

SPIILLS ACTION CENTRE:

2009 SUMMARY REPORT

2009 SPILLS SUMMARY

Introduction

The Ministry of the Environment is committed to informing the public about environmental events and activities under its jurisdiction. This summary report provides information about the number of reported spills recorded by the ministry's Spills Action Centre (SAC) during 2009.

Provincial law requires all pollutants spilled into the natural environment be reported at once to the Ministry by:

- the person who causes or permits a spill
- the person who has control of the pollutant immediately before the discharge
- a member of a public agency who may have reason to believe the spill has not already been reported to the ministry.

Spills can be reported by calling a province-wide toll-free number at 1-800-268-6060. This line is answered by environmental officers 24 hours a day, seven days a week.

The primary role of SAC is to receive reports of spills and other environmental matters. When spills do happen, the consequences can be serious to the health and safety of people, as well as the environment. All reports of spills and any other reported events are assessed by SAC's environmental officers who then determine what, if any, response should be taken by the ministry.

Additionally, SAC supports the reporting process for other agencies including Environment Canada (Ontario Regional Office) and Ontario's Technical Standards and Safety Authority (TSSA).

About the Information

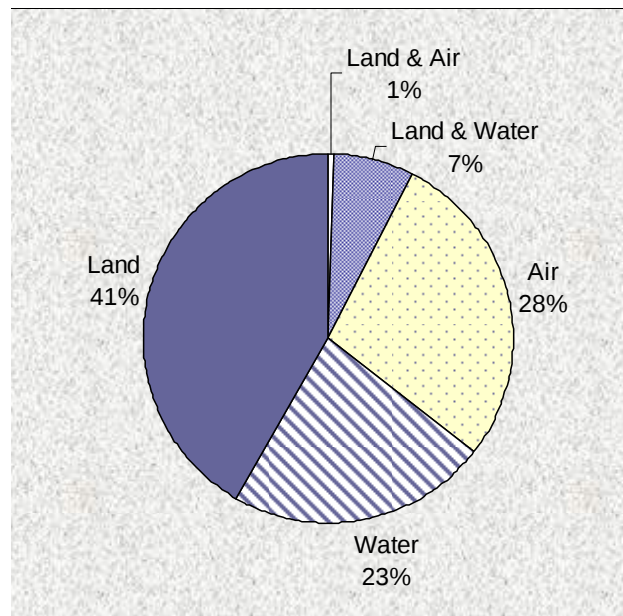
The information found in this report is taken from the reports made to SAC and the documentation that resulted from the initial point of contact between the person reporting the spill and SAC. As a result, the 2009 Spills Summary should be viewed as a “snapshot” of the data as first reported and documented in the ministry’s database.

All spills reported to SAC are recorded in the ministry’s database, regardless of whether or not the ministry becomes directly involved. For example, the database captures fuel related spills that fall under the mandate of TSSA.

Overview: 2009 Spills

SAC documented 5,154 spills during 2009. There were – 2,146 or 41% – spills to land. Spills to air numbered 1,442 (28%) and spills to water 1,162 (23%). The remaining spills affected more than one media: 355 were to land and water; 29 were to land and air; 11 were to water and air (not reflected in chart) and land, water and air received 9 spills (not reflected in chart). Figure 1 shows the relative proportions of spills to the various media and combinations.

Figure 1 - Spills by Receiving Media for 2009



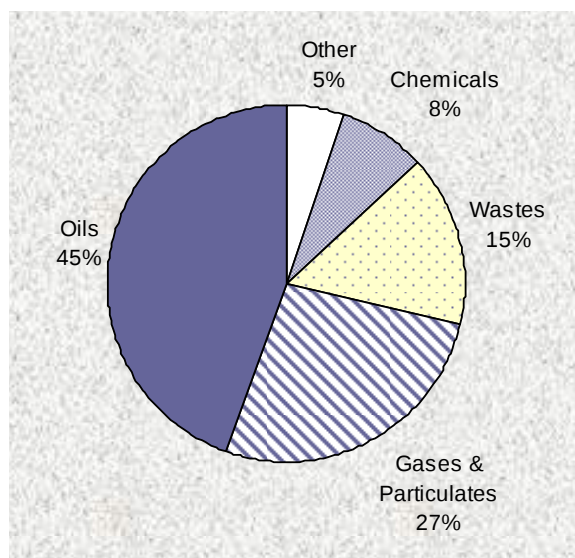
Types of Materials Spilled

SAC records only the primary material involved in a spill, though a few spills will involve more than one material. The categories used to group the materials spilled are:

- Oils: includes crude, gasoline, jet fuel, kerosene, and all light and heavy petroleum oils.
- Chemicals: includes acids, bases, solvents, pesticides and other organic and inorganic chemicals.
- Gases and particulates: includes smoke, dust/particulates, nitrous oxide, natural gas, etc.
- Wastes: includes liquid industrial, liquid hazardous, sewage, agricultural and other wastes.
- Other: includes feed and foodstuffs and other substances.

In descending order, for 2009, the number of spills by material is as follows: oils (2,286); gases and particulates (1,394); wastes (797); chemicals (410); other (267). As shown in Figure 2 below, spills of “oil” made up the majority of spills in 2009.

Figure 2 – Spills by Material Group for 2009

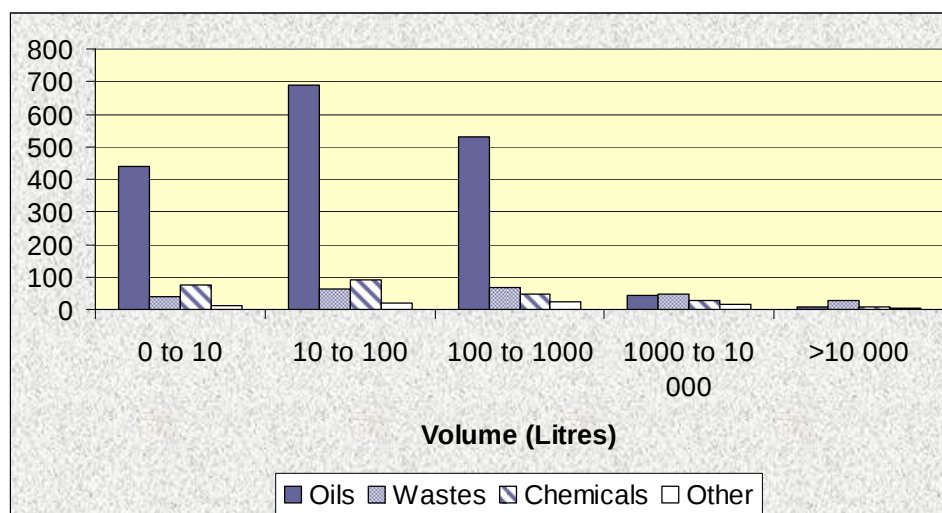


Other - includes feed and foodstuff, not applicable, miscellaneous and unknown substances

Volumes of Materials Spilled

SAC documents the volume of a spill **if** it is known and, if known, is reported. Also, SAC documents the information available when the report is first made. Information on volume, for example, that becomes available later is not necessarily included in this summary data. Note also that volume is not related to toxicity or environmental threat. A small, highly concentrated spill may be more serious than a larger spill of a highly diluted substance. In 2009, of the 5,154 spills reported, there were volumes (litres) associated with 2,272 spills (44%).

Figure 3 - Spills by Volume for 2009



For reporting on this aspect of spills, they are grouped into one of four categories: oils, wastes, chemicals and other. As Figure 3 shows, most of the smaller spills (<1,000 litres) are spills of oil, though the number of smaller spills is quite large – 2,099 in 2009. The largest spills (>10,000 litres) where volume was reported are of wastes, though larger spills are much fewer in number – 26 in 2009.

Many oil spills are related to the loss of fuels and cargo in transportation accidents. The 2009 data that shows that, where volumes were known and reported, the number of oil spills with between 10 to 100 litres was the single largest grouping of any material spilled, and accounted for almost 30% of all spilled materials with known volume.

Spills of waste reported to SAC in 2009 normally involved unintended wastewater discharges where the material of concern likely constitutes a relatively small proportion of the total volume spilled (e.g. abnormal

bypass or wastewater treatment processes resulting in the discharge of raw or partially treated sewage).

Environmental Impact

Spills are reported to the Ministry of the Environment, through SAC, because of the potential for environmental impacts. When a spill is first reported, an environmental officer makes an assessment of the seriousness of the spill, including the likelihood that an environmental impact may result. This is only a preliminary assessment in order to identify those spills that require a priority field response.

In categorizing reports of spills by seriousness, SAC uses a framework consistent with the *Environmental Protection Act* that places spills into one of three categories:

- Environmental Impact Not Anticipated (e.g. small spill to concrete)
- Environmental Impact Possible but Not Confirmed (e.g. spill to catch basin)
- Environmental Impact Confirmed (e.g. confirmed by the ministry or another agency)

During 2009, 36% of spills reported to SAC were categorized as “environmental impact not anticipated”. Spills in the category of “environmental impact possible but not confirmed” accounted for 16% of the total spills reported to SAC in 2009. This category includes spills reported not because they were known to cause an adverse effect, but because the spills “may cause an adverse effect” as this phrase is defined in the *Environmental Protection Act*. An environmental impact was confirmed for 49% of spills reported to SAC in 2009.

The table below shows the distribution of 2009 spills by environmental medium and impact.

Table 1 – 2009 Spills by Environmental Medium and Impact

MEDIUM	IMPACT			Total
	Not Anticipated	Possible	Confirmed	
Air	431	195	816	1442
Land	936	303	907	2146
Water	318	249	595	1162
Multiple Media	149	64	191	404
<i>Air & Land</i>	12	4	13	29
<i>Land & Water</i>	131	56	168	355
<i>Land, Water & Air</i>	3	1	5	9
<i>Water & Air</i>	3	3	5	11
Total	1834	811	2509	5154
Percentage	36%	16%	49%	

The information in the ministry's database related to environmental impact can also be organized by types of material spilled as demonstrated in the following table.

Table 2 – 2009 Spills by Material Group and Environmental Impact

Material Group	Environmental Impact			Total
	Not Anticipated	Possible	Confirmed	
Oils	868	343	1075	2286
Chemicals	171	70	169	410
Gases and Particulates	424	182	788	1394
Wastes	261	155	381	797
Other	110	61	96	267
Total	1834	811	2509	5154

Sources of Spills

Identifying the predominant sources of spills assists the ministry in achieving its environmental protection mandate. The ministry's database records the "sources" or "sectors" of the spills, as applicable and to the extent possible, based on the information in the reports.

The data for 2009 shows that, when aggregated, transportation-related spills (motor vehicles, transport trucks and tank trucks) are the single largest group of spills reported to SAC, accounting for 1,024 or 20% of spills.