

Chapter 11, Section 3: Water Pollution  
**DAY THREE**

**Water Pollution**

- \_\_\_\_\_ is the introduction  
\_\_\_\_\_ into water that is harmful to organisms living in the water or to those that drink or are exposed to the water.
- However, the two underlying causes of water pollution are \_\_\_\_\_.

**Water Pollution**

- In developing parts of the world, water pollution is a big problem because often the only water available for drinking in these countries is polluted with \_\_\_\_\_, which can spread waterborne diseases.
- Water pollution comes from two types of sources:  
\_\_\_\_\_.

**Point-Source Pollution**

- \_\_\_\_\_ is pollution that comes from a specific site.

**Nonpoint-Source Pollution**

- \_\_\_\_\_ is pollution that comes from many sources rather than from a single specific site.
- An example is pollution that reaches a body of water from \_\_\_\_\_.
- Controlling nonpoint-source pollution depends to a great extent on \_\_\_\_\_ of the effects of activities such as spraying lawn chemicals.

**Wastewater**

- \_\_\_\_\_ is water that contains wastes from homes or industry.
- At a wastewater treatment plant, water is \_\_\_\_\_ to make the water clean enough to return to a river or lake.

**Treating Wastewater**

- Most of the wastewater from homes contains \_\_\_\_\_ that can be broken down by living organisms.

**Sewage Sludge**

- One of the products of wastewater treatment is \_\_\_\_\_, the solid material that remains after treatment.
- Sludge can be an \_\_\_\_\_ to cities as the volume of sludge that has to be disposed of every year is enormous.

## Sewage Sludge

- If the toxicity of sludge can be reduced to safe levels, it can be used as a \_\_\_\_\_.

## Artificial Eutrophication

- Most nutrients in water come from \_\_\_\_\_, such as leaves and animal waste that is broken down into mineral nutrients by decomposers such as bacteria and fungi.
- Nutrients are an essential part of any aquatic ecosystem, but when lakes and slow-moving streams contain an abundance of nutrients, they are \_\_\_\_\_.

## Artificial Eutrophication

- Eutrophication is a \_\_\_\_\_
- When organic matter builds up in a body of water, it will begin to \_\_\_\_\_.

## Artificial Eutrophication

- The natural process of eutrophication is accelerated when inorganic plant nutrients, such as \_\_\_\_\_, enter the water from sewage and fertilizer runoff.
- \_\_\_\_\_ is a process that increases the amount of nutrients in a body of water through human activities, such as waste disposal and land drainage.
- The major causes of eutrophication are \_\_\_\_\_ in some laundry detergents.

## Artificial Eutrophication

- \_\_\_\_\_ is a plant nutrient that can cause the excessive growth of algae.
- In bodies of water polluted by phosphorus, algae can form large floating mats, called \_\_\_\_\_.

## Thermal Pollution

- \_\_\_\_\_ is a temperature \_\_\_\_\_ in a body of water that is caused by \_\_\_\_\_ and that has harmful effect on water quality and on the ability of that body of water to support life.
- Thermal pollution can occur when \_\_\_\_\_ and other industries use water in their cooling systems and then discharge the warm water into a lake or river.

## Thermal Pollution

- Thermal pollution can cause \_\_\_\_\_ if the discharged water is too warm for the fish to survive.
- As oxygen levels \_\_\_\_\_, aquatic organisms may \_\_\_\_\_.

## Groundwater Pollution

- Pollutants usually enter groundwater when polluted surface water \_\_\_\_\_ down from the Earth's surface.
- \_\_\_\_\_ products are common groundwater pollutants.

## Groundwater Pollution

- \_\_\_\_\_ are another major source of groundwater pollution because as they age, they may develop leaks that allow pollutants to seep in to the groundwater.

## Cleaning Up Groundwater Pollution

- Groundwater pollution is one of the \_\_\_\_\_ problems in the world.

## Ocean Pollution

- But at least \_\_\_\_\_ percent of ocean pollution, including pollutants such as \_\_\_\_\_ comes from activities on land, near the coasts.

## Oil Spills

- Ocean water is also polluted by accidental oil spills. Each year, about \_\_\_\_\_ from tanker accidents are spilled into the ocean.
- Such oil spills have dramatic effects, but they are responsible for only about \_\_\_\_\_ in the oceans.
- Water Pollution and Ecosystems

## Water Pollution and Ecosystems

- Water pollution can cause immediate damage to an ecosystem, but the effects can be far reaching as some pollutants build up in the environment because they do not decompose quickly.
- \_\_\_\_\_ is the accumulation of pollutants at successive levels of the food chain.
- Biomagnification has alarming consequences for organisms at the top of the food chain, and is one reason why U.S. states \_\_\_\_\_ of fish people can eat from certain bodies of water.

## Cleaning Up Water Pollution

- \_\_\_\_\_ was to designed to “restore and maintain the chemical, physical, and biological integrity of the nation's waters.”
- The percentage of lakes that are fit for swimming has increased by \_\_\_\_\_, and many states have passed stricter water-quality standards.

## Cleaning Up Water Pollution

- For example, the \_\_\_\_\_ strengthened the laws against ocean dumping.
- Also, the \_\_\_\_\_ requires all oil tankers traveling in U.S. waters to have double hulls by 2015 as an added protection against oil spills