

***Ministry of Environment
of the Slovak Republic***



***STATE OF THE
ENVIRONMENT REPORT
SLOVAK REPUBLIC
2010***



Slovak Environmental Agency

• NATURAL AND TECHNOLOGICAL HAZARDS

Key questions and key findings

◆ Key questions

- What is the trend in the number of events that negatively impact the environment?
- What is the trend in the consequences of events that negatively impact the environment?

◆ Key findings

- Number of events of extraordinary water deteriorations over the last three years has remained roughly at the same level.
- Over the last three years the Slovak Environmental Inspection (SEI) has not detected any event leading to a deteriorated air quality.
- Number of fires in 2010 dropped, compared to 2009. On the long-term basis (2000-2010) the trend in fires shows fluctuating characteristics. Still, none of these years shows less than 8 000 fire events.
- From the hydrological standpoint, the year 2010 was very humid, which resulted in the occurrence of extensive floods.
- Total direct damages caused by fires in 2010 were 69 148.4 thous. EUR. On the long-term basis (2000-2010) this is the highest recorded damage volume.
- Total costs and damages caused by floods in 2010 reached the value of 526.31 mill. EUR.

Accidental deterioration of water quality

In 2010, SEI recorded 100 extraordinary water deteriorations (EWD) - number of events over the last three years has remained at the same level. Of all recorded events, 42 were cases relating to surface water, and 58 were cases of threats or contamination of ground water.

Special declination or quality menace of water of the SR in the years 2000-2010

| Year | EDW recorded by SEI | Special deterioration of water | | | | | |
|------|---------------------|--------------------------------|---------------------------------|---------------|--------------|------------------|--------------|
| | | Total number | Surface Watercourses and basins | Water courses | Total number | Ground Pollution | Endangerment |
| 2000 | 82 | 55 | 2 | 9 | 27 | 3 | 24 |
| 2001 | 71 | 46 | 1 | 4 | 25 | 1 | 24 |
| 2002 | 127 | 87 | 1 | 6 | 40 | 5 | 35 |
| 2003 | 176 | 134 | 2 | 3 | 42 | 0 | 42 |
| 2004 | 137 | 89 | 1 | 10 | 48 | 11 | 37 |
| 2005 | 119 | 66 | 2 | 5 | 53 | 2 | 51 |
| 2006 | 151 | 94 | 0 | 3 | 57 | 6 | 51 |
| 2007 | 157 | 97 | 1 | 4 | 60 | 4 | 56 |
| 2008 | 102 | 49 | 0 | 6 | 53 | 4 | 49 |
| 2009 | 101 | 50 | 1 | 3 | 51 | 7 | 44 |
| 2010 | 100 | 42 | 0 | 2 | 58 | 2 | 56 |

Source: SEI

When compared with the previous year, the number of EWD caused by crude oil products and waste water decreased. On the contrary, the share of livestock excrements, insoluble substances,

caustic agents, and other substances on water deterioration increased. In three cases it was impossible to establish the kind of harmful or critically harmful substance.

Progress in number of WQEDA according to the sort of WDS in the years 2000–2010

| Sorts of water deteriorative Substances (WDS) | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|------|------|------|------|------|------|------|------|------|------|------|
| Oil substances | 33 | 40 | 64 | 59 | 70 | 63 | 69 | 76 | 65 | 65 | 60 |
| Alkalis | 2 | 2 | 5 | 3 | 1 | 0 | 3 | 4 | 2 | 0 | 3 |
| Pesticides | 0 | 0 | 1 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 |
| Excrements of farm animals | 5 | 4 | 9 | 21 | 15 | 14 | 14 | 12 | 7 | 2 | 10 |
| Silage fluids | 4 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Industrial fertilisers | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Other toxic substances | 12 | 5 | 3 | 3 | 0 | 4 | 4 | 5 | 2 | 1 | 1 |
| Insoluble substances | 5 | 2 | 6 | 11 | 3 | 4 | 3 | 3 | 2 | 2 | 4 |
| Waste water | 10 | 10 | 17 | 35 | 20 | 10 | 28 | 24 | 15 | 17 | 12 |
| Other substances | 2 | 1 | 3 | 7 | 10 | 8 | 6 | 7 | 3 | 1 | 6 |
| Water detrimental substances impossible to determine | 9 | 7 | 17 | 35 | 14 | 10 | 22 | 24 | 6 | 1 | 3 |

Source: SEI

Not even in 2010 was there any extraordinary water deterioration caused by pollution source outside the Slovak Republic. Unknown pollution producers have contributed to EDW with the significant and stable 15%, while the share of so-called foreign organisations on EDW was 16%.

Just like in the previous years, in 2010, human factor and poor technical condition of equipment or facilities for hazardous substances were the most frequent causes for EDW. Road transport and transportation have shown the greatest contribution to total EDW, with international travel operators and carriers being the greatest producers.

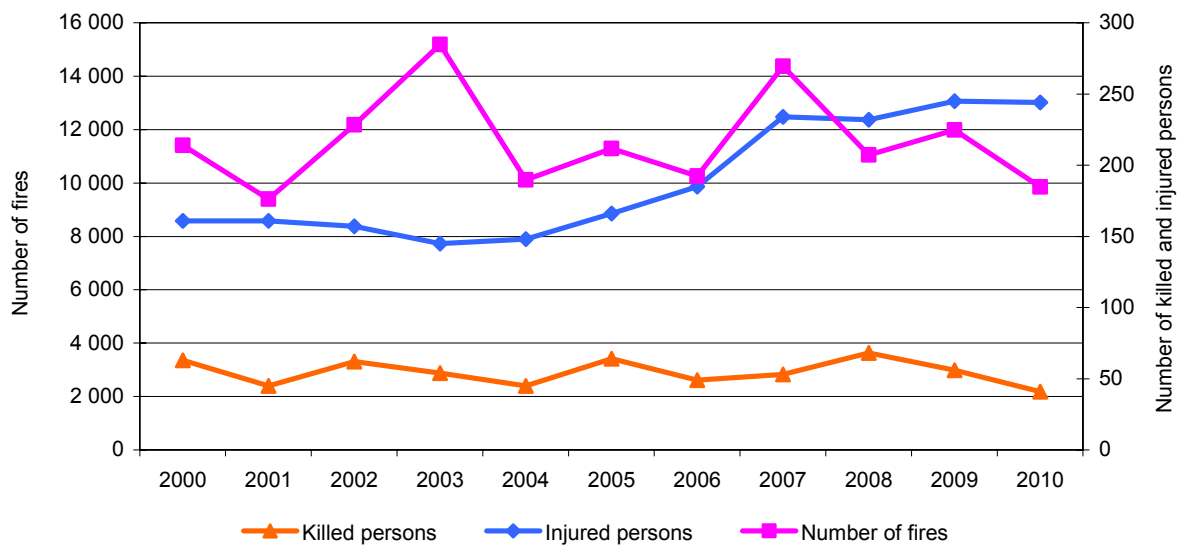
Fire risk

In 2010 were documented in the SR **9 851 fires**, causing 41 casualties and 244 injured. Although the number of fires dropped, direct material damage reached 69 148.4 thous. EUR, while the volume of preserved values was calculated at 353 695.7 thous. EUR.

In terms of damage cause by fires in individual industrial sectors, **most fires occurred again in the household sector** – 1 884, with 26 casualties and 153 injured persons. Direct material damage reached the value of 6 219.9 thous. EUR). In terms of fire statistics, **transport** shows the second greatest number of fires – 1 235, occasioning direct material damage at 6 612.7 thous. EUR, with 3 casualties and 16 injured persons. Least number of fires was recorded in the **commercial** sector, with 118 fires and direct material damage totalling 5 395.5 thous. EUR.

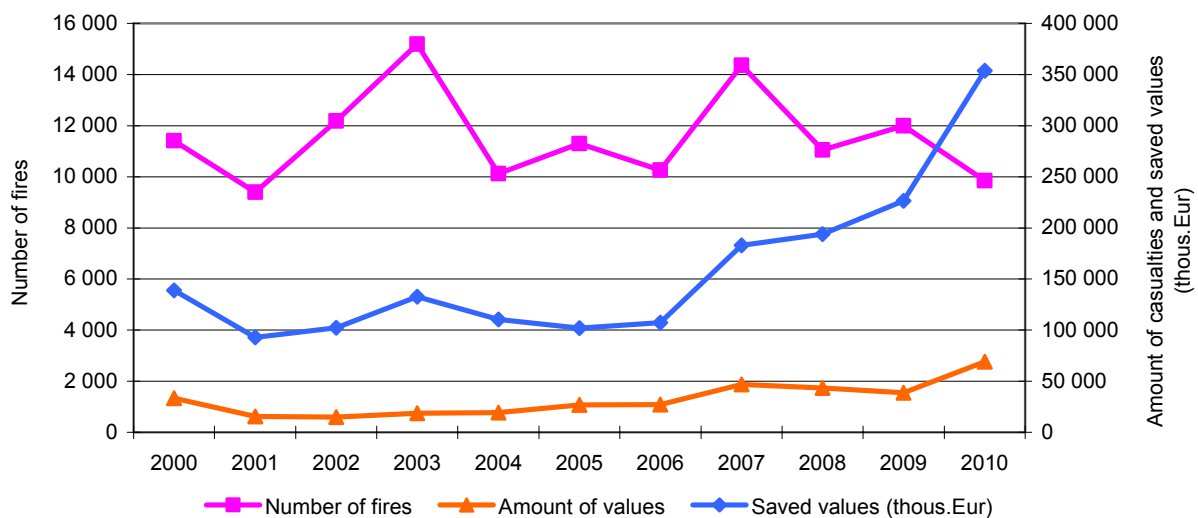
From the perspective of administrative distribution of territory, **most fires** occurred in 2010 in the Prešov region (1 711), while **least** fires were recorded in the Trenčín region (883). **Greatest damage** due to the occurrence of fires was recorded in the Bratislava region (18 982.3 thous. EUR) and the **least** in the Prešov region (1 782.3 thous. EUR).

Relationship between number of fires and number of killed or injured persons in 2000-2010



Source: FPRS Mol SR

Relationship between number of fires and number of casualties or amount of saved values in 2000-2010



Source: FPRS Mol SR

Floods

In 2010, there were 1 100 municipalities afflicted with floods, with 30 574 houses flooded (cellars and basements), 8 461 non-residential premises flooded, 92 079.7 ha of flooded agricultural land, 3 657.1 ha of flooded forestland, and 7 268.8 ha of flooded municipal land. 44 380 inhabitants felt the aftermath of the floods, including 10 085 persons who had to be evacuated.

Total cost and damages by floods in the SR in 2010 amounted to 526.31 mil. EUR, including the rescue costs of 17.93 mil. EUR, safety works of 27.53 mil. EUR, and material damage amounted to 480.85 mil. EUR.

Damage to state-owned property caused by floods totalled 241.33 mil. EUR, while damage to private property reached 48.47 mil. EUR. Damage to municipal property reached 76.54 mil. EUR and 57.7 mil. EUR in case of properties belonging to upper regional administrative areas. Damage to the property of legal and natural entities reached 57.34 mil. EUR.

Act No. 7/2010 Coll. on the protection against floods became effective in February of 2010. The Act incorporates the provisions of the Directive of the EP and of the Council 2007/60/EC on the assessment and management of the flood risks. Objective of this act is to create a framework for flood risk assessment and management in order to minimize adverse effects on the human health, environment, cultural heritage, and economic activities.

Floods aftermath over the period of 2004-2010

| Year | Number of flood stricken residential | Flooded Territories (ha) | Damages by floods (mil. Eur) | Costs (mil. Eur) | | Total costs and damages (mil. Eur) |
|------|--------------------------------------|--------------------------|------------------------------|-------------------|-----------------------------------|------------------------------------|
| | | | | Rescue activities | Maintenance and safety activities | |
| 2004 | 333 | 13 717 | 34.91 | 1.23 | 3.42 | 39.56 |
| 2005 | 237 | 9 237 | 24.03 | 2.24 | 2.67 | 28.94 |
| 2006 | 512 | 30 730 | 47.90 | 5.98 | 6.42 | 60.30 |
| 2007 | 60 | 339 | 2.49 | 0.30 | 0.21 | 3.00 |
| 2008 | 188 | 3 570 | 39.75 | 3.59 | 2.51 | 45.85 |
| 2009 | 165 | 6 867 | 8.41 | 1.59 | 1.30 | 11.30 |
| 2010 | 1 100 | 103 006 | 480.85 | 17.93 | 27.53 | 526.31 |

Source: MoA SR, MoE SR, WRI