



Figure 1. Pareoha Bay, mouth of Cannibal Creek. R. J. Stanley 18 Oct

#### References

Rogers, G. 1999 Coastal turfs of mainland New Zealand – their composition, environmental character, and conservation needs. Science for Conservation Series 107, DoC.

Acknowledgment Ewen Cameron helped us identify some of the species we found at the Cannibal Creek turf.



## Wildflowers along Auckland's Motorways

**Mike Wilcox**

Geoff and Liz Brunsden, the proprietors of the Tauranga flower seed business Wildflower World Ltd, have for several years been developing the concept of growing wild flowers on road verges. This spring we have seen the first large-scale operational sowings alongside Auckland's Southern Motorway. There have also been substantial sowings in Northland.

The motorway wildflower project, in which Wildflower World Ltd has worked closely with the Transit New Zealand (motorway managers), Serco Consultancy (site selection and planning), and Fulton Hogan (Auckland) Ltd (site preparation and maintenance), is a large-scale trial to evaluate three likely benefits:

a. Wildflower beds can save on costly mowing of grass and spraying of weeds.

b. Wildflowers offer a cost-effective and attractive alternative to other kinds of landscaping vegetation (such as shrubs and trees) planting beside motorways.

c. The public enjoy and respect the flowers, the traffic slows down appreciably, and there is less litter.

The sowings have been spectacularly successful, and the flower display along the Southern Motorway this spring has certainly been eye-catching and has prompted much favourable comment. Geoff Brunsden has designed the mix to ensure continuous flowering from early spring to late summer (Brunsden 2000). The species used are mostly North American and European annuals, and are mainly familiar garden flowers (Bryant 1997) or species already naturalised in New Zealand (Webb, Sykes & Garnock-Jones 1988).

It might be wondered if some of these flower species (or accidental introductions in the seed mix) will become weeds. This has been thoroughly checked out and the Ministry of Agriculture and

Forestry only allow wildflower seeds to be imported that are free of contaminants and diseases, and are of species that will not become weeds (or so it is hoped!).

The wildflower species in the Southern Motorway mix are as follows:

*Centaurea cyanus* L.

Cornflower. SE Europe. Pink and blue varieties. Flowering in late October/early November/December. Asteraceae.

*Chrysanthemum coronarium* L.

Crown daisy, annual chrysanthemum, edible chrysanthemum, garland daisy. Mediterranean. Edible leaves and tender shoots in China and Japan. Yellow flowers. Asteraceae.

*Clarkia amoena* (Lehm.) Nelson & Macbr.

Godetia. Annual. California, USA. Flowers pink to crimson. A common garden plant in New Zealand. Naturalised in Canterbury. Onagraceae.

*Coreopsis lanceolata* L.

Coreopsis, tickseed. SW USA. Wild in Waikumete cemetery. Perennial. Large yellow daisy flowers in November. Asteraceae.

*Coreopsis tinctoria* Nutt.

Plains coreopsis. Western USA. Annual. Yellow flowers, March. Asteraceae.

*Cosmos bipinnatus* Cav.

Cosmos. Sth USA, Mexico. Garden escape, NZ. Annual. One of the dominant species in the mix. Large pink or mauve flowers with yellow centres, in spring. Feathery leaves. Asteraceae.

*Cosmos sulphureus* Cav.

Yellow cosmos. Mexico, central America. Annual. Orange-yellow flowers. Asteraceae.

*Cynoglossum amabile* Stapf & Drumm.

Chinese forget-me-knot. Western China. Cultivated in NZ gardens. Bright blue flowers. Boraginaceae.

*Eschscholzia californica* Cham.

Californian poppy. California, USA. Orange flower. Naturalised in New Zealand, Rotorua. Flowers in October. Papaveraceae.

*Gaillardia aristata* Pursh

Gaillardia, blanket flower. North America. Perennial. Flowers January to March. Asteraceae.

*Gaillardia pulchella* Foug.

Gaillardia, Indian blanket. North America. Annual. Yellow/orange flowers with purple or crimson centre. Flowers from January to March. Asteraceae.

*Gypsophila elegans* M. Bieb.

Baby's breath, annual Gypsophila. Eastern and SE Europe. White flowers. Caryophyllaceae.

*Linaria maroccana* Hook. f.

Toadflax. North Africa. Annual. Crimson or purplish flower. Flowers October-February. Recorded wild from crevices in a rock wall above the Newmarket railway yards. Scrophulariaceae.

*Linum grandiflorum* Desf.

Flowering flax, red flax, scarlet flax. North Africa. Annual. The cultivar 'Rubrum' has large scarlet flowers. Linaceae.

*Linum perenne* L.

Blue flax. Europe, California, USA. Perennial. Sky blue flowers. Linaceae.

*Lobularia maritima* (L.) Desv.

Sea or sweet alyssum, sweet Alice. Southern Europe. White flowers. Commonly grown as an edging plant in gardens. Honey-scented. Cultivars are 'Creamery', 'Snowdrift', and 'Violet Queen'. Brassicaceae.

*Monarda citriodora* Cerv. ex Lagasca

Lemon mint. Lamiceae.

*Oenothera glazioviana* Micheli

Evening primrose. Considered to be a cultivar of European origin. Common on roadsides around the Rotorua lakes, fl January. Woodward Avenue, Mangere Bridge. Petals bright yellow, 3-5 cm long. Stems and inflorescence. rachis have numerous hairs with dark red bulbous bases. Flowers open in the afternoon and wither by the following morning. It has also been called *O. lamarkiana* De Vries. Onagraceae.

*Papaver rhoeas* L.

Red poppy, corn poppy, or field poppy. Europe. Common in Turkey ("gelincik"), including. Gallipoli. The "poppy day" poppy, from the battlefields of Flanders. In May, it abounds throughout Turkey as a weed in cereal crops, and generally in cultivated or waste land. It is also a very common plant of arable crops fields in Britain. It occurs especially on lighter soils. It appears in abundance very soon after the soil is disturbed, because the buried seeds can remain viable for many years. This results in a spectacular show of its red flowers on construction sites and new road works on the site of former arable land.. The motorway poppies come in reds, pinks, and white. Papaveraceae.

*Phacelia tanacetifolia* Benth.

Purple tansey, fiddleneck. California, USA. A wild colony occurs on Mangere Mountain. Unitec campus, Auckland. Blue flowers, strongly nectar-scented. Flowers mid January. Garden escape. Hydrophyllaceae.

*Rudbeckia hirta* L.

Coneflower, Mexican hat, black-eyed Susan. North America.. Garden flower. Flowers in October and November. Asteraceae.

*Salvia coccinea* Juss. ex Murray

Scarlet sage. Tropical America, Texas, USA. Cultivated ornamental. Lamiaceae.

*Silene armeria* L.

None-so pretty. Europe. Annual. Rose pink flowers. Naturalised in New Zealand. Caryophyllaceae.

**Acknowledgement** Thanks to Geoff Brunsten for supplying information on his wild flowers.

**References**

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 Webb, C. J.; Sykes, W. R.; Garnock-Jones, P. J. 1988: *Flora of New Zealand. Vol. IV. Naturalised pteridophytes, gymnosperms, dicotyledons*. Botany Division, DSIR, Christchurch. 1365 p.

