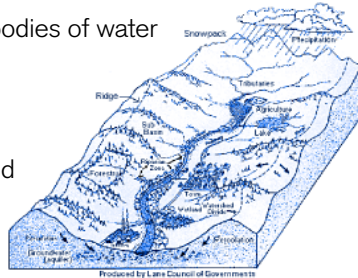


WATERWAYS – IMPORTANCE AND PROBLEMS

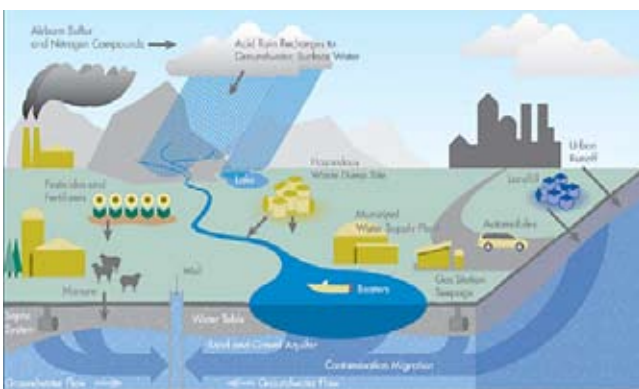
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HOW DO POLLUTANTS GET INTO WATERWAYS?

- Anything we do in a catchment (where rivers and streams drain) will affect waterways.
- Waterways gather up and absorb nutrients, sediment, and waste from land.
- This ends up in larger bodies of water such as:
 - Rivers
 - Lakes and Estuaries
 - Aquifers (underground layers of water)
 - Ocean.



WHY WATERWAYS ARE SO IMPORTANT



- They are used for sports such as swimming
- They are used for recreation such as kayaking and boating
- We use them for safe drinking water – both for stock and for people
- We gather food from waterways
- They support biological diversity
- They are attractive to look at in their natural state and people enjoy their sound, clarity, purity of smell, taste and colour
- We can use them to irrigate land or for hydro power
- They have cultural and historic value
- We use them as fisheries.

WHAT DAIRY FARMERS CONSIDER TO PROTECT THEM

- Stopping soil (suspended solids in water and erosion)
- Preventing faecal matter (bacteria and nutrients)
- Keeping the water temperature safe for stream life
- Stopping nitrogen and phosphorus from entering waterways.



SOIL – IMPORTANCE AND PROBLEMS

- Soil takes thousands of years to form, once lost it cannot be replaced or regenerated
- Only 3% of the earth's surface is suitable arable land
- Soil has tonnes and tonnes of valuable nutrients
- Soil determines just how productive a farm is going to be
- Soil can have a negative impact on water through adding nutrients and reducing its clarity
- Soil carried by water can silt up waterways, wetlands and harbours.

WATER PROBLEMS WITH COW EFFLUENT

- It is high in nutrients
- It is high in bugs (e.coli, coliforms)
- Effluent has a high biological oxygen demand (BOD) which disrupts and can destroy stream ecology
- It can make people sick.

THE IMPORTANCE OF STREAM TEMPERATURE

- Temperature is an important factor in stream ecology
- Lack of shade due to changing land use can cause stream temperatures to rise – particularly if streams are shallow
- Most stream animals and creatures can only withstand a very small range of temperatures.

SOURCES OF NITROGEN AND PHOSPHORUS

- Where do they come from?
 - Runoff – Phosphorus
 - Leaching through the soil – Nitrogen
 - Directly from animals
 - Washing off roads and bridges
 - Erosion of stream banks
 - Erosion caused by wind and rain in paddocks and on hills.