



PROTECTING PEOPLE AND PROPERTY

A Business Case
For Investing In Flood Prevention & Control



Conservation Ontario
August 6, 2009



Acknowledgements

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EXECUTIVE SUMMARY

Flooding is the leading cause of public emergency in Ontario¹.

The Ministry of Natural Resources (MNR) and Ontario's municipalities, by law, are mandated to manage and respond to flooding. Conservation Authorities and MNR district offices are responsible at the local level, through programs that are now being integrated into a new, provincial emergency management framework that will address all hazards.

Ontario's programs to manage floods and regulated floodplains have proven extremely effective and, indeed, the province has been a leading jurisdiction in flood planning and management. For example, a study of four storms that occurred in Michigan and Ontario in 1986 showed that while flood flows for Ontario were higher, damages were much lower due to floodplain management measures: \$640 million in Michigan versus \$0.64 million in Ontario in 2008 dollars.

While much has been accomplished, several factors, if not addressed directly and quickly, will significantly jeopardize the province's ability to maintain and improve on this level of management and protection.

Hard Assets

Hard assets include the dams, dykes, and channels that harness flood flows. These structures require ongoing maintenance, repair and replacement to function effectively and safely. A realistic target for infrastructure maintenance, repair and replacement would require \$27 million annually; nearly three times the current budget allowance.

Moreover, there is no grant financing for new flood control structures, even in areas experiencing repeated flooding. The cost sharing arrangements that helped build all of the major flood control structures in Ontario no longer exist and funding for new projects is limited. Faced with the need for 100% self financing, few municipalities can afford any new flood control structures.

¹ Ministry of Municipal Affairs and Housing (May 2007)

Soft Assets

Soft assets include flood plain mapping, rainfall and stream flow monitoring systems and computer models to forecast stream flows. These tools support the entire emergency management framework for flood management; they are indispensable to the effective management of floods.

Flood plain maps maintained by the Conservation Authorities are now on average 22 years old; 39 per cent are more than 30 years old. Old maps are of limited value and complicate the task of administering and enforcing the flood plain regulations since they are difficult to defend on technical grounds.

Flood Frequency and Severity

Flooding in Ontario is escalating. Climate change, together with growing populations, increasing property values and aging urban infrastructure have diminished the capacity of watersheds to cope with storm runoff, exposing growing populations to increased flood risk.

It is clear that storms have become more frequent and powerful. From 2000 to 2005, Ontario experienced ten severe storms that exceeded intensities that are normally expected less than once every 100 years. These storms caused over \$360 million in damages.

Climate change ensures that the trend in escalating storm intensity will continue for decades. As currently structured and funded, Ontario's flood management system does not have the capacity to cope with the resulting changes in flood patterns.

Funding

Fiscal constraints in the 1990s affected all agencies involved in flood management. Under-funding amounted to many millions of dollars every year. As a consequence, flood management systems have not been kept current with new technologies or emerging threats.

Under-funding seriously compromises the ability of the Ministry and the Conservation Authorities to fulfill their statutory obligations under the Planning Act and regulations of the Conservation Authorities Act. It reduces their capacity to contribute to the development of municipal emergency management plans. Most

importantly, if the funding deficit continues, it will compromise the Province's ability to protect lives and property during floods.

It will take at least 10 years to catch up—to update flood plain maps, to restore aging flood control infrastructure, to strengthen the technical capacity of line agencies. Ten years that is, if the commitment comes now to renewal of the flood management system.

The Province of Ontario's commitment and leadership is required to forge a critical three-way partnership with municipal leaders and the Federal government in the task of renewal.

The commitment must begin with new and increased funding for:

- Infrastructure maintenance, repair and replacement (hard assets): \$27 million annually
- Flood plain mapping, rainfall and stream flow monitoring systems, computer models (soft assets): \$78 million over 10 years
- Ongoing flood management programs, including monitoring, regulation and facility operations, as well as studies to plan for climate change and other emerging threats: \$16.5 million annually