GREEN ARTERIES: A STRATEGY FOR URBAN CONSERVATION

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The idea of routes through Christchurch for the conservation of indigenous flora and fauna was first put to me by Regional Councillors Di Lucas and Diana Shand in 1988. I have been developing the concept further to include the conservation of energy and minerals.

With the completion of the Reconnaissance Survey (Meurk, Ward, O'Connor, 1993) most of the groundwork for strategies to conserve our indigenous flora and fauna in Christchurch has been completed. There are two potential strategies:

(i) Protect the most representative sites and manage them independently;

(ii) Protect as many sites as possible and where appropriate, establish restoration buffer zones and join them with wildlife corridors.

Whilst (i) may work for preserving our local flora, the scale of existing remnants would not provide enough habitat for the remnant fauna. It is generally accepted (Meurk & Norton, 1988) that Kereru (NZ Pigeon), Korimako (Bellbird), Piwakawaka (Fantail), Riroriro (Greywarbler) and Pukeko (Swamp-hen) are unstable populations primarily because of loss of habitat. Restoration of habitat is viable (Cartman, 1981) and there is growing expertise available in that field.

Wildlife corridors are a well established concept in New Zealand, but have only been applied to cities relatively recently (R.F. & B., Wellington, 1993). Whilst plans are being developed for a linear parks concept to link the green belt around Christchurch (Meurk, pers. comm.), there is still potential for an integrated network of wildlife corridors within the city.

How could wildlife corridors be established?

(i) In some areas traditional roadside planting by the local authority might suffice, i.e. avenues or park woodlands of kowhais and other native species;

(ii) Private property owners could be encouraged to plant appropriate indigenous species. Continuous corridors, similar to the American Greenline Parks (Hart, 1979) are desirable, but may be difficult to achieve on a voluntary basis. A publicity campaign and, perhaps, discounted prices for indigenous trees and shrubs might assist the process;

(iii) Or we could apply some creative ecology (Bradshaw, 1983) to come up with some unique solutions to our unique problems. I hope to demonstrate that this avenue offers great potential.

To explore ecology in the urban context it would seem appropriate to begin by applying some ecological principles to human activities. If we look at bicycle use for example, the percentage share of cyclists among total commuters has dropped from 30% in the 1950's to 10% by the late 1970's, where it has stabilised. Could there be similarities in influences on and decline of indigenous fauna? Reasons for the decrease in cyclists among commuters can be summarised as:

> Competition for road space (increase in cars) plus poisoning of environment (vehicle emissions) plus lack of appropriate "cyclist friendly" facilities.

The pressure of high car densities and inadequate checks on speed and driving habitats has changed the umwelt (perception of environment) of cyclists to the point where only 17% consider that cycling in Christchurch is safe (C.C.C., 1993). There appear to be parallels with decline in indigenous flora and fauna. By embracing a more holistic approach to planning (Williams, 1971) we may find solutions that are both environmentally pleasing and economically viable.

The potential for combining safe cycle priority routes and wildlife corridors is exciting. Motor vehicle speed restrictions to 30 km/hr and road restraints could provide excess road space for planting up with habitat-providing species. The restraints, or "traffic calming" could be based on a combination of Dutch Woonerven (Press, 1993)[2], German Radweg (as practised at Erlangen, Grebe 1982) and British greenways (Press, 1993)[1]. Several European countries have increased their cycle share through traffic calming (Cleary, 1991) with the following results:

(i) An average one third cut in road accidents;

(ii) A greater feeling of security, particularly among vulnerable users;

(iii) Reclamation of roadway space for non-traffic activity such as play and social interaction;

(iv) Environmental improvements through landscaping and a reduction in the intrusive presence of motor vehicles.

This would involve creating a new level in the transport hierarchy so that routes could be made expedient by being given the right of way at all intersections except with those routes higher on the hierarchy.

The potential routes should be determined by:

(i) Expedient routes between remnant habitat for indigenous fauna, taking waterways and potential restoration sites (parks and school grounds) into consideration as well as soil types;

(ii) Traditional Maori routes;

(iii) Expedient cycle routes for commuters into the city centre, schools and shopping centres;

(iv) Other transport facilities such as major arterial roads, bus routes and river crossings;

(v) Historic sites, tourist facilities and recreation facilities.

They would hopefully join up with the linear parks concept provided that facilities for pedestrians and cyclists were adequately separated in sensitive areas. Walkways could, of course, be a very important component in the Green Artery concept. There is also considerable potential for both local and overseas tourism by linking with low motor vehicle use routes out of Canterbury. For example, along the Waimakariri stop banks or near the foothills, or the Inland Road Waiau - Kaikoura.

The support of the Regional and City Councils and the public generally would be required to establish this new regime. Once established, it would satisfy much of the expectation that a "Clean Green Image" promotes. Why should we go to such lengths? We now have international obligations to maintain our indigenous biodiversity (U.N., 1992) and reduce our CO_2 emissions (C.R.C., 1993). There is already increasing demand for safe road space for children (Press, 1993)[2], cyclists, athletic people confined to wheelchairs, roller bladers and skate boarders. In future we may find that slower electric, or other alternative fuelled vehicles, require protected road space as well. Green Arteries could enable society to meet its international obligations by providing habitat for wildlife and people who prefer a safe, sustainable lifestyle.

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