
Scanned with CamScanner


## POLLUTION BY DETERGENTS

Detergents are just one aspect of the pollution caused by our modern lifestyles. In our daily use of washing powder, washing up liquid and many other household cleaners, we discharge a whole range of substances into the environment. No detergent is *good* for the environment. But, by removing some unnecessary ingredients, or replacing them with less harmful ingredients, we can minimise the impact we have on our surroundings. And by using *less*, we can also reduce the strain. This poster will give you some idea of the problems we can cause every time we clean our clothes or our homes.

## WASTE WATER

Waste water contains many different types of detergents, including washing powder, washing up liquid, cream cleaner, bleach, toilet cleaner and others. All these contain various ingredients which have their own individual effect on the environment. They may also combine to form other compounds. Whilst some of these substances may cause no real harm to the environment, some others are known to have detrimental effects.

## SEPTIC TANKS

These often work inefficiently due to the chemicals poured down the drains. Septic tanks are an efficient way of breaking down detergents and other household waste, but harsh cleaning products which destroy germs can also destroy the micro-organisms which make a septic tank work. The liquid effluent from them will find its way into local streams and rivers after filtering through the ground.

## FOAMING DETERGENTS

If detergents are not fully broken down to inactive substances, foaming can occur, especially where water is turbulent such as at weirs. Whilst foaming in itself is not a major problem, it indicates a concentration of active detergent in the water which affects water life.

## WATER WORKS

These extract water from reservoirs and other sources and remove some of the contaminants. Further chemicals may be added to "purify" the water.

## DRINKING WATER

The water we drink from the tap comes from reservoirs which are fed by the rivers and streams into which we release all kinds of wastes. Although water goes through a complex purification process, it often still contains a wide range of contaminants. Removing certain ingredients from detergents would help to reduce the level of contamination and would lead to better quality drinking water.

Scanned with CamScanner

# ECOVER®

# Clean-up Campaign


## SEWAGE SLUDGE

The solids which remain after treating sewage are sometimes used as a fertiliser in agriculture. Chemicals which remain in the sludge are then spread on the fields. Sludge is also dumped at sea where it causes pollution.

## PHOSPHATE STRIPPING

This process of removing phosphates occurs in only a tiny percentage of sewage works. Even if phosphates were removed from all detergents, phosphate stripping would still need to be implemented at all sewage works to reduce the risk of eutrophication.

## DETERGENT FACTORIES

Some of these factories discharge waste directly into the sea. This leads to a build up of harmful chemicals in the sea bed deposits, and local marine pollution.

## EUTROPHICATION

This is the technical term for the excessive growth of tiny water plants called algae, which is caused by too much phosphorous and nitrogen in the water. Phosphates occur in some detergent products, in human wastes and in agricultural run off. Phosphorous is an essential plant nutrient, but the quantities which can accumulate in slow moving water, such as reservoirs and wetlands, can make the algae grow rapidly, using up the oxygen needed by plants and fish. The algae also release toxins which are harmful to humans and animals as well as water life. Removing phosphates from detergents would reduce the risk of eutrophication.

Scanned with CamScanner


## DAMAGE TO WATER PLANTS

Many substances found in waste water which are usually harmless to water plants can cause damage as concentrations build up. For instance boron, a by-product of the breakdown of most washing powders, has been found in some British rivers at levels that can cause damage to water reeds.

## SEWAGE WORKS

In the sewage works the waste water is treated to remove the organic matter and chemicals. Whilst some sewage works are very efficient, many are old and do not always function correctly. This means that some of these chemicals are still discharged into rivers and seas.

## DIRECT DISCHARGE

Around 20% of the sewage in Britain is inadequately treated by sewage works and flows directly into the sea. In addition, after heavy rainfalls, sewage works may not be able to handle the increased volume of water and untreated sewage flows out through storm overflows to rivers and seas. This can lead to marine and beach pollution, and a build up of chemicals in the sea bed.

## DUMPING AT SEA

of both sewage sludge and phosphate waste is common. Waste from the phosphate processing industry can contain heavy metals and radioactive materials, whilst sewage sludge can contain many different chemicals, some from detergents. If sewage sludge were less contaminated, it could be used more as an agricultural fertiliser.

## OIL REFINERIES

The waste streams from refineries contain a multitude of harmful chemicals which are often discharged directly into the sea. Some of the ingredients found in regular detergents are derived from petroleum oil, but this could be replaced by vegetable oil which is a renewable resource.

Scanned with CamScanner

## DAMAGE TO WATER PLANTS

Many substances found in waste water which are usually harmless to water plants can cause damage as concentrations build up. For instance boron, a by-product of the breakdown of most washing powders, has been found in some British rivers at levels that can cause damage to water reeds.

## DANGER TO WETLANDS

These are especially sensitive areas as they contain much slower moving water with lower levels of oxygen. Phosphates often cause excessive algae growth here. Pollutants can easily accumulate and destroy the delicate ecological balance. Even now, areas such as the Norfolk Broads are being severely threatened.

## DIRECT DISCHARGE

Around 20% of the sewage in Britain is inadequately treated by sewage works and flows directly into the sea. In addition, after heavy rainfalls, sewage works may not be able to handle the increased volume of water and untreated sewage flows out through storm overflows to rivers and seas. This can lead to marine and beach pollution, and a build up of chemicals in the sea bed.

## INSECTS IN DANGER

Species such as the mayfly and dragonfly have declined over the years due to water pollution of all kinds. Wetland areas in particular are fertile breeding grounds for insects. Pesticides and industrial pollution are other causes of decline. The increasing use of very strong synthetic perfumes is a problem to insects, which depend heavily on their sense of smell.

## DUMPING AT SEA

of both sewage sludge and phosphate waste is common. Waste from the phosphate processing industry can contain heavy metals and radioactive materials, whilst sewage sludge can contain many different chemicals, some from detergents. If sewage sludge were less contaminated, it could be used more as an agricultural fertiliser.

## ESTUARIES

All the pollutants which accumulate in the river arrive at the estuary affecting water life. Large estuaries are sometimes sites for refineries and factories which add to the pollution. Heavy metals and other toxic chemicals can build up in the silt deposits.

## MARINE POLLUTION

Detergents and other pollutants released into the sea through sewage outfalls and from factories are known to remain in sea bed sediments and add to the overall pollution of the marine environment. Phosphate waste and sewage sludge dumping release many other kinds of chemicals .

Scanned with CamScanner