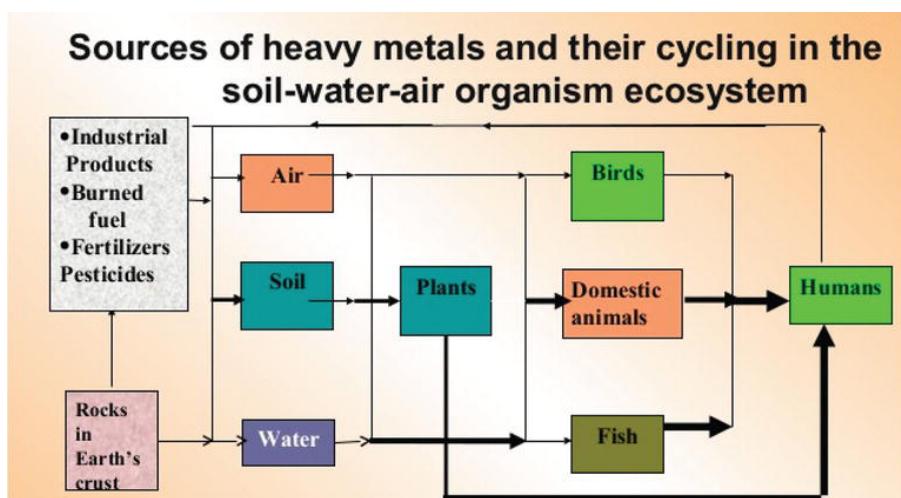


# Heavy Metals in Stormwater

## What are Heavy Metals? Where do they come from?

Heavy metals are characterized as metals having a density 5x higher than water and an atomic weight greater than 20 atomic mass units. Essentially, these metals do not break down in the environment and stay in their natural form. Heavy metals can be introduced to stormwater via several ways including vehicle exhaust, mining, construction, and other industrial activities. If not properly managed, stormwater can then carry those metals to local freshwater sources or settle into soil. Stormwater is referred to as a non-point source of pollution, because it contains contaminants that come from multiple, ambiguous sources. Due to their density and toxicity, heavy metals are extremely difficult and expensive to remove from the environment. To ensure that heavy metals do not enter stormwater, proper maintenance and guidelines must be followed by construction, mining, and industrial sites.



The most common heavy metals that are known to have adverse health effects are Arsenic, Cadmium, Chromium, Mercury, and Lead. The column on the right lists some possible human and aquatic health outcomes that can arise from exposure to each metal.

### Arsenic

Carcinogenic  
Possible links to cardiovascular disease

### Cadmium

Pulmonary and gastrointestinal irritant  
Possible Carcinogen

### Chromium

Carcinogen  
Teratogen  
Mutagen

### Mercury

Bioaccumulates in humans and fish

### Lead

Highly toxic to humans and aquatic life

### Copper

Toxic to Phytoplankton  
Toxic to certain fish species

## How can you identify metals in water?

- If the water you're examining has a blue/green tint, Copper may be in the water.
- If you notice that the water has an orange or yellow tint, it may contain Iron.
  - Note: Iron-containing water is not a health hazard.
- If you notice that the water source is near a construction, mining, or industrial site, it may contain metals.

## Citations

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