# WATER POLLUTION CONTROL

# Control of Water Pollution

- Judicious use of agrochemicals like pesticides and fertilizers which will reduce surface run off ..
- Use of nitrogen fixing plants to supplement the use of fertilizers.
- Adopting integrated pest management to reduce reliance on pesticides.
- Prevent run off manure. Divert such run off to basin for settlement .

# Control of Water Pollution

- Separate drainage of sewage and rain water should be provided to prevent overflow of sewage with rain water.
- Planting trees would reduce pollution by sediments and will also prevent soil erosion.
- Waste water should be treated by primary and secondary treatment to reduce BOD,COD levels upto permissible levels of discharge.
- Industrial effluents and wastes must be treated in order to reduce their toxity.
- Non biodegradable waste materials such as plastics should not be dumped in water bodies .

# Control of Water Pollution

- Human activities such as bathing and washing in the rivers , ponds and lakes , washing animals, immersing of idols must be stopped.

# Municipal Wastewater Treatment

- In urban areas of developed countries, municipal wastewater (or sewage) is typically treated by centralized sewage treatment plants.
- Well-designed and operated systems can remove 90% or more of the pollutant load in sewage.
- Some plants have additional systems to remove nutrients and pathogens, but advanced treatment steps are more expensive.
- Cities with sanitary sewer overflows or combined sewer overflows employ one or more engineering approaches to reduce discharges of untreated sewage.

# On-site Sanitation

- Households not served by a municipal treatment plant may have an individual septic tank, which pre-treats the wastewater on site and infiltrates it into the soil.
- The use of simple pit latrines or safely managed sanitation services would prevent surface as well as groundwater pollution.

# Industrial Wastewater Treatment

- Industrial wastewater with high concentrations of organic matter (e.g. oil and grease), toxic pollutants (e.g. heavy metals, volatile organic compounds) or nutrients such as ammonia, need specialized treatment systems.
- Some industries install a pre-treatment system to remove some pollutants (e.g., toxic compounds), and then discharge the partially treated wastewater to the municipal sewer system.

# Agricultural Waste Treatment

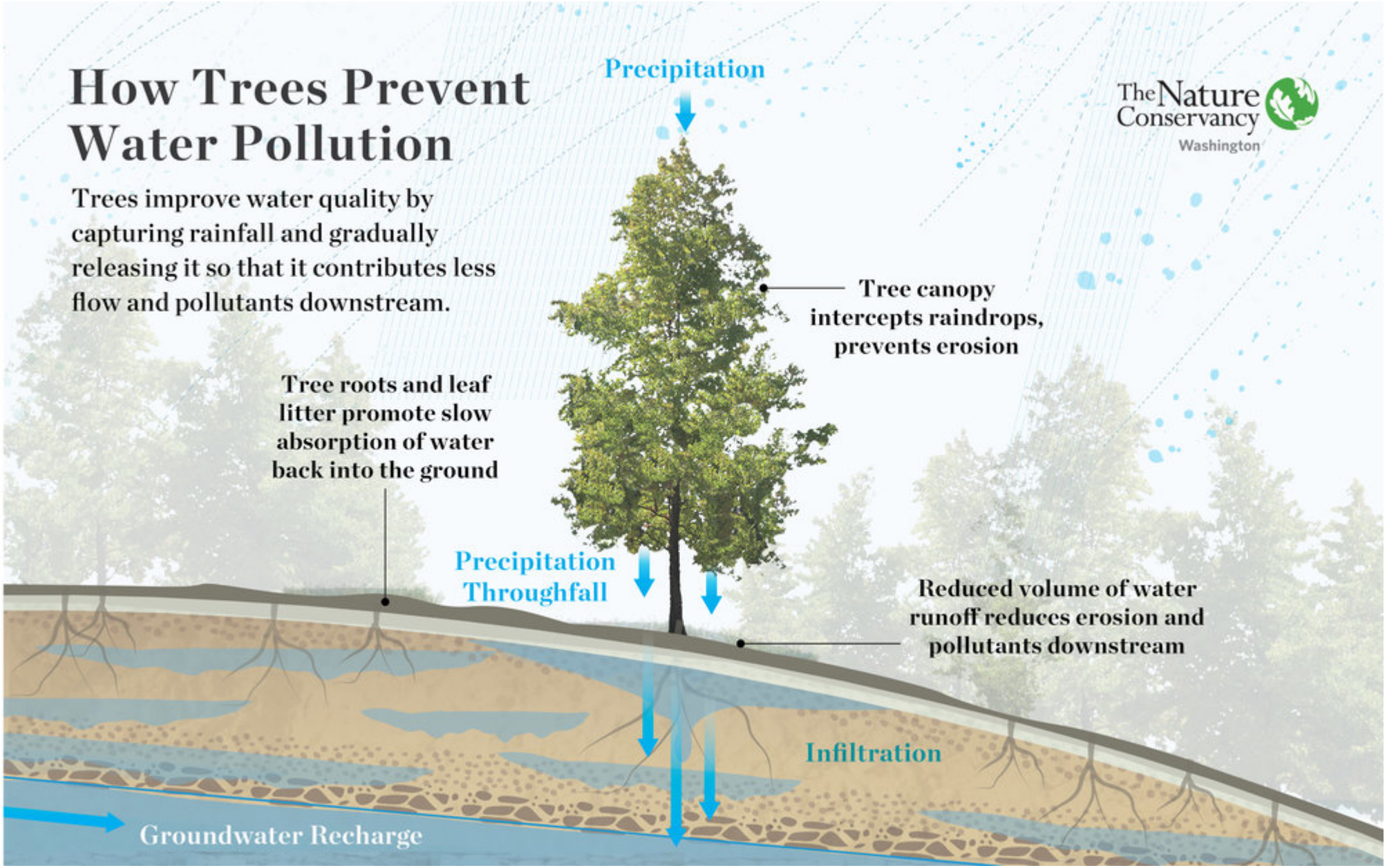
- Farmers may utilize erosion control to reduce runoff flows and retain soil on their fields. Common techniques include contour plowing, crop rotation, planting perennial crops.
- Farmers can develop and implement nutrient management plans to reduce excess application of nutrients and reduce the potential for nutrient pollution.
- To minimize pesticide impacts, farmers may use biological pest control to maintain control over pests, reduce reliance on chemical pesticides, and protect water quality.
- Constructed wetlands are sometimes used to facilitate treatment of animal wastes.

# Erosion and Sediment Control

- Sediment from construction sites is managed by installation of:
  - erosion controls, such as mulching and hydroseeding
  - sediment controls, such as sediment basins
- Discharge of toxic chemicals such as motor fuels and concrete washout is prevented by use of:
  - spill prevention and control plans
  - specially designed containers (for concrete washout)

# Control of Urban Runoff

- Effective control of urban runoff involves reducing the velocity and flow of storm water, as well as reducing pollutant discharges.
- Pollution prevention practices include installation of green roofs and improved chemical handling (e.g. management of motor fuels & oil, fertilizers and pesticides).
- Runoff mitigation systems include infiltration basins, constructed wetlands and retention basins.
- Thermal pollution from runoff can be controlled by storm water management facilities that absorb the runoff or direct it into groundwater.


How Trees Prevent Water Pollution
Trees improve water quality by capturing rainfall and gradually releasing it so that it contributes less flow and pollutants downstream.
Precipitation
The Nature Conservancy
Washington
Tree canopy intercepts raindrops, prevents erosion
Tree roots and leaf litter promote slow absorption of water back into the ground
Precipitation
Throughfall
Reduced volume of water runoff reduces erosion and pollutants downstream
Infiltration
Groundwater Recharge