2008 SPILLS SUMMARY REPORT

Introduction

The Ministry of the Environment is committed to keeping the public informed 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 2008.

SAC provides a province-wide toll-free number – 1-800-268-6060 – which 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, threatening or potentially threatening 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, further response should be taken by the ministry.

Supporting other agencies in the discharge of their responsibilities is another aspect of SAC's work. SAC serves as a reporting conduit for Environment Canada (Ontario Regional Office) and Ontario's Technical Standards and Safety Authority (TSSA), among others.

About the Information

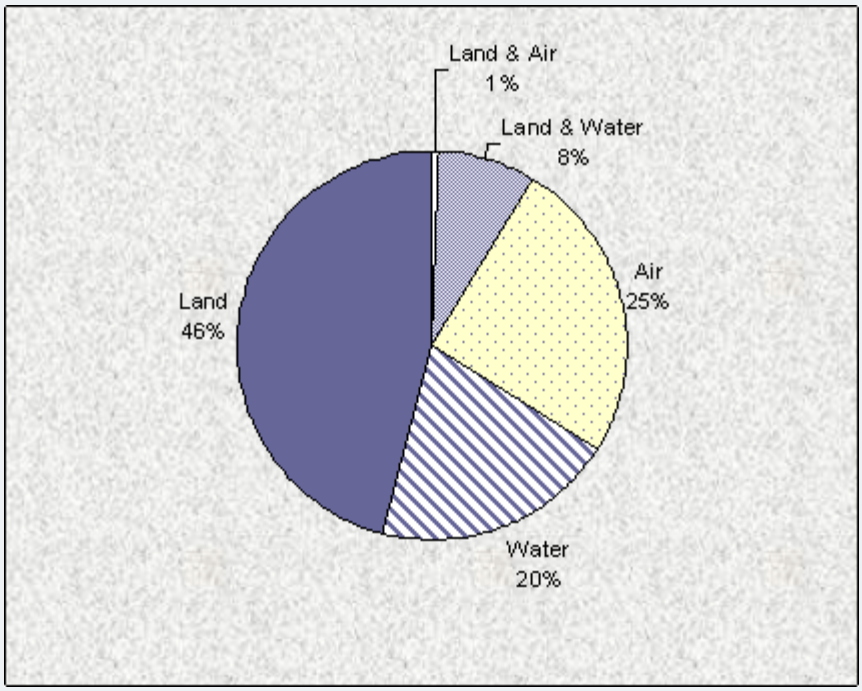
The information found in this report is taken from the reports made to SAC and the documentation that resulted from the initial point of contact between the person reporting the spill and SAC. As a result, the 2008 Spills Summary should be viewed as a "snapshot" of the data as first reported and documented 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: 2008 Spills

SAC documented 5, 067 spills during 2008. Nearly half – 2, 303 or 46% – were spills to land. Spills to air 1270 (25%) and spills to water numbered 1, 030 (20%). The remaining spills affected more than one media: 402 were to land and water; 32 were to land and air; 20 were to water and air (not reflected in chart) and land, water and air received 10 spills (not reflected in chart). Figure 1 shows the relative proportions of spills to the various media and combinations thereof.

Figure 1 - Spills by Receiving Media for 2008



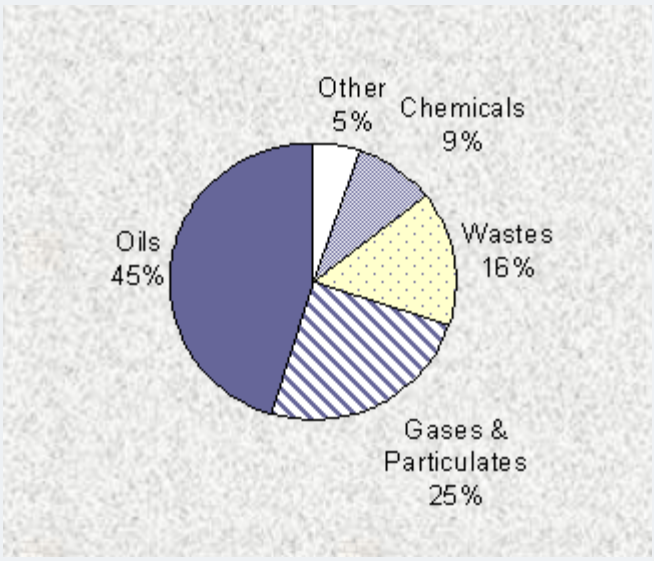
Types of Materials Spilled

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 2008, the number of spills by material is as follows: oils (2, 300); gases and particulates (1250); wastes (787); chemicals (459); other (271). As shown in Figure 2 below, spills of “oil” made up the majority of spills in 2008.

Figure 2 – Spills by Material Group for 2008



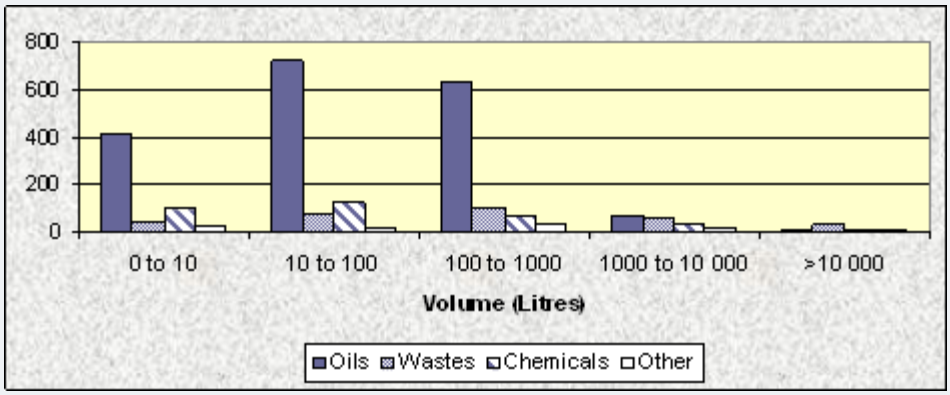
Other - includes Feed and Foodstuff, Not Applicable, Miscellaneous and Unknown substances

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 2008, of the 5, 067 spills reported, there were volumes (litres) associated with 2, 528 spills (50%).

Figure 3 - Spills by Volume for 2008



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 them is quite large – 2, 309 in 2008. The largest spills (>10,000 litres) where volume was reported are of wastes, though they are much fewer in number – 27 in 2008.

Many oil spills are related to the loss of fuels and cargo in transportation accidents. The 2008 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 28% of all spilled materials with known volume.

Spills of waste reported to SAC in 2008 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 2008, 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 2008. 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 48% of spills reported to SAC in 2008.

The table below shows the distribution of 2008 spills by environmental medium and impact.

Table 1 – 2008 Spills by Environmental Medium and Impact

MEDIUM	IMPACT			Total
	Not Anticipated	Possible	Confirmed	
Air	380	180	710	**1270**
Land	1020	355	928	**2303**

Water	268	175	587	**1030**
Multiple Media	134	108	222	**464**
Air & Land	*8*	*8*	*16*	*32*
Land & Water	*120*	*92*	*190*	*402*
Land, Water & Air	*0*	*7*	*3*	*10*
Water & Air	*6*	*1*	*13*	*20*
Total	**1802**	**818**	**2447**	**5067**
Percentage	**35.6%**	**16.1%**	**48.3%**	

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 – 2008 Spills by Material Group and Environmental Impact

Material Group	Environmental Impact			Total
	Not Anticipated	Possible	Confirmed	
Oils	892	366	1042	**2300**
Chemicals	212	59	188	**459**
Gases and Particulates	374	177	699	**1250**
Wastes	227	144	416	**787**
Other	97	72	102	**271**
Total	**1802**	**818**	**2447**	**5067**

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 2008 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 1105 or 22% of spills.