

Eadine Springs: An environmental classroom

Eadine Springs, a permanent wetland located 15km west of Northam, has proved a fertile outdoor classroom for the students of St Joseph's Primary School and a great opportunity for the Water and Rivers Commission to become involved in a local collaborative project. Eadine Springs, as the name suggests, is a series of springs. These flow out of hillside seeps through numerous rock pools to cascade over a waterfall into the excavated permanent pool and seasonal wetland at its base.



Eadine Springs showing original weed infestation and permanent pool being fed by waterfall

St Joseph's Primary School, along with the Main Roads Department (who originally excavated the deep waterhole for road works in 1974) and the Shire of Northam have been involved with Eadine Springs since 1996. The Water and Rivers Commission and Avon Ribbons of Blue/Waterwatch WA began liaising with these parties in 1999. The aim of this partnership was to provide an interactive learning environment for students to increase their understanding and awareness of wetland monitoring and rehabilitation.

A wetland revegetation program was started in 2000 to complement the dryland revegetation already taking place. The riparian zone was covered in two weed species (*Juncus acutus* [Spike rush] and *Cynodon dactylon* [Couch]) common to brackish and semi saline waterways of the Avon catchment. Control of these species was undertaken by the Water and Rivers Commission using community members and commercial contractors. This allowed for a number of trials to be conducted on best practice for removing these weeds (See case study on controlling *Juncus acutus*).

After effective weed control was attained the St Josephs Primary School students began a planting program under the guidance of the Water and Rivers Commission. This involved looking at the characteristics of the site and the native species most appropriate to these conditions. Planting has been undertaken up to three times a year from the winter of 2000 until spring 2002 (present) Further planting by the students is planned for next year and into the future. In winter the students planted trees, shrubs and ground covers while in spring they planted sedges, rushes, native grasses and samphires, all native to the local area and tolerant of local conditions of Eadine Springs.



St Joseph's Primary School students planting riparian vegetation. Note the effective weed control and earlier planting around the main pool

Monitoring of plant growth allowed the students to understand the growth of different plants under a wide range of conditions. It has also assisted with choosing the most appropriate species for future

revegetation projects at Eadine. The students are also able to see the effects their planting is having on the water quality and fauna.

The understanding of wetland vegetation was further enhanced by both field and classroom studies of topics such as the variety of wetland vegetation types and their complementing roles, the problems of weeds, how vegetation protects the water and provides habitat for fauna. This was assisted through site assessments and compiling a herbarium on the local plants of Eadine Springs.

Through involvement in the Ribbons of Blue/Waterwatch WA program, students have been monitoring the pH, electrical conductivity (salinity), temperature and turbidity of the main pool. Regular monitoring has given the students the opportunity to understand trends in changing water quality parameters and develop and understanding of catchment related issues.



St Joseph's Primary School Students participating in Macroinvertebrate Snapshot event 2002

A broad range of activities, such as bird watching and identification, frog surveys and aquatic macroinvertebrate monitoring has given students an opportunity to understand the link between water quality, species richness and the diversity of fauna living in and around Eadine Springs. Using a 'Waterways health check' (developed by CSIRO and Waterwatch Australia) students have rated individual categories, such as land use, vegetation and animal life, to determine a simple health rating for the waterbody. This has provided a diverse insight into catchment health and pollution issues

that affect the spring, and an opportunity to discuss pollution prevention and integrated catchment management.

This ongoing collaborative program between the Water and Rivers Commission, Ribbons of Blue/Waterwatch WA and St Joseph's Primary School has yielded many positive outcomes. The program is providing a valuable environmental education to local students, while rehabilitating one of the Avon's permanent waterways and providing an area to trial weed control techniques and riparian species.

An enthusiastic commitment to environmental education by St Joseph's Primary School was recognised in 2002 when the school was presented an Accredited River Manager award by the Water and Rivers Commission. This award recognises not only the work carried out at Eadine Springs, but an ongoing involvement in the management and rehabilitation of Avon waterways over the last 10 years.

The success of this partnership has ensured continuation of the Eadine Springs program into the future, and provides a positive example of schools, Local Government Authorities as well as Government and non-Government organisations working together towards a better environment.

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