

# **Management of Contaminated Sites in Slovakia**

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# 4 steps of Management of contaminated sites in Slovakia

## 1. Legal framework for solution of the issues of contaminated sites (investigation and remediation)

- Adoption of the amendment of the **Act No. 569/2007 Coll. on geological works** (Geological Act) – defines new terms related to contaminated sites (November 1<sup>st</sup>, 2009) and fulfils condition for using EU funds for investigation (through OPE)

## 2. Identification and registration of contaminated sites

- **Systematic identification of contaminated sites** in the Slovak Republic (2006 – 2008),
- Regional Studies of **Environmental Impacts of the contaminated sites** in Selected Regions of SR (2010)
- **Information System of Contaminated Sites** (2009 – .....)

# 4 steps of Management of contaminated sites in Slovakia

## 3. Legal framework for establishment the determining of the obliged person

- Adoption of the **Act No. 409/2011 Coll.** on certain measures in relation to contaminated sites (January 1<sup>st</sup>, 2012) – establishes the determination of obliged person (mainly private sector) and fulfils condition for using EU funds for remediation (through OPE)
- Directive of the Ministry of the Environment of the Slovak Republic No. 1/2015 – 7 of January 28, 2015 for the Risk Assessment of Contaminated Sites (2015)

## 4. Priority action programme for management of contaminated sites

- **The State remediation program of contaminated sites (2010 – 2015)**, approved by Slovak Government on March 3<sup>rd</sup>, 2010
- **The State remediation program of contaminated sites (2016 – 2021)**

# *Investigation of contaminated sites at priority sites*

*The main goal of the project is a detailed investigation of 54 contaminated sites including environmental and health risks assessment as a basis for remediation feasibility studies (contamination of soil and groundwater can cause high human or/and environmental risk)*

- *Project duration: 2011 – 2015*
- *Budget allocation: 8, 639, 553 €*
- *Budget source: Operational program “Environment”*
- *Responsibility: Ministry of Environment of the SR*

# *Investigation of potentially contaminated sites*

*The main goal of the project is a detailed geological survey of 87 potentially contaminated sites including environmental and health risks assessment (remediation feasibility studies)*

- *Project duration: 2013 – 2015*
- *Budget allocation: 9, 760, 350 €*
- *Budget source: Operational program “Environment”*
- *Responsibility: Ministry of Environment of the SR*

## *Remediation of Contaminated Sites at Priority Sites*

- *Project duration: 2014 – 2015*
- *Budget allocation: 48 mil. €*
- *Budget source: Operational program “Environment”*
- *19 contaminated sites*
- *Responsibility: Ministry of Environment of SR*



## *Monitoring of contaminated sites at priority sites in the Slovak Republic*

*The main goal of the project is to set up a monitoring system for high and medium-risk contaminated sites*

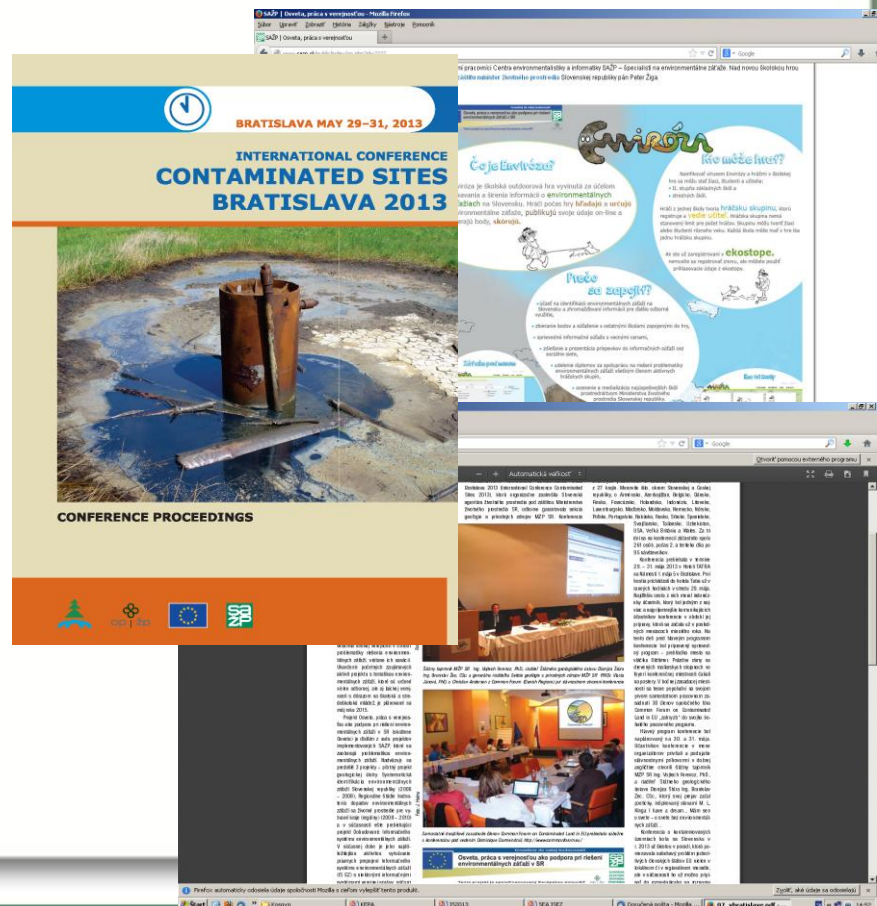
- *Project duration: 2012 – 2015*
- *Budget allocation: 8 mil.€*
- *Budget source: Operational program “Environment”*
- *State remediation program of contaminated sites (2010 – 2015)*
- *161 localities (REG B or REG A (landfills, industrial areas, military sites, railway station, storages of pesticides...))*
- *Responsibility: State Geological Institute od Dionyz Stur*



# Awareness: Working with the Public to Facilitate the Handling of Environmental Contamination in Slovakia

*The main goal of the project is to increase the public awareness in matters of contaminated sites, including their remediation*

- Project duration: 2012 – 2015
- Budget allocation: 419, 716 €
- Budget source: Operational program “Environment”
- 2 international conferences, workshops, films, programme for schools, leaflets, publications
- Responsibility: SEA

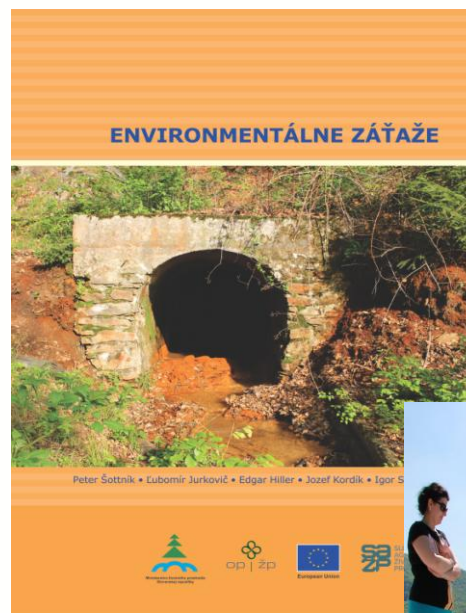




# *Involving the public in addressing contaminated sites*

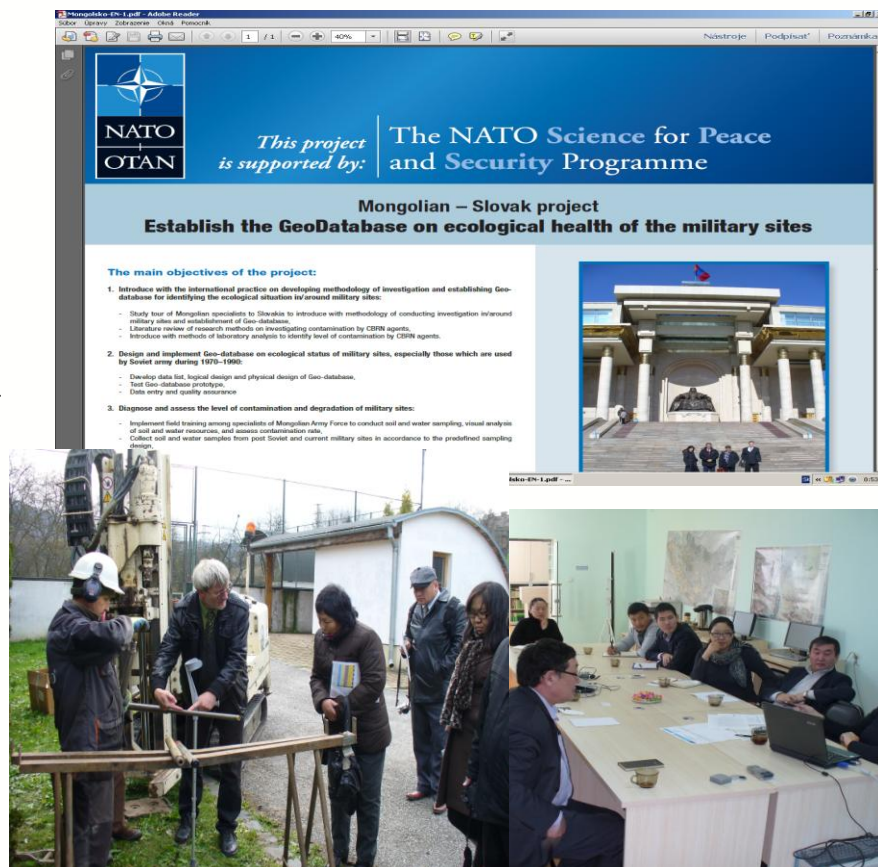
*The main goal of the project is aimed at promoting and raising public awareness of contaminated sites in Slovakia*

- ***Project duration: 2014 – 2015***
- ***Budget allocation: 239,694 €***
- ***Budget source: Operational program “Environment”***
- ***international conference, workshops, programme for schools, publication – monograf on contaminated sites, training courses for university lectures and doctoral postgraduates, students, training course for teachers, translation of legislation***
- ***Responsibility: SEA***



# *Establish the GeoDatabase on ecological health of the military sites*

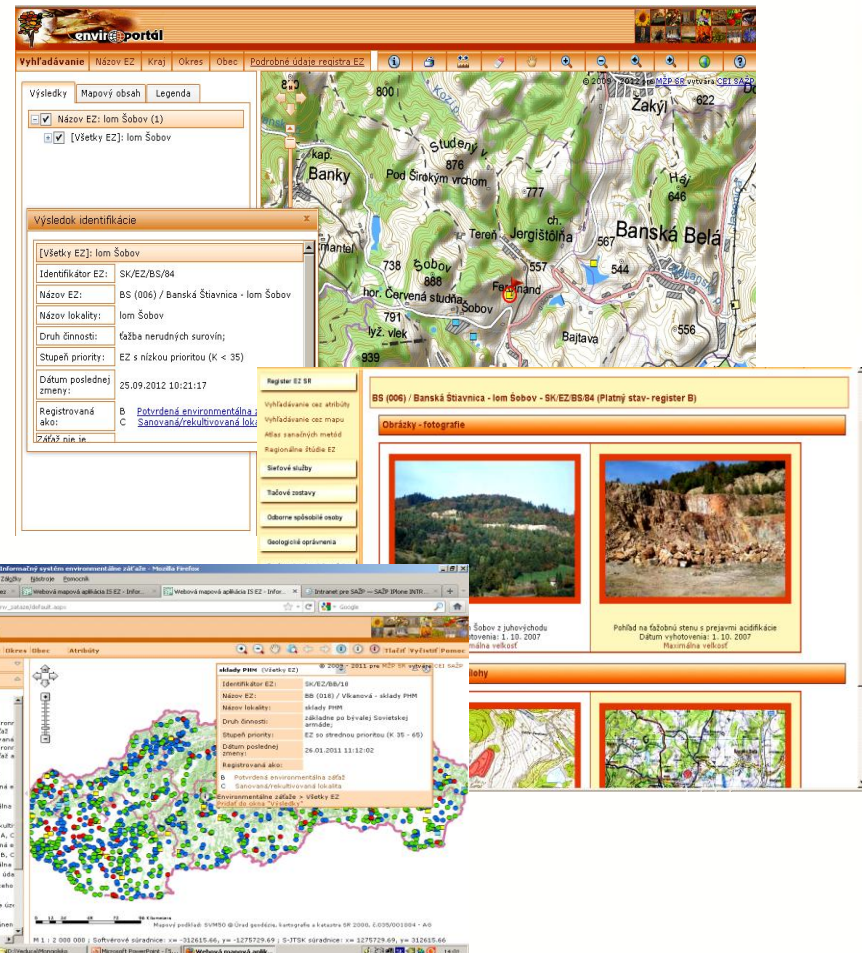
- *Introduce with the international practice on developing methodology of investigation and establishing GeoDatabase for identifying the ecological situation in/around military sites*
- *Design and implement GeoDatabase on ecological status of military sites, especially those which are used by Soviet army during 1970-1990*
- *Diagnose and assess the level of contamination and degradation of military sites*
- *Develop scientific justifications for decontamination and rehabilitation of degraded military sites*
- *Project duration: 2013 – 2015*
- *Budget source: NATO*
- *Responsibility: SEA*



# Development of Information System of Contaminates Sites

*The main goals of the project is the upgrade of the Information System of Contaminated Sites, its interconnection with other Information Systems (registers, databases) and educational campaign on contaminated sites*

- Project duration: 2009 – 2014
- Budget allocation: 922,773 €
- Budget source: Operational program “Environment”
- Interface with 13 databases
- 32 workshops
- Responsibility: SEA





## *Information System of Contaminated sites*

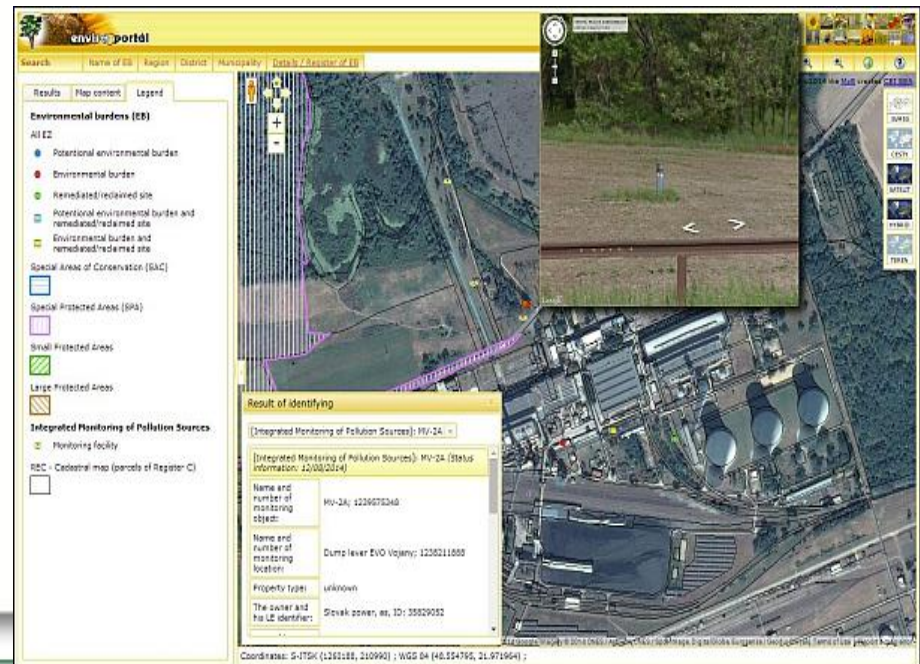
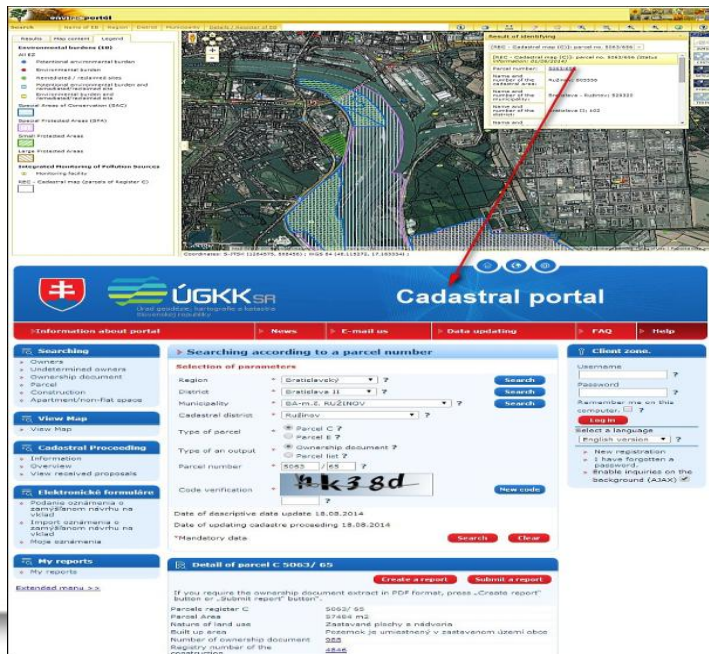
- **Register of contaminated sites** 1892 sites
  - **REG A** - probable contaminated sites (900)
  - **REG B** – contaminated sites (279 sites)
  - **REG C** - remediated sites (784 sites)
- **Registers of professional competence, geological licenses**
- **Atlas of Remediation Methods for Contaminated Sites**

# *Information System of Contaminated sites*

- **Integrated monitoring of pollution sources** (administrator: Water Research Institute)
- **Register of landfills sites** (administrator: State Geological Institute of Dionýz Štúr)
- **Geofond** (administrator: State Geological Institute of Dionýz Štúr)
- **Partial Monitoring System - Anthropogenic sediment character of old environmental burdens** (administrator: State Geological Institute of Dionýz Štúr)
- **Information system for Monitoring of Contaminated Sites** (administrator: State Geological Institute of Dionýz Štúr)
- **National list of specially protected areas - part of protected areas** (administrator: State Nature Conservancy of the Slovak Republic)
- **State the list of specially protected areas - part of protected trees, Database of protected territories of EU Member States - NATURA 2000, Register Ramsar wetland sites, UNESCO sites and Biosphere Reserves** (administrator: State Nature Conservancy of the Slovak Republic)
- **Professional Technical and Safety Supervision over the Dams and other Water Construction in Slovakia** (administrator: Watermanagement Construction, s. e.)
- **Partial Monitoring System - Soils** (administrator: Research Institute of Soil Science and Protection)
- **Information system for Preventing Major Industrial Accidents** (administrator: SEA)
- **Information system for the Mining Waste Management** (administrator: SEA)

# Information System of Contaminated sites

- **Basic spatial register and large scale maps:**
- Digital orthophoto maps of the Slovak Republic and detailed panoramic images of streets and roads of the Slovak Republic (Google Slovakia Ltd.)
- Digital vector cadastral maps (Geodetic and Cartographic Institute, Bratislava)





## *The Enviróza School Programme – A Successful Example of Involving the Public in Addressing Contaminated Sites in Slovakia*

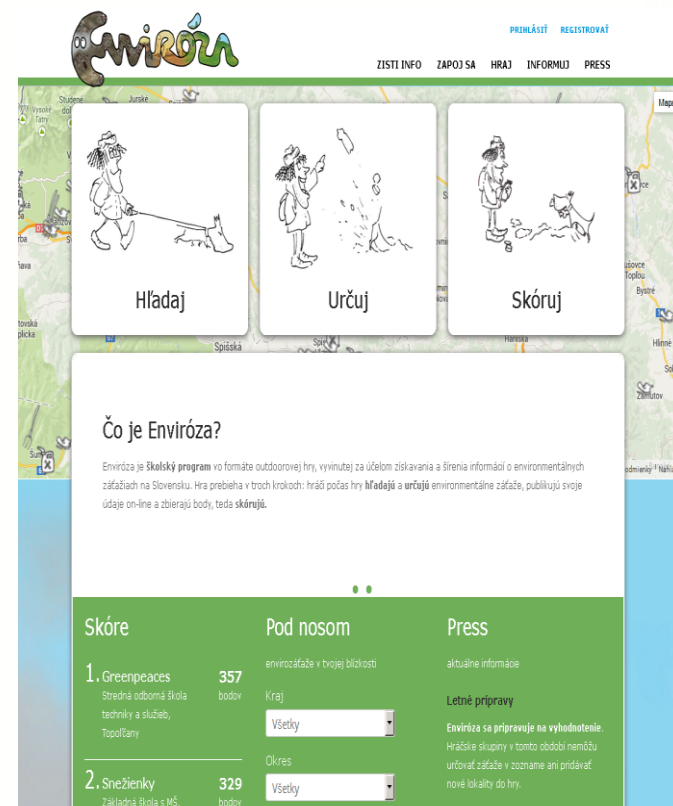
***Enviróza (Enviro-sis) is a school programme and outdoor game designed to gather and spread information on contaminated sites in Slovakia***

(is a source of information and topics for incorporating the issue of contaminated sites into the teaching of various school subjects, including mathematics, information technology, biology, chemistry, Slovak art and civics)



# The Enviróza School Programme

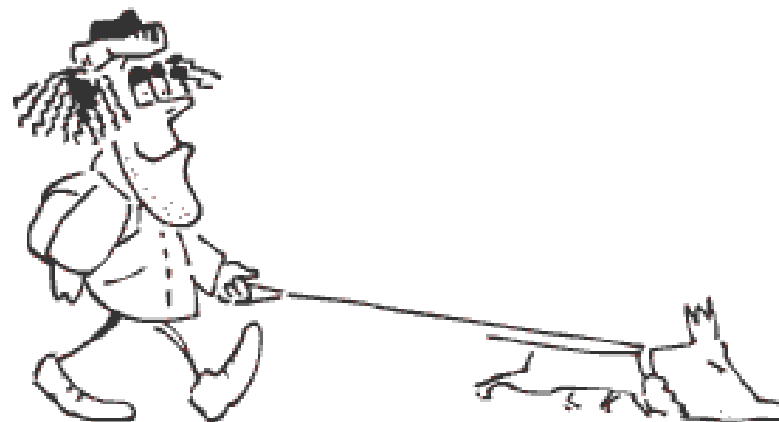
- *taking interest in the natural world and events within it actively shaping and protecting the environment*
- *acquiring information on the environment and its components through first-hand observations in the field*
- *understanding the environmental factors that influence our lives*
- *actively taking part in public affairs*
- *working with maps and orientation*
- *using information/communication technology and media*
- *working with information, reading comprehension and using acquired information*
- *understanding graphs, diagrams and charts*
- *creativity, critical thinking and expressing their own opinion*
- *written expression*
- *self-actualisation and self-presentation*
- *cooperation*





# 1. Seek!

Select contaminated sites from  
a list and locate them via map,  
GPS or smartphone



# List of contaminated sites

## Classes

1. Landfill sites
2. Dunghills
3. Petrol stations
4. Industry  
and mininig areas



## Types

1. Conventional
2. Mystery
3. Unidentified
4. Series
5. School-identified



[Druhy EZ](#)[Typy EZ](#)[Mapa EZ](#)

## SKLÁDKA ODPADU



- [Druh činnosti](#)
- [Stav environmentálnej záťaže](#)
- [Prírodné podmienky](#)
- [Fotogaléria](#)
- [Bezpečnosť](#)
- [Kritériá pre novú EZ](#)



## HNOJISKO

- [Druh činnosti](#)
- [Stav environmentálnej záťaže](#)
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## ČERPACIA STANICA POHONNÝCH HMÔT (PHM)

- [Druh činnosti](#)
- [Stav environmentálnej záťaže](#)
- [Prírodné podmienky](#)
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## PRIEMYSEL A ŤAŽBA NERASTNÝCH SUROVÍN (NS)

- [Druh činnosti](#)
- [Stav environmentálnej záťaže](#)
- [Prírodné podmienky](#)
- [Fotogaléria](#)
- [Bezpečnosť](#)
- [Kritériá pre novú EZ](#)





**Pesticides storages**





Sludge lagoons



## 2. Identify!

Register data  
on contaminated site right in  
the field via **ID form**

- type/class of activity,
- actual state of the area,
- natural conditions.







### 3. Score!

Publish data on  
contaminated sites (CS)  
**on-line** and collect points



Gymn. J. F. Rimavského, Kláštorská 37, Levoča

Študenti GJFR






### Členovia skupiny

- Beáta Prochádzková - pedagóg
- Dárius Poklemba, sexta
- Nikola Pirščová, sexta
- Barbora Justová, sexta
- Júlia Jankovčinová, sexta
- Miriam Gajdošová, sexta
- Michal Urban, kvarta

**Celkový počet bodov: 21**

### Environmentálne záťaž

Názov	Lokalizácia	Druh	Typ	Body
skládka Dlhé Stráže	Prešovský kraj, okres Levoča, obec Levoča	skládka komunálneho odpadu - zariadenia na nakladanie s odpadmi		?
Nad tehelňou	Prešovský kraj, okres Levoča, obec Levoča	skládka komunálneho odpadu - zariadenia na nakladanie s odpadmi, hnojisko - poľnohospodárska výroba		3
Polhá	Prešovský kraj, okres Levoča, obec Levoča	skládka komunálneho odpadu - zariadenia na nakladanie s odpadmi, hnojisko - poľnohospodárska výroba		3
Skóre				15



## 4. Inform!

Inform people about contaminated sites through the accompanying activities –

Photo-contaminated site, Infoška and Sci-Fi competitions

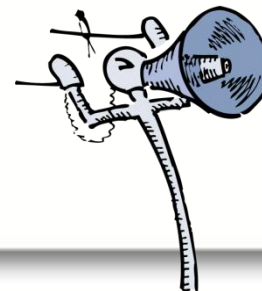
**Fotozáťaž**



**Sci-fi**



**Infoška**






## The Enviroza School Programme



**www.enviroza.sk**

**METODICKÁ PRÍRUČKA**

Všetky informácie o hre nájdete na portáli [www.enviroza.sk](http://www.enviroza.sk).  
Ak potrebujete vyplniť na hru potrebné formuláre na [www.enviroza.sk](http://www.enviroza.sk).

### Aky to má zmysel?

Značenie životnej prostredia je pre nás každodennou realitou. Je ako časová bomba, ktorá môže kúbiť chvilu, vybuchnúť a zmeniť celú našu budúcnosť. Každý z nás má svoju úlohu v tomto procese. Každý z nás má svoju úlohu v tomto procese. Každý z nás má svoju úlohu v tomto procese.

### Zoznam environmentálnych záŕaží

Zoznam záŕaží, ktoré sú podľa zákona o životnom prostredí považované za záŕaže. Každá záŕaď je rozdelená na dve kategórie: záŕaď, ktoré sú pod kontrolou štátu, a záŕaď, ktoré sú pod kontrolou obcí.

### Variety hry

Hru môžete hrať na dvoch úrovniach: na úrovni školy a na úrovni obce. Každá úroveň má svoje vlastné pravidlá a podmienky.

Úroveň	Typ
1. Základná škola	1. Základná
2. Stredná škola	2. Stredná
3. Vyššia odborná škola	3. Vyššia
4. Vysoká škola	4. Vysoká

### Identifikačný formulár

Identifikačný formulár, ktorý je potrebný na začiatok hry. Každá škola musí vyplniť tento formulár a priložiť k nemu potrebné dokumenty.

### Informácie

Ďalšie informácie o hre a o možnostiach účasťi nájdete na portáli [www.enviroza.sk](http://www.enviroza.sk).

**Pre učiteľa**

Po prihlásení na portáli môžete hrať ako učiteľ. Každá škola musí mať aspoň jedného učiteľa, ktorý bude spravovať hru.

- **Prílohy** - všetky potrebné dokumenty, ktoré sú potrebné na začiatok hry.
- **Pravidlá** - pravidlá hry, ktoré sú potrebné na začiatok hry.
- **Dokumenty** - dokumenty, ktoré sú potrebné na začiatok hry.

**www.enviroza.sk**



**www.enviroza.sk**

**PRACOVNÉ LISTY PRE  
ZÁKLADNÉ A STREDNÉ  
ŠKOLY**





# Thank you for your attention !

