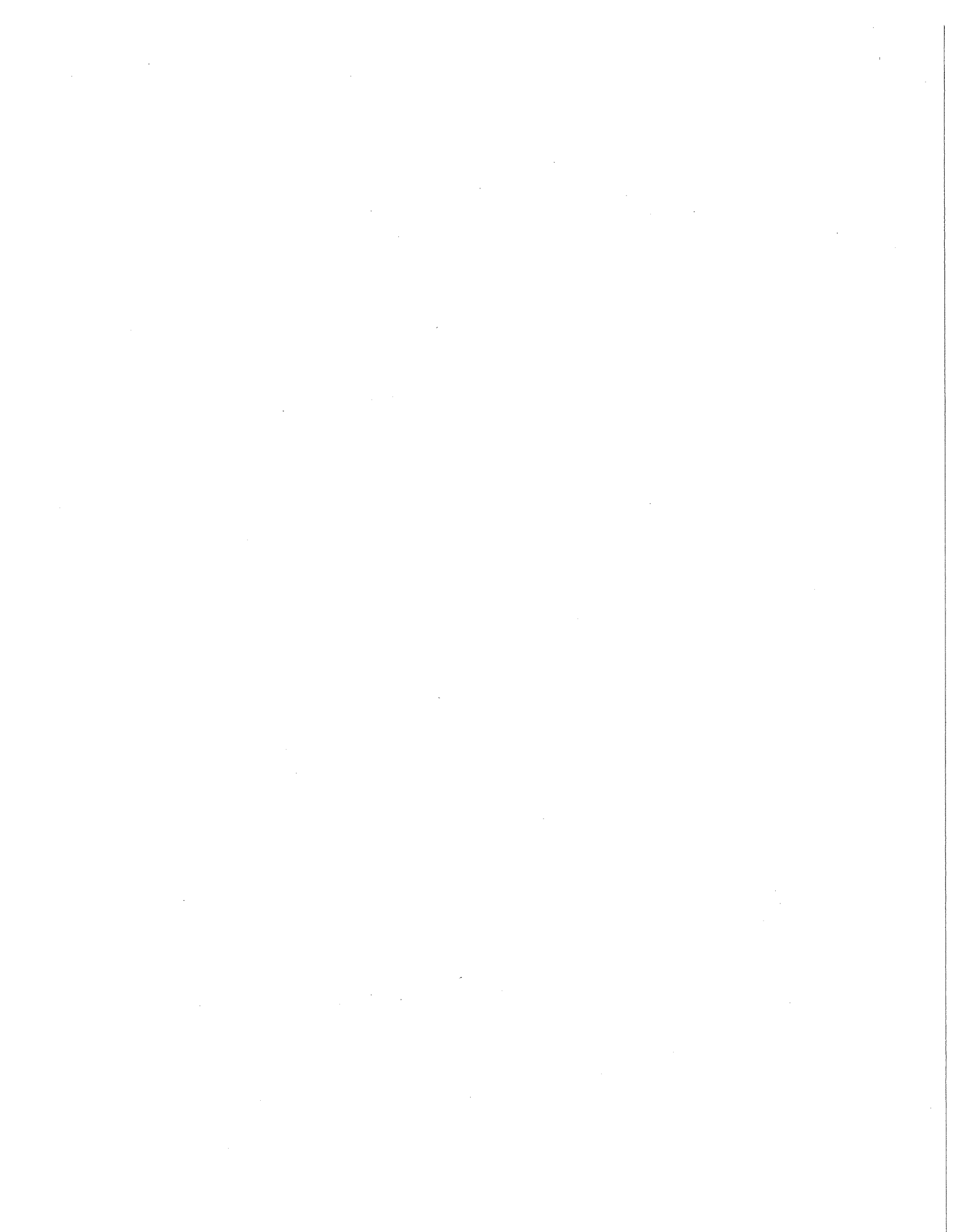
In response to these pressures and opportunities, the Ministry must consider how best to respond through the development and delivery of programs, initiatives, and legislation that reflect government directions as well as current and future economic, social and environmental needs.

Government restructuring and resource constraints at all levels are further compounding water management challenges. The move to less direct provincial control and more local authority (e.g., the Conservation Authority Program Review, municipal fiscal restructuring, proposed changes to the *Municipal Act* and recent efforts toward commercializing the Ontario Clean Water Agency (OCWA), further demonstrates the need for leadership in water resource utilization and management.

Thus, there is an even greater need to maximize use of limited financial and human resources to ensure an effective response to growing water resource issues and management challenges. There is a need:

- to rethink how water is used, managed and valued in Ontario;
- to set strategic priorities in order to focus and better coordinate MNR water management efforts with those of our partners; and
- for MNR to review its role and responsibility for water quantity management in the province and, if necessary, define and assert that position to reduce the threat to the public from water related hazards and protect the Province's water resources.
- to continue the benefits Ontarians derive from current water management (e.g., hydropower, fish habitat, flow and level control, flood warning).

In the development of the Water Management Business Plan, the Ministry considered how best to integrate and build upon the activities of several other Ministries and partners who share important responsibilities for water. In an environment of rationalization and divestment, many partners are making significant decisions which will have long-term implications on the management of water resources. Environment Canada is reviewing and attempting to rationalize

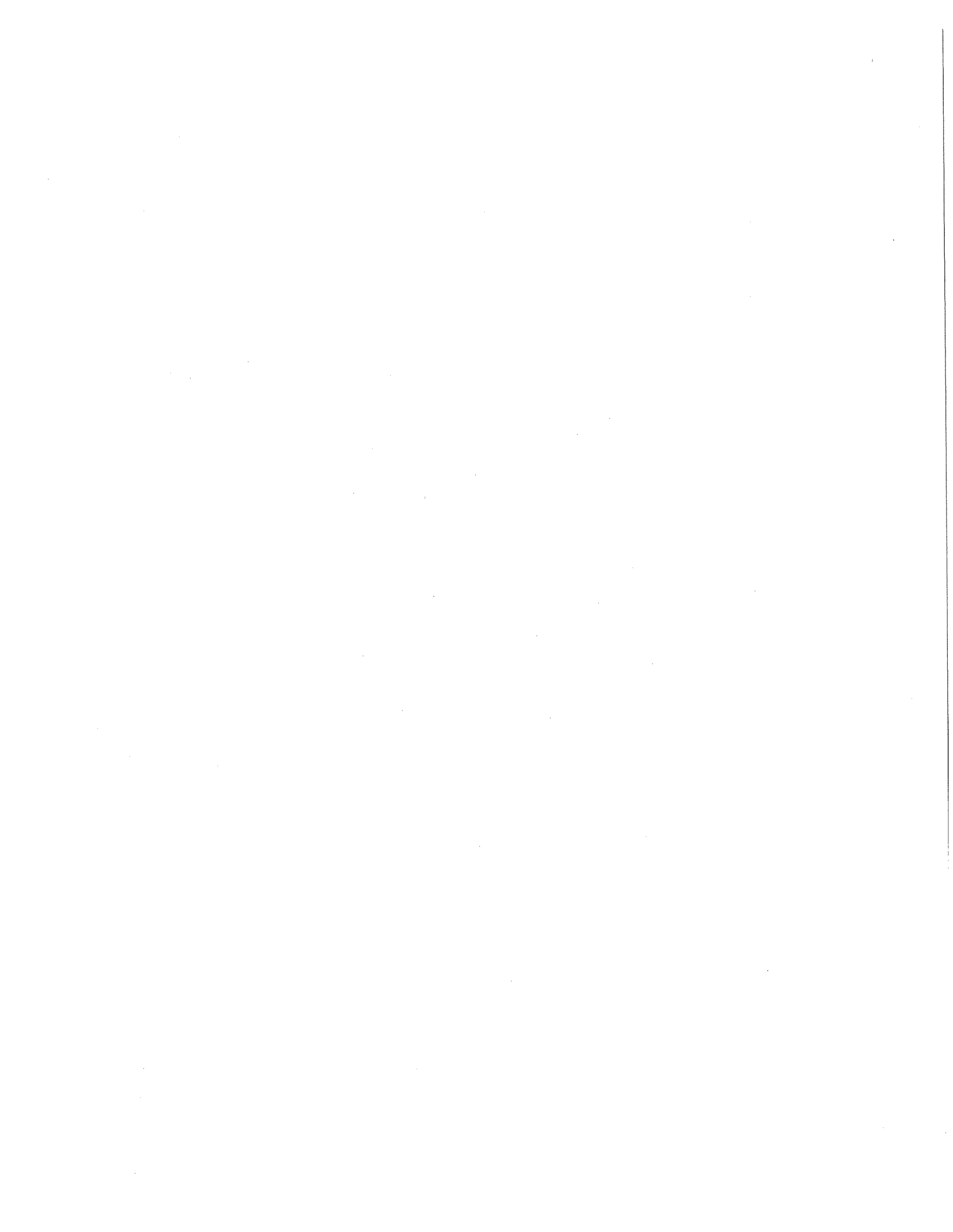


the hydrometric network. DFO is determining how it can best divest itself of responsibilities for small craft harbours and inland fisheries. The Ministry of Environment and Energy is looking at significant regulatory reform, has withdrawn from programs such as CURB and Green Communities, and is reviewing its groundwater protection program.

The following section summarizes the new business of water management in Ontario. The proposed timeframe for implementing the following is presented in brackets "[ ]" at the end of each major direction.

## ***Policy***

- A1. Within a Strategic Water Quantity Management Framework, MNR will maintain/improve its role as Provincial policy/program lead for a wide range of issues including but not limited to [1 year]:
- . protection of life and property from flooding and other water-related hazards on rivers, inland and Great lakes;
  - . ensuring ecological sustainability of water-centred ecosystems and the protection of aquatic resources in conjunction with other business planning such as Fish and Wildlife and Land Use Planning;
  - . promoting water conservation and sustainable allocation; and
  - . managing Ontario's water resource interests on the international and inter-provincial water bodies including: levels and flows, diversions, exports, allocation, and consumptive use.
- A2. The Ministry will establish a water resources sustainability valuing strategy for Ontario [ongoing]
- A3. MNR will streamline the activities and tasks (through partnering, contracting, and other mechanisms) in the business process wherever possible to improve effectiveness and efficiency [1 year].
- A4. The Ministry will further analyze the options for conducting business differently and identify "best bets" for implementation. Focus initially on priority setting, product line and "development" activity [1 - 6 months].
- A5. The Ministry will develop and/or maintain core competence in the areas of policy/program development and delivery, and water management (e.g., hydrology, ecology, integrated resource management, process modelling, etc.) [ongoing].
- A6. The Ministry will develop Best Management Practices (BMPs) for activities involving or impacting on water to assist public and private stewardship [1 Year].
- A7. Use the Draft 1993 Provincial Water Policy Framework as a basis for providing coordinated direction to the Province's economic and resource sustainability





interests in water, and as a means of achieving greater efficiency within and among provincial Ministries with responsibilities in water management [1 - 2 years]

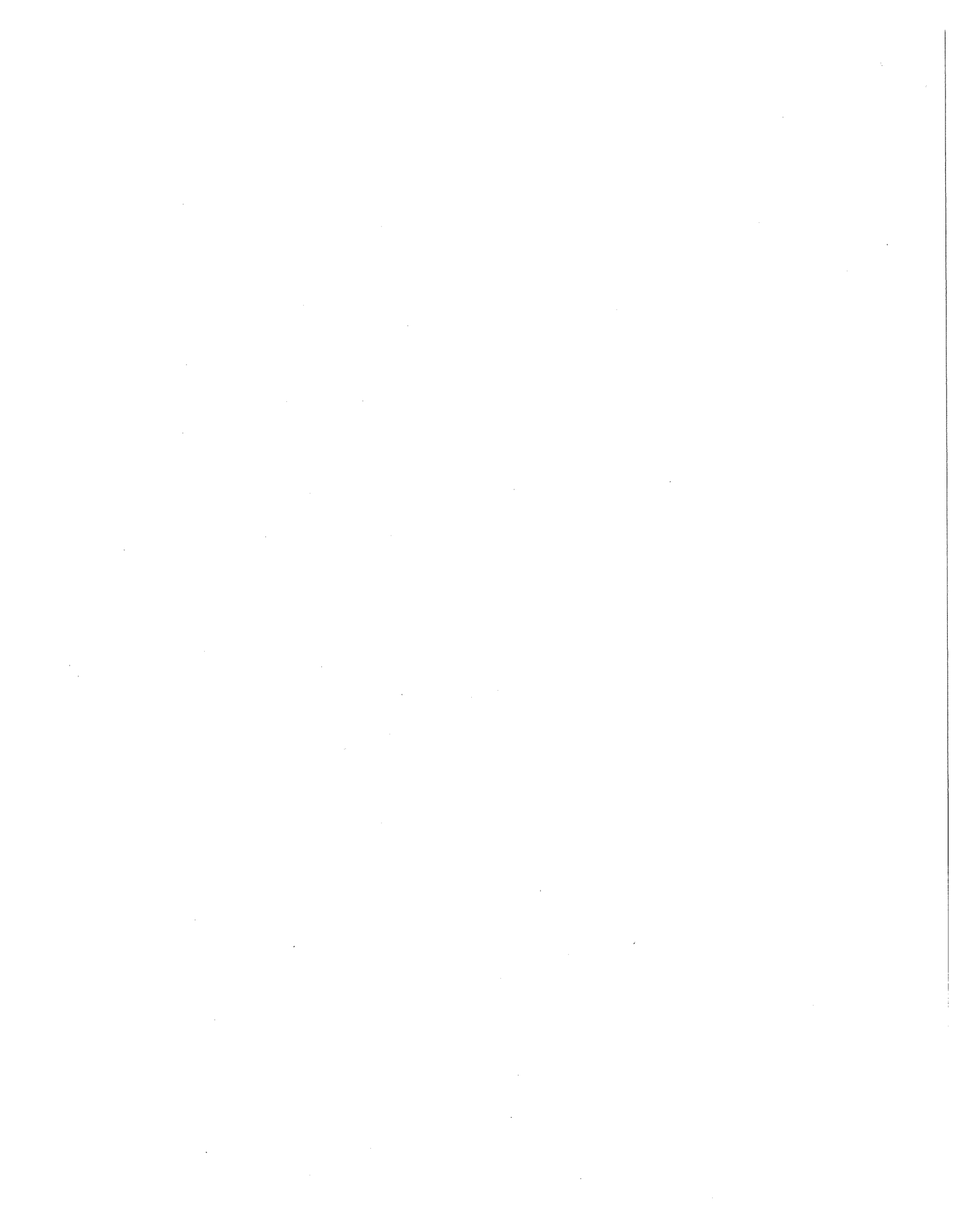
## **Planning**

- B1. MNR will assume provincial leadership for plan input related to water quantity management, water conservation and ecological sustainability, as input to municipal planning, hydropower development and operational planning, forest management planning, transportation and utility corridor planning, water supply development planning and resource extraction planning [ongoing].
- B2. MNR will assume provincial leadership around water quantity management planning matters on inter-provincial rivers and on the Great Lakes (e.g., Boards of Control, Shoal Lake) [1 year].
- B3. In municipally organized areas, MNR will encourage local watershed management planning initiatives of municipalities and Conservation Authorities through such activities as plan input and the provision of resource inventory information [ongoing].
- B4. In Crown land areas of northern and southern Ontario, the Ministry will work with appropriate local partners in the development of the watershed management approach (e.g., waterpower industry, forest industry, aboriginal groups) in areas where water resources are at risk [1 - 2 years].
- B5. Watersheds will provide the fundamental geographic framework for water management activities and will be the basis for input to Integrated Strategic Plans to integrate and interpret provincial and corporate strategic direction for water management in specific "eco-regions" [ongoing].

## **Operations and Compliance**

### MNR owned structures

- C1. MNR will review each of its water management structures to determine if divestment, devolvement or decommissioning are feasible options [6 months].
- C2. MNR will actively pursue, wherever possible, the divestment and devolvement of water control structures (dams, locks) to other parties benefitting from the structure (e.g., industry, tourist operators, cottagers, water power producers) [up to 2 years]. This initiative will require:



- a generic agreement be developed, with the assistance of Legal Services Branch, for the divestment of water management structures [*3 months*];
- MNR seek new owners to assume structures where possible [*ongoing*]; and,
- where new owners cannot be identified, seek to transfer operating responsibility of MNR water management structures [*ongoing*].

C3. Structures that provide limited benefits to local interests and that cannot be divested will be assessed for decommissioning. Priority would be given to structures where decommissioning has no significant environmental or cost implications [*1 - 2 years*].

#### Non-MNR structures

C4. Many of the non-MNR owned water management structures have the greatest potential for environmental impact (e.g., waterpower facilities). Reductions to resources in this area be minimal [*ongoing*].

C5. As the shifts in business occur, consideration will be given to streamlining the planning/plan input and approval functions in this process by integrating them with the "Planning/Plan Input" process. Compliance activities would remain part of the "Operations" business process [*1 year*].

#### Water Control Boards

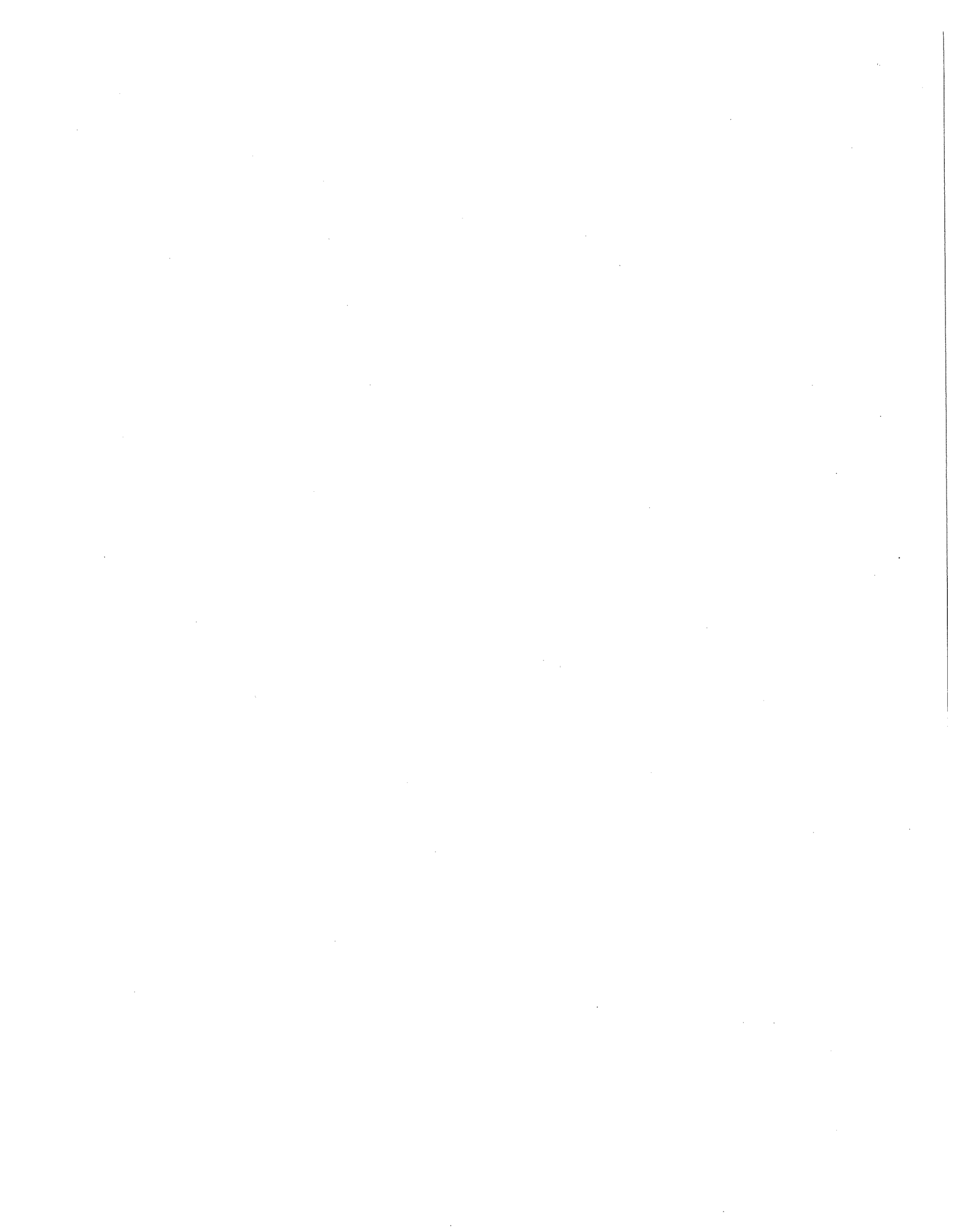
C6. Current resources dedicated to this area are at minimum acceptable levels. Every effort will be made to further streamline and rationalize the Water Control Board responsibilities and related activities. This is primarily seen as a plan input and operational planning function [*ongoing*].

#### Navigational Aids

C7. MNR will totally devolve itself of the navigational aids program through removal of provincial navigation markers [*3 - 6 months*].

#### Natural Hazards

C8. MNR will rationalize the local delivery of the flood forecasting program (e.g., between Conservation Authorities and Regional/District Offices). (NB. In southern Ontario this is highly dependent on rationalization outcomes among Conservation Authorities) [*6 months*].



## Compliance

- C9. In order to meet MNR goals of public safety and ecological sustainability, it is anticipated that compliance activities related to monitoring, auditing, information and education could increase commensurately with reductions in LRIA and PLA permitting [*ongoing*].

It is recommended that reductions to the compliance business process be minimal but refocused to accommodate the changes to the permitting function (i.e. more emphasis on education).

- C10. Given the small proportion of resources assigned to water management compliance, reductions to the program must be considered in concert with the proposals of the other business reviews (e.g. Fish and Wildlife) and rationalized to ensure the water management objectives are being satisfied [*ongoing*].

## ***Science and Information***

- D1. At a minimum the present level of resource support for SIRT activities needs to be maintained. There are little efficiencies to be found in this relatively minor component of the water resources program. The activities associated with this process are very cost effective and products produced are of high value to the ministry, the rest of the government and to the public [*ongoing*].
- D2. Given the pressures on our provincial water resources, particularly in Southern Ontario, MNR will scope out water related science and technology advancement opportunities' province wide [*ongoing*].
- D3. The Ministry will promote the advancement of water management science in the context of hydrologic functions within watersheds including: research into the development of better water management practices; and analysing issues related to land/water interaction, surface/groundwater and water quantity/quality interactions [*1 year*].
- D4. More attention needs to be paid to the social and economic benefits of water management and issues around water quantity management and water allocation on the Great Lakes [*ongoing*].
- D5. MNR will call upon the federal government and governments of the U.S. Great Lakes to develop criteria for reviewing diversion / consumption proposals on the Great Lakes and the identification of cumulative effects resulting from current and proposed initiatives [*1 year*].

