



Protecting the St. Clair River Through Spill Prevention and Contingency Planning

St. Clair River Area of Concern Symposium

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Ministry of the Environment

Purpose

- Overview of ministry's initiatives in Spill Prevention and Spill Contingency Planning.
- Information on the use of Environmental Penalties.
- Outcomes of efforts to protect water quality.



Protecting Our Waterways at the Source



Using legislation, the ministry is holding industry accountable for developing:

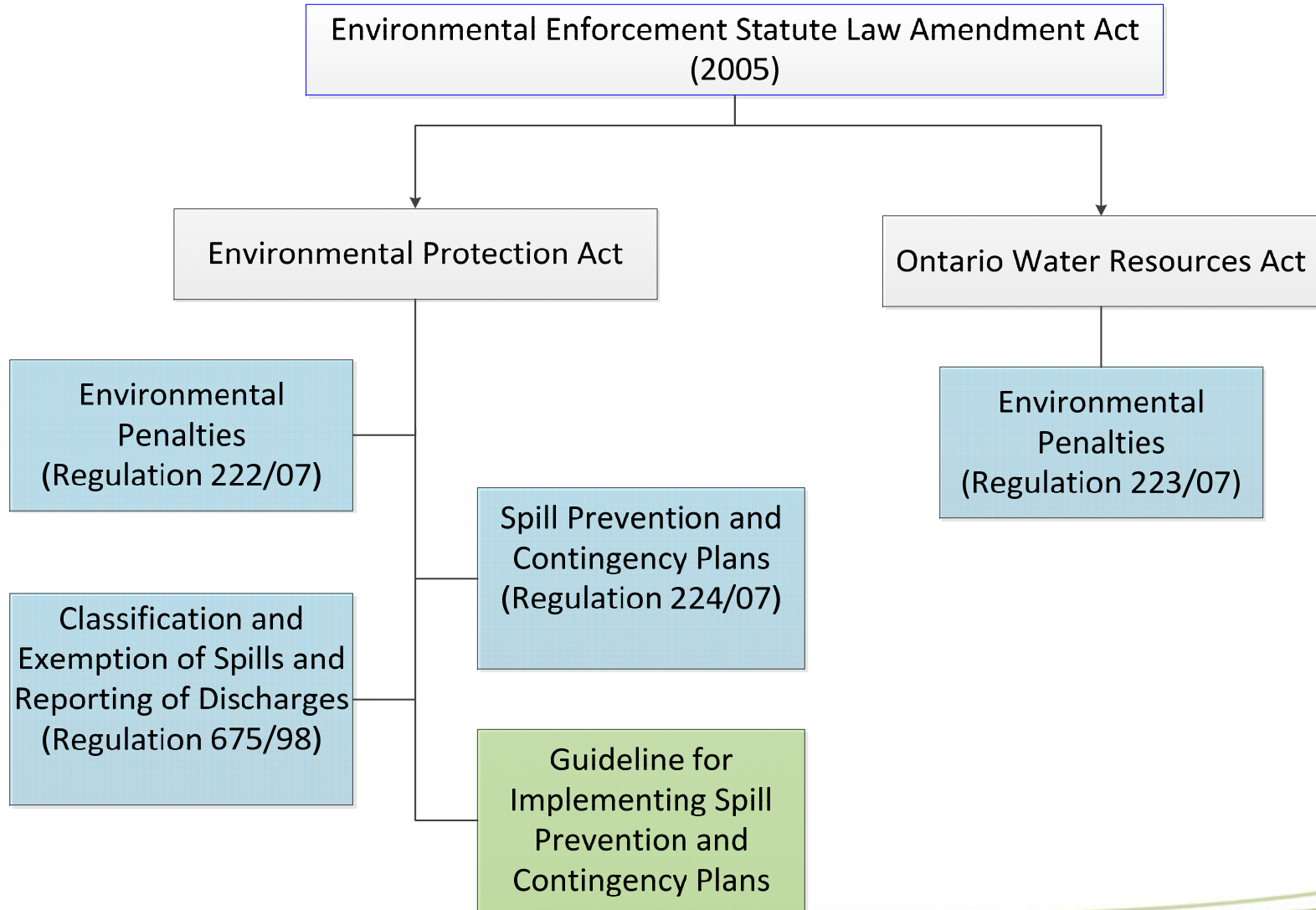
- Plans to **prevent** spills.
- Procedures to **detect** and **respond** to spills.
- Plans to **prevent or minimize** any adverse effects that may result from a spill.

Multi-Barrier Approach to Protecting Our Waterways

Along the St. Clair River, the ministry is using a multi-barrier approach to protect water quality:

1. Initiation of compliance action where necessary
2. Application of regulations and guidelines aimed at spill prevention
3. Requirements for Environmental Compliance Approvals for industrial wastewater treatment facilities
4. Requirements for monitoring at industrial wastewater discharges
5. Requirements for monitoring of drinking water quality
6. Regular inspections of industrial facilities and drinking water treatment facilities

Legislative Changes to Encourage Spill Prevention



Requirements for Spill Prevention Plans

To document and assess the risk of spills happening:

- Analysis of likelihood
- Analysis of potential adverse effect
- Risk analysis and priority ranking
- Risk management measures to prevent or reduce risk of potential spills that have a significant risk of occurring and causing adverse effect
- At minimum, company must consider:
 - Installing containment structures
 - Installing and maintaining equipment to monitor operations (e.g. alarms)
 - Changing industrial processes
 - Preventative maintenance programs

Requirements for Spill Contingency Plans

- To document and implement procedures that prevent or minimize adverse effects that result once a spill has occurred.



- Contingency plans:

- Notification within plant
- Agency notification
- Quick response with appropriate resources
- Timely liaison with regulatory authorities at spill
- Response structure with decision-making authority



Environmental Penalties

- Used in conjunction with traditional approaches to achieving compliance.
- Framework encourages companies to make greater efforts to prevent spills and provides additional incentives to industry to clean up quickly.
- Apply to facilities that are regulated by Municipal-Industrial Strategy for Abatement (MISA) regulations:

- petroleum
- organic chemicals
- inorganic chemicals
- electric power generation facilities
- industrial minerals



- metal mining
- metal casting
- iron and steel
- pulp and paper

Environmental Penalties

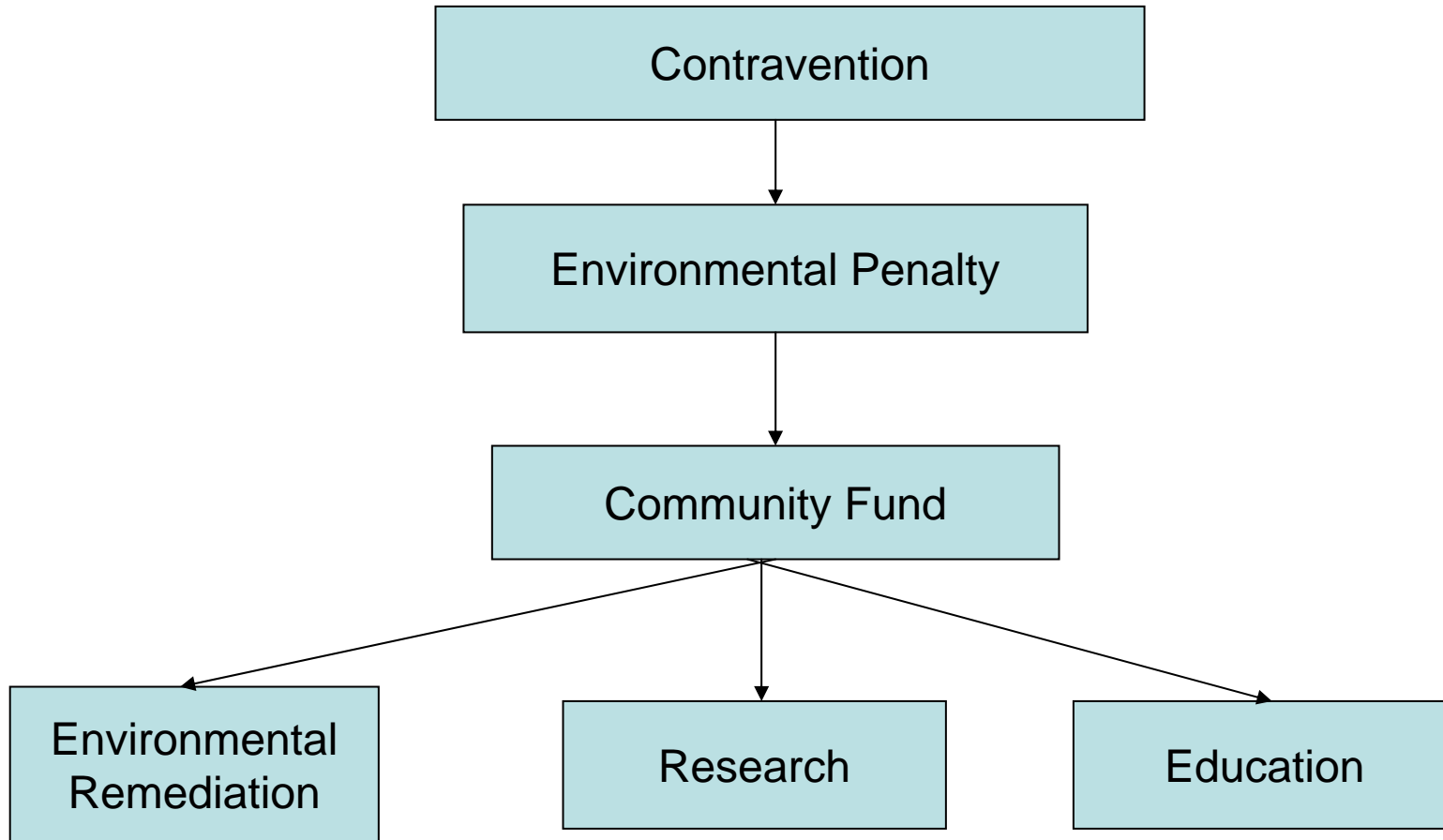
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- Amount of penalty can start at \$1,000 per day for every day a facility is in violation.
- Considerations in determining amount of penalty include:
 - type of violation
 - seriousness of violation
 - history of previous Environmental Penalty Orders and convictions
 - duration of incident
 - any delay in complying with requirement that was violated

Type of Violations Subject to Environmental Penalties

- Causing a spill that may cause an adverse effect or impair water quality
- Failure to report a spill
- Failure to develop and implement spill prevention and spill contingency plans
- Failure to mitigate and restore the natural environment
- Failing an acute toxicity lethality test
- Exceedance of a discharge limit
- Failure to report an exceedance
- Failure to obtain sewage works approval
- Failure to comply with requirements of sewage works approval

Environmental Penalties – Community Fund



Environmental Penalties Annual Reporting for Ontario

Year	Number of Orders	Total Amount
2007 (came into effect Aug. 1/07)	0	0
2008	6	\$69,583.40
2009	13	\$112,143.20
2010	33	\$430,112.90
2011	10	\$167,642.95
Total	62	\$779,482.45

Ministry Spill Notification and Response

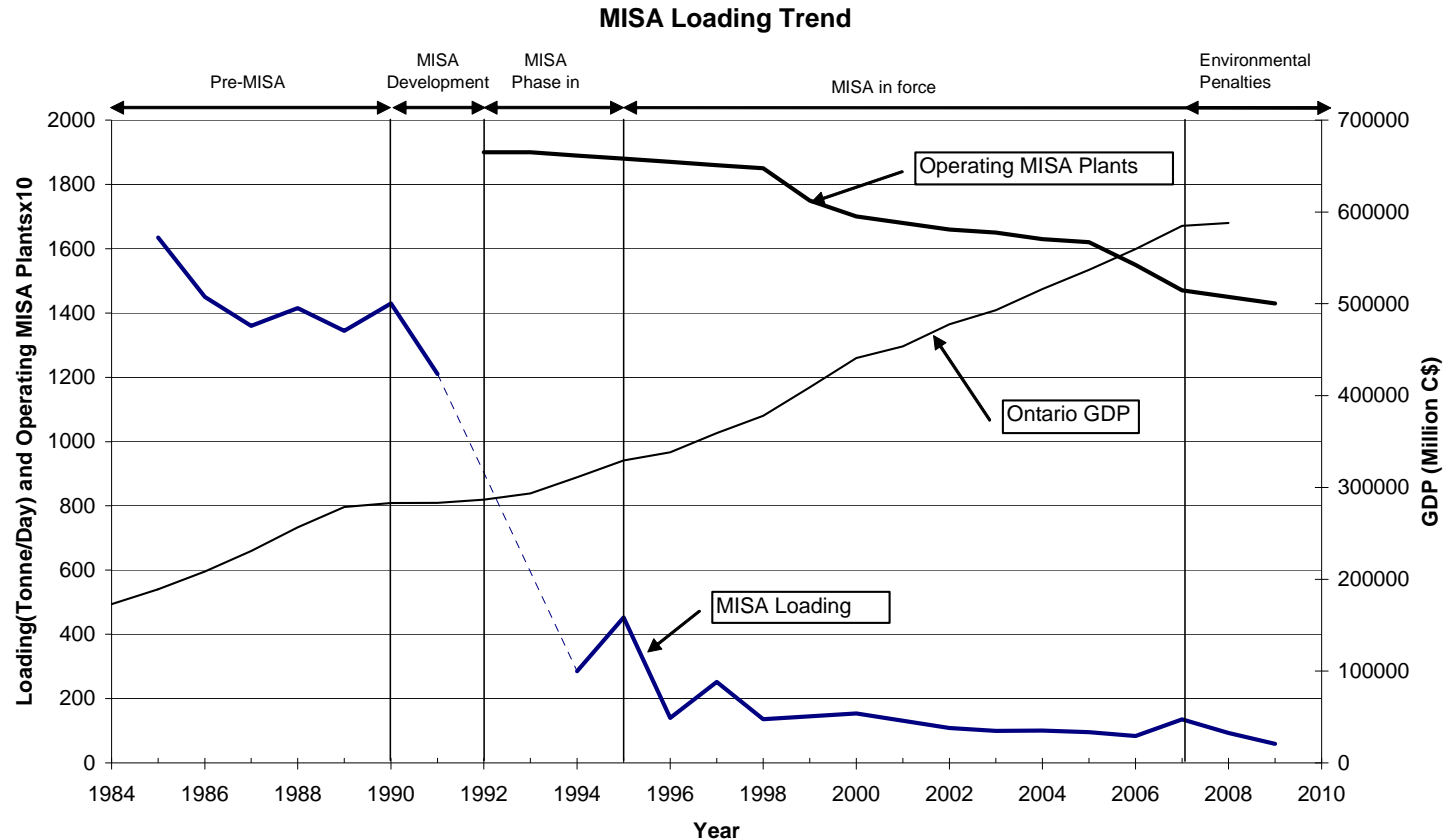
- Notification to Michigan in accordance with Ontario/Michigan Joint Notification Agreement.
- Notification of downstream drinking water supplies, local health agencies, First Nation communities and other agencies on the Canadian side.
- Field response by ministry and collection and analysis of samples.
- Collection and analysis of samples by party responsible for spill.
- Computer modeling of spilled material to assess potential impacts on downstream drinking water intakes (duration, concentration, flow rate).
- Assessment of Sarnia Lambton Environmental Association water monitoring data.



Outcomes

- Companies have put in place:
 - Spill prevention and contingency plans
 - Spill detection systems
 - Spill diversion and containment systems
- Improvements have been made to industrial cooling systems that use river water for cooling process streams.
- Frequency of spills to St. Clair River continues to decrease.

MISA Historical Loading Trend - Ontario

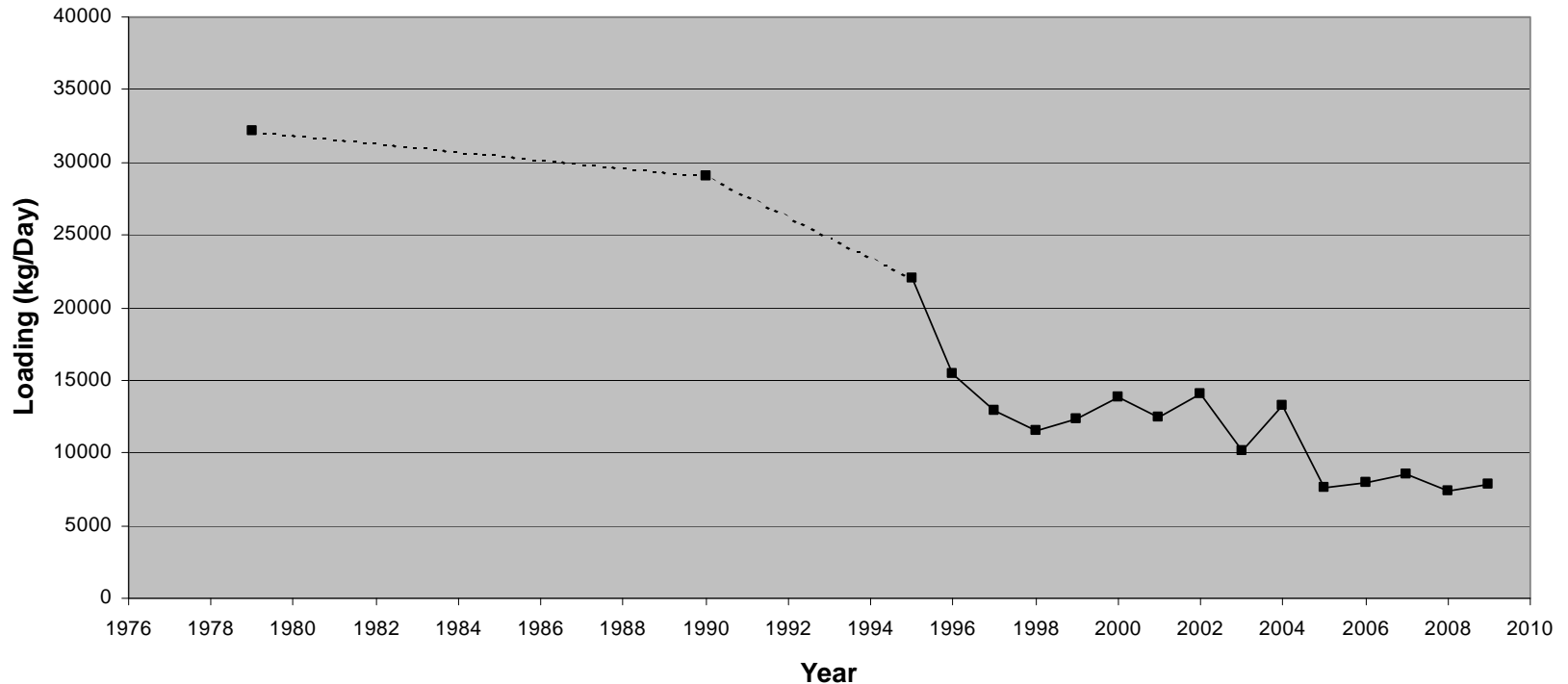


"Loading" includes the following 19 parameters: Suspended solids, solvent extractables, BOD5, COD, TOC, ammonia-nitrogen, phenolics, phosphorus, copper, chromium, iron, lead, nickel, zinc, chlorides, fluoride, arsenic, cyanide, and sulphates

MISA Historical Loading Trends for St. Clair River

Industrial Point Source Dischargers to St. Clair AOC (1990-2009)

1979 for reference



Industrial Loadings: Includes 19 parameters (Suspended solids, solvent extractables, BOD5, COD, TOC, ammonia-nitrogen, phenolics, phosphorus, copper, chromium, iron, lead, nickel, zinc, chlorides, fluoride, arsenic, cyanide, and sulphates) for 17 Facilities with point source discharges to St Clair AOC

Summary

- Spill prevention at the source is our focus in Ontario.
- In the event that a spill does occur, we have legislation and regulations that provide incentives for industry to promptly respond and minimize potential adverse effects.
- Water quality in the St. Clair River has been improving over time through a reduction in spills and contaminant loadings.
- Preventing pollution is just one component of the work necessary to protect and restore the St. Clair River Area of Concern.

