CHAPTER 22.4, CONSERVATION

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WHAT IS CONSERVATION?

Consersation is the process of looking after the natural environment. Conservation attemps to maintain or increase the range of different species living in an area, known as biodiversity. We have been that one of the greatest threats to biodiversity is the loss of habitat. Each species of living organism is adapted to live in a particular habitat. If this habitat is destroyed, then the species may have nowhere else to live, abd will become extinct.

SUSTAINABLE RESOURCES

- Sustainable resources is one which can be removed from the environment without it running out. For example, fish is the sea could be a sustainable resource, as long as we do not take so many that their populations fall to dangerously low levels.

- Unfortunately, many of the resources that we take from the earth are not sustainable. Fossil fuels are a good example of a non-sustainable resources. These fossil fuels cannot be replaceed. Pnce we use them, they are gone for ever.

RECYCLING

- **RECYCLING GLASS**

Glass is non-sustainable resource.Making new glass involves heating these chemicals to very high temperatures.It releases a lot of carbondioxide.Used glass can be crushed, melted at high temperatures, and then used to make new glass objects. This releases much less carbon dioxide than making new glass.

- **RECYCLING PLASTICS**

Plastics are made from fossil fuels. If we can reuse plastic objects, such as bottles, that will reduce the amount of fossil fuels. Used plastic, for example, can be used to make fleece clothing, packaging and many other items.

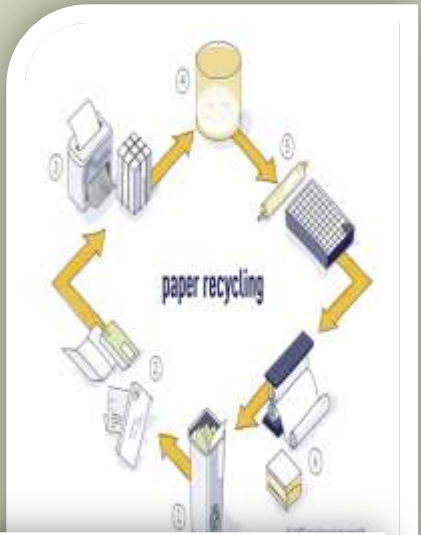
RECYCLING PT2

- **RECYCLING PAPER**

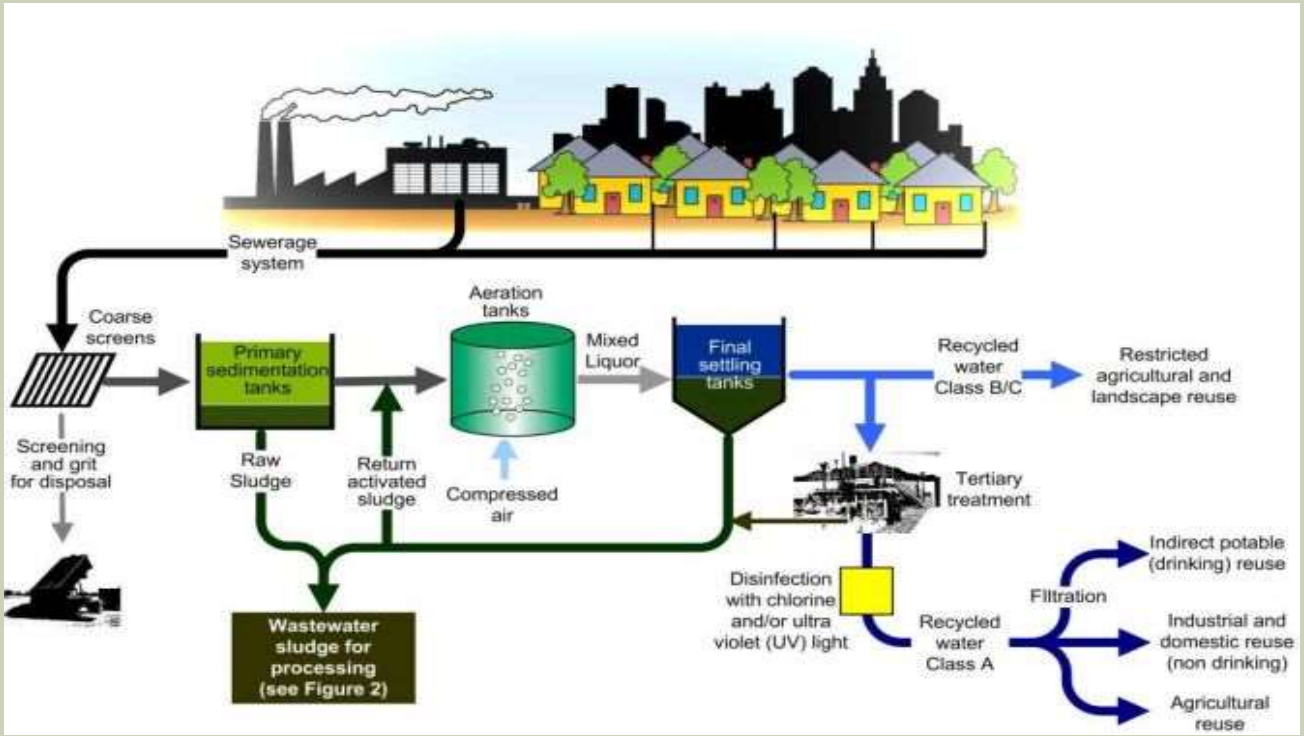
Paper is made of cellulose fibres from plants, usually trees. Waste paper can be mixed with water and chemicals that break it down to form a pulp. This is passed through filters that remove any glue that may have been stuck to it and then treated to remove the printing ink from it. This leaves clean cellulose fibres, which can be made into a new paper.

- **RECYCLING METALS**

Mining metal ores uses a lot of energy and damages habitats. Most metals can be recycled. Recycling aluminium saves 95% of the energy that would be used in mining aluminium ore and extracing aluminium metal from it.

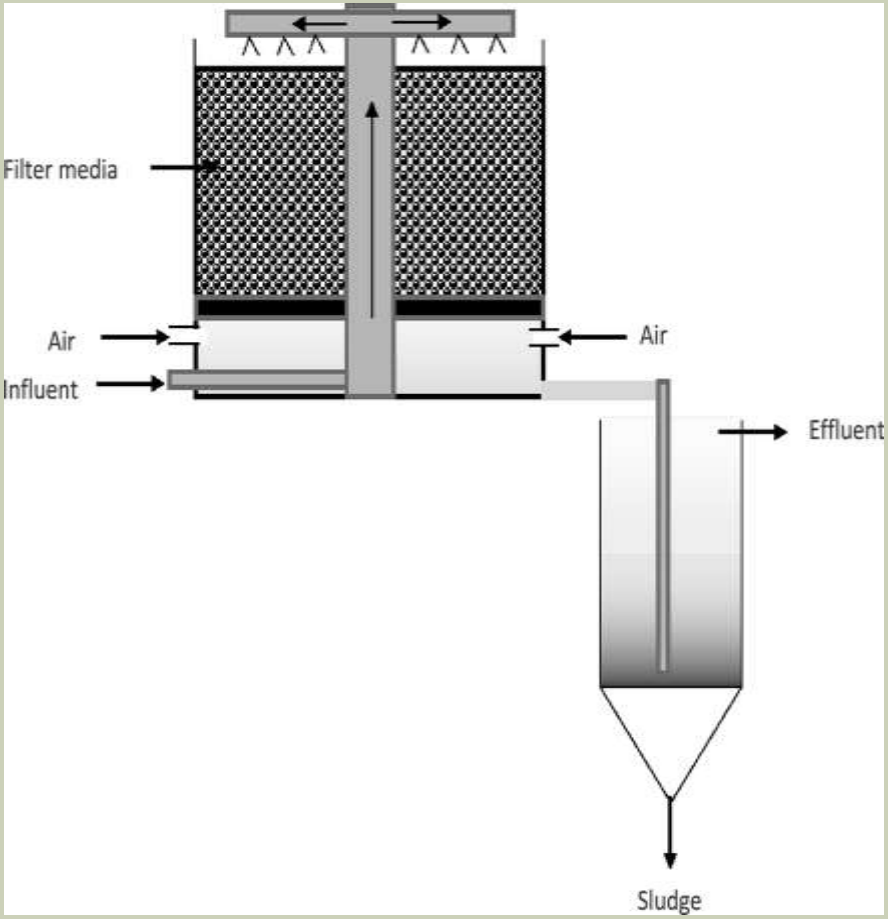


SEWAGE TREATMENT



Sewage treatment is the process of removing contaminant from municipal wastewater containing mainly household sewage plus some industrial wastewater. Physical, chemical, and biological processes are used to remove contaminants and produce treated wastewater that is safe enough for release into the environment. A by-product of sewage treatment is a semi-solid waste or slurry, called **sewage sludge**.

TRICKLING FILTERS



A **trickling filter** is a type of wastewater treatment system. It consists of a fixed bed of rocks, coke, polyurethane foam, sphagnum peat moss.

The liquid is trickled onto the surface of the stones through holes in a rotating pipe. This makes sure that ar gets mixed in with the liquid. The liquid trickles quite slowly through the stones, giving the microorganisms plenty of time to work on it. By the time the water drains out of the bottom of the bed, it looks clean, contains virtually no pathogenic organisms, and can safely be allowed to run into a river or the sea.

SUSTAINABLE DEVELOPMENT

As our population increases, we need to build more houses, roads and industries, and to produce more food. Achieving this without damaging the environments is called sustainable development. In most countries, new development have to be submitted for approval by planning authorities. These authorities should take into accounts the needs of the environment, as well as the business interest of the developers. This can cause serious conflict of interest. The developers will almost certainly be able to spend less,and make more profit, if they do not have to think about what they are doing to the environment. It is therefore important that there are strongly upjeld regulations in place, I order to make sure that new developmets are planned.

ENDANGERED SPECIES

A species whose numbers have fallen to low that it is at risk of becoming extinct is said to be endangered.

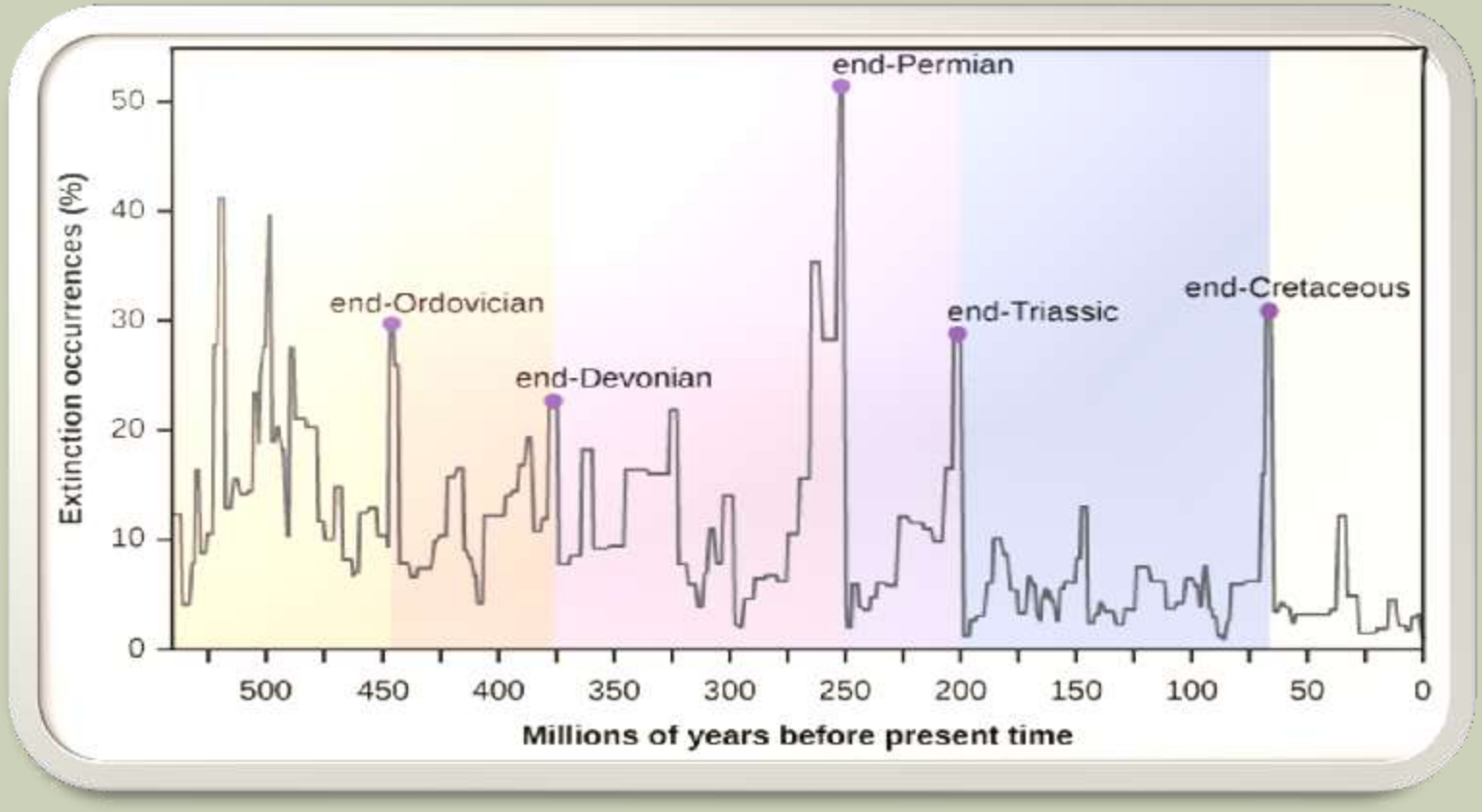
If there is variation between individuals, then the population as a whole has a better change of surviving if they are threatened by a pathogen.

When the numbers of species drop to very low levels, so that only a few individuals survive, then much of this genetic variation is lost.

Through the history of life on earth, millions of species have become entinct. Palaeotologists have identified several periods in the past when huge numbers of species seem to have become extinct. These are celled mass extinction events.

HABITAT DESTRUCTION

We have seen how human activities destroy habitats. Species with no habitat connot survive



CONSERVATION

HUNTING

- Humans are always hunted animals for foods, but sometimes this haunting is so severe that it can destroy an entire species. There is much evidence that mammoths finally became extinct 5000 years ago because of hunting humans.

POLLUTION

- That the addition of extra carbondioxide and methane to the atmosphere is causing climate change. As temperatures rise on earth, organisms with adaptations may no longer be so well adapted.

CONVERSING ENDANGERED SPECIES

The different tactics that can be used to conserve endangered species:

- MONITORING AND PROTECTING THE SPECIES IN ITS NATURAL HABITAT
- USING CAPTIVE BREEDING PROGRAMMES
- EDUCATING LOCAL PEOPLE ABOUT THE IMPORTANTE OF CONSERVATION, AND WHAT THEY CAN DO TO HELP.

Also many plant species are also under that danger. We can use all of the same tactics, but there is also another possibility- building up seeds. Seeds are often able to survive for many years in a dormant state, and then germinate when condtions are right. We can make use of that by collecting and storing seeds of as many different plant species is possible. These can be kept safe for long period time.

REASONS FOR CONSERVATION PROGRAMMES

- For many of us, it is clear that we have no right to make any species extinct. We share the earth with a whole range of different species, and we have a responsibility to make sure that they can live successfully in their habitats.
- If we damage ecosystems, we can be doing harm to ourselves. Cutting down large numbers of trees, for example, can reduce the amount of water vapour that goes back into the air, which in turn can reduce rainfall. Taking care of the environment helps to make our living conditios more safe.

REASONS FOR CONSERVATION PROGRAMMES PT2

- Losing species from an ecosystem can have wide reaching effects. For example, if we catch too many fish, then we will no longer be able to use them as food. Moreover, the loss of one species may have harmful effects on other species that are part of the food webs.
- Many plant species contain chemicals that cen be used as drugs. If we lose plant species, we may be losing potential medicines.