

Caring for Urban Streams – Guide 4: Stream side planting

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This guide forms part of a larger series of documents under the banner "Caring for Urban Streams". To get an overall understanding of the issues related to stream management it is recommended that people read through the complete set of guides, and as a starting point look at the Quick Reference Guide.

If you have any questions about this information sheet please contact Auckland Council on 09 301 0101



Well Managed Urban Stream



Poorly Managed Urban Stream

The right choice of streamside planting can help control flooding and erosion, improve water quality and stream life, reduce pollution in the stream and marine environment, and enhance the appeal of your property.

Auckland stream beds vary, from steep to gently sloping, from silty and clayey to volcanic and sandy. However, a number of plants are common to all of these streams. The area around waterways is known as the riparian zone, including the stream banks, overflow areas and the slopes on either side of the stream. This is a general guide on planting in riparian zones.

STREAM SOLUTIONS

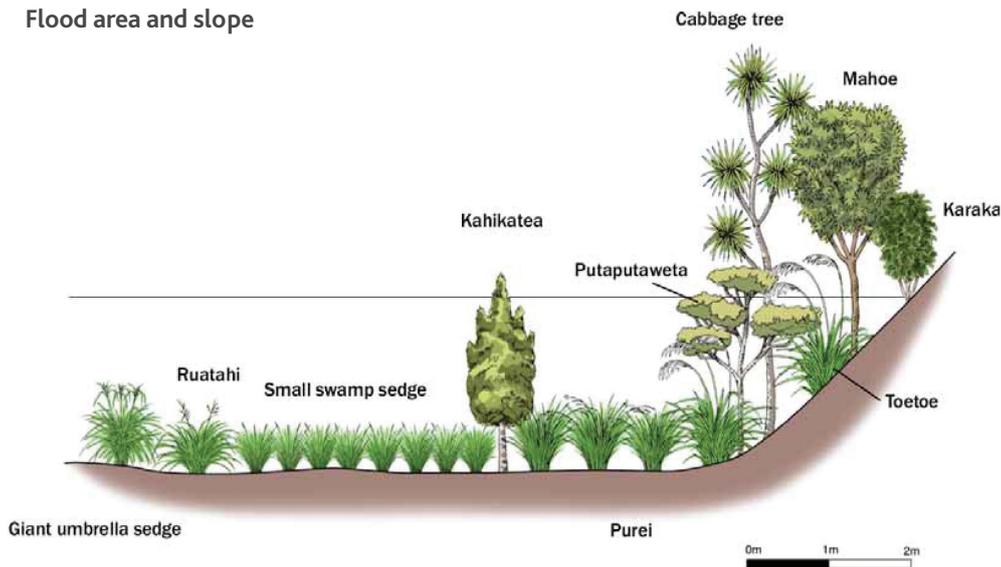
Below are several solutions for planning and maintaining riparian zone planting.

Make a planting plan. Is the existing riparian planting the best for you and the environment? Are you getting the most benefit from the plants next to your stream? Creating a planting plan will show what riparian zone plants are suitable, what to replace and how.

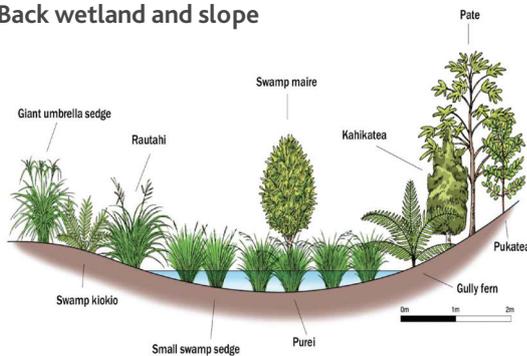
- Set out a plan on paper for the stream including stream bed and surrounding area. See the diagram on the next page, refer to Auckland Regional Council Technical Publication 148 Riparian Zone Management, and get advice from a local nursery or arborist.

- Use locally grown native plants – these need less watering and grow well in the area.
- Find out what type of native plants suit particular stream zones. For example, Carex sedges, giant umbrella sedges and native toe toe planted at the stream edge survive floods and offer fish habitat. Check the area has no poisonous or invasive weed species.
- Choose hardy fast-growing native colonising varieties (such as tea tree, cabbage trees, sedges and rushes) for first plantings, followed with secondary diversity plantings of less hardy plant species. Some plant varieties are best suited to the water's edge and stream bed, while others do best on banks and in flood plain areas.
- Aim for riparian zones with variety – different heights and shapes, climbers, ground covers, mosses, ferns and hanging plants, and native flowering plants to attract birds and insects. Perennial plants are preferable over annuals. Planting encourages life in the water and surrounding areas, and is more appealing.
- Plan to plant between existing vegetation – fill gaps, reinstate native plants where weeds have been removed, add features, and replace plants not growing well.
- Establish ground cover plants before unwanted trees are removed, if possible. Thin out unwanted trees, rather than

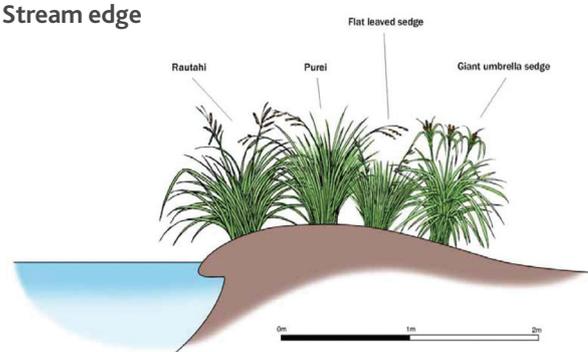
Flood area and slope



Back wetland and slope



Stream edge



cut them all down at once, so that the soil is protected from erosion and the stream remains shaded. Weeds can offer shelter and protect soil while plants establish.

Connect planting. Does the planting link with neighbouring planting?

- Just a metre wide strip along the length of a stream improves the stream substantially.
- Fill gaps upstream and downstream, and connect planting to neighbouring gardens and parks to create a continuous riparian zone.
- Link surrounding flood plain areas to the stream by planting from flood plain areas right up to the water's edge.
- Include attractive plantings and natural accesses to shallow parts of the stream, to provide a space where you can easily and safely reach and enjoy the stream.

Keep watch. Is riparian planting getting too dense? Dying? Causing flooding or erosion? Are weeds taking over?

- Store garden waste well away from stream side – pest plants and weed seeds spread easily.
- Replace pest plants such as willow trees – these cause erosion and block flows.
- Plant vegetation on bare earth to stop erosion and sediment washing into the stream.
- Do not spray pesticides and herbicides near stream – when washed into the stream they kill water life and plants downstream. Do not fertilize ground near the stream – this causes stream algae and pest plants to thrive.
- Water new plants until established.

Maintenance and monitoring checklist

Proper maintenance and monitoring ensures that the stream stays healthy and protects the values provided by the planted stream area.

Maintain

- Keep new plantings well watered.
- Remove new arrivals of weeds and animal pests.
- Watch for native seedlings establishing naturally and keep weeds clear of the seedlings.
- Replace dead plants with varieties more suitable for the position on the streamside.

Monitor

- Record and photograph planting – are some varieties doing better than others? Are they in the right position on the stream?
- Watch for weeds establishing from upstream or downstream areas.
- Record the variety of plant and animal life in the riparian zone and note improvements after planting and care.

Links/Further Information

Further information on stream side planting can be obtained by entering the following search terms on internet search engines:

- Auckland Council
- TP 148
- Native Forest Restoration
- Pest plants
- Biosecurity
- Weedbusters
- Freshwater weeds

There are more guides available in this series.

The complete set includes the following:

- Caring for Urban Streams
- Quick Reference Guide
- Guide 1: Flooding
- Guide 2: Erosion
- Guide 3: Stream water quality
- Guide 4: Stream side planting
- Guide 5: Stream life
- Guide 6: Fish passage



The activities described in this document include some activities that are minor and easy to do, but may also involve significant construction activity such as the use of machinery, moving large volumes of material and extensive changes to the shape and character of a stream. Such activities are likely to require resource consents. Professional advice should always be sought before commencing any work. If in doubt, please contact the Auckland Council stormwater team.

Remember, private landowners are responsible for maintaining the streams passing through or adjacent to their property and for ensuring that any work is done in a legal and safe manner.

For access to this information sheet and to find the other information sheets, search for "Caring for Urban Streams" at www.aucklandcouncil.govt.nz

Important Notice: © Auckland Council 2013. This fact sheet is an information guide only and is not technical or compliance advice. Its recommendations may not be complete or appropriate for all situations, and the person doing/arranging the work remains solely responsible for making their own assessments and doing the work properly, safely and in compliance with all laws and regulations.