

CASE STUDY: Integrated Water Cycle Management

4. What killed the Watanobbi Woollybutts?

Woollybutt dieback

- **The problem:** On the northern edge of the suburb of Watanobbi in Wyong Shire, there is a patch of the Woollybutt woodland. During the 1990s many of the woollybutt and paperbark trees in the woodland died and weeds invaded the ground beneath them. The largest patch of dieback and weeds occurred at the end of the Fishburn Crescent stormwater drain, which delivers stormwater from 30 hectares of streets and house.
- **Possible causes:** Although it seemed reasonable to suspect that stormwater was in some way involved in the death of the trees, it was possible that something entirely different had killed the woollybutts. Possible causes included fungal attack, insect attack, prolonged drought, pollution or changes in soil chemistry. Without detailed investigation it would have been unwise just to assume that stormwater was the primary cause.
- **The need to investigate:** By discovering the precise cause of the dieback, it would be possible to repair the damage at Fishburn and prevent the same thing happening elsewhere. By eliminating false explanations, we could avoid bad or ineffective solutions.



Curb and guttering



Woollybutt dieback



Fishburn drain, 2003

(source: Wetland Web CD)

ACTIVITY: Your task is to design an Investigation Plan that could be used to diagnose one possible cause of the Woollybutt dieback. Some steps to include in your Investigation Plan might be:

- collect possible explanations (e.g. reports of tree dieback from the internet);
- select one to investigate in depth and write down your hypothesis;
- suggest the specific types of data you might need to collect (from field surveys, experiments and/or questioning local residents) to test your hypothesis;
- outline the investigation procedure you would need to follow to gather this data (factors to consider are equipment, personnel (including any expertise required), techniques (e.g. transects, experimental treatments, controls, safety issues)).

