

WASABY ENVIRONMENT

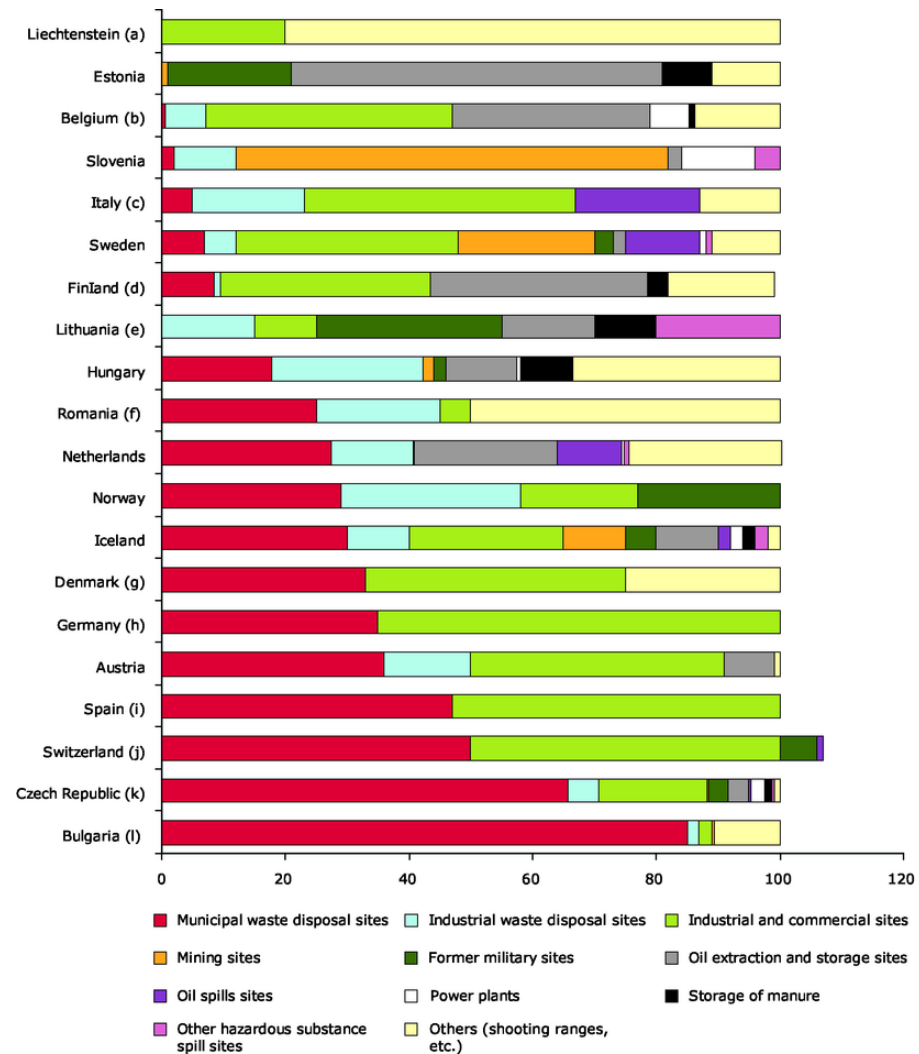
WP 7

polluted sites

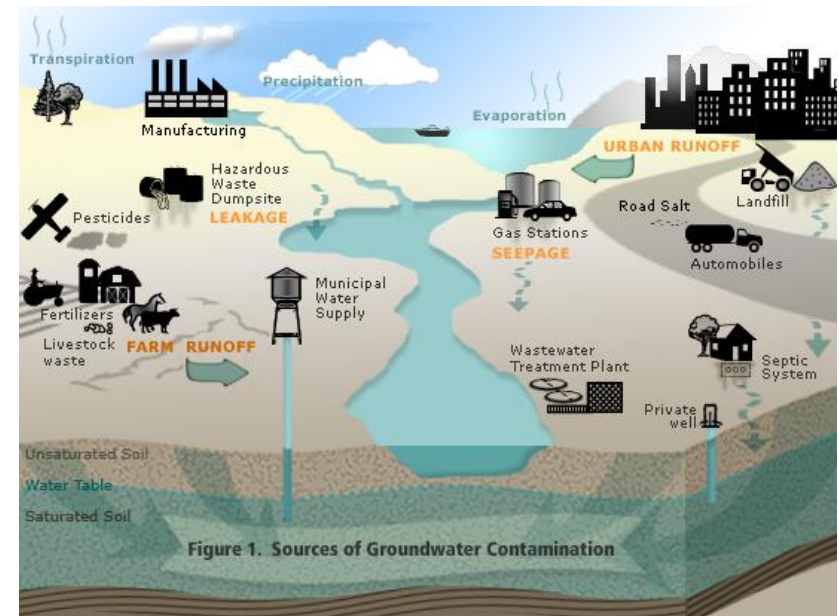


PREMISE

All data on polluted sites, useful to implement WASABY ENVIRONMENT, should be collected through international, national and regional databases, or scientific literature, depending on the availability of data sources.



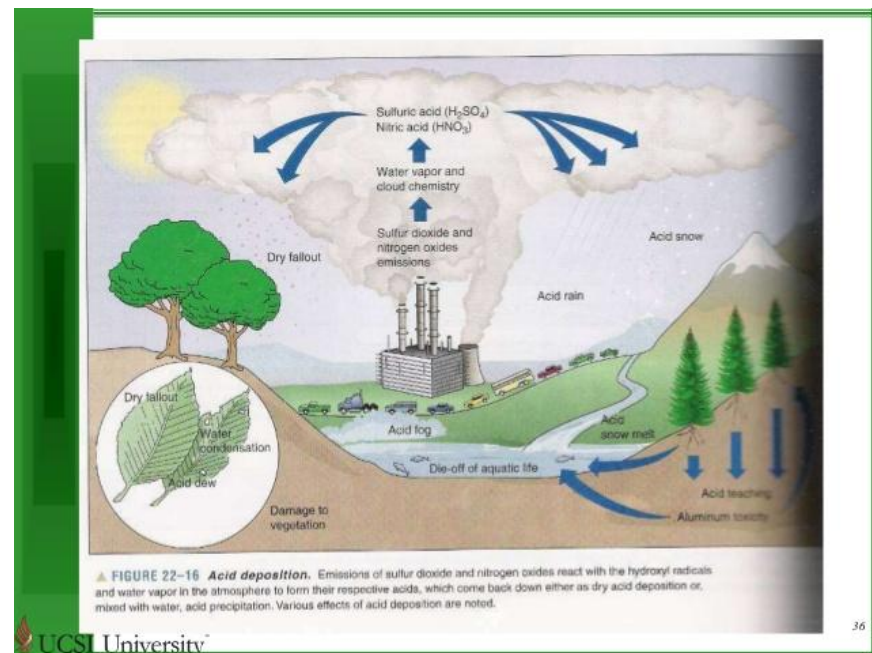
A chemically polluted site is a portion of a landscape where the concentration of one or more toxic chemicals is higher than the background contamination of the surrounding area. A comparison between a polluted site and the background contamination provides a good measure of the environmental (soil and water) deterioration of a polluted site.



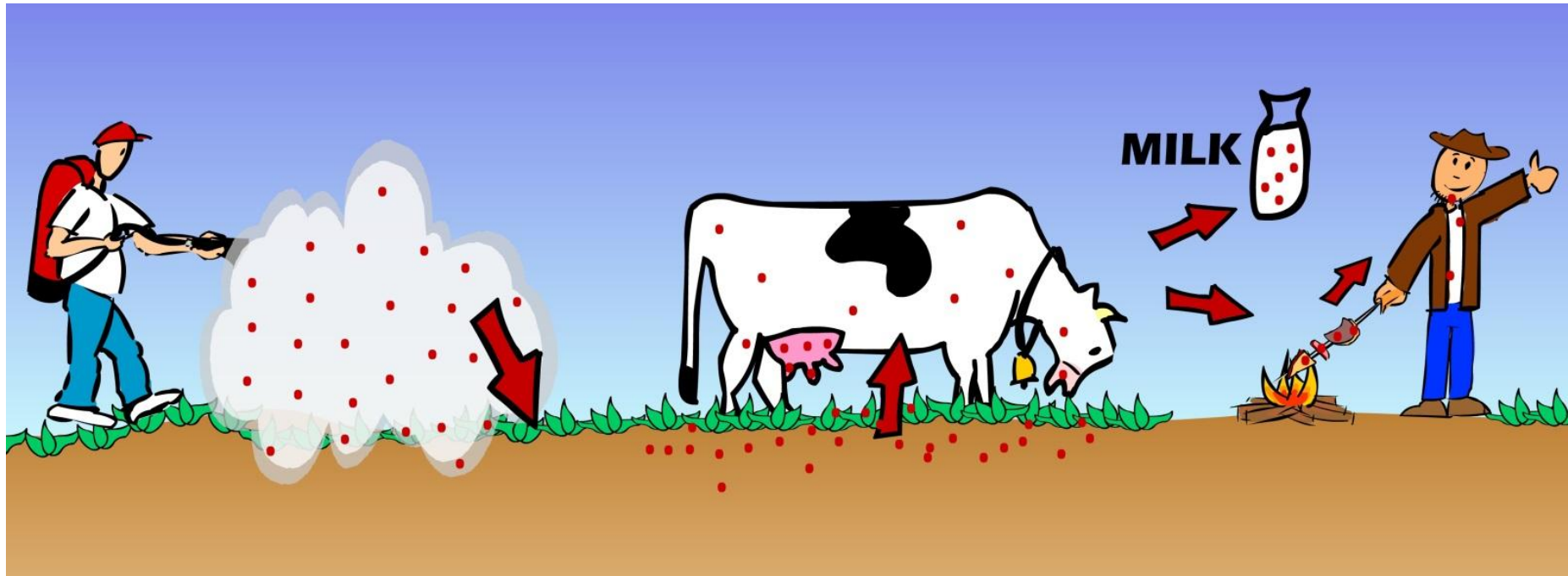
Usually, in a polluted site there is a wide range of pollutants released by various industrial, urban and agricultural sources. However, many toxic chemicals can have a natural origin (eg: heavy metals).



Many toxic chemicals of polluted sites can occur as a result of air pollutants that fall out as dry or wet atmospheric depositions and settle into soils and water bodies. However, direct discharges from agricultural, urban or industrial activities are common.



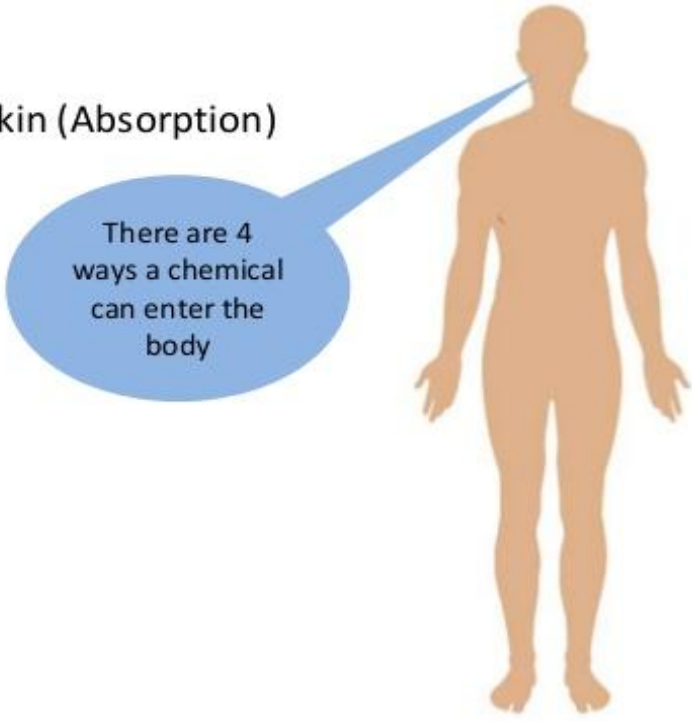
Pollutants can be bio-accumulated by land and water organisms and biomagnified through the food chains, thereby posing potential harmful effects to human health and environmental safety.



Human exposure to toxicants of polluted sites occurs through air inhalation, drinking water, food consumption, skin absorption and other less common ways.

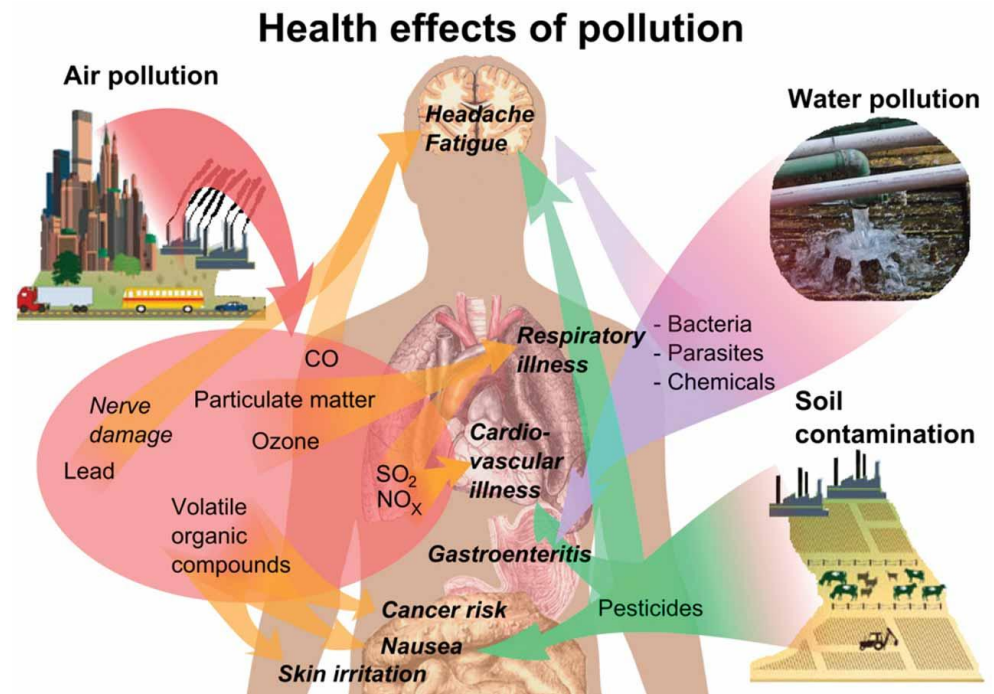
CHEMICAL EXPOSURE ROUTES

1. Inhalation
2. Direct Contact with Skin (Absorption)
3. Ingestion
4. Injection



There are 4 ways a chemical can enter the body

Carcinogenic and other toxic outcomes linked to the exposure to polluted sites are not easily predictable because the health effects of pollutants can be influenced by other factors.

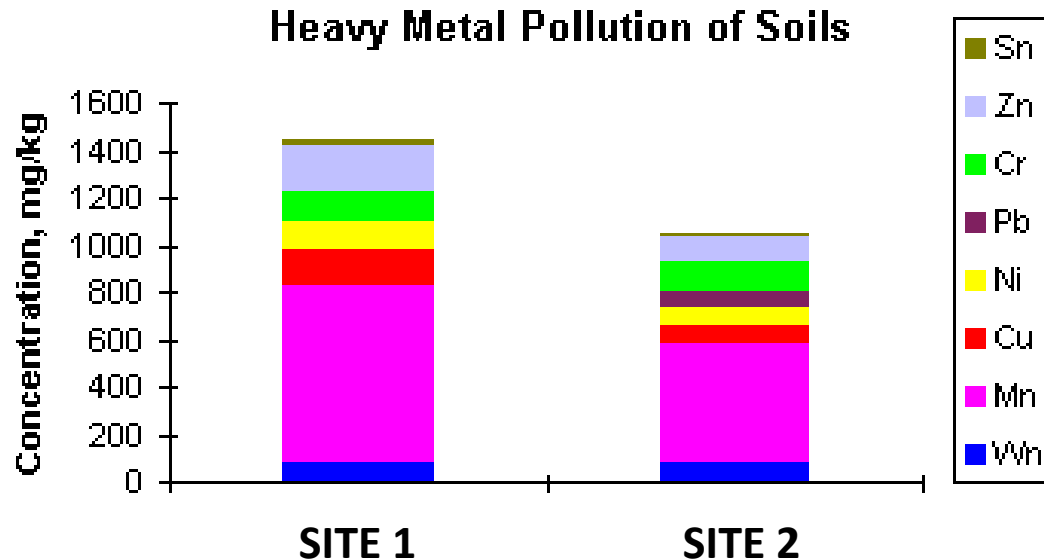
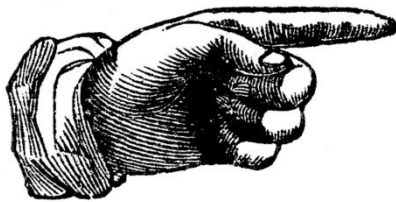


What we know is that an improved understanding of the chemical contamination of many sites is crucial both to prevent human cancers (at a community level) and to promote food security and ecological sustainability.



Often contaminants of polluted sites exist in complex mixtures composed of many singular chemicals. This awareness suggests to focus on the “pollution profiles”. A pollution profile is the qualitative and quantitative composition of a chemical mixture that characterizes the contamination of a given site.

Please Notice This



Target pollutants of WASABY

(Data collected from databases and other sources)

- Polychlorinated biphenyls (PCBs);
- Organochlorine pesticides;
- Dioxins;
- Polycyclic aromatic hydrocarbons (PAHs);
- Perfluoroalkylated substances (PFAs);
- Triazines;
- Heavy metals.





POTENTIAL AIMS (A PROPOSAL)

- 1) Clarifying the characteristics and spatial distribution of pollutants in some European polluted sites;
- 2) Comparing chemical contamination in polluted sites and surrounding areas (background contamination);
- 3) mapping and assessing the environmental health status of some European polluted sites;
- 4) identifying the potential sources of pollution by gathering information on the productive history of polluted sites;
- 5) defining the potential chemical profiles in polluted sites linked to carcinogenic risk.

