7. COUNCIL'S NURSERY OPERATION

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The purpose of this report is to provide information on the Council's nursery operation as requested at the meeting of the Parks, Gardens and Waterways Committee on 31 March 2002.

INTRODUCTION AND BACKGROUND INFORMATION

A detailed report on the Council's nursery operation was presented to the Parks and Recreation Committee in July 1994 and again in April 1996. This report contained much of the information now sought by the current Committee and, in order to present a comprehensive account, has been updated and added to in response to specific information requested.

CURRENT OPERATION

Legislative Framework

Under the terms of Section 620(3) of the Local Government Act 1974 the Council can use land *'as a plant nursery for the propagation of trees, shrubs and plants of any kind, otherwise than for sale to the public'*. This effectively prevents the Council from operating in competition to commercial nurseries and determines that any plants produced are exclusively for the Council's own use.

Resources

The nursery operation is now confined to two sites. Linwood Nursery, covering approximately 1.3 ha provides the primary base for nursery activities with six glasshouses, shade houses, a potting shed and storage facilities along with 7,000 m^2 of standing area. Harewood Nursery is a satellite operation specialising in open ground tree production with about six ha of the site currently utilised. The nursery employs a total of five permanent staff including a supervisor, with casual workers engaged to supplement staff numbers during periods of peak labour demand. The Botanical Services Manager and Rural Fire and Safety Facilitator provide management and planning support.

The following table shows a comparison of pre amalgamation resources with the current situation.

Table I Resources 1989 cf Current

	Pre Amalgamation 1989	1995/96	Current 2000/2001
Number of sites	10	2	2
Total Permanent Staff	15 FTEs (included 3 apprentices)	6 FTEs	5 FTE's
Total Casual Staff	-	2.5 FTEs	2.5 FTE's
Stock Numbers - Container	70,000	259,293	285,194
- Trees	8,000	13,643	21,393
- Bedding	180,000	-	

Activities

The nursery operation provides a range of activities and services to the Council. The rationalisation process has resulted in the phasing out of activities that were not viable and concentrating on areas that could be carried out cost effectively. To this end the nursery has ceased bedding production, which is now totally grown on contract and organised through Botanical Services. Nursery resources are now concentrated on the production of standard park lines and native revegetation species many of which are not commercially available in the large quantities we require. In fact, almost 65% of the plants currently held at the nursery are for wetland and dryland native revegetation projects. Propagation material and seed for producing revegetation plants is collected from specific sites to ensure genetic purity is maintained. Other specialist lines have been phased out from production and these are being purchased in from specialist commercial suppliers e.g. roses, camellias, rhododendrons.

A semi mature tree bank and a large container facility at the Harewood site have also been established to provide trees for instant effect.

Table II Changes in Output Activities 1990/91 cf 1995/96 cf 2000/2001

Output Activities	% of Production	Production Numbers	% of Production	Production Numbers
	1990/91	1990/91	1995/96	1995/96
Bedding Production	17.0	191,680	0	0
Container Production	55.0	71,195	71.5	259,253
Open Ground Tree Production	15.0	8,800	17.0	13,643
Indoor Plants (Supply/Service)	4.5	520	4.5	676
Display Plants	1.0	34 jobs	0.5	31 jobs (to 30/3/96)
Floral Work	2.0	50 jobs	1.5	50 jobs estimated
Training	4.0	-	1.5	-
Research	0.5	-	2.0	-
Technical Advice	0.5	-	1.5	-
	100.0		100.0	

Output Activities	% of Production	Production Numbers	% of Production	Production Numbers
	1995/96	1995/96	2000/2001	2000/2001
	0	0	0	0
Container Production	71.5	259,253	71	285,194
Open Ground Tree Production	17.0	13,643	19	21,393
Indoor Plants (Supply/Service)	4.5	676	5.0	856
Display Plants	0.5	31 jobs	0.5	37
Floral Work	1.5	50 jobs	0	0
Training	1.5	-	1.5	-
Research	2.0	-	1.5	-
Technical Advice	1.5	-	1.5	-
	100.0	-	100.0	

As shown in the above table the nursery provides a number of additional services. An indoor plant hire service is provided to all Council buildings and a display plant hire service for functions. The nursery also provides a specialist task training environment and carries out research on new species grown from index seminum seed. Experimental trials are undertaken, for example, to assess suitability of plants for saline conditions or evaluate trees for street use.

Production Factors

Client Support

Apart from providing plant material for Parks and Waterways Unit projects the nursery supplies plants to a number of other Units within the Council. In particular the City Streets Unit are significant users of the services offered by the nursery. These Units have specialist requirements that are met by the nursery. The City Streets Unit requires robust trees for street planting along with, essentially, groundcover plants for median strips etc. The Parks and Waterways Unit has in recent years moved towards a "greener" approach to river and waterways management which has resulted in a high demand for indigenous wetland species. Most of these species are not grown at all by commercial nurseries and the Council nursery has developed considerable expertise in producing plants for this purpose.

The following table indicates the types of plants provided by the nursery.

Table III Analysis of Plant Species Held at March 1996 – March 2001

Plant Group	Number of Plants	% of Total Plants	Number of Plants	% of Total Plants
Trees for park/street planting	13,643	5.0	21,393	7.0
Shrubs and Groundcover for general planting projects	83,799	30.7	123,507	40.0
Native Wetland Species - Freshwater & Saline	77,843	28.5	87,000	28.5
Native Revegetation Species for Port Hills and Dryland sites	97,651	35.8	74,687	24.5
TOTAL	272,936	100.0	306,587	100.0

Production Planning

In order to supply the number and species of plants required for the city wide planting programme the nursery has made a considerable effort to establish a production planning system. With information collated from client requests a database has been prepared that provides relatively accurate indicators for medium term production requirements.

Species Selection

The selection of species produced or supplied at the nursery is essentially determined by client requests. These requests are based on estimated requirements for ongoing and future projects and in many instances are tied to detailed planting schemes and plans prepared by either the Council or Consultant Landscape Architects.

As stated previously there has been a considerable upsurge in native revegetation projects and the nursery has responded by specialising in native plant production. However the notion to retain the "Garden City image" has not been ignored with some ornamental species being grown at the nursery and any others required are purchased in from commercial suppliers. The open ground nursery at Harewood has an extensive range of deciduous trees available to maintain the predominantly "English Tree" framework of the city's landscape.

Supply Sources

In order to respond to client requirements for the city wide planting programme the nursery has supplied plants from three basic sources, and these are set out as follows:

(i) *Plants Produced and Grown on at the Nursery*

Plants grown at the nursery are generally standard park lines, open ground trees and wetland and dryland revegetation species. Close to 156,700 plants have been produced at the Nursery in 1995/96 and 218,004 in 2000/2001.

(ii) *Plants Grown on Contract for the Nursery*

This has generally included bulk lines such as groundcovers and has also involved the supply of some specialist species. Approximately 105,000 plants were grown on contract for 1995/96 and 88,583 for 2000/2001.

(iii) *Plants Purchased in from Commercial Suppliers*

Plants are purchased in to supplement orders that cannot be filled from nursery stock. In many cases this includes specialist lines such as camellias, roses, ornamental conifers, herbaceous perennials etc. Nursery staff attempt to obtain the best price for the Council depending on availability and quality. Pre-purchasing as early as practicable is necessary as availability during the planting season is not always assured. In excess of 70 commercial nurseries all over New Zealand are dealt with to supply the required plants.

The table below sets out a breakdown of supply sources for 1993/94,1994/95 and 2000/01.

Table IV Nursery Sources of Supply 1993/94, 1994/95 and 2000/01

Supply Source	1993/94 Number	1993/94 % of Total Plants Available	1994/95 Number	1994/95 % of Total Plants Available
Produced at CCC Nursery	138,715	66.4	145,261	52.0
Grown on Contract	29,608	14.1	72,354	26.0
Purchased in from Commercial Suppliers	40,674	19.5	61,180	22.0
TOTAL	208,997	100.0	278,795	100.0

Supply Source	1994/95 Number	1994/95 % of Total Plants Available	2000/2001 Number	2000/2001 % of Total Plants Available
Produced at CCC Nursery	145,261	52.0	196,611	56.5
Grown on Contract	72,354	26.0	88,583	25.5
Purchased in from Commercial Suppliers	61,180	22.0	108,133	18
TOTAL	278,795	100.0	393,327	100.0

* Excludes 21,393 trees grown at Harewood Nursery

This shows that almost one half of plants supplied 196,716 (2000/2001 yr) were provided from the commercial sector. It also indicates that most of the increase in demand for plants between 1993/94 and 1994/95 has been met by contract growing or purchasing. Some 48.5% of requirements for 2000/2001 were met from contract growing or bought in plants from commercial nurseries (150,830 plants).

Production Capacity

The Linwood Nursery facility is currently operating at production capacity given the resources and standing space available. There is considerable room for expanding the open ground tree area at Harewood Nursery but current and projected demand for trees does not indicate this will be necessary in the near future.

In the earlier report it stated that any increase in demand for nursery stock would be met from contract growing or direct purchasing in from commercial suppliers. Over the last six years this has occurred with contract grower supply increasing by 22% and direct purchasing up by 76% on the 1994/95 figures.

EFFICIENCY MEASURES

A number of measures have been introduced at the nursery aimed at improving efficiency. Some of these were identified in the consultant's report and others have resulted from staff initiatives. It is worth noting that since the last report the number of plants handled by the nursery has increased by 33% but staff numbers have dropped. Even in the period 1994/95 to 2000/2001 the number of plants handled has increased again by a further 24%.

Details on efficiency measures adopted are set out under the following headings. Minor efficiencies are an on-going staff effort.

Production Practices

- Use of casual workers at times of high labour demand.
- Purchasing in of ready mixed potting medium made to our formula.
- Elimination of tubing stage with rooted cuttings going directly into polybags.
- Rationalisation of container grades.
- Staff productivity assessed through individual tallies of plants potted.
- Propagation from existing stock to save travelling out for cuttings.
- Installation of an automatic watering station for polybagging.
- Improvements to the misting system resulting in increased propagation capacity.

Nursery Layout, Circulation Patterns and Ergonomics

- Construction of an exit point to enable vehicles to flow through the nursery standing areas without the previous congestion.
- Relocation of potting mix storage bins close to potting facilities.
- Repositioning of growing on line area to enable more efficient flow into the potting shed and potted up stock out.
- Purchase of additional trolleys to enable more potted stock to be moved at a faster rate.
- Improved seating for propagating activities providing less tiresome work stations.

Maintenance Practices

- Installation of drippers in indoor plant glasshouse to conserve water and reduce labour.
- Use of residual herbicides to control weeds in potted stock and on paths.
- Treating of pests on indoor plants in situ rather than removing them back to the nursery.
- Use of contractors to undertake weed control at Harewood Nursery when staff are tied up with seasonal work, eg spring.
- Servicing of indoor plants on a two weekly cycle rather than weekly and responding to specific problems as required. We now do the indoor plants on a 3 week cycle after experimenting with this it was found there was no loss of quality of maintenance but there was significant saving of staff time.

Procedural Improvements

- Establishment of an effective ordering system providing sufficient time for making up orders and a lead in period for dispatch.

- Provision of a computerised stock inventory system that automatically adjusts stock numbers as orders are dispatched and prints out an invoice.
- Labelling of ordered plants to save moving them before dispatch.
- Improved liaison with clients to produce accurate production planning information to ensure the correct species and numbers of plants are grown.
- Health and safety improvements in respect to procedures, practices and equipment.

Future Considerations

The review of practices and procedures is a continuing process and a number of issues are currently being considered including:

- A range of suggestions from nursery staff on equipment and procedural improvements.
- Further development of the large tree bank and more containerised large trees.
- On line nursery stock information for Landscape Architects in the City Solutions Unit.
- Competitive pricing of the indoor plant hire service.

FINANCIAL PERFORMANCE

Production Costs

One of the questions that is frequently posed in respect of the nursery operation relates to how the actual production costs compare with wholesale nursery prices. An exercise has been undertaken to ascertain the production costs of standard lines and compare these with commercial wholesale rates. The method for calculating production costs is based on a system developed at Ryde College, England and takes into account actual costs for stock, container, potting media, labour, space, losses, interest, sales and extras. Information on commercial wholesale rates has been derived from current price lists and averaged out over a number of suppliers.

The following table presents a production cost/wholesale rate comparison with examples of standard lines grown:

Table V Nursery Production Costs cf Commercial Wholesale Rates

Species	Grade	Growing Period	CCC Nursery Production Cost	Average Commercial Wholesale Rate	CCC Nursery Production Cost	Av. Commercial Wholesale Rate
Container shrub, eg Pittosporum tenuifolium	PB5	One year	$3.83	$4.30	$1.74	$4.52
Container shrub, eg Pittosporum eugenoides	PB8	One year	$5.89	$6.00	$3.56 Pb12	$8.50 *Pb 12
Revegetation plant, eg Kunzea ericoides	Tinus Root Trainer	One year	$0.94	$1.35	$0.59	$2.43
Revegetation plant, eg Carex secta	RX 90 pot	One year	$1.58	$2.10	$0.57	$1.76
Open ground tree, eg Alnus glutinosa	> 1.5 m	One year	$4.02	$5.35	$4.78	$12.62
Open ground tree, eg Quercus palustris	> 2.5 m	Three years	$8.38	$13.00	$5.07	$15.23

This information indicates that the Council Nursery is cost effective in producing standard park lines with production costs generally lower than commercial wholesale prices. It should be noted that the average commercial wholesale rates are the basic cost of the plant and do not include freight, handling, storage and ordering costs. This comparison does not take into consideration quality standards. The Council Nursery grows high quality plants that are robust enough to survive in public locations. There may well be examples where plants of an apparently similar grade are offered at lower prices and in these cases the lower price is generally indicative of the plant quality.

1995/96 Budget Targets

The budget target for 1995/96 is to achieve a 100% recovery on the nursery operation and this was achieved. During the 1993/94 and 1994/95 financial periods the 100% break even target has been exceeded resulting in a modest profit situation at the end of the financial year and again in succeeding years including 2000/2001 year the nursery has produced a profit situation.

SUMMARY

The basic objective of the Council's nursery operation is to provide a quality product and services at an acceptable cost and, with the concentration of effort on improving performance and efficiency over the last three years, this objective is being realised. With the substantial increase in demand for indigenous revegetation plants and to provide the species to maintain the city's tree framework the nursery has a role to play in providing a unique service that warrants continued support.

NATURAL + PEOPLE + ECONOMIC STEP ASSESSMENT

#	CONDITION:	Meets condition ✓✓0✖	HOW IT HELPS MEET CONDITION:
	The Natural Step		
N1	**Reduce non-renewable resource use**	0	
N2	**Eliminate emission of harmful substances**	0	
N3	**Protect and restore biodiversity and ecosystems**	✓	By promotion and using local genetic stock it will help maintain local bio-diversity. Provides source of plants to help with absorption of CO2.
N4	**People needs met fairly and efficiently**	*NA*	*NA - See People Step + Economic Step*
	The People Step		
P1	**Basic needs met**	0	
P2	**Full potential developed**	✓✓	Provides source of information and education on growing indigenous plant species. Continued use of the nursery outputs will lead to enhanced environment.
P3	**Social capital enhanced**	0	
P4	**Culture and identity protected**	0	
P5	**Governance and participatory democracy strengthened**	0	
	The Economic Step		
E1	**Effective and efficient use of all resources**	✓	Nursery works hard to be as effective and efficient in use of resources, recycling containers as much as possible.
E2	**Job rich local economy**	✓	The nursery is labour intensive and by using labour rather than machinery it maintains employment whilst at the same time productivity keeps it financially viable.
E3	**Financial sustainability**	✓	With present production and sales the nursery is able to maintain its financial sustainability.

Staff Recommendation: That the information be received.

Chairman's Recommendation: That a tour of the Council's nursery be arranged later in the year in conjunction with another seminar session.