

The Dirty Truth About Home Car Washing

Until the recent drought, a common weekend sight across suburban Australia was families out washing the car with a hose, bucket and sponge. The imposition of water restrictions in many states curtailed this activity. As the impact of the drought fades and water restrictions are eased many people are returning to old habits. There is a more important reason for not washing the family car on the drive or street. The impact of the waste products of hard surface car washing on the stormwater system and therefore the many waterways that stormwater feeds is substantially more concerning.

Through market research and scientific studies conducted by the Australian Car Wash Association (ACWA) and others it is estimated that across Australia 111 million car washes are carried out per annum with the waste going to stormwater. This produces some 11.6 gigalitres of contaminated waste water. Generally people seem unconcerned about an individual car being washed; however, when extrapolated over an urban area or the entire country, the pollutant loading becomes very significant

The critical pollutants are summarised together with volumes as they come off the car:

Pollutant	Impact	Estimated mass pa	Estimated Concentration	ANZECC Guideline Concentration marine waters
Petroleum hydrocarbon waste: petrol, diesel, and motor oil	Compounds in petroleum hydrocarbons are highly toxic, and in the surface water environment can cause harm to wildlife through direct physical contact, contamination by ingestion, and the destruction of food sources and habitats.	58 tonnes	5mg/L	
Dissolved copper	Exposure to dissolved copper may be sufficient to impair the sensory biology of some fish and has other toxic impacts to a wide variety of marine life.	3.5 tonnes	0.3 mg/L	0.0013 mg/L
Lead	can cause anaemia, depressed growth, fin degeneration and reduced egg hatching success.	233 tonnes	0.02 mg/L	0.004 mg/L
Zinc	most toxic to microscopic organisms in the aquatic environments	5.8 tonnes	0.5 mg/L	0.015 mg/L
Surfactants	surfactants are acutely toxic to aquatic life, stripping fish gills of natural oils, thereby interrupting the normal transfer of oxygen	314 tonnes	27 mg/L	
Suspended Solids	Sediment, the most common pollutant in stormwater runoff by volume and weight, makes streams and lakes less suitable for recreation, fish life, and plant growth.	2,332 tonnes	.2 g/L	20 mg/L

In most states the dumping of the above pollutants in the quantities indicated is illegal under EPA regulations. Unfortunately there is a disconnect between the regulations and enforcement. The ACWA is working with state and local authorities to improve public education campaigns but it is a slow process. -.

The most environmentally sustainable method of washing a car is in on lawn areas that are large enough to prevent runoff or in a commercial car wash. All licensed car washes must have a trade waste agreement which requires all waste water to be directed to oil separation and sedimentation pits and discharged to sewer. The resultant pit sludge is removed by licensed EPA contractors. Additionally, less water is used due to high pressure, low volume equipment and water recycling.