

# Water pollution



- Greece, Spain and Germany have the cleanest coastal waters.



- Asian rivers are the most polluted in the world.
- Lithuania and Estonia have the dirtiest coastal waters.
- The Sarno (Italy) is the most polluted river in Europe



"Man is a complex being; he makes the deserts bloom and lakes die."  
— *Gil Stern*

- *Pesticides are carried in rainwater from farm fields, suburban lawns, or roadside embankments into creeks.*
- *Results:*
  - *affect and damage the nervous system;*
  - *cause liver damage;*
  - *damage DNA and cause a variety of cancers;*
  - *cause reproductive and endocrine damage;*
  - *cause other acutely toxic or chronic effects.*

"Society, my dear, is like salt water, good to swim in but hard to swallow."  
— *Arthur Stringer, author, The Silver Poppy*

- **Mercury** comes through air pollution from industrial plants. In the water, the elemental mercury is converted to **methylmercury** by certain bacteria, after which it moves into food through a fish.
- Young children and fetuses (плод) are most at risk because their systems are still developing.
- Mercury causes neurological problems, including slower reflexes, learning deficits, delayed or incomplete mental development, autism, and brain damage.
- Mercury for adults is also a problem, causing:
  - central nervous system effects like Parkinson's disease, multiple sclerosis, and Alzheimer's disease (разновидность пресенильного слабоумия);
  - heart disease;
  - death or irreversibly damaging areas of the brain.

# *PCBs, Dioxins, and Other POPs*

- PCBs polychlorinated biphenyl - пхд  
полихлорированные дифенилы
- dioxins - poisonous chemical by-products of the manufacture of certain herbicides and bactericides
- POP - persistent organic pollutants tend to collect in the fatty tissues of animals.

# Control of water pollution

- In urban areas, domestic sewage is typically treated by centralized sewage treatment plants. Plants are designed to control conventional pollutants(обычные загрязнит. в-ва)  
Well-designed systems can remove 90% or more of these pollutants.



# Industrial Wastewater Treatment

- Some of these facilities remove the toxic components, and then send the partially-treated wastewater to the municipal



Dissolved air flotation system for treating industrial wastewater.

# Agricultural Wastewater Treatment

- Sediment (loose soil) washed off fields is the largest source of agricultural pollution
- Nutrients are typically applied to farmland as commercial fertilizer, materials left after the crop has been harvested, water irrigation, wildlife



# Urban runoff (stormwater-ливневая вода)

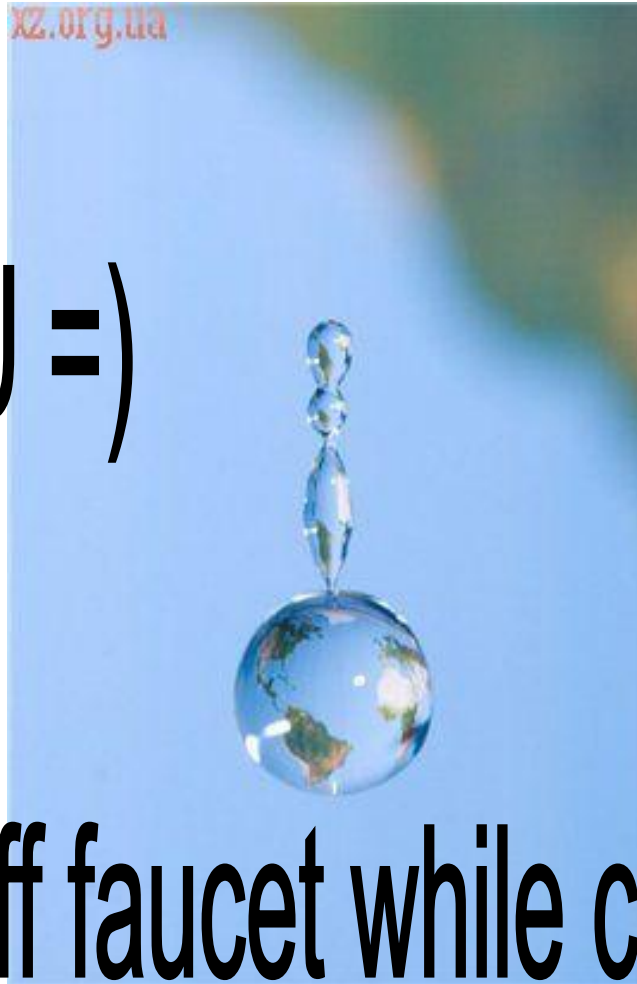
- Effective control of urban runoff involves reducing flow of stormwater, as well as reducing pollutant discharges. Local governments use techniques (BMPs-best management practices) to reduce the effects of urban runoff : filters, clarifiers, biological reactors





Think about Water!!!

Thank YOU =)



turn off faucet while cleaning teeth