

## 8.0 PESTICIDES

Pesticides are a group of compounds that are used to control unwanted plants, animals and fungi. They are formulated to target specific groups of organisms, for example, termites or broad leaf plants. Although mostly associated with agricultural use, they are also used widely in other areas. These include: the construction industry for termite control, the broad scale eradication of unwanted pests (eg. Mimosa and Mission grass), and in domestic settings for ongoing control of termites, other household pests and weeds.

Pesticides are of concern because they may affect non-target organisms. Spray drift, over-use and inappropriate application may result in pesticides entering waterways and affecting stream life, and contaminating groundwater. Pesticides may also accumulate in sediments to levels high enough to affect bottom dwelling organisms.

Studies on pesticides in streams and groundwater in the Darwin Region have shown them to be few and isolated over the last 20 years. Pesticides have been found in 4% of samples from rural streams and 22% of samples from urban streams and drains. About 2% of samples from groundwater have contained pesticides. Pesticides have not been detected from samples in the Harbour but have been found in some sediments near urban areas. The concentrations for nearly all samples did not exceed national water quality guidelines for drinking or environmental protection. These studies have demonstrated that there is no widespread pesticide contamination of rural streams.

The highest incidence of pesticides in surface waters has been found to be in run-off from urban and industrial areas. These pesticides (eg. dieldrin) have been found in low concentrations in stormwater, occasionally at levels exceeding national water quality guideline values. In all cases, these compounds were persistent organochlorine pesticides used extensively in the past for termite control. They have been banned from use in the Northern Territory since 1997.

To make the monitoring of pesticides in the Darwin region more strategic, a risk assessment study was conducted to identify which catchments have the highest potential pesticide use. Future monitoring will be conducted in these areas.

### Conclusion

There is little evidence of persistent pesticides in the waters of the Darwin Harbour region, with concentrations mostly below guidelines values for the aquatic environment, or if higher, only marginally higher.

### Further Reading

Waugh, P.S. and Padovan, A.V. (2004). Review of pesticide monitoring, use and risk to water resources in the Darwin Region. Report 02/2004D. Department of Infrastructure, Planning and Environment, Darwin.

