

The Notable Trees Of New Plymouth



Based on a review of S.W. (Bob) Burstall's Mensuration Report # 19

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Editor: George Fuller

Acknowledgements

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All members of the community and private landowners who have provided invaluable information and especially to those people who allowed access to their trees.

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The qualities Mr Fuller has contributed to this paper are too vast to list. If credit is to be given then a huge amount must be given to my friend George.

Colleen Scott (mum).

For assisting in research and field related work. But, more importantly for her on-going encouragement and continual support of which has enabled this paper to be completed.

Frontpiece: *Agathis australis* (kauri) Native tree 1, 69 Govett Ave. Planted 1905

Summary

This report reviews and assesses all of S.W. (Bob) Burstalls (aided by G. Fuller) 1969 and 1973 listing of Historic and Notable trees in New Plymouth city.

From the 213 trees originally recorded 157 (73.7%) still exist (December 2002).

41 trees out of 56 (73.2%) remain on private property.

Information provided on the remaining trees include updated measurements, their condition, precise locations, points of interest and any other previously recorded and unrecorded material and history.

During this process an additional 140 notable trees previously unrecorded have been incorporated, concentrating on those species renowned for their longevity.

The following text has been written with an emphasis on human interest.

Foreword

It is possibly unethical for one who has assisted in the compiling of such a work as this to be involved in its foreword but since neither Cory nor I tend toward the conventional, I have accepted this opportunity to set the stage.

S.W. (Bob) Burstall is a hard act to follow. He swept into the New Plymouth City Council's Parks and Reserves office in 1969 when J.W. Goodwin (J.W.G.) was its Director and I was Curator of Pukekura Park and with his insatiable enthusiasm and dedication to studying trees, charmed J.W.G. into allowing me to assist as 'tape boy' during the few days he was here to record local trees for his national register. During this exercise and in subsequent correspondence and visits I soon gained great respect for his attention to detail and constant search for accuracy in all matters. He returned in 1973 but time soon ran out again with much left to be recorded so he switched on his charm once more and J.W.G. willingly agreed to allow me to continue recordings solo 'as time permitted'.

Within the deadline allowed I had compiled a list of a further 142 specimens which I forwarded together with photographs. I have good reason to be proud of his gracious and generous acknowledgement of my help noted on page 8 of his Forest Research Inst. Mensuration Report # 19 (includes Taranaki). Bob was outstanding in the field of tree recording and I feel privileged to have shared not only in his friendship but also his trust.

My reason for recording these details is not solely for ego massage but more importantly to offer a possible explanation for why, 30 odd years later I would allow myself to be enticed out of comfortable retirement to once again become a 'tape boy' but this time to a younger boss, naïve enough to dare to emulate the great Bob Burstall. Enter Cory Smith.

In the course of upgrading his arboricultural qualifications at Waikato Polytechnic Cory was assigned to re-measure 100 of the trees recorded in the F.R.I. regional reports of Burstall, with a choice of locality. Since he is from New Plymouth, that city was his choice but he soon faced an impediment. Some location data in report # 19 he found to be too vague for the level of accuracy demanded. He soon found out that one of the perpetrators of recording the inadequate detail was still alive and I was soon brought to account for my sins. Would I now be able and if so, willing, to help with identity and locality verification?

I have to confess that a quick assessment of this bright eyed and bushy tailed young tree seeker with such high aspirations left me with the feeling that 'burn-out' would take about a fortnight, then I would be left in peace and so agreed. Here I am nearly two years later anguishing over words to complete his manuscript! In the meantime I have fallen down steep banks, splashed in streams, been peppered with mosquito bites and have callouses from having obediently run out and rewound a 100 m tape surely thousands of times (one quickly learns the error of dragging a tape between measurements). Despite all that, purring over the volume and quality of his work leaves me with the distinct feeling that it was all worth-while.

We must look a fairly unlikely duo entering a park to measure trees, even discounting the age difference and casual dress. Perhaps surprisingly we were never arrested for tenderly caressing tree trunks while gazing upward in adoration, incanting in a foreign language, then conversing in numbers shouted aloud but I would not have been surprised if parents clutched their children a little closer and womenfolk made certain that they were always between us and the nearest exit. Even more surprising was that no women screamed when we knocked on their doors on the pretext of wanting to measure the tree in their garden. With no such setbacks we both became consumed with the desire to excel in our task with Bob Burstall as our inspiration and the tally grew beyond 100, sneaked up to 200 then over 300 when rather fortuitously time ran out.

It would have been much simpler and more expedient to simply clinically record statistics and satisfy academia but we soon found that there are moving human interest stories and important historical associations in the background of many trees and we both felt that such detail should be faithfully recorded. Cory has a sensitivity to the sentiment and emotion which the quest has revealed and he has embodied much of this feeling in his writing, even to expressing awe. In offering guidance on grammar and in proof-reading care has been taken to avoid destroying this quality.

I suspect that I cut my first tooth chewing lumps of kauri gum from the craters left by gum diggers in the Henderson property on which my parents established an orchard. In 1954 I was given copy # 837 of 'The

Story of the Kauri' signed by A.H. Reed and for years I have collected data about the species, notably anything relating to the human-assisted migration across its natural southern boundary (Kawhia – Thames) into Taranaki where it now looms large. No doubt my mild obsession has strongly influenced Cory, helping to explain the disproportionate volume of space dedicated to this single species. Our studies reveal that New Plymouth is indeed 'The Kauri Capital of the World' and give ample justification for predicting that in the not too distant future, visitors will be drawn here specifically to enjoy what 'The City of Giants' has to offer. Burstall estimated that there were 'about 4000 trees' in the locality and it can be claimed that the equivalent of farm forestry with kauri was pioneered in a cow paddock in Brooklands Rd, N.P., in 1935.

The blending of scientific facts with emotional interpretation tends to be nauseous to the academic. It is at this point therefore that a travel-sickness pill may be advisable for the more academically minded reader because this journey pitches and rolls from one extreme to the other. I think that Cory has based justification for this on the facts that the potential dimensions and lifespan of most trees exceed that of humans and they tend therefore to evoke a sense of reverence, particularly if planted for a special reason. The fact that levels of reverence and sentiment are unmeasurable has not been regarded as sufficient reason for their exclusion from this document.

Cory Smith will be a hard act to follow. He swept into our home and for months charmed me into neglect of my garden, orchids, house maintenance and various hobbies in the course of pursuing greater knowledge of trees. He even charmed my long-suffering wife into offering food, which obliged me to teach him the secrets of constructing genuine open sandwiches.

Cory's research has been thorough and he has crystallised much new material through listening intently and recording that of relevance. I feel both proud and privileged to have been associated with his masterwork. I am even tempted to offer my services as 'tape boy' for the third time round!

George Fuller M.B.E.
6th November, 2002.

Preface

Undertaking the Diploma in Arboriculture, at the Waikato Polytechnic in 1997 proved to be an extremely hectic year. It was particularly difficult, as I was not only studying for the 3rd and final year but completing 2nd year papers I had missed, (through no fault of my own). In addition to this obligation, aspiration for travelling the world was growing stronger. So, if I was not in class, or studying, I was climbing trees for the local council and washing dishes at night to finance my dreams. Because of the large volume of commitments it was not feasible to write my final paper for my diploma in 1997 (hence the following). As the end of 97 grew closer, my excitement grew stronger. I now had the finances to begin my journey overseas. Confirmation of a flight to London the day after my final exams quickly followed. It was at this point a perceptive Mr Robert Graham (tutor) encouraged me to return (someday in the future) to the Waikato Polytechnic "to make sure you finish your final paper". Those words I remember well. However, once in North London and confronted with felling sycamores during snowfall, or reducing the canopy of an ash in temperatures near freezing point with no sensation in my fingers and the visibility up the tree only a few metres much of the glamour had worn off and I tried hard to forget those so called wise words Rob had spoken. In fact, I'm sure his name (along with that of other Tutors) would have been cursed on more than one occasion.

Over 3 years later, yearning for a real barbecue in hot weather at a proper beach I returned to this beautiful country, Rob's words still fresh in my mind. An appointment at the Waikato Polytechnic was first on the agenda. I was given the opportunity to review the 1969 and 1973 S. W. Burstall listing of historic and notable trees in New Plymouth. Nothing appealed to me more. The prospect of not only having the opportunity to re-discover New Plymouth, but also to get to know each individual notable tree roused my emotions, (many I had climbed as a child). It was decided then and there this paper was to be written for the recognition of these trees, no matter how long it took. There was no hurry as I was under no pressure to attain any qualification, (at this stage it had taken over 7 years for me to achieve my diploma anyway). It was definitely not for any personal gain, but more as an informative, interesting, educational past time.

The requirement was to review 100 trees that Burstall (aided by G. Fuller) had recorded in 1969 and 73. Upon examining the Mensuration report # 19 (which includes Taranaki) I discovered that there were 172 trees within the 50 km zones of central New Plymouth. The temptation to visit all of these trees was so great that at first I made somewhere around the 50 km zone my designated city boundary.

In the earlier stages of development I was put in contact with Mr G. Fuller, which made locating the original trees so much easier. His enthusiasm and drive is amazing. It was comforting to see someone else so passionate about trees. I no longer questioned my sanity. Maybe I was naive, but at this early stage I never envisaged how much this study would engross me, or the amount of factors that had to be put in place to produce an accurate and comprehensive report that did New Plymouth's trees justice. Problems started to arise on the field trips. What happens if you find a specimen better than the original recorded? We had to include that tree also. In addition to this, Burstall had included 'other specimens' under a single title, so they too had to be included. Furthermore it is impossible to travel throughout New Plymouth without being amazed by the kauri population (an alien tree to the district until the turn of the 20th century). Because of the longevity, character and potential size of this tree it is imperative that information be recorded for future generations. The volume of research soon grew much larger as we spent more time discovering new trees in addition to kauri. It now includes the research of over 353 trees.

From the onset, this research was written for "Mr and Mrs Joe Blogg's", - the type of person who was keen on trees, but did not necessarily have a great academic knowledge of them. I have endeavoured to write this study in an easy format, with simple explanations, but without being too basic. The locations are updated and if necessary can be paced out from prominent objects in the landscape. The original readings (1969 or 1973) appear first with the updated recordings (comparative) appearing under the original.

It is my hope that this paper or sections of it can be made readily available to any organisation, group or individual that has an interest in the trees of New Plymouth. Among other objectives, I would like to think the New Plymouth Notable tree register is updated and the better specimens included on a national scheme. It would also be possible to compile a detailed listing of those notable trees located in parks and reserves.

The potential use for this type of information is unlimited!! (It's massive!!). As research continues throughout New Zealand it will be possible to form a national database. From the material collected it will

become possible to extract comparative information, which would reveal the response of any given species in a range of climates and environments. Factors such as adaptability, growth rates, regional dominance, longevity, etc. etc. would become apparent.....Surely this would be vital information for local body decision-making. The ramifications of material such as this for both native and exotic trees are exciting!

Finally, I hope that every reader gains as much enjoyment from the following information as I did from compiling it. I look forward to undertaking the same challenge again in 30 years time!

Cory Timothy Allan Smith. 2002

A suitable poem by J. D. Streuss:

This is their temple, vaulted high,
And here we pause with reverent eye,
With silent tongue and awe-struck soul:
For here we sense life's proper goal.

To be like these, straight true and fine,
To make our world like theirs, a shrine.
Sink down, Oh, traveller, on your knees,
GOD stands before you in these trees.

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1. Introduction

1.1 Background Information

Mr S. W. (Bob) Burstall commenced employment with the Forest Research Institute (FRI) in 1948. His main responsibility was to work in the forest mensuration field, help to obtain the basic data and design methods of estimating tree volume and taper. His work entailed travelling widely throughout New Zealand obtaining measurements of unusually big trees and he acquired a good knowledge of exotic forests. As more experience was gained Mr Burstall developed a compelling interest, which broadened to include non-forest trees of both exotic and indigenous species. At first a large portion of his study was a personal hobby in his own time. This was until official interest was expressed in his work and he was encouraged to continue when it did not interfere with other commitments. By 1970 Mr Burstall was one of the more senior officers at the Forest Research Institute and had written many internal reports, published five papers on volume and taper and compiled a list of notable trees for "New Zealand Plants and Gardens". He had become an acknowledged expert on notable and historic trees and by the time he retired he and other FRI staff members, (A. D. McEwen and W. J. Wendelken) had written a series of regional internal FRI reports as follows:

Mensuration Report: # 16 - Northland, Auckland.
17 - Waikato, Thames Valley - Coromandel, Bay Of Plenty.
18 - Poverty Bay, Hawkes Bay.
19 - Taranaki, Wanganui, Rangitikei, Central North Island.
20 - Wairarapa, Manawatu, Wellington.
21 - Marlborough, Nelson, Westland.
22 - North Canterbury, South Canterbury, Chatham Islands.
23 - Otago, Southland.
24 - Historic and Notable Trees of National Interest.

The above regional listings have an initial distinction between 'indigenous' and 'exotic'. These were further arranged in categories of 'Historic' and 'Notable', each further subdivided according to 'national' and 'local' importance. Although these categories are very comprehensive and useful for comparative reference, interpretation can become cumbersome.

Burstall's definition of Historic and Notable was as follows:

Historic trees are defined as those commemorating important events in Maori history and legends or in European settlement. For planted trees, nationally historic specimens are limited to those 50 years and older in 1970, but for locally historic trees there is no such restriction.

Notable trees are defined as those of species rare in New Zealand; of the earliest known plantings; and of large diameter, height or canopy spread. Individual trees of national interest must be larger in any one of the three dimensions than any other of their species known in the country.

The reports had limited distribution and were largely kept in the archives of FRI, Rotorua. However Burstall did use a substantial amount of this information in publishing a book with E. V. Sale in 1984: *Great Trees Of New Zealand*.

The following study is based on a section and has used guidelines of Mensuration Report # 19. The majority of the original, valuable information was gathered in 1969 and 1973. It was met with great support by Mr J. Goodwin (at that time Director of the city's Parks and Reserves Department) and he allocated time for Mr G. Fuller (at that time Curator of Pukekura Park) to accompany and aid Mr Burstall in measuring and gathering information on Taranaki's trees. After a final survey by Burstall and Fuller in May 1973, Mr J. Goodwin again allowed G. Fuller additional time to compile a comprehensive, larger list of notable and Historic trees in Taranaki (no doubt, a lot of work would have been done in George's own time). On the 30.7.73, G. Fuller sent Burstall a listing of 142 trees (many specimens had not been previously recorded). Unfortunately, not all of the information could be contained in the original Mensuration Report # 19 as guidelines had already been dictated by other regions (reports) already completed. In 1982 G Fuller reviewed the Burstall measurements concentrating on those in Pukekura Park and Brooklands.

Burstall and Fuller were not the only people to record trees in the region. In more recent times (spring 1986) Scot Medbury, at the time a student from the University of Washington in Seattle, U.S.A recorded trees and shrubs confined to Pukekura and Brooklands Park. His survey was commissioned by the New Plymouth Parks and Recreation Department using the plant-recording scheme adopted by the International Dendrology Society. Approximately 500 specimens were recorded from both parks from which the first major register of trees was compiled. Medbury's readings provide valuable comparisons and appear in brackets, thus (*Medbury...)

The following study was primarily to review historic and notable trees recorded in New Plymouth city by B. Burstall, (1969 and 73) and update their status and history. It is important to note here, that Burstall's notes have not been altered except for the addition of more widely used common names, and imperial measurements have been converted to metric.

In addition to Burstall's work, this study now contains:

~ Recordings by G. Fuller, (1973 and 1982),

*Recordings by S. Medbury, (1984 and 86).

+Recordings by C. Smith and G. Fuller, (2001 - 2006).

Ref:

-Burstall S. W. and Sale E. V. Great Trees of New Zealand. Published by A.H and A.W Reed Ltd, Wellington, 1984.

-Burstall S. W. Forest Research Institute. Historic and Notable Trees Of New Zealand; Taranaki, Wanganui and Rangitikei - Central North Island. Report # 19.

1.2 Purpose

The primary purpose of this report is to review and assess S.W. (Bob) Burstall's (aided by G. Fuller) original listing of Historic and Notable trees in New Plymouth which appear in the F.R.I Mensuration Report #19: Taranaki, Wanganui and Rangitikei - Central North Island.

- Identify the proportion of remaining trees.
- Modernise their measurements and related information.
- Attempt to discover why those trees that no longer exist were removed.
- Establish how many of these trees appear on the New Plymouth District Council (N.P.D.C) Notable Trees register and receive protection under the Resource Management Act (1991).
- Attract attention of the N.P.D.C to these trees and other notable trees in New Plymouth.
- Supply an indication of private landowners attitudes regarding historic and notable trees on their property.
- Generate public awareness of Historic and Notable trees in New Plymouth city.
- Documentation of important history relating to these trees.
- Record New Plymouth's significant kauris and emphasize the dominance these specimens will have on the cityscape in the future.

1.3 Method

- With the aid of G. Fuller locate and visit all trees listed in New Plymouth city by Burstall in his F.R.I Mensuration Report #19.
- Take note of additional trees not originally recorded by Burstall and consider including these specimens.
- Remeasure all remaining trees originally listed by Burstall.
- Measure and include other notable specimens.
- Conduct a visual inspection on the condition of all trees measured.
- Detail precise locations of all trees measured.
- Gather as much previously recorded and unrecorded information on each individual tree as possible, i.e. landowners, the general public, B. Burstall, J.W. Goodwin, G. Fuller, S. Medbury, New Plymouth District Council (N.P.D.C), New Plymouth Library and the Daily News (T.N.L.).
- Establish why and when missing trees were removed or died.
- Discover how many of the trees appear on the N.P.D.C Notable Trees register (March 2001) and receive protection under the Resource Management Act (1991).
- Photograph existing trees, including special features.
- Complete private landowners survey form.

1.3.1 Measurement procedure

Burstall's protocol on measurements has been adopted with an explanation directly below. His measurements in imperial have been converted to metric.

- Height - The distance in feet (now metres) between the highest point of ground at the base of a tree to the highest part of the tree, (Burstall 1973).
- Canopy spread - The average of two canopy diameters (north to south, east to west) is shown in feet (now metres), (Burstall 1973).
- Diameter - For most trees, diameters were measured at 4 feet 6 inches (now 1.4 metres) above ground level at the highest point. Occasionally however, because of low branching, diameters have been taken at ground level (G.L.), 30 cm, 60 cm, 90 cm as stated. The abbreviation for the diameter is dbh = diameter at breast height, (Burstall 1973).

1.3.2 Equipment

- 100 metre measuring tape.
- Clinometer.
- Advantage laser-measuring gun
- Digital camera.

1.3.3 Limitations of Report

When conducting the survey several areas of uncertainty arose which made it difficult to clarify the exact tree Burstall referred to. These uncertainties are listed below:

- Several similar sized trees of the same species are present at the same location.
- Only one original existing tree proved difficult to locate (NATIVE TREE 9: *Beilschmiedia tawa*), as it is located in the Maranui Gully, Brooklands Park. Mr G. Fuller could not recall the exact tree measured, so the one he believed to be the largest was recorded.
- Property owners have changed and development has occurred since Burstall wrote his Mensuration Report #19.
- New property owners have no previous knowledge of the existence and/or significance of the tree/s.
- The bulk of this study has been produced on a part-time basis over a period of 32 months. Because trees are a dynamic organism, ever changing, it is difficult to classify this report as current.
- Any limitations or conflicts are discussed directly under the 'REMARKS' heading for each specimen.

1.3.4 Example of Format

NATIVE or EXOTIC TREE: 00	= If the tree is native to New Zealand or introduced. = The order that tree appears in Burstalls Mensuration Report #19.
SPECIES:	= The botanical name of the tree.
COMMON NAME(S):	= The most frequently used common name(s) for that species.
B.B CATEGORY:	= Bob Burstall's category. When he originally listed these trees he placed them in different categories relating to historic or notable status and regional and national importance. The definition of historic and notable can be found under 1.1 Background Information.
<u>ORIGINAL READINGS</u>	= Those of Bob Burstall.
LOCATION:	= Vague description of the trees location.
DATE MEASURED:	= Either 1969 or 1973.
HEIGHT:	= Self-explanatory. Converted from imperial to metric.
CANOPY SPREAD:	= The average of two readings. Converted from imperial to metric.
DBH:	= Diameter at breast height = 1.4 m, (was 4 feet 6 inches); or as designated. Converted from imperial to metric.
BURSTALL'S NOTES	= What appears in the Mensuration Report #19. The original notes remain unchanged.
<u>CURRENT READINGS</u>	= Those of Cory Smith.
UPDATED LOCATION:	= More precise and accurate details of location.
DATE MEASURED:	= The day, month and year the tree was measured.
HEIGHT:	= In metres, self-explanatory.
CANOPY SPREAD:	= In metres, the average of two readings.
DBH:	= In centimetres or metres. Diameter at breast height = 1.4 m, or as designated.
REMARKS	= Condition of tree, history and any points of interest.

Key to symbols:

- & = additional tree Burstall recorded.
- ~ = Fuller 1973 and/or 1982
- * = Medbury 1984 or 1986
- + = Smith/Fuller 2001,2002

2. Findings

2.1 Health Assessment, Measurements, Observations and History

Native Trees

NATIVE TREE: 1

SPECIES: *Agathis australis*.

COMMON NAME(S): Kauri

B.B CATEGORY: Native Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: 69 Govett Avenue.

DATE MEASURED: 1973

HEIGHT: 56 feet (17.1 metres)

CANOPY SPREAD: 35 feet (10.7 metres)

DBH: 31 inches (78.7 centimetres)

BURSTALL'S NOTES: A fine healthy tree and obviously a very early planting in the city. It belongs to a select few of planted trees of this species in New Zealand that have attained a diameter of over 30 inches (76.2 centimetres). One of New Plymouth's best trees.

CURRENT READINGS

UPDATED LOCATION: Mrs Eulalie Tremlett, 69 Govett Av. Close to the front, left-hand boundary.

DATE MEASURED: 12th May 2002

HEIGHT: 19.2 m

CANOPY SPREAD: 15.1 m

DBH: 1.118 m

REMARKS: A healthy well balanced tree with a rather large canopy spread for this species, at this stage of development. Cyclone Bola (March 1988) removed several limbs from the canopy on the house side. Branches at 1.8 m into a multitude of heavy limbs, with 4 main leaders.
A large amount of exuding gum can be observed on this wonderful trunk, which bears a New Zealand Notable Tree Plaque.
Outstanding location, dominating a front lawn, with room to grow.
This kauri could possibly have the largest dbh of this species planted in New Zealand (**Figs. 1 and 2**)

This tree was planted in 1905 by William Edward Bendall. The family were coal merchants and their original homestead is the small green house next door (#67). Mrs Tremlett has lived in the area for 55 years and seen the community develop from one shop and a few scattered houses to the busy suburb it is today. (Information kindly supplied by Mrs Eulalie Tremlett).



Fig.1



Fig.2

NATIVE TREE: 2
SPECIES: *Agathis australis*.
COMMON NAME(S): Kauri.
B.B CATEGORY: Native Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Foot of Monument Hill, Pukekura Park.

DATE MEASURED: 1969

HEIGHT: 66 ft (20.1 m)

CANOPY SPREAD: -

DBH: 24 in (61 cm)

BURSTALL'S NOTES: The following is from a letter by W.W. Smith, a well-known natural historian and custodian of Pukekura Park, 1908 to 1921, to the Parks and Reserves Department dated 4th May 1936: "The young tree, when seven years old was presented to the park by the late Captain Waller in 1909. It grew for two years in the lawn where the larger of two Puriris are now growing. In March 1911 it was planted where it now grows. I attribute its rapid and vigorous growth to its being planted in the rich black soil with which the walk was made. This soil was thrown out from the bottom of the extension of the lake above the upper bridge, by a gang of Maori's who completed the work. The tree is growing in a warm and sheltered valley, which also greatly favours its growth."

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, 65 m from the upper, smaller, bridge on the track heading towards Brooklands through the Rhododendron Dell.

DATE MEASURED: 30th January 2002

HEIGHT: 24.3 m

CANOPY SPREAD: 13.3 m; only one reading possible as the east to west canopy is overhanging the lake.

DBH: 86.9 cm

REMARKS: A healthy, superb specimen (**Fig. 3**) that when recorded had large quantities of gum dripping down the lower trunk. It is not altogether typical of a kauri due to formation of strong branches at a low level.

(*Medbury, 1986: Ht = 22.8 m; dbh = 77 cm. 1928: Ht = 10.2 m.
1938: Ht = 15.2 m; dbh = 34 cm. 1950: Ht = 16.9 m; dbh = 49 cm.
1982: dbh = 73 cm.

Said to be the largest kauri outside it's natural range). +This observation is not valid and cannot be sourced.

It is not recorded where the 1928 and 1938 measurements were sourced. The 1950 measurement was supplied by J. W. Goodwin and the 1982 by G. Fuller.



Fig. 3

NATIVE TREE: 3
SPECIES: *Agathis australis*.
COMMON NAME(S): Kauri.
B.B CATEGORY: Native Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Fernery, Pukekura Park.
DATE MEASURED: 1969
HEIGHT: 55 ft (16.8 m)
CANOPY SPREAD: -
DBH: 19 in (48.3 cm)
BURSTALL'S NOTES: Planted on 17th October 1929, by the Mayor, H.V.S. Griffith's, to commemorate the handing over of the park to the Borough Council.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, sited on a corner of the lawn opposite the Fernery entrance.
DATE MEASURED: 19th of October 2001
HEIGHT: 23.5 m
CANOPY SPREAD: 9.1 m
DBH: 90.1 cm
REMARKS: The tree has a distinct lean to the north, probably due to its planting on a reclaimed swamp and shading from large pines on its southern side up to 1965. The body language displayed by the trunk indicates a degree of compensation. Nevertheless, this lean may become a threat as bulk increases, particularly in view of the fact that in winter the surrounding area becomes extremely waterlogged. Regardless of these facts, this Kauri is a good specimen (**Fig. 4**).

(*Medbury, 1986: Ht = 20.8 m; dbh = 71 cm).



Fig. 4

To emphasise the great significance of the planting ceremony, the handing over of administrative authority was from the autonomous Pukekura Park Committee whose successive lay members had been responsible for the park since its inception in 1876. Robert Clinton Hughes, chairman throughout the period made a moving speech. He dedicated over 50 years of his life to the welfare of the park up to the time of his death in 1935, so this tree is in effect a living memorial to his vision and dedication.

(Last paragraph written by G. Fuller)

NATIVE TREE: 4
SPECIES: *Agathis australis*.
COMMON NAME(S): Kauri.
B.B CATEGORY: Native Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: New Plymouth Central Infant School.
DATE MEASURED: 1973
HEIGHT: 32 ft (9.8 m)
CANOPY SPREAD: -
DBH: 14 in (35.6 cm)
BURSTALL'S NOTES: On 3rd July 1936 every public and private school in Taranaki was invited by circular to apply for a tree to be planted "as far as can be foreseen, where building extension or other future works will not necessitate the cutting down or removal of the tree". The trees planted on Arbor Day, 5th August 1936, were presented by the Taranaki District Council of the New Zealand Institute of Horticulture and no doubt, generously supplied by V.C. Davies. From observations made it would appear that most of the original plantings from this project still survive.

CURRENT READINGS

REMARKS: The tree presented to Central School N.P. was planted at the original Infant Block, close to the Courtenay St frontage. Due to a falling roll, infant classes were transferred to the present main block in Pendarves St about 1968. The buildings continued to be used for several years as an educational resource centre until the site was sold for commercial expansion (supermarket) in 1992 resulting in the removal of the tree. Near the end of that year the tree was replaced with a specimen between 12 and 15 years old. It stands at the Leach Street exit of the supermarket.
+17.3.02: Height = 5.6 m; dbh = 17.2 cm.
To clarify Bob Burstall's observations, V.C. Davies (Duncan and Davies Ltd.) supplied the trees at no cost while the distribution and planting guidance was undertaken by the regional branch of the Royal N.Z Institute of Horticulture.

+Though not the original, Central School does in fact have a fine specimen kauri. Around 1969, 1970 Victor Davies planted a kauri beside the school hall on the right-hand side of the entrance from Pendarves St.
31.1.02: Height = 11.4 m; spread = 4 m; dbh = 37.3 cm.

Victor Davies was born in New Plymouth, the son of a farmer and seedman. He left school at 14 to be apprenticed to local nurseryman James Duncan. They became partners in 1910, then Victor took over after Duncan died in 1914. After serving in the war, he commenced building Duncan and Davies into a thriving export business, focusing on seeds and plants.
He married Dorothy Ruebe in 1922, and his two sons eventually joined the firm. Victor encouraged the planting of shrubs and trees, notably 200 redwoods at Lucy's Gully. He was a member and president of a variety of horticultural organisations, and was honoured with an OBE in 1954 and a knighthood in 1977, the year he died.
He had seen the business grow to be the largest of its type in the Southern Hemisphere employing 170 people. New Zealand's foremost nurseryman is commemorated by Sir Victor Davies Park on Powderham St, in the middle of New Plymouth.
(Information kindly supplied by the Daily News).

NATIVE TREE: 5
SPECIES: *Agathis australis*.
COMMON NAME(S): Kauri.
B.B CATEGORY: Native Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Fred Cowling Reserve, Wallath Road, Westown.
DATE MEASURED: 1973.
HEIGHT: Well over 40 ft (12.2 m).
CANOPY SPREAD: -
DBH: -

BURSTALL'S NOTES: Approximately six acres of almost pure Kauri, planted by the late Fred Cowling about 1935. The stand planted at 8 x 8 ft, (2.4 x 2.4 m) spacing, is very healthy, with individual trees well over 40 ft (12.2 m) and some seeding with natural regeneration occurring in favourable places. The stand has not received any silvicultural treatment other than having some suppressed trees removed. This is probably the largest privately planted plantation of this species in New Zealand, and it provides a major contribution towards the high population of Kauris in New Plymouth. The local nursery firm of Duncan and Davies was interested in this stand and raised the plants from hand - selected seed. Fred Cowling was a descendent of very early settlers and had a great love of trees. He formed the Barrett Domain area (formerly Barrett's Lagoon and Lake Rotokare) and donated the chain width of the land that now gives access from Wallath Road. Beside this access is the reserve.

CURRENT READINGS

UPDATED LOCATION: The Cowling Plantation (**Fig. 5**) is within 1 minute walk of the main entrance to Barrett Domain, Roto St. It is administered by the New Plymouth District Council. The measurements below are for the first tree on the left-hand side of the entrance, 3.9 m from the stone seat.

DATE MEASURED: 4th May 2002
HEIGHT: 19.2 m
CANOPY SPREAD: -
DBH: 52.5 cm

REMARKS: This tree has good health with poor form, having two leaders. The tree directly to the left (5.3 m from the entrance) is an excellent example of a kauri still in the ricker stage, (early development of growth). It is the same height, having wonderful form and health with the canopy reaching down to ground level; dbh = 42 cm. These two trees are indicative of this plantation.
+A tree at the bottom of the first steps, on the left-hand side, is 24 m from the entrance. It has a height of 24.7 m and a slender trunk, dbh = 40.8 cm. A specimen further down the track, beside the stream and path had a dbh of 52.2 cm.
There is another smaller plantation near the roadside, between the entrance to Barrett Domain and 6 Roto St. This is a commemorative planting for Mary Riley, the maiden name of Fred Cowling's wife.

A large number of these kauri have co-dominant leaders, (the trunk has divided into two or more.) This leads to excessive pressure upon the union, as growth increases. Failure in the future is almost inevitable. This surely raises the question, what should be done? From an arborists point of view, many of these trees would be difficult to ascend using conventional, safe climbing practices, as there is no strong lower growth, (plantation trees). Should one pick the worst trees, employ climbing spurs and dismantle them in small sections? If so the risk of creating holes in the canopy could have a huge impact on the remaining tall slender trunks, increasing the possibility of trunk failure even on the single leader specimens. Should this process be undertaken in small sections to limit this risk? Could teams do what was possible from ground level using forestry ladders? Would removal of certain trees damage the integrity of the stand or even be

detrimental to its health? Should nothing be done? Unfortunately, experience with this type of problem is limited, so finding a solution will be difficult.

The following is extracted from G. Fuller's submission to council, relating to the Draft District Tree Policy - May 2001:

"During the 1930's and 40's thousands of kauri, not native to the region were planted within the present city limits. Because of limited manpower, resources and equipment early tree care was neglected. Now, approximately 20 metres tall, the stands are desperately in need of major attention. This will be expensive, time consuming and maybe controversial".

It is of interest that on steep banks in the Cowling Plantation the planting density is slightly less and similar to Brooklands where there are small pockets of rimu and kahikatea.



Fig. 5

Burstall's notes on the Cowling Plantation are not entirely correct and require refining for historical reasons. A newspaper article dated 3.9.1947 had the following detail about Mr Cowling and his kauri.

"He wondered whether the renowned kauri would flourish in the New Plymouth district. Authorities told him they should, quoting the fine specimens growing at Pukekura Park. But to satisfy himself Mr Cowling planted one as an experiment; today it is a robust tree about 23 feet high, (7.2 m). Encouraged by this success, he set aside an undulating part of his farm, with a picturesque creek running through it, for a kauri plantation. After consulting the superintendent of Pukekura Park, Mr T. Horton, Mr Cowling set the first of the 2000 trees in the ground in 1941, and the planting was complete last year (1946). Despite a high wind that sweeps the area often, every tree has grown steadily.

It is with a feeling of satisfaction that Mr Cowling shows visitors his kauris, everyone of which he treasures. His predominant hope is that in years to come they will be preserved as a scenic attraction and not cut ruthlessly to the ground to meet some momentary need".

Another newspaper article dated 8.5.1948 revealed the following:

"They were bought from nurserymen at various prices, ranging from 1/6 to 3/- (15 - 30 cents) and more. Mr Cowling was reluctant to give too much information on this subject.

It has been a labour of love with a great lover of trees and one who sees the error of forest destruction in more ways than one".

The above information is unclear on the exact source of these kauri. Maybe they were supplied from various locations? Fred Cowling's daughter, Mrs D. Cowling-Holmes distinctly remembers the family

vegetable garden being slowly transformed into an area for propagating kauri which were grown on before being planted out. This vege garden is now a large lawned area at the front of the old Cowling homestead, 6 Roto St.

The homestead, which was built in 1932 by Mr Cowling is surrounded by old artifacts that reveal something about this man. The most obvious is the large, cylindrical concrete pillar at the entrance drive. It has a single ring of paua shells embedded in the upper section and large ovoid stones mounted vertically on the top. Beside this pillar is an erect slab of stone with the inscription "JOURNEYS END" with an arrow pointing towards the house.

The driveway is lined with an old anchor chain from the shipwrecked Waiwera. Behind the chain and to the left of the driveway Cowling planted 3 kauri that are believed to be amongst the first of the trees planted. Unfortunately, only two of these specimens remain today as the middle tree was lost in Cyclone Bola (March 1988). The stump has a diameter of 82 cm at 30 cm. The first kauri on the property is 9 m from the entrance and has a dbh of 58 cm. The other tree is 23 m from the entrance and has a dbh of 64.6 cm. Just beyond this tree at right angles to the drive is a concrete wall, mounted upon the top of which are two old stone agricultural rollers. Beside the rollers are unusual sculptured faces made from cement with shell teeth (**Fig. 6**).



Fig. 6

By far the most extraordinary monument to represent this man is to the rear of the house, 2 m from the back door (**Figs. 7 and 8**) 100 tonnes of stone and cement were used to create a folly (extravagant structure) in the form of a six level pyramid. The approximate measurements for this irregular pyramid are 5 m x 5.85 m by 3.2 m high. Unusual characteristics include a large square pillar with sculptured cement faces on two sides; a panel featuring a lizard shaped creature (Nile crocodile?) with a marble eye; two seats recessed into the bottom level. From the back door marble slated steps lead up to the viewing platform which is approximately 1 m x 1 m and is also surrounded with marble slates. Two small inscribed copper plaques are embedded in the pyramid, the first near the bottom bearing the date MCMXL111 - (1943). The other is on the level below the top. It bears the message: STEP PYRAMID, SAKKARA, THIRD DYNASTY.



Fig. 7



Fig. 8

Fred Cowling was a man before his time, planting experimental forestry blocks from as early as the 1920's. Many of these trees still exist and several have been recorded under (EXOTIC TREE 118), *Sequoia sempervirens*.

To add strength to the above claim the following is extracted from a letter written to a family member by Mr F Cowling dated May 18th 1948:

"Enclosed a small snap of my great kauri forest... established... planted on my lands at Westown; and in the days that are to come will be one of the greatest scenic attractions of the Southern Hemisphere.

One photograph has been posted to Lord and Lady Bledisloe in England".

The scale of Mr Cowling's generosity is an inimitable rarity by any standards but in the long term the overall magnitude will be nothing less than an amazing phenomenon. The New Plymouth community and the rest of New Zealand will be beneficiaries of his foresight for hundreds, maybe thousands of years to come.

An interesting fact is Mr F Cowling and Sir V. C Davies attended the same primary school together (Frankley Rd Primary) and therefore had an association from when they were very young.

(Additional information and the opportunity to access Fred Cowling's diary were made possible by Mrs D. Cowling-Holmes. At her daughter's residence (V. S. Holmes) a large kitchen bench has been constructed from Cowling's kauri which were destroyed in Cyclone Bola (March 1988)).

(5.9.02: As listed under NATIVE TREE 6, the N.P.D.C is commencing much needed remedial work on the Kauri Grove at Brooklands Rd (Brooklands Park). It is very likely that this stand will be monitored for results before work is undertaken on the Cowling Plantation).

NATIVE TREE: 6
SPECIES: *Agathis australis*
COMMON NAME(S): Kauri.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: K. B. Gudopp, 94 Cowling Road.
DATE MEASURED: 1973.
HEIGHT: 65 ft (19.8 m)
CANOPY SPREAD -
DBH: 26 in (66 cm)
BURSTALL'S NOTES: A large tree and one of the oldest kauris in New Plymouth, being planted by one McKeon about 1895. Others include a tree planted about the turn of the century at Mrs. F. W. Weston, 133 Powderham street it being 23 in (dbh = 58.4 cm) x 50 ft (15.25 m) in 1969.
There is an avenue of large trees planted at the entrance to Girls High School, Mangorei road.
Until the early 1920's many other specimen trees were planted privately and in the parks of New Plymouth. Some noteworthy plantings later were: In 1935 and 1936 Thomas Horton was responsible for random planting of mixed native species in rows 8 x 6 ft, in which kauri was well represented, about the same time Horton randomly planted about 45 trees on a steep slope in Kindergarten Gully, Pukekura Park, the trees being in clear view of Fillis street. 16 trees planted with rimus and totaras in 1925, form what is known as Horton Walk, in Pukekura Park. Thomas Horton planted this avenue and ironically the trees are becoming a serious threat to the ferneries and glasshouses he established, because of the increasing shade produced.
Kauri also featured prominently in the replanting in 1964-65 of the eastern and western hillsides of Pukekura Park after pine was removed.

CURRENT READINGS

UPDATED LOCATION: K. B. Gudopp, 187 Cowling Road. Sited 5m from the rear of the house, relative to the road (left side of the following photograph).
DATE MEASURED: 4th May 2002
HEIGHT: 20.6 m
CANOPY SPREAD: 11.2 m
DBH: 85.4 cm
REMARKS: A large, healthy tree, entering the stages of adolescence. Positioned in close proximity to the house. A clear trunk to 6.1 m where 4 main sub-leaders and a main leader arise, all relatively the same diameter (**Fig. 9**).

The following information was supplied in 1973 by the owner at the time Mr Gudopp and recorded by G. Fuller:

"There is little doubt that this is the oldest kauri in this district. The tree was planted by a Mr Mckeon who vacated the property about 1900, the tree probably having been planted about 1895. The property came into the Gudopp family about 1916 and in subsequent years W. W. Smith, well-known natural historian and custodian of Pukekura Park from 1908 to 1921 visited the property and is reported as having measured the tree and indicated that it was the first planted in the district. Until the late 1950's there was a second tree of equal size and age located nearby, but it became unsound, ("native borer") and was felled".

"This property is a wonderful example of an early homestead, graced with native trees and differs from the more common attempt to beautify with exotics in an endeavour to make a "home away from home".

A young kauri on the front side of the house (**Fig. 9**) was planted between 1952-54. It has a dbh = 79.2 cm!! The top of this tree was lost at approximately 4 m when one night Mr K. B. Gudopp removed a possum from the canopy at close range with a shotgun!

There is also a fine rimu nearby.



Fig. 9

+Down the road (back towards the city) two healthy kauris are planted on the front boundary of 150 Cowling Rd, one on the left corner and the other on the right (**Fig. 10**). These trees were planted in 1928 when Albert R. Gudopp who had purchased the homestead property (187) c. 1916 and was still living there, built this house so that he could move into it to allow his newly married son K.R. and wife Dorothy to move into the large house. The present owner of the property, K.B. is a son of K.R.
Tree left, front corner - 4.5.02: Height = 17.5 m; spread = 9.9 m; dbh = 74.2 cm.
Tree right, front corner, right of the entrance - 4.5.02: Height = 17.2 m; spread = 10 m; dbh = 72.3 cm.
Good pair with very close dimensions.



Fig. 10

&The kauri at 133 Powderham St is positioned 3.7 m from the house, on the front boundary (fence-line) of the property currently owned by Mrs S. Lupton (**Fig. 11**). A large number of the lower limbs have been removed on the house side because of close proximity. When one-way systems were implemented in New Plymouth, (1980, 81) Powderham St was widened. Because the tree has notable qualities, efforts were made for retainment. On the footpath side of the tree a box was constructed around that side of the rooting system, measuring 95 cm high, 1.5 m wide and extends 28 cm out from the fence-line. For a long period of time after this work was carried out the tree appeared in poor health with sparser growth. Only in recent times has the tree improved in health and it currently has excellent vitality, displaying signs of strong vigour. Epicormic shoots (from dormant buds) appear at the base of the tree and adventitious shoots (forming on meristematic callus wood) appear around old wounds. The site is demanding, but it would appear the tree, significantly the roots, have found their element. The bottom metre of the trunk is cylindrical but just above this point metamorphosis has taken place and for a section the trunk is elliptical, as it bears the load of heavy lower limbs with an approximate diameter of 25-30 cm. This tree could be limited in height because of strong westerlies. Maybe this is the reason for encouraged stronger lateral growth.

18.5.02: Height = 15.3 m!!; spread = 8.6 m; dbh = 79.9 cm.



Fig. 11

+The avenue of kauris planted either side of the entrance way at New Plymouth Girls High School consists of 19 trees of reasonable health, 10 on the northern side and 9 on the southern. A restricting and demanding site with the trees planted on average 1 m from the roadway. Five of the southern trees have an asphalt tennis court directly behind them.

All these specimens are at regular intervals and extend 58 m from the entrance. The tree recorded is the last tree on the northern side, (58 m from the entrance). It is one of the better examples with a clear trunk to approximately 4 m.

23.3.02: Height = 17.2 m; spread = 6.9 m; dbh = 71 cm.

16 trees are from the original planting, (all of which have relatively uniform growth) while 3 have been planted more recently. One of these is the 7th specimen from the gate on the northern side. It was planted on the 19.8.79 by the Soil Association to commemorate holding their annual meeting in New Plymouth, (the association finds it appropriate to plant a tree at each A. G. M).

A fine healthy ricker.

23.3.02: Height = 9.5 m; spread = 2.8 m; dbh = 19.7 cm.

+Burstall refers to "Thomas Horton being responsible for random planting (better described as 'random distribution') of mixed native species in rows 8 x 6 ft, in which kauri was well represented". This group is now called Kauri Grove and borders on Brooklands Rd and Brooklands Park Dr.

The stand has a healthy appearance, but like many of the others in N.P. individual trees display co-dominant leaders. This group of trees are suppressed, displaying huge differences in trunk diameters that range from a minimum of 13.5 cm up to 38.2 cm.

One of the better specimens is located 48 m from the kerb of Brooklands Park Dr and 7 m up from the track on the left-hand side (up-side). An outstanding example of kauri still in its younger stages of growth (ricker). It has excellent branch distribution and is maintaining strong apical growth. This specimen has an advantage as its canopy is not suppressed by surrounding vegetation and it has been able to develop relatively undisturbed. Nearby species include native beech, rimu and tanekaha.

28.8.02: Height = 20.5 m; spread = 2.9 m; dbh = 32.8 cm.

25.5 m further along the track from the above tree and on the right-hand side (down-side) edge of the track is a tree with a dbh = 38.2 cm. In the next row 6.8 m on the down-side is a tree with a dbh = 13.5 cm.

(The N.P.D.C has acknowledged public concern, accepted that action must be taken over time on all trees in need and has begun to implement a management plan (**Fig. 12**) starting with the stand of kauri along Brooklands Rd. (Kauri Grove)). Information received from the Pukekura Park, Friends of the Park committee on the 28th March 2002.

(30.9.02: The N.P.D.C has organised a public workshop detailing the proposed future care this stand will receive. The workshop will comprise illustrated presentations by several specialists, discussion and a field visit to the Kauri Grove site. Work on this stand could commence as early as the end of October!!).

(30.10.02: In a conversation with Mr J Goodwin he recalled that a thinning of approximately 50% was carried out in about 1950 as the stand was already displaying signs of suppression. The logs responded to treatment (tanalising) about the same as *Pinus radiata* and some were used to form the entrance pergola at Brooklands zoo).



Fig. 12

+Burstall states that there were "about 45 trees planted on a steep slope in Kindergarten Gully, Pukekura Park". There are in fact 54 kauri planted in this stand randomly, 38 on the downside (eastern) of the path and 16 on the upper-side (western) of the path, including 3 closer to the top of the Sportsground eastern terrace bordering Claffey Walk. Included is a tree obviously planted at a later date. It is the closest to Fillis street, 17 m from the kerb and was recorded for various reasons including being the first tree on this walk. 15.5.02: Height = 14 m; spread = 4 m; dbh = 24.8 cm. A specimen with great health and excellent form (classic kauri ricker). Foliage to ground level. It will become very predominant from Fillis street in the future.



Fig. 13

Kindergarten gully is an excellent representation of numerous native species, including rimu, kahikatea, silver pine, kawaka, taraire, cordyline, N.Z beech, kaikomako, maire and many more. Amongst these trees are the 53 kauri Thomas Horton planted (**Fig. 13**) The trees appear to be thriving in their rich protective environment, although, unfortunately many contain co-dominant leaders.

The tree measured in this urban forest was recorded because it is one of the better specimens and one of Medbury's tags (#132) was observed on the trunk. It is the third kauri on the eastern (Kindergarten) side, directly beside the path that leads up from Fillis St, 64 m from the kerb. The first kauri on this side is 52 m from the kerb the second 58 m, giving an indication of the density that these trees are planted.

3rd kauri, 15.5.02: Height = 22.1 m; dbh = 49.4 cm. A healthy tree with a straight, cylindrical trunk to 10.6 m at which point it begins formation of heavier upper limbs.

(*Medbury, 1986: Ht = 18.36 m; dbh = 41.4 cm. Plantation planting c. 1936 under Thomas Horton administration. Specimen selected as best example of the approx. 45 trees remaining. Many of these trees became overgrown with vines during WW 2; area was cleared and track cut through plantation in 1950).

The observation, made by Medbury above, was relating to one of the first tasks Mr J. W. Goodwin undertook after being appointed curator. He discovered that a large number of these trees were nearly horizontal under climber burden.

+In his opening reference Burstall mentions "16 kauri planted on Horton Walk with rimu and totara in 1925". There are currently 15 kauri with 16 rimu and 9 totara planted in random sequence (not to be confused with plants of the same species planted at a later date in the surrounding area) with other indigenous species, (apart from several holly at the upper Rogan St end). The following list records the distance between each tree and the dbh. Measurements were taken on the 14.5.02 using the principle of running the tape down the centre of the avenue and recording specimens at right angles to it, relative to each tree.

The first kauri is 42 m from the entrance at Rogan St on the northern (Sportsground) side of the path and has a dbh = 49.4 cm.

Tree # 1 to tree # 2 = 25 m; tree # 2 southern (Fernery) side, (junction of the side track leading down to the fernery entrance and Stainton Dell); dbh = 42 cm.

Tree # 2 to tree # 3 = 1 m, tree # 3 northern side; dbh = 49 cm.

Tree # 3 to tree # 4 = 10 m, tree # 4 southern side; dbh = 41.7 cm.

Tree # 4 to tree # 5 = 70 cm, tree # 5 northern side; dbh = 58.6 cm.

Tree # 5 to tree # 6 = 9.5 m, tree # 6 southern side; dbh = 51 cm.

Tree # 6 to tree # 7 = 2 m, tree # 7 northern side; dbh = 35.7 cm.

Tree # 7 to tree # 8 = 10 m, tree # 8 southern side; dbh = 66.6 cm (see complete measurements below).

Tree # 8 to tree # 9 = 12.7 m, tree # 9 southern side; dbh = 50 cm.

Tree # 9 to tree # 10 = almost opposite, tree # 10 northern side; dbh = 34.7 cm.

Tree # 10 to tree # 11 = 17.2 m, tree # 11 northern side, (opposite Fernery rear entrance); dbh = 50.3 cm.

Tree # 11 to tree # 12 = 11 m, tree # 12 southern side; dbh = 54.1 cm.

Tree # 12 to tree # 13 = 11.5 m, tree # 13 northern side; dbh = 40.8 cm.

Tree # 13 to tree # 14 = 10.5 m, tree # 14 northern side; dbh = 40.1 cm.

Tree # 14 to tree # 15 = 14.5 m, tree # 15 northern side; dbh = 47.8 cm.

Tree # 8 had the largest dbh and is one of the better specimens so height and spread readings were also carried out on this tree; height = 21 m; spread = 8.5 m. A healthy specimen with well proportioned, uniform branch distribution.

During the measurements between tree # 14 and 15 we were blessed with the rare sighting of the native Kaka in trees nearby.

In the 80s a large number of these tree canopies were lifted and remaining branches reduced because of the heavy shading on the greenhouses to the south. Today, this branch reduction is hardly recognisable. Interesting observations can be made from these dbh's that relate to tree positioning and wind exposure. It is not known which one of these specimens Medbury recorded.

(*Medbury, 1986: Ht = 16.3 m; dbh = 55.1 cm.

One of the many planted during development of the Horton Walk, 1925).

"One had grown to 16 ft (4.9 m) with a girth of 11.25 in (28.6 cm = to a dbh 9.2 cm)" – Taranaki Herald – 14.8.35.

"Heights in the region of approx 50 – 55 ft (15.3 m – 16.8 m), greatest girth 4 ft 6 in (1.372 m = to a dbh 43.7 cm)" – G. Fuller 27.7.73.

Incidentally, one of the better rimu is on the southern side, the 7th tree of that species 94 m from the Rogan St entrance. It has a dbh = 73.9 cm. One of the better totara is on the northern side, the 1st tree of that species, and 37.5 m from the Rogan St entrance. It has a dbh = 73.2 cm, (There is a specimen on the southern side, positioned on the corner of the rear entry to the Fernery, with a dbh a couple of cm bigger). At kauri tree # 2 there is a sidetrack leading down to the Fernery Lawn and Stainton Dell. Beside this track are an additional 3 kauri, which were presumably planted at the same time as those on Horton Walk. These trees are designated as 1a, 2a and 3a. The location of these trees was taken from the junction of Horton Walk and the track beside which they are positioned.

Tree 1a, 29.3 m from the junction; dbh = 65.3 cm.

Tree 2a, 31.2 m from the junction; dbh = 58.3 cm.

Tree 3a, 40 m from the junction; dbh = 60.8 cm.

+In addition to these trees (and only a short distance away) two more kauri of probably the same age will be found planted with redwoods beside Mason Dr. This group is easily located, 68 m back from the Racecourse entrance (T.S.B Stadium) to Pukekura Park and 11.5 m from the curb. The specimen closest to the stadium has a dbh = 61.8 cm; 4.3 m to the north is a redwood with a dbh = 87.6 cm; 8.3 m to the north again is the other kauri with a dbh = 64 cm. The immediate surrounding area is the highest and flattest section of the rise, which forms the two lobes of Stainton Dell. Until 1978 a kauri Flagstaff stood on this site, obscured in later years by the surrounding trees. It was donated in 1884 by Chew Chong, who was a highly respected merchant and entrepreneur. These few words do not do the man justice, because he contributed immensely to early Taranaki development. The staff was originally a mast of the Barque Australind, wrecked at Ngamotu in 1882. In 1978 it regained its integrity when it was erected at the base of Paritutu. It has since found its way home again, being presently located in a small reserve on Hakirau St, next to Taranaki Coolstores overlooking Ngamotu beach and wharf. The only evidence today of its presence at Mason Drive is the broken concrete foundations and steel pipe protruding from the ground between the northern most kauri and the redwood.

+The group of kauri on the western hillside of the Main Lake, Pukekura Park (**Fig. 14**) have an interesting story: After the pines were removed this planting was undertaken, firstly by placing, then igniting half a stick of gellignite in each site and then backfilling the hole which was created with rich soil. This process has been a great success, when one considers these large, healthy trees were only planted in 1964. The Forest Research Institute (FRI) has a great interest in their development and takes regular recordings, monitoring different aspects of growth and health.

The specimen measured is one of the better out of 16 trees and is positioned 43 m from Scalan Walk on the upper-side (western) of the path that leads down from the Victoria Rd car park.

15.5.02: Height = 16.5 m; spread = 6.2 m; dbh = 55.7 cm.

This is comparable to the Horton Walk trees (1925).

A very vigorous tree with a large amount of branch work forming a dense canopy. For something to contemplate the tree was 1.5 m (Medbury, 1986) when planted, the dbh would be approximately 1 cm. That reveals a yearly growth rate in height of 41.7 cm and an increase in diameter of 1.52 cm. It is not known which tree Medbury recorded, although it is likely to be the same one.

(*Medbury, 1986: Ht =13.1 m; dbh = 35 cm.

Planting hole was blasted into hillside. Tree was 1.5 metres when planted, 22.7.64).



Fig. 14

+On the eastern hillside 9 kauri were planted in 1965. They surround the crown of this rise. The tree measured is located 11.3 m from the lookout on the eastern hillside above the Main Lake.

15.5.02: Height = 14.7 m; spread = 3.2 m; dbh = 40.4 cm.

A healthy tree with strong apical dominance and weaker lateral growth.

+16 kauri planted around 1991 form an avenue before the main entrance to Pukekura Park on Liardet St. They range in height between 3 and 5 m; only one dbh was taken = 8.6 cm.

Other specimens of interest:

+The "Skinner kauri" is located 41 m from the entrance gate of Ratapihipihi Reserve and slightly to the right of a direct line down Ratapihipihi Rd. The tree is amongst other native vegetation (**Fig. 15**). A healthy tree. Clear trunk to approximately 7 m where it branches into a main leader and a sub-leader that grows at awkward angles. One meter above this point it appears the main leader may have lost its apex in earlier stages of growth. This could possibly have been caused by the two lower limbs (40 cm in diameter) from a puriri (7.5 m towards the gate, from the kauri) now lying on the ground after failing some years ago. The puriri has a dbh = 1.013 m.

At the base of the kauri is a plaque with the following inscription: "N. I Kauri, planted 7 Oct. 1936 by W. H. Skinner Esq. by whose efforts this land was reserved in 1906".

4.5.02: Height = 18.7 m; spread = 5.6 m; dbh = 48.7 cm.

(27.6.02: The appropriate tree work has been performed on this specimen, i.e. removal of the sub-leader).



Fig. 15

3.4 m from the tree is a kauri sapling, approximately 4 m high and having a dbh = 5 cm. It is believed to be of natural regeneration.

An interesting fact at this location: 1.5 m from the base of the "Skinner Kauri" and in a 1 m square, 17 puriri, 13 titoki and 1 kohekohe seedlings were counted. They ranged in heights between 10 cm to 1.8 m. A book written by W. H. Skinner, (1857 - 1946) in 1946 is titled "*Reminiscences Of A Taranaki Surveyor*". The following extract is from this book: "*My interest in the preservation of our natural forest and scenic beauties, and the reserving of the many places of historic interest in Taranaki, has extended over a great number of years. Largely owing to my activities, the scenes of outstanding incidents in the early history of the pioneering days, and others associated with Maori lore and tradition, have been kept very much in their original natural state for the benefit and enlightenment of future generations. Taranaki is now well endowed in this respect, and it is my earnest hope that these treasures of the past, will be jealously guarded, and not allowed to fall into neglect*". Skinner had the following to say about Ratapihipihi: "*This area of fifty acres (20 .2 hectares) at Upper Westown is a typical example of unspoilt Taranaki bush*".

+A pair of kauri is located in Brooklands Park, Maranui Gully.

The 1st Kauri is positioned 2 m from Fuller Walk and 5.5 m from a concrete corner fencepost. The fencepost is 3 m from the track and is part of the rear boundary of Highlands Intermediate School, where formerly there was an Adventure Playground.

It has great health and excellent form.

This specimen has a secondary trunk collar 30 cm from ground level which exudes a large quantity of gum. 18.10.01: Height = 17.7 m; spread = 3.65 m; dbh = 42.6 cm.

The other tree is 17 m towards Pukekura Park from the above specimen, 3.5 m from Highlands boundary fence, 11.5 m from the track. Unfortunately, at approximately 8 m this tree has divided into 3 co-dominant leaders.

Also a healthy tree, which was planted on the same day; dbh = 39.2 cm. Planting date not traced.

+The "Professor McGregor kauri" is located 42 m down the vehicle access road from the racecourse toward the Bowl of Brooklands and 5 m on the upper-side. Protecting this specimen from the southerly wind and sited 7 m from the tree is a well-proportioned rimu planted on the same day. Professor W. R. McGregor was a lecturer at the Auckland University and wrote serial articles about trees in the Auckland Weekly. In 1985 the N.Z. Native Forest Restoration Trust raised funds by public subscription and added finance came from the Queen Elizabeth 2 National Trust. With this money they purchased 146 hectares of land at Waipoua (kauri forests, Northland) and dedicated it to Professor W. R. McGregor on the 30.11.85. In 1988 a further block of 101 hectares were purchased and added making a combined land mass of 247 hectares. This is a fitting memorial to Professor William Roy McGregor "*the man who did the most to save the kauri forests of Waipoua*".

There is an irony in this commemorative planting/replanting. It was originally planted in the then newly established zoo compound at Brooklands, by local members of Forest and Bird, in recognition of the Professor's great dedication to native flora and fauna. Paradoxically it's future came under great threat from, of all things, deer!! It was therefore transplanted to its present ideal site and surroundings. Original planting c. late 50's early 60's. Replanted on this site c.1970. (Last paragraph written by G. Fuller).

17.10.01: Height = 13.4 m; spread = 3.15 m; dbh = 30.3 cm.

+At the Northern edge of Brooklands Park lawn, 6 m from the access road down to the Bowl of Brooklands is a very peculiar kauri (**Fig. 16**). This tree begins to branch at 1 m into a multitude of heavy leaders, very untypical for a kauri, making it an interesting specimen because the spread is increasing more rapidly than the height.

15.9.01: Height = 20.25 m; spread = 13.8 m; diameter at 50 cm = 1.312 m.

The diameter reading was taken at 50 cm, making it possible to achieve an accurate recording in the future without interference from the lower limbs.

G. Fuller took measurements of this tree in 1973: Ht = 15.3 m; spread = 7.3 m; diameter at 90 cm = 87.4 cm.

(*Medbury, 1986: Ht = 18.3 m; diam at 90 cm = 1.057 cm.

Thought to have been planted following W. W Smith's acquisition of a kauri for Pukekura. This tree has always displayed multi-leaders. Planted c. 1911).



Fig. 16

+A commemorative kauri is positioned 9.3 m from the golden macrocarpa tree at the summit of Cannon Hill, Hatchery Lawn side, Pukekura Park. Planted on the 29th May 1976 by D.F.C Saxton and A. Brodie for the centennial celebrations of Pukekura Park. This is a struggling tree on a very hungry site due to poor soil and intense root competition. Note the slow start. When the tree was recorded a co-dominant leader was removed and the presence of cones was noted.

1.9.01: Height = 6.7 m; dbh = 10.2 cm.

(*Medbury, 1986: Ht = 2.1 m; dbh = 2.5 cm).

+The "bicycle kauri" is near the Children's Playground area, beside the path leading to the waterwheel, Pukekura Park. Classic young kauri with fastigiate form (ricker), well sited and having the potential to become a monster in the future. It has a fascinating history.

Soon after J. W. Goodwin took charge of the park in 1949 he undertook a massive purge of undesirable tree species and removed several stands of inappropriate trees such as *Cupressus macrocarpa*. In areas like the Goodwin Dell and Children's Playground he refrained from replanting with species which would grow large, thus preserving precious open spaces. He did however more than anyone to expand the range of plant species in the park and is responsible for the magnificent stands of trees planted on the eastern and western hillsides of the Main Lake when blocks of pines were removed in the mid 1960's. In 1949 he was offered a young kauri by a resident of N.P. who decided that the tree was misplaced. The transplanting procedure was unorthodox by any standards because of the height of the tree and absence of a vehicle to convey it. J. W. Goodwin's solution was to detail a member of staff named Lou Schonbachler to accompany him on bicycle to the site and lift the tree. Not surprisingly for a young kauri, all the soil fell from the roots, whereupon they were appropriately covered and the tree was lashed between the two cycles. The slow procession of two men, two cycles, two spades and one kauri ricker wending it's way through the town with Pukekura Park as the destination must have indeed been a strange spectacle.

Under J. W. Goodwin's expert skill the tree survived the ordeal and over 50 years later is a perfect specimen in an ideal site. He admires it with justifiable pride and a smile on his face.

31.8.01: Height = 17.7 m; dbh = 48.4 cm.

(Written by G. Fuller).

(*Medbury, 1984: Ht = 13.2 m; dbh = 35.3 cm.

Supplied by Park to Mr Norton, 89 Brougham St in 1943. Offered back to the Park in 1949, when it was relocated via bicycle at a height of 8 ft).

+ "A kauri that shouldn't be" was surreptitiously planted in the early 1950's amongst magnolias and camellias by Fred Barwell, a native plant enthusiast on J. W. Goodwin's staff. It was not on J.W.G's planting plan! It is located 12 m from the base of the steps leading up to the racecourse walk in the right-hand lobe of the upper Stainton Dell. Alternatively, 19 m from the top of the steps leading down from the racecourse walk. A vigorous specimen with foliage to ground level.

4.2.02: Height = 19.9 m; spread = 6 m; dbh = 52.2 cm.

+ "A kauri that was bent" is located on the left-hand side of the Racecourse Walk, 24 m above the junction with the Fernery Lawn path (**Fig. 17**). This healthy tree was almost toppled by a rogue branch of a nearby giant *Cupressus macrocarpa* spinning out of control during felling, 1965. The trunk has almost corrected the resulting deflection. There is a large wound 1.5 m from ground level, which was probably caused by the tray of a truck, not the macrocarpa.

4.2.02: Height = 25.1 m; spread = 5.9 m; dbh = 71 cm.



Fig. 17

+The "Russell's kauri" is at Tupare (Mangorei Rd), sited up a slight bank, 7.5 m from the gate which leads off the main drive and into the north garden (**Fig.18**). It was the first tree planted by Russell and Mary Matthews (later Sir Russell and Lady Mary) at Tupare and was a gift from Lady Mary Matthew's parents to celebrate Sir Russell's birthday. Planted on the 26th of July 1932.

The tree has reasonable health with a stunted growth habit and lacks the formation of stronger lateral branches. Epicormic shoots (from dormant buds) on the lower trunk could relate to the canopy displaying suppression from the southerlies, because the shoots grow mainly in the lower protected region of the tree. 22.3.02: Height = 20 m; spread = 8.4 m; dbh = 60.5 cm.



Fig. 18

+On the top lawn of Tupare (to the left just inside the entrance) are three commemorative kauri. The oldest was planted to mark the occasion of Sir Russell and Lady Matthews Golden Wedding anniversary, March 1982. Around 1986 Frances Grundy removed a weaker co-dominant leader of about 30 cm long and 1 cm in diameter from this specimen.

22.3.02: Height = 10.8 m; spread = 3 m; dbh = 24.5 cm.

A specimen located 10.7 m towards the house (east) was planted to mark Sir Russell's death in 1987.

22.3.02: Height = 10.2 m; spread = 2.5 m; dbh = 17.5 cm.

Two typical Kauri Rickers.

(8.8.02: Since visiting Tupare in March, a single kauri has been planted close to the Golden Wedding specimen. It is to mark Lady Mary Matthews death (1999), as she had requested.

In addition to this tree, a group of 7 kauri have been planted in a radius on the lawn. Six of these trees are positioned in a circle 3.5 m out from the central specimen at almost regular intervals. The trees are approximately 1 m high and were planted in July 2002.

To strengthen the kauri population three more were planted over the crest of this rise to provide a link with the original specimen lower down the slope.

-The 2002 plantings are not necessarily finalised.

+The "Burgess Kauri", is located at Burgess Park, 361 Junction Rd, (SH3) (**Fig. 19**). A tree of moderate health (sparse foliage) is located 11.5 m down from the entrance of the path that leads to the restaurant, 6 m from the kerb of the car park and 2.5 m on the southern side of a ginkgo (EXOTIC TREE 65). The most striking and dominant feature on this tree would have to be the trunk which is clear to approximately 7m with a mottled, salmon coloured, camouflaged appearance. It gives rise to a canopy that is opening up and beyond the juvenile (ricker) stage. Probably planted in the mid to late 1920's.

25.3.02: Height = 26 m; spread = 7.7 m; dbh = 68.8 cm.



Fig. 19

+380 m beyond the entrance to the "Homestead", 813 Mangorei Rd, (currently owned by Mrs E. Adlam) on the left side of the road is a skyline water tank, 21.5 m in from the boundary fence. 45 m below this tank in the middle of the paddock is a carefully tended garden, (oasis) with it's own water supply. It is enclosed in a 1.8 m high fence that is approximately 3 m x 3 m. This garden includes rosemary, lavender, rhododendron, a minute kowhai, annual and biennial flowers. But the most significant feature is a solo kauri with a small cross located nearby. The cross bears the name of "Lance Nelson Adlam". Attached to it is a Returned Services Association badge. In front of this cross is a plaque bearing the inscription: "Lance we love you, wife Gwen, our family Rosemary, Yvonne, Cheryl, Raewyn, Fred. Mounted on the top of the surrounding fence is a wooden aeroplane propeller.

The planting of this tree commemorates the death of an intrepid aviator.

Lance Adlam (1925 - 96) had a fascination for aircraft from childhood. World events fuelled this interest into a passion resulting in him being impatient over celebrating his 14th birthday so that he could join the Air Training Corps as a school cadet.

In 1943 he was accepted into the RNZAF and by 1945 at age 20 he was piloting a powerful (2250hp) gull-winged Corsair fighter operating in the Bougainville Guadalcanal zone in the closing stages of the war in the Pacific.

In a 1991 biography he published of his aviation exploits (*'The Quest For Wings'*) he confesses to a love affair with Corsairs, an emotion he was able to later bestow upon another but much lighter gull-winged plane which he actually constructed with assistance from his wife Gwen.

Their two seater Jodel D11 pride and joy proved its airworthiness on 20.10.77 and was operated from a farm airstrip off Mangorei Rd until the fateful 24.8.96 when on coming in to land it crashed and Lance tragically lost his life. This lone kauri, isolated in green pasture marks the crash site and affords loved-ones a living link with Lance's memory, to which they can continue to extend loving care and respect.

(Written by G. Fuller)

The kauri has reasonable health with a small amount of dieback at the tips. Planted Sept 96.

28.3.02: Height = 2.2 m.

+Opposite the main meetinghouse at TOPEC, SH3 is a 3 m x 3 m enclosure containing a healthy young kauri sapling. Planted in commemoration of the Triennial Fellowship Conference held in N.P on the 17 - 19th of April 1998.

28.3.02: Height = 1.95 m.

+The Salaman Reserve - 1991 Founders Plantation, features kauri and can be located in the valley behind the Scout den on Waimea St. A walkway links with Pembroke St and Frankley Rd (**Fig. 20**). Kauri, totara and kahikatea (chosen due to their longevity) were planted in 1991 to commemorate the founding of the city (150 years). These specimens were offered to the public for a donation of \$100, which covered the tree and continuous maintenance. The names of the donors can be found inscribed on stainless steel columns, closer to Pembroke St. The plantation was a joint project between the N.P.D.C's Parks Division and the Egmont and Merrilands Lions Clubs and when planted comprised 1991 trees. A reassuring sight is the remedial tree surgery that has been performed on these juvenile trees. This will prevent many of the difficulties that they would otherwise face in the future, based on the growth patterns of older plantations. A tree 6.5 m downstream from the bridge crossing the stream at the Waimea St end of the plantation was selected. It is the 4th kauri on the right of the Scout den.

18.5.02: Height = 6.7 m; spread = 2.7 m; dbh = 14.6 cm.

A free standing tree and more exposed than most.

Another closer to Pembroke St is 2.3 m from the second bridge down from the den.

18.5.02: Height = 8.1 m; spread = 2.7 m; dbh = 14.3 cm.

This tree is well protected by surrounding vegetation which would also be a factor tending to encourage its height. It is a superb specimen.

These trees far exceed the impressive growth rates on the kauri at the Western hillside, Pukekura Park. The public and especially the Forest Research Institute (FRI) will be compelled to pay attention to these specimens. If the kauri closer to Pembroke Street was 1.5 m high with a 1 cm dbh when planted, it exhibits a yearly height increase of 64.5 cm and diameter increase of 1.2 cm. Amazing!!! In 11 years this is already a spectacular plantation.



Fig. 20

+The "Sir Victor Davies Kauri" is at the entrance off Powderham St into the Memorial Park named after this world-renowned horticulturist (**Fig. 21**). A very healthy, dense, superb specimen with what appears to be perfect form. Planted by D. V. Sutherland, then Mayor of N.P. on 7th October 1978, to mark the opening of the park.

Excellent site, which is within 1 block of the main street through the city.

3.5.02: Height = 9.8 m; spread = 3.3 m; dbh = 24.2 cm.



Fig. 21

+A kauri is dominating the front of 222 Tukapa St and is 5.5 m from the front boundary and 2 m to the left of the driveway. P. Dawson currently owns the property.

Previously this was the main entrance to the famous native section of Duncan and Davies. The tree was probably planted in the 1920's.

A healthy tree that is well balanced. Clear trunk to approximately 4.5 m. The canopy is starting to open with maturity.

4.5.02: Height = 16.3 m; spread = 9.1 m; dbh = 68.8 cm.

+Bruce Hammonds is blessed with a wonderful property (24 Hursthouse St), in what feels like a hidden valley of treasures. Standing on a raised area viewing the predominant trunks of the native trees rising beside a meandering stream, it is hard to believe this valley is within city boundaries. Venturing further, and the treats of many concealed nooks, littered with curious objects of art, begin to reveal themselves, and this is only the backyard. Blessed not only with his property and location, Mr Hammonds is a beneficiary of a labour of love by two notable predecessors, Dorothy Ruebe (future wife of V. C. Davies) and then Graham Miller (landscape gardener who worked for Duncan and Davies).

5 large Kauri dominate the southern side of the house, two within reach of the balcony. The largest butts up against the balcony, which is littered with kauri debris. It is believed to have been planted at the same time that V. C was offering every Taranaki School a free kauri (1936). He had acquired a pound of kauri seed and the successful germination had created a copious supply.

17.5.02: Height = 22.6 m; spread = 6.6 m; dbh = 58 cm.

A very healthy tree with no obvious defects. Pushed up in earlier stages of growth because of heavy shading. The trunk rises from 3 m lower than the balcony.

In close proximity to this tree are 4 more kauri that commemorate the birth of Graham Miller's children.

The closest is 2.3 m to the west of and almost equal distance from the balcony (38 cm) as the larger original tree. dbh = 27.4 cm. The "2nd Miller kauri" is 2.8 m from the western corner of the balcony,

having a dbh = 40.1 cm. The "3rd Miller kauri" is 4.6 m out from the centre of the balcony,

dbh = 35 cm. The "4th Miller kauri" is 4.6 m to the south from the eastern corner of the balcony,

dbh = 22.3 cm. These trees make a tight little group. Unfortunately the 4th tree has suffered a damaged apex from a nearby mamaku of equal height. The 3rd has a co-dominant leader at approximately two

thirds of the way up the trunk.

+Another tree was recorded on this property because of excellent form, great health and height. Located 31 m downstream from the bridge on the walkway between Hursthouse St and Kereru Pl. This tree is also believed to be from the 1936 plantings.

17.5.02: Height = 23.7 m; spread = 3.5 m; dbh = 42.7 cm.

The tree has been drawn up as it is at the bottom of the valley. Even though this tree has cleared the surrounding vegetation in height it still retains the ricker (fastigate) form with no evidence of stronger lateral growth. Foliage to ground level. This tree has the hallmark of becoming a great specimen.

+The "Hayton Kauri" can be located in the Avery Reserve, access off Timandra St or Frank Wilson Tce (**Fig. 22**). Positioned halfway down a steep east facing entrance slope and skirted on the western side by 4 totara. A specimen that has good health, but a slight lean. It is tall and skinny relative to tree height. This is because the tree has endured strenuous competition from pine, macrocarpa and eucalyptus that were sited nearby, until about 1995. A stump of a pine 7.3 m above and to the south had a ground level diameter of 1.75 m. It would have undoubtedly towered over the kauri and deprived it of a large quantity of both light and soil nutrients. With the removal of these trees reducing rivalry, this tree has a good future and preservation is almost guaranteed.

3.5.02: Height = 18.2 m; spread = 4.3 m; dbh = 37 cm.

At the base of this kauri is a plaque bearing the following inscription: "To the scared Memory of Gilbert McLean Hayton, D. F. C., R. A. F., October 1942. This kauri was planted by his mother".

In the last few years (c. 1999 - 2001) the surrounding area has been planted with numerous native saplings which in the course of time will create an excellent setting.



Fig. 22

+Three kauris of interest are at a private residence and can be found at Noel Grundy's, 65 Brooklands Rd. N. Grundy's father Fred Grundy planted all three specimens.

One specimen is beside the driveway (10 m from the house), at the top and on the right-hand side, 4m from the boundary of 65/67 Brooklands Rd (**Fig. 23**). A healthy tree that has developed a slight lean towards the house with heavier branching on that side. Factors that would contribute towards this lean are surrounding vegetation, past and present, also exposure to the southerlies because of the raised location. A vertical crack runs 2.2 m from ground level up the trunk. Is this cracking caused by the tree trying to maintain the centre of gravity through the formation of reaction wood? Even though the branches are heavier on the northerly (house) side the tree has even branch distribution. Several epicormic shoots (from dormant buds) appear on the trunk between 1-2 m. Planted c. 1930.
12.7.02: Height = 18 m; spread = 7.8 m; dbh = 58.6 cm.



Fig. 23

Branching on this tree is limited on the easterly side due to a healthy younger kauri (planting date unknown) being sited within 4 m. It is 2.2 m from the boundary of 65/67 Brooklands Rd.

12.7.02: Height = 15.9 m; spread = 4.9 m; dbh = 40.1 cm.

In a gully to the rear of the house the other kauri is positioned near the Brooklands Park boundary and adjacent to a park stream (**Fig. 24**).

This healthy tree has an unbalanced canopy. On the Brooklands Park side of this specimen there is no growth (suppressed) because of the surrounding vegetation. On the other side (of the tree) the branches emerge from tightly angled unions and form vertical growth habits. Ideally, these lower branches should be removed as the upper canopy has a wonderful branching structure and is beginning to open and take the form of a semi-mature kauri.

12.7.02: Height = 18.9 m; spread = 5.4 m; dbh = 58.6 cm. Planted c. 1927.

(14.7.02: Tree work has been performed on this specimen. Hopefully this will enable the tree to become a classic kauri in the future).



Fig. 24

George Fuller measured the two older trees in January 1979. Specimen closest to house, next to the driveway: Height = 14.3 m; spread = 4.35 m; dbh = 40.1 cm. Specimen in gully: Height = 15.05 m; spread = 2.3 m; dbh = 38.9 cm.

Mr Fred Grundy built the house on this property around 1926 and his son Noel has lived there ever since. F. Grundy was a well-known businessman in New Plymouth (Grundy Motors on Gill St). In addition to his business interests he loved magic and performed as a magician with the stage name The Great Grandini, at one stage even appearing on the Ed Sullivan Show in the U.S.A.

+The "Great Grandini kauris" (**Fig. 25**) are located at Loyld and Frances Grundy's property, 53 Brooklands Rd.

In 1939 the Grundy family went on holiday to the Waipoua Kauri Forests in Northland. At some stage on their holiday the family encountered maintenance teams removing kauri saplings that were growing in close proximity to the road. Fred Grundy (alias The Great Grandini) parked the car further up the road, out of sight and removed 12 saplings that would subsequently have been destroyed. Upon his return home he planted the kauris along the rear boundary of 53 Brooklands Rd. This boundary borders on Brooklands Park and is defined by a stream. The row of kauri has random spacing and is slightly staggered. It runs almost parallel with the stream and Brooklands Rd, ranging from 6 m to 10 m distant from the stream. The trees are associated with numerous kahikatea which are about the same age, (1935, 36).

These kauris are all healthy with the majority growing vigorously. They range in size and form, from multi-stemmed trees to classic kauri rickers. It is anticipated that they will form a very prominent row in the future.

The following is the distance between each tree (starting from the city end of the row) plus the dbh,

Tree #1: dbh = 46.1 cm

Tree #1 to tree #2 = 4m. Tree#2: dbh = 47.4 cm.

Tree #2 to tree #3 = 7.7 m. Tree#3: dbh = 42.4 cm.

Tree #3 to tree #4 = 3.3 m. Tree#4: dbh = 37.9 cm.

Tree #4 to tree #5 = 2.7 m. Tree#5: dbh = 37.9 cm.

Tree #5 to tree #6 = 5.7 m. Tree#6: dbh = 53.5 cm.

Tree #6 to tree #7 = 3.9 m. Tree#7: dbh = 36.9 cm.

Tree #7 to tree #8 = 3.3 m. Tree#8: dbh = 37.3 cm.

Tree #8 to tree #9 = 7.8 m. Tree#9: dbh = 48.4 cm.

Tree #9 to tree #10 = 3.2 m. Tree#10: dbh = 39.8 cm.

Tree #10 to tree #11 = 3.8 m. Tree#11: dbh = 48.1 cm.

Tree #11 to tree #12 = 4.2 m. Tree#12: dbh = 33.8 cm.

Complete measurements for tree #6 with the largest dbh (53.5 cm).

15.7.02: Height = 18.1 m; spread = 5.1 m. This is not the tallest. Other trees are at least 20 m tall and some have better form.

(27.7.02: A two-stage maintenance plan has been initiated on one of these trees that have a major co-dominant leader).



Fig. 25

+Two kauri with dense foliage to ground level are located at the Smale's property, 68 Gilbert St. They are positioned on the lawn to the side of the house, at (1) 28.5 m and (2) 37 m from the front boundary. Tree (1) is a healthy tree, but unfortunately has poor form as it divides into three main leaders at approximately 3 m.

16.7.02: Height = 19 m; spread = 8.3 m; dbh = 73.2 cm. The dbh recording was taken just above a junction of a side shoot (about 15 cm in diameter), which will ultimately grow against the trunk in years to come.

Tree (2) is also a healthy tree. This specimen has good form apart from a solitary branch that arises within 30 cm of ground level and travels parallel with the trunk for at least 10 m. This branch has a diameter of 17.2 cm just above the junction and should ideally be removed.

16.7.02: Height = 20.5 m; spread = 9.5 m; dbh = 79.9 cm.

These trees were planted before 1930.

+On the rear boundary of 216 & 218 Devon St West D.O.C Headquarters there is a tree with moderate health and poor form. The tree displays a co-dominant leader of about the same size, emerging from approximately 3 m and has formed several large limbs at a low level.

The canopy is slightly suppressed on the Devon St West side by a neighbouring pohutukawa.

16.7.02: Height = 16 m; spread = 7.5 m; dbh = 70.1 cm.

+There are two significant kauri at the end of Vivian St, the first at the Knight's property, 156 Vivian St. The tree is located on a raised level in a small garden verge, 1.4 m from the side of the house. A tree with moderate health and form, (two unusually large limbs emerge on the house side at approximately 3 m). The most striking feature of this tree is the exposed root that one cannot miss when approaching the front door. It protrudes (the root) through the punga retaining wall and extends into the concrete path that leads towards the house, restricting it to 70 cm wide.

16.7.02: Height = 16.3 m; spread = 8.8 m (one way); dbh = 76.4 cm.

+A few doors up another notable specimen can be found at Mrs Higgins, 162 a Vivian St. Again, the tree is located near the house (2.75 m from the rear) and 1 m from the boundary of 160 Vivian St.

A beautiful tree with great health and form. Numerous epicormic shoots (from dormant buds) appear near the base of this specimen.

16.7.02: Height = 16.2 m; spread = 7.8 m; dbh = 59.9 cm.

From observations and recordings the tree at 156 Vivian St appears to be at least 10 years older than this one at 162 a.

Between these two properties is a large house with which they were presumably once amalgamated (#160) formerly owned by the Weston family. The family had an association with the Taranaki Herald that lasted for 111 years.

+An old tree with an unknown past (except for maybe? a Frethey connection) is located at the Collie's, 59 Doralto Rd. This large tree is positioned on the front lawn to the left of the driveway, over-hanging the power lines (**Fig. 26**).

It is healthy with a slightly buttressed, clear trunk to approximately 3 m. At this point a large branch and two lesser ones have been removed. At approximately 4 m the tree branches into 3 leaders, which are relatively the same sizes.

The tree has a slight lean and vertical cracking is still evident on the trunk from some years ago.

26.7.02: Height = 21.4 m; spread = 10.3 m; dbh = 1 m.



Fig. 26

+There is a healthy specimen located on the Huatoki Walkway. Opposite # 70 Glenpark Av is an access onto the walkway close to a large culvert and a small bridge. This kauri is 7.5 m downstream from the bridge, almost in the middle of the track.

This specimen has an extremely slender trunk, relative to the height. The surrounding vegetation has drawn it up considerably and as expected the majority of growth is in the upper canopy. In fact, this is an excellent example of how trees compete for sunlight, as this specimen has forced its own space (hole) in the upper canopy of surrounding vegetation.

Probably planted 1935 or 36?

30.7.02: Height = 22.7 m; spread = 3.5 m; dbh = 35.7 cm.

A kahikatea is positioned an arm span away from the tree recorded.

Across the stream there is a grove of similar sized kauri (approx 8).

+A tree with great potential is sited 23.5 m from the right-hand edge of the lower section of the vehicle access into the Huatoki Domain, off Huatoki St. It is positioned near the childrens play equipment and 9 m from the curved stone seat that bears the date 1932.

A fine healthy specimen, which is expected to dominate in the future on this excellent site.

This tree could relate to the c. 1935, 36 plantings, or perhaps to the date on the stone seat (1932).

7.8.02: Height = 20.5 m; spread = 5.7 m; dbh = 53.5 cm.

This location is one of the better places in New Plymouth to observe mature titoki, as they form a strong component of the surrounding vegetation.

+ "The Courthouse kauri" is located 28 m from the steps leading into the N.P Court (**Fig. 27**). It is positioned in a garden bed on the Robe St frontage. The planting of the Robe St Reserve was the N.P. City Council Parks Dept's first attempt at a '24 hour make-over'. Most trees were already large specimens, prepared for transplanting 12 months in advance. This kauri had been planted about 1974 by D. V. Sutherland (N.P. Mayor at the time) on the corner of the Devon Intermediate School swimming baths, which means that Fred Parker (see below) would also have been involved. It proved to be unsatisfactorily sited and both agreed that it would be very appropriate for the Robe Street surprise. The replanting a few years later was very successful.

(Written by G. Fuller)

17.8.02: Height = 10.5 m; spread = 4.1 m; dbh = 30.2 cm.



Fig. 27

+Over the years New Plymouth has produced several distinguished horticulturists. It would be an injustice to compile this information without acknowledging the outstanding contribution of Mr Fred Parker, (M.B.E 1974). Fred Parker was a talented gardener and a clever propagator. His garden was a major N.P. tourist attraction from the 1930s to the 1960s. In addition to his own garden he was extremely dedicated to West End Primary school, which adjoined his property and also Devon Intermediate just beyond. Perhaps a plaque on a large stone in a garden bed near the main entrance to the administration block of Devon Intermediate says it best: "*This plaque serves to record the outstanding services rendered to this school by Mr Fred Parker who was mainly responsible for the planting and setting out of these grounds. A great lover of nature and children*".

In Mr Parker's time Devon Intermediate was said to have the most attractive Intermediate school grounds in New Zealand. One of its major features is a row of 47 kauri running the length of the property from Devon St West almost to St Aubyn St. Mr Parker named this row of kauri the Bledisloe Memorial which were planted about 1961-62. After the planting of these kauris St Joseph's primary school, which shares a common boundary with Devon Intermediate, inquired into the possibility of their school receiving kauri. A few years later a further 23 trees were planted in a relatively regular row on that school property. These rows define both school boundaries and between the respective sports fields form a very impressive avenue with irregular spacing (**Figs. 28 and 29**). Fred Parker was very proud of the extensive preparation of the Devon Intermediate planting sites and the fact that "not a tree was lost". The same effort was not possible at St Josephs and this is reflected in the outcome.



Fig. 28



Fig. 29

Another 6 (possibly once 7) kauri run along the northern boundary of St Joseph's at regular intervals beside the edge of the Mangaotuku Stream. There are numerous other kauri scattered around Devon Intermediate which along with these trees are going to make the school grounds a predominant arboreal feature in New Plymouth and eventually in New Zealand.

In an interview conducted by G. Fuller on the 11.11.77 Fred Parker revealed that he had worked voluntarily on the Devon Intermediate School grounds 3 days a week for seven years. *"Didn't know how the Hell he had done it"*. When asked why he had devoted so much effort he replied that it was for personal satisfaction and the desire to create something for posterity. Indeed he succeeded. – G.F.

The trees of the memorial avenue range in size, form and health and many require attention.

One of the better examples was recorded. Beside Devon Intermediate F Block there is a concrete patio 3 m wide from which a terrace descends to the level of the playing field. The tree is almost in a straight line with the outer edge of this patio and 9.3 m from its corner.

This tree has great form and vigour.

28.8.02: Height = 14.3 m; spread = 6.9 m; dbh = 54.7 cm.

+Two commemorative kauris were planted in 1956 in the grounds of West End School (**Fig. 30**). They are both healthy vigorous trees with very similar proportions. Unfortunately the kauri closest to the sportsground has a co-dominant leader.

Kauri - 4.6 m from the terraced wall of the sports ground and 1.5 m on the eastern side of the eastern ramp. This tree was planted by the Springbok centre three-quarter Jeremy Nell.

28.8.02: Height = 15.1 m; spread = 7 m; dbh = 60.5 cm.

Kauri - 16.5 m from the terraced wall of the sports ground and 1.3 m on the eastern side of the eastern ramp. Planted by Springbok Manager Dr Danie Craven. (Also see under EXOTIC TREE 109 Quercus ilex)

28.8.02: Height = 15.2 m; spread = 8.5 m; dbh = 59.5 cm.

"Within about a week the kauri planted by Dr Danie Craven had been damaged with a knife. To find the culprit, neighbour Fred Parker who had organised the planting asked at a school assembly whether anyone could lend him a pocket knife. The culprit fell into the trap by offering the knife with which he had inflicted the damage! No doubt a memorable lesson was learned by all assembled, if only about tree surgery because the tree was staked and made a perfect recovery".

(Notes taken from an interview G. Fuller conducted with F. Parker in 1977).



Fig. 30

+Nearby is another kauri (**Fig. 31**) on a narrow terrace 1.6 m behind the administration block, (north western corner). Circumstances surrounding the planting date are unclear but are being researched. A healthy tree with reasonable form. Several lower limbs have been removed because of close proximity to the building. The canopy is suppressed on one side from a *Libocedrus* sp.
28.8.02: Height = 16.1 m; spread = 6.8 m; dbh = 62.4 cm.



Fig. 31

Several young kauris are planted around the central business area but are not included in this report. There are also many larger kauris in the New Plymouth area that could justify inclusion.

Kauri in New Plymouth

Largest diameter recordings:

		Page	Figure
Dbh = 86.9 cm,	Pukekura Park, Monument Hill.	15	3
Dbh = 90.1 cm,	Pukekura Park, Fernery Lawn.	16	4
Dbh = 1 m,	Front lawn, 59 Doralto Avenue.	40	26
Dbh = 1.118 m,	Front lawn, 69 Govett Avenue.	14	1 & 2
Dia at 50 cm=1.312m,	Brooklands Park, 6 m from access road down to Bowl.	30	16

Greatest height recordings:

Height = 23.7 m,	Bruce Hammonds, 24 Hursthouse St	36	
Height = 24.3 m,	Pukekura Park, Monument Hill.	15	3
Height = 24.7 m,	Cowling Plantation, Barrett Domain.	18	5
Height = 25.1m,	Racecourse Walk, Pukekura Park.	31	17
Height = 26 m,	Burgess Park.	33	19

NATIVE TREE: 7
SPECIES: *Alectryon excelsus*.
COMMON NAME(S): Titoki.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside the main path, below shed, Maranui Gully, Brooklands Park.
DATE MEASURED: 1969
HEIGHT: 65 ft (19.8 m). Clear trunk to 25 ft (7.6 m).
CANOPY SPREAD: 45 ft (13.7 m)
DBH: 25 in (63.5 cm)
BURSTALL'S NOTES: An unusually tall tree.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, 10 metres below the boundary fence on the Maranui Gully side of the service compound. Sited on the southern side of the dis-used rubbish dump. The upper half of the tree is visible from the gate on the park side of the compound, and can be distinguished by the presence of a tuft of growth on a lower branch.
DATE MEASURED: 19th October 2001
HEIGHT: 22.8 m
CANOPY SPREAD: 20 m, only one measurement was taken, as the other reading would reduce the spread so much that it would give an inaccurate interpretation of the canopy size.
DBH: 78.3 cm
REMARKS: The tree contained two limbs with an extremely tight union which has failed at approximately 6 metres, tearing down the trunk 2.6 m with the fracture line being evident to ground level. This portion rests beneath the tree and has a diameter of 56 cm at just above the failure point. It looks about an equal size to the remaining canopy. With such a large volume lost the life expectancy of this tree will be greatly reduced.
Measurements were difficult to obtain on this tree because it is located on a steep and unstable slope.

(*Medbury, 1986: Ht = 21.6 m; dbh = 75.2 cm)

NATIVE TREE: 8
SPECIES: *Beilschmiedia tarairi*.
COMMON NAME(S): Taraire.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: H.M. Wooffindin, 28 Holsworthy Road.
DATE MEASURED: 1973
HEIGHT: 22 ft (6.7 m)
CANOPY SPREAD: -
D AT 1 ft: 22 in (55.9 cm)
BURSTALL'S NOTES: A smaller but taller tree in Fillis street Gully, Pukekura Park, was 38 ft (11.6 m) tall in 1969. Planted in 1938.

CURRENT READINGS

UPDATED LOCATION: Kaye Macknize-Johnson, 22 b Holsworthy Road.
DATE MEASURED: 2nd of September 2001
HEIGHT: 12.3 m
CANOPY SPREAD: 12.2 m
DIAMETER AT 30 cm: 77.7 cm
DIAMETER AT 1.7 m: 47 cm
REMARKS: Kaye Macknize-Johnson and family live in the old Frethey homestead. Trees, many of which are native, surround the property. Two of the more interesting

trees are the taraire and the variegated karaka (NATIVE TREE 12), which greet you, when entering the property.

The primary seven branches on this tree (**Fig. 32**) are arranged in a clustered whorl, emerging in the first metre of the trunk. This lower branching structure resembles a cupped hand and gives this tree a fascinating appearance

Neighbours commented on the native bird life the tree attracted.



Fig. 32

&The smaller but taller tree recorded above is located in the upper reaches of Kindergarten Gully, Pukekura Park, 90 metres from the footpath on Fillis street. The tree has a distinctive bow at the base. It is in a well-sheltered site and this would contribute to its healthy appearance, which is more notable in the upper canopy.

7.2.02: Height = 19.5 m; spread = 8.4 m; dbh = 42.7 cm.

These two trees have completely different forms because of such diversity in their habitat.

(*Medbury, 1986: Ht = 16 m dbh = 35.7 cm.

First tree of this species to be planted in the park. Found suppressed by vines after World War 2. Horton planting c.1936).

+Another fine specimen with good health and form can be found directly behind 25 Victoria Rd just inside the Pukekura Park boundaries, being 8 m along the path from the car-park kerb and then a further 7.5 m at a right angle down the bank.

15.5.02: Height = 12.7 m; spread = 8.6 m; dbh = 41.2 cm

(*Medbury, 1984: Ht = 8 m approx; dbh = 61.5 cm (????)).

Recorded by Thomas Horton "planted 60 pohutakawa's and 10 native trees below Superintendents residence" 20.2.36).

It is not known how Medbury achieved such a large dbh.

NATIVE TREE: 9
SPECIES: *Beilschmiedia tawa*.
COMMON NAME(S): Tawa.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Maranui Gully, Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 90 ft (27.5 m), approximately.
CANOPY SPREAD: 60 ft (18.3 m)
DBH: 36 in (91.4 cm)
BURSTALL'S NOTES: Clear trunk to 12 feet (3.7 m).
A good specimen close to the path and easily accessible.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, 134 metres from the Bowl of Brooklands gate on the Maranui Gully track, 19 m over the stream and on the Brooklands Park side.
DATE MEASURED: 18th October 2001.
HEIGHT: 26.1 m, approximately.
CANOPY SPREAD: 19.55 m
DBH: 1.066 m
REMARKS: There is some confusion over which tree Burstall recorded. The tree listed here is one of the best examples of tawas in the Maranui Gully, yet it is not that accessible to the path.
The tree is well proportioned and is an excellent specimen, which is thriving in its environment.

NATIVE TREE: 10
SPECIES: *Cordyline australis*.
COMMON NAME(S): Ti, Cabbage Tree.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside Norfolk Pine, Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 55 ft (16.8 m)
CANOPY SPREAD: -
DBH: 42 in (1.067 m)
BURSTALL'S NOTES: -

CURRENT READINGS

REMARKS: Two cabbage trees were sited next to the pair of Norfolk Island pines on the Main Lawn at Brooklands Park. Unfortunately, the larger cabbage tree Burstall recorded died of natural causes sometime in the early 1990s. The following measurements are for the surviving cabbage tree.
+Located 4.2 metres from the path on the Main Lawn overshadowed by one of the Norfolk Island pines.
4.9.01: Height = 10.4 m; spread = 6.2 m; branches into two limbs at 1.1 m so the trunk diameter was taken at 1 m = 93.6 cm.
The lower canopy contains a variety of different epiphytes.

+Another tree of interest because of its notable size is located in the driveway of 22 a, b and c Holsworthy Rd.
Height = 12.8 m, spread = 8.25 m, diameter at 1 m = 1.32 m.
Extremely healthy, squat specimen.

NATIVE TREE: 11
SPECIES: *Corynocarpus laevigatus*
COMMON NAME(S): Karaka.
B.B CATEGORY: Native Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Brooklands Park
DATE MEASURED: 1969
HEIGHT: 60 ft (18.3 m)
CANOPY SPREAD: 70 ft (21.4 m)
DBH: Two large leaders of 33 and 29 inches (83.8 and 73.7 cm).
Girth at 1 ft (30.5 cm), 20 ft (6.1 m).

BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, 41 m from the Kaimata St end of the Main Lawn. Nature trail sign # 9

DATE MEASURED: 4th September 2001
HEIGHT: 21.35 m
CANOPY SPREAD: 23.05 m
DBH: Leader Kaimata St side = 1.009 m, (Southerly).
Leader Main Lawn side = 86.9 cm, (Northerly).

REMARKS: Two large leaders arise at just above ground level both bearing huge amounts of weight from the large canopies supported (**Figs. 33 and 34**). As the tree increases in canopy volume so does the pressure on the union near ground level. This becomes apparent when viewed as the leaders are obtuse and appear to be trying to escape each other. Because of the buttressed base and the two limbs, the diameter readings were taken at 30 cm = 2.382 m and 60 cm = 2.076 m. This is a spectacular tree and through the fall of leaves and nuts keeps a clear space underneath the canopy. It is in a protected site and with very healthy growth.

(~Fuller, 1982: Diam at 30 cm = 2.173 m; Diam at 1 m = 1.59 m; dbh on Southerly leader = 95 cm; Dbh on Northerly = 81 cm).

(*Medbury, 1986: Ht = 23.05 m; dbh Southerly = 87.5 cm, Northerly = 82.8 cm).



Fig. 33



Fig. 34

+A tree similar in appearance and dimensions is located 30 metres from the northeastern corner of Vogletown Park on Struan Walk (Links Truby King Dell with Vogletown Park). This tree divides into two separate main stems at almost ground level, is extremely healthy and is well protected by surrounding vegetation. 1.9.01: Height = 16.7 m, spread = 17.75 m; dbh = 1.49 m, although the trunk has divided at this point it is impossible to achieve separated readings. Diameter at g.l = 2.32 m.

NATIVE TREE: 12
SPECIES: *Corynocarpus laevigatus* 'Aureus variegatus'.
COMMON NAME(S): Variegated Karaka.
B.B CATEGORY: Native Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: P.J. Ayckbourn, 26 Holsworthy Road.
DATE MEASURED: 1973
HEIGHT: 22 ft (6.7 m)
CANOPY SPREAD: 25 ft (7.6 m)
DIAMETER AT 1 ft: 17 in (43.2 cm)
BURSTALL'S NOTES: A healthy, colourful tree.

CURRENT READINGS

UPDATED LOCATION: Kaye Macknize-Johnson, 22 b Holsworthy Road.
DATE MEASURED: 2nd September 2001
HEIGHT: 12.9 m
CANOPY SPREAD: 9.8 m
DBH: 44.6 cm
REMARKS: Two large lower limbs have been removed, one tearing down the trunk 1.3 m to ground level x 18 cm at the widest point. The removal of these limbs is one of the major factors in the presence of numerous shoots from latent or dormant buds, located throughout the canopy. The tree has reacted to the large loss in canopy volume and compensated by producing these shoots. Callus wood formation, good vigour and vitality all suggest this tree is in a healthy condition. In addition to this information the tree is rapidly outgrowing a neighbouring Camellia, (observations made by Kaye, over the last five years). The first existing lower limb branches from 60 cm and reduces the dbh somewhat. A diameter reading was taken at 30 cm = 59 cm.
The tree contrasts well with the nearby taraire and from the road appears to be yellow, however standing beneath the canopy the green becomes more apparent.

NATIVE TREE: 13
SPECIES: *Dacrycarpus dacrydioides*, (syn. *Podocarpus dacrydioides*).
COMMON NAME(S): Kahikatea.
B.B CATEGORY: Not categorised.

ORIGINAL READINGS

LOCATION: Upper Stainton Dell, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 72 ft (22 m)
CANOPY SPREAD: 30 ft (9.2 m)
DBH: 23 in (58.4 cm)
BURSTALL'S NOTES: Well-shaped specimen.
Just beyond the boatshed, eastern bank, Pukekura Park, is a tree 27 in (68.6 cm) x 65 ft (19.8 m).

CURRENT READINGS

UPDATED LOCATION: It is unknown which specimen Burstall recorded, as there are two specimens located in upper Stainton Dell. Both are located close to a track, but one in the left lobe and the other in the right lobe. There is also a specimen Medbury recorded, which can be found in lower Stainton Dell.
See separate measurements below.
REMARKS: Tree in left lobe: A stunning specimen with a symmetrical form and a straight single trunk. Located in a protected site with moist favourable conditions. A striking and decorative feature on this tree is the white lichen that enshrouds the majority of the lower trunk (**Figs. 35 and 36**).
30.1.02: Height = 24.2 m; spread = 12 m; dbh = 71.6 cm.



Fig. 35



Fig. 36

+Tree in right lobe: A specimen with a slightly fluted trunk. Equal beauty and similar proportions to the tree recorded directly above. Also well sited (**Fig. 37**).

4.2.02: Height = 25.5 m; spread = 9.6 m; dbh = 81.5 cm.



Fig. 37

+Medbury records a tree 20 m before the Fernery Lawn junction on Racecourse Walk, lower Stainton Dell. A tree with a broader and rounded upper canopy than the others recorded, possibly because of the exposure to southerly winds after the removal of pines from the nearby eastern hillsides in the mid 1960's. The appearance of this specimen presents an aspect of maturity.

4.2.02: Height = 24 m; spread = 11.9 m; dbh = 99.6 cm.

(*Medbury, 1986: Height = 23.5 m; dbh = 89.2 m.

Largest in the park; last of original planting of kahikatea, planted c.1910).

&The other tree Burstall recorded is located 44 m from the boatshed towards Brooklands Park on the right-hand side of the path, (Saxton Walk). A fine specimen on the waters edge. Heavily festooned with a rata vine, which is not included in the dbh measurement. Rather one-sided as it is growing in close proximity to a rewarewa on the other side of the path.

30.1.02: Height = 23.7 m; spread = 9 m, only one reading taken as the east to west canopy overhangs the lake; dbh = 89.2 cm.

NATIVE TREE: 14
 SPECIES: *Dacrydium cupressinum*.
 COMMON NAME(S): Rimu.
 B.B CATEGORY: Native Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Burgess Park, Junction Rd.
 DATE MEASURED: 1969
 HEIGHT: 105 ft (32 m), height to first branch 68 ft (20.7 m).
 CANOPY SPREAD: -
 DBH: 46 in (1.168 m)
 BURSTALL'S NOTES: The largest of five good trees. This park, with the old homestead, was a gift to the people of New Plymouth by Mr and Mrs. C.H. Burgess on 11 August 1936.

CURRENT READINGS

UPDATED LOCATION: Burgess Park, 361 Junction Rd, (SH3). At 180 m from the public toilets the riverside track has been blocked because of a slip. At this point there is an intersection with a diagonal track leading up to the top track. 21 m from the intersection and on the upper-side (right-side) of the track is the location of this fine specimen (**Figs. 38 and 39**).

DATE MEASURED: 26th March 2002
 HEIGHT: 39.1 m
 CANOPY SPREAD: 14 m; taken in one direction because of difficult terrain and complications in relating to a canopy that is so high.

DBH: 1.347 m

REMARKS: A tree in the stage of slow senescence with a heavily damaged canopy. This huge clear trunk has a slight lean and is clear to 21.8 m, unblemished. This tree is so unique that one is compelled to ponder on how it escaped the axe. Location reasons?

This is an astonishing specimen of rimu; a relic from the past, many 100s of years old. It must be seen to be believed.

The remaining 4 mentioned by Burstall are back down towards the intersection. Only two were measured, one dead and one seriously declining. They have a dbh of; dead tree = 1.156 m; declining tree over -hanging the riverside path = 94.3 cm.



Fig. 38



Fig. 39

NATIVE TREE: 15
SPECIES: *Dacrydium cupressinum*.
COMMON NAME(S): Rimu.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Ratapihipihi Reserve, Cowling Road.
DATE MEASURED: 1973
HEIGHT: 130 ft (39.7 m); with a good trunk to 25 ft (7.6 m)
CANOPY SPREAD: -
GBH: 18 ft (5.49 m) (dbh = 1.748 m)
BURSTALL'S NOTES: A spectacular tree in a stand of native trees where kohekohe and tawa are dominant. Two sawpits dating from the 1860's are nearby. There is another large rimu further into the reserve. There is easy access to the trees.
Beside the southern end of Fountain Lake, Pukekura Park, are five trees of this species, one being 18 in (45.7 cm) x 61 ft (18.6 m) in 1973. They are likely to become a notable group in years to come.

CURRENT READINGS

UPDATED LOCATION: Ratapihipihi Reserve, Ratapihipihi Rd, upper Westtown. From the entrance travel clockwise. After a few minutes stroll and at the first major flight of steps it's impossible to miss this tree 8.5 m off the path to the left.
DATE MEASURED: 4th May 2002
HEIGHT: 26.5 m, (although it has been a lot taller).
CANOPY SPREAD: 17 m, approximately.
DBH: 1.675 m
REMARKS: Like the tree in Burgess Park, a relic from the past! A massive trunk (**Fig. 40**) that begins to branch at approximately 6 m where two large leaders arise. A metre above this point a lesser branch has emerged. The upper canopy has failed due to decay with a large amount of debris and logwood evident at the base. Only the lower branching structure remains with a small amount of growth.
2.5 m away on the lower side of this tree is a precipitous drop 8 m deep.



Fig. 40

It is unknown how Burstall achieved a dbh a few cm larger, although, when measuring this large trunk, a few cm higher or lower could alter this reading substantially. Maybe he got the two specimens confused?

+30 m behind the above tree is another, now the larger and the more impressive of the two (**Figs. 41 and 42**). It is similar in form and proportions to the tree closer to the track, with this specimen starting to branch at approximately 6 m into 3 main limbs with one being the obvious leader. In comparison, the trunk of this tree is more tortuous and it still retains the majority of the canopy with huge clumps of astelia epiphytes dotted throughout.

4.5.02: Height = 32.6 m; spread = 22.8 m; dbh = 1.764 m.

Again, the question is raised, why were these trees never felled for milling pre 1906? But here the reasons may be more obvious. The terrain is treacherous, has difficult access and the trunks don't have huge amounts of clear wood in them. After campaigning, Skinner had the surrounding area reserved in 1906 so milling couldn't have lasted much more than 40 years. Only the very best timber trees would have been taken in this time frame.



Fig. 41



Fig. 42

When negotiating this track from the entrance in a clockwise direction one encounters a well-preserved sawpit on the left of the path, 62 m before the first tree. A second pit exists on the right side of the path 33 m from the tree. Beside the first pit are the remnants of a large puriri stump measuring over 2.4 m in diameter at ground level. In 1973 G. Fuller made the following notes relating to the puriri stumps:

"...Records reveal that the timber when sawn was bullocked to New Plymouth, shipped to Wanganui in sailing ships and used in the construction of the first Wanganui Bridge, this being in the 1860's. Pieces of the branches are still recognisable, bearing testimony to the durability of this timber".

In 1984, D. H. Rawson, M.B.E, E.D wrote this for the Department of Lands and Survey: *"...Generally, the track follows down the left bank of the Mangaotuku Stream (the 'side branch' of the Huatoki).....During the 19th century, some timber was extracted from this area, but certainly not all that was millable. There are still two or three large rimus to be seen, and a great deal of tawa, kohekohe and mamaku; with titoki and puriri on the periphery".*

The surveyor W. H. Skinner, in one of his Field Books, notes the origin of the name Ratapihipihi: *"Ratapihipihi the name was derived from the large number of birds that used to be killed (by means of the call sound 'Pihipih') in the rata trees that once grew on this ground, more particularly on the rise of 'Ratapihipihi' proper. 'Pihipih' was the call (name) or means used to produce the peculiar sound that attracted the birds to the rata in which the hunter sat. This sound was produced by blowing through a leaf placed in the mouth. This noise was especially attractive to the kaka, large numbers of which were killed by the men sitting in the branches of the ratas, by simply knocking them on the head with a short club stick".*

"In March, 1860, at the start of the war in Taranaki, the village of Ratapihipihi, not far from the present reserve, was used as a meeting place by representatives of the various Taranaki tribes".

&When referring to the five trees in Pukekura Park the observations made by Burstall could be due to these specimens being among a minority of rimus in the park containing single leaders. The dbh of all the trees were recorded with the largest but not necessarily the healthiest having additional measurements. All were keyed in from the fountain pump-house on the way to the Hatchery Lawn, (Smith Walk). Left-hand side of track, except # 3.

Tree 1: 19 m from the fountain pump-house; dbh = 57 cm.

Tree 2: 23 m from the fountain pump-house; dbh = 68.1 cm.

Tree 3: 25.5 m from the fountain pump-house; dbh = 59.5 cm (right-hand side).

Tree 4: 27 m from the fountain pump-house; dbh = 58.2 cm.

Tree 5: 44.5 m from the fountain pump-house; dbh = 69.4 cm;

Height = 24.2 m; spread = 9.9 m; 5.2.02.

These trees are very visible to the public on this busy walkway.

(*Medbury, 1984: Ht = 21.3 m; dbh = 59.5 cm.

W. W Smith planting).

NATIVE TREE: 16

SPECIES:

COMMON NAME(S):

B.B CATEGORY:

Dysoxylum spectabile.

Kohekohe.

Native Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION:

Brooklands Park.

DATE MEASURED:

1969

HEIGHT:

65 ft (19.8 m); 16 ft (4.9 m) to the first branch.

CANOPY SPREAD:

-

DBH:

69 in (1.753 m)

BURSTALL'S NOTES:

The largest of this species seen in any city.

CURRENT READINGS

REMARKS:

The Kohekohe had grown on a bank in competition with other species. These factors lead to imbalance in the tree, making it vulnerable. Destroyed in Cyclone Bola, March 1988.

(~Fuller, 1982: Diam at 60 cm = 2.013 m; dbh = 1.804 m).

+An impressive tree that comes close in comparison for status, measurements and habitat to the one above can be located 70 m up the valley from the kerb opposite 11 Kereru Pl. A large tree in great health. Branching at approximately 3 m. A segment of the rooting system is exposed and travels 7.3 m down the valley. The huge trunk is on an approximate 70 degree lean from horizontal.

15.5.02: Height = 19.2 m; spread = 20.4 m; dbh = 1.274 m.

3.5 m distant up the slope is a smaller companion that branches just above 30 cm into two main leaders and has a diameter of 1.067 m at 30 cm.

NATIVE TREE: 17
SPECIES: *Dysoxylum spectabile*.
COMMON NAME(S): Kohekohe.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside access road from racecourse parking area to Bowl of Brooklands.
DATE MEASURED: 1973
HEIGHT: 50 ft (15.3 m)
CANOPY SPREAD: 55 ft (16.8 m)
DIAMETER AT 2 ft: 44 in (1.118 m)
BURSTALL'S NOTES: Branches from 4 ft (1.2 m). Passed by thousands of people each summer attending Bowl performances.
Close to the old karaka in Brooklands Park is a large naturally grown tree, 32 in (81.3 cm) diameter, height 40 ft (12.2 m) and 35 ft (10.7 m) spread.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, 81 m down the main vehicle access road from the racecourse to the Bowl, on the Maranui Gully lower side of the road.
DATE MEASURED: 17th October 2001
HEIGHT: 16 m
CANOPY SPREAD: 19.1 m
DIAMETER At 60 cm: 1.168 m
REMARKS: The new growth and healthy leaf appearance suggest development in tree size, however the records indicate little increase in growth (**Fig. 43**).
Has this tree reached optimum size for performance?

(~Fuller, 1982: Diam at 60 cm = 1.135 m).



Fig. 43

&Although it is not certain that it is the same tree, a kohekohe stands 11 m on the Kaimata St side of the giant karaka in Brooklands Park and is one of the best specimens in close proximity to this tree.

29.1.02: Height = 15.8 m; spread = 13.2 m; dbh = 90.1 cm.

A large number of the astelia epiphytes seem to be dying off in the canopy of this tree.

NATIVE TREE: 18
SPECIES: *Elaeocarpus dentatus*
COMMON NAME(S): Hinau.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Huatoki Domain.
DATE MEASURED: 1973.
HEIGHT: 53 ft (16.2 m)
CANOPY SPREAD: 37 ft (11.3 m)
DIAMETER AT 3 ft: 28 in (71.1 cm)
BURSTALL'S NOTES: A fine specimen in a grassed clearing surrounded by stands of titoki and tawa so characteristic of this domain.
Near the children's playground, Victoria rd entrance, Pukekura Park, is the finest hinau in the park, being dbh 16 in (40.6 cm), height 43 ft (13.1 m); canopy spread 25 feet (7.62 m) in 1973. A well sited tree.

CURRENT READINGS

UPDATED LOCATION: Huatoki Domain, Huatoki St. A solitary specimen (**Fig. 44**) in a grassed clearing between the tennis pavilion and the lower level children's play equipment.
DATE MEASURED: 28th January 2002
HEIGHT: 17.6 m; first branch at 1 m.
CANOPY SPREAD: 14 m
DIAMETER AT 90 cm: 88.8 cm
REMARKS: Well proportioned specimen which must be close to reaching it's climax. A reasonable amount of dieback evident at the top of the canopy with denser growth appearing in the middle of the canopy.
A juvenile karaka and kawakawa are growing in close contact with the base of the tree and restricting the growth and form on the westerly side.



Fig. 44

&The hinau in Pukekura Park (**Fig. 45**) is located 34 m from the Victoria Rd entrance on the left-hand side of Hughes Walk. It is a healthy tree but has received damage to the trunk, most probably from a truck. Callus wood is forming on this injury.

31.8.01: Height = 16.9 m, canopy spread = 9.9 m, dbh = 51 cm.

(*Medbury, 1984: Ht = 15.1 m; dbh = 45.2 cm.

W. W. Smith planting c. 1920. Not indigenous to New Plymouth, usually only further inland).



Fig. 45

NATIVE TREE: 19

SPECIES:

Elaeocarpus hookerianus.

COMMON NAME(S):

Pokaka.

B.B CATEGORY:

Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: M.G.B. Harvey, 222 Tukapa Street.

DATE MEASURED: 1973

HEIGHT: 25 ft (7.6 m)

CANOPY SPREAD: -

DBH: 11 in (27.9 cm)

BURSTALL'S NOTES: The larger of two planted by the late R.W. Davies.
Uncommon in this district.

CURRENT READINGS

REMARKS:

When Mr P. Dawson moved into this property in 1983 all that remained of this tree was the decaying trunk, which was removed soon after. The tree must have declined and died in the late 70s early 80s.

This property was previously the entrance to the Duncan and Davies native plant dept.

A kauri at this address is listed under (NATIVE TREE 6).

NATIVE TREE: 20
SPECIES: *Griselinia lucida*.
COMMON NAME(S): Puka.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: About 15 ft (4.5 m) inside fence, behind Highlands Intermediate School, Maranui Gully, Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 45 ft (13.7 m). Clear trunk to 12 ft (3.7 m)
CANOPY SPREAD: 35 ft (10.7 m)
DBH: 28 in (71.1 cm)
BURSTALL'S NOTES: The tree has almost completely suppressed a kohekohe of about 12 in (30.5 cm) dbh. A unique example of an epiphyte gradually assuming tree-size dimensions.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, the Coronation Av entrance to the Maranui gully, features a planting of exotic deciduous species. At a point where native regeneration commences there is a private property, house number 266. The boundary is formed of concrete slabs. 75 m from the back corner of this boundary and on the upside of the track (Highlands Intermediate School side) the *Griselinia* can be found.

DATE MEASURED: 18th October 2001
HEIGHT: 13.4 m
CANOPY SPREAD: 12.6 m
DBH: 81.2 cm

REMARKS: Dieback in the *Griselinia* has been evident throughout 2000 – 2001. The health has deteriorated and there are only a few hundred leaves left. The epiphyte is slowly dying and will soon be a lifeless skeleton on the remains of a kohekohe. The kohekohe is dead and appears to have been for sometime. It has an approximate diameter at 60 cm = 35 cm.
Is there a relationship between the two species dying together? Is this symbiosis (mutualistic association)?

(*Medbury, 1986: Ht = 14 m; dbh = 77.7 cm).

The dieback in the canopy could be accountable for the differences in height, between 1986 and 2001.
Since recording this epiphyte high winds in February 2002 were responsible for it failing at ground level.

NATIVE TREE: 21
SPECIES: *Hedycarya arborea*.
COMMON NAME(S): Porokaiwhiri, Pigeonwood.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Fence line, behind Highlands Intermediate School baths, Maranui Gully, Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 30 ft (9.2 m)
CANOPY SPREAD: 25 ft (7.6 m)
DIAMETER At 1 ft: 16 in (40.6 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Maranui Gully, 131 m from the back property boundary corner of house number 266 at the Coronation Av entrance and 5 m on the upside of the track (Highlands Intermediate School).
DATE MEASURED: 18th October 2001
HEIGHT: 11.5 m
CANOPY SPREAD: 9.35 m
DIAMETER AT 30 cm: 46.2 cm
REMARKS: Reasonably healthy with two large sprouts arising from ground level, giving the tree an unusual form. A branch at the height of 2.6 m has torn to ground level, creating a wound 10 to 12 cm wide and approximately 20 cm deep, consuming a large portion of the trunk. The trunk is leaning and is supported by a smaller whiteywood on the lower side of the tree.
The tree contained a mass of male flowers when recorded in October.

NATIVE TREE: 22
SPECIES: *Hoheria populnea*.
COMMON NAME(S): Houhere, Lacebark.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: T.C.N. Young, 3a Azalea Place.
DATE MEASURED: 1973
HEIGHT: 70 ft (21.4 m)
CANOPY SPREAD: 35 ft (10.7 m)
DIAMETER AT 1 ft: 33 in (83.8 cm)
BURSTALL'S NOTES: An exceptionally large and vigorous tree, probably planted by Fred Frethey, who owned the property in 1918 and planted the fine conifers which are a feature of what is now Truby King Dell.

CURRENT READINGS

REMARKS: A Search for remnants in July 2001 revealed nothing. Where the tree was located is not visible today, with canopies of surrounding native species quickly taking the opportunity to cover the space created.
The land has been sub-divided by housing developments since Burstall wrote his Mensuration Report #19. It was located on the narrow bank between the entry drive to 3a Azalea Pl and the swampy area of Struan Walk, very exposed to the onslaught of Cyclone Bola.
It is a disappointment not to be able to observe such a large hoheria, today.

(~Fuller, 1982: Severely damaged in storm of 8.4.82. The larger fork (dbh = 58.6 cm) was blown right out and the smaller (dbh = 54.1 cm) left standing but degeneration of the base of the tree through rot is extensive. The remaining half is doomed as a consequence.

NATIVE TREE: 23
SPECIES: *Knightsia excelsa*.
COMMON NAME(S): Rewarewa, N.Z Honeysuckle.
B.B CATEGORY: Native Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Brooklands Park
DATE MEASURED: 1969
HEIGHT: 90 ft (27.5 m), 30 ft (9.15 m), to first branch.
CANOPY SPREAD: -
DBH: 38 in (96.5 cm)
BURSTALL'S NOTES: A tall, straight tree, in competition with others.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Maranui Gully. In walking the old Brooklands nature trail anti-clockwise the tree is located approximately 40 metres south from base station number 2.

DATE MEASURED: 4th September 2001

HEIGHT: 10 m

CANOPY SPREAD: -

DBH: 1.032 m

REMARKS: The rewarewa failed in the early 1990's. Failure occurred at the first branch, a snapped trunk and a stub with a small amount of growth being all that is present today. The remainder of the upper canopy lies at the foot of the trunk. The trunk resembles a sheath, with walls between 15 - 25 cm thick. Fungal brackets (eg. *Ganoderma* Sp.) are present along with large amounts of wood decay. These types of diseases are rather common and widespread, and are among the most damaging of diseases, especially in rewarewa. Defences were weakened due to internal decay, as noted in 1986 and environmental conditions were probably the final cause of demise.

(*Medbury, 1986: Ht = 26 m; dbh = 1.12 m.

This tree has developed a large cavity in the centre of the trunk.)

There is a lessening of almost 9 cm in the current diameter reading and that of Medbury. Could the movement of essential elements throughout the trunk be accountable for some of the depletion in size?

NATIVE TREE: 24
SPECIES: *Laurelia novae-zealandiae*.
COMMON NAME(S): Pukatea.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside the path just above junction with path to List Street entrance, Brooklands Park, Maranui Gully.
DATE MEASURED: 1973
HEIGHT: 69 ft (21 m)
CANOPY SPREAD: -
DBH: 47 in (1.194 m)
BURSTALL'S NOTES: A hollow tree.
On Maranui Gully, behind the school baths is a fluting-trunked tree (#4) with a dbh of 48 inches, (1.219 m). Over the stream is a hollow specimen (#3), 56 in, (1.422 m) in diameter, and nearby is an old tree (#2) best described as like an upturned stormwater culvert with a girth of 11 ft, (3.355 m), height 45 ft (13.7 m), and a shell only a few inches thick, yet it is still alive.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Maranui Gully, 48 m towards Coronation Av from the bridge at the junction of the List Street track and upper Maranui Gully. Positioned close beside the Maranui track on the lower side (**Fig. 46**).
DATE MEASURED: 18th October 2001
HEIGHT: 20.5 m
CANOPY SPREAD: 10.35 m
DBH: 1.232 m
REMARKS: Reasonably healthy appearance when considering the trunk has walls only 10-15 cm thick and the remainder hollow. Out of the 6 trees recorded here this specimen has the most symmetrical lower trunk.

(~Fuller, 1982: Dbh: 1.190 m).



Fig. 46

Large prominently buttressed trunks are common in this species in which many specimens decay at the base. It is common for large flanges to protrude from the lower trunk and remain as the major supportive structure as the core of the trunk decomposes.

Burstall recorded three other specimens, which for locating reasons in this document have been numbered 2-4 in reverse order to his because they have all

been keyed in from the Coronation Ave entrance. Number 266 Coronation Ave has a concrete slab boundary wall just inside the park entry, opposite the dairy. Measurements are from the prominent back corner of this property.

&Pukatea #2 - Located 84 m from the boundary corner of number 266, Coronation Av and 2 m on the downside of the track, Maranui Gully, Brooklands Park.

Height = 19.2 m, canopy spread = 12.5 m. Only one reading was taken, at a right angle to the path because of difficulty created by surrounding trees, dbh = 1.098 m, (girth = 3.448 m).

This 'stormwater culvert' or 'drainpipe tree' (**Figs. 47 and 48**) has a shell no greater than 15 cm thick throughout. This includes the phloem and cambium layers but no heartwood (xylem), which in most trees is imperative for support. The opening at the base allows a person to enter the shell for further inspection. One does have to wonder how this tree is still increasing in size and has survived for so long. A true physiological wonder.



Fig. 47



Fig. 48

&Pukatea #3 - Located 84 m from the boundary corner of number 266, Coronation Av. Opposite Pukatea #2 but at the bottom of the valley and on the other side of the stream.

Height = 22.5 m, canopy spread = 14.5 m, dbh = 1.592 m.

There is a cavity at the base measuring 2.4 m x 0.6 m, 3.5 m higher is another. They both reveal extensive decay on the inside of the trunk.

A large amount of the rooting system on the stream side is exposed and meanders towards the water. Fine example of a Pukatea buttressed trunk with large flanges.

&Pukatea #4 - Located 118 m from the boundary corner of number 266, Coronation Av and 5 m on the downside of track. 34 m down the track from Pukatea #2. Height = 22.5 m approximately; spread = 11.5 m; dbh = 1.21 m.

Reasonably healthy. From just above ground level it is possible to look through a small hole into the centre of the hollow trunk, though from the outside it appears sound. Clear trunk to approximately 8 m.

+Another tree that had to be included because it is the best example of a massive hollow trunk with huge protruding buttress root flanges (only 5 - 10 cm wide) characteristic of this species is found 110 m from the Bowl of Brooklands security fence at the entrance to the Maranui Gully, located to the left of the track in a very swampy area.

A truly remarkable tree (**Fig. 49**) that seems to be lifting itself out of the wet conditions.

3.8.02: Height = 22 m; spread = 12.2 m; dbh = 2.022 m, although at this point the upper section of the flanges interfere with this reading.

G. Fuller's 1973 measurements are also included: Height = 20.7 m; dbh = 1.812 m.



Fig. 49

+A tall tree that justifies recognition is located at Burgess Park. At 180 m from the public toilets the riverside track has been blocked because of a slip. From this point there is an intersection with a diagonal track leading up to the top track. This tree is located 48 m up this diagonal track and 7.5 m on the lower side (left side).

It supports huge clusters of *Astelia* epiphytes, (which almost seem to be another characteristic of this species). Large volumes of wood form this straight, clear trunk, which is slender relative to tree height, (aspects of surrounding vegetation play a large part). Of interest, a major difference in this tree to the others recorded is the completely sound trunk with its large lower buttress flanges and exposed roots on the down side only. There is no evidence of decay (**Fig. 50**).

This tree is certainly a sound and notable specimen and should survive for many years to come.

26.3.02: Height = 32.8 m; spread = 17 m; dbh = 1.299 m.



Fig. 50

+An area that is well worth a visit is the end of Hursthouse Street. A steep walkway (road reserve) links that Street with Kereru Place. In this hidden dell are 5 or 6 large trees all of the same species (pukatea), the majority displaying exposed sections of their wonderful relentlessly searching roots.

20.5 m down the right-hand bank from the Hursthouse St entry point is one of the better specimens. A healthy tree that branches at approximately 6.5 m. The rooting system is exposed at irregular intervals around the base of the tree, each projection having the appearance of a fan. This tree has an ideal habitat as it is sited next to a waterway in a sheltered dell.

12.7.02: Height = 25.2 m; spread = 17.3 m; dbh = 89.8 cm.

34 m from the same entry point and on the upside edge of the path is another specimen with a dbh = 81.5 cm. Observe the exposed snake-like rooting section that runs parallel with the walkway.

NATIVE TREE: 25
SPECIES: *Libocedrus bidwillii*
COMMON NAME(S): Pahautea, Pahautea Cedar.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Hatchery Lawn, Pukekura Park.
DATE MEASURED: 1969
HEIGHT: 19 ft (5.8 m)
CANOPY SPREAD: -
DBH: -
BURSTALL'S NOTES: Planted in 1938.

CURRENT READINGS

REMARKS: This tree no longer exists and was obviously removed sometime after 1984. It had an extremely slow growth rate and would have not been considered a dominant feature of the Hatchery Lawn.

(*Medbury, 1984: Ht = 7.5 m; dbh = 28.3 cm.

Planted by Thomas Horton, c. 1938, following collapse of a glow worm cave on Hughes Walk).

NATIVE TREE: 26
SPECIES: *Meryta sinclairii*
COMMON NAME(S): Puka.
B.B CATEGORY: Native Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: In a small reserve in Hakirau Street.
DATE MEASURED: 1973
HEIGHT: 16 ft (4.9 m)
CANOPY SPREAD: 35 ft (10.7 m)
DBH: 20 in (50.8 cm)
BURSTALL'S NOTES: The larger of two trees planted with two Karakas and a Parapara, the Bird - catcher tree. These trees are planted around a grave, the headstone reading: "In honoured memory of POHARAMA TE WHITI. Chief of Ngamotu, a loyal friend of the pioneers. Died 1878".

CURRENT READINGS

REMARKS: The trees Burstall recorded were very close to the Taranaki Cool Stores, and associated with the solitary headstone.
Sometime in the late 1980's the Ngamotu foreshore started to be changed dramatically. Heavy earthworks and the dismantling of old seaside batches were undertaken over a period of 2 - 3 years. The project created an opportunity to extend parking and develop aesthetic plantings. The changes resulted in the Pioneer Rd beach access being permanently sealed off, leaving only one entry point to the beach.
These trees no longer exist. The relationship between the major changes to the surroundings including the topography of the land and the trees dying raises questions. It would probably be fair to suggest that these alterations were detrimental to the health of the trees leading towards their demise.

NATIVE TREE: 27
SPECIES: *Meryta sinclairii*
COMMON NAME(S): Puka.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Mrs. E.A. Bennett, 304 Carrington Street.
DATE MEASURED: 1973.
HEIGHT: 17 ft (5.2 m)
CANOPY SPREAD: -
DIAMETER AT 2 ft: 15 in (38.1 cm)
BURSTALL'S NOTES: The largest of three trees. There are many small specimens in the city.

CURRENT READINGS

REMARKS: There is no evidence of these trees ever existing on this property. The current occupier Mrs Shaw has lived at this address since 1998 and the trees were removed before then. A small puka measuring 4 m in height is located on the right-hand boundary.

NATIVE TREE: 28
SPECIES: *Metrosideros excelsa*
COMMON NAME(S): Pohutukawa
B.B CATEGORY: Native Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Corner of Cameron and Leach Street.
DATE MEASURED: 1967
HEIGHT: 68 ft (20.7 m)
CANOPY SPREAD: 60 ft (18.3 m)
DBH: 79 in (2 m)
BURSTALL'S NOTES: A handsome tree brought from Kawhia and planted by Thomas Inch in 1874 on land presented to the city by Charles Swanson in 1938. Another tree, Dr. E. P. Allen's, 22 A Dartmoor Av. The larger of two trees had a girth of 19 ft (5.8 m) at 2 ft (61 cm) x 50 ft x 55 ft (15.3 m x 16.8 m) in 1973. Many trees of this species have been planted in this region over the past 120 years.

CURRENT READINGS

UPDATED LOCATION: Same as above
DATE MEASURED: 21st April 2002
HEIGHT: 18.5 m
CANOPY SPREAD: 23.4 m
DBH: 2.627 m
REMARKS: A Pohutukawa of massive proportions (**Fig. 51**) that is maintaining a steady development. When viewed from the eastern end of Leach St the canopy almost appears to be perfectly balanced and symmetrical, (only an 80 cm difference in canopy spread measurements), although from the other side (city side) it is possible to observe a large hole in the upper canopy where the tree has been struck by lightning in the past. This would explain the differences in the height recordings.
The appearance is very healthy (new growth evident) when considering it is nearly completely surrounded by tarmac and is located on Leach Street, one of the busiest in New Plymouth and the main thoroughfare into the city.
When recorded the construction of a new motel was being undertaken beneath the canopy of this glorious tree (Landmark Manor) (see photo following).



Fig. 51

&Two large, healthy pohutukawa still exist at 22a Dartmoor Avenue, the residence of Dr W.R. and Mrs G. Harding. The specimens are positioned 7.5 m apart and are located on the western boundary corner, behind the residence. The tree measured by Burstall is the furthest from the house (18.5 m).

Approximately 13 limbs emerge at about 1 m from this huge base.

30.7.02: Height = 22.5 m; spread = 20.7 m (one way); diameter at 60 cm = 2.245 m; (circumference at 60 cm = 7.05 m).

+The other tree is 14.5 m from the house. Approximately 12 limbs arise from ground level.

30.7.02: Height = 19 m; spread = 22 m; diameter at ground level = 2.538 m.

Both trees are in good condition and when recorded, recent tree work was evident in the canopy.

+A fantastic spreading specimen (**Fig. 52**) is located on a terraced lawn at a block of flats, 209 Devon Street West. The tree is positioned next to the front boundary and the roots have begun to deflect a stone retaining wall out towards the footpath.

A healthy tree with 8 main limbs arising from ground level (g.l). The tree displays an excellent example of aerial rooting. Roots emerge from at least 4 m from g.l and one in particular is 21.7 cm in diameter where it approaches the ground. Several smaller branches have been removed from the lower canopy and display excellent wound wood development.

16.7.02: Height = 16.4 m; spread = 22 m; diameter at g.l = 2.596 m.



Fig. 52

+*Metrosideros excelsa* 'Robin': On 18th Oct., 2002 Dr Robin Fancourt planted this selected clone in replacement of the notable camphor laurel (*Cinnamomum camphora*, EXOTIC TREE 35) recently removed from the front lawn of 'Noradene' 85 – 87 Vivian St, New Plymouth. It was Dr Fancourt who was very desirous of the replacement tree being a pohutukawa and the bestowal of her name on this clone has significance.

Several years ago the Parks Division of N.P.D.C searched Taranaki to select the 10 most attractive clones of pohutukawa for clonal propagation as a means of upgrading the standard of this locally significant species. One specimen selected had established as a seedling in a crack in the footpath at the side of the

entrance to the Y.M.C.A Stadium, opposite the Civic Centre, Liardet St. There are two seedlings, one on each side of the entry. This clone derives from the one on the sea-ward (north) side. It is described as light crimson, early to mid season (Christmas) flowering.

Dr Fancourt is a widely known and internationally respected New Plymouth paediatrician and it was felt very appropriate that the clone be named after her. She was not aware of this possibility until the planting ceremony and was both overwhelmed and overjoyed at the prospect, accepting with customary humility. (Written by G.Fuller)

NATIVE TREE: 29
SPECIES: *Metrosideros umbellata*.
COMMON NAME(S): Southern Rata.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Behind racecourse, custodian's house, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 52 ft, (15.9 m)
CANOPY SPREAD: -
DBH: 17 in, (43.2 cm)
BURSTALL'S NOTES: Clear trunk to about 30 ft (9.2 m). A good tree rarely seen in the region.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, 5.3 m from the north-western corner of the property previously occupied by the racecourse custodian.
DATE MEASURED: 19th October 2001
HEIGHT: 21 m
CANOPY SPREAD: 8.8 m
DBH: 65.6 cm
REMARKS: A healthy tree, good form with no obvious defects, tucked away in a secluded corner of Pukekura Park (**Fig. 53**).

(*Medbury, 1986: Ht = 18.1 m; dbh = 55.2 cm).



Fig. 53

Burstall and Medbury have differing views over the identity of this tree. Verification is still required. *Metrosideros robusta*?

NATIVE TREE: 30
SPECIES: *Nestegis cunninghamii*.
COMMON NAME(S): Black Maire.
B.B CATEGORY: Not categorised.

ORIGINAL READINGS

LOCATION: Horseshoe Gully, SE of sports ground, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 65 ft (19.8 m), approx.
CANOPY SPREAD: -
DBH: 24 in (61 cm), largest tree.
BURSTALL'S NOTES: Several trees help to form the canopy at about 65 ft (19.8 m).

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, 31.5 m from the sports ground boundary fence gaining entry to the left-hand side of the circular walk around the King Fern Dell, (Horseshoe Gully).
DATE MEASURED: 31st January 2002
HEIGHT: 23.8 m, approximately
CANOPY SPREAD: 10.7 m
DBH: 72.6 cm
REMARKS: Healthy tree branching into two limbs at 1.5 m.
Several trees planted amongst rimu and kahikatea all of which have been drawn up significantly due to the competition. The shade formed provides ideal conditions for a notable stand of king ferns, which is unique.

+The unusual find of an uncommon swamp marie or tawake, *Syzygium maire* was made on the boundary between property #11 and 15 Kereru Pl.
A sound tree with moderate health. A lesser trunk arises from ground level and has a dbh = 19.7 cm.
17.5.02: Height = 16 m; spread = 7.9 m; dbh = 39.8 cm.

NATIVE TREE: 31
SPECIES: *Nothofagus fusca*.
COMMON NAME(S): Red Beech.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Between the main entrance gateway and the house, Burgess Park, Junction Road.
DATE MEASURED: 1973
HEIGHT: 72 ft (22 m). Good trunk to 20 ft (6.1 m)
CANOPY SPREAD: 35 ft (10.7 m)
DBH: 28 in (71.1 cm)
BURSTALL'S NOTES: The larger of two good trees.
On Palm Tree Lawn, Pukekura Park, is another good tree 23 in (58.4 cm) x 69 ft (21 m) x 42 ft (12.8 m).

CURRENT READINGS

REMARKS: This tree has been removed and there are several stumps in this area.

&The tree on Palm tree lawn was lost in a storm thought to be cyclone Bola, (March 1988). Failed at a low union of a co-dominant leader . The decaying stump is still evident.

+A tree in good health is at Tupare (**Fig. 54**). The middle tree in a collection of N.Z beeches, it is located 25.5 m above and behind the cottage on Watson Walk. Two limbs arise from approximately 2.5 m. Above that union the southern limb (leader) then divides again at a rather tightly forked union.

Several lower branches have been removed.
22.3.02: Height = 24.4 m; spread = 13.6 m; dbh = 75.5 cm.



Fig. 54
Left: *Nothofagus menziesii*. Right: *N. fusca*

+Also included under the red beech title is the silver beech, (*N. menziesii*) located on the upper side of the tree recorded above, 28.5 m above and behind the cottage on Watson Walk (Fig. 54 and 55).

A fine foliated tree of reasonable health, (displaying symptoms of decline). Two limbs of similar proportions arise from ground level. It is not possible to achieve separate readings on them because of very close contact. A small amount of deadwood is present in the canopy, a large section of which overhangs the tennis courts.

22.3.02: Height = 21.8 m; spread = 18.3 m; diameter at 1 m = 1.001 m, inclusive of ivy.



Fig. 55

The third and final beech in this collection, black beech, (*N. solandri* Fig. 57) is included in (NATIVE TREE 32). At Tupare there is a rare and remarkable opportunity to observe 3 different species of N.Z. beech all of which are positioned in a 15 m row. When recorded all 3 specimens had recently received tree surgery.

NATIVE TREE: 32
SPECIES: *Nothofagus solandri*, var. *solandri*.
COMMON NAME(S): Black Beech.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Entrance to Fountain Lake, Pukekura Park.
DATE MEASURED: 1973.
HEIGHT: 80 ft (24.4 m)
CANOPY SPREAD: 54 ft (16.5 m)
DBH: 28 in (71.1 cm)
BURSTALL'S NOTES: At the Redcoat Lane end of Bains Terrace, N.P., a slightly smaller tree was: dbh 26 in (66 cm), height 73 ft (22.3 m), canopy spread 40 ft (12.2 m), in 1973. A well shaped tree with a good trunk to 23 ft (7.02 m).

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, on the edge of the path to the right of the entrance way to Fountain Lake from the sports ground.
DATE MEASURED: 1st February 2002
HEIGHT: 26.5 m
CANOPY SPREAD: 17.7 m
DBH: 96.8 cm; including fence batten.
REMARKS: A vigorous tree and one of the largest and finer of specimens to greet you when entering the main walkways around Fountain Lake (**Fig. 56**). Removal of limbs in the upper canopy suggest batterings from previous storms. The lower canopy has been lifted slightly.

(*Medbury, 1984, Ht = 23 m; dbh = 80.2 cm.
A W.W. Smith planting and recorded on 1936 Horton list).



Fig. 56

&The tree at Bains Terrace could not be located and is believed to have been removed.

+There is a tree in a row with two other N. Z beeches, (see NATIVE TREE 31) located at Tupare, Mangorei Rd. It is positioned 14 m above and behind the cottage on Watson Walk (Fig. 57).

A healthy tree that has an excellent branching structure that gives the tree an ovate form, (ovate = relates to leaf description, widest below the middle and tapering off). Well positioned in this group, all being located close to the path on the hill behind the cottage. An interesting feature of this tree is the 7.3 m of exposed rooting parallel to the path on the lower edge closest to the tree. But, why have the roots not gone under the asphalt and caused heaving or lifting, as we see in so many similar scenarios? Is it because the rich soil environment on the tennis court (lower) side of the tree supplies enough nutrients to maintain a reliable balance? Or is it because the exposed section is only structural and the feeders do run, in fact beneath the path? Maybe the soil beneath the path is so compacted the roots cannot penetrate it? Could it be because there is nothing to gain by sending roots under the path? Anyway, it is a good example of how these forest trees can adapt to a city life.

22.3.02: Height = 25.2 m; spread = 19.2 m; dbh = 86.6 cm.



Fig. 57

+Two other large specimens of this species can be observed on the Huatoki Walkway. Opposite # 70 Glenpark Av is an access onto the walkway close to a large culvert and a small bridge. The first tree is positioned next to stairs at the entranceway and is 8 m from the bridge in an upstream direction. It is a large healthy tree, although the majority of the foliage on the extremities of the branch tips have been damaged by the strong southerlies.

The canopy is unbalanced because of surrounding vegetation.

30.7.02: Height = 24 m; spread = 18.9 m; dbh = 90.4 cm.

+A larger specimen is located 8 m upstream from the first tree.

An excellent example, but unfortunately a large lower section has failed at approximately 4 m. This has created a sizeable wound that measures about 1 m x 2 m and concaves into the trunk. It is of great sadness to see such a wound on an otherwise fantastic tree.

30.7.02: Height = 26.7 m; spread = 20.8 m; dbh = 96.2 cm.

NATIVE TREE: 33
SPECIES: *Prumnopitys ferruginea*, (syn. *Podocarpus ferrugineus*).
COMMON NAME(S): Miro, Brown Pine.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Ratanui, Carrington Road.
DATE MEASURED: 1973.
HEIGHT: 46 ft (14 m)
CANOPY SPREAD: 30 ft (9.2 m)
DBH: 31 in (78.7 cm)
BURSTALL'S NOTES: This is by far the largest open-grown tree of this species recorded in New Zealand.
Probably planted by John Nairn in the early 1850's.

CURRENT READINGS

UPDATED LOCATION: Ratanui, 538 Carrington Rd, owner Paul Carrington. 2nd paddock back from the Carrington Road entry.
DATE MEASURED: 3rd September 2001
HEIGHT: 15.1 m
CANOPY SPREAD: 16 m
DBH: 98.7 cm
REMARKS: A tree of character (**Fig. 58**), starting to show signs of senescence. This is likely to be a combination of age and compaction, as cattle have, and are still, grazing and sheltering under the canopy. In the bush this species grows considerably larger, reaching heights of 25 m, with a comparable trunk of about a meter in diameter.



Fig. 58

NATIVE TREE: 34
SPECIES: *Pseudopanax crassifolium*.
COMMON NAME(S): Lancewood.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Rhododendron Dell, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 35 ft (10.6 m), with a clear trunk to 7 ft (2.1 m)
CANOPY SPREAD: 27 ft (8.2 m)
DBH: 15 in (38.1 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

REMARKS: This tree no longer exists, but there is another nearby.

NATIVE TREE: 35
SPECIES: *Sophora tetraptera*.
COMMON NAME(S): Kowhai.
B.B CATEGORY: Not categorised.

ORIGINAL READINGS

LOCATION: Rhododendron Dell, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 42 ft (12.8 m)
CANOPY SPREAD: 38 ft (11.6 m)
DIAMETER AT 1 ft: 27 in (68.6 cm)
BURSTALL'S NOTES: Being one of many affording shade for the rhododendrons.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, on the main track through the Rhododendron Dell. At the curve closest to Brooklands Drive is a cast-iron sewer cover on the upper edge of the track. The kowhai is 15.5 m towards Brooklands Bowl from this cover.

DATE MEASURED: 30th January 2002

HEIGHT: 14.5 m

CANOPY SPREAD: 10 m

DIAMETER AT 30 cm: 83.1 cm

REMARKS: Divides into two main limbs at 75 cm.
Dbh of the Brooklands Park side leader = 50.6 cm.
Dbh of the Pukekura Park side leader = 35 cm.
A tree of moderate health, which has developed a very irregular canopy.

+A larger tree that is nearby (**Fig. 59**) is recorded by Medbury and may have been ignored by Burstall because of its unconventional and vulnerable structure. It is located on the other side of the track and closer to Pukekura, being only 3 m from the cast-iron sewer cover. A healthy tree consisting of three main, strongly angled, divergent limbs that arise from just above ground level. Two large branches grow into the canopy of a neighbouring rimu. With this branching structure it is doubted that this tree will be very long lived, however Burstall probably thought the same 30 years ago.

10.3.02: Height = 20.2 m; spread = 21.2 m;

diameter at 1m on northerly leader = 62.7 cm, (Pukekura side);

diameter at 1m on westerly leader = 50.9 cm, (Brooklands Dr. side);

diameter at 1m on easterly leader = 61.5 cm, (Brooklands Park side).

(*Medbury, 1986: Height = 19.1 m; dia. @ 1 m on northerly = 58.3 cm, dia. @ 1m on westerly = 42.4 cm, dia. @ 1m on easterly = 55.1 cm.

Possibly one of the earliest of W.W. Smith's plantings)



Fig. 59

+A tree with historic significance is also recorded by G. Fuller (1973) and Medbury (1986), located in the centre of a clearing in the left lobe of the upper Stainton Dell. It has a straight clear trunk to approximately 3.5 - 4 m where it diverges into two main limbs supporting the canopy. Unfortunately when recorded 4 fungal brackets (e.g. *Ganoderma* sp.) were noted. Lower limbs were showing signs of dieback. 1.5.02: Height = 12.5 m; spread = 12 m; dbh = 36.9 cm.

G. Fuller had the following notes in 1973: "*Clear trunk to 12 f (3.7 m). A distinctly shaped, freestanding specimen, planted in 1928 to mark the second marriage of Thomas Horton, superintendent from 1924-1949. Height = 10.1 m; spread = 9.2 m; dbh = 26.7 cm*".

(*Medbury, 1986: Height = 19.85 m(?); spread = 12 m; dbh = 33.4 cm).

NATIVE TREE: 36

SPECIES:

COMMON NAME(S):

B.B CATEGORY:

Vitex lucens.

Puriri.

Native Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION:

DATE MEASURED:

HEIGHT:

CANOPY SPREAD:

GIRTH AT G.L.:

BURSTALL'S NOTES:

In the gully between the Bowl of Brooklands turning circle and the racecourse.

1973

60 ft (18.3 m)

60 ft (18.3 m)

32 ft (9.76 m) – "*diameter at G.L 3.108 m*"

An enormous, malformed tree that George Fuller described as: "*A most irregular shaped tree, the configurations of which are very difficult to describe, but it would probably rank as the most unorthodox tree in the park*". With one portion coming out at the base at an angle with a girth of 13 ft (4 m) at 10 ft (3.05 m). Quoting Fuller regarding this portion "... *that this monstrous trunk is able to withstand the force of gravity, is in itself noteworthy*". Access to the spot is easy. The tree is 7 ft (2.1 m) larger in girth than "the Puriri of Reretiti Hill" in Northland, described by Bob Lawn as one of the largest puriris.

CURRENT READINGS

UPDATED LOCATION:

DATE MEASURED:

HEIGHT:

CANOPY SPREAD:

DIAMETER AT G.L.:

REMARKS:

Brooklands Park, 22 m from the Bowl of Brooklands security fence at the entrance to the Maranui Gully there is an obscure track to the left that leads to this unusual puriri.

17th October 2001

20 m

26.75 m

3.598 m

40 m up this track and on the left-hand side a cluster of five relatively uniformed puriri trunks is located. The ground level circumference for this cluster is 8.3 m and the leader closest to the track has a dbh = 80 cm.

Opposite and on the upside of the track is the unique and extremely large puriri (**Figs. 60 and 61**).

At just above ground level two distinctive trunks arise, one reclining and overhanging the valley, the other vertical. The erect trunk has a diameter of 1.57 m at 60 cm. The trunk, which reclines is separated at its base into two sections resembling an inverted Y. The gap between these two sections is 1.4 m x 45 cm making it large enough to crawl through. Measurements were taken just below the 'crutch' where the two 'legs' join. The upper-most (Maranui Gully side) leg has a diameter of 1.242 m. The lower leg (Racecourse side) has a diameter of 1.019 m. The original measurement on the reclining trunk was taken at 10 ft (3.05 m) which can be likened to the 'waist' above the junction of the legs. This girth was re-measured and decreased by 21 cm, as it was 3.96 m, (diameter = 1.261 m) in 1973 and 3.75 m, (diameter = 1.194 m) in 2001. The very unusual habit of the

tree makes it impossible to identify the exact point at which Burstall's measurements were taken.

A kohekohe trunk is wedged beneath the reclining trunk, aiding the tree to achieve such large dimensions because it obviously helps to support the considerable load.

In viewing this arboreal spectacle one is compelled to wonder firstly whether the two giant trunks are merely close neighbours or divergent trunks of the one entity. Following that quandary there is the task of working out just how a trouser-shaped trunk has been produced since it is in defiance of conventional growth patterns. Finally one has to wonder over the strength in bearing such a great timber mass at an angle plus a massive extra burden of profuse epiphytes. (Last paragraph written by G. Fuller).

(~Fuller, 1982: Diameter at G.L = 3.232 m. Diameter at 30 cm on upright portion = 1.404 m. Diameter of upper-most (Maranui Gully side) "leg" = 1.131 m. Diameter of "lower leg" (Racecourse side) = 95.9 cm. Diameter at union "waist" just above "legs" = 1.471 m).



Fig. 60



Fig. 61

NATIVE TREE: 37

SPECIES:

Vitex lucens.

COMMON NAME(S):

Puriri.

B.B CATEGORY:

Native Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION:

Brooklands Park.

DATE MEASURED:

1969

HEIGHT:

75 ft (22.9 m), with a good trunk up to 34 ft (10.4 m)

CANOPY SPREAD:

70 ft (21.4 m)

DBH:

76 in (1.93 m)

BURSTALL'S NOTES:

With the likely loss of the nearby giant chestnut this tree will become the most outstanding of all trees in New Plymouth, and of great historic interest. Being well sheltered it should hold this status for many years.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, 81 m from the Kaimata Street entrance, main path, nature trail sign # 8.

DATE MEASURED:

4th September 2001.

HEIGHT:

24.8 m

CANOPY SPREAD:

18.75 m

DBH:

1.968 m

REMARKS:

Public interest in this historic tree (**Fig. 62 and 63**) has increased in recent years so in May 1998 a boardwalk structure was built around the tree to protect the rooting

system. The walkway is designed to extend the life of the tree as it stops excessive soil compaction caused by foot traffic. This proactive response was necessary; the only downfall being that the accumulation of debris now trapped by it at the base will slowly affect the soil level.

The clear trunk to approximately 10.5 m has dark basal scars, believed to be from Maori campfires. Storm damage to a heavy lower limb in 1977 required surgery in order to balance the weight of the tree. Possums have been seen sheltering in the cavities created by decay. For many years bees could be seen swarming in the hollow base of a branch high up on the main trunk

A Healthy tree with an upright habit. It is estimated at between 1000 to 2000 years old, an excellent remnant that is well sited with a great number of *Astelia* epiphytes.

(~Fuller, 1984: Dbh = 1.997 m).

(*Medbury,1986: Ht = 25.25 m.)

Also included is the 1941 measurements from the RNZIH list # 52: Ht = 19.8 m;dbh = 1.52 m.

And 1950 measurements of J. W. Goodwin: (Ht = 21.9 m; dbh = 1.71 m).



Fig. 62



Fig. 63

NATIVE TREE: 38
SPECIES: *Vitex lucens*.
COMMON NAME(S): Puriri.
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside the access road from the racecourse to the Bowl of Brooklands.
DATE MEASURED: 1973
HEIGHT: 59 ft (18 m), with a 5 ft (1.5 m) trunk.
CANOPY SPREAD: 70 ft (21.4 m)
DBH: 74 in (1.88 m)
BURSTALL'S NOTES: (Another of the large trees to be seen along this busy summer thoroughfare, between the large historic puriri and the large karaka, has a girth at 2 ft (61 cm) of 22 ft (6.7 m, diameter = 2.134 m), above which a lesser trunk emerges of 70 in, (1.778 m) at b.h x 74 ft x 50 ft, (22.6 m x 15.3 m). Somewhat comparable to the historic puriri but not so upright in habit). In this complex of gullies and walks there are many fine trees of this species over 45 in (1.143 m) in diameter.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, 55 m from the gate access for vehicles from the Racecourse to the Bowl of Brooklands. Located on the racecourse (upper-side) of the roadway.
DATE MEASURED: 17th October 2001.
HEIGHT: 18.3 m approximately
CANOPY SPREAD: 21 m
DBH: 2.165 m
REMARKS: Large specimen (**Fig. 64**) that overhangs the roadway. Divides into 3 main limbs at approximately 2 m having lost a lower limb. A lower limb on the racecourse side has failed and lies at the base of the tree. Bees have taken advantage of the fractures and nested in the cavities. Difficult to measure height because of the steep gradient and surrounding vegetation.

(~Fuller, 1982: Dbh = 1.962 m).



Fig. 64

&The other tree mentioned by Burstall (“busy summer thoroughfare”) is half way along the track between the historic puriri and the Karaka (Brooklands Park) has a diameter at 60 cm of 2.169 m, (girth = 6.81 m). On the Kaimata St side (away from the path) is an extensive injury spanning the majority of the trunk, similar in appearance to that of fire damage.

A large exposed root on the path-side consists of a fascinating intertwining of different grains. It is possible to observe a large injury in the upper canopy from where a branch failed and also notable are the numerous holes in the trunk created by Puriri Moth larvae.

29.1.02: Height = 22.1 m; spread = 17.9 m; dbh = 1.831 m, not including the smaller leader that diverges from 1 m.

2.2 Health Assessment, Measurements, Observations and History

Exotic Trees

EXOTIC TREE: 1
SPECIES: *Abies balsamea*.
COMMON NAME(S): Balsam Fir.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Carpark, Pukekura Park.
DATE MEASURED: 1973.
HEIGHT: 50 ft (15.25 m)
CANOPY SPREAD: -
DBH: 13 in (33 cm)
BURSTALL'S NOTES: Close to the Norfolk Island Hibiscus.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park (**Fig. 65**), on the right side of the access from the Carpark where it diverges to the bandstand or kiosk.
DATE MEASURED: 31st August 2001.
HEIGHT: 17.1 m
CANOPY SPREAD: 7.1 m (one way)
DBH: 40.1 cm
REMARKS: The canopy has been lifted to approximately 4.5 m to allow vehicle access, lower branches displaying damage. One side of the tree is surrounded by vegetation.

(*Medbury, 1986: Ht = 15.8 m; dbh =39.2 cm.
Planting date unknown, perhaps an early planting of Thomas Horton in mid -20's.
Present on Horton's 1936 list).



Fig. 65

EXOTIC TREE: 2
SPECIES: *Abies cephalonica*.
COMMON NAME(S): Greek Fir, Cephalonian Fir.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Truby King Dell.
DATE MEASURED: 1973.
HEIGHT: 82 ft (25 m)
CANOPY SPREAD: 48 ft (14.6 m)
DBH: 38 in (96.5 cm)
BURSTALL'S NOTES: A handsome tree.

CURRENT READINGS

UPDATED LOCATION: Truby King Dell, Brooklands Rd, 75 m in a straight line along the upper boundary of the Dell and driveway to 3 a, b and 5 Azalea Pl, at a right-angle of 15.3 m down the bank.

DATE MEASURED: 1st September 2001
HEIGHT: 26.6 m
CANOPY SPREAD: 13.75 m
DBH: 1.092 m

REMARKS: A remarkable tree (**Fig. 66**) with two co-dominant leaders, one of which has lost its apex. Over the majority of the lower trunk natural grafting as a result of longstanding close contact rigidly fuses the two leaders. Original divergence was close to ground level. It now occurs at 8.5 m. There is however, a small separation of 45 x 17 cm from 7.8 m to 8.25 m. Remarkably, in the grafted section between 8.25 m and 8.5 m the diameter of the trunk is 1.13 m (8.4 m above ground level, upside of slope). This reveals that at 8.4 m the diameter is 4 cm greater than at breast height!
At 10 m from ground level the diameter of the leader closest to 3 a and b Azalea Pl is 70.3 cm and the leader Struan Walk side is 55.4 cm.
The diameter of the combined circumference at 10 m (2.21 m +1.74 m) is 1.25 m.
(Information compiled by Mr G. Fuller).



Fig. 66

EXOTIC TREE: 3
SPECIES: *Abies nordmanniana*.
COMMON NAME(S): Caucasian Fir, Nordmann Fir.
B.B CATEGORY: Not categorised.

ORIGINAL READINGS

LOCATION: Truby King Dell.
DATE MEASURED: 1973.
HEIGHT: 61 ft (18.6 m)
CANOPY SPREAD: -
DBH: 30 in (76.2 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Truby King Dell, lower Brooklands Rd. Prominent from road frontage, between several notably large conifers (**Figs. 67 and 68**).
DATE MEASURED: 1st September 2001
HEIGHT: 20.7 m
CANOPY SPREAD: 13.9 m
DBH: 1.229 m
REMARKS: Branching from ground level. This tree has a robust appearance with grafting evident on lower branches.
These conifers are believed to have been planted around 1918-20 when Fred Frethey owned the property.



Fig. 67
left: *Picea smithiana*, right: *Abies nordmanniana*

Mr J. W. Goodwin deserves an accolade for persuading P. J. Acyckbourn to separate from sub-division, the area known as T. K. Dell. It thus became available to the council in the early 1950's and has vindicated J. W. G's foresight in realising how important this area would become, being located on a dominant corner across the road from the start of Brooklands Park Drive.
(Information kindly supplied by Mr J. W. Goodwin).

"The dell is named after Sir Frederic Truby King, the elder brother of Newton King. Sir Truby King graduated as a doctor in 1886 - and at that time was the most distinguished student of Edinburgh University. Back in New Zealand he became medical superintendent of the Wellington Hospital and later of the Seacliff Mental Hospital. In 1907 he founded the Royal New Zealand Society for the Health of

Woman and Children, later renamed the Plunket Society as a tribute to the then Governor's wife, Lady Plunket, who had given the movement strong support. This movement spread and when Sir Truby (he was knighted in 1925) died in 1938 there were six Karitane hospitals in the Dominion, which were largely responsible for reducing infant deaths from about 40 per 1000 live births in 1908 to more recent figures of less than seven per 1000. Sir Truby was given a State funeral- the first ever awarded to a private citizen".
 (Ref: Tullett, J. S. The Industrious Heart, A history of New Plymouth. Published by the New Plymouth City Council, 1981).



Fig. 68
 From left to right: *Picea smithiana*, *Abies nordmanniana*, *Sequoiadendron giganteum*, *Cryptomeria japonica* (background)

EXOTIC TREE: 4
 SPECIES: *Acacia melanoxylon*.
 COMMON NAME(S): Tasmanian Blackwood.
 B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside the main lake, near waterfall, Pukekura Park.
 DATE MEASURED: 1973.
 HEIGHT: 55 ft (16.8 m)
 CANOPY SPREAD: 50 ft (15.3 m)
 D at 2 ft: 35 in (88.9 cm)
 BURSTALL'S NOTES: One of several large trees by this corner.

CURRENT READINGS

REMARKS: Poorly sited trees in terms of being located so close to the lake. Large amounts of vegetation behind the trees forced them to grow out and overhang the lake. Around 1980 one of the specimens failed landing in the water, proving very difficult to remove. Subsequently, the remainder of the trees were removed as their recline increased.

(~Fuller, 1982: All of the specimens on the lake edge now demised. 25.8.82).

+An *Acacia* sp. that has not previously been record and is notable because of it's size and positioning over-hangs the corner of the concrete loading platform behind the Sound Shell of the Bowl of Brooklands.

29.1.02: Height = 19.5 m; spread = 15.7 m; dbh = 66.9 cm.

EXOTIC TREE: 5
SPECIES: *Acer buergerianum*.
COMMON NAME(S): Trident Maple.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: C. Kelly, 7c Welbourn Terrace.
DATE MEASURED: 1973.
HEIGHT: 40 ft (12.2 m)
CANOPY SPREAD: 40 ft (12.2 m)
DIAMETER AT 1 ft: 19 in (48.3 cm)
BURSTALL'S NOTES: Seedlings from Eastwoodhill, Poverty Bay, planted by J. Fairbrother 1952.

CURRENT READINGS

UPDATED LOCATION: Mrs N. Stoddart, 7 c Welbourn Terrace. Near the bottom of the gully on the right-hand side, 13 m above the *Michelia doltsopa*. Two trees 1.9 m apart, with the larger, lower tree being re-recorded.
DATE MEASURED: 19th January 2002.
HEIGHT: 16.2 m
CANOPY SPREAD: 17.8 m. As the two trees are so close together, a reading was taken in only one direction, to give an accurate interpretation of the canopy size.
DIAMETER: At 60 cm on central largest leader = 56 cm.
REMARKS: Around 1997 a track was diverted around steep steps and past the trunk of this tree, (necessary for wheelbarrow access). This has resulted in the build-up of soil and debris at the base.
Healthy appearance with three large leaders from just above ground level. When recorded the canopy was loaded with samaras (winged fruit) and the central leader was covered in the creeping fern *Pyrosia serpens*.
The smaller tree had a diameter at 30 cm = 62.4 cm, branching just beyond this point.
The property currently owned by Mrs N. Stoddart, contains a wonderful garden gully featuring numerous specimen and uncommon plantings. This includes acers, cercis, flowering cherries, (unfortunately a declining number) the unusual appearance of a jacaranda, (although in poor health) and a larger collection of magnolia's and camellia's, (see Exotic Trees 25,79 and 83), with more recent plantings of rhododendrons. The bottom of the gully verges on native regenerating bush.

EXOTIC TREE: 6
SPECIES: *Acer negundo*.
COMMON NAME(S): Box Elder.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Stainton Dell, Pukekura Park, between the fernery and kiosk.
DATE MEASURED: 1969.
HEIGHT: 62 ft (18.9 m)
CANOPY SPREAD: 70 ft (21.35 m)
DBH: 25 in (63.5 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

REMARKS: Most obviously two specimens occurred relatively close together, Burstall recorded the larger which was 'blown down in a storm' (G.F. 25.8.82) and below Medbury recorded the smaller seedling.
It is well documented; this species does not have a long life expectancy.

(*Medbury, 1986: Ht = 15 m; dbh = 56 cm).

Park records reveal that the second tree was removed in July 1993, because of poor structure and limbs failing, due to a vascular rot. It is believed to be a seedling of a large tree formerly growing immediately adjacent.

EXOTIC TREE: 7
SPECIES: ***Acer palmatum.***
COMMON NAME(S): Japanese Maple.
B.B CATEGORY: Not categorised.

ORIGINAL READINGS

LOCATION: Hatchery Lawn, Pukekura Park.
DATE MEASURED: 1973.
HEIGHT: 44 ft (13.4 m)
CANOPY SPREAD: 36 ft (11 m)
DIAMETER AT 1 ft: 24 in (61 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

REMARKS: This tree died in 1981, a replacement tree was planted by Linda Fuller on the 19.9.81. It is on the Hatchery Lawn at the waterfall end positioned between the stage (3.2 m) and cascade (8 m).

+7.5.04: Height = 7.5 m; canopy spread = 6.75 m; diam at 60 cm = 19.7 cm. Branches at 90 cm.

EXOTIC TREE: 8
SPECIES: ***Acmena smithii.***
COMMON NAME(S): Lilly Pilly, Monkey Apple.
B.B CATEGORY: Not categorised, listed under tree outside city boundaries.

ORIGINAL READINGS

LOCATION: Gilbert Street Walk, Pukekura Park.
DATE MEASURED: 1973.
HEIGHT: 65 ft (19.8 m)
CANOPY SPREAD: -
DBH: 27 in (68.6 cm)
BURSTALL'S NOTES: The largest of 6 trees of this species.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, Smith Walk, (Gilbert St Walk), 12 m from the intersection of the path which comes in from the western end of Fillis St. The other 5 trees still exist further towards Gilbert St.

DATE MEASURED: 1st February 2002

HEIGHT: 24.9 m

CANOPY SPREAD: 10.3 m

DBH: 99.4 cm

REMARKS: Healthy tree that branches into 3 main leaders at approximately 3 m. A large branch on the easterly side has been lost resulting in an unbalanced canopy. A kahikatea and rimu stand on either side of the tree at about an equal distance apart.

(*Medbury, 1984: Ht = 18 m; dbh = 60.8 cm.

W. W. Smith planting, or early Horton planting. Listed as "Acmena floribunda" on Thomas Horton's 1936 list).

It is not known which tree out of the possible six Medbury recorded.

EXOTIC TREE: 9
SPECIES: ***Aesculus x carnea 'Briotii'***.
COMMON NAME(S): Red Horse-chestnut.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Bowl of Brooklands, on bank behind seating.
DATE MEASURED: 1973.
HEIGHT: 32 ft (9.75 m)
CANOPY SPREAD: 37 ft (11.2 m)
DIAMETER At 4 ft: 28 in (71.1 cm)
BURSTALL'S NOTES: A prominent solitary specimen of a species rare in New Zealand and possibly the first to be introduced in the country. A compact form with deeply coloured flowers.

CURRENT READINGS

REMARKS: Removed in July 2001 during extensive modifications to the seating area, Bowl of Brooklands, ostensibly because of a safety threat!

(*Medbury, 1986: Ht = 12.7 m; spread = 12 m; dbh = 75.2 cm.
Planted along with nearby planes, c. 1900. Not cultivar 'Briotii', which has much more scarlet flowers).

EXOTIC TREE: 10
SPECIES: ***Aesculus hippocastanum.***
COMMON NAME(S): Horse-chestnut.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: On grassed slope between the Bowl and main entrance, Brooklands Park.
DATE MEASURED: 1973.
HEIGHT: 49 ft (14.9 m)
CANOPY SPREAD: 55 ft (16.8 m)
DIAMETER AT 2 ft: 40 in (1.016 m)
BURSTALL'S NOTES: The larger of two trees.

CURRENT READINGS

UPDATED LOCATION: Bowl of Brooklands, 45 m from the main entrance gate to the Bowl, sited on the upper slope of the seating area, 11 m below access road down to the Sound Shell.

DATE MEASURED: 17th October 2001
HEIGHT: 14 m. Tree climbed to obtain this reading.
CANOPY SPREAD: 19 m
D AT 60 cm: 1.286 m

REMARKS: Specimen of moderate health containing damaged leaves from what is believed to be salt and wind damage. Relatively one sided as a large pohutukawa had grown (stump evident) on the bank above the tree. A limb of the pohutukawa failed in October 2001 and the rest was subsequently felled. A segment from the tree damaged the horse-chestnut resulting in Parkscape performing remedial tree surgery.

Diameter taken at 60 cm as the tree branches into six main limbs just above this point. Both trees create ideal shade for people viewing Bowl performances in summer. The larger of two trees was recorded; it is the first to bud break. The smaller tree is 13m beyond the larger in a straight line from the entrance gate.

(*Medbury, 1986: Ht = 16.65 m; spread = 20 m; diameter just above ground level = 1.09 m.

Newton King planting c.1900).

The discrepancy in the two previous height readings may be due to the sloping terrain.

EXOTIC TREE: 12
SPECIES: *Araucaria bidwillii*.
COMMON NAME(S): Bunya Bunya Pine.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: John Arthur, Ratanui, 498 Carrington Road.
DATE MEASURED: 1973.
HEIGHT: 74 ft (22.6 m)
CANOPY SPREAD: -
DBH: 49 in (1.245 m)
BURSTALL'S NOTES: The larger of two good trees probably planted in the 1850s. They are the only trees of this species noted in the region.

CURRENT READINGS

UPDATED LOCATION: Paul Carrington, Ratanui, 538 Carrington Road. When travelling towards the house the two trees are located in the first paddock to the right of the driveway. The tree re-recorded is closest to New Plymouth.
DATE MEASURED: 3rd September 2001
HEIGHT: 26.7 m
CANOPY SPREAD: 19.2 m
DBH: 1.554 m
REMARKS: This species is usually renowned for its symmetrical shape, but the form of this tree is atypical due to a solitary lower limb at just below breast height (1.35 m) with a diameter of 58.2 cm near the junction (**Fig. 71**). The upper canopy is rather sparse compared to the lower and it has the appearance of having a canopy within a canopy.



Fig. 71

+The other Bunya Bunya is in the same paddock but at the foot of the bank sloping up to the house, 23.5 m from the redwood. It is similar in appearance, with excessive growth throughout the inner canopy.
3.9.02: Height = 26.5 m; spread = 15.25 m; dbh = 1.26 m.
Both these trees have received damage from the strong southerlies.

EXOTIC TREE: 13
 SPECIES: *Araucaria heterophylla*.
 COMMON NAME(S): Norfolk Island Pine.
 B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside the Poets Bridge, Pukekura Park.
 DATE MEASURED: 1973.
 HEIGHT: 146 ft (44.5 m)
 CANOPY SPREAD: -
 DBH: 35 in (88.9 cm)
 BURSTALL'S NOTES: The tallest of this species recorded in the region.
 Others recorded were one beside the Curators Office, Pukekura Park, 32 in (81.3 cm) x 114 ft (34.8 m) in 1973, and a large tree at W. Middleton, Ridge Lane, 54 in (1.372 m) x 128 ft (39 m). The species is common in the northern part of Taranaki.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, beside The Poet's Bridge (Kiosk side).
 DATE MEASURED: 5th February 2002
 HEIGHT: 48.4 m
 CANOPY SPREAD: 11.5 m
 DBH: 1.099 m
 REMARKS: Park records reveal that a falling pine in a storm damaged the tree in May 1990, losing the lateral branches on the southern side to about 25 m. The formation of branches on the lower northern side is strong and this has lead to the tree not having the characteristic symmetrical shape (**Fig. 72**).
 Would this be one of the tallest in New Zealand? A tree in Yatton Park, Tauranga is 51 m, (Paul Kenny, 2001).

(*Medbury, 1986: Ht = 46.6 m; spread = 18 m dbh = 1.02 m.
 Planted c. 1890. Largest Norfolk Pine in Pukekura Park).



Fig. 72

&The tree recorded next to the old Curator's Office is a healthy symmetrical tree, predominant from the main entrance. This is the tree in which an illuminated cross is erected each year for the summer lighting festival.

31.8.01: Height = 39.5 m; spread = 19 m; dbh = 1.15 m.

(*Medbury, 1986: Ht = 38 m; dbh = 1.009 m
W. W Smith planting c. 1908 - 1921).

&Originally three trees were located in a gully at W. Middleton's property on Ridge Lane. The land has since been sub-divided, with two specimen's present today. In the late 1960s one of the tree's fell over due to a fungus at the base. The largest tree that Burstall recorded is now located on the property occupied by Ian Jones, 12a Ridge Lane. It was struck by lightning in the early 1990s resulting in a tree professional having to remove the top third of the canopy. It was included on the N.P.D.C Notable tree's list but was removed after this incident. dbh = 1.69 m. The third tree is a healthy specimen located at the bottom of the gully on Phillip Hanser's property, 5 Ridge Lane. Because of the location of this tree an accurate measurement on height was not obtainable and is estimated at 40 m; dbh = 1.36 m; 12.1.02. (Information kindly supplied by Ian Jones).

+Another tree of historic interest is located on the Sportsground side of Cannon Hill, near the summit. Planted on the 29th May 1976 by D.V. Sutherland, the Mayor of New Plymouth city at that time, to mark the centenary of Pukekura Park.

3.9.01: Height = 19 m, (tree climbed to obtain this reading); spread = 8.8 m;
dbh = 38 cm.

(*Medbury, 1986: Ht = 5.6 m; spread = 4m; dbh = 10.5 m)

A worthwhile observation that can be made here is the difference in performance and growth between this tree and the nearby kauri (listed under NATIVE TREE 6, 9.3 m from the summit of Cannon Hill, western side). They were both planted on the same day!!!

EXOTIC TREE: 14
SPECIES: *Araucaria heterophylla*.
COMMON NAME(S): Norfolk Island Pine.
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Brooklands Park.
DATE MEASURED: 1969.
HEIGHT: 125 ft (38.1 m) - The taller of the two trees.
CANOPY SPREAD: -
DBH: 54 in (1.372 m)
BURSTALL'S NOTES: The shorter tree has a dbh of 57 in (1.448 m). Planted in 1851 by Captain Henry King, R.N, an early settler and the first Magistrate in Taranaki.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Main Lawn. Taller tree - 22 m from main path, shorter tree - 18.5 m from main path.
DATE MEASURED: 15th October 2001
HEIGHT: 41.35 m
CANOPY SPREAD: 18.9 m
DBH: 1.719 m
REMARKS: (*Medbury, 1986: Ht = 40.45 m; dbh = 1.541 m. Also included are 1950 measurements of J.W. Goodwin: Ht = 36.3 m; dbh = 1.221 m).

Large trees dominating the skyline at the northern end of Brooklands lawn. Both are yielding slightly to the southerly but are showing signs of correcting at the top. The two trees have the same form, however when compared the taller is more narrowly conical (**Fig. 73**).



Fig. 73

&Shorter tree, 15.10.01: Height = 31.5 m; spread = 19.5 m; dbh = 1.69 m. The canopy on this tree has been lifted by approximately 8 metres to accommodate a nearby cabbage tree (see NATIVE TREE 10) and because of the closer location to the path.

+Nearby is a healthy young tree, which will become the successor.
15.10.01: Height = 4.8 m; spread = 6.15 m; dbh = 14 cm.

EXOTIC TREE: 15
SPECIES: *Araucaria heterophylla*.
COMMON NAME(S): Norfolk Island Pine.
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: John Arthur, Ratanui, 498 Carrington Road.
DATE MEASURED: 1973
HEIGHT: 118 ft (36 m)
CANOPY SPREAD: -
DBH: 55 in (1.4 m)
BURSTALL'S NOTES: The better of two trees thought to have been planted in 1851 from seedlings raised on this property by John Nairn.

CURRENT READINGS

UPDATED LOCATION: Paul Carrington, Ratanui, 538 Carrington Road. Larger tree re-recorded is located 8 m to the left of the driveway and is the closest to the mountain.
DATE MEASURED: 3rd September 2001
HEIGHT: 28.9 m
CANOPY SPREAD: 21 m
DBH: 1.636 m
REMARKS: The upper canopy on this tree has failed at approximately 21 m. The growth that has regenerated gives the tree a rectangular appearance (**Fig. 74**). It has a buttressed trunk, which is not characteristic for this species.

+The 2nd Norfolk Island pine is located 1.5 m from the driveway and on the right-hand side. Both readings on the canopy were within 30 cm of each other, making the tree very symmetrical. A rather serious, large cavity is located at the base measuring 2 m by 40 cm. This tree has also lost its upper canopy at approximately 20 m.
3.9.01: Height = 26.5 m; spread = 20.7 m; dbh = 1.57 m.



Fig. 74

EXOTIC TREE: 16
SPECIES: *Araucaria heterophylla*.
COMMON NAME(S): Norfolk Island Pine.
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Mrs E. M. Adlam, Chapel Hill, 495 Mangorei Rd. (Incorrect address, now 813).
DATE MEASURED: 1973
HEIGHT: Not recorded.
CANOPY SPREAD: -
DBH: 56 in (1.422 m)
BURSTALL'S NOTES: A battered, decapitated specimen at the entrance. After having lost its top during storms several times, it was struck by lightning about 30 years ago. Planted in 1856. This tree, the one at Ratanui and the Brooklands Park trees could have been raised from seed by John Nairn. The property was once owned by Zaccheus William Wells who kept an excellent diary between 1861-64. The originals are now in the possession of Mrs J.G Booten of New Plymouth. As this is a late entry in this report, other old large trees on this property are recorded below, all being measured in 1973, ages could well be 100 to 110 years: *Acer pseudoplatanus*, 32 in x 56 x 43 ft (81.3 cm x 17.1 x 13.1 m), with a clear trunk to 5 ft (1.53 m), *Crataegus monogyna*, 24 in x 20 x 20 ft (61 cm x 6.1 x 6.1m), a gnarled specimen reclining at about 45 degrees, *Cryptomeria japonica*, 31 in x 85 ft (78.7 cm x 25.9 m) and another 62 ft (18.9 m) malformed specimen, *Cunninghamia lanceolata*, 22 in x 59 ft (55.9 cm x 18 m), growing through a giant pine, *Cupressus macrocarpa*, shelterbelts with girths of about 20 ft (6.1 m), one tree was 77 in x 105 ft (1.956 m x 32 m). Several belts of *Pinus muricata* and a few *Pinus pinaster* were not measured; there are many huge *Pinus radiata*, one good tree being 73 in x 140 ft (1.854 m x 42.7 m), with a good trunk to 30 ft (9.2 m). A large orchard with two very good pear trees may have been planted near the turn of the century.

CURRENT READINGS

UPDATED LOCATION: Mrs E. M. Adlam, 'The Homestead', 813 Mangorei Road.
DATE MEASURED: 23rd March 2002
HEIGHT: 23 m
CANOPY SPREAD: 15.4 m
DBH: 1.51 m
REMARKS: "The Wounded Warrior"
Ideally located, dominating (guarding) the entrance to the homestead. Well positioned as the surrounding area is fertilised by a mixture of poultry dwelling beneath the canopy and creating a fine build-up of droppings.
The tree was struck by lightning in the early 1950's, which resulted in a severe spilt down the trunk. Incidentally, in the same storm a large pine across the road was also struck, blowing a nearby meter box to pieces and killing several pigs that were located beneath the canopy. On advice, Mrs Adlam's son climbed the Norfolk pine and removed the damage from the upper canopy thereby reducing the tree to 13.5 m. Since the 50's the tree has been struck by lightning again and has received several batterings in storms.
A very healthy tree with a dense lower canopy, (as expected). When standing beneath and viewing the impressive trunk one could be forgiven for envisaging a huge tree up to 40 m towering above. The leader that has formed from dormant buds below the cut is currently 9.5 m (Fig. 75).
When considering the history, this tree is a true survivor and when recorded was starting to develop cones in the upper canopy.
(Information kindly supplied by Mrs E. M. Adlam and Mr Frank Adlam).



Fig. 75

None of the other trees above exist today; the majority were removed when a section of land (about the size of a rugby field) was excavated for oil drilling, around 1998. Mass destruction is still evident with stumps, roots and other debris still visible. There is however a commemorative kauri recently planted in a garden enclosure, listed under (NATIVE TREE 6).

The diary mentioned by Burstall, (kept by Zaccheus William Wells between 1861 - 1864) makes fascinating reading and portrays the extreme difficulties faced by the early colonists. A copy is available at the New Plymouth library.

EXOTIC TREE: 17

SPECIES:

Banksia integrifolia.

COMMON NAME(S):

White Honeysuckle.

B.B CATEGORY:

Exotic Notable Tree - Local Interest

ORIGINAL READINGS

LOCATION: G.T. Armstrong, 9E Paynters Avenue

DATE MEASURED: 1973

HEIGHT: 45 ft (13.7 m)

CANOPY SPREAD: -

DIAMETER At 1 ft: 25 in (63.5 cm)

BURSTALL'S NOTES: This species does well in the coastal areas of this region.

CURRENT READINGS

REMARKS: A tree with the equivalent diameter recording is not located on this property.

+There is however a specimen located on the northern boundary. This tree has a very upright habit and not much lateral growth. A limb has been lost at approximately 4 m creating a wound 1.5 m down the trunk. The callus wood has had good formation and it is now close to completely sealing. The presence of a large amount of epicormic shoots (from dormant buds) and the dieback of several smaller branches indicates moderate health, despite the tree being sited on an exposed site.

2.2.02: Height = 13.3 m; spread = 5.4 m; dbh = 50.6 cm.

Ian Price currently owns this property.

EXOTIC TREE: 18
SPECIES: *Banksia integrifolia*.
COMMON NAME(S): White Honeysuckle.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Magnolia Park, Westtown.
DATE MEASURED: 1973
HEIGHT: 52 ft (15.9 m)
CANOPY SPREAD: -
DIAMETER At 2 ft: 35 in (88.9 cm)
BURSTALL'S NOTES: Trunk dividing at 3 ft with dominant one being 27 in (68.6 cm) at breast height in 1973. The tree is in a row of large trees of the same species forming a windbreak. (On a section of this subdivision is a tree of this species with a good trunk, being 22 in x 59 ft (55.9 cm x 18 m). The above trees are the largest and tallest of this species yet recorded.

CURRENT READINGS

REMARKS: As this tree formed a shelterbelt it is very possible that it was removed when the area was substantially changed for housing development (early 70's to mid 70's). This fact coupled with no evidence of the tree and with the additional knowledge of this species not having a very long life span leads one to believe it no longer exists.

+One of the best examples of this tree in the city is located 4.5 m from the easterly, (front) corner of the Courthouse structure on the Powderham St frontage. A healthy tree with a large lower trunk branching into 3 main limbs just above 1 m. Four large lower branches have been removed between 30 cm and 60 cm. Displaying a fluting trunk, which is uncharacteristic for this species. Soil erosion is evident with a large portion of the upper root system exposed (**Fig. 76**).
17.3.02: Height = 16.5 m; spread = 9.8 m; diameter at 1 m = 1.038 m.
Outside the Courthouse there are a number of notable specimen trees, including kauri which is listed under (NATIVE TREE: 6).



Fig. 76

(This tree was removed January 2003)

EXOTIC TREE: 19
SPECIES: *Calocedrus decurrens*.
COMMON NAME(S): Incense Cedar.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Russell Matthews, Tupare, Mangorei Rd.
DATE MEASURED: 1973
HEIGHT: 66 ft (20.1 m), with trunk pruned to 9 ft (2.7 m)
CANOPY SPREAD: -
DBH: 26 in (66 cm)
BURSTALL'S NOTES: The best of several trees in this fine garden.
Behind the racecourse custodian's house, Pukekura Park is a group of three trees, the largest being 28 in (71.1 cm) x 67 ft (20.4 m) in 1973.

CURRENT READINGS

UPDATED LOCATION: Tupare, Mangorei Rd. 7 m from the third corner and 1 m on the downside of the track that commences at the right-hand side of the main entrance.
DATE MEASURED: 22nd March 2002
HEIGHT: 26.3 m
CANOPY SPREAD: 11.2 m
DBH: 94.3 cm
REMARKS: Reasonable health with smaller sections of deadwood starting to appear in the upper section of the tree. Slightly unbalanced canopy as Lawson cypress are sited on the southern side of this specimen (**Fig. 77**).
9.10.02: The health of this tree is deteriorating.
19.11.05: This tree has now been removed.



Fig. 77

&The two trees in Pukekura are located directly behind the house formerly occupied by the racecourse custodian on each side of the track leading down to Stainton Dell. The closest specimen is 6.2 m from the back N. W corner of the property.

This tree has a dbh = 81.2 cm.

The largest tree and one of the better in presentation is located 11 m from the back N.W corner. However, it does display damage from the southerly wind and has a moderate amount of deadwood in the lower canopy. Diverges into 3 main leaders at approximately 6 m.

30.1.02: Height = 25.6 m; spread = 9.3 m; dbh = 1.121 m.

A rather large kauri is sited between these two trees.

(*Medbury, 1986: Ht = 22.1m; dbh = 92.7cm.

Believed to be a very early planting of Thomas Horton).

The third and final tree is found 33.5 m from the back N.W corner towards Stainton Dell. dbh = 1.057m

EXOTIC TREE: 20

SPECIES:

COMMON NAME(S):

B.B CATEGORY:

Calodendron capense.

Cape Chestnut.

Not categorised.

ORIGINAL READINGS

LOCATION:

Pukekura Park.

DATE MEASURED:

1973

HEIGHT:

35 ft (10.7 m)

CANOPY SPREAD:

32 ft (9.8 m)

DBH:

16 in (40.6 cm)

BURSTALL'S NOTES:

-

CURRENT READINGS

REMARKS:

Was located on the Racecourse Walk opposite the Fernery Lawn. This tree was allowed to continue to grow with a co-dominant leader. Around 1999, it failed at the bottom union splitting down the middle and subsequently was removed. An unfortunate loss as the tree had at last reached its ultimate flowering potential. Diameter of stump at ground level = 61.5 cm; 31.1.02.

(Information kindly supplied by Ken Davey).

J. W. Goodwin believed it to be one of the first planted in the country.

(*Medbury, 1986: Ht = 12.2 m; dbh = 21 cm.

Hasn't flowered yet - 1986. Planted = 9.8.52).

Park records reveal that the tree had sporadic flowering in Feb 1992, flowered well in 1998 and failed on the 27.2.99.

EXOTIC TREE: 21
SPECIES: *Camellia japonica*.
COMMON NAME(S): Camellia. Double white form of unknown origin.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Hatchery Lawn, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 39 ft (11.9 m)
CANOPY SPREAD: 45 ft (13.7 m)
DIAMETER AT 3 ft: 15 in (38.1 cm)
BURSTALL'S NOTES: Blooms profusely throughout June and July.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, Hatchery lawn, Main Lake end.
DATE MEASURED: 1st September 2001
HEIGHT: 13.5 m
CANOPY SPREAD: 19.95 m
DIAMETER At 90 cm: 52.2 cm
REMARKS: Extremely large spread for a camellia (**Fig. 78**), branching from just above 1 m into five main limbs which sweep to the ground. Healthy tree, well located at the far end of the Hatchery Lawn, bearing attractive double white flowers in winter.

(*Medbury, 1986: Planting date unknown. Possibly pre 1900.
Ht = 13.5 m; diam below fork = 47.8 cm.)



Fig. 78

EXOTIC TREE: 22
SPECIES: *Camellia* 'Pukekura White'
COMMON NAME(S): Camellia.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Entrance, Fountain Lake, Pukekura Park.
DATE MEASURED: -
HEIGHT: -
CANOPY SPREAD: -
DBH: -
BURSTALL'S NOTES: Original specimen, considered one of the best white cultivated species.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, right side of the entrance to Fountain Lake from sportsground.
DATE MEASURED: 31st August 2001
HEIGHT: 10.1 m
CANOPY SPREAD: 7.5 m
DIAMETER AT G.L.: 45.2 cm
REMARKS: Name correction: *C. japonica* 'Pukekura White' (**Figs. 79 and 80**).
Healthy tree that branches at 30 cm into 12 main limbs. Notable for the white flowers, the only criticism being that they tend to burn in the sun. One of numerous seedlings dating back to the earlier days of the park. Many are singles, the nectar of which provides an important winter food source for tuis and other birds.

(*Medbury, 1984: Ht = 9.5 m, spread 8.5 m. Original plant raised from seed, perhaps by T. Horton. Regarded as one of the finest white camellias. Listed by Horton on his 1936 list. Recorded on the R.N.Z.I.H. Notable Trees Register.)



Fig. 79



Fig. 80

EXOTIC TREE: 23
SPECIES: *Camellia sinensis*
COMMON NAME(S): Tea Plant.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Main Lawn, Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 15 ft (4.6 m)
CANOPY SPREAD: -
GIRTH AT G.L.: 7 ft (2.1 m)
BURSTALL'S NOTES: A solitary specimen of impressive proportions.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, 14 m from path and 21 m from historical fireplace, Maranui Gully side of path.
DATE MEASURED: 4th September 2001
HEIGHT: 4.5 m, approximately
CANOPY SPREAD: 9.75 m
GIRTH AT G.L.: 2.68 m; diameter = 85.3 cm
REMARKS: Almost perfectly circular bush (**Fig. 81**). Many visitors are incredulous of the fact that this is the species from which commercial tea is produced.

(*Medbury, 1986: Ht = 4.4 m, spread = 7.5 m.
Newton King planting, c.1890.)



Fig. 81

EXOTIC TREE: 24
SPECIES: *Camellia x williamsii* 'Donation'.
COMMON NAME(S): Camellia.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: C. Kelly, 7c Welbourn Terrace.
DATE MEASURED: 1973
HEIGHT: 18 ft (5.5 m)
CANOPY SPREAD: 18 ft (5.5 m)
DIAMETER AT G.L.: 8 in (20.3 cm)
BURSTALL'S NOTES: Planted by J. Fairbrother c.1950, and thought to be the first specimen of this clone in New Zealand.

CURRENT READINGS

UPDATED LOCATION: Mrs N. Stoddart, 7c Welbourn Terrace. In front of the house at the top of the gully.
DATE MEASURED: 19th January 2001
HEIGHT: 6.8 m. Tree climbed to obtain height.
CANOPY SPREAD: 5.5 m
DIAMETER AT G.L.: 22.3 cm
REMARKS: Reasonable health, containing a large number of epicormic shoots (from dormant buds) throughout the lower canopy.

It is J. W. Goodwin's understanding that Mr J. Fairbrother and two other plant enthusiasts imported 2 specimens from England. One was taken and used for a source for future material and the other planted at the above address (at the time Mr J. Fairbrother's property) for reasons of safety and to ensure preservation of this cultivar.

Mr J. Fairbrother was a schoolteacher but always had an interest in horticulture and this eventually led to him being placed in charge of the Brooklands nursery of Parks and Reserves.

(Information kindly supplied by Mrs N. Stoddart and J. W. Goodwin).

EXOTIC TREE: 25
SPECIES: *Carya ovata*.
COMMON NAME(S): Shellbark Hickory, Shaggybark Hickory.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Maranui Gully, Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 74 ft (22.5 m)
CANOPY SPREAD: 40 ft (12.2 m)
DBH: 20 in (51 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, circuit track gaining entry 7 m from the bridge at the junction of the List St track and the main Maranui track. 52 m from the bridge and opposite the giant ginkgo.
DATE MEASURED: 18th October 2001
HEIGHT: 26.9 m
CANOPY SPREAD: 21.5 m
DBH: 59.8 cm
REMARKS: Vegetation behind the tree is responsible for a one-sided canopy and a lean in the trunk. A healthy tree which is late to bud break with no signs of leaves when measured (**Fig. 82**). Nuts from this tree cover the ground in late autumn. In the same season the tree can be relied upon to provide an outstanding display of

colour. It is one of a select few species within the city that have the capability to demonstrate "no nonsense" autumn colouring.

The name of the tree is derived from the large plates of bark that peel off with age. This is obvious in this specimen's upper canopy.

(~Fuller, 1982: Dbh = 53.8 cm).

(*Medbury, 1986: Ht = 28 m approximately; dbh = 55.4 cm. Believed to be of similar age as Ginkgo nearby, c.1880.)



Fig. 82

A young specimen is located between the Pukekura Park fountain Pumphouse and Hatchery Lawn, 6 m from the path. It was planted in the early 1980s only 7 m from a *Ginkgo biloba* (see under EXOTIC TREE: 64) because space was limited and the ginkgo was supposed to be the fastigiated (narrow, erect) form. 30.4.04: Height = 14.5 m; canopy spread = 8.25 m; dbh = 19.4 cm. – G.F.

21.5.06: Due to branch failure this tree has now been removed.

EXOTIC TREE: 26
SPECIES: *Castanea sativa*.
COMMON NAME(S): Sweet Chestnut.
B.B CATEGORY: Exotic Historic Tree - National Interest.

ORIGINAL READINGS

LOCATION: Main Lawn, Brooklands Park.
DATE MEASURED: 1969
HEIGHT: 59 ft (18 m)
CANOPY SPREAD: 139 ft (42.4 m)
DBH: 86 in (2.184 m)
BURSTALL'S NOTES: Planted 1847 by Miss Brough, lady help of Captain Henry King, R.N. For many years this has been one of the outstanding exotic trees in New Zealand and believed to be the best of this species in the southern hemisphere. The tree had a setback about 1960-61, but since then the canopy spread has increased by 21 ft. Application of fertiliser has probably been responsible for this increase and also for the luxuriant foliage seen during the 1968-69 growing season. A remarkable tree. However when visited in May 1973, it appeared to be almost dead with only a small portion of the eastern branches having autumn leaves. (August 1973. Mr J. Goodwin, Director of Parks, has advised that the tree is badly deteriorating. Layered growth around the perimeter seems to be surviving, and the tree's future is undecided. It has not yet been deleted from the Town Plan).

CURRENT READINGS

REMARKS: Strenuous efforts were made throughout the early 1970s to try and save this magnificent specimen from what was thought to be a root fungus. All was in vain and by 1976 the tree was completely dead. In July 1977 its dead limbs were cut back and the centre and lower framework preserved as a memorial, favoured by children as a climbing object. During the 1980's and early 90's rotten timber was progressively removed until only a skeleton remained. The Brooklands landmark collapsed in February 1994, finally giving in to decay. (Information obtained from the Daily News).

+A tree that in the past has been somewhat overshadowed by the reputation of the specimen at Brooklands, is located to the rear of St Marys Church. Directly behind the church (1 m) is a solo headstone, bearing the name of Ephraim Coad. The tree is 13.5 m towards Marsland Hill (south) from this burial site (**Figs. 83 and 84**).

A multitude of limbs arise from just above 30 cm. One of the more central limbs has an area of bark dieback below an old pruning wound. The canopy displays a large amount of epicormic shoots (from dormant buds), being more dominant in the lower canopy.

The large, lower horizontal branching habit of this specimen is typical for this species.

With the huge tree now removed from Brooklands, the specimen at St Marys is one of the finest examples of this species in N.P.

2.7.02: Height = 18 m; spread = 25 m; diameter at 30 cm = 2.465 m.



Fig. 83



Fig. 84

EXOTIC TREE: 27

SPECIES:

Castanea sativa, 'Paragon'.

COMMON NAME(S):

Sweet Chestnut.

B.B CATEGORY:

Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION:

Main Lawn, Brooklands Park.

DATE MEASURED:

1973

HEIGHT:

54 ft (16.5 m)

CANOPY SPREAD:

76 ft (23.2 m)

DBH:

48 in (1.219 m)

BURSTALL'S NOTES:

A finely shaped lawn specimen. The clone 'Paragon' is catalogued as having large nuts due to suppression of a proportion of fruits, but this particular tree is notable for a massive production of small nuts. They are particularly sweet in flavour.

CURRENT READINGS

REMARKS:

This tree fell into decline and was removed c.1997

(*Medbury, 1986: Ht = 19.55 m; spread = 16.6 m; dbh = 1.264 m.

Newton King planting. Specimen has smaller nuts than usual for this cultivar).

+Another chestnut tree with an interesting story is located in the Rhododendron Dell, Pukekura Park, 16 m up the slope towards Brooklands Dr from the largest of the London planes. The tree is presently labelled incorrectly with the plaque naming it *Castanea sativa*.

In the early 1980s the Tree Crop Association was interested in reproducing this clone because of the quality of fruit it produced. Several attempts failed because of incompatibility with *C. sativa* rootstock. However, the society was eventually successful when the correct rootstock was obtained because this tree has been identified as *Castanea crenata*, Japanese chestnut. This clone is identified as 'Pukekura' (Fig. 85).

(Information kindly supplied by Ray Knowles, Tree Crop Association).

A better half of this tree died and was removed. There is only a small amount of wound wood development on this injury that measures 75 cm in diameter and is 1.2 m from ground level. The presence of a large amount of epicormic shoots (from dormant buds) in the canopy and general appearance indicates this tree has moderate to poor health. Severely encroached upon by the neighbouring London plane, which has caused damage to a limb, most probably in high winds.

31.1.02: Height = 14.1 m; spread = 15.2 m; diameter at 1 m = 1.248 m; diameter at 1.7 m = 87.3 cm.

The area did contain two trees however; the other died of natural causes and was removed in Aug 87. It had been given the clonal name 'Horton' and was located on the same slope approximately 28 m towards Brooklands, nearer to the smaller of the two plane trees.

(*Medbury, 1986: dbh = 1.150 m, just below fork).
Planted c. 1900, possibly after Newton King was told to 'find a mate' for his big chestnut at Brooklands).



Fig. 85

EXOTIC TREE: 28
SPECIES: *Casuarina cunninghamiana*
COMMON NAME(S): River Oak, River She-Oak.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Redcoat Lane.
DATE MEASURED: 1969
HEIGHT: 58 ft (17.7 m)
CANOPY SPREAD: -
DBH: 31 in (78.7 cm)
BURSTALL'S NOTES: Looking upstream from the small bridge close to the tree, one sees masses of indigenous undergrowth on each side of the steep slopes, with a banana plant on the left side.

CURRENT READINGS

UPDATED LOCATION: Redcoat Lane, 7.5 m from bridge crossing the Huatoki stream, Brougham St side.
DATE MEASURED: 11th January 2002
HEIGHT: 23.5 m
CANOPY SPREAD: 18.6 m
DBH: 1.13 m
REMARKS: Group of three trees with the largest male being recorded, (other two bearing cones).
A tree of reasonable health (**Figs. 86 and 87**) . Several lower limbs have been removed at different stages in the past including a large co-dominant leader at approximately 5 m. Five adventitious shoots (forming on meristematic callus wood) have arisen from this wound and now form a smaller lower canopy. The primary canopy starts at approximately 10 m and consists of three main divergent leaders all emerging from the same union.



Fig. 86



Fig. 87

In 1855, British military headquarters for Taranaki was established on Marsland hill (opposite Redcoat Lane), with no area available for a parade ground. The troop's parade ground was what is now Central School playground (Poverty Flat), across the Huatoki stream. Redcoat lane gained its name from the frequent movement of the brightly uniformed troops stationed in New Plymouth between 1855 and 1861.

+Another sizable example of this species can be found near the entrance to Ngamotu Domain. Opposite house number 50 on Pioneer Rd is the bottom entrance to this domain. The tree is located 40 m in from this entry point and on the upside of the access road.

A healthy, symmetrical tree with a good structure. Unfortunately the specimen has a lean towards the access road (north). The major contributor to this lean is a large pohutukawa, which is sited within 3 m on the up side.

The tree has had one large lower limb and a few smaller branches removed.

An interesting observation is the exposed rooting system that has received mower scalp. There are also what appear to be several root suckers.

8.8.02: Height = 16.3 m; spread = 15.6 m; dbh = 79.3 cm.

EXOTIC TREE: 29

SPECIES:

Catalpa bignonioides.

COMMON NAME(S): Indian Bean Tree, Southern Catalpa

B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Pukekura Park.

DATE MEASURED: 1973

HEIGHT: 48 ft (14.6 m)

CANOPY SPREAD: -

DBH: 21 in (53.3 cm)

BURSTALL'S NOTES: A tall tree in competition with indigenous species. Uncommon in this region.

CURRENT READINGS

REMARKS: The tree was sited on the eastern side of the Fernery perimeter. It was removed sometime in the early 1980's to extend the Fernery boundary.

EXOTIC TREE: 30

SPECIES:

Cedrus deodara.

COMMON NAME(S): Himalayan Cedar, Deodar Cedar

B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: H. W. Robson, 174 Brooklands Rd.

DATE MEASURED: 1973

HEIGHT: 55 ft (16.8 m)

CANOPY SPREAD: 50 ft (15.3m)

DIAMETER AT 1 ft: 31 in (78.7 cm)

BURSTALL'S NOTES: Planted by Patrick Leslie in 1936 to commemorate the coronation of George 6. Well sited on the front lawn.

CURRENT READINGS

UPDATED LOCATION: Jill Creasy, 174 Brooklands Rd. Front lawn, right-hand boundary.

DATE MEASURED: 12th January 2002

HEIGHT: 18.2 m

CANOPY SPREAD: 14.2 m

DIAMETER AT 30 cm: 1.08 m

REMARKS: A healthy tree with 7 main leaders arising within the first 2 m. The canopy is slightly denser on the roadside as it is trimmed back from the powerlines.

A *Quercus robur* located in the backyard is listed on the N.P.D.C Notable Tree Register.

EXOTIC TREE: 31
SPECIES: *Cedrus libani*.
COMMON NAME(S): Cedar of Lebanon
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: St Mary's Churchyard.
DATE MEASURED: 1969
HEIGHT: 45 ft (13.7 m)
CANOPY SPREAD: 55 ft (16.8 m)
DBH: 32 in (81 cm)
BURSTALL'S NOTES: Planted in 1863 over the graves of soldiers by their regimental comrades.

CURRENT READINGS

UPDATED LOCATION: St Mary's Churchyard, 21 m from the nearest corner of the church, (closest grave George Patterson C. E) in almost a straight line towards the Brougham St and Vivian St intersection.

DATE MEASURED: 7th February 2002

HEIGHT: 18.1 m

CANOPY SPREAD: 18 m

DBH: 95.9 cm

REMARKS: A stately tree in good health, especially when considering that this specimen is located on the outside of a group of trees and rather exposed (**Fig. 88**). The growth is impeded on the southerly side by the historic oak (see EXOTIC TREE 110). This has lead to a completely unbalanced canopy with the highest point being at the southern extremity and the northerly section of the canopy coming within 50 cm of ground level. Glorious straight trunk with only a tiny amount of fluting on one side where it enters the ground.



Fig. 88

EXOTIC TREE: 32
SPECIES: *Cercis siliquastrum*.
COMMON NAME(S): Judas tree.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Pukekura Park, Palm Tree Lawn.
DATE MEASURED: 1973
HEIGHT: 15 ft (4.6 m)
CANOPY SPREAD: 30 ft (9.2 m)
DIAMETER AT 2 ft: 14 in (35.6 cm)
BURSTALL'S NOTES: A characteristically sprawling specimen, which flowers profusely.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, Palm Tree Lawn. 26 m from the junction of the walk from the Gilbert St entrance (Smith Walk) and the Palm Tree Lawn.
DATE MEASURED: 1st February 2002
HEIGHT: 6.3 m, tree climbed to achieve this height.
CANOPY SPREAD: 11.3 m
DIAMETER AT 60 cm: 45.5 cm
DBH: 34.7 cm
REMARKS: A striking specimen that has a canopy propped up in 6 different places by timber rounds (Figs. 89 and 90). Unconventional trunk at breast height where it bows over and takes up an almost horizontal position. Consisting of a network of contorted branches that reach ground level. When recorded the canopy branches were covered in the creeping fern *Pyrosia serpens*.

(*Medbury, 1986: Ht = 8 m; dbh = 25.5 cm).



Fig. 89



Fig. 90

EXOTIC TREE: 33
 SPECIES: *Chamaecyparis obtusa*, 'Crippsii'.
 COMMON NAME(S): Golden Hinoki Cypress.
 B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: R. A Warner, 162 Mangorei Road.
 DATE MEASURED: 1973
 HEIGHT: 23 ft (7 m)
 CANOPY SPREAD: 25 ft (7.6 m)
 DIAMETER AT 2 ft: 11 in (27.9 cm)
 BURSTALL'S NOTES: A colourful species

CURRENT READINGS

UPDATED LOCATION: John Hayles, 162 Mangorei Road. At the end of the long driveway, to the right-hand side, 7.2 metres in front of the house.
 DATE MEASURED: 10th March 2002
 HEIGHT: 10.7 m
 CANOPY SPREAD: 11.2 m
 DIAMETER AT 60 cm: 95.5 cm, not including 3 smaller branches.
 REMARKS: A healthy tree that consists of 2 main leaders and 3 lesser branches that arise from ground level. The canopy has been lifted on the driveway side to allow car access (**Fig. 91**). This can be seen as a positive aspect as it is now possible to view the interesting interweaving of the lower larger branches. On the house side the canopy has been slightly suppressed as a monkey-puzzle was sited 7 m from this tree but died and was removed in December 2001. Visible from the roadway and a very appropriate welcoming tree that contrasts well against the cream Victorian house.
 (Information kindly supplied by John Hayles).



Fig. 91

+Another interesting tree *Chamaecyparis obtusa* 'Nana Aurea' is located outside the fernery entrance, Pukekura Park, growing on a rockery mound (**Fig. 92**). The lower branching occurs only on the opposite side to the fernery entrance due to the earlier presence of a small staff building and toilet.

A healthy colourful specimen that provides a very appropriate focal point to the entry of the fernery.

4.2.02: Height = 7.7 m; spread = 8.5 m; diameter at 60 cm = 53.2 cm, including *Ficus* creeper.

(*Medbury, 1986; Ht = 5.5 m; dbh = 35.7 cm.

Planted c. 1924-26, coinciding with the development of the fernery lawn).



Fig. 92

EXOTIC TREE: 34

SPECIES:

Chamaecyparis obtusa.

COMMON NAME(S):

Hinoki Cypress.

B.B CATEGORY:

Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION:

John Arthur, Ratanui, 498 Carrington Rd.

DATE MEASURED:

1973

HEIGHT:

74 ft (22.6 m)

CANOPY SPREAD:

-

DBH:

52 in (1.32 m)

BURSTALL'S NOTES:

By far the largest of this species recorded in New Zealand. This is one of the important timber trees in Japan, and held to be sacred by the followers of the shinto faith. Probably planted by John Nairn 1850.

CURRENT READINGS

REMARKS:

Upon our first visit to Ratanui the stump was visible in the first paddock to the right of the driveway. The tree is thought to have been lost in high winds, possibly cyclone Bola (March 1988). It was still on this site in 1981.

EXOTIC TREE: 35
SPECIES: *Cinnamomum camphora*.
COMMON NAME(S): Camphor Tree, Camphor Laurel.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Noradene Medical Centre, Vivian St.
DATE MEASURED: 1969
HEIGHT: 44 ft (13.4 m)
CANOPY SPREAD: 55 ft (16.8 m)
GIRTH AT 1 ft: 19 ft (5.8 m)
BURSTALL'S NOTES: Tree appears to be very old and has rotted in places. It is surprising how few of this species there are in the region.

CURRENT READINGS

UPDATED LOCATION: Noradene Medical Centre, 85-87 Vivian St. In the middle of a grassed area 12 m to the right of the main entrance.

DATE MEASURED: 10th March 2002

HEIGHT: 13.4 m

CANOPY SPREAD: 14.9 m

DIAMETER AT 30 cm: 2.261 m, (Girth = 7.1 m)

REMARKS: A healthy tree that displays good vigour in this years growth, however displaying some signs of insect damage on new tips. Once examined from the far side of the entrance appreciation for the durability of this tree can be recognised, as this is the best obvious point for the rot mentioned by Burstall above. The large decaying pockets may have been caused from incorrect pruning techniques in the past and show little or no callus wood formation. A large cavity on the Medical centre side measures 1.3 m from ground level, 35 cm at the widest point and 65 cm at the deepest point. It has previously been covered with grey wound paint. The tree has somewhat compensated by producing larger epicormic shoots (from dormant buds) in the lower canopy.
A glorious tree that is in an excellent site.

31.7.02: Upon returning to the site to photograph this specimen we discovered Parkscape in the final stages of tree removal! (Fig. 93)



Fig. 93

(18.10.02: This specimen has been replaced by a pohutukawa. Details can be found under NATIVE TREE 28)

+At the southern end of Sir Victor Davies memorial Park is the original stone retaining wall from the first Taranaki railway line (1875 -1907). A camphor laurel is sited on terraces 12.5 m from where the historic wall meets the northern section of a car park, (NPDC Public Car park #8, Vivian; closest space #44). A healthy specimen that branches into 3 main limbs from 1.2 m. Three central branches were lost in high winds on the 3.5.02. This has resulted in substantial wounds (**Fig. 94**). Positioned between 2 mature Pohutukawa.

16.7.02: Height = 16.4 m; spread =15 m; diameter at 60 cm = 1.21 m.

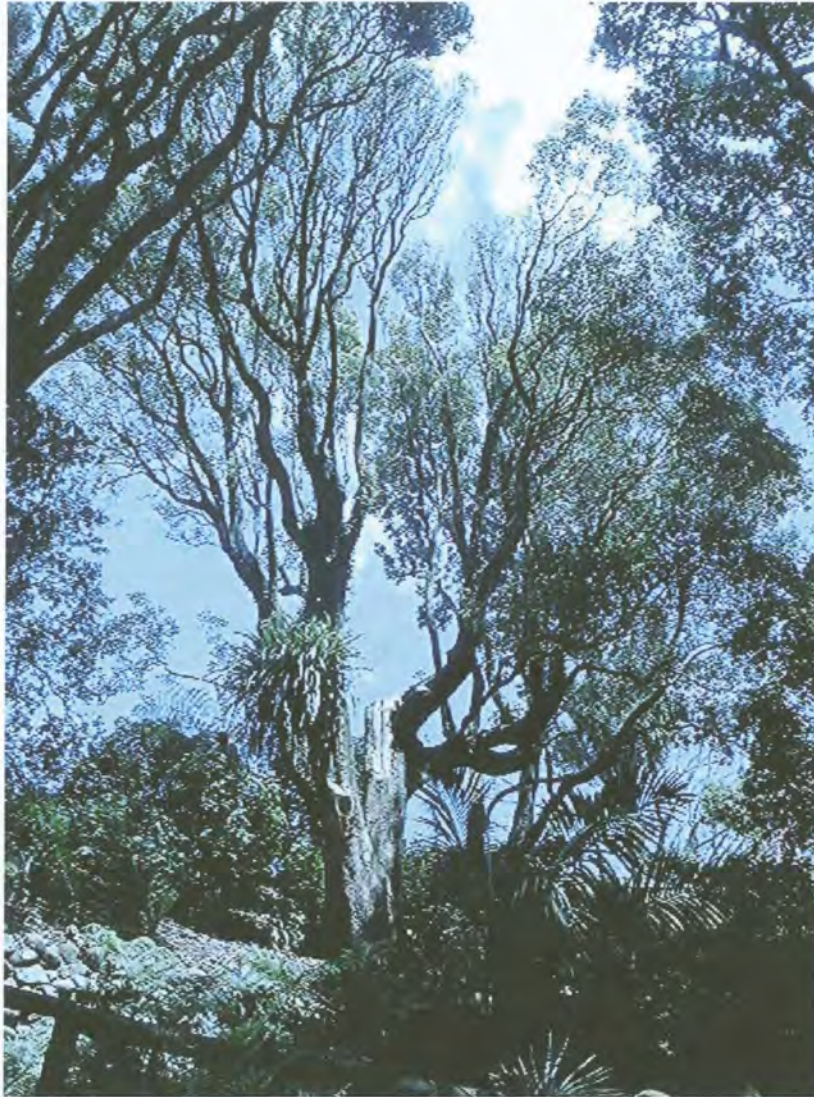


Fig. 94

+There is a specimen located 3.5 m below and 50 cm away from the carpark retaining wall at Livestock Improvement, 1-5 Young St. The tree is 2.3 m from the Mangaotuku Stream. The form of this specimen differs to the other two recorded, as it has been drawn up considerably because of its location. The tree was compelled to form a vertical growth habit to grow up out of the small gully in which it was planted. As the tree has increased in height, so has the capability of the spreading canopy. With maturity and the opportunity to expand, the tree has developed a spreading habit and now over-hangs the rear corner of the structure on this property.

A healthy tree that branches into 2 main leaders at 30 cm. At just above 6 m a large lower limb has been removed as it was growing towards the building. It displays good wound wood development. In close proximity to this wound is a smaller one, most probably caused by a truck.

A handsome specimen in a protected site.

An interesting observation on this species is the appearance of new growth in the winter.

16.7.02: Height = 18.7 m; spread = 18 m; diameter at 30 cm = 1.21 m; dbh of leader closest to stream = 68.2 cm; dbh of leader furthest from stream = 79.3 cm.

EXOTIC TREE: 36
SPECIES: *Clethra arborea*.
COMMON NAME(S): Lily of the Valley Tree.
B.B CATEGORY: Exotic Notable Trees - National Interest.

ORIGINAL READINGS

LOCATION: John Arthur, Ratanui, 498 Carrington Rd.
DATE MEASURED: 1973
HEIGHT: 30 ft (9.2 m)
CANOPY SPREAD: -
DIAMETER AT 2 ft: 21 in (53.3 cm)
BURSTALL'S NOTES: A species that is not common in New Zealand.

CURRENT READINGS

UPDATED LOCATION: Paul Carrington, Ratanui, 538 Carrington Rd. On the right-hand side of the driveway, when travelling towards the house, this tree is 18.2 m beyond the first *Cryptomeria japonica* and 15.6 m before the second.
DATE MEASURED: 3rd September 2001
HEIGHT: 12.7 m
CANOPY SPREAD: 10.2 m
DIAMETER AT 60 cm: 65.9 cm
REMARKS: A tree of reasonable health, branching at just above 60 cm into 4 main limbs (Fig. 95). Numerous epicormic shoots (from dormant buds) appear in the lower canopy. This is one of the most thrip prone trees in this area, therefore giving it an untidy appearance. In mid to late summer this tree produces long, drooping clusters of bell-shaped flowers with a peculiar fragrance.



Fig. 95

EXOTIC TREE: 37
SPECIES: *Cornus capitata*.
COMMON NAME(S): Himalayan Strawberry Tree, Evergreen Dogwood.
B.B CATEGORY: Not categorised.

ORIGINAL READINGS

LOCATION: Beside lakeside path, southern end of Main Lake, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 58 ft (17.7 m)
CANOPY SPREAD: 55 ft (16.8 m)
GIRTH AT 1 ft: 12 ft (3.66 m)
BURSTALL'S NOTES: A large tree that is rather one-sided. Just above 1 ft (30.5 cm) the tree divides into 20 trunks.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, overhanging Hughes Walk, 16m from it's junction with the path to Goodwin Dell, Southern end of Main Lake.
DATE MEASURED: 5th February 2002
HEIGHT: 17.4 m
CANOPY SPREAD: 15.9 m
GIRTH AT 30 cm: 4.16 m; diameter at 30 cm = 1.325 m
REMARKS: A tree with moderate to poor health, dieback being evident at the top of the canopy with the production of smaller discoloured leaves on several leaders. Only 8 leaders arise from the large trunk today (**Fig. 96**).
When recorded the *Astelia* epiphytes located in the canopy were displaying their attractive flowers.
The small reduction in the height and spread would be due to the poor health of this tree.



Fig. 96

EXOTIC TREE: 38
SPECIES: *Cornus controversa*
COMMON NAME(S): Cornel Dogwood, Table Dogwood, Giant Dogwood.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: A. A. Hodder, 45 Rimu Street.
DATE MEASURED: 1973
HEIGHT: 21 ft (6.4 m)
CANOPY SPREAD: -
DIAMETER AT 4 ft: 10 in (25.4 cm)
BURSTALL'S NOTES: Well sited at the right of the front entrance.

CURRENT READINGS

UPDATED LOCATION: Footpath to the right of the driveway of 45 Rimu Street.
DATE MEASURED: 2nd February 2002
HEIGHT: 9.4 m
CANOPY SPREAD: 6.4 m
DIAMETER AT 1.2 m: 39.8 cm
REMARKS:

This tree, which has poor health was planted c. 1950 with a puriri tree. Around 1980 the road was widened due to the expansion of the industrial area located nearby. Unfortunately (for the tree) during the widening of the road it was also necessary to raise the level because of a steep downward gradient on the easterly side. It could be concluded that this process is partially responsible for the trees poor health today. Positioned in a concrete surround approximately 70 cm below street level with a large accumulation of debris at the base.

The canopy is completely unbalanced due to the puriri being sited 3.2 m on the upside (northwest) of the tree and providing heavy shading. It contains severe dieback in the upper canopy with the majority of the growth being on the easterly side. Branches from just above 1.4 m into 4 main limbs.

This is an ailing tree and will be removed sometime in the near future.
(Dates kindly supplied by Mr. A. Hodder).

The puriri is an excellent example of how the majority of this species flourish in the Taranaki area. It is hard to believe this tree was planted as recently as 1950.

A tree of the same species and the only one in Pukekura Park is located near the Gilbert street entrance on Smith Walk. Unfortunately this is also an ailing specimen with severe dieback in the upper canopy.
It has a dbh = 29.6 cm.

EXOTIC TREE: 39
SPECIES: *Crataegus crus-galli*.
COMMON NAME(S): Cockspur.
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: St Mary's Churchyard.
DATE MEASURED: 1969
HEIGHT: 15 ft (4.6 m)
CANOPY SPREAD: -
DBH: 6 in (15.2 cm)
BURSTALL'S NOTES: Planted by Archdeacon Henry Govett in the vicarage garden in 1860. This tree has been pruned back a lot over the years.

CURRENT READINGS

UPDATED LOCATION: Just inside the gate, to the left of the path leading to the St Mary's Vicarage from Vivian St.
DATE MEASURED: 7th February 2002
HEIGHT: 4.3 m
CANOPY SPREAD: 4.6 m
DBH: 20.4 cm
REMARKS: Heavily disfigured tree having lost its main leader (**Fig. 97**). This has created a wound on the Vicarage side 12 cm wide spanning the majority of the trunk to ground level. A large number of epicormic shoots (from dormant buds) have now appeared at the base of the tree. Interestingly the sprouts that are in the protective lower area of the garden are of reasonable health, but where exposed on the roadside have received a wind/salt burning. The identification of this tree could not be verified.

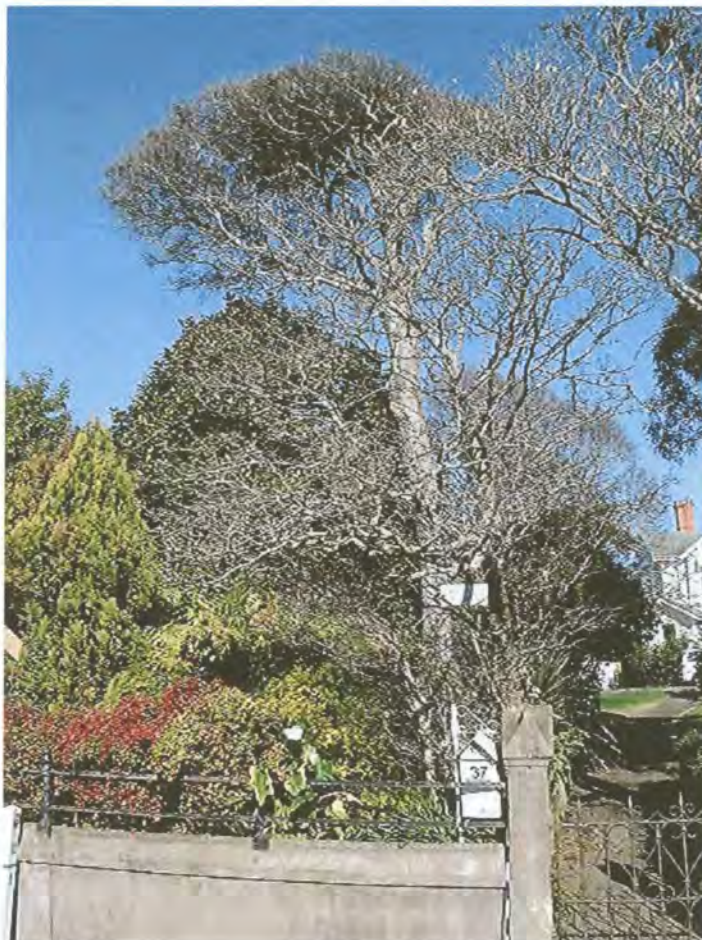


Fig. 97

EXOTIC TREE: 40
SPECIES: *Crataegus monogyna*
COMMON NAME(S): Hawthorn.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: John Arthur, Ratanui, 498 Carrington Road.
DATE MEASURED: 1973
HEIGHT: 36 ft (11 m)
CANOPY SPREAD: 30 ft (9.2 m)
DIAMETER AT 4 ft: 27 in (68.6 cm)
BURSTALL'S NOTES: The tallest of this species recorded in New Zealand.

CURRENT READINGS

REMARKS: No longer existent, the only evidence remaining being a depression on the land near the miro. The tree was on this site in 1981.

EXOTIC TREE: 41
SPECIES: *Cryptomeria japonica*
COMMON NAME(S): Japanese Cedar.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: John Arthur, Ratanui, 498 Carrington Road.
DATE MEASURED: 1973
HEIGHT: 67 ft (20.4 m)
CANOPY SPREAD: -
DBH: 46 in (1.168 m)
BURSTALL'S NOTES: The taller of two open-grown trees, the other having a diameter of 46 in (1.168 m). Another tree at Truby King Dell was 32 in (81.3 cm) x 68 ft (20.7 m) in the same year.

CURRENT READINGS

UPDATED LOCATION: Paul Carrington, Ratanui, 538 Carrington Road. Travelling towards the house, the tree is located on the right side of the driveway, 5.3 m before the Norfolk Island pine.
DATE MEASURED: 3rd September 2001
HEIGHT: 27 m
CANOPY SPREAD: 10 m, approximately
DBH: 1.496 m
REMARKS: The canopy on this tree has been lifted by approximately 7 metres, because of the close proximity to the driveway. It is in companionship with a Norfolk Island pine. The diameter reading on this tree could quite possibly be one of the largest in New Zealand for this species.

&The other Japanese Cedar on the property is located closer to the road frontage, 18.2 m from the Clethra recorded and is the first major tree encountered on the driveway (**Fig. 98**). It has a magnificent corkscrewed trunk as the result of spiralling, which is common in this species (**Fig. 99**). When looking up the tree the branches have the appearance of serpents. The larger limbs have been removed from the lower canopy. A very interesting tree.
3.9.01: Height = 22.2 m; spread = 12.35 m; dbh = 1.36 m.



Fig. 98

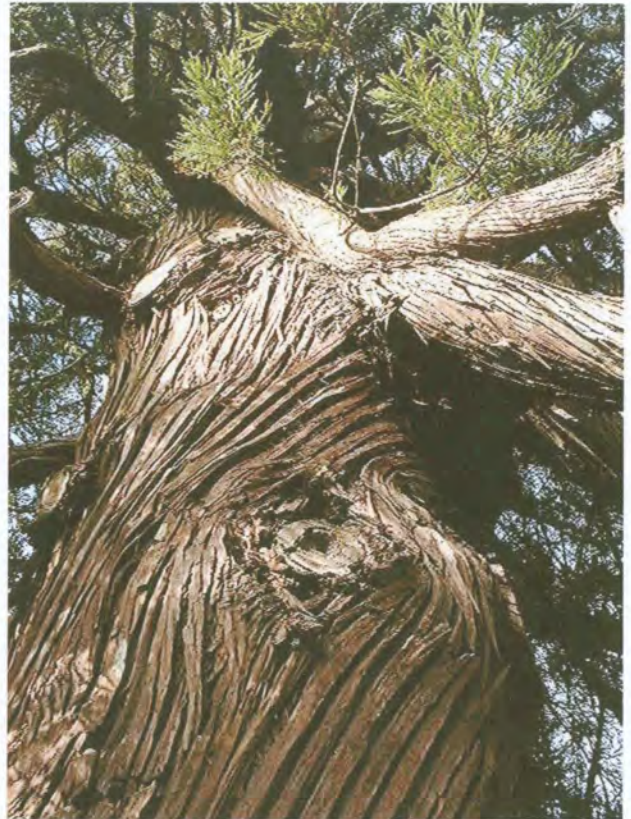


Fig. 99

&The specimen at Truby King Dell has two major lower branches that emerge from the trunk horizontally and after a few metres form a vertical growth habit (right hand side of photograph). As a consequence it is not entirely typical (**Fig. 100**).

1.9.01: Height = 26.1 m; spread = 13m; dbh = 1.05 m



Fig. 100

EXOTIC TREE: 42
 SPECIES: *Cryptomeria japonica*, 'Elegans'.
 COMMON NAME(S): Japanese Cedar.
 B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside the children's playground, Burgess Park, Junction Road.
 DATE MEASURED: 1969
 HEIGHT: 52 ft (15.9 m)
 CANOPY SPREAD: -
 DBH: 32 in (81.3 cm)
 BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Burgess Park, 361 Junction Rd, (SH3). In close proximity to the river, in the lower level grassed area, 37 m in from the right-hand pillar of the main entranceway.

DATE MEASURED: 25th March 2002
 HEIGHT: 31 m
 CANOPY SPREAD: 10.5 m
 DBH: 1.083 m

REMARKS: A healthy tree with a "crazy habit" (**Fig. 101 and also fig. 107**). The trunk is reclining to about 65 degrees from the vertical, clear to 4 m and then "all hell breaks loose". The majority of the branches emerge with a pendulous habit and then do a u-turn (180 degrees) reverting to an erect habit. A lower limb approximately 12 m long has almost the same diameter (15 cm) throughout its whole length. It had started to grow in an easterly position and then altered it's direction, (probably due to sunlight) avoiding contact with another branch, ending up on the westerly side. During this process it has nearly formed a complete circle, having twisted at least 270 degrees (**Fig. 102**). This is just one of several feats this tree displays, all of which compel one to have many conjectural thoughts.
 A remarkable specimen.



Fig. 101



Fig. 102

EXOTIC TREE: 43
SPECIES: *Cryptomeria japonica*, 'Lobbii'.
COMMON NAME(S): Japanese Red Cedar.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: C. H. Acheson, 81 Belt Road.
DATE MEASURED: 1969
HEIGHT: 35 ft (10.7 m)
CANOPY SPREAD: -
DBH: 14 in (35.6 cm)
BURSTALL'S NOTES: An attractive well-sited tree.

CURRENT READINGS

UPDATED LOCATION: J. Gow, 81 Belt Road, front boundary, 2.5 m to the right of the path leading towards the house.
DATE MEASURED: 28th January 2002
HEIGHT: 13.4 m
CANOPY SPREAD: 7.4 m; only one reading taken as the tree is located on a steep terrace.
DBH: 50.6 cm
REMARKS: An excellent symmetrical form that is dominant from the road (**Fig. 103**). However, this is an exposed site, which has lead to a slight amount of damage on the southerly side, possibly from cyclone Bola, (March 1988). Ivy had been suppressing growth but was recently removed from the canopy of the tree.
Branching from 65 cm.
This tree bears a N. Z. Notable tree plaque.



Fig. 103

EXOTIC TREE: 44
SPECIES: *Cunninghamia lanceolata*
COMMON NAME(S): Chinese Fir.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Y.M.C.A Camp, near Burgess Park.
DATE MEASURED: 1973
HEIGHT: 70 ft (21.35 m)
CANOPY SPREAD: -
DBH: 19 in (48.3 cm)
BURSTALL'S NOTES: A fair sample of dominant trees in a quarter-acre stand of this species. This is the only known stand of this fir in New Zealand. There is coppicing from old felled trees.
At T.C.N Young, 3A Azalea Place, is one 16 in (40.6 cm) x 65 ft (19.8 m) in 1973, with a clear trunk which has been encouraged in height by competing trees. The property adjoins Truby King Dell.

CURRENT READINGS

UPDATED LOCATION: TOPEC, off SH3, (Junction Rd). Plantation beside roadway not far past the access to the camp buildings.
DATE MEASURED: 26th March 2002
HEIGHT: 28.8 m
CANOPY SPREAD: -
DIAMETER AT 1 m: 91.1 cm
REMARKS: A beautiful stand of very healthy trees (**Fig. 104**). Unfortunately many display co-dominant leaders, with a large number of these being formed at a low level. A remarkable feature in this stand is the fallen foliage that litters the ground forming a thick bronze blanket. It inhibits the growth of any under story, except a few kawakawa.
It is impossible to know which tree Burstall recorded. The above measurements are for a tree, which is located 6m from the left-hand gatepost and is the 2nd tree in the row closest to the fence. It comprises of 4 main leaders arising from just above 1 m, explaining the large diameter reading.
A dbh was taken on one of the better single trunked specimens = 63.7 cm.
Jack W. Goodwin believes this stand was planted during the depression in the mid 1930's.



Fig. 104

&The specimen at 3A Azalea Place (**Fig. 105**) is located halfway up the driveway on the left-hand side. It has a tall, straight and slender trunk in relation to the tree height. The apex appears to be dead. 1.9.01: Height = 22.1 m; branching starts at approximately 14 m; dbh = 57.9 cm.



Fig. 105

+A very large and excellent specimen is located in close proximity to the river, in the lower level grassed area, 42 m from the right-hand pillar of the main entranceway to Burgess Park, 361 Junction Rd (SH3). This tree displays an unusual habit, forming a base with a height of 70 cm, which then gives rise to 3 main leaders (**Fig. 106**). Within 40 cm those 3 leaders have divided into 7 all of which are relatively uniform and form an impressive structure. Another interesting fact, the canopy comes to ground level which is unusual for a tree that is so naturally erect.

There is little doubt that this healthy specimen would contain the largest volume of wood for this species in New Plymouth, possibly New Zealand (**Fig. 107**).

25.3.02: Height = 24.5 m; spread = 15.7 m; diameter at 30 cm = 2.245 m.



Fig. 106



Fig. 107

Foreground: *Cunninghamia lanceolata*.
Background: *Cryptomeria japonica* 'Elegans'
Burgess Park

EXOTIC TREE: 45
SPECIES: *Cupressus macnabiana*.
COMMON NAME(S): Mcnab's Cypress.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Beside Carpark, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 61 ft (18.6 m)
CANOPY SPREAD: 40 ft (12.2 m)
DBH: 57 in (1.448 m)
BURSTALL'S NOTES: The largest of 4 in the park, all severely storm-damaged and deteriorating. Appearing like a giant umbrella fronting the main gateway entrance.

CURRENT READINGS

REMARKS: Out of the 4 trees only one badly damaged specimen is left (**Fig. 108**). The specimen Burstall recorded was removed because of deteriorating health and/or because of the construction of a new service shed. It was located at the southwestern corner of the sportsground at a point equating to the middle of the service shed. Measurements were obtained on the surviving tree which can be located 29 m up Racecourse Walk from Saxton Walk, on the upper-side of the walk beside steps leading up to the eastern lookout. Racecourse Walk commences beside the Kiosk / Tea House.
+A very storm damaged tree with large damaged limbs and obvious tears on stubs in the lower canopy. Some remedial tree work has been carried out. Divides into two main leaders at approximately 3.5 m. Very dense canopy forming the characteristic umbrella form.
4.2.02: Height = 22 m; spread = 10.8 m; dbh = 1.166 m.

(*Medbury, 1986: Ht = 28 m; diam at ground level 1.38 m.
W.W. Smith planting c. 1910 The only surviving specimen of a half dozen about Pukekura. A young one is growing on Cannon Hill).



Fig. 108

+The young tree mentioned by Medbury is located 17.5 m towards the Cricket Pavilion from the golden macrocarpa, which is at the summit of Cannon Hill. A young vigorous specimen when compared to the older tree on Racecourse Walk. This tree has not taken its adult form yet, (umbrella), but initiation is beginning.

Several lower limbs have been removed.

17.8.02: Height = 18.7 m; spread = 16.9 m; dbh = 73.9 cm.

In the surrounding area several less common conifer species are featured

(*Medbury, 1986: Ht = 15 m; dbh = 57.3 cm.

Planted August 1959).

There is a stump of a *Cupressus macnabiana* with a diameter at ground level of 1.56 m located 7 m on the upside of Hughes Walk, 43 m from the junction with the path that leads to the Goodwin Dell at the southern end of the Main Lake. A remnant of one of Burstall's four.

EXOTIC TREE: 46

SPECIES:

Cupressus macrocarpa.

COMMON NAME(S):

Monterey Cypress.

B.B CATEGORY:

Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Brooklands Park.

DATE MEASURED: 1969

HEIGHT: 93 ft (28.4 m)

CANOPY SPREAD: 100 ft (30.5 m)

DBH: 57 in (1.448 m)

BURSTALL'S NOTES: A good trunk up to 20 ft (6.1 m) and one of the best of many large trees of this species in New Zealand.

Between the bandroom and the SE corner of the Sportsground, Pukekura Park, is a very striking group of six trees, remarkable for the fact that despite their size and good proportions, they are no more than 10 to 12 ft (3 - 3.5 m) apart, and are arranged roughly in the form of a pentagon, with one in the centre. The distance around the perimeter of the pentagon is 87 ft (26.5 m). The average diameter of the trees is 50 in (1.27 m) and height approx 100 ft (30.5 m) in 1973.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Main Lawn. Beside zoo entrance from the lawn area.

DATE MEASURED: 15th October 2001

HEIGHT: 27.15 m

CANOPY SPREAD: 32.5 m

DBH: 3.248 m

REMARKS:

The nature of this tree makes it very difficult to obtain accurate measurements, the trunk being very buttressed with a huge volume of wood in the lower part (**Fig. 109**). Strong dieback in the canopy and decay at the base of the tree indicate some kind of root fungus. A combination of old age and this pathogen is expected to be the tree's demise in the near future.

Another specimen was located 16 m to the south, behind the toilet block (stump evident) in the zoo. It was removed some years ago, exposing the existing tree to southerlies resulting in a large amount of wood being lost in storms.

For future reference a diameter was taken at G.L = 5.41 m, (circumference = 17 m) and also at 2 m = 3.11 m, (circumference = 9.75 m) indicating the great difficulty in obtaining consistent measurements of this massive tree. It has to be seen to be understood.

(~ Fuller, 1982: Dbh 3.035m, "a consistant measurement difficult at lower levels").

(*Medbury, 1986: Ht = 30.05 m; dbh 2.87 m.

This tree may represent the earliest planting of this species in N.Z. Some debate continues over the age. It is thought to be 1851 with the Norfolk Pines, although macrocarpa is not recorded as being present in N.Z this early.

1961: measurements taken from RNZIH Journal, vol. 5, #4. Ht = 21.34 m; dbh = 2.3 m).

The reduction in height could relate to the deterioration in health (**Fig. 110**).



Fig. 109



Fig. 110

&The other trees Burstall recorded, that are listed above, are located 10 m from Claffey walk, 30 m from the upper end of Horton walk, near the Rogan St entrance. There are only 5 trees remaining plus a stump 1 m high. Measurements were taken from the most northerly tree (Sportsground side), height = 36.5 m, dbh = 2.01 m. This tree and the central tree are the best examples. The circumference around the trees at G.L = 28.15 m, two of the trees have lost their tops and all of them are showing signs of storm damage in an exposed site.

(~ Fuller, 28/8/1982): "The most westerly of the pentagon group at Pukekura Park has been blown down."

+Another large tree of interest is located at the junction of the path between Struan Walk and Truby King Dell, on the Truby King Dell side of the stream. Six leaders arise from just above 1 m to form the central canopy. A large volume of wood is also contained in the lower section of this tree, however this one differs to the tree on the Brooklands lawn in having a more symmetrical lower trunk.

29.1.02: Height = 22.9 m; spread = 28.2 m; diam at 1 m = 2.91 m; diam at ground level = 3 m.

EXOTIC TREE: 47
SPECIES: *Cupressus sempervirens* var. *sempervirens*
COMMON NAME(S): Italian Cypress Mediterranean Cypress.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside Curator's office, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 77 ft (23.5 m)
CANOPY SPREAD: -
DIAMETER AT 2 ft: 32 in (81.3 cm)
BURSTALL'S NOTES: One of four in this vicinity.
An old tree at Ratanui, 498 Carrington Road was 29 in (73.7 cm) x 49 ft x 35 ft (14.9 m x 10.7 m.)

CURRENT READINGS

UPDATED LOCATION: Beside former Curator's office, Pukekura Park.
DATE MEASURED: 31st August 2001
HEIGHT: 20.7 m
CANOPY SPREAD: 8.15 m
DIAMETER AT 60 cm: 92.6 cm
REMARKS: A large wound facing the roadway starts 30 cm from ground level and measures 1.61 m x 21 cm, (probably caused by a truck).
The tree has moderate health and divides into two co-dominant leaders at 1.4 m (**Fig. 111**). A large Norfolk Island pine on the other side of the drive suppresses the canopy. Expected to remain on this site for years to come.

(Medbury, 1986: Ht = 20.2 m, diam at 60 cm = 83.8 cm.
Loss of height may be due to leader snapping off in wind.
W. W. Smith planting c. 1908-1922).



Fig. 111

&The tree(s) at Ratanui are now located on a sub-divided, adjoining section of this land which is currently owned by Ross Barns. In the past a row of this species ran parallel with the boundary fence along Atkinson Rd. Unfortunately all of these trees have been removed apart from one. The majority met their demise in the early 80's when the paddock was utilised for the grazing of horses; (horses have a reputation for causing excessive damage to the bark of trees). The only tree that can be observed today (**Fig. 112**) is located 70m along the left-hand boundary fence from the corner of Carrington and Atkinson Rd and 7 m in from this fence.

It is impossible to know if this tree is the same noted by Burstall. The trunk has been heavily damaged and one must note the 3 thin strips of bark that are only a few cm wide as the only means of transport for essential elements. They have also received recent damage from hooves of cattle. This tree has a completely different appearance to the specimens at St Mary's and Pukekura Park as the canopy is a lot sparser and the tree gives the general impression of old age. Branching starts at approximately 4 m and these are covered with a large amount of lichen.

27.3.02: Height = 15.4 m; spread = 10.9 m; dbh = 76.4 cm.

19.11.05: This tree has now been removed



Fig. 112

+In the same paddock and nearby, 84.5 m along the same boundary fence from the corner of Carrington and Atkinson Rd and 20.7 m from this fence there is another cupressus with a dense, spreading canopy coming within 1 m of ground level (in the right hand background of fig 112). The trunk has also been damaged by horses but not to the extent as the tree above. When recorded the canopy was displaying a slight yellowing.

27.3.02: Height = 11.8 m; spread = 13.7 m; dbh = 77.7 cm.

EXOTIC TREE: 48
SPECIES: *Cupressus sempervirens* var. *sempervirens*.
COMMON NAME(S): Italian Cypress, Mediterranean Cypress.
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: St Mary's Churchyard.
DATE MEASURED: 1969
HEIGHT: 24 ft (7.3 m)
CANOPY SPREAD: -
DIAMETER AT 4 ft: 26 in (66 cm)
BURSTALL'S NOTES: Larger of two trees planted in August 1847 by John Nairn at the foot of Rev. Bolland's grave at the request of Mrs. Bolland. The first exotics known to be planted in Taranaki.
There are two larger and much taller trees of this species at Ratanui, 498 Carrington Rd. They are probably from the same seedlot.

CURRENT READINGS

UPDATED LOCATION: St Mary's Churchyard. 7.5 m from the nearest corner of the church, (closest grave George Patterson C. E), in a straight line towards the Brougham St and Vivian St intersection, equally 2.1m from the graves of J. Medland and the Rev W. Bolland.
DATE MEASURED: 7th February 2002
HEIGHT: 11.7 m
CANOPY SPREAD: 9.5 m
DIAMETER AT 1.2 m: 76.8 cm
REMARKS: The larger (southerly) of two trees recorded, both having reasonable health (**Fig. 113**). Supports a very dense canopy and at the time of recording was producing a huge amount of large cones. A limb has been removed just above 1.2 m and is displaying no wound (callus) wood development, (which is probably typical for this species, as they are so slow growing and long-lived).
There appears to be some kind of understanding between these two trees as their canopies touch, but only just. They don't intertwine or interfere with each other. The smaller tree (2.7m north and 2.1m from the grave of Archdeacon Henry Govett) has a dbh = 65.2 cm.
The church has in its possession an extremely old oil painting, depicting the church and it's yard with several scattered headstones. It is possible to identify the two cypress as juvenile trees. On the back of this painting and in faint handwriting is the date 1859.
(~ Fuller, 25/8/1982: larger (southerly) diameter of 0.642m at 1m above ground level, smaller dbh of 0.589m)



Fig. 113

The tree(s) at Ratanui are recorded with the previous Cypress, (EXOTIC TREE 47).

EXOTIC TREE: 49
SPECIES: *Cupressus sempervirens* var. *sempervirens* 'Stricta'
COMMON NAME(S): Italian Cypress.
B.B CATEGORY: Exotic Notable Trees - Local Interest.

ORIGINAL READINGS

LOCATION: St. L. Manning Reeves, 91 Belt Road.
DATE MEASURED: 1973
HEIGHT: 42 ft (12.8 m)
CANOPY SPREAD: -
DIAMETER AT 1 ft: 18 in (45.7 cm)
BURSTALL'S NOTES: Planted 1943. A handsome, slim tree.

CURRENT READINGS

UPDATED LOCATION: St. L. Manning Reeves, 91 Belt Road. Front lawn, behind the garage, 5.2 m on the left of the path leading to the house.
DATE MEASURED: 28th January 2002
HEIGHT: 14.8 m
CANOPY SPREAD: -
DIAMETER AT 30 cm: 67.5 cm
REMARKS: A compact, narrowly columnar tree (**Fig. 114**). Moderate condition with openings starting to appear near the top of the canopy, on the southerly side. When recorded in late January the pale brown cones were just starting to open.



Fig. 114

EXOTIC TREE: 50
SPECIES: *Embothrium coccinea*
COMMON NAME(S): Chilean Firebush.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Vogeltown Park.
DATE MEASURED: 1969
HEIGHT: 39 ft (11.9 m)
CANOPY SPREAD: -
DBH: 12 in (30.5 cm)
BURSTALL'S NOTES: A good example of a large group on the slope when entering the park.

CURRENT READINGS

REMARKS: These trees no longer exist and are believed to have died from natural decline. This species is not very long lived in New Zealand and would have appeared to be reaching maximum status when recorded by Burstall.

EXOTIC TREE: 51
SPECIES: *Erythrina caffra*
COMMON NAME(S): South African Coral Tree.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside a carpark opposite St Mary's Church.
DATE MEASURED: 1969
HEIGHT: 42 ft (12.8 m)
CANOPY SPREAD: 50 ft (15.3 m)
DBH: 43 in (109.2 m)
BURSTALL'S NOTES: Planted in the grounds of the first brewery in New Plymouth.

CURRENT READINGS

REMARKS: The tree was located on Vivian St, sited next to what was then a new office block to accommodate a New Plymouth accounting firm. A town planning application to have it removed, lodged by local contractors was advertised on the 24th October 1981, the reason being to allow better access to a proposed car park at the rear of the building. During November strong opposition to this proposal grew with the council receiving several objections from neighbouring property owners and one from the New Plymouth Values Party. In early December the contracting company withdrew the application to have the tree removed and it was to remain on the protected trees register. However, the contractors went ahead with the proposed driveway with the tree on the site. It died soon after.
(Information kindly supplied by the Daily News).

EXOTIC TREE: 52
SPECIES: *Erythrina caffra*.
COMMON NAME(S): South African Coral Tree.
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Corner of Ridge Lane and Rogan Street.
DATE MEASURED: 1969
HEIGHT: 38 ft (11.6 m)
CANOPY SPREAD: 50 ft (15.25 m)
DBH: 49 in (1.245 m)
BURSTALL'S NOTES: Believed to be planted by Robert Snell in 1871 near the site of a blockhouse. A rare tree in New Zealand and the largest recorded.

CURRENT READINGS

UPDATED LOCATION: Ridge Lane and Rogan St intersection, surrounded by a small bed of agapanthus.
DATE MEASURED: 12th January 2001
HEIGHT: 13.2 m
CANOPY SPREAD: 18.1 m
DBH: 1.506 m
REMARKS: Moderate to poor health with the canopy on the easterly side showing signs of dieback and producing lighter coloured, smaller leaves. Numerous lower limbs have been removed, two of the most significant at 1.7 m, the largest measuring 55 cm x 40 cm. The cavity from this wound was sealed around 1970 with polyurethane foam, which is used in the manufacture of surfboards. The smaller has poor callus wood formation and decay is present. The existing lower limbs display signs of vehicle damage. The majority of the roots are covered with tarmac and have created a huge amount of heaving on the road surface. This specimen has done well to survive for so many years (Fig. 115).



Fig. 115

EXOTIC TREE: 53
SPECIES: *Erythrina crista-galli.*
COMMON NAME(S): Brazilian Coral Tree.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Rear of homestead, Burgess Park, Junction Road.
DATE MEASURED: 1969
HEIGHT: 22 ft (6.7 m)
CANOPY SPREAD: 25 ft (7.6 m) one-sided
DBH: 21 in (53.3 cm)
BURSTALL'S NOTES: An attractive flowering species.

CURRENT READINGS

REMARKS: This tree no longer exists and it is unknown when it was removed.

EXOTIC TREE: 54
SPECIES: *Erythrina phlebocarpa.*
COMMON NAME(S): Coral Tree.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: F. M. White, 27 Fulford Street.
DATE MEASURED: 1969
HEIGHT: 38 ft (11.6 m)
CANOPY SPREAD: 35 ft (10.7 m)
DBH: 33 in (83.8 cm)
BURSTALL'S NOTES: The only large tree of this species seen in the region.

CURRENT READINGS

REMARKS: To much disappointment, this tree became a casualty of cyclone Bola, (March 1988).

EXOTIC TREE: 55
SPECIES: *Eucalyptus ficifolia.*
COMMON NAME(S): Flowering Gum.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Y.M.C.A Camp, near Burgess Park, Junction Rd.
DATE MEASURED: 1973
HEIGHT: 16 ft (4.9 m)
CANOPY SPREAD: 40 ft (12.2 m)
DBH: 40 in (1.016 m)
BURSTALL'S NOTES: A rare "weeping" type, well stocked with flowers in late May. The best of many fair trees of this species in the city was recorded in 1973 at Mrs Turner's, 84 Pendarves St, dimensions being 31 in x 26 ft x 32 ft (78.7 cm x 7.9 m x 9.8 m).

CURRENT READINGS

REMARKS: An extensive search of the campgrounds, (now TOPEC) revealed no evidence of this tree. However, the discovery of other uncommon specimen trees was met with much excitement.

&The tree located on Pendarves St is actually now located at house number 85, a property on the corner of Cameron and Pendarves St owned by M. & T. Gray. It is positioned to the right of the house very close to the front boundary, (Cameron St), being visible from the roadway. It is a healthy tree with a robust structure; dividing

into 2 main limbs at 2 m and 30 cm above this point displays a multitude of branches.

In February 2002 Parkscape removed deadwood and cleared powerlines. This has improved this specimen's appearance.

17.3.02: Height = 12.7 m; spread = 13.8 m; dbh = 1.07 m.

This tree was displaying rose pink flowers in April and May and has relatively smooth bark. These facts raise some doubt over identification of this specimen. It is likely to be *Eucalyptus leucoxylon* 'Rosea'.

EXOTIC TREE: 56

SPECIES:

***Eucalyptus leucoxylon* 'Rosea'**.

COMMON NAME(S):

Yellow Gum.

B.B CATEGORY:

Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: 135 Lemon Street.

DATE MEASURED: 1973

HEIGHT: 32 ft (9.76 m)

CANOPY SPREAD: 40 ft (12.2 m)

DIAMETER At 2 ft: 25 in (63.5 cm)

BURSTALL'S NOTES: Massed with flowers in late May.

CURRENT READINGS

REMARKS: There is no evidence of this tree ever existing on this property.

EXOTIC TREE: 57

SPECIES:

***Euonymus lucidus*.**

COMMON NAME(S):

B.B CATEGORY:

Not categorised, listed under tree outside city boundaries.

ORIGINAL READINGS

LOCATION: 162 Mangorei Road.

DATE MEASURED: 1973

HEIGHT: 28 ft (8.5 m)

CANOPY SPREAD: -

DIAMETER At 3 ft: 19 in (48.3 cm)

BURSTALL'S NOTES: A good tree.

There is a smaller one near the Children's Playground, Pukekura Park.

CURRENT READINGS

REMARKS: This tree is no longer on this property or the surrounding area. The land has been sub-divided since Burstall wrote his Mensuration Report and now consists of 162, 162 a, b and c

&The specimen at Pukekura Park can be found 56 m from the Victoria Rd entrance on the upside of the path, (Hughes Walk). It is a healthy tree displaying the classic pyramid form. Branching from approximately 2.5 m.

1.2.02: Height = 17.2 m; spread = 14.7 m; dbh = 56 cm.

(*Medbury, 1984: Ht = 13.1 m; dbh = 38.2 cm. Planted 23.9.49.)

EXOTIC TREE: 58
SPECIES: *Fagus sylvatica* 'Purpurea'.
COMMON NAME(S): Copper Beech.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Main Lawn, Brooklands Park.
DATE MEASURED: 1969
HEIGHT: 86 ft (26.2 m)
CANOPY SPREAD: 77 ft (23.5 m)
DIAMETER At 2 ft: 48 in (1.219 m)
BURSTALL'S NOTES: An excellent colourful tree planted in the 1890's.
Beside the amphitheatre, Bowl of Brooklands, is a tree 36 in (91.4 cm) at 1 ft (30.5 cm) x 44 ft x 44 ft (13.4 m x 13.4 m) in 1973. This tree is of particular note because it was "in the way" when it was decided to construct the Bowl in 1956-7. It was shifted to the east and is now a feature on its new site.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Main Lawn, 28 m from nature trail entrance sign.
DATE MEASURED: 4th September 2001
HEIGHT: 25.9 m
CANOPY SPREAD: 27.6 m
DIAMETER At 60cm: 1.815m
REMARKS: Outstanding example of an English beech, with excellent health (**Figs. 116 and 117**). The larger lower limbs sweep down to within 50 cm of the ground. This specimen would have to be regarded as the current main focal point on the Brooklands lawn area with an unrestricted scope.

(*Medbury, 1986: Ht = 23.15 m; spread = 24.5 m.

Mrs Fookes, daughter of Newton King, recalls 'leap frogging' over this tree as a child. She was born 1902).



Fig. 116



Fig. 117

&The tree now located at the base of the access drive and spreading over the toilet block of the Bowl of Brooklands was originally located in the centre of what is now the open air auditorium (**Fig. 118**). When this location was chosen in 1957 as the site for an open-air theatre, removal of this already large tree was essential. Transplanting was carried out by Tom Wagstaff and parks staff and undertaken during J. W. Goodwin's absence in the U.K. on study leave. To transplant such a large tree successfully with the rudimentary equipment then available represents a tremendous arboreal achievement and few would now credit that this fine specimen has been in it's present location for only 45 years.

It has been recorded that it marked the burial site of Newton King's favourite racehorse (Paritutu), which died within hours of Newton King, but this cannot be confirmed and is most unlikely. (Written by G. Fuller and verified by J. W. Goodwin).

17.10.01: Height = 19.25 m; spread = 21.1 m; diameter at 30 cm = 1.35 m.



Fig. 118

EXOTIC TREE: 59
SPECIES: *Fagus sylvatica* 'Riversii'.
COMMON NAME(S): Purple Beech.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Brooklands Park.
DATE MEASURED: 1969
HEIGHT: 40 ft (12.2 m)
CANOPY SPREAD: 47 ft (14.3 m)
DBH: 18 in (45.7 cm)
BURSTALL'S NOTES: One of three distinct forms of copper beech which burst into leaf in a set sequence each year at intervals of about a week; the 'Riversii' is the last to leaf.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Maranui Gully side of main path, 21 m from historical fire place.
DATE MEASURED: 4th September 2001
HEIGHT: 17.5 m
CANOPY SPREAD: 23.65 m
DIAMETER AT 30 cm: 1.353 m
REMARKS: It is impossible to take a dbh recording on this tree as it has produced an abnormally heavy lower limb close to ground level. A pronounced crease has formed between the branch and the trunk, with a strong compression factor being evident. The trunk has the appearance of trying to push itself apart. It is a beautifully symmetrical tree, one of the most widely planted of the purple beech clones (**Figs. 119 and 120**).

(*Medbury, 1986: Ht = 16.65 m; spread = 20.4 m, diameter at 30 cm = 95.5 cm. Thought to have been planted by Thomas Horton c. 1935, following the demolition of the house and the transfer of Brooklands to the Parks Dept. Last of the beeches to come into leaf.)



Fig. 119



Fig. 120

EXOTIC TREE: 60
SPECIES: *Fagus sylvatica* 'Swat Magret'.
COMMON NAME(S): Beech.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Brooklands Park.
DATE MEASURED: 1969
HEIGHT: 50 ft (15.3 m)
CANOPY SPREAD: 66 ft (20.1 m)
DBH: 32 in (81.3 cm)
BURSTALL'S NOTES: A very shapely tree, another of the three forms of copper beech, and the first to leaf.

CURRENT READINGS

REMARKS: Around 1983 the original tree, which was located on the right-hand side of the entrance, was determined as having a type of root fungus. Dieback was obvious in the tree canopy and it was declining at a fast rate. An emphasis was put on maintaining the original clone. Cuttings and scions for grafting were collected. Both procedures were successful and of great credit to Ken Davey (nurseryman at the time) as the tree was deteriorating fast and the attempt to propagate was taken out of season. The Brooklands tree is from the grafting procedure This is an internationally rare cultivar and also unusual in that it strikes from cuttings.

(~ Fuller, 25/8/1982: "The tree is in a very advanced state of degeneration and is expected to die but several specimens have been propagated. Little is known of the history of this old clone but it certainly breaks into leaf early"

+The replacement tree is located 8.5 m from the main path and almost halfway between the two Norfolk Island Pines. It contains a tightly forked co-dominant leader and included bark throughout (**Fig. 121**).

4.9.01: Height = 9.5 m, spread = 8.85 m, diameter at 60 cm = 29.2 cm.

(*Medbury, 1986: Ht = 2.3 m.

Graft from original King planting at entrance. Planted by Mr. Baden Bellringer to recognise a generous donation to Brooklands Zoo, and to remember his late wife's love for Brooklands Park).



Fig. 121

EXOTIC TREE: 61
SPECIES: *Ficus macrophylla*.
COMMON NAME(S): Moreton Bay Fig.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Near the waterfall, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 90 ft (27.5 m)
CANOPY SPREAD: 84 ft (25.6 m)
DBH: 84 in (2.134 m)
BURSTALL'S NOTES: A large tree and one of the tallest recorded.
Another good tree, 76 in x 70 ft x 80 ft (1.93 m x 21.4 m x 24.4 m) in 1973, is at G.T. Armstrong's, 9e Paynters Avenue.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, Hughes Walk, in close proximity to the waterfall and the southwestern corner of the Hatchery Lawn.
DATE MEASURED: 1st February 2002
HEIGHT: 33.6 m
CANOPY SPREAD: 37 m
DBH: 3.118 m
REMARKS: A massive tree (**Fig. 122**) that is healthy and towers above the far end of the Hatchery lawn with great eminence, the main characteristic being the aerial roots displayed in the lower canopy and on the trunk. Of special interest is the fascinating appearance of the exposed roots on the path-side heading down to the Hatchery Lawn (**Fig. 123**). Bearing a multitude of limbs arising from just above 2 m of which many have grafted in the upper canopy. Every year in the summer lighting festival this tree is most deservedly made a main feature, as it is the recipient of several lights in the lower canopy.

(*Medbury, 1984: Ht = 28 m approx; spread = 30 m).



Fig. 122



Fig. 123

&The specimen located at what is now Ian Price's property, 9 e Paynters Av can be found at the end of the driveway on the easterly boundary (**Fig. 124**). It is a very healthy tree with a large fluting trunk, making it rather difficult to obtain accurate measurements. Larger lower limbs have been removed and from many of these areas adventitious shoots (forming on meristematic callus wood) have emerged. A multitude of leaders from above 1.5 m. An interesting point here is the absence of aerial roots, unlike the tree at Pukekura Park.
2.2.02: Height = 25.5 m; spread = 27.8 m; dbh = 2.962 m.



Fig. 124

EXOTIC TREE: 62
 SPECIES: *Fraxinus excelsior*.
 COMMON NAME(S): Common Ash, European Ash.
 B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Rear of Kiosk, Pukekura Park.
 DATE MEASURED: 1973
 HEIGHT: 62 ft (18.9 m). With a good trunk to 16 ft (4.9 m.)
 CANOPY SPREAD: 35 ft (10.7 m)
 DBH: 25 in (63.5 cm)
 BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Same as above.
 DATE MEASURED: 4th February 2002
 HEIGHT: 15.7 m
 CANOPY SPREAD: 8.8 m
 DBH: 72.3 cm
 REMARKS: Branches at about 6.5 m into 3 main limbs all of which have been severely reduced to approximately 1.5 to 2 m. This has encouraged a mass of new growth (shoots) from dominant buds. This method of tree care is similar to pollarding (predominantly a British pruning culture) and certainly gives the tree an interesting appearance (**Fig. 125**).
 This species does not thrive in the coastal environment and is somewhat of a rarity in New Plymouth.

(*Medbury, 1986: Ht = 16.5 m; dbh = 66.9 cm).



Fig. 125

EXOTIC TREE: 63
SPECIES: *Fraxinus oxycarpa* 'Raywood'.
COMMON NAME(S): Claret Ash.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: T. C. N. Young, 3a Azalea Place.
DATE MEASURED: 1973
HEIGHT: 35 ft (10.6 m)
CANOPY SPREAD: -
DIAMETER 3 ft: 15 in (38.1 cm)
BURSTALL'S NOTES: Planted in 1960 by Mrs Young. A fine tree in a region where ash does not flourish.

CURRENT READINGS

UPDATED LOCATION: Mr C. I. Barry, 3a Azalea Place. Beside driveway to the rear of the property.
DATE MEASURED: 1st September 2001
HEIGHT: 14.3 m
CANOPY SPREAD: 14.8 m
DIAMETER 90 cm: 78.3 cm
REMARKS: This specimen branches into two major limbs at 1.3 m. There is a large amount of deadwood created by a strong dieback in the canopy, however no fruiting bodies were evident on or around the trunk. The lower limbs on the driveway side have been reduced by approximately 40% to 50%, as there is a fear of them failing and causing damage to property.
It is extremely likely that this tree will be removed in the near future.

EXOTIC TREE: 64
SPECIES: *Ginkgo biloba*.
COMMON NAME(S): Maidenhair Tree.
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Maranui Gully, Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 66 ft (20.1 m)
CANOPY SPREAD: 80 ft (24.4 m)
DIAMETER 4 ft: 47 in (1.194 m)
BURSTALL'S NOTES: This is a female tree that does not show autumn colouring until June. Planted by Clement Govett, son of Archdeacon H. Govett, 1880. One of the largest of this species in New Zealand. Before 1934, when much of Brooklands and Maranui were parts of private residences, the area was open to the public without charge several times a year. A visitor's book now in the possession of Mrs. E.J. Prime, daughter of the late T.C. List, on whose property the ginkgo was on, records the names of many notable personalities, including Lord and Lady Bledisloe on 10 March 1934. As Governor-General, Lord Bledisloe's visit was presumably for the ceremony of handing over the area to the town of New Plymouth. On 1 March 1934, a visit was also made by Dr. Fong Foo Sec, Governor of Rotary in Shanghai.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, circuit track gaining entry 7 m from the bridge at the junction of the List St track and the main Maranui Gully track. 52 m from the bridge.
DATE MEASURED: 18th October 2001
HEIGHT: 22.1 m
CANOPY SPREAD: 23.5 m
DBH: 1.503 m
REMARKS: The huge trunk divides into co-dominant leaders at 2 m. A small distance below this point a large limb has been lost creating a cavity measuring 1 m x 60 cm and 50 cm deep. Sound wood is present within this cavity. Most obviously this large

lower limb existed when Burstall made his recordings, as this would explain the diameter being taken at 4 ft, (1.2 m).

This specimen with its co-dominant leaders and broadly spreading form is not typical of the ginkgo species, as they are frequently described as having a symmetrical habit with a broadly conical form.

A very impressive, healthy tree with epiphytes throughout the canopy. It is well sited in a protective gully (Fig. 126).



Fig. 126

To clarify, it is significant that during the visit of Dr. Fong Foo Sec, he meditated under this tree each morning and again at night, a reminder that the ginkgo was a tree grown in ancient Chinese temple gardens.

(~Fuller, 25.8.1982: Maranui Ginkgo dbh 1.312m).

(*Medbury, 1986: Ht = 26.15 m; dbh = 1.35 m; spread 32 m.

Also included are 1950 measurements of J.W. Goodwin's: Ht = 17.37 m; dbh = 88.8 cm).

Extremely difficult tree to measure because of the confinement and topography of the land. The three measurements dated 1950, 1973 and 2001 are consistent with age and growth. However an irregularity occurs with the 1986 recording. This can also be found with 1 or 2 other specimens throughout this report.

"Thomas Currie List bought the struggling Taranaki Daily News Co at the end of 1905, when it only had 200 regular subscribers. Through strict management, advertising and a touch of goodwill the Taranaki Daily News Co slowly increased its circulation, quality and influence, until on List's death in 1934, it was the fifth largest morning newspaper in the country.

T. C. List is also credited for being one of the founding members of the New Plymouth Rotary Club on the 10th Feb 1925 and being president of the club in 1932. He was prominent in the foundation of the Crippled Children Society of New Zealand in that year".

(Ref: Tullett, J. S. The Industrious Heart, A history of New Plymouth. Published by the New Plymouth City Council, 1981).

+Another tree of historic interest is located in Pukekura Park, 35 metres from the pump house on the lakeside walk towards the Hatchery Lawn. Planted on the 29th May 1976 by Mr. Fred Parker, a longstanding Pukekura Park committee member, at the ceremony to mark the Park's centennial. This specimen is labelled incorrectly as Ginkgo biloba, fastigiata, (upright maidenhair tree), because the canopy measurement is almost equal to that of the height, therefore not fastigiata.
3.9.01: Height = 12.7 m; spread = 11.35 m; dbh = 44 cm.

EXOTIC TREE: 65
SPECIES: *Ginkgo biloba*.
COMMON NAME(S): Maidenhair Tree.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Left of the main entrance, Burgess Park, Junction Road.
DATE MEASURED: 1973
HEIGHT: 52 ft (15.9 m)
CANOPY SPREAD: 40 ft (12.2 m)
DBH: 25 in (63.5 cm)
BURSTALL'S NOTES: Another recorded in the Gilbert Street Walk, Pukekura Park, 19 in (48.3 cm) x 50 ft x 27 ft (15.3 m x 8.2 m) in 1973.

CURRENT READINGS

UPDATED LOCATION: Burgess Park, 361 Junction Rd (SH3). 11.5 m down from the restaurant entrance or 10 m from the kerb of the car park.

DATE MEASURED: 25th March 2002
HEIGHT: 20.5 m
CANOPY SPREAD: 13.7 m
DBH: 1.016 m
REMARKS: A tree with excellent health, which splits into two co-dominant leaders at just above 2 m. This tree does not display the typical broadly conical canopy as it is closely surrounded by native vegetation and would be somewhat drawn up. A strange root-like protuberance is visible on the lower trunk.

&The tree in Pukekura Park is located 35 m from the Gilbert St entrance on the right-hand side, (stream side) of Smith Walk. It is an extremely healthy tree in a well-protected site. An interesting feature of this tree is the multi grained gnarled trunk that grows at a slight lean.
1.2.02: Height = 16.8 m; spread = 12.6 m; dbh = 77.7 cm.

(*Medbury, 1984: Ht = 16.5 m; dbh = 93.9 cm (???).

Planting date unknown. Not listed along with other trees nearby on T. Horton's 1936 list. Planting c. 1940).

EXOTIC TREE: 66
SPECIES: *Grevillea robusta*.
COMMON NAME(S): Silky Oak.
B.B CATEGORY: Not categorised.

ORIGINAL READINGS

LOCATION: T.C.N. Young's, 3a Azalea Place.
DATE MEASURED: 1973
HEIGHT: 67 ft (20.4 m)
CANOPY SPREAD: -
DBH: 16 in (40.6 cm)
BURSTALL'S NOTES: A fine tree, partly surrounded by competitors.

CURRENT READINGS

REMARKS: This tree could not be located on this property and is believed to no longer exist.

EXOTIC TREE: 67
SPECIES: *Ilex aquifolium*.
COMMON NAME(S): Common Holly, English Holly.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Left of main entrance, Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 23 ft (7 m)
CANOPY SPREAD: 40 ft (12.2 m)
DBH: Unmeasurable diameter because of multileaders from ground level.
BURSTALL'S NOTES: A very old tree that has been kept pruned

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, 36 metres from the main entrance, approximately halfway between main path and access road to the Bowl.
DATE MEASURED: 17th October 2001
HEIGHT: 12.1 m
CANOPY SPREAD: 18.35 m
DIAMETER AT G.L.: 3.025 m
REMARKS: Since Burstall made his recordings staff recognised the potential of the multi-trunks as of interest for children to play amongst. As a consequence the lower limbs have been lifted to approximately 2.5 metres. Removal of these limbs revealed a unique and remarkable statuesque quality. A healthy interesting specimen that creates much curiosity (Fig. 127).

(*Medbury, 1986: Ht = 10.65 m; spread = 15.8 m. Believed to be a Newton King planting c. 1900).



Fig. 127

EXOTIC TREE: 68
SPECIES: *Jacaranda mimosifolia*.
COMMON NAME(S): Jacaranda.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: W. G. Bassett, Maranui Street, New Plymouth.
DATE MEASURED: 1973
HEIGHT: 18 ft (5.5 m)
CANOPY SPREAD: 30 ft (9.2 m)
DIAMETER AT 3 ft: 11 in (27.9 cm)
BURSTALL'S NOTES: A beautiful tree. No large trees and very few young ones of this species were seen in the region.

CURRENT READINGS

REMARKS: This tree was located at what is now 27 Maranui St. The present occupier Mrs Lightband moved into the house in 1986 and believed the tree was removed a few years before this date. She has since removed the stump and created a rockery.

(~Fuller, 25/8/1982: "This tree has been excessively pruned by the owner and is virtually ruined")

EXOTIC TREE: 69
SPECIES: *Juglans regia*.
COMMON NAME(S): Common Walnut, English Walnut.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 49 ft (14.9 m)
CANOPY SPREAD: 76 ft (23.2 m)
DBH: 35 in (88.9 cm)
BURSTALL'S NOTES: The larger of two trees on each side of the main path.

CURRENT READINGS

REMARKS: (*Medbury, 1986: Ht = 17 m, spread = 23 m, dbh = 94.6 cm. Newton King planting of a named clone, planted c.1890).

This specimen, located on the historic fireplace side of the path, was felled c. 1997, having died. In its absence the smaller tree located 17 m from the main path at the Kaimata St end of the main lawn was recorded (**Fig. 128**).

+The tree has a very old appearance (**Fig. 128**), with the canopy loaded with a substantial amount of epiphytes. A wound 30 cm from ground level is 1.75 m high x 15 cm in width. It has created good callus wood development.
4.9.01: Height = 12.5 m; spread = 22.05; dbh = 78.3 m.

~Fuller, 1973:Ht =12.2 m; spread = 20.7 m; dbh = 69.7 cm.



Fig. 128

EXOTIC TREE: 70

SPECIES:

Juniperus chinensis.

COMMON NAME(S):

Chinese Juniper.

B.B CATEGORY:

Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION:

John Arthur, Ratanui, 498 Carrington Rd.

DATE MEASURED:

1973

HEIGHT:

30 ft (9.2 m)

CANOPY SPREAD:

42 ft (12.8 m)

DBH:

22 in (55.9 cm)

BURSTALL'S NOTES:

A well shaped tree and the tallest of this species known in New Zealand.

CURRENT READINGS

UPDATED LOCATION:

Paul Carrington, Ratanui, 538 Carrington Road. First paddock to the right of the driveway, 9.9 metres from the Bunya Bunya Pine.

DATE MEASURED:

3rd September 2001

HEIGHT:

10.6 m

CANOPY SPREAD:

10.3 m

DBH:

64.3 cm

REMARKS:

It is possible to see both adult and juvenile foliage on this tree. An excellent open specimen in great health (Fig. 129).



Fig. 129

EXOTIC TREE: 71
SPECIES: *Juniperus virginiana*.
COMMON NAME(S): Pencil Cedar.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Truby King Dell.
DATE MEASURED: 1973
HEIGHT: 30 ft (9.15 m)
CANOPY SPREAD: 25 ft (7.62 m)
DIAMETER AT 2 ft: 22 in (55.9 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Truby King Dell, lower Brooklands Rd. 75 m in a straight line along the T. K Dell boundary and the driveway of 3a, b and 5 Azalea Pl, 8.4 m on the downside at almost a right angle.

DATE MEASURED: 29th January 2002

HEIGHT: 11.8 m

CANOPY SPREAD: 5.8 m

DIAMETER AT 60 cm: 66.8 cm

REMARKS:

A leaning tree in a state of disarray (**Fig. 130**).

Branching into two co-dominant leaders just above 60 cm. The southerly leader has snapped and is still attached to the tree. The upper portion of the canopy rests on the ground. This leader is now completely dead and the northerly leader, which also contains several damaged limbs, is forming callus wood at the union in an effort to recover.

A dbh was taken on the northerly leader = 42.8 cm.

"The wood is used in making lead pencils, hence the common name."
-Botanica's Pocket Trees and Shrubs, 1999.



Fig. 130

EXOTIC TREE: 72
SPECIES: *Laqunaria patersonii*.
COMMON NAME(S): Norfolk Island Hibiscus.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Car park, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 66 ft (20.1 m)
CANOPY SPREAD: 25 ft (7.6 m)
DIAMETER AT G.L: 25 in (63.5 cm)
BURSTALL'S NOTES: Two leaders from just above ground level.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park. Near the *Abies balsamea*, which is at the junction of the roadway leading from the Car park to either the Kiosk or Bandstand.

DATE MEASURED: 31st August 2001

HEIGHT: 22.2 m

CANOPY SPREAD: 11 m

DIAMETER AT G.L: 93.3 cm

REMARKS: This specimen which contained co-dominant leaders has been forced to grow on an angle towards the car park because of surrounding vegetation. As bulk increased on the leader facing the car park it became a large threat to the public and vehicles passing below. It has since been removed along with a lower limb being reduced in an effort to restore balance within the tree. This will hopefully lead to retainment of this specimen for some time.

With a single trunk it is now possible to obtain a dbh = 63.6 cm.

A healthy tree that has peculiar structure (**Fig. 131**).

(*Medbury, 1986: Ht = 21.6 m, diameter at ground level (G.L) = 82.8 cm.
Likely a Thomas Horton planting c. 1926. Occurs on 1936 list).



Fig. 131

EXOTIC TREE: 73
 SPECIES: ***Laurus nobilis.***
 COMMON NAME(S): Bay Laurel.
 B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: North end of Lawn, Brooklands Park.
 DATE MEASURED: 1973
 HEIGHT: 40 ft (12.2 m)
 CANOPY SPREAD: 45 ft (13.7 m)
 GIRTH AT G.L.: 22 ft (6.71 m)
 BURSTALL'S NOTES: Typical of this species, there are 24 leaders from ground level.

CURRENT READINGS

REMARKS: Removed in 1989, for unknown reasons.

(*Medbury, 1986: Ht = 13.65 m, spread = 7.3 m, multi-stemmed with suckers.
 Newton King Planting.)

EXOTIC TREE: 74
SPECIES: Liquidambar styraciflua.
COMMON NAME(S): Sweet Gum.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Southern Lawn, Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 59 ft (18 m)
CANOPY SPREAD: 40 ft (12.2 m)
DBH: 32 in (81.3 cm)
BURSTALL'S NOTES: A handsome autumn tree.

CURRENT READINGS

UPDATED LOCATION: Main Lawn southern end, 28m southward from the *Magnolia x soulangeana* and in a straight line with it and the entrance of the nature trail, Brooklands Park (**Figs. 132 and 133**).

DATE MEASURED: 4th September 2001
HEIGHT: 20.9 m
CANOPY SPREAD: 16.7 m
DBH: 1.051 m
REMARKS:

It is common for this species to contain included bark (when bark of the branch and trunk squeeze together) and this specimen has lost several branches for this reason. A large co-dominant leader has been removed at approximately 3.5 m from ground level and further up the canopy two significant wounds are most obviously from branch failure. Inevitable is the fact that limbs will continuously fail from this specimen as its included bark creates vulnerability to wind damage. A large cavity at the base of the tree measures 2 m high x 18.5 cm wide. It is 'protected' by tanalised timber (150 x 25 mm) stacked horizontally, inserted into the wound by Graig Oliver sometime in the mid to late 1960's. A good example of early tree surgery.

(*Medbury, 1986: Ht = 17.8 m, dbh = 92.4 cm.
Newton King's head gardener Thomas Boulton planting c.1900).



Fig. 132



Fig. 133

+A tree that had to be recorded because of its great health and size is located at Tupare on Mangorei Rd (**Figs. 134 and 135**). It can be found 11 m below the cottage at the head of a sunken dell. A large tree with a straight clear trunk to

approximately 7 m, several lower limbs have been removed and display good callus wood formation. When recorded the leaves in the lower canopy appeared unusually large. There were also hangers in the tree (included bark is probably, partially responsible for this).

22.3.02: Height = 27.7 m; spread = 21.1 m; dbh = 84.4 cm.

(10.10.02: Since recording this tree, a large limb was lost in high winds. It caused damage to the ornamental *Thuja's* and brickwork below the canopy.)

This and the Brooklands tree make an interesting comparison. The specimen at Tupare is believed to have been planted in the mid to late 1930s.



Fig. 134



Fig. 135

EXOTIC TREE: 75

SPECIES:

Liriodendron tulipifera.

COMMON NAME(S):

Tulip Tree.

B.B CATEGORY:

Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Russell Matthews, 'Tupare', Mangorei Road.

DATE MEASURED: 1973

HEIGHT: 81 ft (24.7 m)

CANOPY SPREAD: 60 ft (18.3 m)

DBH: 37 in (94 cm)

BURSTALL'S NOTES: A particularly handsome specimen in beautiful surroundings. One of the first trees planted by Mr. and Mrs. Matthews in 1933.

Beside the Soundshell, Bowl of Brooklands, is a spectacular tree in a spectacular setting; in 1973 it was 13 ft (4 m) in girth at 1 ft (30 cm) x 73 ft (22.3 m), it branches at 18 in (46 cm) and at 12 ft (3.7 m) becomes multiple-headed.

CURRENT READINGS

UPDATED LOCATION: Tupare, Mangorei Rd. 4.5 m from the brick archway at the Cottage Lawn positioned close to the southeastern boundary.

DATE MEASURED: 22nd March 2002

HEIGHT: 31.3 m

CANOPY SPREAD: 21 m

DBH: 1.322 m

REMARKS: A true giant, with good health (**Figs. 136 and 137**). However, the canopy on the easterly side has been suppressed by the winds and only extends 6 m out from

the trunk, when the other side (westerly) protrudes close to 15 m. Several limbs have been removed from the lower and middle section of the canopy. The slightly buttressed bold trunk is one to inspire with awe.



Fig. 136



Fig. 137

+Next door to Tupare at 495 Mangorei Rd is another excellent specimen that was probably planted around the same time, (c.1933). This property, for a period of time was also owned by the Matthew's and was an extension of Tupare. It is currently owned by the Sarjents. The tree can be found on a grassed area to the left of the driveway and in close proximity to the house. It has good health with only a small amount of deadwood noticed in the canopy. A massive lower trunk has had 3 large lower limbs removed at heights ranging from 50 cm to 85 cm from ground level. The existing lowest limb arises from 50 cm and has a diameter of 87.9 cm just above the union making it impossible to achieve a dbh recording. Because of the trunk being dramatically reduced after this limb a diameter measurement was taken at 1.5 m = 1.182 m. When standing back to admire this tree it has the appearance of two canopies because of this huge lower limb.

22.3.02: Height = 23.5 m; spread = 19.7 m; diameter at 30 cm = 1.484.

&The tree behind the sound shell was removed 2000 - 2001 as it was believed to have poor health. The stump is still evident and has a diameter at ground level = 1.255 m.

EXOTIC TREE: 76

SPECIES: *Livistona australis*, (Australian Cabbage Palm). - Jones. D, 1993. (Was recorded as *Sabal montana*).

COMMON NAME(S): -

B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Palm Tree Lawn, Pukekura Park.

DATE MEASURED: 1973

HEIGHT: 45 ft (13.7 m)

CANOPY SPREAD: -

DBH: 15 in (38.1 cm)

BURSTALL'S NOTES: No reference can be found to this tree but it is probably related to the three southeast USA palmettos.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, Palm Tree Lawn, 10 m from the bridge crossing the fountain lake overflow.

DATE MEASURED: 1st February 2002

HEIGHT: 16.8 m

CANOPY SPREAD: -

DBH: 40.1 cm

REMARKS: Moderate health with a very straight trunk that flutes at the base and has an unusual texture (**Fig. 138**).

A surge of growth in recent years may be attributable to greater light penetration resulting from the removal of overshadowing trees, (EXOTIC TREE 112 and NATIVE TREE 31).

(*Medbury, 1984: Ht = 14.1 m; dbh = 38.2 cm.

Nomenclature requires further verification. Identification was made by Alan Ester, Bot. Div. D.S.I.R., in a letter to S. W. Burstall, 7.2.74. Planting possibly linked to early rose garden situated here. Largest of three).



Fig. 138

+At the centre of the lawn a solitary specimen, (Phoenix sp.), measures: Height = 13.4 m; dbh = 24.5 cm; -1.2.02.

(*Medbury, 1984: Ht = 9.6 m; 22.3 cm.

Almost certainly connected to early rose garden on this site).

The area obtains its name because of the significance of the two measured palms and that of other fan palms. Recent developments around the perimeter of the lawn feature two palms planted by the mayor Claire Stewart on the 29th of May 2001, commemorating 125 years since the establishment of Pukekura Park.

EXOTIC TREE: 77
SPECIES: *Macadamia tetraphylla*.
COMMON NAME(S): Queensland Nut.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Russell Matthews, Tupare, Mangorei Road.
DATE MEASURED: 1973
HEIGHT: 28 ft (8.5 m)
CANOPY SPREAD: -
DBH: 9 in (22.9 cm)
BURSTALL'S NOTES: Well stocked with nuts.

CURRENT READINGS

UPDATED LOCATION: Tupare, Mangorei Rd. In the lower area on the southern side of a dell. 24 m up from the brick archway at the Cottage Lawn.
DATE MEASURED: 22nd March 2002
HEIGHT: 18 m
CANOPY SPREAD: 9.2 m
DBH: 34.1 cm
REMARKS: A healthy tree that is completely suppressed by *Chamaecyparis lawsoniana* on it's upper southern side (**Fig. 139**). The canopy on this side has next to no growth extending from it. The clear trunk branches at approximately 2.5 m after the removal of a large lower limb at 1.2 m. When viewed from the Cottage Lawn the tree appears to be nestled comfortably in with the cypress by which it has been forced out and then upward.



Fig. 139

EXOTIC TREE: 78
SPECIES: *Magnolia campbellii* var. *alba*.
COMMON NAME(S):
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Russell Matthews, 'Tupare', Mangorei Road.
DATE MEASURED: 1973
HEIGHT: 41 ft (12.5 m)
CANOPY SPREAD: 50 ft (15.3 m)
DIAMETER AT 1 ft: 22 in (55.9 cm)
BURSTALL'S NOTES: A handsome specimen in a sheltered dell. Planted c. 1942. This is the form most common in the wild.

CURRENT READINGS

REMARKS: This tree was removed c. 1990 as it had succumbed to serious decay. Before removal cuttings were taken and grown on, one of which is now planted 16 m from the old site, near the macadamia tree on the southern side of a dell. It is approximately 7 m tall and is already flowering. (Information kindly supplied by Greg Rine).

EXOTIC TREE: 79
SPECIES: *Magnolia grandiflora*.
COMMON NAME(S): Bull Bay, Southern Magnolia.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside main walk, Brooklands Park.
DATE MEASURED: 1969
HEIGHT: 32 ft (9.8 m)
CANOPY SPREAD: 55 ft (16.8 m)
DIAMETER AT 2 ft: 49 in (1.24 m)
BURSTALL'S NOTES: -

CURRENT READINGS

REMARKS: ~ Fuller, 1982: "After the loss of several limbs over the years, finally blown down in the Good Friday storm (1982).

+Another tree of interest for historic reasons is the *Magnolia grandiflora* 'Goliath'. Located in Pukekura Park on the lakeside walk, 14 m from the Fountain Lake outflow, towards Victoria Road. Planted on the 29th of May 1976 by Councillor A. N. Gail, Chairperson of Parks and Recreation Committee, as part of the park's Centennial celebrations.

3.9.01: Height = 11.9 m; spread = 8.7 m; dbh = 38 cm.

(*Medbury, 1984: Ht = 6.4; dbh = 13.7 cm).

EXOTIC TREE: 80
SPECIES: *Magnolia sargentiana, robusta?*
COMMON NAME(S):
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: C. Kelly, 7 c Welbourn Terrace.
DATE MEASURED: 1973
HEIGHT: 30 ft (9.2 m)
CANOPY SPREAD: -
DBH: -
BURSTALL'S NOTES: A tree with unmeasurable diameter because of branches growing from ground level. Planted by J. Fairbrother in 1952.
("This magnificent variety has longer, narrower leaves and larger fruit than *Magnolia sargentiana*" - H. G. Hillier).

CURRENT READINGS

UPDATED LOCATION: N. Stoddart, 7c Welbourn Terrace. Approximately halfway down the garden gully slightly above and to the left of the two *Acer buergerianum*.
DATE MEASURED: 19th January 2002
HEIGHT: 13.5 m
CANOPY SPREAD: 13.1 m
DIAMETER: At breast height of largest leader = 36.9 cm.
REMARKS: Healthy tree with a lot of new growth evident this summer. Five leaders had arisen from ground level with two being recently removed. This has resulted in an unbalanced canopy.
Great debate still continues to this day over the correct identification of this species. It is unlikely to be *M. sargentiana robusta*. Several flower samples were collected in late June and all flowers contained less petals than *M. sargentiana robusta* (ref: Krussmann G. Manual of Cultivated Broad-Leaved Trees and Shrubs, Volume 2, E - Pro).

EXOTIC TREE: 81
SPECIES: *Magnolia x soulangeana (M. denudata x M. liliflora)*
COMMON NAME(S): Tree Tulip.
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Brooklands Park.
DATE MEASURED: 1969
HEIGHT: 33 ft (10.1 m)
CANOPY SPREAD: 40 ft (12.2 m)
DBH: 38 in (96.5 cm)
BURSTALL'S NOTES: Planted by Newton King c. 1890. A fine tree near the giant chestnut.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Main Lawn, 29 m from the entrance of the nature trail.
DATE MEASURED: 4th September 2001
HEIGHT: 13.2 m
CANOPY SPREAD: 15.9 m
DIAMETER AT G.L.: 1.242 m
REMARKS: This healthy specimen (**Figs. 140 and 141**) produces a profusion of flowers in September and would have to be considered one of the most significant trees in Brooklands Park.
It is impossible to get a dbh reading on this tree as it branches at ground level into five major divergent limbs. (Was Burstall's measurement taken at ground level?). A beautiful specimen, supporting many native epiphytes, including orchids.

(*Medbury, 1986: Ht = 12.65 m; spread = 13.5 m.

Newton King planting. Recorded by Burstall as an Exotic Historic Tree. Perhaps a planting contemporary with the big beech or earlier. Planting c. 1890 – 1905).



Fig. 140



Fig. 141

EXOTIC TREE: 82

SPECIES:

Metasequoia glyptostroboides.

COMMON NAME(S):

Dawn Redwood.

B.B CATEGORY:

Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION:

Russell Matthews, Tupare, Mangorei Road.

DATE MEASURED:

1973

HEIGHT:

61 ft (18.6 m)

CANOPY SPREAD:

-

DBH:

26 in (66 cm)

BURSTALL'S NOTES: The tallest and second largest known in New Zealand. The first of this species planted in Taranaki.

CURRENT READINGS

UPDATED LOCATION: Tupare, Mangorei Rd. In a small grassed area near the base of the driveway and 12 m from the entrance to the North Garden (see photographs x2 following).

DATE MEASURED:

22nd March 2002

HEIGHT:

26.7 m

CANOPY SPREAD:

12.5 m

DBH:

1.382 m

REMARKS:

A healthy tree (**Fig. 142**) that was drawn up in its early stages as it was surrounded by silver birches which have since been removed, (birch trees do not flourish in N.Z, especially not in Taranaki and have poor longevity). The canopy is slightly suppressed on the southeasterly side due to strong winds funnelling up the river valley. It is also moderately sparser on the westerly side from what is believed to be the earlier presence of the birches. Of much curiosity is the distinctive fluting trunk with its large cavernous inclusions (**Fig. 143**). Many of these, all radiating outward from the core are up to 90 cm deep, while those opposite are 85 cm, suggesting a very small, solid central core. Although sacrilege, wouldn't a coffee table made from the base of this tree compel fascinating conversation when friends popped in for a drink?
A diameter was taken at ground level = 2.134 m. Planted c. 1950.



Fig. 142



Fig. 143

+A tree measured because of its height coming within contention for the tallest *Metasequoia* is located at the northern extremity of the North Garden, in a group of four healthy trees (Figs. 144 and 145). Their trunks do not display the predominant fluting as much as the tree recorded above. They have all been drawn up due to the surrounding vegetation. The tree recorded is 3.5 m from the upper end of the 17 m long linked path that joins Burma Walk and the upper path of the North Garden.

27.3.02: Height = 27.7 m; dbh = 80.6 cm.

It must be noted here, that we returned on 3 separate occasions and took several height readings. It was preferable to have a bright day with a strong breeze. According to our measurements (which were not taken lightly) this is now the tallest *Metasequoia* in New Zealand.



Fig. 144



Fig. 145

(8.8.02: Because of the significance of the above statement we returned once again to measure this tree with no foliage. The sight line for obtaining the height was clear, as the surrounding trees are also *Metasequoia*. On this occasion we could not gain a height greater than 25.4 m. The loss of foliage could account for a small decrease of height, but not as much as this recent recording).

However, we did find yet another tree planted amongst the coastal redwoods, below the zig zag path which leads down to the lower section of Tupare.

+Because of the location, (surrounded by 30 m + redwoods) it has been drawn up considerably. It has an extremely straight trunk with limited fluting and is clear to approximately 8 m.

This specimen is sited 7 m on the upstream (south) side of the large *Sequoia sempervirens* recorded (EXOTIC TREE 118).

8.8.02: Height = 28.8 m; dbh = 59.2 cm.

A question is how do these New Plymouth specimens relate to others in New Zealand? With a tree now found and recorded at 28.8 m (in winter) it would be interesting to compare its height with others in N.Z. and even on a world scale.

Could it be one of the tallest? It must be made clear that this species was only discovered in 1941. Previously, it had only been known from fossil imprints.

These trees would have been planted in the mid fifties.

+Another tree next door to Tupare at the Sarjents, 495 Mangorei Rd also has a great height. Here, 3 specimens are planted amongst *Pinus*, *Sequoia*, *Agathis* and *Cryptomeria*. They are all healthy trees similar in appearance and habit to the four in the North Garden, Tupare. The following measurements are for the lower specimen positioned 12 m at a right angle from the lower side of the entrance drive.

22.3.02: Height = 25.6 m; spread = 9.6 m; dbh = 77.7 cm.

All 3 specimens appear to be within 50 cm height of each other.

EXOTIC TREE: 83

SPECIES:

COMMON NAME(S):

B.B CATEGORY:

Metasequoia glyptostroboides.

Dawn Redwood.

Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION:

DATE MEASURED:

HEIGHT:

Truby King Dell.

1969

40 ft (12.2 m)

CANOPY SPREAD:

DBH:

BURSTALL'S NOTES:

-

18 in (45.7 cm)

A good tree on Palm Tree Lawn, Pukekura Park, was 19 in (48.3 cm) x 48 ft x 20 ft (14.6 m x 6.1 m).

CURRENT READINGS

UPDATED LOCATION:

DATE MEASURED:

HEIGHT:

CANOPY SPREAD:

DBH:

REMARKS:

Truby King Dell, off lower Brooklands Rd. 50 m in a straight line along the boundary of T. K. Dell and the driveway of 3 a, b and 5 Azalea Place, 6.8 m at a right angle from this point.

1st September 2001

22.5 m

14.6 m

88.2 cm

Planted 6.8.55 by Rotarians to commemorate 50 years of Rotary (**Figs. 146 and 147**).

A group of 6 trees, the largest being recorded, presuming it to be the specimen measured in 1969. All in good health having a symmetrical narrowly conical form. When measurements were taken the canopy had recently received a slight lifting.

These specimens were supplied by V.C. Davies and had been grown on from cuttings.



Fig. 146



Fig. 147

&The tree on Palm Tree Lawn, Pukekura Park (**Fig. 148**) is located 21 m on the downside, from the bridge crossing the Fountain Lake overflow. A healthy tree growing in favourable conditions, being sited next to a stream. An astonishing feature of this tree is the two exposed roots that are visible at 15 m out on to the Palm Tree Lawn. At this point they still have a diameter of 18 cm! Both have received mower scalp. 1.2.02: Height = 25 m; spread = 14.3 m; dbh = 84.4 cm.



Fig. 148

(*Medbury, 1984: Ht = 18.5 m; dbh = 60.5 cm. Transplanted from Brooklands to Palm Tree Lawn c. 1956. Originally planted August 1955).

+Another tree can be found half way between Truby King Dell and Vogletown Park, on Struan Walk (**Fig. 149**). It is a solo specimen, about 5m from the path. The location is ideal habitat with damp fertile soil, a sheltered site and room to grow. The classic buttressed trunk is prominent in this specimen. Planted in 1957 as part of the Arbor Day celebrations.

1.9.01: Height = 21.9 m; spread = 12 m; dbh = 1.33 m.



Fig. 149

+An additional specimen in Pukekura Park and the second tree of this kind to be planted in Taranaki can be located 19 m from the junction of Horton walk and 3 m on the lower side of the path from the former Curators office to the Kiosk. A healthy tree that has been drawn up and again located close to a stream, (credit has to be given to these locations). An interesting fact displayed by this tree is the absence of the fluting trunk.

31.1.02: Height = 24.1 m; spread = 8.4 m; dbh = 51.9 cm.

(*Medbury, 1986: Ht = 13.8 m; dbh = 28.7 cm.

J. W. Goodwin: First *Metasequoia* planted in the Park, around 1950, from first New Zealand distribution. Sourced from Sandy Anderson).

According to Mr Goodwin, Sandy Anderson of the Timaru gardens was the first person in New Zealand to raise seed after receiving them from Arnold Arboretum, U.S.A in 1946. The first tree was planted near the boundary of the nursery yard in Timaru gardens. Because of the site it is still a relatively small tree. Burstall disputes the claim.

EXOTIC TREE: 84
SPECIES: *Michelia doltsopa*.
COMMON NAME(S): Evergreen Magnolia.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: C. Kelly, 7 c Welbourn Terrace.
DATE MEASURED: 1973
HEIGHT: 33 ft (10.1 m)
CANOPY SPREAD: 35 ft (10.7 m)

DIAMETER AT 3 ft: 21 in (53.3 cm)
BURSTALL'S NOTES: Imported by J. Fairbrother from Reuthe, England, and planted in 1953.

CURRENT READINGS

UPDATED LOCATION: N. Stoddart, 7 c Welbourn Terrace. Right-hand side at the bottom of the gully, 13 m beyond the two *Acer buergerianum*.

DATE MEASURED: 19th January 2002.
HEIGHT: 14.7 m; tree climbed to obtain this reading.
CANOPY SPREAD: 16.2 m
DIAMETER: Taken close to ground level because of lower limbs = 1.025 m.
REMARKS: Healthy tree (**Fig. 150**) that is sited on a mound with the buttress roots exposed. The surrounding area is extremely damp as it is the catchment bowl for the gully and the neighbour's driveway. Believed to be the first introduced and planted in New Zealand by Jack Fairbrother and two friends who were importing rare species at the time. Later, a superior form was introduced and it has become the more widely planted clone today. (Information supplied by J. W. Goodwin).



Fig. 150

+Another early planting of this species can be found at the Vogletown Park end (southern) of Struan Walk (Truby King Dell extension) at the margin of regenerated native bush (**Fig. 151**). A healthy tree branching from just above ground level into 12 main limbs, which form the bulk of the canopy. The roots are exposed on the stream side with a large portion appearing to be attracted towards the water and dropping the 50 cm into the stream.

Planted 1957 during Arbor Day celebrations planned on board ship by J Goodwin while on his way to England on study leave. The instructions were posted to N.Z. from Panama!

29.1.02: Height = 19.8 m; spread = 19.4 m; diam at g.l = 1.121 m.



Fig. 151

+A tree also planted around 1957, having similar characteristics to the above specimens is located 15.5 m from the northern end and upstream from the bridge crossing the Te Henui Stream, between the cemetery and Pukewarangi Pa (**Fig. 152**).

Yet another healthy tree planted next to a waterway. Branches just above ground level into 9 main limbs, which form the majority of the canopy. The canopy reaches ground level and has the appearance of crawling to the outer margins. A very well proportioned tree in an ideally sheltered site.

3.5.02: Height = 15.3 m; spread = 15.3 m; diam at g.l = 1.146 m



Fig. 152

All these trees are flourishing in their separate, but similar environments. Does this suggest that damp conditions are favourable for this species?

EXOTIC TREE: 85
SPECIES: *Nyssa sylvatica*.
COMMON NAME(S): Tupelo Tree, Black Tupelo, Sour Gum, Pepperidge.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: In the Sunken garden by the Kiosk, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 20 ft (6.1 m)
CANOPY SPREAD: 20 ft (6.1 m)
DBH: 8 in (20.3 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, 32 m from the Kiosk in a nearby sunken dell.
DATE MEASURED: 4th February 2002
HEIGHT: 14 m
CANOPY SPREAD: 11.6 m
DBH: 36.3 cm

REMARKS: A healthy tree. In the early stages of establishment it proved to be extremely difficult to achieve a single leader because of recurring puriri moth larva damage. Well sited in favourable damp conditions. Attracting much attention when clad in autumn colour.

(*Medbury, 1986: Ht = 12.7 m; dbh = 30.2 cm. Planted 6.7.1951.
Came from Walter Hazelwood in Australia via W.D. Cook, Eastwoodhill, as *Nyssa aquatica*).

In the left lobe of the upper Stainton Dell is another specimen of almost identical appearance and proportions, also having a dbh = 36.3 cm!

+A bigger tree can be found at 22a Dartmoor Avenue, the residence of Dr.W. R. and Mrs G. Harding. It has the largest volume yet observed for this species in New Plymouth. The tree is sited on the front lawn, 1.4 m to the right of the driveway. Unfortunately because of its close proximity to the driveway the lower branches have been severely reduced on this side. The true potential of this tree can be observed on the lawn side, where branches sweep close to ground level. Numerous stubs remain in this tree and require removing to improve appearances. A very compact tree that displays good vigour.
30.7.02: Height = 9.7 m; spread = 12.6 m; diameter at 60 cm = 50.3 cm.

EXOTIC TREE: 86
SPECIES: *Olearia argophylla*.
COMMON NAME(S): Native Musk
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: John Arthur, Ratanui, 498 Carrington Rd.
DATE MEASURED: 1973
HEIGHT: 19 ft (5.8 m)
CANOPY SPREAD: -
DIAMETER AT 1 ft: 29 in (73.7 cm)
BURSTALL'S NOTES: This species is now rare in New Zealand, but V.C Davies stated: 'these trees were common about 50 years ago.'

CURRENT READINGS

UPDATED LOCATION: Paul Carrington, Ratanui, 538 Carrington Rd. 34 m from the main gate on the left-hand side of the entrance drive.
DATE MEASURED: 27th March 2002
HEIGHT: 10.5 m
CANOPY SPREAD: 6.8 m
DIAMETER AT 30 cm: 1.019 m
REMARKS: A tree of moderate health (**Fig. 153**) with a large decaying cavity at the base on the side nearest to the road. The cavity measures approximately 60 cm x 1 m. This would be partially responsible for the appearance of numerous epicormic shoots (from dormant buds) throughout the canopy. Branches into 2 main limbs at 70 cm. The larger limb facing the road has had two large branches removed either from storm damage or because of the close proximity to the power lines. The tree displays wind shear from the southerlies and the northern limb is more dominant.
When recording this tree we made the interesting discovery of ant lions at soil level, under the canopy. They form a funnel-shaped trap in the dust down which unwary ants slide into their grasp.



Fig. 153

EXOTIC TREE: 87
SPECIES: *Olearia argophylla*.
COMMON NAME(S): Native Musk
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Near carpark, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 33 ft (10.1 m)
CANOPY SPREAD: 32 ft (9.8 m)
DIAMETER AT 1 ft: 15 in (38.1 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

REMARKS: ~ Fuller, 1982: "*Oleria argophylla* demised"

+In the absence of the tree above, another was recorded. It can be found 11.5 m from the western end of Poets Bridge, overhanging Hughes Walk. Branching at ground level into 2 limbs one of which is very dominant.

5.2.02: Height = 8 m, tree climbed to obtain this measurement; spread = 5.8 m; diameter at ground level = 55.7 cm; diameter at 60 cm on the stronger leader that overhangs the path, (easterly) = 36 cm; Diameter at 30 cm on smaller leader = 15.9 cm.

A fine specimen with attractive bark, which is covered in moss in the lower section of the trunk.

EXOTIC TREE: 88
SPECIES: *Osmanthus x fortunei* (*O. fragrans* x *O. heterophyllus*).
COMMON NAME(S):
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: W. S. MacKenzie, 25 Maranui Street.
DATE MEASURED: 1973
HEIGHT: 15 ft (4.6 m)
CANOPY SPREAD: 19 ft (5.8 m)
DIAMETER AT G.L: 33 in (83.8 cm)
BURSTALL'S NOTES: Evident in photographs of the house (against which it grows) dated 1923, when it was about 6 ft (1.8 m).

CURRENT READINGS

REMARKS: The current owners removed this tree in 1993 because it was becoming too large and threatening the house. They were not aware of its significance.

EXOTIC TREE: 89
SPECIES: *Paulownia tomentosa*.
COMMON NAME(S): Princess Tree.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 47 ft (14.3 m). With a good trunk to 20 ft (6.1 m)
CANOPY SPREAD: 25 ft (7.6 m), one sided.
DBH: 26 in (66 cm)
BURSTALL'S NOTES: A fine tree. A species that grows well in this region.

CURRENT READINGS

REMARKS: ~ Fuller, 1982: tree was in the left lobe of the upper Stainton Dell. It was blown down prior to 25/8/1982.

EXOTIC TREE: 90
 SPECIES: *Persea grattissima*.
 COMMON NAME(S): Avocado Pear.
 B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Magnolia Park, Westown.
 DATE MEASURED: 1973
 HEIGHT: 31 ft (9.5 m)
 CANOPY SPREAD: 36 ft (11 m)
 DBH: 21 in (53.3 cm)
 BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Doidge, 11 Magnolia Drive. At the back of the property, on the right-hand boundary, with the canopy reaching the house (**Fig. 154**).

DATE MEASURED: 4th May 2002
 HEIGHT: 14.9 m
 CANOPY SPREAD: 14.3 m, taken one way as it extends over the neighbour's roof.
 DBH: 79.6 cm
 REMARKS: Despite its great age this tree has never borne fruit, perhaps because it is a variety that flowers in mid winter raising questions over its true identity. Reasonable health with evidence of insect damage. Clear trunk to approximately 3 m where it branches into two main limbs and a lesser branch. The canopy has been lifted over the neighbour's roof.



Fig. 154

EXOTIC TREE: 91
SPECIES: *Phoenix canariensis*.
COMMON NAME(S): Phoenix Palm.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: W.S. MacKenzie, 25 Maranui Street.
DATE MEASURED: 1973
HEIGHT: 55 ft (16.8 m)
CANOPY SPREAD: -
DIAMETER: Taken at 12 ft (3.7 m) because of a creeper = 28 in (71.1 cm)
BURSTALL'S NOTES: The largest of this species seen in the region. This property was the home of T.C. List, who was associated with the Daily News. The palm appears in a photograph dated 1923, when it was about 15 ft (4.6 m) tall.

CURRENT READINGS

UPDATED LOCATION: McAlpine, 25 Maranui St. 16 m from the front gate and 6 m to the left of the house.
DATE MEASURED: 12th May 2002
HEIGHT: 19.2
CANOPY SPREAD: -
DIAMETER: Taken at 2.2 m, just above basal buttress = 75.5 cm.
REMARKS: A healthy specimen that is in close proximity to the house (**Fig. 155**). The basal buttress (cone) is 2.2 m high and covered in grasses and weeds. It has a diameter at 60 cm = 1.984 m. The creeper (ivy) mentioned by Burstall was removed in 1993 as it was becoming a threat to the canopy. It is assumed the photograph mentioned by Burstall is the same photograph we observed and is now in the possession of the McAlpine's. It depicts the 3 List children and this old Victorian homestead. The palm is semi-established. With the evidence of this photograph and the fact that this beautiful two-story homestead was built in 1892, it would be fair to suggest that the planting date was around the turn of the century. Additional information on T. C. List can be found under (NATIVE TREE 64).



Fig. 155

+Four palms of this species were recorded in the city because of their prominent location, forming somewhat of an inner city landmark, especially at night when illuminated with green floodlights. Positioned on the north side (Powderham St) of St Andrew's church in a straight row with an equal distance of 5.1 m between each (**Fig. 156**). All 4 specimens are healthy with the two on each end being the tallest, although all are comparable. An outstanding foil for this beautiful church. The palm with complete measurements is the most easterly and the closest to the corner of Powderham and Liardet St, 10 m from the kerb of Liardet and 4.3 m from the kerb of Powderham.

18.5.02: Height = 17 m; diameter at ground level = 1.146 m; diameter at 2 m, (20 cm above basal collar) = 82.5 cm.

The following is the diameter at ground level of each tree travelling in a westerly direction: (away from Liardet St)

2nd tree = 1.13 m; 3rd = 1.20 m; 4th = 1.484 m.

A photograph inside the church, from the early 1950's displays these specimens in a well established stage, believed to be planted around 1931. A stone near the church entrance bears the following inscription: *St Andrew's Presbyterian Church. To The Glory of God, this stone was laid by the Rev. Professor W. Hewitson B. A. and with masonic ceremony, Aug 1, 1931. Rev J. D. McLennan Wilson Minister. Love, Virtue, Peace.*



Fig. 156

EXOTIC TREE: 92
SPECIES: *Phoenix reclinata*.
COMMON NAME(S): Senegal Date Palm.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Behind the Copper Beech, Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 38 ft (11.6 m)
CANOPY SPREAD: 25 ft (7.6 m)
GIRTH AT G.L: 20 ft (6.1 m)
BURSTALL'S NOTES: A multiple-stemmed palm of dense lower growth, but luxuriant foliage.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Main Lawn, beside entrance to nature trail.
DATE MEASURED: 4th September 2001
HEIGHT: 12.5 m
CANOPY SPREAD: 8.5 m
GIRTH AT G.L: 7.31 m; diameter at ground level = 2.328 m.
REMARKS: Not a typically erect palm (**Fig. 157**). At the base of each leaf is a series of vicious spines over 10 cm in length making the clump impenetrable and extremely difficult plus hazardous to measure.
A healthy and unique specimen.

(*Medbury, 1986: Ht = 11.25 m; spread = 7.4 m.
Newton King planting, perhaps c. 1920.)

Park records reveal that the name of this palm was confirmed by Margaret Giddy, Author on a book of Cycads, 1987.



Fig. 157

"In Africa this palm is used as a source of material for weaving into baskets which find their way to almost all the countries of the world". - The Encyclopaedia of Trees, 1978.

EXOTIC TREE: 93
SPECIES: *Photinia serrulata*.
COMMON NAME(S): Chinese Hawthorn.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: F. Marsh, 28 Carrington Street.
DATE MEASURED: 1973
HEIGHT: 29 ft (8.8 m)
CANOPY SPREAD: 25 ft (7.6 m)
DBH: 17 in (43.2 cm)
BURSTALL'S NOTES: An attractive tree, both in flower and foliage, almost on the site of New Plymouth's first mill. Not common in this region.

CURRENT READINGS

REMARKS: During heavy rainfall in early March 1990 the lakes of Pukekura Park flooded. Large volumes of water gathered in the Children's Playground area before overflowing to Victoria Rd and travelling down to scour the property of Mrs. E. McLellan at 28 Carrington St. As a consequence a large section of the third and final terrace located to the rear of the house was washed into the Huatoki Stream. The exposed bank required retaining and as construction was undertaken (12 - 18 months later) more of the terrace was removed to ensure foundations were placed in solid earth. It was at this stage the tree was cut down.
(Information kindly supplied by Mrs. E. McLellan).

EXOTIC TREE: 94
SPECIES: *Phyllocladus hypophyllus*, (was recorded as *Phyllocladus glaucus*).
COMMON NAME(S): -
B.B CATEGORY: Native Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Foot of Horton Walk, Pukekura Park.
DATE MEASURED: 1969
HEIGHT: 31 ft (9.5 m)
CANOPY SPREAD: -
DBH: 9 in (22.9 cm)
BURSTALL'S NOTES: A well-proportioned tree. Planted 1933.

CURRENT READINGS

UPDATED LOCATION: Same as above.
DATE MEASURED: 31st January 2002
HEIGHT: 12.2 m
CANOPY SPREAD: 8.4 m
DBH: 39.2 cm
REMARKS: The tree displays excellent trunk taper with the majority of the foliage on the extremity's of the branches. This creates a cupola like appearance. A large amount of the lower limbs have been removed due to the tree being positioned in a demanding site, between two tar-sealed driveways.
An evergreen, which displays some autumn colour.
Park records reveal that this tree was confirmed to be *Phyllocladus hypophyllus* by Dr. Brian Molloy (DSIR) after receiving cuttings from the tree, February 1995.

(*Medbury, 1986: Ht = 10.4 m; dbh = 31.4 cm.
Believed to be related to the planting of the Horton walk).

EXOTIC TREE: 95
SPECIES: *Phytolacca dioica*.
COMMON NAME(S): Ombu, Bottle Tree.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: 48 Hobson Street.
DATE MEASURED: 1973
HEIGHT: 50 ft (15.3 m)
CANOPY SPREAD: 70 ft (21.4 m)
GIRTH AT 2 ft: 37 ft (11.3 m)
BURSTALL'S NOTES: A remarkable tree, dominating an old garden. The largest of this species recorded in New Zealand. Dbh of largest of 7 major leaders 24 in (61 cm).

CURRENT READINGS

UPDATED LOCATION: Church, corner of Hobson and Leach St, 5.2 m from the Hobson St side of the church and 13 m from the lower access gate to car park (**Figs. 158 and 159**).

DATE MEASURED: 23rd January 2002

HEIGHT: 16 m

CANOPY SPREAD: 15.6 m

DIAMETER AT 60 cm: 3.248 m; circumference = 10.2 m

REMARKS: Around 1980 an old and established garden that included notable camellias, rhododendrons and yews (EXOTIC TREE 126), was cleared for the establishment of a church. Because of the significance of the ombu tree it was one of the only species retained. At about the same time as construction on the church, several leaders and lower branches were removed, (explaining the decrease of the diameter and canopy). This has resulted in large epicormic shoots (from dormant buds) growing from the base and appearing throughout the lower canopy. Nevertheless the tree has good health, with the new growth on the canopy coming close to ground level.
The first 30 cm on the upside of the tree forms somewhat of a base that gives rise to 5 main limbs and a smaller branch. It is possible to stand in the centre of this base. From this position one can clearly view two large cavities measuring 45 x 40 cm and 41 x 35 cm. Both contain debris and measure 70 cm and 40 cm through to ground level.
Because of the unusual habit of this tree it is difficult to obtain consistent measurements, as evidenced by Burstall's illustration.
Bears a New Zealand Notable Tree Plaque.

~ Fuller, 1982: "...only three leaders remain, the largest of which has a dbh of 0.720m



Fig. 158



Fig. 159

"James Mitchenson's Caledonia Nursery in Lemon Street in the early 1860s imported most of the early rhododendrons, azaleas, camellias and specimen trees. The large nursery was an early tourist attraction for New Plymouth. Tom Boulton, gardener for Newton King, trained with Mitchenson and when the nursery closed, re-planted many of the large specimens of rhododendron, camellia and azaleas at Brooklands. A large Ombu Tree in Hobson Street marks the site today". - The Gardenmarkers of Taranaki. Susette Goldsmith and Verne Barrell, 1997

In 1984, Burstall stated that this tree could be more than 100 years old. This above information makes it fair to suggest that the trees origin could go back as far as the 1860s.

EXOTIC TREE: 96
SPECIES: ***Picea abies.***
COMMON NAME(S): Norway Spruce, Common Spruce.
B.B CATEGORY: Not categorised.

ORIGINAL READINGS

LOCATION: Curator's office, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 90 ft (27.5 m)
CANOPY SPREAD: -
DBH: 22 in (55.9 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, 10.5 m from the base of Horton Walk towards the Kiosk and 9 m in on the downside of the driveway.
DATE MEASURED: 31st January 2002
HEIGHT: 30 m
CANOPY SPREAD: 12.8m
DBH: 64.6 cm
REMARKS: In reasonable condition with a clear, straight and slender lower trunk, induced by competition. When looking up into the canopy it has a very symmetrical branching habit.
Exposed roots on the path side.

"This is the traditional Christmas tree in Europe and is widely planted for that purpose". - Botanica's Pocket Trees and Shrubs, 1999.

(*Medbury, 1986: Ht = 26 m; dbh = 60.5 cm.
W.W. Smith planting c. 1908 -1922. May be seen in early photographs of the Park. Loss of height may be explained by leader snapping off in wind).

EXOTIC TREE: 97
SPECIES: *Picea smithiana*.
COMMON NAME(S): Himalayan Spruce.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Truby King Dell.
DATE MEASURED: 1969
HEIGHT: 50 ft (15.3 m)
CANOPY SPREAD: -
DBH: 16 in (40.6 cm)
BURSTALL'S NOTES: An attractive tree in a suitable setting.

CURRENT READINGS

UPDATED LOCATION: Truby King Dell, lower Brooklands Rd. Prominent from road frontage (**Figs. 67 and 68**). Farthest left of several large conifers.
DATE MEASURED: 1st September 2001
HEIGHT: 16.8 m
CANOPY SPREAD: 10.8 m
DBH: 58.2 cm
REMARKS: An ornamental and elegant tree with graceful branches hanging in cascades. When measured it contained a moderate amount of deadwood, required to be removed to improve appearance.

EXOTIC TREE: 98
SPECIES: *Pinus muricata*.
COMMON NAME(S): Bishop Pine.
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Pukewarangi Pa Reserve, Mangorei Road.
DATE MEASURED: 1973
HEIGHT: 96 ft (29.3 m)
CANOPY SPREAD: -
DBH: 28 in (71.1 cm)
BURSTALL'S NOTES: One of several old trees on a chain of pa sites (several now preserved) with a magnificent commanding view of a sweep of the Te Henui Stream. Though earthworks are still evident, little of historical significance is known.

CURRENT READINGS

UPDATED LOCATION: Pukewarangi Pa Reserve, Warangi St off Mangorei Rd. Largest tree in a group of 6 bishop pines and 1 radiata. All positioned on the northern side of the hilltop.
DATE MEASURED: 28th March 2002
HEIGHT: 30 m
CANOPY SPREAD: 13.6 m
DBH: 1.010 m
REMARKS: Fine, healthy specimen (**Fig. 160**) with a splendid, straight and clear trunk to approximately 6 m. A number of branches have been removed from the trunk and canopy, (presumably from storm damage). An exposed and windy site where these trees are very suited to their harsh coastal environment. It is assumed this is the same tree Burstall recorded. Could easily be confused with the nearby radiata if it was not for the smaller cones of *P. muricata*. This pa site provides an excellent preserved example of pre-European earthworks.



Fig. 160

EXOTIC TREE: 99
 SPECIES: *Pinus nigra*. Subsp. *laricio*
 COMMON NAME(S): Corsican Pine.
 B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Pukekura Park.
 DATE MEASURED: 1969
 HEIGHT: 96 ft (29.3 m)
 CANOPY SPREAD: -
 DBH: 32 in (81.3 cm)
 BURSTALL'S NOTES: A good tree, the best in a group of 18. Clear trunks to 60 ft (18.3 m).

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, 72 m back from the lookout on the eastern hillside that overlooks the lake.
 DATE MEASURED: 19th October 2001
 HEIGHT: 31.3 m
 CANOPY SPREAD: 10.6 m
 DBH: 89.8 cm
 REMARKS: The tree recorded is the most Northerly tree and one of the finest examples. It is partly obscured on the far right of the illustration (**Fig. 161**). Many of these trees contain co-dominant leaders and display signs of storm damage. Appear to tolerate the coastal conditions well.

~ Fuller, 1982: dbh = 0.841m.
 (*Medbury, 1986: Ht = 31.2 m; dbh = 1.105 m(???).
 Most likely a W. W. Smith planting 1908 - 1921).

Surprisingly Medbury did not pick up the obvious mistake on the dbh, by making comparisons with the previous recordings.



Fig. 161

EXOTIC TREE: 100
SPECIES: *Pinus pinea*.
COMMON NAME(S): Stone Pine.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Russell G. Greenaway, 504 Carrington Rd.
DATE MEASURED: 1973
HEIGHT: 55 ft (16.8 m), with a good trunk to 8 ft (2.4 m)
CANOPY SPREAD: -
DBH: 43 in (1.092 m)
BURSTALL'S NOTES: The larger of two trees. This is the largest tree of this species recorded in New Zealand and probably the oldest pine in that region. Thought to have been planted by J. Nairn in the early 1850s

CURRENT READINGS

UPDATED LOCATION: Adrian R. McLeod, 562 Carrington Rd. Positioned in an open paddock adjoining Ratanui, and on the same side of the road.
DATE MEASURED: 27th March 2002
HEIGHT: 25.9 m
CANOPY SPREAD: 18.5 m
DBH: 1.682 m
REMARKS: A tree of impressive size. Unfortunately this tree and its slightly smaller neighbour have been declining slowly over the last two years and both are now completely dead (**Fig. 162**). The skeletons are expected to be left to decay on site. Two limbs had arisen from above breast height on the larger tree. The westerly limb was removed some years ago, (believed to be in the 80's). It had a diameter of about 70 cm.
The smaller tree has a dbh = 1.229 m.

EXOTIC TREE: 101
SPECIES: *Pinus radiata*.
COMMON NAME(S): Radiata Pine.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: East of the giant puriri, Brooklands Park.
DATE MEASURED: 1969
HEIGHT: 104 ft (31.7 m)
CANOPY SPREAD: -
DBH: 70 in (1.778 m)
BURSTALL'S NOTES: Heavily malformed above 30 ft (9.2 m) and the largest of several similar trees. Another large tree measured in 1973 is at Pukekura Park, between the band room and fernery, 70 in (1.778 m) x 100 ft x 102 ft (30.5 m x 31.1 m).

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Kaimata St entrance, 40 m down the path, make a right angle right turn and travel 43 m toward the Maranui Gully.
DATE MEASURED: 4th September 2001
HEIGHT: 36.4 m
CANOPY SPREAD: 29.4 m
DBH: 2.073 m
REMARKS: A magnificent specimen (**Figs. 163 and 164**) with a horizontal branching habit, most of which extends towards the Maranui Gully, as it is the most easterly pine in a group of 20. The canopy is completely unbalanced with no growth beyond 5 metres on the westerly side. This tree with multiple leaders from approximately 10 metres is still increasing in diameter at a rather fast rate. Difficult to measure height because of it's form and surrounding vegetation. Medbury most obviously recorded another of these specimens, perhaps one closer to the path. He states "Newton King planting, c. 1880, presumably an early project".



Fig. 163



Fig. 164

&The other tree (**Fig. 165**) can be found 46 m from the rear south-western corner of the bandroom and 22.5 m from the fernery compound south-eastern corner. A rather healthy tree, although it has received storm damage of minor significance. Branching at just above 2 m into a multitude of leaders. At this union a karaka is growing as an epiphyte.

30.1.02: Height = 40.6 m; spread = 35.4 m, only one reading taken as the tree is on a steep bank; dbh = 2.203 m.

Extremely difficult to measure because of the sloping terrain and the mass of the tree.

A skyline tree of gigantic proportions very dominant from the eastern hillside (**Fig. 166**).



Fig. 165



Fig. 166

View from eastern hillside.

EXOTIC TREE: 102

SPECIES: *Pinus radiata*.

COMMON NAME(S): Radiata Pine.

B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Cannon Hill, Pukekura Park.

DATE MEASURED: 1969

HEIGHT: 156 ft (47.6 m), with a good trunk to 62 ft (18.9 m)

CANOPY SPREAD: -

DBH: 62 in (1.575 m)

BURSTALL'S NOTES: Planted on the 29th of May 1876 by Miss Jane Carrington when the park was formally opened. The tree cost ten shillings as a year-old plant. The spade that Miss Carrington used to plant the tree is in the local museum.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, western side of Cannon Hill.

DATE MEASURED: 1st September 2001

HEIGHT: 46.7 m

CANOPY SPREAD: 22.05 m

DBH: 1.732 m

REMARKS: A healthy tree of massive proportions (**Fig. 167**).

There is almost a 1 m height difference between the current measurement and that of Burstall. He would not normally make this kind of mistake, especially as the Pine now appears to be one of the easiest trees in the Park to measure, but only in one direction. That one option is to stand back toward the main lake. When Burstall did his measurements another *Pinus radiata* stood 16 metres in front of the current Carrington Pine in that sight line. That pine expired around 1996 and was removed. The stump is still evident and has a diameter at ground level of 1.43 m. He would have been compelled to sight through the canopy of this large tree, possibly explaining the discrepancy. Medbury seems to have experienced the same problem.

~ Fuller, 1982: Dbh 1.624m

(*Medbury, 1986: Ht = 48.1 m, dbh = 1.62 m.

Also included are 1950 measurements of J. W. Goodwin: Ht = 43.3 m, dbh = 1.58 m).



Fig. 167

EXOTIC TREE: 103
SPECIES: *Pinus radiata*.
COMMON NAME(S): Radiata Pine.
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Skyline feature, Bowl of Brooklands.
DATE MEASURED: -
HEIGHT: Approximately 120 ft (36.6 m) most with clear trunks to 100 ft (30.5 m)
CANOPY SPREAD: -
DBH: Ranging from 19 to 38 in (48.3 cm to 96.5 cm)
BURSTALL'S NOTES: A stand of about 100 trees forming a prominent dome on the skyline behind the Bowl. (It is from the presence of this stand that the annual summer performance "The Festival of the Pines" gets its name. In order to justify perpetuity of the name, a pinetum has been established beside the Bowl; this will ensure representation of the genus should anything happen to the present pines).

CURRENT READINGS

REMARKS: Removed in the early 1990s as they were of a poor standard and classed as being dangerous. After removal two extremely old and large specimen puriri trees were exposed to the south easterlies and have been stripped of the majority of their foliage. The area has now been replanted in pines and some may consider them being planted too close to these suffering puriri (**Fig. 168**) as the same result will be repeated when this next generation of pines are removed, presuming that the puriris survive their current stress.



Fig. 168

EXOTIC TREE: 104
SPECIES: *Pinus torreyana*.
COMMON NAME(S): Torrey Pine.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Pukekura Park.
DATE MEASURED: 1969
HEIGHT: 142 ft (43.3 m)
CANOPY SPREAD: -
DBH: 57 in (1.448 m)
BURSTALL'S NOTES: An excellent tree, the largest and tallest recorded in New Zealand. Seeds are eaten by the North American Indians.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, 34 m from the Victoria Rd entrance, (Hughes Walk) and 9.5 m on the downside of the path towards the Children's Playground.

DATE MEASURED: 31st August 2001
HEIGHT: 41.9 m
CANOPY SPREAD: 29.5 m
DBH: 1.592 m

REMARKS: Massive tree (**Figs. 169 and 170**). American visitors in particular are astonished at the size of a tree, which in the U.S.A. is regarded as suitable for home gardens. The seeds have been gathered by the New Plymouth Lebanese who use them in their cooking.
In February 1994 during the summer lighting festival, a large floodlight was mounted on the Children's Playground side of the tree. A lightning strike hit the highest part of the tree, travelled vertically downward, then jumped to the leader bearing the floodlight, which was internally incinerated. The scar is still evident and internal decay is apparent, where the floodlight was bolted into the tree.
A fabulous specimen with a partner growing closer to the Victoria Rd entrance. The current reading is 1.4 m shorter than the 1969 Burstall measurement and 3.6 m shorter than the 1986 Medbury. This discrepancy may be the result of two factors. The tree has a broadly spreading flat canopy in which defining the highest point from below is very complicated and the trunk rises from a depression several meters below the surrounding flat area. As a consequence, on this occasion, three separate measurements were taken at two different angles.

~ Fuller, 1982: Dbh 1.508m

(*Medbury, 1986: Ht = 45.5 m; dbh = 1.538 m.

Also included are 1950 measurements of J. W. Goodwin: Ht = 36.2 m; dbh = 1.222 m. Tree planted c. 1890).

11/11/ 2003: Recent reports indicate that Council plan to remove this tree due to safety concerns.

8/5/2004: Decay from the lightning damage mentioned above had advanced to such a stage that a panel of arborists concluded that the threat to safety was so high that the tree should be removed. A 'Parkscape' team reduced the canopy by 10m and the bulk of the trunk was felled by a contractor (23/9/04).



Fig. 169



Fig. 170

+Another specimen located between the fountain pump house and the Cricket Pavilion also deserves recognition, being only slightly smaller and in good health. The roots from this tree form a unique, radiating flight of steps towards Cannon Hill. In recent years a strong colony of native Lesser Shags has nested in the large umbrella-shaped canopy of this tree.

3.9.01: Height = 40 m; spread = 26.7 m (only one reading); dbh = 1.52 m.

Included is 1950 measurements of J. W. Goodwin: Ht = ~~36.3~~ m; dbh = ~~1.223~~ m

35.4 1.193 C.S

EXOTIC TREE: 105

SPECIES:

Platanus x acerifolia, syn. *Platanus x hispanica* - Krussmann, 1986. This tree had previously been identified as *Platanus occidentalis*, (American Sycamore) in the 1973 Burstall report.

COMMON NAME(S): London Plane.

B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Rhododendron Dell, Pukekura Park.

DATE MEASURED: 1973

HEIGHT: 91 ft (27.75 m)

CANOPY SPREAD: 70 ft (21.35 m)

DBH: 52 in (1.32 m)

BURSTALL'S NOTES: The larger of two specimens affording shade and shelter for the rhododendron collection beneath. The largest of this species recorded in New Zealand. They were purchased by Newton King from T. Horton's nursery.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, central tree in the Rhododendron Dell.

DATE MEASURED: 30th January 2002

HEIGHT: 32.4 m

CANOPY SPREAD: 32.2 m

DBH: 1.71 m

REMARKS:

A healthy tree that branches at approximately 5 m into 3 main limbs (**Figs. 171 and 172**), the canopy coming within 2 m of ground level. The lower trunk displays wonderful examples of how trees can recover from large branch removal. The most conspicuous feature on this specimen is the flaking of bark in irregular patches to give a lovely mottled pattern. At the base of the trunk the familiar cross-hatched pattern is evident. The smaller tree (southerly, towards Brooklands) is of a comparable size.

Bears New Zealand Notable Tree Plaque.

~ Fuller, 1982: Southerly dbh 1.410m, northerly dbh 1.390m.

(*Medbury, 1986: Ht = 25 m; spread = 23 m, dbh = 1.439.

Purchased from Thomas Horton's Frimley Nursery by Newton King, c. 1898 according to Horton himself, as told by J. W. Goodwin 1949.

By all reckoning this is the London Plane, and not either of its parents).

A discrepancy occurs between the height recording of Burstall and that of Medbury. This is yet another example of large trees with very broad flat canopies presenting difficulty when endeavouring to pinpoint their height.

EXOTIC TREE: 106
SPECIES:

Platanus x acerifolia, syn. *Platanus x hispanica* - Krussmann, 1986. This tree had previously been identified as *Platanus occidentalis*, (American Sycamore) in the 1973 Burstall report.

COMMON NAME(S): London Plane.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Redcoat Lane end of Bains Terrace.
DATE MEASURED: 1973
HEIGHT: 77 ft (23.5 m)
CANOPY SPREAD: 80 ft (24.4 m)
DBH: 49 in (1.245 m)
BURSTALL'S NOTES: This tree is of note as it is on the opposite bank of the Huatoki Stream from the site of the first mill in the city. Some foundations of the Alpha Mill still remain.

CURRENT READINGS

UPDATED LOCATION: Bains Terrace, 42.5 m towards the city from the Redcoat Lane bridge crossing the Huatoki Stream (**Fig. 174**).

DATE MEASURED: 1st May 2002
HEIGHT: 30.5 m
CANOPY SPREAD: 27.5 m, only one reading taken as the east to west canopy over-hangs the stream.
DBH: 1.557 m
REMARKS:

Two main limbs and a lesser branch arise from a massive trunk at 2.5 m. At this point an extensive amount of moss has formed and trails to ground level. The westerly limb has a large burl located at its base. The tree has moderate health with a negligible amount of dieback at the top of the canopy along with smaller leaf production. This could be due to the tree out-growing the protected gully in which it is located. Another factor that could be accountable is the positioning on the edge of a stream with large amounts of the rooting system exposed and huge portions of small fibrous roots in the water.



Fig. 174

EXOTIC TREE: 107
 SPECIES: *Populus deltoides*, subsp *monilifera* 'Frimley' (as 'Virginiana')
 COMMON NAME(S): Necklace Poplar.
 B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Bains Terrace, overhanging the puriri, which overhangs the Historic Boulder, Paitawa.
 DATE MEASURED: 1973
 HEIGHT: 105 ft (32 m), with leaders from 3 ft (91 cm).
 CANOPY SPREAD: 96 ft (29.3 m)
 GIRTH AT 1 ft: 21 ft (6.4 m), diameter = 2.038m
 BURSTALL'S NOTES: A gigantic tree, close to the centre of the city.
 The largest of several trees at C. Kelly's, 7 c Welbourn Terrace, was 60 in (1.524 m) x 130 ft approx, (39.7 m) in 1973.

CURRENT READINGS

UPDATED LOCATION: Bains Terrace. On the upside bank, 97 m towards the city from the Redcoat Lane bridge, crossing the Huatoki Stream.
 DATE MEASURED: 1st May 2002
 HEIGHT: 39.2 m
 CANOPY SPREAD: 23.2 m; This would be a lot larger but only one reading could be taken as the east to west canopy overhangs Huatoki Stream.
 GIRTH AT 30 cm: 7.35 m; diameter = 2.341 m.
 REMARKS: The cultivar of this species has changed to subsp. *monilifera* 'Frimley', (Paul Kenny, 2001) (Figs. 175 and 176).
 A massive tree that is in good health with huge volumes of timber in the lower trunk. A contributing factor to this health and growth would be the close proximity to water.
 A number of branches have failed on this tree, the most obvious being on a larger lower limb creating a wound approximately 1.5 m x 50 cm.
 A karaka seedling is growing in the first major union.
 May 2004: This poplar snapped off at ground level in a storm in February 2004. It had internal decay.



Fig. 175



Fig. 176

&The other tree recorded by Burstall is in Mrs. N. Stoddart's property, 7 c Welbourn Tce. It is the last remaining tree out of initially four that were located on each corner of this large section. The land was sub-divided some years ago, (before Burstall wrote his mensuration report) and the trees were removed for a number of different reasons. 1. A house being shifted on to the property. 2. A tree located near the road frontage was removed as it was seen as a hazard. 3. A big storm in October 1985 removed another tree.

(Information kindly supplied by Mrs. N. Stoddart).

The tree recorded can be located half way down the garden gully on the left - hand boundary. It is of reasonable health with a straight, clear trunk to approximately 8 m. It is storm damaged, (Oct. 1985) with a large section being removed.

19.1.02: Height = 36.5 m; spread = 28.9 m; dbh = 1.672.

There is a discrepancy between the current height reading and that of Burstall. The reasoning for this could be varied, including difficult terrain, (gully), Burstall's is an approximation, storm damage, or the tree that failed in 1985 could have been the one he recorded. Its decaying remnants remain on site today revealing that it was a very large tree.

EXOTIC TREE: 108

SPECIES:

Prunus lusitanica.

COMMON NAME(S):

Portugal Laurel.

B.B CATEGORY:

Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION:

Near soundshell, Bowl of Brooklands.

DATE MEASURED:

1973

HEIGHT:

36 ft (11 m)

CANOPY SPREAD :

43 ft (13.1 m)

DIAMETER AT G.L:

36 in (91.4 cm). Three good leaders from ground level.

BURSTALL'S NOTES:

A large tree of an uncommon species growing on the bush margin. Very fragrant when in bloom.

CURRENT READINGS

REMARKS:

~ Fuller, 1982: A large leader was blown out in the Easter storm of 1982 and the remaining two leaders are decaying and seriously menaced.

(*Medbury, 1986: Ht = 20 m approx, two stems.

Newton King planting dating back to the turn of the century.

This tree was seriously damaged during the 1982 Easter storm).

Park records reveal that this tree was damaged again in Cyclone Bola, March 1988, finally collapsing on the 3rd July 1997. Logwood remains on site.

EXOTIC TREE: 109
SPECIES: *Quercus ilex*.
COMMON NAME(S): Holm Oak.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: H.F. Wooffindin, 28 Holsworthy Rd.
DATE MEASURED: 1973
HEIGHT: 50 ft (15.3 m)
CANOPY SPREAD: 60 ft (18.3 m)
DIAMETER AT 2 ft: 43 in (1.092 m)
BURSTALL'S NOTES: A good tree bearing acorns in May. Surprisingly, the only tree of this species recorded in the New Plymouth area.

CURRENT READINGS

UPDATED LOCATION: P. J & C. J. Winstanley, 22 a Holsworthy Rd. To the rear of the house, close to the boundary of 22 (**Fig. 177**, as seen from 22b).

DATE MEASURED: 18th May 2002.
HEIGHT: 20.3 m
CANOPY SPREAD: 17 m
DIAMETER AT 60 cm: 1.58 m

REMARKS: When this house was constructed, (relatively recently) the topography that was in close proximity to the base of the tree was severely lowered resulting in exposure of the rooting system. In more recent times and with changes in ownership, a retaining wall 2.5 m from the base of the tree was constructed and backfilled with a rich topsoil.

Five main limbs arise from just above 60 cm.

The current health of this one-sided tree (because of closeness to house) is good, with an iota amount of deadwood and new growth on branch tips. It is a very vigorous tree with a large amount of epicormic shoots (from dormant buds) appearing throughout the canopy, on the trunk and around the base. The tree has responded well and overcome the detrimental factors it has faced in its immediate environment.

This is a great testimony to the strength and durability of *Quercus*. A wonderful tree.



Fig. 177

Compared to the specimens near Victoria Rd, Pukekura Park (recorded directly below) this tree produces a very small amount of acorns. This could be associated with the recent disturbance to its roots.

+One of the better examples of a single trunk holm oak can be located in a row of the same species planted by J. W. Goodwin in 1950, near the old tennis courts, off Victoria Rd, Pukekura Park. The row runs along the brink of the Western Hillside, where it meets the level ground of the old tennis and croquet courts and is parallel with Victoria Rd. The tree recorded is positioned next to a step in levels between the two opposite ends of the frontage.

A healthy tree with a good structure. Branching starts from around 4 m. Large limbs have been removed from the lower canopy, probably in the 1970's. Several over-sized epicormic shoots (from dormant buds) arise from the base. It would compliment this specimen if these shoots were removed.

12.7.02: Height = 22.8 m; spread = 15.8 m; dbh = 91.7 cm.

+In 1937 Springbok rugby legend Dr Danie Craven planted a holm oak in the grounds of West End primary school 5.5 m on the western side of the western ramp leading down to the lower playing field, and 3.7 m from the terraced wall. A reasonably healthy tree that has had several large lower limbs removed. The surrounding soil is rather compacted as the tree is positioned close to childrens play equipment. These two factors have encouraged the growth of numerous epicormic shoots (from dormant buds). The trunk is on a slight lean and as a whole the tree is not very presentable.

28.8.02: Height = 14.4 m; spread = 12 m; dbh = 72.3 cm.

There is a larger specimen in the upper childrens playground, close to the old Parker property. This tree has had the upper canopy removed a long time ago, most probably by Mr Fred Parker so he could retain his views out to sea. Dbh = 1.102 m.

19.11.05: This tree has now been removed.

EXOTIC TREE: 110
 SPECIES: *Quercus palustris*.
 COMMON NAME(S): Pin Oak.
 B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside main path, Brooklands Park.
 DATE MEASURED: 1973
 HEIGHT: 53 ft (16.2 m)
 CANOPY SPREAD: 48 ft (14.6 m). One sided.
 DBH: 22 in (55.9 cm)
 BURSTALL'S NOTES: A species not common in the region.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, 3.5 m from the main path, Maranui Gully side, Kaimata St end of lawn area, opposite the English Walnut (**Figs. 178 and 179**).

DATE MEASURED: 4th September 2001.

HEIGHT: 22.7 m

CANOPY SPREAD: 17.35 m

DBH: 70.7 cm

REMARKS: In the past the canopy has been heavily defoliated by possums and it was common practice for park staff to use firearms to try and mitigate the problem. Today, the tree is of reasonable health with little evidence of possum damage due to effective modern control measures.

Larger lower limbs have been removed relatively recently.

The form of this tree is not entirely typical of this species as the majority have a straight trunk bearing a dense canopy of shoots, which grow, at a downward angle, as a sort of high skirt unlike the specimen recorded above which has two leaders and an open canopy

(*Medbury, 1986: Ht = 21.65 m, dbh = 63.1 cm. Planted c. 1910).



Fig. 178



Fig. 179

EXOTIC TREE: 111
 SPECIES: *Quercus robur*.
 COMMON NAME(S): Common Oak, English Oak.
 B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: St Mary's Churchyard.
 DATE MEASURED: 1969
 HEIGHT: 48 ft (14.6 m)
 CANOPY SPREAD: 50 ft (15.3 m)
 DIAMETER AT 3 ft: 45 in (1.143 m)
 BURSTALL'S NOTES: Planted as an acorn by one Ibbotson, an early pioneer.
 Beside the main path, Brooklands Park, is a tree 35 in (88.9 cm) x 63 ft x 75 ft (19.2 m x 22.9 m), a lawn specimen with classic habit of spreading oak with its horizontal branches.
 Overhanging the pathway between the kiosk and display house, Pukekura Park, one is 34 in (86.4 cm) x 80 ft x 65 ft (24.4 m x 19.8 m) in 1973, providing greatly appreciated summer shade for this busy thoroughfare.

CURRENT READINGS

UPDATED LOCATION: St Mary's Churchyard, 22 m from the Lychgate on Brougham St, in a direct line between this and the church.
 DATE MEASURED: 7th February 2002
 HEIGHT: 18 m
 CANOPY SPREAD: 23.3 m
 DIAMETER AT 90 cm: 1.49 m
 REMARKS: A tree in moderate to poor health (**Figs. 180 and 181**). Containing a marginal amount of deadwood, especially at the end of branch tips and a large quantity of epicormic growth (from dormant buds) throughout the canopy. Diverts into 3 main limbs at just above 1 m. Larger lower branches have been removed. A large fungal bracket, (e.g. *Ganoderma sp.*) is located under a huge lower limb that grows out almost horizontally and has a diameter near the branch union of 82.8 cm. This again demonstrates the great strength of this species. A large wound dating from well before the 1960s is evident 80 cm from ground level and measures 1.3 m x 50 cm (**Fig. 182**). A branch failing which had an approximate diameter of 60 cm created it. This cavity that also contains a fungal bracket has been sealed with cement and the branch wound painted with heavy-duty cart grease. A fascinating specimen, currently supporting a native lancewood growing as an epiphyte.



Fig. 180



Fig. 181



Fig. 182

11.11. 2003: The tree has been removed from the Notable Tree list by Council, and the church is planning for its removal due to safety concerns. (Its removal has been the subject of intense debate in the local press).

7.4.2004: A stay of execution, a shortening back and support of the horizontal limb has been decided upon.

&The tree at Brooklands Park (**Figs. 183 and 184**) is located at the Kaimata St end of the Main Lawn near the bush margin almost opposite the pin oak. A large amount of the lower branches have been removed, some possibly in cyclone Bola, (March 1988), as this is when the tree lost a large section on the path side. This has resulted in the tree containing an ugly wound (scar) that is approximately 1.2 m x 40 cm. The canopy contains the unusual epiphyte *Lycopodium* and volumes of *Astelia*. When recorded in late January the trunk was littered with hundreds of cicada casts. Excellent specimen with it's flat broad canopy creating difficulties over height measurement. 29.1.02: Height 19.6 m; spread = 22.6 m; dbh = 1.038 m.



Fig. 183



Fig. 184

&The tree in Pukekura Park (**Figs. 185 and 186**) is located 17 m from the Gentleman's toilet that is behind the Kiosk and 3 m on the left-hand side of the path leading to the Fernery from the lower Stainton Dell. Two trees of equal proportions were sited in this area, however the one nearest to the Kiosk fell in October 1997. During heavy rainfall the tree failed at or near ground level, badly damaging the public toilets and a nearby elm (EXOTIC TREE 132). This failure was unexpected and came as a great surprise to Park staff as the tree had not displayed previous symptoms. The stump is still evident. It has a diameter at ground level of 1.1 m. (Date kindly supplied by the Daily News).



Fig. 185



Fig. 186

The existing tree is healthy. An excellent example of early tree surgery can be observed on the upper side of the trunk. A large limb has been removed, probably when the fernery boundaries were extended and the woundwood on this injury has completely closed. The canopy is very open with the majority of the growth at the extremities of the branches.

A meritorious specimen, which is likely to have reached its climax in height. It is very balanced with only a 60 cm difference in the two canopy spread readings.
4.2.02: Height = 22.9 m; spread = 29.8m; dbh = 1.04 m.

(*Medbury, 1986: Ht = 21.7 m; dbh = 83.4 cm.

Biggest oak in the Park, or one of them. W. W. Smith planting c.1920-1925).

It is unclear which tree out of the two was measured by Burstall and Medbury. Comparison of measurements only confuses the matter.

For the early colonists this species was one of the more widely planted for nostalgic reasons.

EXOTIC TREE: 112

SPECIES:

COMMON NAME(S):

B.B CATEGORY:

Quercus rubra.

Red Oak.

Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION:

Hatchery Lawn, Pukekura Park. (*This location is incorrect. The specimen was located beside the Palm Tree Lawn. - Admission from G. Fuller*).

DATE MEASURED:

1973

HEIGHT:

70 ft (21.4 m)

CANOPY SPREAD:

70 ft (21.4 m)

DBH:

23 in (58.4 cm)

BURSTALL'S NOTES:

Another good tree at Burgess Park was 28 in (71.1 cm) x 57 ft x 80 ft (17.4 m x 24.4 m) in 1973, well sited in lower area to the right of the main entrance.

CURRENT READINGS

REMARKS:

The tree that was located on Palm Tree Lawn, Pukekura Park was removed in June 2001, for unknown reasons. The stump is still evident and has a diameter at ground level = 87 cm; 4.2.02.

+Another tree that can be found nearby is located 28 m down from the junction of the Gilbert St walk, (Smith Walk) and Palm Tree Lawn. A tree that has been drawn up and is totally unbalanced with a severe bow in the trunk. This is due to the influence of several large dominant pohutukawas sited on the westerly side of the tree.

1.2.02: Height = 24.1 m; spread = 12.6 m, (in one direction); dbh = 53.2 cm.

EXOTIC TREE: 113
SPECIES: *Rhododendron* 'Sir Robert Peel'.
COMMON NAME(S):
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Beside boat landing, Fountain Lake, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 54 ft (16.5 m)
CANOPY SPREAD: -
GIRTH AT 1 ft: 31 in (78.7 cm). ("Shouldn't *this be the diameter*"?)
BURSTALL'S NOTES: A double leader tree, one of several in the park, blazing with colour in late August.

CURRENT READINGS

UPDATED LOCATION: Same as above, over-hanging Fountain Lake and pathway at the Northern end (Figs. 188 and 189).

DATE MEASURED: 31st August 2001
HEIGHT: 15.35 m
CANOPY SPREAD: 12.3 m, only one measurement as the north to south reading is over-hanging the lake.

DIAMETER AT 30 cm: 92.9 cm; circumference = 2.92 m

REMARKS: The tree is on a 45 degree lean toward the lake, resulting in the canopy being asymmetrical to the base. It contains two large limbs that arise from 30 cm. This is one of the largest 'Sir Robert Peel' in New Zealand, by virtue of its trunk measurements and height. If the tree was conventional, (straight up and down) it would be 'taller'. (Does this account for height discrepancy relative to Burstall's and Medbury's measurements?). An example of early tree surgery can be viewed on the southerly leader 1.4 m from ground level, measuring 70 cm x 15 cm at the widest point. This cavity was filled by encasing the trunk in a thin metal sheath and pouring polyurethane foam, (surfboards) into the cavity then painted for camouflage, c.1970.

A true survivor that is extremely healthy with prolific flowering of small trusses in late winter.

Difficult to obtain measurements because of location and inclined habit.

Diameter at ground level = 1.156 m. (Circumference = 3.63 m).

North leader dbh = 60.8 cm

South leader (nearest to lake) dbh = 50.6 cm.

The 'height' of this tree was placed on a grid pattern. If it was straight up and down (vertical) the length (height) of the tree would be approximately 20 m.

~ Fuller, 1982: The present measurement is; diameter at 30cm = 0.831m. The most northerly leader has a dbh of 0.521m and the southerly 0.459m.

(*Medbury, 1984: Ht = 17.2 m; spread approx = 15 m. Planted c. 1930's(?)).
W.W. Smith's planting was of one of the first hybrids available in NZ).

This is unlikely because W.W. Smith was in charge 1908-21. Planting may even have been before 1900, comparable with many large specimens from that era located throughout New Zealand.



Fig. 188



Fig. 189

EXOTIC TREE: 114

SPECIES:

Rhopalostylis cheesemanii. (likely to be *Rhopalostylis baueri* var. *cheesemanii* - Jones. D,1993).

COMMON NAME(S):

Kermadec Nikau

B.B CATEGORY:

Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION:

Beside the Cricket Pavilion, Pukekura Park.

DATE MEASURED:

1973

HEIGHT:

37 ft (11.3 m)

CANOPY SPREAD:

DBH:

10 in (25.4 cm)

BURSTALL'S NOTES:

A vigorous specimen growing in a very sheltered position.

CURRENT READINGS

UPDATED LOCATION:

Behind the Cricket Pavilion, Pukekura Park.

DATE MEASURED:

31st August 2001

HEIGHT:

12.6 m

CANOPY SPREAD:

-

DBH:

21.6 cm

REMARKS:

A healthy specimen in a moist sheltered site. Hidden behind the Cricket Pavilion (access is from the Fountain Lake).

It is unknown how Burstall obtained a larger dbh reading. The current reading was taken on two separate occasions.

(*Medbury, 1986: *R.hopalostylis baueri* var. *cheesemanii* age unknown, likely to be at least 50 years old Recorded as a notable tree under R.N.Z.I.H register. Not mentioned on Thomas Horton's 1936 listing of adjacent trees).

"*Rhopalostylis cheesemanii* - is often regarded as being closely linked to *R. baueri* from Norfolk Island and sometimes included as a variety of that species". - Palms In Australia, David Jones, 1993.

"The most obvious distinguishing feature compared to *R. sapida* (nikau) is cylindrical rather than bulbous leaf bases". - G. Fuller.

EXOTIC TREE: 115
SPECIES: *Salix matsudana* 'Tortuosa'.
COMMON NAME(S): Weeping Willow.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Left of entrance gateway, Barrett Domain, Westtown.
DATE MEASURED: 1973
HEIGHT: 45 ft (13.7 m)
CANOPY SPREAD: 40 ft (12.2 m)
DBH: 27 in (68.6 cm)
BURSTALL'S NOTES: A well-shaped tree.

CURRENT READINGS

REMARKS: This tree no longer exists. It is believed to have been removed sometime in the late 80s, early 90s. A photo obtained from the Daily News shows it in poor health with broken limbs in the upper canopy. Unfortunately there is no date on the back of the photo.

EXOTIC TREE: 116
SPECIES: *Schinus molle*.
COMMON NAME(S): South American Pepper Tree.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: H.N. Wolfe, 26 Gilbert Street
DATE MEASURED: 1973
HEIGHT: 39 ft (11.9 m)
CANOPY SPREAD: 36 ft (11 m)
DBH: 39 in (99.1 cm)
BURSTALL'S NOTES: This tree is notable for its bulbous trunk which is single to 10 ft (3.1 m). A large tree for this locality.

CURRENT READINGS

UPDATED LOCATION: Gledhill, 26 Gilbert St. To the rear of the house, close to the back boundary.
DATE MEASURED: 12th May 2002
HEIGHT: 12.4 m
CANOPY SPREAD: 11.9 m
DBH: 1.398 m
REMARKS: A fantastic specimen that is in great health (**Fig. 190**). Branches at approximately 3 m into two main limbs.
Displaying large bulbous trunk that has the appearance of a large gall. Because of this a diameter was taken at ground level = 1.752. The distortions in this trunk would make it very difficult to achieve two identical dbh measurements.
Compared to the trunk the canopy is reasonably small, giving the tree a disproportionate form.
An interesting remark can be made in regard to this specimen: From those observed in their native homeland, none came close to being comparable in health and size to this tree and others seen in Waikato.



Fig. 190

EXOTIC TREE: 117
 SPECIES: *Sciadopitys verticillata*.
 COMMON NAME(S): Umbrella Pine.
 B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Mrs N. Durdle, 69 Brooklands Road.
 DATE MEASURED: 1973
 HEIGHT: 37 ft (11.3 m)
 CANOPY SPREAD:
 DBH: 18 in (45.7 cm)
 BURSTALL'S NOTES: A very upright specimen, assured of preservation.
 Others recorded in 1973 were at P.A. Cottam, 72 Paynters Av, 14 in (35.6 cm) at 1 ft (30.5 cm) x 28 ft (8.5 m); and at Russell Matthews, Tupare, Mangorei Rd, 9 in (22.9 cm) x 21 ft (6.4 m).

CURRENT READINGS

UPDATED LOCATION: Unoccupied house when measurements were taken, 69 Brooklands Road. Right side of driveway, 11 m from house (**Fig. 191**).
 DATE MEASURED: 12th January 2002
 HEIGHT: 14 m
 CANOPY SPREAD: 5.1 m
 DBH: 72.6 cm
 REMARKS: Reasonable health with the canopy having a bulbous form before converting to an upright habit, it has been lifted slightly on the driveway side.
 A much larger amount of cones appear near the top of the tree



Fig. 191

&The tree at 72 Paynters Av was removed sometime before 1988 when Mrs Raynes purchased the property.

&The specimen at Tupare, Mangorei Rd (**Fig. 192**) is positioned 33.5 m from the north eastern corner of the Cottage, at the end of a terrace towards the eastern boundary. A vigorous tree displaying excellent health. Several lower branches from the canopy have been removed. A wound starts 30 cm from ground level and is currently 65 cm x 14 cm. The tree is over-shadowed and protected by a liquidambar on the easterly side.

When measurements were taken the bright mid-morning sun was reflecting off the deep green, flattened needles creating a radiating effect.

22.3.02: Height = 10.3 m; spread = 6.3 m; dbh = 42 cm.



Fig. 192

EXOTIC TREE: 118
SPECIES: *Sequoia sempervirens*.
COMMON NAME(S): Coastal Redwood.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Russell Matthews, Tupare, Mangorei Road.
DATE MEASURED: 1973
HEIGHT: 104 ft (31.7 m)
CANOPY SPREAD:
DBH: 39 in (99.1 cm)
BURSTALL'S NOTES: The best of this species seen in the city and not more than 40 years old.
There are several trees in different parts of Pukekura Park with diameters up to 42 in (1.067 m) and heights to 90 ft (27.5 m)

CURRENT READINGS

UPDATED LOCATION: Tupare, Mangorei Rd. Below the lowest pitch of the zig zag path, down from the Burma Walk.
DATE MEASURED: 22nd March 2002
HEIGHT: 41.2 m
CANOPY SPREAD: 19.3 m
DBH: 1.685 m
REMARKS: A herculean tree! (**Fig. 193**) The canopy has been lifted to display the shear bulk of the trunk. Largest example in a group of 20 healthy specimens (**Fig. 194**).



Fig. 193



Fig. 194

+A fine specimen can be found behind the Cricket Pavilion, Pukekura Park (**Fig. 195**). It has excellent health and has branches that come within reach of the ground.

31.1.02: Height = 31.6 m; spread = 15.5 m, taken in one direction because of Pavilion; dbh = 1.182 m.

(*Medbury, 1986: Ht = 27.7 m; dbh = 95.5 cm.

Planting date unknown, presumably mid 20's by T. Horton. Occurrence 1936 list).



Fig. 195

+Two other trees can be found in the park on the western heights above the fountain Lake. The closest to the road is located 22 m from the Victoria Rd kerb and 20 m from the N. P. side, (northerly) boundary of Number 25 Victoria Rd. The top of this tree is subjected to the severity of prevailing winds, which have retarded the growth and have given the canopy a flat top. The main branchwork (canopy) is only 4.7 m in depth. At this point the trunk diameter is approximately 50 cm. It dramatically reduces to possibly 5 cm within a distance of under 4 m and protrudes about 1 m through the main dense canopy, only visible from across the road outside house number 22. In fact, the tree has the appearance of a chimneysweepers brush. The extreme taper is replicated at the base where the ground level diameter is 1.99 m reducing to a dbh = 1.299 m. The tree has a height of 19.1 m; spread = 13 m. Measurements taken on 1.5.02. This is an example of a wind-sensitive tree foreshortened through exposure on a ridge.

+The second specimen is located 25 m further into the park. Using the line of the city-end boundary of 25 Victoria Rd it is down the steep bank 11.5 m from the back corner at a deflection toward the city of about 2 m. It is protected from the prevailing westerlies by a belt of totara and pohutukawa and is further protected by its siting down the slope. It also has the uncharacteristic trunk taper and foreshortened leader. However this is nowhere near as extreme as the specimen closer to the road.

1.5.02: Height = 23 m; spread = 13.3 m (one way); dbh = 1.373 m.

The largest of the dbh's of the coastal redwoods in the park and one of George's favourite trees.

In 1973, G. Fuller measured both these trees and they had a height of 18.3 m and dbh of 98.7 cm, (tree closest to the road) and 1.082 m. George took the following notes: *"This was formerly the site of a block house during the maori wars and later a cottage in which one Irishman John (Darby) Claffey, Curator of Pukekura from 1878 - 1896, lived with his donkeys"*.

(*Medbury, 1984: Ht = 25 m, approx; dbh = 1.315 m.

Planted c. 1890, according to F. Muirhead. Thought to have the greatest diameter of any redwood in the park).

+In Maranui Gully, Brooklands Park is a group of 18 trees near the List St entrance. One of the trees is ailing. They form somewhat of a staggered, random row, perhaps roughly the line of an old boundary? The first tree is 68 m from the kerb of the List St entrance. The following are the distances between each tree, measured from the tree centre to centre and the dbh. The first tree is within 2 m of the List St path, the remainder are less obvious from that path.

Tree # 1: dbh = 79 cm.

Tree # 1 to tree #2 = 32 m; tree #2: dbh = 1.032 m.

Tree # 2 to tree #3 = 6 m; tree #3: dbh = 1.156 m.

Tree # 3 to tree #4 = 5.6 m; tree #4: dbh = 76.4 cm.

Tree # 4 to tree #5 = 2.1 m; tree #5: dbh = 85.4 cm.

Tree # 5 to tree #6 = 1.7 m; tree #6: dbh = 47.1 cm; # 6 is the ailing tree.

Tree # 6 to tree #7 = 7.7 m; tree #7: dbh = 1.226 m.
Tree # 7 to tree #8 = 2.5 m; tree #8: dbh = 66.2 cm.
Tree # 8 to tree #9 = 4.5 m; tree #9: dbh = 1.188 m.
Tree # 9 to tree #10 = 8.7 m; tree #10: dbh = 1.175 m.
Tree # 10 to tree #11 = 6.6 m; tree #11: dbh = 58.6 cm.
Tree # 11 to tree #12 = 7.2 m; tree #12: dbh = 69.7 cm.
Tree # 12 to tree #13 = 4.8 m; tree #13: dbh = 96.4 cm.
Tree # 13 to tree #14 = 5.5 m; tree #14: dbh = 98.1 cm.
Tree # 14 to tree #15 = 1.9 m; tree #15: dbh = 85.4 cm.
Tree # 15 to tree #16 = 8.7 m; tree #16: dbh = 95.5 cm.
Tree # 16 to tree #17 = 20.7 m; tree #17: dbh = 1.064 m.
Tree # 17 to tree #18 = 20.4 m; tree #18: dbh = 90.8 cm.

These trees are all planted on a south, eastern sloping face, which could have bearing on their success. At tree number 12 the "somewhat of a row" turns at almost a right angle and heads towards the old List homestead, before once again being positioned as a row. All these trees have good health, apart from # 6. Tree # 7 has the complete measurements recorded because of having the greatest dbh, but this is not to imply that it is the best example or the tallest.

3.5.02: Height = 25.1 m; spread = 15 m, approximately.

Many of these trees display different characteristics, some unique. They deserve recognition with a fair amount of time required to observe all of them individually. There is little doubt that they will become an extremely notable group in the future.

(July 2002: Since the above observations and recordings were taken, tree # 12 has been removed. A large eucalyptus which has been cut back to just the trunk was positioned 3 m from the removed redwood (# 12). The eucalyptus trunk is approximately 15 m high. The redwood stump is cut about 50 cm from ground level.

This stump now reveals two points of interest. It was possible to count the annual wood rings of which there are approximately 62. They are about the same age as the redwood at Tupare!! That is significant when comparing the size of the trees on the two different sites. Secondly, coastal redwood is renowned for regenerating growth from the stump and if given the chance will send up numerous shoots. If a shoot(s) is allowed to grow it will eventually form a replacement tree. The opportunity to research or even observe this process in New Plymouth is a rarity. In the future this stump could provide answers relating to growth patterns of the coast redwood in this region).

+Another tree of great historic value can be found at Ratanui, Paul Carrington, 538 Carrington Rd. It can be located in the first paddock to the right of the driveway (when travelling towards the house), 12.5 m from the large juniper. This is an extremely exposed site for a coastal redwood. A slender tree of reasonable health (**Fig. 196**). Large amount of damage to the base of the trunk from grazing stock. Divides into co-dominant leaders just below 2 m. The trunk has nearly completely engulfed an old fencing baton.

3.9.01: Height = 24.2 m; spread = 11.75 m; dbh = 1.592 m.

This is believed to be the oldest redwood in Australasia, (Burstall and Sale, 'Great Trees of New Zealand).



Fig. 196

+At the Davies Rd entrance to Barrett Domain one must cross a stile and travel straight ahead over farm land for approximately 3 minutes to find the bridge crossing the Mangaotuku Stream. On the other side of the bridge three options are possible. Taking the bottom track, to the left for 229 m upstream will reveal another junction of two tracks. Beside this junction is a superb specimen of the coastal redwood. Alternatively, if entering the domain from Roto St, opposite the pond which is just past the Cowling Kauri Plantation (NATIVE TREE 5) is an open grassed area to the left. This area has an entry point with a sign. The tree is 488 m from this entrance on the track that runs parallel with the Mangaotuku Stream and past the above bridge.

Clear trunk to approximately 8 m. The tree displays excellent vigour and good form, being one of the better examples of this species in N.P. despite having a slight lean.

15.7.02: Height = 31.3 m; spread = 12.3 m; dbh = 1.42 m.

6 m from this tree is a smaller specimen having a dbh = 69.1 cm.

It is interesting that in this area is a group of large pine and eucalyptus. The remaining area of the Domain is native vegetation.

Back opposite the bridge there is a row of kauri which appear to be the same age (c.1940) as those in the Cowling plantation. The tree closest to the stream has been decapitated, probably in Cyclone Bola, (March 1988).

+At the Smale property, 68 Gilbert St, a redwood is located in a small gully near the left-hand boundary, 22 m from the front boundary.

A tree with moderate health and poor form, a lesser leader has failed at approximately 3 m. There are several branch stubs in the lower canopy, a few still have deadwood attached. The tree displays hundreds of epicormic shoots (from dormant buds) that arise from the large trunk base.

The symptoms displayed suggest a difficult existence.

16.7.02: Height = 19.3 m; spread = 12 m; dbh = 1.178 m.

+37 m Downstream from the lower section of the entrance drive at Audrey Gale Reserve, Mangorei Rd is a curious grouping of 6 trees that are positioned at a right angle to the river. The planting arrangement is unusual, as these specimens are in a row of four with random spacing and with one tree offset at each end (ie - : . . :).

They are very diverse in structure and form (**Fig. 197**).

One of the better examples is on the end furthest from the river. It has good health and excellent form with real potential to exceed on this appropriate site. The vertical growing point (apex, top of the tree) is still very vigorous and appears to be increasing in height steadily.

26.7.02: Height = 28.6 m; spread = 11.2 m; dbh = 1.236 m.

A small body of water, probably sourced from a natural spring passes between this specimen and another (# 2), 1.6 m away. It is a smaller tree with a lesser leader emerging from a low level; dbh = 85.9 cm.

15 m towards the river is tree # 3 and another 13 m beyond is tree # 4. Both of these have poor form with multiple leaders arising from large bases at low levels (between 1 and 2 m from ground level).

Tree # 5 is one of the closer specimens to the river and makes interesting comparisons with tree #1 because although it is healthy, in relation to the other trees it is in a more exposed site and displays it. This becomes more obvious when the restricted, dense canopy and strong-butressed trunk is observed from a distance.

26.7.02: Height = 23.7 m; dbh = 1.201 m.

The final tree in this grouping (#6) is only 2.8 m distant from the restricted tree (#5) and has a dbh of 76.4 cm.



Fig. 197

+The entranceway to TOPEC Camp off Junction Rd (SH3) is called Hydro Rd. At the bottom of the decline is a culvert that travels under the road. At 36 m beyond this culvert and on the left side, 7 m from the edge of the road is a very impressive specimen.

A large base divides into co-dominant leaders of about equal proportions at approximately 2 m. The healthy canopy comes down to within 1 m of ground level.

This is presently a very sound tree, even though co-dominant leaders exist from such a low level.

A very impressive tree with a huge volume of wood (**Figs. 198 and 199**).

It is possible to be viewed from a car as it is sited so close to the access road.

8.8.02: Height = 32.7 m; spread = 18 m; dbh = 2.191 m.



Fig. 198



Fig. 199

+Fred Cowling planted a group of 5 coast redwood around 1930. They can be located on the corner of Roto St and Redwood Cres with 1 positioned in private property (**Fig. 200**).

These trees have poor health with major discolouration in the canopy and stunted growth. The majority also have poor form. One of the difficulties faced by this group is the windswept gully where they are positioned. Another major factor could be that this valley floor was once a unique nursery area where Duncan and Davies were able to propagate and grow acidic loving plants such as azalea, rhododendron, camellia and pieris.

The tree measured is 5 m from the kerb on the corner of Redwood Cres.

28.8.02: Height = 19 m; spread = 10.7 m; dbh = 93.6 cm.

All of the trees are of about equal height.



Fig. 200

EXOTIC TREE: 119
SPECIES: *Sequoiadendron giganteum*.
COMMON NAME(S): Giant Sequoia, Big Tree.
B.B CATEGORY: Exotic Notable Trees - Local Interest.

ORIGINAL READINGS

LOCATION: Beside the Carpark, Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 107 ft (32.6 m)
CANOPY SPREAD:
DBH: 50 in (1.27 m)
BURSTALL'S NOTES: There are two smaller trees on the way to the kiosk. Conditions are not favourable for this species in most of the region.

CURRENT READINGS

REMARKS: This tree contained a minor co-dominant leader close to the top of the canopy. The vulnerability of this attachment became apparent during cyclone Bola (March 1988) when it failed and landed on an unoccupied utility vehicle in the Carpark. On the 22nd of June 1988 the tree was determined to be a hazard and was felled. After the removal an extensive amount of rot was discovered at this union. The stump to this tree is still evident, to the left of the Cricket Pavilion and has a diameter of 1.6 m, at ground level - 4.9.01.

+The two smaller trees mentioned above exist today and are fine healthy specimen trees. One is located close to what used to be the Curator's office, at the base of Horton Walk (**Fig. 201**).

31.8.01: Height = 32.2 m; spread = 15.15 m; dbh = 1.38 m.



Fig. 201

+The other specimen can be found on the same driveway closer to the Kiosk / Tea House, 24.5 m from the base of Horton Walk on the upper edge of the path and towering above an oak.

31.1 02: Height = 33.3 m; spread = 15.2 m; dbh = 1.306 m.

~ Fuller, 1973: Curator's office, at the base of Horton Walk: Ht = 29.9 m; spread = 11.6 m; dbh = 1.14 m.

Between Curator's office and Tea House: Ht = 29.9 m; dbh = 1.01 m.

(Medbury, 1986: 31.3 m; dbh = 1.27 m.

W.W. Smith planting c. 1908 - 1922. The best specimen of three related plantings; one of the others is by Pavilion, the other along walk to Kiosk).

+Another large tree of interest is located at Truby King Dell (**Fig. 202**).

1.9.01: Height = 34.4 m, spread = 16.6 m, dbh = 1.459 m.

This specimen is starting to receive wind damage from the south, as the canopy has outgrown the protection from surrounding vegetation.



Fig. 202

EXOTIC TREE: 122
SPECIES: *Stewartia pseudo-camellia*.
COMMON NAME(S): False Camellia, Japanese Stewartia.
B.B CATEGORY: Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION: Russell Matthews, Tupare, Mangorei Road.
DATE MEASURED: 1973
HEIGHT: 22 ft (6.7 m)
CANOPY SPREAD: -
DIAMETER AT 1 ft: 10 in (25.4 cm)
BURSTALL'S NOTES: A smaller tree is in the Azalea Dell, Pukekura Park.

CURRENT READINGS

UPDATED LOCATION: Tupare, Mangorei Rd. 19 m from the gate, which leads off the main drive into the North Garden and on the upside of the track. The better tree in a group of three was recorded.

DATE MEASURED: 22nd March 2002
HEIGHT: 10.9 m
CANOPY SPREAD: 9.5 m
DIAMETER AT 30 cm: 36.6 cm
REMARKS:

Branches at 40 cm into two main limbs, the northerly (furthest from house) has a dbh of 22.3 cm and the southern (toward the house) a dbh of 25.2 cm. Heavily shaded on it's upside which has resulted in an unbalanced canopy. (29.8.02: Since recording and making notes, work has been undertaken on the surrounding vegetation to increase light levels).

A specimen in good condition, which has a fine lower trunk displaying the distinctive, peeling bark (**Figs. 205 and 206**).

There are still two fine trees in the Goodwin Dell, (*Azalea mollis* Dell) at Pukekura Park.



Fig. 205



Fig. 206

EXOTIC TREE: 123

SPECIES:

Syzygium paniculatum, syn. *Eugenia paniculata*.

COMMON NAME(S):

Australian Bush Cherry.

B.B CATEGORY:

Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION:

John Arthur, Ratanui, 498 Carrington Rd.

DATE MEASURED:

1973

HEIGHT:

36 ft (11 m)

CANOPY SPREAD:

40 ft (12.2 m)

DBH:

27 in (68.6 cm)

BURSTALL'S NOTES:

Others recorded in 1973 were at: Maranui Gully, Brooklands Park, 20 in (50.8 cm) x 56 ft x 50 ft (17.1 m x 15.3 m), and beside racecourse custodian's house, Pukekura Park, 27 in (68.6 cm) at 1 ft (30.5 cm), x 55 ft (16.8 m), the larger of two trees. This district is marginal for growing these trees.

CURRENT READINGS

UPDATED LOCATION:

Paul Carrington, Ratanui, 538 Carrington Rd. Set a long way back from the first driveway, (behind first paddock) near the slope that leads up to the house.

DATE MEASURED:

27th March 2002

HEIGHT:

21.5 m

CANOPY SPREAD:

18.5 m

DBH:

1.131 m

REMARKS:

Extremely healthy tree (**Fig. 207**) despite the fact that horses have stripped the majority of bark off the lower trunk. Starts to branch just above 90 cm (dbh questionable) into two limbs. It has recently lost a large lower branch on the easterly side leaving a wound of just over 1 m.



Fig. 207

&The tree in the Maranui Gully was believed to be located near the old List homestead. After an extensive search of the area it could not be located and may no longer exist.

&The tree mentioned above in Pukekura Park is one of two, the larger is 27.5 m towards the racecourse from the back north western corner of the property formerly occupied by the Racecourse custodian and 4.8 m from that boundary fence. It is a healthy tree that has been drawn up by surrounding vegetation. Divides into two main limbs and two lesser branches at just above 30 cm. 30.1.02: Height = 23.4 m; spread = 11.8 m; diameter at 30 cm = 95.5 cm. The lesser tree is 17.5 and 1.7 m from that boundary. Dbh 82.8cm

EXOTIC TREE: 124
SPECIES: *Syzygium ventenatii*, syn. *Eugenia ventenatii*.
COMMON NAME(S): Weeping Lilly Pilly Tree.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Maranui Gully, Brooklands Park.
DATE MEASURED: 1973
HEIGHT: 18 ft (5.5 m)
CANOPY SPREAD: 40 ft (12.2 m)
DIAMETER AT G.L: 24 in (61 cm)
BURSTALL'S NOTES: A rare species in this region.

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Maranui Gully. 25 m up from the bridge on the left-hand side of the path leading to the historic puriri,

DATE MEASURED: 18th October 2001

HEIGHT: 12.2 m

CANOPY SPREAD: 8.6 m

DIAMETER AT G.L: 91.7 cm

REMARKS: This specimen divided into three main limbs from just above ground level. The largest of which has now been removed, with the existing two being reduced dramatically. From the Large sections of logwood remaining on site it would appear a much bigger tree has fallen from the bank above and smashed into this specimen, causing considerable damage. The tree has now been reduced to under half the original canopy volume which is grossly unbalanced and one-sided, nevertheless compensation has been gained from a large amount of epicormic shoots (from dormant buds) on the stump and a substantial amount of healthy spring growth.
The combined diameter of the remaining two limbs, near ground level = 55 cm. They are in close contact for 2.5 m before diverging, making separate readings impossible.

(*Medbury, 1986: Ht = 20 m, approx.

Planted by George Huthnance, T. List's gardener and later the Carrington Rd Nurseryman. Planted c. 1934).

Since these notes and recordings were taken this rare tree has been cut down (February 2002) and removed. What ever the reasons, I'm sure park staff were unaware of its rarity and significance.

"Many attempts to propagate it over several years because of its attractive habit and foliage had failed". – G. Fuller.

May 2004: K. Davey took cutting material from the tree before removal and has been successful in striking several, now 50cm tall.

EXOTIC TREE: 125
SPECIES: *Taxodium distichum*
COMMON NAME(S): Swamp Cypress, Bald Cypress.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Truby King Dell.
DATE MEASURED: 1973
HEIGHT: 67 ft (20.4 m)
CANOPY SPREAD: 30 ft (9.2 m)
DBH: 24 in (61 cm)
BURSTALL'S NOTES: A tree growing near the dam, Brooklands Lake, was 17 in (43.2 cm) x 36 ft (11 m) in 1973. Planted by J. W. Goodwin in 1950.

CURRENT READINGS

UPDATED LOCATION: Truby King Dell, off lower Brooklands Rd. 75 m in a straight line along the T.K Dell boundary and the driveway of 3 a, b and 5 Azalea Pl, 19.6 m on the downside at almost a right angle.
DATE MEASURED: 1st September 2001
HEIGHT: 25.1 m
CANOPY SPREAD: -
DBH: 77 cm
REMARKS: Storm damage apparent at the top of canopy is likely to be from cyclone Bola, (March 1988). Sited next to a waterway in a rather sheltered site.
J. W. Goodwin is uneasy about the naming of this specimen.

~ Fuller, 1982: The specimen recorded at the dam at Brooklands is now demised.

+A tree at Tupare (Mangorei Rd) was recorded as it is healthy, well sited and should have a long future. Positioned in a wet area at the bottom end of the sunken dell, which commences below the cottage. 5 m from the riverbank on the eastern boundary and 11.5 m from the sealed drive leading down to the river flat. Large bamboo forms an effective shelter for this specimen. However, it has restricted growth in the lower section and the trunk is starting to develop a slight lean.

22.3.02: Height = 19.1 m; spread = 8.5 m; dbh = 56.7 cm.

EXOTIC TREE: 126
SPECIES: *Taxus baccata* 'Dovastoniana'.
COMMON NAME(S): Westfelton Yew.
B.B CATEGORY: Exotic Historic Tree - Local Interest.

ORIGINAL READINGS

LOCATION: St Mary's Churchyard.
DATE MEASURED: 1969
HEIGHT: 40 ft (12.2 m)
CANOPY SPREAD: 48 ft (14.6 m)
DBH: 34 in (86.4 cm)
BURSTALL'S NOTES: Planted by Archdeacon Govett in 1870.

CURRENT READINGS

UPDATED LOCATION: St Mary's Churchyard, in close proximity to the church, 5.5 m from the access driveway between Robe St and Vivian St.
DATE MEASURED: 7th February 2002
HEIGHT: 15 m
CANOPY SPREAD: 16.6 m
DBH: 1.134 m
REMARKS: Good health and well positioned (**Fig. 208**). A whorl of large branches have been removed at approximately 2 m and this is the main contributing factor to the appearance of numerous, small epicormic shoots (from dormant buds) on the trunk. An uncharacteristic tuft of growth appears at the top of the canopy, otherwise it is very broad and flat.
Yew trees have always been considered very appropriate for planting in churchyards, not only because in earlier times the confinement prevented grazing livestock from gaining access to the poisonous foliage but also because of their relatively slow growth rate, compact habit and great longevity.

"This cultivar 'Dovastoniana' known as the Westfelton yew because the original tree was planted in 1777 at Westfelton in Stropshire, England. It is a distinct form with tiers of wide-spreading, horizontal branches; it normally is found only in the female form". - Botanica's Pocket Trees and shrubs, 1999.



Fig. 208

EXOTIC TREE: 127
SPECIES: ***Taxus baccata.***
COMMON NAME(S): English Yew.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: 48 Hobson St.
DATE MEASURED: 1973
HEIGHT: 15 ft (4.6 m)
CANOPY SPREAD: 35 ft (10.7 m)
DBH: Unmeasurable diameter
BURSTALL'S NOTES: A very old tree, near the gateway. This species is scarce in this region.

CURRENT READINGS

REMARKS: No longer on this site. Thought to have been removed when a church was constructed at this location, around 1980. See (EXOTIC TREE 95).

EXOTIC TREE: 128
SPECIES: ***Taxus baccata, 'Fastigiata aureomarginata'***
COMMON NAME(S): Golden Irish Yew.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: E.M. Svendsen, 103 Fulford Street.
DATE MEASURED: -
HEIGHT: Three large 16 ft, (4.9 m) trees in front of the old home.
CANOPY SPREAD: -
DBH: -
BURSTALL'S NOTES: A 20 ft (6.1 m) conventional type of 'fastigiata' is also on the property.

CURRENT READINGS

UPDATED LOCATION: Keith Rodgers, 103 Fulford St. L shaped grouping, 8 m in front of the house.
DATE MEASURED: 17th March 2002
HEIGHT: 6.6 m
CANOPY SPREAD: -
DIAMETER AT G.L: 87.6 cm
REMARKS: Very healthy trees with a multitude of branches arising from ground level. Erect columnar form with golden yellow foliage.
The largest of the three was measured.
The conventional type fastigiata mentioned above is located on the next terrace below. It is now 7.8 m in height and has excellent health.

EXOTIC TREE: 129
SPECIES: ***Thuja plicata.***
COMMON NAME(S): Western Red Cedar.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Pukekura Park.
DATE MEASURED: 1973
HEIGHT: 103 ft (31.4 m)
CANOPY SPREAD: -
DBH: 35 in (88.9 cm)
BURSTALL'S NOTES: A well sited tree.

CURRENT READINGS

REMARKS: Several mysteries revolve around the recording of this tree, the most prominent being that Burstall had an unusual technique for distinguishing this species from

lawson cypress and he did not give a specific location in Pukekura Park. Medbury's Mensuration Report (1984 and 86) does not include a thuja with such great dimensions.

One possibility is a stump on the bank beside the path that leads past the Hatchery Lawn, Fountain Lake end (between the lawn and Hughes Walk). It has a diameter of 1.05 m at 60 cm and is suggestive of thuja. With the taper on this stump it is conceivable that this could have been the tree. Or, is this the tree that confused Burstall? There are two large *Chamaecyparis lawsoniana* in the park. They are recorded in 'Additional Trees Without An Original Title, TREE 7a'. Through private communication (in the form of a hand-written letter to G. Fuller) Burstall states: "What could the Thuja plicata be? I am fairly sure the skyline tree I saw was a Western Red Cedar!" This suggests some difficulty in identifying the species when it was in the form of a large mature specimen.

EXOTIC TREE: 130
SPECIES: *Tilia x europaea*.
COMMON NAME(S): Common Lime.
B.B CATEGORY: Not categorised.

ORIGINAL READINGS

LOCATION: Just inside and to the left of the entrance of Barrett Domain, Westown.
DATE MEASURED: 1973
HEIGHT: 44 ft (13.4 m)
CANOPY SPREAD: 40 ft (12.2 m)
DIAMETER AT 2 ft: 29 in (73.7 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Mrs Mack, 7a Roto St. Tree positioned in front of the house to the left of the driveway with the drip-line reaching the carport.
DATE MEASURED: 4th May 2002
HEIGHT: 15.5 m
CANOPY SPREAD: 16.1 m
DBH: 1.022 m
REMARKS: A healthy tree that had lost the majority of it's leaves by the start of May (**Fig. 209**). Branches at approximately 1 m with the canopy reaching ground level. It has a distinctive form in the fact that the canopy is very dense with the lower branches drooping, the middle horizontal and the top erect. This genus is renowned for having excessive suckering (shoots) at the base, although this specimen is not the best example of that. This tree is a rarity in New Plymouth and this is the only one known of significant size.



Fig. 209

+A tree of the same genus but different parentage: *Tilea x euchlora* was recorded because of historic reasons. It is located at Pukekura Park on the Hatchery Lawn, Bandstand side at the Waterfall end. Planted on the 29th of May 1976 by Mrs. Eliot King who is a descendant of Thomas King (father of Newton and Truby) as part of the park's Centennial celebrations.

3.9.01: Height = 9.6 m; spread = 6.95 m; dbh = 20 cm.

(*Medbury, 1984: Ht = 6.5 m; dbh = 7 cm).

EXOTIC TREE: 131

SPECIES:

Trachycarpus fortunei.

COMMON NAME(S):

Fan Palm.

B.B CATEGORY:

Exotic Notable Tree - National Interest.

ORIGINAL READINGS

LOCATION:

Beside the main walk, Brooklands Park.

DATE MEASURED:

1973

HEIGHT:

32 ft (9.8 m)

CANOPY SPREAD:

-

DBH:

7 in (17.8 cm)

BURSTALL'S NOTES:

The larger of two tall palms.

Nearby, between the two Norfolk pines, is another rare palm, *Chamaerops humilis*, European Palm. The only palm native to Europe. It is multi-stemmed with formidable spines on leaf stalks. It could not be featured individually as it is only 10 ft, (3.1 m) tall.

CURRENT READINGS

REMARKS:

The larger of the two specimens was demolished sometime in the early 80s when a staff member reversed a utility vehicle into the tree and snapped the top off.

+The remaining specimen is located 5.7 m from the path on the Main Lawn almost opposite the historic Fireplace, Brooklands Park. A solo palm exposed to the winds yet it has not yielded. Unfortunately it is in poor health.

15.9.01: Height = 10.5 m; dbh = 15.9 cm.

&The rare European Palm, *Chamaerops humilis*, contains a number of epiphytes.

15.9.01: Height = 4.2 m; diameter of drip line = 4.39 m.

A healthy significant specimen, which has finally 'made the grade' (10 ft tall).

EXOTIC TREE: 132

SPECIES:

Ulmus glabra, 'Pendula'. (I.D wrong. It is the 'Horizontalis' form).

COMMON NAME(S): Weeping Wych Elm.

B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: Pukekura Park, Overhanging the pathway, between the Kiosk and the display houses.

DATE MEASURED: 1973

HEIGHT: 20 ft (6.1 m)

CANOPY SPREAD: 42 ft (12.8 m)

DBH: 18 in (45.7 cm)

BURSTALL'S NOTES: Overshadowed by large oaks; it's habit is exaggerated in one direction.

CURRENT READINGS

UPDATED LOCATION: Pukekura Park, behind the Kiosk.

DATE MEASURED: 4th February 2002

HEIGHT: 7.9 m

CANOPY SPREAD: 10 m, taken in only one direction as it is a solitary very horizontal limb.

DBH: 47.1 cm

REMARKS: Proven to be 'horizontalis', as the branching habit is strictly horizontal. The tree was very badly damaged by a falling oak in 1997, see (EXOTIC TREE 110). The remains comprise of a 2.3 m leaning stump with 1 original branch and 3 developed sprouts (shoots). It is supported (propped up) by a large timber round. Unfortunately this is an ailing tree and may not survive long as bracket fungi are evident. Nearby is a large and very old Wisteria climber.

(*Medbury, 1986: Ht - 5.8 m; dbh = 57.3 cm; spread N/S = 12.5 m. W. W. Smith planting, early 1920's).

Medbury includes 'horizontalis' as a synonym of 'pendula' which is rather confusing. There is a discrepancy between the 1973 recording of Burstall and the 1986 one of Medbury.

The 10 cm diameter difference between the current reading and that of Medbury could be due to the trunk having a large gall just below breast height, or the trunk being unconventional, (leaning). The current reading was taken on two separate occasions revealing a 3 mm discrepancy.

EXOTIC TREE: 133
SPECIES: *Ulmus procera*
COMMON NAME(S): Common English Elm.
B.B CATEGORY: Not categorised.

ORIGINAL READINGS

LOCATION: Brooklands Park, the larger of two trees near the giant puriri.
DATE MEASURED: 1973
HEIGHT: 85 ft (25.9 m)
CANOPY SPREAD: 70 ft (21.4 m)
DBH: 34 in (86.4 cm)
BURSTALL'S NOTES: -

CURRENT READINGS

UPDATED LOCATION: Brooklands Park, Kaimata St entrance. Two trees, at an equal radius of 10m from the historic puriri. The larger specimen recorded is the one toward Brooklands Park, not Kaimata St, relative to the puriri.

DATE MEASURED: 29th January 2002
HEIGHT: 32.7 m
CANOPY SPREAD: 27.2 m
DBH: 1.012 m
REMARKS: Reasonable health with the inner section of the flat canopy containing a large amount of epicormic shoots (from dormant buds). Towers above and overhangs the historic puriri. The canopy of these two trees intertwine and contain a large number of *Astelia* epiphytes.

(*Medbury, 1986: Ht = 29.15 m; 93.6 cm.
Planted by Newton King along his drive from farm).

EXOTIC TREE: 134
SPECIES: *Zelkova serrata*
COMMON NAME(S): Keaki.
B.B CATEGORY: Exotic Notable Tree - Local Interest.

ORIGINAL READINGS

LOCATION: St Mary's Churchyard.
DATE MEASURED: 1969
HEIGHT: -
CANOPY SPREAD: 70 ft (21.4 m), low branching
GIRTH AT G.L.: 14 ft (4.3 m)
BURSTALL'S NOTES: Although there is no known record of the planting of this tree, it is probably over 100 years old.
This species is related to the elm.

CURRENT READINGS

REMARKS: John Hatherly was a former teacher at New Plymouth's Boy's High School. He passed away around 1990 leaving a large sum of money to St Mary's church. The money helped to fund the latest addition to the church, which was carefully designed to be in harmony with the rest of St Mary's. It was in 1992 that the tree was removed to make way for these extensions, but it must be recorded that it was a severely storm damaged and ailing specimen, (as seen in photos from winter 1991). It would have constituted a threat to the new building. The committee at that time put the timber to good use in making limited edition numbered candlesticks based on the design of the brass ones used in the church. (Information kindly supplied by Canon D Hollingsworth).

~ Fuller. 1982: "...many decaying areas in trunk and limbs"

2.3 Health Assessment, Measurements, Observations, and History

Additional Trees Without An Original Title

These trees were observed as notable in the course of the survey and considered to be worthy of inclusion.

EXOTIC TREE: 1a
SPECIES: *Abies sp.*
COMMON NAME(S): Fir.
LOCATION: Tupare, Mangorei Rd. Lower paddock, at the northern end of the property, 4 m from the eroding riverbank.
DATE MEASURED: 22nd March 2002
HEIGHT: 26.1 m
CANOPY SPREAD: 10.3 m
DBH: 81.8 cm
REMARKS: Handsome specimen with excellent health. Foliage to ground level (**Fig. 210**).



Fig. 210

EXOTIC TREE: 2a
SPECIES: *Abies grandis.*
COMMON NAME(S): Giant Fir.
LOCATION: Audrey Gale Reserve, Mangorei Rd. At the lower section of the entry drive to this reserve there is a 'horse riding permitted' sign. This specimen is located on the upper terrace 81 m, in an upstream direction from this sign.
DATE MEASURED: 3rd May 2002
HEIGHT: 20.5 m
CANOPY SPREAD: 13.5 m
DBH: 1.04 m
REMARKS: This tree was recorded because of its future potential, (although a co-dominant leader should be removed). The species is among the world's tallest conifers. An excellent, healthy specimen and one of the most symmetrical *Abies* observed. The canopy comes within cm's of ground level (**Fig. 211**). Unrestricted site with every possibility of achieving huge dimensions in the future. In the surrounding area a large conifer collection was planted under the direction of J. W. Goodwin in the 1950's and 60's by which time planting space in Pukekura and Brooklands was becoming restricted. (Cory's favourite! G. F.)



Fig. 211

EXOTIC TREE: 3a

SPECIES:

COMMON NAME(S):

LOCATION:

DATE MEASURED:

HEIGHT:

CANOPY SPREAD:

DBH:

REMARKS:

Abies religiosa.

Religious Fir.

Pukekura Park, 6 m on the upper side of Racecourse Walk, upper Stainton Dell, 105 m down from the entry to the park from the T.S.B Stadium car park entrance.

19th October 2001

25.9 m

14.1 m

90.8 cm

A healthy tree (**Fig. 212**) with a very rapid growth rate, having been planted as recently as 1965, compelling one to consider the potential for a sustainable timber crop. Well located. The canopy has been lifted slightly as an access path to/from the eastern hillside runs beneath it.



Fig. 212

EXOTIC TREE: 4a
SPECIES: *Acer sp.*
COMMON NAME(S): Maple
LOCATION: TOPEC Camp, Junction Rd, (SH3). Close to a bridge over the lower end of the power station tailrace.
DATE MEASURED: 8th August 2002
HEIGHT: 22 m
CANOPY SPREAD: 20.6 m
DBH: 95.9 cm
REMARKS: This tree has not been identified, as it had no foliage when recorded. It is thought to be either *Acer saccharinum* (silver maple) or *Acer saccharum* (sugar maple).

EXOTIC TREE: 5a
SPECIES: *Brachychiton acerifolius.*
COMMON NAME(S): Illawara Flame tree.
LOCATION: West End Primary School. 1.5 m on the western side of the western ramp leading down to the sportsground and 1.5 m from the terraced wall.
DATE MEASURED: 28th August 2002
HEIGHT: 10.8 m
CANOPY SPREAD: 9.6 m
DBH: 57.3 cm
REMARKS: A healthy tree that requires the removal of deadwood and old stubs. Branching into 2 main limbs at 2.4 m. Sections of large exposed roots are visible in the compacted soil on the same side as the childrens play equipment. Fred Parker revealed (1977) that he had germinated 3 seeds collected in Tobruk. One went to Pukekura Park; one to Wanganui and one to West End School but no planting dates are recorded. There is no record of flowering (Notes taken from an interview G. Fuller conducted with F. Parker in 1977).

EXOTIC TREE: 6a
SPECIES: *Callistemon sp?*
COMMON NAME(S): Bottlebrush.
LOCATION: Bains Terrace, 31 m downstream from the bridge (at the base of Redcoat Lane) crossing the Huatoki Steam.
DATE MEASURED: 12th July 2002
HEIGHT: 18.1 m
CANOPY SPREAD: 3.5 m, (only taken one way, tree 50 cm from stream bank).
DBH: 70.1 cm
REMARKS: Dividing into 2 leaders at about 30 cm, which appear to be locked as one until approximately 5 m. At this point the tree diverges into 5 main leaders. The tree has been forced to overhang the stream because of competing vegetation. This outstanding specimen has not been previously recorded, partly because it is almost obscured from view (in summer) by nearby sycamore and plane trees and partly because it has been forced up so tall, making it difficult to be sure of whether it is a *Callistemon* or a *Melaleuca*.

EXOTIC TREE: 7a

SPECIES:

COMMON NAME(S):

LOCATION:

DATE MEASURED:

HEIGHT:

CANOPY SPREAD:

DBH:

REMARKS:

Chamaecyparis lawsoniana, x2

Lawson Cypress.

Pukekura Park, 42 m up Racecourse walk (on the upper-side of the path) from Saxton Walk, beside the kiosk.

15th May 2002

32.1 m

8.8 m

1.223 m

A very large, healthy tree (**Fig. 213**). Branches at approximately 4 m into a tightly forked co-dominant leader. 2 m above this point the southerly leader (fernery side) branches again into another tightly forked leader, (main canopy comprising of three main leaders). One-sided canopy because of vegetation behind the tree. On the path-side the canopy comes within a few metres of ground level.

(*Medbury, 1986: Ht = 30.7 m; dbh = 1.62 m (??)).



Fig. 213

Another specimen is positioned beside the path, which runs next to the Hatchery Lawn, between the lawn and Hughes Walk. A healthy tree with a very unusual form, branching into two co-dominant leaders at ground level (**Fig. 214**). The principal trunk is on Hughes Walk side and has a dbh = 1.006 m.

15.5.02: Height = 25.9 m; spread = 12.8 m; diam at ground level = 2.2 m.

A peculiar tree with a powerful trunk.

Are these the trees that confused Burstall with *Thuja plicata*?



Fig. 214

EXOTIC TREE: 8a
 SPECIES: *Hagenia abyssinica*.
 COMMON NAME(S): Kosso tree
 LOCATION: Burgess Park, Junction Rd, (SH3). On the right-hand side of the path in from the lower entrance.
 DATE MEASURED: 8th August 2002
 HEIGHT: 16.5 m
 CANOPY SPREAD: 9.5 m
 DBH: 50.3 cm
 REMARKS: This specimen has a strong lean downstream and is completely unbalanced in that direction (**Fig. 215**). This has been caused by vegetation, which has now been removed. A stump is evident 2.5 m away from this tree and has a diameter of 80 cm at ground level. With this vegetation now removed this tree can be expected to develop more growth on the suppressed side.
 This healthy specimen has very distinguishing characteristics. It has distinctively papery bark, the petioles are red, leaves are compound, soft, hairy and smell like bubble-gum when crushed. Their texture could be described as 'woolly'. The main canopy branches at approximately 6 m. Looking upward, the leaf arrangement takes on a fan-like appearance.
 This specimen is uncommon and this could quite possibly be one of the largest in New Zealand.



Fig. 215

EXOTIC TREE: 9a
SPECIES: *Pterocarya fraxinifolia*
COMMON NAME(S): Caucasian Wingnut.
LOCATION: Pukekura Park, opposite Cricket Pavilion, next to Sportsground.
DATE MEASURED: 3rd September 2001
HEIGHT: 18.7 m
CANOPY SPREAD: 24.4 m
DBH: 1.10 m
REMARKS: Good health, achieving a large and balanced status quickly, for a somewhat exposed site.

(*Medbury, 1986: Height = 22.2 m; spread = 13.7; diam at 1 m = 50.9 cm. Growing at a terrific rate. Planted 11.8.75)

Because of the discrepancy between the current readings and those of Medbury, height measurements were taken again on the 26.7.02, when it had no foliage. It was not possible to achieve a greater height than that originally recorded on the 3.9.01. The average of three difficult measurements on this very flat, broad canopy was 18.5 m.

EXOTIC TREE: 10a
SPECIES: *Quercus coccinea?*
COMMON NAME(S): Scarlet Oak?
LOCATION: 19.5 m from the right-hand pillar at the main entrance to Burgess Park, Junction Rd, (SH3). A specimen on the end of a group of three oaks that are almost in a straight line, being the tree furthest from the bridge
DATE MEASURED: 25th March 2002
HEIGHT: 23.5 m
CANOPY SPREAD: 19.5 m
DBH: 67.5 cm
REMARKS: A healthy tree with a slight lean in the trunk and the canopy suppressed on the southern side (road-side), due to a large rimu being sited in close proximity on this side. Displays excellent recovery in the form of callus wood that has completely engulfed old wounds from branches being removed in the lower canopy. Excellent specimen with an impressive spread when viewed from the lower lawn level (Fig. 216).



Fig. 216

2.4 Large Trees in New Plymouth

The following measurements were recorded in 2001/2002 and are for some of the largest trees in N.P, in many cases and categories the largest of that species in New Zealand. All trees that have been recorded are listed in alphabetical order with natives appearing first. At the end of the three categories the larger, supreme measurements are placed in order.

The * symbol appears next to those that are listed more than once. A key is at the end of this section.

Trees with a Height of 30 m or Greater

Native		Height	Page	Figures
- <i>Dacrydium cupressinum</i>	Burgess Park, 361 Junction Rd (SH3)	39.1 m.	51	38 & 39
* <i>Dacrydium cupressinum</i>	Ratapihipihi Reserve, off Cowling Rd	32.6 m	53	41 & 42
- <i>Laurelia novae-zealandiae</i>	Burgess Park, 361 Junction Rd (SH3)	32.8 m.	63	50
Exotic				
* <i>Araucaria heterophylla</i>	Brooklands Park, Main Lawn	31.5 m.	90	73
- <i>Araucaria heterophylla</i>	Pukekura Park, near old curators office	39.5 m.	89	
* <i>Araucaria heterophylla</i>	12 a Ridge Lane	40 m. approx.	89	
* <i>Araucaria heterophylla</i>	Brooklands Park, Main Lawn	41.35 m.	90	73
- <i>Araucaria heterophylla</i>	Pukekura Park, near The Poet's Bridge	48.4 m.	88	72
- <i>Chamaecyparis lawsoniana</i>	Pukekura Park, Racecourse Walk	32.1 m.	222	213
- <i>Cryptomeria japonica</i> 'Elegans'	Burgess Park, 361 Junction Rd (SH3)	31 m.	119	101
* <i>Cupressus macrocarpa</i>	Pukekura Park, near Rogan St Entrance	36.5 m.	125	
* <i>Ficus macrophylla</i>	Pukekura Park, Hughes Walk, Waterfall	33.6 m.	138	122
- <i>Liriodendron tulipifera</i>	Tupare, Mangorei Road	31.3 m.	150	136, 137
- <i>Picea abies</i>	Pukekura Park, near base of Horton Walk	30 m.	172	
- <i>Pinus nigra</i>	Pukekura Park, Eastern Hillside	31.3 m.	174	161
* <i>Pinus radiata</i>	Brooklands Park, near Kaimata St Ent	36.4 m.	177	163, 164
* <i>Pinus radiata</i>	Pukekura Park, 46 m behind Bandroom	40.6 m.	178	165, 166
* <i>Pinus radiata</i> 'Carrington'	Pukekura Park, side of Cannon Hill	46.7 m.	178	167
* <i>Pinus torreyana</i>	Pukekura Park, behind Cricket Pavilion	40 m.	182	
* <i>Pinus torreyana</i> . D.	Pukekura Park, Childrens Playground	41.9 m.	181	169, 170
* <i>Platanus x acerifolia</i>	Bains Terrace	30.5 m.	185	174
* <i>Platanus x acerifolia</i>	Pukekura Park, Rhododendron Dell	32.4 m.	183	171, 172
* <i>Populus deltoides</i>	7 c Welbourn Terrace	36.5 m.	187	
* <i>Populus deltoides</i> .D.	Bains Terrace	39.2 m.	186	175, 176
- <i>Sequoiadendron giganteum</i>	Pukekura Park, base of Horton Walk	32.2 m.	205	201
- <i>Sequoiadendron giganteum</i>	Pukekura Park, closer to Kiosk	33.3 m.	205	
- <i>Sequoiadendron giganteum</i>	Truby King Dell, off lower Brooklands Rd	34.4 m.	206	202
- <i>Sequoia sempervirens</i>	Barrett Domain, Davies Rd entrance	31.3 m.	203	
- <i>Sequoia sempervirens</i>	Pukekura Park, behind Cricket Pavilion	31.6 m.	200	195
* <i>Sequoia sempervirens</i>	TOPEC Camp, Junction Rd, (SH3)	32.7 m.	204	198, 199
* <i>Sequoia sempervirens</i>	Tupare, Mangorei Road	41.2 m.	200	193, 194
- <i>Ulmus procera</i>	Brooklands Park, near Kaimata St Ent	32.7 m.	218	

Noted in this category is a *Liquidambar styraciflua*, 27.7 m (**Page 149, Figs. 134 and 135**) and a *Metasequoia glyptostroboides*, 28.8 m at Tupare, Mangorei Rd (**Page 158**). A *Cunninghamia lanceolata* (**Page 121, Fig. 104**) at the TOPEC camp, Junction Rd (SH3) has a height of 28.8 m.

32 specimens with a height of 30 m or more, 8 with a height of 40 m or more.

The Tallest	Height	Page	Figures
<i>Dacrydium cupressinum</i>	39.1 m.	51	38, 39
<i>Populus deltoides</i> x2. 1D.	39.2 m, 36.5 m.	186, 187	175, 176
<i>Sequoia sempervirens</i>	41.2 m.	200	193, 194
<i>Pinus torreyana</i> x2. 1D.	41.9 m, 40 m.	182	169, 170
<i>Pinus radiata</i> x3	46.7 m, 40.6 m, 36.4 m.	178, 178, 177	163-167
<i>Araucaria heterophylla</i> x3	48.4 m, 41.35 m, 40 m.	88, 90, 89	72, 73

Trees with a Canopy Spread 25 m or Greater

Native		Spread	Page	Figures
* <i>Vitex lucens</i>	Brooklands Park, lower Maranui Gully	26.75 m.	74	60 & 61
Exotic				
* <i>Castanea sativa</i>	St Marys Churchyard, Vivian Street	25 m.	102	83 & 84
* <i>Cupressus macrocarpa</i>	Brooklands Park, Main Lawn	32.5 m.	124	109,110
* <i>Cupressus macrocarpa</i>	T.K. King Dell off lower Brooklands Road	28.2 m.	125	
* <i>Fagus sylvatica</i> 'Purpurea'	Brooklands Park, Main Lawn	27.6 m.	134	116,117
* <i>Ficus macrophylla</i>	9 e Paynters Avenue	27.8 m.	138	124
* <i>Ficus macrophylla</i>	Pukekura Park, Hughes Walk, Waterfall	37 m.	138	122,123
* <i>Pinus radiata</i>	Brooklands Park, near Kaimata St Ent	29.4 m.	177	163,164
* <i>Pinus radiata</i>	Pukekura Park, 46 m behind Bandroom	35.4 m.	178	165,166
* <i>Pinus torreyana</i>	Pukekura Park, behind Cricket Pavilion	26.7 m.	182	
* <i>Pinus torreyana</i> .D.	Pukekura Park, Childrens Playground	29.5 m.	181	169,170
* <i>Platanus x acerifolia</i>	Bains Terrace	27.5 m.	185	174
* <i>Platanus x acerifolia</i>	Pukekura Park, Rhododendron Dell	32.2 m.	183	171,172
* <i>Populus deltoides</i>	7 c Welbourn Terrace	28.9 m.	187	
- <i>Quercus robur</i>	Pukekura Park, behind Kiosk	29.8 m.	193	185,186

Specimens that deserve recognition in this category are a *Camellia japonica* (Page 97, Fig. 78) at the far end of the Hatchery Lawn, Pukekura Park with a canopy spread = 19.95 m. A *Sophora tetraptera* near the Rhododendron Dell, Pukekura Park has a spread = 21.2 m (Page 73, Fig. 59).

15 trees with a canopy spread greater than 25 m, 4 trees with a spread greater than 30 m.

The Greatest Canopy Spread	Spread	Page	Figures
<i>Quercus robur</i>	29.8 m.	192	185,186
<i>Platanus x acerifolia</i> x2	32.2 m, 27.5 m.	183-185	171,172 & 174
<i>Cupressus macrocarpa</i> x2	32.5 m, 28.2 m.	124,125	109,110
<i>Pinus radiata</i> x2	35.4 m, 29.4 m.	178,177	163-166
<i>Ficus macrophylla</i> X2	37 m, 27.8 m.	138	122-124

Trees with a Trunk Diameter Greater than 1.5 m

Native		Diameter	Page	Figures
- <i>Corynocarpus laevigatus</i>	Brooklands Park, near Main Lawn	2.076 m.	48	33 & 34
- <i>Corynocarpus laevigatus</i>	Struan Walk, off lower Brooklands Rd	2.32 m.	48	
- <i>Dacrydium cupressinum</i>	Ratapihipihi Reserve, off Cowling Rd	1.675 m.	52	40
* <i>Dacrydium cupressinum</i>	Ratapihipihi Reserve, off Cowling Rd	1.764 m.	53	41 & 42
- <i>Laurelia novae-zealandiae</i>	Brooklands Park, upper Maranui Gully	1.592 m.	62	
- <i>Laurelia novae-zealandiae</i>	Brooklands Park, lower Maranui Gully	2.022 m.	62	49
- <i>Metrosideros excelsa</i>	Corner Cameron and Leach St	2.627 m.	65	51
- <i>Metrosideros excelsa</i>	209 Devon Street West	2.596 m.	66	52
- <i>Metrosideros excelsa</i>	22 a Dartmoor Av	2.538 m.	66	
- <i>Metrosideros excelsa</i>	22 a Dartmoor Av	2.245 m.	66	
- <i>Vitex lucens</i>	Brooklands Park, 81 m from Kaimata Ent	1.968 m.	75	62 & 63
- <i>Vitex lucens</i>	Brooklands Park, behind Bowl	2.165 m.	77	64
* <i>Vitex lucens</i>	Brooklands Park, lower Maranui Gully	3.598 m.	74	60 & 61
Exotic				Figures
- <i>Agonis flexuosa</i>	40 Hobson Street	1.662 m.	86	69
- <i>Agonis flexuosa</i>	Vivian St, Mill Liquor Save, Carpark	1.624 m.	86	70
- <i>Araucaria bidwilli</i>	Ratanui, 538 Carrington Rd	1.554 m.	87	71
* <i>Araucaria heterophylla</i> .D.	12 a Ridge Lane	1.69 m.	89	
- <i>Araucaria heterophylla</i>	The Homestead 813 Mangorei Road	1.51 m.	92	75
- <i>Araucaria heterophylla</i>	Ratanui, 538 Carrington Rd	1.57 m.	91	74
- <i>Araucaria heterophylla</i>	Ratanui, 538 Carrington Rd	1.636 m.	91	74
* <i>Araucaria heterophylla</i>	Brooklands Park, Main Lawn	1.69 m.	90	73

Exotic		Diameter	Page	Figures
* <i>Araucaria heterophylla</i>	Brooklands Park, Main Lawn	1.719 m.	90	73
* <i>Castanea sativa</i>	St Marys Churchyard, Vivian Street	2.465 m.	102	83 & 84
- <i>Chamaecyparis lawsoniana</i>	Pukekura Park, beside Hatchery Lawn	2.2 m.	222	214
- <i>Cinnamomum camphora</i> .D.	85-87 Vivian St, Medical Centre	2.261 m.	111	93
- <i>Cunninghamia lanceolata</i>	Burgess Park, 361 Junction Rd (SH3)	2.245 m.	122	106
* <i>Cupressus macrocarpa</i>	Pukekura Park, near Rogan St Entrance	2.01 m.	125	
* <i>Cupressus macrocarpa</i>	T.K. King Dell off lower Brooklands Road	2.91 m.	125	
* <i>Cupressus macrocarpa</i>	Brooklands Park, Main Lawn	3.248 m.	124	109,110
- <i>Erythrina caffra</i>	Corner of Ridge Lane and Rogan Street	1.506 m.	131	115
* <i>Fagus sylvatica</i> 'Purpurea'	Brooklands Park, Main Lawn	1.815 m.	134	116,117
* <i>Ficus macrophylla</i>	9 e Paynters Avenue	2.962 m.	138	124
* <i>Ficus macrophylla</i>	Pukekura Park, Hughes Walk, Waterfall	3.118 m.	138	122,123
- <i>Ginkgo biloba</i>	Brooklands Park, Maranui Gully	1.503 m.	140	126
- <i>Ilex aquifolium</i>	Brooklands Park, 36 m from Main Ent	3.025 m.	143	127
- <i>Phoenix reclinata</i>	Brooklands Park, Main Lawn	2.328 m.	169	157
- <i>Phytolacca dioica</i>	Church, corner of Hobson St and Leach	3.248 m.	171	158,159
- <i>Pinus pinea</i> (skeleton. D.)	562 Carrington Road	1.682 m.	175	162
* <i>Pinus radiata</i> 'Carrington'	Pukekura Park, side of Cannon Hill	1.732 m.	178	167
* <i>Pinus radiata</i>	Brooklands Park, near Kaimata St Ent	2.073 m.	177	163,164
* <i>Pinus radiata</i>	Pukekura Park, 46 m behind Bandroom	2.203 m.	178	165,166
* <i>Pinus torreyana</i>	Pukekura Park, behind Cricket Pavilion	1.52 m.	182	
* <i>Pinus torreyana</i> .D.	Pukekura Park, Childrens Playground	1.592 m.	181	169,170
* <i>Platanus x acerifolia</i>	Bains Terrace	1.557 m.	185	174
* <i>Platanus x acerifolia</i>	Pukekura Park, Rhododendron Dell	1.71 m.	183	171,172
* <i>Populus deltoides</i>	7 c Welbourn Terrace	1.672 m.	187	
* <i>Populus deltoides</i> .D.	Bains Terrace	2.341 m.	186	175,176
- <i>Quercus ilex</i>	22 a Holsworthy Road	1.58 m.	188	177
- <i>Sequoia sempervirens</i>	Ratanui, 538 Carrington Rd	1.592 m.	202	196
* <i>Sequoia sempervirens</i>	Tupare, Mangorei Road	1.685 m.	200	193
* <i>Sequoia sempervirens</i>	TOPEC Camp, Junction Rd, (SH 3)	2.191 m.	204	198,199

A *Cryptomeria japonica* at Ratanui with a Dbh = 1.496 m (**Page 117**) and a *Quercus robur* in St Mary's Churchyard with a Dia at 90 cm = 1.49 m (**Page 191, Figs. 180-182**) narrowly missed this category.

51 specimens with a diameter greater than 1.5 m, 24 with a diameter greater than 2 m, 5 with a diameter greater than 3 m.

The Greatest dbh	Diameter	Page	Figures
<i>Metrosideros excelsa</i>	Dbh = 2.627 m.	65	51
<i>Ilex aquifolium</i>	Dia at gl = 3.025 m.	143	127
<i>Ficus macrophylla</i> x2	Dbh = 3.118 m, Dbh = 2.962 m.	138	122-124
<i>Phytolacca dioica</i>	Dia at 60 cm = 3.248 m.	171	158, 159
<i>Cupressus macrocarpa</i> x3	Dbh = 3.248 m, Dia at 1 m = 2.91 m, Dbh = 2.01 m.	124,125	109,110
<i>Vitex lucens</i> x3	Dia at gl = 3.598 m, Dbh = 2.165 m, Dbh = 1.968 m.	74,77,75	60-64

Trees with the Greatest Overall Dimensions

From the above statistics the largest specimens in New Plymouth appear to be the *Cupressus macrocarpa* at Brooklands Park (**Page 124, Fig. 109**), *Ficus macrophylla* at Pukekura Park (**Page 138, Fig. 123**) and the *Pinus radiata* (**Page 178, Fig. 165**) behind the Bandroom at Pukekura Park.

Biologically perhaps the most fascinating and thought-provoking single tree, consistent with great bulk but not height, must surely be the curiously formed puriri (*Vitex lucens*) in the lower Maranui Gully, Brooklands (**Figs. 60, 61**).

Key

- | | | |
|------------------------------------------|-------------------|----------|
| H = height | Dia = diameter | D = dead |
| CS = canopy spread | gl = ground level | |
| Dbh = diameter at breast height (1.36 m) | Ent = entrance | |

2.5 Private Owner Questionnaires

10 private landowners that have an original (1969, 1973) historic or notable tree still existing on their property were invited to complete the following questionnaire form. Results are inconclusive.

1. Did you know you had a notable tree on your property?

Yes	8
No	2

2. If yes how did you know?

N.P. Council badge 'protected tree'	5
Other	3

3. Does knowing it is a notable tree change your view of the tree?

Yes	5
No	3
Other	2

4. Did the tree influence you in your purchase of the property?

Yes	4
No	4
Other	2

5. What monetary value do you place on the tree?

\$ 5,000	1
?	4
Priceless	3
None	1
Irreplaceable	1

3. Results

3.1 Outcome of Burstall Recordings

Burstall recorded and included 213 tree specimens in the New Plymouth area. They all appear in the 1969, 1973 F.R.I. Mensuration Report #19. In February 2002, 157 specimens still existed with 1 unknown. If this number (157) was converted to a percentage equation, 73.7 % of New Plymouth's 1969, 1973 Historic and Notable trees remain.

73.2 % (41 out of 56) remain on private property.

How does this compare to other regions in New Zealand? It is possible to extract information from three similar reports:

- Review of S.W. Burstall's Notable and Historic Tree Listing - Hamilton City. (Shane Moohan, 2000).
64% of trees remain.

- Review of S.W. Burstall's Notable and Historic Tree Listing - Rotorua / Te Aroha. (Phillip Best, 2001).
63% of trees remain.

- Review of S.W. Burstall's Notable and Historic Tree Listing - Tauranga District Council and Western Bay of Plenty District Council. (Paul Kenny, 2001). 68% of trees remain.

From the above observations it would appear New Plymouth City has a greater retention of its original historic and notable trees. Possible explanations for this could be:

- A large proportion of these trees are located in the numerous parks and reserves New Plymouth city contains.
- New Plymouth city has had long-standing, prominent administrative staff enthusiastic on the preservation and development of historic and notable trees in New Plymouth.
- The New Plymouth District Council (N.P.D.C.) promotes and actively takes part in consultation with the large number of horticultural organisations in the city.
- Development and population growth of New Plymouth city is not as rapid as other regions in New Zealand, reducing potential threat.

3.2 Break - Down of Trees Recorded (As at July 2002)

-	Trees with single title, recorded by Burstall in N.P. (spreadsheet) =	172
-	Trees with single title, recorded by Burstall in N.P. that still exist (spreadsheet) =	122
	Native =	28, (73.7%).
	Exotic =	94, (70.1%).
-	Trees with single title, recorded by Burstall in N.P. that have died (spreadsheet) =	49
-	Unknown =	1
-	Trees Burstall included, listed under same species =	41
-	Trees Burstall included, listed under same species that still exist =	35, (85.3%)
-	Trees Burstall included, listed under same species that have died =	6
-	Total of Burstall's specimens researched =	213
-	Number of trees Burstall recorded on private property =	56
-	Number of trees Burstall recorded on private property that still exist =	41, (73.2%)
-	Additional specimens included by Cory Smith and George Fuller =	140
	Native =	73
	(53 native trees are kauri).	
	Exotic =	69.
-	Total Trees researched in N.P. =	355
-	Total recorded (alive) =	299

3.3 Trees Recorded In Prominent Locations (As at July 2002).

-	Trees measured and recorded at Pukekura Park;	Native = 26; Exotic = 57. Total = 83.
-	Trees measured and recorded at Brooklands;	Native = 21; Exotic = 28. Total = 49.
-	Trees measured and recorded at Tupare;	Native = 5; Exotic = 12. Total = 17.
-	Trees measured and recorded at Burgess Park;	Native = 3; Exotic = 6. Total = 9.
-	Trees measured and recorded at Ratanui;	Native = 1; Exotic = 11. Total = 12.
-	Trees measured and recorded at St Mary's;	Native = 0; Exotic = 6. Total = 6.

4. Conclusions

- 73.7% of New Plymouth's historic and notable trees remain. Compared with three other regions in New Zealand this is an impressive result.
- The New Plymouth Notable Tree register which provides protection to specimens under the Resource Management Act (1991) appears effective. The majority of trees that no longer exist were removed for legitimate reasons (ie - poor health, unstable, hazard to public and Cyclone Bola).
- A very satisfying result was the large number of the original trees still remaining (73.2%) on private property.
- N.P.D.C appears committed to the development of the cities assets (which includes trees). For example -
New Plymouth District Tree Policy, (2001). - Ensures ongoing upgrading and maintenance of important trees.
Pukekura Park and Brooklands Management Plan, (2002). - Strategic document defining management, objectives and policies.
Brooklands Kauri Grove. Promoting An Approach For Long-Term Care And Sustainable Management, (2002). - A community workshop with illustrated presentations, discussion and a field visit.
- A small number of trees have decreased in measurements (discussed in main body of text). Equipment used by Burstall and myself has questionable accuracy; this process is **not** an exact science.
- During this mensuration process the large amount of kauri located (over 4000) in New Plymouth was astonishing. In the future will New Plymouth be renowned for it's big trees?

5. Recommendations

- The trees that have been recorded in this report need to be GPS located as soon as possible.
- Information relating to trees recorded should be updated if changes occur.
- N.P.D.C administrative staff should be supplied with this material. It is hoped this will avoid repeat performances of (EXOTIC TREE 124 *Syzygium ventenatii*). This information should be used to enhance knowledge of our more notable species.
- New Plymouth has some of the best and largest trees of certain species. These can now be included on the Royal N.Z. Inst. Horticulture Notable Trees N.Z. (N.T.N.Z) register.
- Comprehensive listings of notable trees in our major parks and reserves is achievable.
- Taking into account the criteria of long-term value, significance, structure, health and sustainability several potentially notable trees can now be added on the N.P.D.C Notable Tree Register, (of note the trees at 7c Welbourn Terrace). Other minor amendments could include: In a few instances trees that have 'Protected Tree' labels do not appear on the register, or trees that appear on the register do not have labels.

This information was never intended to be presented as a report. The author believes it to be more suitable for the promotion of New Plymouths historic and notable trees. It is hoped that it can be used as a resource and developed when other studies occur. I will endeavour to supply this information to parties and organisations that have an interest in New Plymouths notable trees.

This report is as accurate as possible as at June. 2006

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7 Appendices

7.1 The History of Pukekura Park

Pukekura Park covers an area of approximately 22.5 hectares of tranquil environment full of character and history, located only a few minutes walk from the centre of New Plymouth. The park contains native and exotic tree collections harbouring indigenous birdlife, dense native walkways lush fern gullies, colourful hidden dells and fresh water lakes and streams. This park offers some of the best vistas seen in any park in New Zealand and ranks as one of the city's greatest assets.

Because of the extensive history and diversity of the Park a time-line is the simplest way to try and provide an insight into the progression of this special place.

Sections that appear in *italic* have been written by George Fuller.

1875: Early in this year, Robert Clinton Hughes a young enthusiastic solicitor who had emigrated from Shropshire with his parents asked a question in council (where he'd gained a seat in 1874, at the age of 27) that was to make local History. "Has the Government got at their disposal any lands near New Plymouth which can be utilised as grounds for public recreation and, if so, whether they are prepared to make any provision for acquiring any outlying grounds for such purpose". At the time Hughes was a competitive swimmer with nowhere to swim, fond of the outdoor life, energetic and with a full appreciation of natural beauty. Near the middle of this year a site was selected for the present park. The area had become somewhat a neglected wilderness sandwiched in between three flat areas, the racecourse to the east, Captain Henry King's Brooklands farm and home to the south, (part of which was later to become Brooklands Park) and what became known later as Lower Vogeltown to the west. The area was described at that time as "a number of hilly town sections and unmade streets intersected by gullies and streams and covered with fern, furze and tutu". Early photographs reveal the surprising fact that the whole valley was totally devoid of trees.

Before the park was even created the first hurdle to overcome was a town board over-anxious about the reactions of ratepayers and the prospect of levying rates for development and maintenance of the reserve. Hughes undaunted by this undertook to find a number of citizens' to act as trustees for the park, thus avoiding the necessity for rates. The blossoming of private enterprise! The board had its first meeting on July 30th and the trustees wasted no time in organising voluntary effort. The response was enthusiastic, from surveyors mapping the best routes for paths to youngsters whacking away at undergrowth. Small and large gifts of money poured in. Among the workers were many with memories of the earliest days of the settlement and the trying times of the Maori conflict. Where they now pegged out and cleared pathways they had once sharpened their marksmanship; a rifle range of 548 metres had utilised the main Pukekura Valley before 1860.

1875: August 11, a special meeting was held, to consider an application for two Germans to lease part of the grounds for a vineyard. (This trial was not successful and only lasted for a few years, but is historically significant).

1876: By May, access paths and the clearing of the undergrowth were advanced sufficiently for a formal opening of the recreation grounds. On May 29 the public gathered in large numbers on what was the central point of the project, the small hill now known as Cannon Hill directly north of the present Bandstand. The first chairman of the board of trustees, Mr. Thomas King (father of a notable family including Mr. Newton King and Sir Truby King) invited Miss Jane Carrington, to plant the first trees. These were an oak, representing Great Britain, a puriri for New Zealand, a Norfolk Island pine for the South Pacific islands and a *Pinus radiata* for America. Soon gifts came from outside the province. In September 1876, the Christchurch Botanic Gardens (the first to be formed in New Zealand) sent 2000 trees, including ash, elm, chestnut and *Pinus radiata*. *P. radiata* in hundreds soon became the dominant tree on all high ground, rapidly transforming the parks treeless origin. A package of 300 young puriris was New Plymouth's gift in return.

1878: First major step forward in the park concept with the formation of the main lake.

- Mr John (Darby) Claffey appointed curator (1878-1896). He was an Irishman who owned donkeys and was skilled in handling turf, which was to come into significant use in the near future in the formation of the sportsground with its unique grassed terrace seating.
- 1879:** Soon after the main lake was filled a swimming club was formed with springboard and bathing shed.
- 1882:** A year's salary of the curator was 116 dollars.
- 1883:** The transformation of a swampy area into a sportsground was a major task in park development. This year saw the beginning of the swamp being drained and filled in with soil from the hill at the top end of Liardet St, (now the main entrance) and the cutting back of what are now the eastern, southern and western terraces. The first football practice was held on the new ground in April 1885.
- 1883:** After the first extension of the main lake southwards the need for a bridge was emphasised. A board member, J. T. Davis drew the horse "The Poet" in a sweepstake on an Auckland race. The horse won and in fulfilment of a promise, he contributed most of the winnings toward construction of a bridge, which inherited the name The Poets Bridge.
- 1884:** The bridge was officially opened on March 11. For over half a century it served the park until deterioration of the totara beams necessitated that it be replaced in 1937 (to the same design). It is based on the famous lacquer bridge at Nikko, Japan.
- 1884:** Mr Hughes and Mr Roy employed, at their own expense, several men to assist the board in completing the Liardert St entrance, and have the gates erected.
- 1885:** The board advised "*Anyone wishing to cut grass could do so under supervision of the custodian*".
- 1885:** A kauri flag-pole (presented by Mr Chew Chong was placed on what is now Cannon Hill. Mixed bathing was not acceptable and times were set-aside for females. A red flag was raised to warn males that they were precluded from this area at such times.
- 1887:** March, building of the Bandstand.
- 1887:** The famous Dickey Barrett cannon (found in 1879 at Bell Block while a farmer was ploughing) was mounted with others on Cannon Hill, (the small hill north of the Bandstand). A plaque beneath read: "*My name is Dickey Barrett and it was by my help that the warlike Waikato's were defeated when they attacked the Ngatiawa Pa at Ngamotu in the year 1832*".
- 1891:** Tragically, Poets Bridge donor, J.T. Davis, was found drowned under the bridge after he failed to return home from visiting his sister. There was speculation of suicide, but this was dispelled in the coroner's verdict.
- 1892:** First cricket match held. Here was the origin of a ground often declared by famous overseas cricketers to be one of the most beautiful and picturesque grounds in the world. In later years a photograph of the ground was hung in the pavilion at Lords.
- 1893:** A collection of large bones from a Blue whale was set out on Cannon Hill. (This date is an approximate). The jawbones were evident on the southern side of Cannon Hill into the 1980's.
- 1893:** Formation of the lower lake. (Now Fountain Lake).
- 1896:** With the bulk of the formation work completed, Claffey was succeeded by Charles Edgecombe and Robert Mace two skilled gardeners with knowledge of native trees, (1896-1908).
- 1897:** Marble drinking fountain was erected to mark Queen Victoria's Diamond (60th) Jubilee.
- 1900:** Sportsground carried a stage further with improvement and enlargement of the ground.

- 1901: A monument with iron rails was erected on the hill southwest of the boatshed and small bridge at the south end of the Main Lake. It commemorated the death on active service (1900) of Clement Edward Wiggins at Germiston, S. Africa during the Boer War. It became overgrown and in bad repair, and in the early 1920's it was demolished, causing consternation. The area became know as Monument Hill. It contained the only known evidence of Maori occupation.
- 1908: The Park receives the name Pukekura, (previously known as the Recreation Grounds). The stream that had been dammed to form the lake bore the name Pukekura, spelled in T. K. Skinner's, (park lover, surveyor and the first permanent engineer to the county council) 1880 map "Pakikora". One derivation of Pukekura meant red hill, thought by S. Percy Smith (surveyor and noted Maori historian) to refer to the "hill of red parrots". Others believe the Maori name came from the red of the rata flowers on the small hill south of the Main Lake, (Monument Hill). The true derivation remains a mystery. The name Pukekura was approved by the board by only one vote.
- 1908: Mr William Walter Smith appointed curator, his years in the park (1908-1921) were to give it an international reputation. Credited for being the last man in New Zealand to make an official sighting of the now lost huia and the first to breed kiwis in captivity. A prophet in a sense. In a letter to the Taranaki Herald in 1909 he told of his belief in the future of *Pinus radiata (insignus)* as being, "*grown to perfect maturity and the fine timbers being used for many purposes, of which they are not presently*". As custodian of Pukekura his plantings of tree ferns and groves of native trees of note include (NATIVE TREE 2), the first kauri to be planted in the park, 1909. The planting of many native trees in the lower end of the park (Smith Walk, Playground) is attributed to him. With thought for the food needs of birds - all with the skillful eye to the graceful vista - gave the park the rustic beauty that is still its chief attraction. Smith was a New Zealand authority on ornithology and when not in the park would spend hours studying, researching and writing various articles.
- 1912: In its early days, Pukekura was continually overshadowed by its lack of financial resources. The burden was eased with the establishment of Pukekura Park Saturdays, a street appeal when Saturday was the late night shopping night. The first bought a flush of financial ease.
- 1912: Hatchery established between the two lakes. It had a varied performance and was finally closed in 1925, first to become a lily pond and later the Hatchery Lawn.
- 1924: Mr Thomas Horton made custodian, (1924-1949), then a record term in the park History and one of the most active periods of the Park. Horton with a comprehensive knowledge of the commercial fruit industry, set up a very large fruit tree nursery in the Hawkes Bay, (Frimley, Hastings) and proceeded to exhibited fruit all over New Zealand (1902-1907). In 1912 he visited Australia, with an exhibit of fruit from his orchard stocks. They gained him first prize and sizeable orders for trees. By 1914 he had visited Argentina and set up orders for his trees to be shipped over to Buenos Aires. Shipping was a problem, but by chartering a small steamer his enterprise was a great success. Horton's luck ran out when in addition to bad wartime economic effects, he placed his faith in a government scheme whereby thousands of fruit trees were propagated in readiness to plant commercial fruit farms for returned servicemen. By the time the war had dragged on to late 1918 Horton had half a million fruit trees growing at his Premier Nurseries. Realising many of these were "dead stock" he ploughed up and burnt 250,000 of them. The bonfires were so bright that many Hastings people turned out to see the glare. The demise of his nursery is how Pukekura came into his life. T. Horton's custodianship was packed with action. In the eastern part of the park the damming of a swampy, untidy gully was proposed in order to form a dell (subsequently upper Stainton Dell) spoil would be obtained from excavating part of a hill to fill the swampy region and provide glass-topped chambers for a fernery. He was also involved in the establishment of the new tea house, the planting of the Sanders bequest Rhododendron Dell, the taking over of Brooklands, the planting of both the native tree perpetual reserve along Brooklands Rd and the Fillis St gully, the improved seating arrangement in the Sportsground and construction of the main gates.
- 1925: John St Walk (now Horton Walk) planted as an avenue with 16 kauri plus rimu and totara; listed under (NATIVE TREE 6)

- 1926: Work was undertaken on the fernery project, (finances raised through fundraising). Excavations were completed near the end of this year. Part of the spoil was used to form two ponds in the upper Stainton Dell. The swampy ground out front of the fernery was transformed into a pleasant lawn area with flowerbeds and a perennial border.
- 1928: The Mayor, Mr H.V.S. Griffith's, officially opened the fernery and dell on January 28.
- 1929: The handing over of administrative authority to the New Plymouth Borough from the Pukekura Park Committee. The ceremony was marked by a kauri, (NATIVE TREE 3) being planted on the newly created fernery lawn on the 17th Oct.
- 1931: *T. Horton is owed a great debt of gratitude for a bold stand he made in this year. Against some very formidable opponents and ferocious outrage expressed by a section of the community, he insisted that a start should be made on removing Pukekura's heirloom trees - the hundreds of giant 50 year old Pinus radiata which had played such an important part in the parks rapid rise to fame. He was obliged to accept a compromise but a removal pattern was initiated which progressively made space for a continually greater diversity of species to be planted in ensuing years. Great foresight. G.F.*
- 1931: Former New Plymouth Mayor and Mayoress, Mr and Mrs C.H. Burgess gifted a new teahouse, to mark the golden jubilee of their marriage. It was to be located close to the site of the old bathing shed.
- 1934: Thomas Currie List dies (proprietor of the Taranaki Daily News). His property on Maranui St is left to the park and is to form a vital link between Pukekura and Brooklands.
- 1934: Brooklands was formally handed over by Newton King's trustees on March 10, 1934, after the man himself had passed away in 1927. The removal of the boundary fence was the only physical act necessary for amalgamation.
- 1935: Mr R.C. Hughes passed away. For nearly 60 years until his death he served the park with devotion.
- 1935: *T. Horton's foresight became evident again in 1935 - 36 when presumably after study of his 1925 avenue planting of native trees along John St Walk (now Horton Walk) and consultation with forestry experts he planted out hundreds of native trees, some in blocks, in a Brooklands cow paddock facing Brooklands Rd. All are spaced at 8' x 6' (2.44 m x 1.83 m)! Unfortunately many are in desperate need of the care, which is about to commence. The best, and notably the kauri will be a major attraction in years to come especially as they are strikingly visible from Brooklands Rd - a major tourist route. Or was this a pioneering masterpiece of farm forestry? Be that as it may, it seems almost certain that this stand inspired Fred Cowling to carry out almost a replication but on an even grander scale using 2000 kauri, on his farm in upper Westown. It is known that he sought advice from T. Horton and the planting pattern about 5 or 6 years later is practically identical. G. F.*
- 1937: Replacement Poets Bridge completed and it brought controversy. Some liked the previous colour scheme of red and white. Others preferred a warm brown or a dark red with brown at lower parts. Two coloured postcards brought from Japan settled the argument. They were of the famous red lacquer bridge at Nikko.
- 1938: Erection of the handsome main gates to the Pukekura Sportsground at the top of Liardet St.
- 1942: Around this time the Park was converted into an air raid dispersal area. Long rows of slit trenches were dug along the paths under the trees, the idea being that in the event of a threatened air raid people from the business area would seek protection in the park.
- 1949: Mr John W. Goodwin (J.W.G) appointed park superintendent. A New Zealand born horticulturist who started his career with the Christchurch City Council's parks and reserves department. Then followed five years at Massey laying out the grounds and instructing when the university

established a school of horticulture. The good climatic conditions and the reputation of Pukekura Park bought him to New Plymouth.

Within a month of his arrival he was asked to give an appraisal of what he considered would be the most important factors in "attracting visitors back into Pukekura Park". Amongst his most important suggestions was exploitation of the fascination for water by introducing a fountain, waterfall, waterwheel, windmill pump and ram. The first three he successfully installed in 1955, 1970 and 1976 and all amply achieved their objective, the first two even at night since they are illuminated.

*He also had a great knowledge of fauna as well as flora. By the 1960's he had the courage to drop pines in blocks, the only practical method and by this time the community was more compliant on the subject than for his predecessor. From the nursery he established at Brooklands in the 1950's he had a wonderful resource of diverse and unusual species to plant in the gaps made. From the outset he ensured that plants known to provide food for birds were included, resulting in native birds that were migratory in the pine era becoming sedentary, notably native pigeons and tuis. He has been showered with accolades from the many organizations with which he has associated, one of his proudest being the Royal Horticultural Soc. Veitch Memorial Gold Medal (1978) for his work in horticulture, particularly extensive efforts in establishing the Pukeiti Rhododendron Trust of which he is Hon. Life Member and Patron. **G.F.***

J.W.G was a man well ahead of his time in a period when post-war emphasis was on recreation, suburban expansion and conservation. His ideas of nurturing an environment that was as natural as possible retained the serene beauty of Pukekura Park. J.W.G was instrumental in the development of the Bowl of Brooklands and the zoo and probably one of his most spectacular introductions was the summer lighting festival. The idea stemmed from a display he saw in the south of England, (1957).

1955: April 9, a fountain was opened on the lower lake to celebrate the visit of Queen Elizabeth and the Duke of Edinburgh, which had happened in January 1954. It was opened in front of an estimated crowd of 6000. Because of this structure the lower lake adopted the name Fountain Lake. It was in part made possible through the funds bequested to the park by Leah Graham but the project gained strong support in many forms from the community.

1957: The area between Pukekura Park and Brooklands was transformed into one of the most visually beautiful theatrical arenas in the world. Within a year more than 500 volunteers had created the Bowl of Brooklands. The first Festival of the Pines was held. Over the years the Bowl has been the stunning venue for a remarkable variety of performances of very high calibre including local theatricals, ballet, N. Z Symphony orchestra, Lulu, Cilla Black, Glen Campbell, The Seekers, Rodger Whittaker, Kiri Te Kanawa, and Taranaki's Malvina Major... the list goes on.

1960-

1964: *J.W.G. made three staff appointments during this period, which would have a profound influence not only on horticultural practice in the park but in the region. The first was that of Alan D. Jellyman, (A.D.J.) **1962** His early training was comprehensive including nursery work with a great interest in trees but he also possessed expansive plant knowledge. His thesis (on trees and shrubs in Taranaki) for New Zealand's highest practical horticultural qualification, the National Diploma of Horticulture (N.D.H (N.Z)) earned for him the Cockayne Memorial Medal - the youngest recipient, (1962). His knowledge and dedication led automatically to administrative responsibilities, but in early days he was involved in work with trees. Perhaps it was partly his great enthusiasm for rhododendrons (currently Board Chairman of the Pukeiti Rhodo Trust), which involved him in the first raising of the canopy of the two large plane trees in the Rhodo Dell where very large limbs were removed from just above ground level. Perfect recovery almost totally disguises the great extent of the original cuts. (EXOTIC TREE 105). G. Fuller carried out similar work on the nearby tree a few years later.*

A.D.J. played a strong part in apprenticeship training and followed J.W.G. first as deputy director (1966) then director of parks and recreation (1977). Following amalgamation in 1989 he was elevated to become manager of the Community Services Dept. of the N.P. District Council until his retirement. He has always been prominent in national horticultural affairs and is a long-standing member of the International Dendrology Soc.

Shortly after A.D.J.'s appointment Ian McDowell (C.I.McD.) **1963** was recruited from England where he had undergone advanced parks training at 'The Grotto' and Kew Gardens studentship. He brought with him a great plant knowledge, landscaping skills and a wonderful ability to interpret in graphic form not only his own ideas but those of others. The standard of planting records, including those, which he upgraded, were greatly enhanced by his skills.

Except for a short period just before retirement he was not based in Pukekura Park and Brooklands but held a roving commission administering both horticultural and maintenance activities in all other city parks and reserves. Exceptions would be when the demands in Pukekura exceeded the capability of the resident staff to cope. Outstanding examples occurred when C.I.McD. and G. Fuller (G.F.) designed then built with their own combined staff members the waterfall (1970) then used the same resources when the waterwheel was installed (1976) G.F. had found a few relics at the Omata Dairy Factory from which C.I.McD. was able to draft accurate plans for a joinery factory to construct an authentic replica.

C.I.McD. was a born educator and together with A.D.J. and G.F. established an out-of-working-hours training programme which ultimately was so successful that it attracted participation from trainees and apprentices from other establishments. This was additional to in-house training. He served as deputy director under A.D.J. for several years and played a major role in landscaping many parks and reserves where trees are now dominant features.

G. Fuller (G.F.) **1964** had early nursery training at Palmers, Glen Eden then Duncan and Davies, N.P. (1945-47). Choosing to specialise in orchids, a position was gained at Sanders, world-renowned orchid growers, St Albans north of London. This led to a studentship at Kew Gardens where work with trees was an important component of training. Employment in Sweden and Malta followed but not with trees.

In 1964, Fred Parker, (F.P) a member of the Pukekura Park Committee who established a famous garden open to visitors proclaimed that he would donate his orchid collection to the park on condition that a knowledgeable person was employed to care for it. Late that year G.F. returned to N.Z. and unaware of the above, purely fortuitously called in to renew acquaintance with F.P. while passing through N. Plymouth in transit to investigate a job opportunity elsewhere! No contest. Within an hour he was signed up with J.W.G.'s. already dynamic team, joining them in 1965.

Swept up in the fervour, he was appointed curator of Pukekura Park in 1966 in the course of an administrative revamp. The orchid collection grew in size and fame, just as tree care advanced in volume and quality, especially at heights. In 1990 he was awarded the M.B.E for services to orchids and the community and at the end of the year retired. He is well known for work with orchids but it is likely that tree care in Pukekura and Brooklands will be his most important and enduring legacy, even if not obvious.

With highly qualified supervisors, backed up by specialists in the fernery and nursery J.W.G was able to embark on a long held ambition - an intensive high standard apprenticeship training scheme. Plant identification and tree care were important aspects of the training and for those keen on the subject tree surgery, even at heights was covered. The standard of tree maintenance, first in the park and then beyond improved dramatically, enhanced later on by the introduction of light chainsaws. **G.F.**

- 1964:** The eastern gully was named Stainton Dell in honour of Mr. P. E. Stainton, whose service as secretary of the park board and administrators spanned 44 years.
- 1965:** G. Fuller employed to receive and care for a large donation of orchid plants from F. Parker and carry out gardening duties. **G.F.**
- 1966:** N.P.C.C Parks and Reserves Dept. revamped and J.W.G's. status now director A.D.J deputy director and G.F. curator of Pukekura Park. **G.F.**
- 1969:** Fernery enlarged with an additional modern structure, a generous gift from Mr and Mrs G. Kibby.
- 1970:** October 21, the formal opening of the waterfall at the northwestern corner of the main lake. This is an illuminated feature, with three main leaps and cascades, altogether 10.6 m high. An emphasis was on retention of natural surroundings, and tall tree ferns were preserved beside the cascades.
- 1976:** Pukekura Park centennial was celebrated with the unveiling of a waterwheel, near the Gilbert St entrance followed by the planting of various trees by influential people in the area of Cannon Hill as occurred in 1876.

- 1977:** Alan D. Jellyman (A.D.J.) succeeded retiring John W. Goodwin (J.W.G.) as director of parks and recreation. Ian McDowell (C.I.McD.) was promoted to deputy director.
- 1989:** New Plymouth City Council is amalgamated with surrounding councils to form the N.P.D.C. Administrative operations of the Parks Division cease at Pukekura Park and are moved down to the current building in Liardert St.
- 1990:** George Fuller retires and Anthony Joines is appointed curator.
- 1996:** With changes in administration the position of curator ended resulting in disbanding of the maintenance team and contracting out of several activities.
- 1999:** Bryan Gould is instated as Pukekura Park Manager.
- 2001:** N.P.D.C adopts District Tree Policy ensuring ongoing upgrading and maintenance of important trees.



Fig. 217

In walking through the park today, we tend to take a lot for granted. We can be forgiven for not being able to completely appreciate the level of devotion and countless hours of planning and nurturing the park has received from staff and administrators. Men and women with great foresight, managerial skills and devoted staff to match. They are responsible for creating a haven within the city (**Fig. 217**). The names may not always be obvious but their legacy endures for the enjoyment of generations to come. We should all take the time (when in the park) to rejoice and be proud of the fact that we have one of the better parks that can be found anywhere!

As for the future, I hope the park will always retain its special indefinable character. I would like to think that like me, my grandchildren can experience playing and discovering in a park which has been kept as natural as possible.

Reference: Listed under Brooklands Park.

7.2 The History of Brooklands Park

Like Pukekura, Brooklands also holds a fascinating and interesting history. What started off as a private property of 40.5 hectares (100 acres) is now an area of approximately 21.5 hectares of parkland adjoining Pukekura Park. That this beautiful property dating from 1841 shared a boundary with Pukekura is both a stroke of good luck and remarkable in itself.

Not only was it one of the first farms in Taranaki but also was said to be the "finest farm and buildings of any gentleman in the colony". It had remained intact for over 90 years in the hands of two families, first that of Captain Henry King and his brother-in-law, George Cutfield, and second of Mr Newton King. The two Kings, unrelated and with very different backgrounds, shared a common affection; a reverence for trees and bush. In more recent times a zoo and a world-renowned concert venue have been added to the formal gardens and age-old bush.

- 1841:** Captain Henry King a retired Royal Navy officer arrived in the *Amelia Thompson* as Chief Commissioner for the Plymouth Company. Shortly after his arrival, Captain King, then aged 58, was superseded in his commissionership by Captain Liardet, RN. He was also the infant settlement's senior magistrate, a position held for some years.
- 1842:** The first selection of suburban and rural lands in New Plymouth was made by a ballot system in June of this year. Captain Henry King was, by virtue of his position, given a choice before the ballot was taken. He selected two 50 acre (20.25 hectares) sections of suburban land adjoining Carrington's town belt. Almost in the centre of this area was a Maori clearing, where the Captain chose to build his house. In the surrounding area work commenced on the felling of Rimu trees for the town's early needs. By September, 70 acres (28.3 hectares) had been cleared of bush.
- 1843:** By January of this year, between 30 and 40 acres (12.1 and 16.2 hectares) had been ploughed for wheat, potatoes, turnips and green crops. The King family moved into their country home in March. Trees were planted and an orchard established. And here a Devonshire girl, Mary Ann Oliver, working for the King household, made the first cheese manufactured in Taranaki and the first barrel of salt butter exported from the province.
- 1847:** Around this date a Sweet Chestnut (EXOTIC TREE 26) was planted by Miss Brough, lady help of Captain King. It was in later years, to become the largest of this species in the southern hemisphere.
- 1851:** Two Norfolk Island pines (EXOTIC TREE 14) were planted by Captain King and it is believed the now giant *Cupressus macrocarpa* (EXOTIC TREE 46) was planted around this time also, although debate still continues.
- 1860:** The home was abandoned during the land wars and on August 11, 1860 the Taranaki Herald reported "...a large body of natives broke into Captain King's house at Brooklands and destroyed everything it contained".
- 1861:** February 8, Captain William King (the only son in the King family) was shot dead when riding his horse towards his property 'Woodleigh' on Frankley Rd. Additional heartache was to follow. On March 15 the Herald reported, "*Between 5 and 6 o'clock this morning dense masses of black smoke gave notice that Brooklands with outbuildings, barns, stabling etc, was given to the flames. Not a vestige remains except the masonry of the chimneys*".
- 1874:** Captain King dies, aged 91. His brother-in-law, George Cutfield, formerly a naval architect in Portsmouth who had been a partner in a larger Brooklands development, made his home there.
- 1879:** Cutfield dies aged 80 and once again the estate escaped dismemberment.
- 1888:** The property was offered for sale or lease and the new ownership was fortunate for Brooklands and eventually for New Plymouth. Newton King (no relation to Captain Henry King) a youthful 32 year old took over the lease on what was described as "*a farm homestead surrounded by pastureland, gorse hedges and slip rails*".

- 1896: When Newton King leased Brooklands he showed the optimism and foresight that fashioned his career. By 1896, when the lease ended with a full purchase the property had been transformed into one of the most beautiful home settings in New Zealand. With a capable head gardener in Thomas Boulton, Newton King fitted Captain King's tree plantings into a garden that wedded colourful flower features, sweeping lawns and glasshouses, with a backdrop of original bush. Down in the valley the stream was dammed to form a lake while south of the bush area the pastures were improved. Mr and Mrs King regularly opened Brooklands for public garden parties, with tea taken under the shade of the giant chestnut (EXOTIC TREE 26).
- 1904: History was enhanced when the Colonial Hospital, built on Sir George Grey's instructions on Mangorei Rd in 1848, was in danger of being demolished. Mrs King, daughter of a pioneer doctor, George H.F. St George, was determined that the "Gables" as it had become known should be saved. Newton King bought it for 10 pounds and at far greater expense removed it to a site near the main Brooklands gateway.
- 1927: Newton King dies on July 27 at Brooklands. To its obituary notice the Taranaki Herald added a footnote: "*By strange coincidence, Newton King's favourite horse, Paritutu, died within hours of its master. Paritutu had been a fairly successful racehorse, but had been retired.*" Newton King had never intended to give Brooklands to the town, instead bequeathing 3,000 pounds to Pukekura Park, 2,000 pounds to Kawaroa Park and 2,000 to East End Beach Reserve. In 1978 his eldest grandson, Dr E. P. Allen, recalled "*When I was a schoolboy Newton seemed to spend much of his time in the office and travelling. Although Brooklands was a wonderful home, on most nights he would not return until after midnight.....he left most of the running of the Brooklands gardens to his gardener, old Tom Boulton, who maintained the grounds in tip top order. I remember when Newton died in 1927, his elder brother, Sir Truby King (founder of the Plunket movement) came up from Wellington on the morning of the funeral, and spent a couple of hours with old Tom Boulton walking around Brooklands and selecting about three to four hundred plants to be sent down to his home in Wellington.*" (A memorial park, Truby King Dell can be located at the intersection of Brooklands Park Drive, Brooklands Rd and Azalea Pl. It features a fine collection of *Azalea mollis* and conifers; many of the latter have been included in this report).
- 1930: Mrs King dies, Messrs Truby and Eliot King (sons of Newton King), loath to subdivide the property for sale.
- 1933: In this year it was suggested, in place of the bequests all but 50 acres (20.2 hectares) of farmland should be vested in the borough as a park. A local bill in parliament validated the handing over of approximately 53 acres (21.5 hectares). The remaining southern 50 acres (20.2 hectares) of farmland was sold for state housing.
- 1934: Brooklands was formally handed over by Newton King's trustees on March the 10, in the presence of the Governor-General, Lord Bledisloe, a noted tree lover. Gazing from the lawn of Brooklands towards Pukekura, Lord Bledisloe told an estimated attendance of 5,000 of his pleasure at the preservation for the public for all time of "*this delectable valley*". Altogether the gift bought together over 117 acres (47.3 hectares) comprising Pukekura's 55.7 acres (22.5 hectares) - it had grown steadily since 1875 - Brooklands 53.7 acres (21.7 hectares) and 7.5 acres (3 hectares) given by Messrs T. C. List and C. A. Wilkinson (Maranui Gully). This last piece of land, dedicated at the same ceremony, made possible a nature walk of over 2 km from the Pukekura Park entrance to Upjohn St. It has also made it possible to develop a perimeter walk of Pukekura Park, Brooklands Park and Maranui Gully of 10 km with almost no evidence of houses despite being only 1 to 2 km from the city centre.
- 1935: Within a year of the land changing ownership, Newton King's two-storied wooden home was demolished. Various options had been considered for the building. The Plunket Society desired to use the house as a mothercraft home. Miss M. S. Young suggested a home of rest for old ladies. Other suggestions were a tea kiosk, an art gallery or botanical museum. However, all these suggestions would involve trade vehicles on the main drive, there would be heavy expenditure on the wooden building for alterations and maintenance, the risk of fire would remain, while some uses would require fencing around the house and the maintenance of the vegetable garden at the rear. Brooklands was remote, away from tourist traffic and in the mid 1930s the world was just

recovering from a devastating depression, so it is perhaps not surprising that maintaining such a large structure was seen as too much of a burden on public funds. The unanimous decision was that the building be removed for sale by auction and that the area cleared be used for substantial additions to lawns in conjunction with judicious planting.

- 1957:** August of this year saw active work begin on the Brooklands sound shell. An island in the lake had to be removed; foundations of the sound shell laid and access roading and seating prepared. Conservationist objections were met when a large copper beech tree known to have been valued personally by Mr Newton King, was lifted and transferred safely across the valley, (this tree is listed under EXOTIC TREE 58). The aim was to hold the first Festival of the Pines in February 1958.
- 1964:** In this year work commenced on the establishment of the Brooklands Zoo and a children's playground, a step-by-step project of the New Plymouth Chapter of Jaycees, which in 1971 won the Alfred Eady Award, the top New Zealand Jaycees award for a community project in New Zealand.
- 1976:** The Giant Chestnut that Mrs Brough planted had been slowly dying back and was now completely dead.
- 1977:** In July of this year the massive sprawling (spread of 42.4 m in 1969) branches were removed from the chestnut and its giant central trunk (dbh = 2.18 m in 1969) left as a memorial.
- 1990:** The trunk finally became unstable and was removed for safety reasons.
- 1999:** Upgrading and expansion of Brookland Zoo commenced.

A large volume of the information above comes from words already written by others but a high proportion relating specifically to trees is unique to this work. Every effort has been made to give an accurate account of the past by researching books, brochures, articles, newspaper reports, etc. When looking into such a large field, which also contains large volumes of material, conflicting data will be found. The author apologizes for any inaccuracies, which have gone undetected.

Reference:

- Butler, F. B. *Early Days, Taranaki*. Printed by Taranaki Herald Co. LTD. 1942.
- City of New Plymouth, Pukekura Park and Brooklands, (Brochure). Printed by Taranaki Newspapers, undated, c. 1970.
- Scanlan, A. B. *Pukekura, a Centennial History of Pukekura Park and Brooklands*. Published by the New Plymouth City Council, 1978.
- Tullett, J. S. *The Industrious Heart, A history of New Plymouth*. Published by the New Plymouth City Council, 1981.
- Scanlan, A. B. *Taranaki, People and Places*. Published by the author. Printed by Taranaki Newspapers Limited, New Plymouth, 1985.
- Goldsmith, S & Barrell, V. *The Gardenmakers of Taranaki*. Published by Ratanui Press, New Plymouth, 1997.
- New Plymouth District Council Parks and Leisure Services, *Pukekura Park and Brooklands*, (Brochure). Undated, current.
- The Daily News library, (archives).

7.3 The History of Tupare

In 1931, a couple, Russell Matthews and his fiancée Mary, soon to be married, discovered their dream patch of ground. It was at one end of a New Plymouth farm, covered thickly in gorse and blackberry and only had one tree - a mahoe. The land lacked formal beauty but it had what they were looking for - a river and native bush. The site was at the edge of the Waiwakaiho River, at a place called Ngati Tupare Kino, named after the Maori Tribe who had once lived in the area. The couple acquired the land and christened it 'Tupare' which translates as a "garland of flowers" and set about making their own 3.6 hectare garden (Fig. 218).

During the depression labour was cheap and plentiful and for 18 months the Matthews employed men to clear gorse and blackberry through a scheme, which subsidised the unemployed.

Married life began in a corrugated iron cottage on the site, which continued to be their residence for two years. During this time, the Chapman-Taylor, Tudor-replica home was growing. It has reinforced concrete walls made with shingle from the Waiwakaiho River, adzed Australian hardwood beams and a cedar shingle roof. Architect - craftsman, James Chapman-Taylor, had been commissioned to design the house in 1932 after Russell and Mary Matthews returned from England. It took 12 years to complete. At this time Russell was able to use winter downtime labour from one of his business enterprises, supervised by an enthusiastic and very versatile foreman named Cliff Corkill. The construction was not quite to the Chapman-Taylor design, however when it was half-built the family moved in and started to create the gardens.

A great emphasis was put on trees and the first to be planted was a kauri, (listed under NATIVE TREE 6) given by Mary Matthew's parents to celebrate Russell's birthday, July 26, 1932. They decided to concentrate on magnolias, cedars and rhododendrons and purchasing and planting trees began in earnest. Many of the rhododendrons came from George Huthnance a nurseryman in New Plymouth (also T. C. List's last gardener) who imported rhododendrons. A Tulip tree, (EXOTIC TREE 75) one of the first in New Zealand, was planted in 1933. A Dawn Redwood (EXOTIC TREE 82) was the first to be planted in Taranaki around 1950.



Fig. 218

The Elizabeth Garden was designed by Douglas Elliott, a well-respected local landscape designer, who wrote for the "*New Zealand Gardener*". His was the only outside influence on Tupare and the Matthews made this exception because he was a friend and they trusted his artistic taste.

Cliff Corkill's talents extended into landscaping because he was responsible for designing and constructing the rockery stream ('Cliff's Cascade') below the Gardeners Cottage, taking four years to build as work was, once again, only undertaken in the winter.

Different areas of the garden were named after the Matthews children Elizabeth Garden, John, Jill and Richard Walks and Russell Avenue and Mary Lane after the parents.

Sir Russell and Lady Matthews were responsible for planning and directing Tupare's entire development. After a lifetime of involvement and commitment to Tupare the Matthews were concerned about it's future. In 1984 they decided to divest themselves of Tupare. The Queen Elizabeth 2 National Trust believing Tupare to be nationally as well as regionally important looked for ways of ensuring that the garden would be permanently protected. Purchase by the National Trust was seen as the most appropriate way of providing this perpetual protection. The National Trust purchased Tupare in June 1985.

In recent developments, the Taranaki Regional Council is to administer Tupare, (March 2002).

Reference:

- Goldsmith, S & Barrell, V. *The Gardenmakers of Taranaki*. Published by Ratanui Press, New Plymouth, 1997.
- Tupare Gardens - Visitors Guide
- Tupare draft Management plan. QE 2 National Trust, 1985.

7.5 The History of Ratanui

The property known as Ratanui ('Great Rata' in Maori) at 538 Carrington Road has a setting of several notable trees, some of national significance. Regarded as the cradle of horticulture for the district, there still remains an element of mystery concerning its early history and this may never be resolved, despite intensive investigation by a previous owner, Mr John Arthur.

The stump of the giant rata, which served as a landmark and identified the area for the Maori remained until the early 1930's when the remnants were cut up for fencing. It is said to have been about 5 m in diameter and an important inland trail between the Rewarewa Pa at the Waiwakaiho rivermouth and Omata to the west passed beside it.

Documentation has been located which reveals that in 1857, Charles Brown son of the previous owner, Charles Armitage Brown (deceased 1842 buried on Marsland Hill beside St Mary's churchyard and well known as a good friend of the poet John Keats) leased the part of his land known as "Ratanui" to James Laird who operated it as "Egmont Nurseries" until his departure for Wanganui in 1869.

Local tradition suggests that Laird was preceded on the property by another famous horticulturist, John Nairn who arrived in New Plymouth on board the 'William Bryan' in 1841 but no documentation to substantiate this has so far been located though there are references which come extremely close to resolving the mystery.

John Nairn is known to have been a very skilled gardener, to have owned a nursery in England prior to his departure, to have received seeds from overseas and to have been involved with the planting in 1847 of the first documented exotic trees in Taranaki, the two *Cupressus sempervirens* (Mediterranean cypress) (EXOTIC TREE 48), present over the grave of the Reverend Bolland in St Mary's churchyard.

When one of the Ratanui cypresses was felled in the late 1970's due to decay, an attempt was made to determine its age by counting the annual rings. The task was not straightforward due to density of rings, deterioration of the wood and irregularities in the configuration of the trunk, but the final consensus was approximately 120 years - not quite enough to take propagation back to Nairn's time but certainly to Lairds. However, it must be emphasised, that the result could not be taken as conclusive. Unfortunately, the legend that John Nairn had his nursery at Ratanui in the 1840's cannot be proved, but until such time, we must be content with assuming that many of these magnificent trees probably date back at least to the pre 1868 days of Laird's "Egmont Nurseries". It is fitting large trees remain dominant on this land with many of them being planted in the earliest days of European settlement.

This grouping of trees is very prominent in paddocks beside Carrington Road, 6 km from New Plymouth and is obvious to the many visitors passing on their way to Pukeiti Rhododendron Trust (**Fig. 220**).



Fig. 220

A recent owner was Paul Carrington (the Road is named after his great grandfather Frederic Alonzo Carrington, a famous Taranaki surveyor and one of the first). Under this ownership the integrity and preservation of the trees was ensured. Credit has to be given also to the previous owner Mr John Arthur and his mother. They administered the property for approximately 50 years with devotion, adding to the range of tree species.

This stand of trees representing a diversity of types, great age and in some cases impressive size is unique in its own right but add the veil of mystery which exists over the planting history and we have all the elements which go to make Ratanui a very special Taranaki arboreal monument.

Reference: Taken largely from a paper written by Mr George Fuller: *Ratanui*, 28.9.81.

8.11.2005: The current owner is Stefan Campbell who has shown a keen interest in the trees and intends to care for them. The fences are gone and there is no livestock present.

7.6 The History of St Mary's

St Mary's Pro Cathedral (**Fig. 221**) is located on Vivian St; a few minutes walk from the central city business district. Built on land granted by the Plymouth Company, and subsequently, by the crown, it was the first public building erected in Taranaki by community effort and perhaps the oldest stone church still standing in New Zealand.

The formation of the parish was undertaken when the first Church of England clergyman, William Bolland, arrived in 1843 to find no church to work in. In light of this, plans were discussed and it was decided a church would be constructed on the current site. The Vicar of St Mary's (William Bolland) had hoped the stone church would be built in four months after the foundation stone was laid on March 25, 1845. He had not reckoned on winter mud delaying the haulage of rocks uphill from Kawaroa Reef. A team of 18 bullocks was needed to bring one large stone from which the cross on the eastern gable was fashioned. The church was officially opened on September 26, 1846. F. Thatcher designed it and the main construction was carried out by George Robinson, Thomas Rusden, Harry Hooker and Philip Moon.

A year later, Bolland who was then 27, and who had never been a robust man, died after three and a half years service. Bolland was buried in St Mary's churchyard and in addition to his headstone two Mediterranean cypresses (EXOTIC TREE 48) were planted at the foot of his grave - believed to be the first exotic trees planted in New Plymouth.

Bolland was succeeded by Henry Govett, who ministered to Anglican needs of the community for half a century, first as vicar and then as the first Archdeacon of Taranaki. He retired as vicar in 1898 and as archdeacon in 1902, one year before his death, and was buried beside his predecessor.



Fig. 221

The first vicarage was built in 1860 on the site of the present building next to the church. Just inside the Vivian St gate there grows a thorn tree ((EXOTIC TREE 39), the smallest of N.P.'s notable trees). According to legend St Joseph of Arimathea travelled to England carrying a staff cut from the Crown of Thorns. The staff took root and Glastonbury Abby was built near it. During a visit to England Govett took a cutting from the tree and planted it beside his vicarage. Botanical identification of the thorn is in conflict with the legend, but the Glastonbury origin of Govett's cutting is not in doubt. The above two trees are an example of several historic specimens growing amongst the headstones.

Presumably the churchyard became available for Anglican burials soon after the completion of construction. However, there are some headstones at St Mary's referring to deaths prior to the church's opening date. There is no way of knowing whether their remains were moved to St Mary's from Wahitapu, (a small chapel on the seaward end of Bayly Rd (near Ngamotu beach) built in 1841 by Rev Charles Creed a Wesleyan missionary), after the church's opening, or whether they were left in their original graves, with their names simply being inscribed on family memorial stones in the churchyard. Amongst these plots are the graves of prominent colonists (in addition to Bolland and Govett) including Captain Henry King, R.N. leader of the Pioneer European settlers, and the first resident of Brooklands. His family are also buried in the same plot, including his son Captain William Cutfield King who was shot during the Land Wars. Robert Clinton Hughes, the founder of Pukekura Park, and his family and many of the pioneers and men of the Imperial and Local Forces, who lost their lives in the Land Wars are buried here. General burials ceased at St Mary's with the opening of the public cemetery beside the Te Henui stream in 1861, although those with family plots and some military personnel continued to be laid to rest there.

This is only a brief account of the many historical and commemorative events that have taken place at St Mary's. Below and over the page is a list of just some of the reference material that gives detailed descriptions of St Mary's history. Finally, if visiting New Plymouth or even if one is local, it is well worth spending a sunny day meandering amongst the headstones in these time-less grounds that still provide a true central-city beauty spot. Take in the inscriptions and reflect on some of New Plymouth's vital history.

Reference:

- *A Brief History of St Mary's* - Available at church.
- Tullett, J. S. *The Industrious Heart, A history of New Plymouth*. Published by the New Plymouth City Council, 1981.
- Scanlan, A. B. *Taranaki, People and Places*. Published by the author. Printed by Taranaki Newspapers Limited, New Plymouth, 1985.
- Moorhead, M. *Tales of old New Plymouth*. Printed by Taranaki Newspapers Limited, New Plymouth, 1991.

8. Tree & Photograph Index

Following the alphabetical sequence of botanical names with common names included.

The following is the complete list of all specimens reserched in the designated New Plymouth city area. All trees appear in alphabetical order, with native specimens listed first. If no symbol appears next to the botanical name that specimen was recorded by Burstall under a single title in his Mensuration Report # 19. The '+' symbol represents an additional tree Burstall recorded under the same species title. The '+' symbol represents trees included by Cory Smith and George Fuller, and 'D' is an abbreviation for dead.

Native Trees

Botanical name	Common name	Address	Figure	Page#
<i>Agathis australis</i>	Kauri	69 Govett Avenue.	1 & 2	14
..	..	Pukekura Park, Monument Hill.	3	15
..	..	Pukekura Park, Fernery Lawn.	4	16
D	..	N.P Central Infant School.		17
+	..	N. W. Supermarkert, Courtenay Street.		17
+	..	Central School, Pendarves Street.		17
..	..	Cowling Plantation, Roto Street.	5	18,19
+	..	Cowling Plantation, Roto Street.		18
..	..	187 Cowling Road.	9	22,23
+	..	150 Cowling Road.	10	23
&	..	133 Powderham Street.	11	24
+	..	N.P.G.H School, Mangorei Road.		24
+	..	Brooklands Park, Kauri Grove.	12	25
+	..	Pukekura Park, Kindergarten Gully.	13	26
+	..	Pukekura Park, Horton Walk.		26
+	..	Pukekura Park, Western Hillside.	14	28
+	..	Pukekura Park, Eastern Hillside.		28
+	..	Liardet St, avenue before Pukekura Park.		28
+	..	Ratapihipihi Reserve, off Cowling Road.	15	29
+	..	Brooklands Park, Maranui Gully.		29
+	..	Bowl of Brooklands, Racecourse Entrance.		30
+	..	Brooklands Park, north edge of Main Lawn.	16	30
+	..	Pukekura Park, Cannon Hill.		30
+	..	Pukekura Park, Childrens Playground.		31
+	..	Pukekura Park, upper Stainton Dell.		31
+	..	Pukekura Park, Racecourse Walk.	17	31
+	..	Tupare, near North Garden, Mangoeri Road.	18	32
+	..	Tupare, near entrance, Mangorei Road.		32
+	..	Burgess Park, Junction Road, SH3.	19	33
+	..	813 Mangorei Road.		33
+	..	T.O.P.E.C, Junction Road, SH3.		34
+	..	The Salaman Reserve, Waimea Street.	20	34
+	..	Sir Davies Memorial Park, Powderham Street.	21	35
+	..	222 Tukapa Street.		35
+	..	24 Hursthouse Street.		35
+	..	Aotea Reserve, Timandra Street.	22	36
+	..	65 Brooklands Road.	23,24	37
+	..	53 Brooklands Road.	25	38
+	..	68 Gilbert Street.		39
+	..	Rear of 216 & 218 (DOC) Devon St West.		39
+	..	156 Vivian Street.		39
+	..	162 a Vivian Street.		39
+	..	59 Doralto Avenue.	26	40
+	..	Huatoki Walkway, off Glen Park Avenue.		40
+	..	Huatoki Domain, off Huatoki Street.		40
+	..	Courthouse gardens, Robe Street.	27	41
+	..	Devon Intermediate School, St Aubyn St.	28,29	41,42

Botanical name	Common name	Address	Figure	Page#
+ <i>Agathis australis</i>	Kauri	St Josephs Primary School	28,29	41,42
+ .. ..	.. x3	West End School, Bonithon Ave.	30,31	42,43
<i>Alectryon excelsus</i>	Titoki	Brookland Park, Maranui Gully.		45
<i>Beilschmiedia tarairi</i>	Taraire	22 b Holsworthy Road.	32	45,46
& .. ..	..	Pukekura Park, Kindergarten Gully.		46
+ .. ..	..	Pukekura Park, behind 25 Victoria Road.		46
<i>Beilschmiedia tawa</i>	Tawa	Brooklands Park, Maranui Gully.		47
D <i>Cordyline australis</i>	Cabbage Tree	Brooklands Park, Main Lawn.		47
+ .. ..	.. ..	Brooklands Park, Main Lawn.		47
+ .. ..	.. ..	Driveway, 22 a, b Holsworthy Road.		47
<i>Corynocarpus laevigatus</i>	Karaka	Brooklands Park, near Main Lawn.	33,34	48
+ .. ..	.. ..	Struan Walk, adjoining TKD, Brooklands Rd.		48
.. ..	.. Variegated Karaka	22 b Holsworthy Road.		49
<i>Dacrycarpus dacrydioides</i>	Kahikatea	Pukekura Park, upper Stainton Dell.	35,36	49,50
+ .. ..	.. ..	Pukekura Park, upper Stainton Dell.	37	50
+ .. ..	.. ..	Pukekura Park, lower Stainton Dell.		50
& .. ..	.. ..	Pukekura Park, 44 m from boatshed.		50
<i>Dacrydium cupressinum</i>	Rimu	Burgess Park, 361 Junction Road, SH3.	38,39	51
.. ..	.. ..	Ratapihipihi Reserve, off Cowling Road.	40	52
+ .. ..	.. ..	Ratapihipihi Reserve, off Cowling Road.	41,42	53
& .. ..	.. ..	Pukekura Park, Smith Walk.		54
D <i>Dysoxylum spectabile</i>	Kohekohe	Brooklands Park.		54
+ .. ..	.. ..	70 m up valley from the kerb 11 Kereru Pl.		54
.. ..	.. ..	Access road from Racecourse to Bowl.	43	55
& .. ..	.. ..	Brooklands Park, near Main Lawn.		55
<i>Elaeocarpus dentatus</i>	Hinau	Hautoki Domain, Hautoki Street entrance.	44	56
& .. ..	.. ..	Pukekura Park, 34 m from Vic Rd Entrance.	45	57
D <i>Elaeocarpus hookerianus</i>	Pokaka	222 Tukapa Street.		57
D <i>Griselinia lucida</i>	Puka	Brooklands Park, Maranui Gully.		58
<i>Hedycarya arborea</i>	Pigeonwood	Brooklands Park, Maranui Gully.		59
D <i>Hoheria populnea</i>	Lacebark	3 a Azalea Place.		59
<i>Knightia excelsa</i>	Rewarewa	Brooklands Park, Maranui Gully.		60
<i>Laurelia novae-zealandiae</i>	Pukatea	Brooklands Park, Maranui Gully.	46	61
& .. ..	.. ..	Brooklands Park, Maranui Gully.	47,48	62
& .. ..	.. ..	Brooklands Park, Maranui Gully.		62
& .. ..	.. ..	Brooklands Park, Maranui Gully.		62
+ .. ..	.. ..	Brooklands Park, Maranui Gully.	49	62,63
+ .. ..	.. ..	Burgess Park, 361 Junction Road, SH3.	50	63
+ .. ..	.. ..	Hursthouse St, road reserve at end of St		63
D <i>Libocedrus bidwillii</i>	Pahautea	Pukekura Park, Hatchery Lawn.		64
D <i>Meryta sinclairii</i>	Puka	Hakirau Street, Beside Taranaki Coolstores.		64
D .. ..	.. ..	304 Carrington Street.		65
<i>Metrosideros excelsa</i>	Pohutukawa	Corner of Cameron and Leach Street.	51	65,66
& .. ..	.. ..	22 a Dartmoor Avenue.		66
+ .. ..	.. ..	22 a Dartmoor Avenue.		66
+ .. ..	.. ..	209 Devon Street West	52	66
+ <i>Metrosideros excelsa</i> 'Robin'	..	'Novadene' 85-87 Vivian St		66
<i>Metrosideros umbellata</i> ?	..	Pukekura Park, near Eastern Hillside.	53	67
<i>Nestegius cunninghamii</i>	Maire	Pukekura Park, King Fern Dell.		68
D <i>Nothofagus fusca</i>	Red Beech	Burgess Park, 361 Junction Road, SH3.		68
&D .. ..	.. ..	Pukekura Park, Palm Tree Lawn.		68
+ .. ..	.. ..	Tupare, Watson Walk, Mangorei Road.	54	68,69
+ <i>Nothofagus menziesii</i>	Silver Beech	Tupare, Watson Walk, Mangorei Road.	54,55	69
<i>Nothofagus solandri</i>	Black Beech	Pukekura Park, entrance to Fountain Lake.	56	70
&D .. ..	.. ..	Bains Terrace.		70
+ .. ..	.. ..	Tupare, Watson Walk, Mangorei Road.	57	71
+ .. ..	.. .. x2	Huatoki Walkway, off Glen Park Avenue.		71
<i>Prumnopitys ferruginea</i>	Miro	Ratanui, 538 Carrington Road.	58	72

	Botanical name	Common name	Address	Figure	Page#
D	<i>Pseudopanax crassifolium</i>	Lancewood	Pukekura Park, Rhododendron Dell.		72
	<i>Sophora tetraptera</i>	Kowhai	Pukekura Park, Rhododendron Dell.		73
+	.. ..	.. ..	Pukekura Park, Rhododendron Dell.	59	73
+	.. ..	.. ..	Pukekura Park, upper Stainton Dell.		74
	<i>Vitex lucens</i>	Puriri	Brooklands Park, Maranui Gully.	60,61	74,75
	.. ..	.. ..	Brooklands Park, near Kaimata St Entrance.	62,63	75,76
	.. ..	.. ..	Bowl of Brooklands, Racecourse Entrance.	64	77,78
&	.. ..	.. ..	Brooklands Park, near Kaimata St Entrance.		78

Exotic Trees

+	<i>Abies</i> sp.	Fir	Tupare, lower paddock, Mangorei Rd.	210	219
	<i>Abies balsamea</i>	Balsam Fir	Pukekura Park, Car-park.	65	79
	<i>Abies cephalonica</i>	Greek Fir	Truby King Dell, lower Brooklands Road.	66	80
+	<i>Abies grandis</i>	Giant Fir	Audry Gale Reserve, Mangorei Road.	211	219,220
	<i>Abies nordmanniana</i>	Caucasian Fir	Truby King Dell, lower Brooklands Road.	67,68	81,82
+	<i>Abies religiosa</i>	Religious Fir	Pukekura Park, 6 m Racecourse Walk.	212	220
D	<i>Acacia melanoxylon</i>	Blackwood	Pukekura Park, Main Lake.		82
+	<i>Acacia</i> sp	-	Bowl of Brooklands, behind Sound Shell.		82
+	<i>Acer</i> sp	Maple	TOPEC, Junction Road, SH3.		221
	<i>Acer buergerianum</i>	Trident Maple	7 c Welbourn Terrace.		83
D	<i>Acer negundo</i>	Box Elder	Pukekura Park, Stainton Dell.		83
D	<i>Acer palmatum</i>	Japanese Maple	Pukekura Park, Hatchery Lawn.		84
+	<i>Acer palmatum</i>	Japanese Maple	Pukekura Park, Hatchery Lawn.		84
	<i>Acmena smithii</i>	Lilly Pilly	Pukekura Park, Smith Walk.		84
D	<i>Aesculus x carnea</i> 'Briotii'	Red Horse-chestnut.	Bowl of Brooklands.		85
	<i>Aesculus hippocastanum</i>	Horse-chestnut	Bowl of Brooklands.		85
	<i>Agonis flexuosa</i>	Willow myrtle	40 Hobson Street.	69	86
+	.. ..	.. ..	Powderham St, near Mill Liquor Save.	70	86
	<i>Araucaria bidwillii</i>	Bunya Bunya	Ratanui, 538 Carrington Road.	71	87
+	.. ..	.. ..	Ratanui, 538 Carrington Road.		87
	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Pukekura Park, Beside Poets Bridge.	72	88
&	.. ..	.. ..	Pukekura Park, near old Curators office.		89
&D	.. ..	.. ..	12 a and 5 Ridge Lane.		89
+	.. ..	.. ..	Pukekura Park, Cannon Hill.		89
	.. ..	.. ..	Brooklands Park, Main Lawn.	73	90
&	.. ..	.. ..	Brooklands Park, Main Lawn.	73	90
+	.. ..	.. ..	Brooklands Park, Main Lawn.		90
	.. ..	.. ..	Ratanui, 538 Carrington Road.	74	91
&	.. ..	.. ..	Ratanui, 538 Carrington Road.	74	91
	.. ..	.. ..	'The Homestead' 813 Mangorei Road.	75	92,93
D	<i>Banksia integrifolia</i>	Honeysuckle	9 e Paynters Avenue.		93
+	.. ..	.. ..	9 e Paynters Avenue.		93
D	.. ..	.. ..	Magnolia Drive.		94
+D	.. ..	.. ..	N.P. Courthouse (Powderham Street).	76	94
+D	<i>Brachychiton acerifolius</i>	Flame Tree	West End School, Bonithon Ave.		221
+	<i>Callistemon</i> sp?	Bottlebrush	Bains Terrace		221
D	<i>Calocedrus decurrens</i>	Incense Cedar	Tupare, top track, Mangorei Road.	77	95
&	.. ..	.. ..	Pukekura Park, near Eastern Hillside.		96
D	<i>Calodendron capense</i>	Cape Chestnut	Pukekura Park, Racecourse Walk.		96
	<i>Camellia japonica</i>	Camellia	Pukekura Park, Hatchery Lawn.	78	97
	<i>Camellia</i> 'Pukekura White'		Pukekura Park, Entrance to Fountain Lake.	79,80	98
	<i>Camellia sinensis</i>	Tea Plant	Brooklands Park, Maranui Gully side of path.	81	99
	<i>Camellia x willamsii</i>	Camellia	7 c Welbourn Terrace		100
D	<i>Carya ovata</i>	Shaggybark Hickory	Brooklands Park, Maranui Gully.	82	100,101
+	<i>Carya ovata</i>	Shaggybark Hickory	Pukekura Park, near Hatchery Lawn.		101

	Botanical name	Common name	Address	Figure	Page#
D	<i>Taxus baccata</i>	English Yew	48 Hobson Street.		214
	<i>Taxus baccata</i> 'Fastigiata aureomarginata'		103 Fulford Street.		214
?	<i>Thuja plicata</i>	Western Red Cedar	Pukekura Park??		214
	<i>Tilia x europaea</i>	Common Linden	7a Roto Street.	209	215
+	<i>Tilia x euchlora</i>	Crimean Linden	Pukekura Park, Hatchery Lawn.		216
D	<i>Trachycarpus fortunei</i>	Tan Palm	Brooklands Park, Main Lawn.		216
+	.. ..	..	Brooklands Park Main Lawn.		216
	<i>Ulmus glabra</i> 'horizontalis'	Weeping Wych Elm	Pukekura Park, behind Kiosk.		217
	<i>Ulmus procera</i>	English Elm	Brooklands Park, near Kaimata St Entrance.		218
D	<i>Zelkova serrata</i>	Japanes.Zelkova	St Marys Churchyard, Vivian St.		218