RIVERVIEW

No.9 SWAN RIVER TRUST Sept-Oct 1996

SWAN RIVER TRUST

Who we are and what we do

The Swan River Trust was established in 1989 to preserve and enhance the Swan-Canning River system. The Trust works in partnership with community groups and local and State government agencies to offer advice regarding development applications within its management area and to undertake foreshore restoration and maintenance. The Trust is also involved in pollution control, catchment management, and promoting public awareness of river issues through education and community involvement.

INCREASINGLY, local and State government departments, business and community groups are coordinating their activities to reflect the ideals of a sustainable future. We've still got a long way to go, and the growth of the city relies on successfully integrating conservation policies with development.

The Swan River Trust undertakes its core tasks of waterways conservation and management using four main strategies:

* development and management planning
* waterways protection and enhancement
* environmental investigations and standards
* community awareness and involvement.

The Trust is a separate legal entity with its own Act of Parliament – the *Swan River Trust Act 1988*. The Trust is supported by the Water and Rivers Commission, established on 1 January 1996, which provides the Trust with administrative and professional services.

An increasing awareness of the connection between the health of the river and the health of its wider catchment means the Trust has to rely on the actions of the whole community to achieve its goals.

The Trust has approximately 18 staff dedicated full-time to Trust activities. We maintain a field crew, catchment and pollution officers, planning officers and a community relations officer. Several of these are funded through the Swan-Canning Cleanup Program, which the Trust manages for the State government in partnership with other local and State government agencies, universites, research institutions and community groups. The Cleanup Program looks at the causes and possible cures of algal

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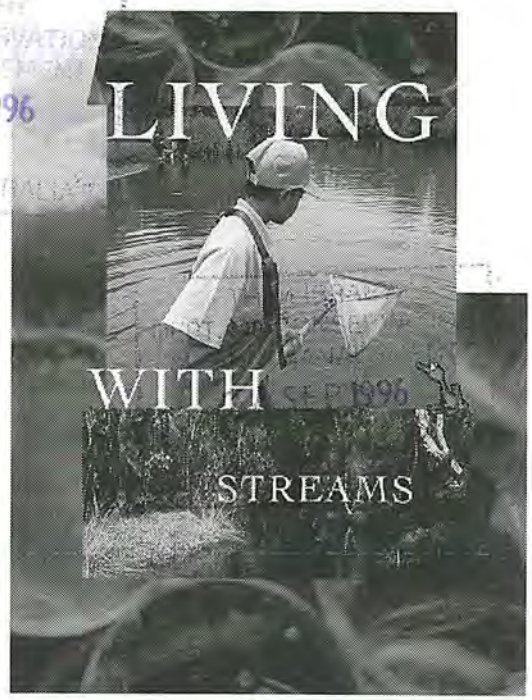
The Swan River Trust management area includes the waters of the Swan-Canning River system and adjoining parks and recreation reservations – extending upstream from the Fremantle Traffic Bridge to Moondyne Brook on the Avon River, to the lower diversion dam on the Helena River, along Southern River to the Allen Road crossing and the Canning River to its confluence with Stinton Creek.



Win a copy of our new video

TO BE in the running to win one of five copies of the new *Living with Streams* video send a photo of yourself, family, school or community group involved in a river, wetland or catchment restoration project. It might be removing weeds along a creek, picking up rubbish from the local bushland, even planting native trees in your own backyard.

Send your photo to Tim Larcombe at the Swan River Trust, PO Box 6740 Hay Street East, East Perth 6892. Please include your address and phone number.

See the feature on Living Streams inside

Who we are and what we do

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blooms and works closely with the Swan-Avon Integrated Catchment Management (ICM) Program.

The Trust works with the community to achieve its goals – through facilitating community involvement in river and catchment restoration and management; by liaising with local and State government agencies to develop management plans and promote awareness and acceptance of Trust policies; by working with local government to protect and enhance the river foreshores and provide facilities; and by raising awareness in the general community about rivercare issues.

The consideration and regulation of development applications within and adjoining the Trust's management area requires the Trust to provide advice to the Environment Minister who then makes a decision on whether the development may proceed. In 1995-96 the Trust assessed 192 development applications.

The Trust has eight members including: a chairman appointed by the Environment Minister; a boardmember of the Water and Rivers Commission; representatives of the Ministry for Planning, the Department of Transport, and the Office of Water Regulation; a representative of the Local Government Association of WA; and two independent members who represent the community. The Trust meets monthly and has two subcommittees which report to it – the Planning and Development committee and the Environmental Quality committee.

The main issues for the river system include:

* increased nutrient inputs entering the rivers feeding weed and algae growth
* erosion and degradation of banks and foreshores
* increased development pressure and conflict between river uses
* the protection and rehabilitation of fragile or threatened areas of environmental importance
* better catchment management to maintain and improve river health for the future.

The Trust believes the conservation of the river environment will ensure the maximum use of that natural resource for the greatest number of people for the future. The community expects the Trust to protect the health of the river and its wildlife while maintaining access to foreshore and in-river recreation. Establishing a balance between potentially conflicting uses is a challenge for the whole community as Perth's population continues to grow and the pressure for development along the river continues to increase.

City kids in York tree planting

STUDENTS from Westfield Park Primary in Armadale joined officers from the Swan River Trust on a tree planting expedition near York recently. Year 5 students Robert Ciotucha and Brian Whitby (above) and 40 other school mates planted 150 York Gums on Rob Smyth's property "Southoban", on a site he and his family have established as a revegetation area to control erosion and waterlogging.

The school was given the York Gums and, rather than plant them on the school grounds, they decided to plant them in the Avon Valley. Rob Smyth and his family also helped the Trust during the filming of the *Living with Streams* video (see page one).

Living Streams – the key to a healthier river

Most urban creeks and drains are full of weeds, often polluted and of little significance to the people who live closest to them. But as DR LUKE PEN reports, these drainage lines could become living streams supporting a wide range of native plants and animals and contributing to the life of local people – as well as improving water quality in the river downstream.

IN RESIDENTIAL areas, old creek lines and open drains represent a very common form of wetland. Unfortunately they are primarily valued for their drainage function and are typically weed infested and polluted. Thought is rarely given to other potential values of natural drainage lines, such as wildlife habitat, ecological corridors, erosion control, bio-filtering of pollutants, landscape, recreational amenity and opportunities for education and scientific research.

In recent years, however, the biofiltering or nutrient stripping function of well vegetated streams has received some attention as part of an effort to reduce the pollutants being carried to downstream waterways. In the Perth metropolitan region, this has led to the establishment of fringing vegetation along some old and new drainage lines and the promotion of Water Sensitive Urban Design.

Living streams have another important role to play in our urban communities. The presence of native plants and animals reduces the sense of alienation from the natural environment which town dwellers experience on a daily basis.

Diversity of habitats

Living streams offer a diversity of habitats with the essential elements of shade, hard native leaves and tannin stained water. These inhibit the growth of harmful or nuisance algae and aquatic weeds. Differing combinations of light and shade, exposure and cover, fast flowing and still, and shallow and deep water can support a large variety of plants and animals.

Not all streamlines can be restored to fully functioning creek ecosystems. Many will have to be left as they are, to serve in their primary role as unimpeded drainage lines. Some drains will be made of concrete while others will carry too great a volume of water at certain times of the year for plantings to be a success.

Most streams will permit some degree of living stream development. It may only be a line of trees or shrubs along one side of a drain reserve, but even this will provide food and shelter for invertebrates and birds.

The first step to recreating a living stream, particularly in rural areas, is often to protect fringing vegetation by fencing to keep out stock or feral predators.

In areas where flooding is not a problem, such as on farmland or near parkland, fully functioning creek ecosystems may be appropriate. In this case a dense band of fringing vegetation, sometimes growing right across the stream, could be developed and other habitat elements, which would obstruct flow, such as logs and stones, could also be added to the main channel.

Modifying drains can provide opportunities to create unique town landscapes and healthy stream ecosystems. There is no reason why many streams can't function

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both as parts of drainage systems and as aquatic ecosystems, greatly increasing the beneficial uses they can provide to people and other living things. With work, a boring drain can be brought to life.

Functions of a natural stream

Erosion control The roots of trees, shrubs and rushes bind and strengthen the riverbank.

Biological filter Healthy fringing and aquatic vegetation filter out sediments, nutrients and inorganic material before they reach the river.

Energy dissipation The faster water flows the more destructive it can be to bed and banks. Fringing vegetation, and natural stream form with alternating pools and riffles, act to slow the water, reducing its destructive potential.

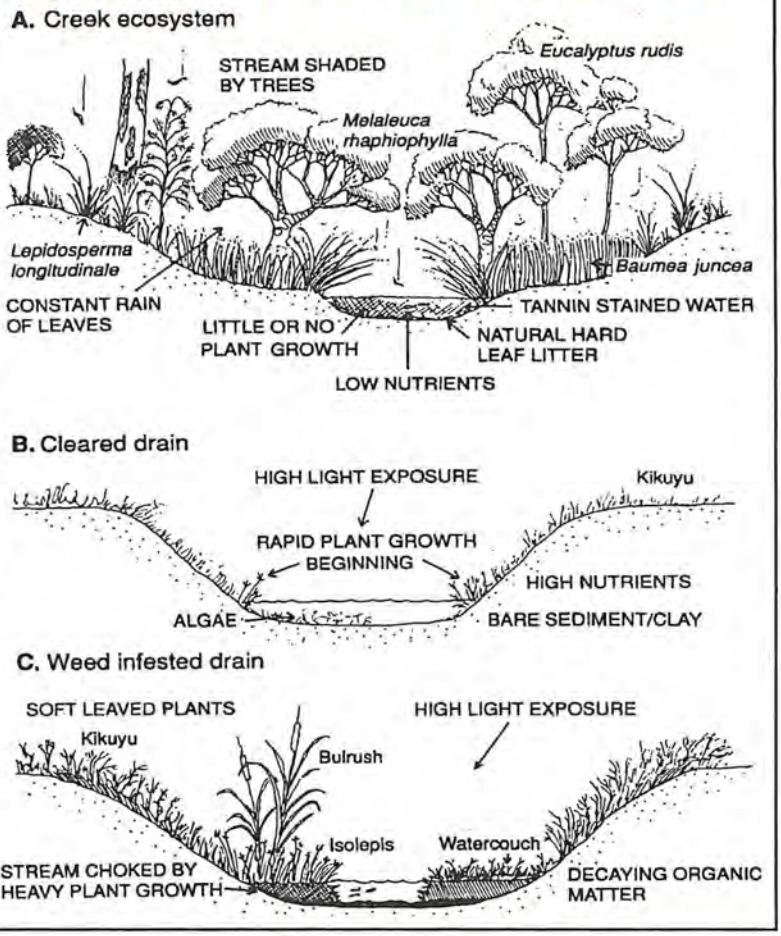
Habitat A living stream provides a huge range of habitats for a variety of plants and animals. Many cold blooded native animals, especially fish, require shade as shelter from predators and to help them regulate their metabolisms on warm days.

Creating a food web Plant material accumulates and decays on the stream bed. Micro-decomposers, such as bacteria, add nutrients to the water column which support the growth of algae, which in turn support herbivorous crustaceans and insects. These will be food for predatory insects and crustaceans, which in turn will be eaten by large insects, fish and other crustaceans - which in turn provide a food supply for turtles and birds.

Fringing vegetation also provides food from insects blown from leaves and blossoms onto the water's surface - a rich harvest for water walkers, spiders and fish.

Ecological corridors A living stream provides a corridor of land and water along which animals can move looking for food. Others animals need to migrate as part of their mating behaviour.

Drain or living stream?



Conserving our natural resources The rehabilitation of streamlines could help conserve many of the local native plants and animals displaced by urban development. The strategic linking of living streams with remnant stands of native vegetation will increase the viability of many native plant and animal populations.

Landscape What are now open drains or eroded creek lines could be aesthetically pleasing corridors of native trees and shrubs.

Catchment management The rehabilitation of degraded creek lines will contribute to the overall process of catchment management. Each section of rehabilitated streamline will contribute less sediment to its river system and help reduce nutrient loss.

Whether it be a stream passing through pastured farmland, a section of urban drain or a degraded creekline, streamline habitats can be restored or incorporated into drainage design. In time, the stream could become a vital part of a human community, with some if not all of the potential aesthetic, educational and ecological values which natural streams can offer. ❐

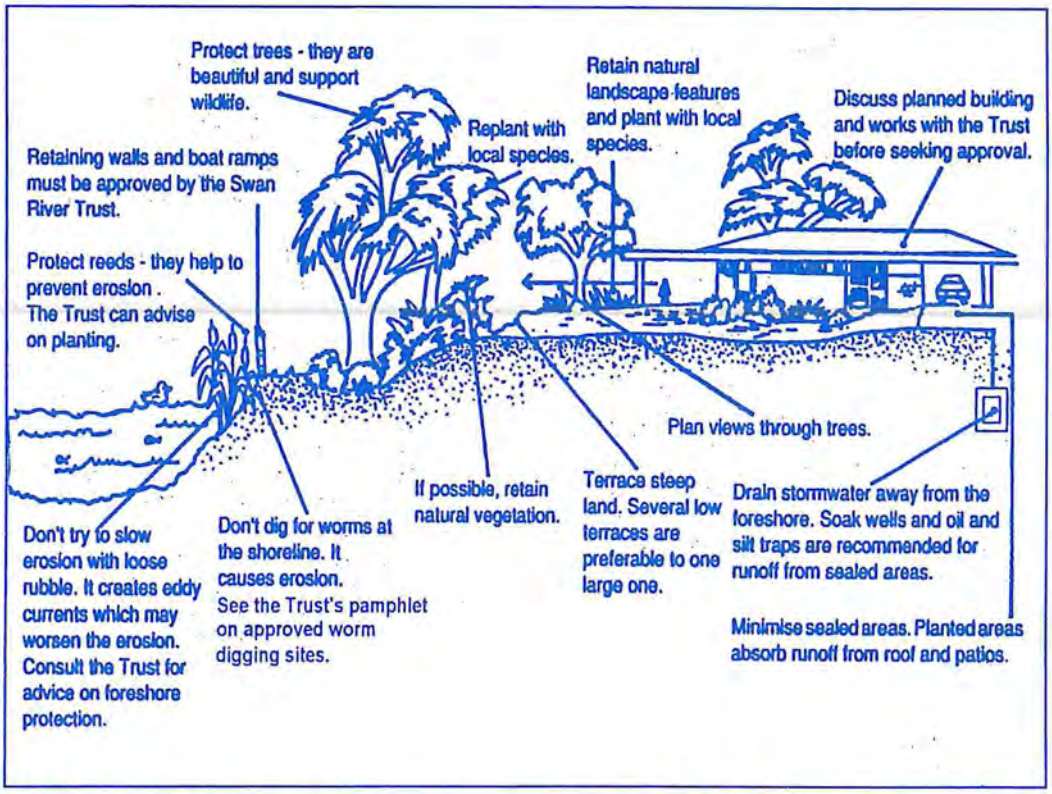
Above: The environment of a natural creek ecosystem (A) compared to a cleared drain (B) and a weed infested drain (C).

Below: A narrow, unfenced buffer zone in the upper Swan near Midland offers little or no protection against erosion or nutrient pollution. Unless new growth replaces dying trees, this section of the river will become severely degraded.

Below left: A broader vegetation buffer zone between development and the river (at the junction of Bennett Brook and the Swan River near Guildford) provides good habitat for birds and animals, stabilises the riverbank, shades water to reduce weed and algal growth and provides nutrient stripping.

IF YOU live by a creek, drain or river, or spend time on our waterways, there are things you can do to help keep the river system healthy for the future.

* avoid using fertilisers and chemical pesticides, herbicides
* plan riverside views to include large trees – clearing trees without permission can be a criminal offence
* bank erosion can be avoided if you plan ahead by planting native trees, shrubs and reeds along the water's edge
* launch boats at approved launching ramps
* take your bait packets and other litter home with you
* don't dump garden waste in or near any waterway – it can spread weeds.
* watch out for oil or chemical runoff into street drains – it may end up in the river
* exclude stock from riverbanks – they trample vegetation, cause erosion and pollute the waterway.



Living with the river: some helpful hints

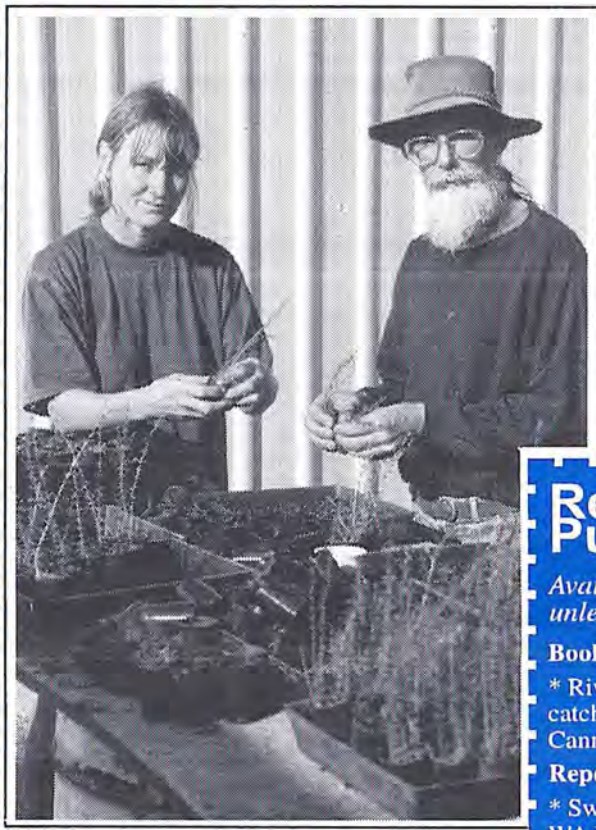
Workshops direct Canning foreshore plan

SWAN River Trust officers helped the City of Canning organise and coordinate two workshops recently to gain community views about foreshore management.

About 130 people attended the evening workshops during July to identify issues they would like to see included in the City of Canning's Foreshore Policy.

The community input will provide the framework for a draft policy to be released for public comment later in the year. The results of 7,500 questionnaires will also be considered. Dog and cat management, rubbish control, better cycleways and native flora and fauna rehabilitation were important issues of discussion.

For more information contact Steve Atwell at the City of Canning on 231 0645. ❐



◁ OVER 11,000 trees and shrubs have passed through the hands of Pat Hatfield on their way to the Swan-Canning catchment during the last 12 months. Ms Hatfield (pictured left with Jeff Hardwick) germinates plants at the Leschenault Inlet Management Authority nursery in Bunbury for revegetation projects throughout the southwest. Swan River Trust catchment officer, Nicole Siemon, distributes the plants to community groups, schools and councils.

Recent Publications

Available from the Swan River Trust unless otherwise stated.

Booklets

* Rivercare Directory, 1996. Rivercare, catchment and support groups of the Swan-Canning region.

Reports

* Swan-Canning Cleanup Program and the WA Estuarine Research Foundation forum on the Health of the Swan Estuary, 12 April 1996, CSIRO auditorium, Floreat, Perth; forum proceedings.

Videos

* Living with Streams. Swan River Trust and Water & Rivers Commission, available to purchase from Water Corporation on 420 2605. For loan from the Swan River Trust.
* Living on Groundwater: Part 1: Country WA; Part 2: Urban WA, Water & Rivers Commission, ph. 420 2605.

SWAN RIVER TRUST

Level 3, Hyatt Centre
87 Adelaide Terrace
East Perth, 6004

PHONE: 278 0400 FAX: 278 0401

Protecting the Swan-Canning River system for the future