FERGUSON CONSERVATION PARK MANAGEMENT PLAN

NATIONAL PARKS AND WILDLIFE SERVICE: A DIVISION OF THE DEPARTMENT OF ENVIRONMENT AND PLA

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Adelaide — South Australia

NATIONAL PARKS AND WILDLIFE SERVICE: A DIVISION OF THE DEPARTMENT OF ENVIRONMENT AND PLANNING

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Ferguson Conservation Park
(P. A. Praulins)

FOREWORD

This Management Plan for Ferguson Conservation Park is one in a series of plans for South Australia's reserves to be adopted under the provisions of the *National Parks and Wildlife Act* 1972-1981. It has been prepared by officers of the Programmes Branch of the National Parks and Wildlife Service.

A Draft Management Plan for this park was released for public review in 1981. In all, seventeen submissions were received from members of the public and advice on the plan has also been obtained from the National Parks and Wildlife Service Reserves Advisory Committee. These comments have been considered in the formulation of the adopted plan.

Ferguson Conservation Park has remained as a relatively untouched piece of native vegetation, while land on all sides was progressively developed for grazing, vineyards, olive groves, and in more recent times, suburban housing. The preservation of this area was due to the interest in native flora and fauna shown by successive owners: Simpson Newland, Alexander Melrose and finally Alice Effie Ferguson, who donated the land to the Government of South Australia in 1949 and after whom the park was named.

Although the park was originally dedicated for use as a public recreation area, the acknowledgement, over the years, of the scarcity of even small areas of natural vegetation in the Adelaide foothills, led to this reserve being re-proclaimed as a Conservation Park in 1977.

The Management Plan details the future management directions to be taken for this small, relatively natural area surrounded by suburban housing development.

(D. J. HOPGOOD)
MINISTER OF ENVIRONMENT AND PLANNING

This plan of management has been prepared and adopted in pursuance of Section 38 of the *National Parks and Wildlife Act*, 1972-1981.

ACKNOWLEDGEMENTS

The National Parks and Wildlife Service gratefully acknowledges the assistance of Mr Ken Preiss who gathered much of the information on which the background material is based.

Thanks must also be given to Mrs Elizabeth Warburton, author of *The Paddocks Beneath: A History of Burnside from the Beginning* (published August 1981), for her invaluable assistance in the preparation of the section on history.

Mrs Rose Jenkin, Mrs Helen Finlayson, Mrs Ruth Goble, Mr A. B. Jay, Sister Diedrie O'Connor of the Convent of the Sisters of Mercy and Sister Audrey of the Community of the Sisters of the Church (East Burwood, Victoria) all contributed reminiscences and/or photographs.

The South Australian Tourist Bureau allowed access to their files on Ferguson Park as did the South Australian Archives and Newspaper Section of the State Library for material held by them.

Sources of photographs (other than those taken by the National Parks and Wildlife Service) are as follows: South Australian Archives (Figures 8, 12a [top]); Mr A. B. Jay (Figure 10); Saint Peter's Collegiate (Girls') School (Figure 11 [top]) and Mr K. A. Preiss (Figure 12b[top]).

The information contained in this plan was collated and prepared in draft form by Geoffrey Bishop (history) and Gary Whisson (biology) while employed under contract by the National Parks and Wildlife Service during 1980.

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BACKGROUND INFORMATION

INTRODUCTION

Ferguson Conservation Park is a small area of semi-natural bushland in the eastern foothill suburbs of Adelaide. It has survived in its present condition because previous owners appreciated its natural features and had no desire, nor need, to develop it. As a consequence, it provides a rare example of the vegetation association(s) that must have covered a large area along the foothills of the Mount Lofty Ranges but which have now virtually all been swallowed up by suburban housing.

According to Laut *et al.* (1977) it falls on the edge of the Mount Terrible Environmental Association of the Peninsula Uplands Environmental Region. This is described as "ridges and hills on metasediments. Mixed cover of open parkland, pastures and orchards in an urban fringe setting."

As well as its conservation function, Ferguson Conservation Park is used, mainly by the local community, for low-key outdoor recreation—walking and nature study. Other uses, such as horse and trail bike riding, have been largely excluded because they are damaging to the park environment. The Management Plan attempts to cater for established, legitimate patterns of use compatible with the conservation function of the park in the long term.

The Draft Management Plan, when released for public review in August 1981, attracted seventeen submissions. Of the 109 specific comments made, the following issues received most attention: walking trail rationalisation, weed control, support for the plan, revegetation, exotic vegetation, erosion control, the toilet block, stormwater runoff and signposting. These comments have been given due consideration in the preparation of this adopted Management Plan.

The plan is divided into four main sections: the first contains background information relating to the physical features, history, visitor use and biology of the park area. The second section lists broad management objectives, taking into account the background information. In the third section, strategies for the implementation of these objectives are outlined. The fourth section contains a summary of the management proposals to enable the reader to obtain an overview of the implications of this plan.

DESCRIPTION OF THE AREA

LOCATION AND ACCESS

Ferguson Conservation Park is situated in the suburb of Stonyfell, 6.5 kilometres east of the Adelaide GPO (latitude 34° 56' S, longitude 138° 40' E). The park occupies Section 687, Hundred of Adelaide, which was subdivided from the original Section 289 and covers an area of approximately 8 hectares (Figure 1). Residential suburban roads form the immediate boundaries of the park, except to the north-west where Saint Peter's Collegiate (Girls') School abuts the park, and to the east where the short boundary adjoins residential land (Figure 2).

Ornamental stone gates off Hallett Road (west), and gates on the Stonyfell Road (north) and Marble Terrace (south) boundaries enable vehicular access if required, but they are normally kept locked. A pine post-and-rail fence, equipped with stiles at several points, restricts public access to walking only.

TOPOGRAPHY AND DRAINAGE

Ferguson Conservation Park occupies a footslope position below the major Eden Fault Scarp at Stonyfell. With a maximum elevation of 180 metres at the eastern boundary, the park occupies one of the highest locations on the Adelaide Plains. From the eastern side, the ground slopes steadily downwards to the western boundary, the lowest point in the park, with an elevation of 140 metres (Figure 2).

Two creeks drain the park, both of which flow only during the winter and for short periods following heavy rains at other times of the year, their waters eventually draining into Second Creek.

Stonyfell Creek, which is the larger of the two, enters the park on the eastern side, flows through the northern portion of the park and exits through the northern boundary near Saint Peter's Collegiate (Girls') School.

The other creek, smaller and unnamed, drains part of the residential area south of the park before entering the park through a drain. This creek, which collects most of the runoff from the park, eventually leaves on the western boundary.

Both creeks are supplemented by waters from stormwater pipes which open into the creeks at various points within the park (Figure 2). These drains carry runoff from residential areas on both the north and south of the park and from Saint Peter's Collegiate (Girls') School.

The majority of the park is covered with open forest or woodland with an open understory, and is crossed by a number of walking trails that have developed over the years. There are some large South Australian Red Gums along Stonyfell Creek. Exotic plants are distributed throughout much of the park, and in some areas they now dominate the vegetation to the exclusion of native species.

CLIMATE

The climate of Ferguson Conservation Park differs only slightly from that of Adelaide (as recorded by the Bureau of Meteorology), and this is because of the difference in altitude and geographical location.

RAINFALL

The nearest and most representative rainfall recording station to Ferguson Conservation Park is located at Magill where the average annual rainfall is 640 millimetres (2517 points), compared with Adelaide's 530 millimetres (Figure 3).

However, because Ferguson Conservation Park is further south and slightly higher and closer to the ranges, it is likely to receive an average rainfall in the order of 710 millimetres (Bureau of Meteorology 1971). This level of precipitation makes this the highest rainfall area on the Adelaide Plains. The great majority of this rain falls in the cooler months from May to September; this, combined with the high rate of evaporation and low rainfall which is characteristic of the summer months, creates the markedly seasonal rainfall regime characteristic of the area.

TEMPERATURE

The Bureau of Meteorology at Adelaide (West Terrace) has recorded average monthly maximum temperatures of 28.5°C for the two hottest months January and February, and 14.9°C for the coldest month July. Average minimum temperatures for February and July are 16.8°C and 7.5°C.

Ferguson Conservation Park is between 100 and 140 metres higher than Adelaide and 8 kilometres further inland, and as such, its mean summer maximum temperatures are likely to be approximately 1°C higher than Adelaide's (Bureau of Meteorology 1971) due to the absence of a sea-breeze effect this far inland. Mean winter maximum temperatures, however, may be up to 1°C cooler due to the greater altitude.

Minimum temperatures are influenced more by the topography and its ability to drain cold air away than by altitude, although this also has an effect. As both Adelaide and Ferguson Conservation Park are situated in locations that allow drainage of cold air, their minimum temperatures are likely to be similar. Records for Adelaide show that frosts are rare, occurring on average only three times in ten years. It is likely that Ferguson Conservation Park would experience a similar frost frequency.

WIND

The most frequent wind directions experienced in this region are those from the south-west to north-west. These winds are associated with the majority of winter precipitation and typically result from the passage of low pressure systems embedded in the dominant westerly flow of air at these latitudes.

The possibility of strong winds (a wind of 22 knots or more, which persists for at least ten minutes) from this quarter exists for any month of the year, although is most likely in the late winter and spring months from July to November.

A second major wind, particularly prominent in this footslope region, is the gully wind. This wind results from the mechanical funnelling of easterly airstreams through the gullies of the Mount Lofty Ranges. They are particularly prominent if a temperature inversion is present to act as a lid over the system and thus augmenting the funnelling effect of the gullies. This wind occurs principally at night in the five warmest months of the year and is occasionally strong enough to cause damage to trees and buildings.

The sea-breeze, one of the prominent winds in the coastal suburbs of the Adelaide Plains, only occasionally penetrates far enough inland to effect this area (Bureau of Meteorology 1971).

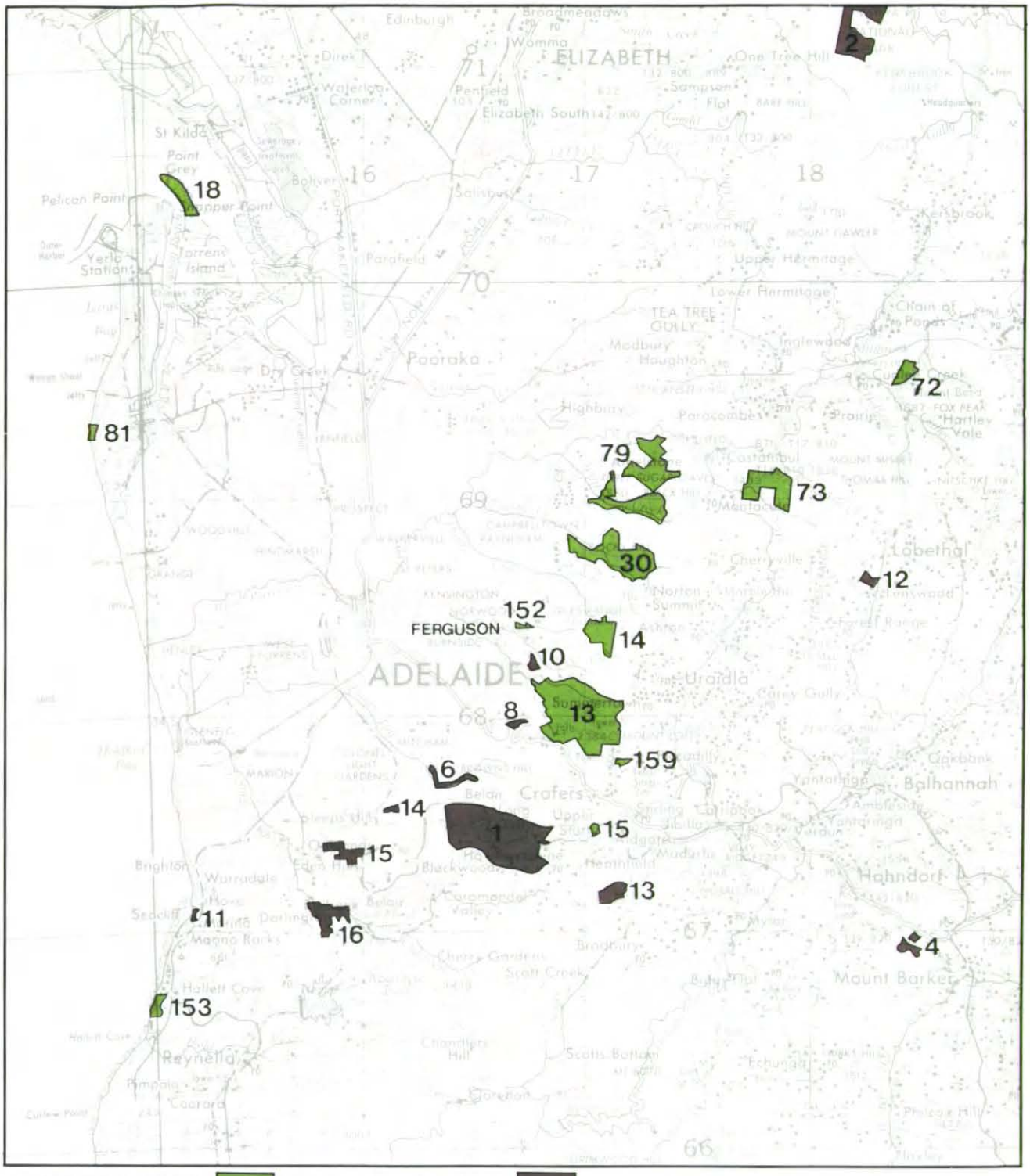
GEOLOGY AND SOILS

GEOLOGY

Ferguson Conservation Park is situated on the Burnside Splinter Block (Aitchison *et al.* 1954), a narrow fault block immediately west of the major Eden Fault which forms the westernmost escarpment of the Mount Lofty Ranges. In the park this Burnside Fault is completely obscured by outwash from the ranges, and as a result, exposed rock strata are not apparent.

SOILS

The predominent soil type is a Yellow Podzolic (Metropolitan Soil Map, Series 2, 1970), typically exhibiting grey sandy A and A2 horizons to a maximum depth of 20 centimetres (Figure 4). Below this, a sudden transition to a yellow clay marks the B horizon, which may have grey or red-brown mottling. On the gentle slopes of Ferguson Conservation Park, the



CONSERVATION PARKS

RECREATION PARKS

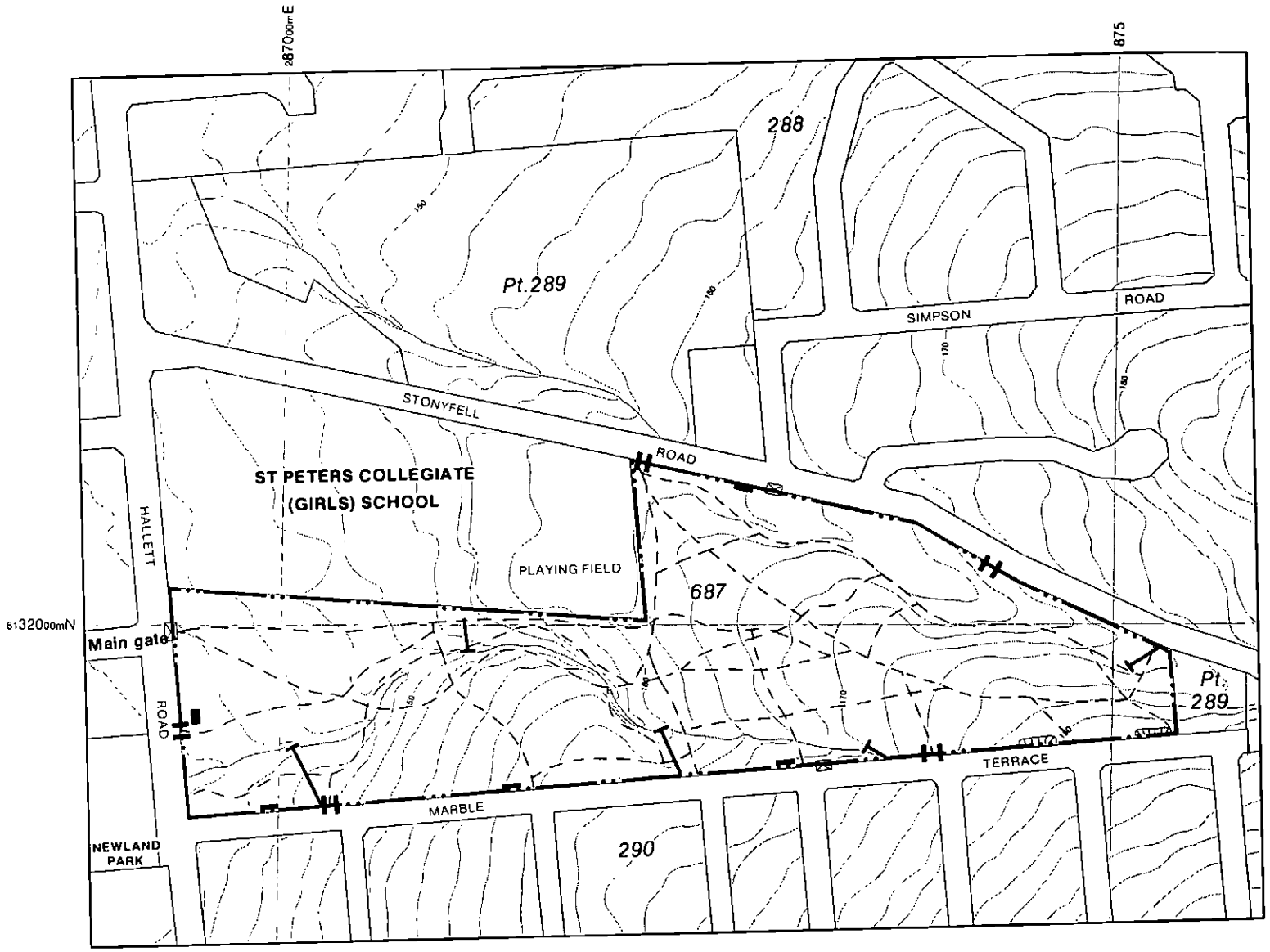
Black Hill	79	Belair	1
Cleland	13	Brownhill Creek	6
Cudlee Creek	72	Greenhill	10
Eurilla	159	Kingston Park	11
Ferguson	152	Lenswood	12
Fort Glanville	81	Loftia	13
Hallett Cove	153	Para Wirra	2
Horsnell Gully	14	Shepherds Hill	15
Montacute	73	Sturt Gorge	16
Morialta	30	The Elbow	8
The Knoll	15	Totness	4
Torrens Island	18	Windy Point	14

SCALE 1 : 250 000

5 0 5 10 Km

Figure 1

Near Metropolitan Park Locations



Walking trails

Gate

Signboard

Access point (stile)

Stormwater erosion of road verge which washes into park

Drain

Toilet block

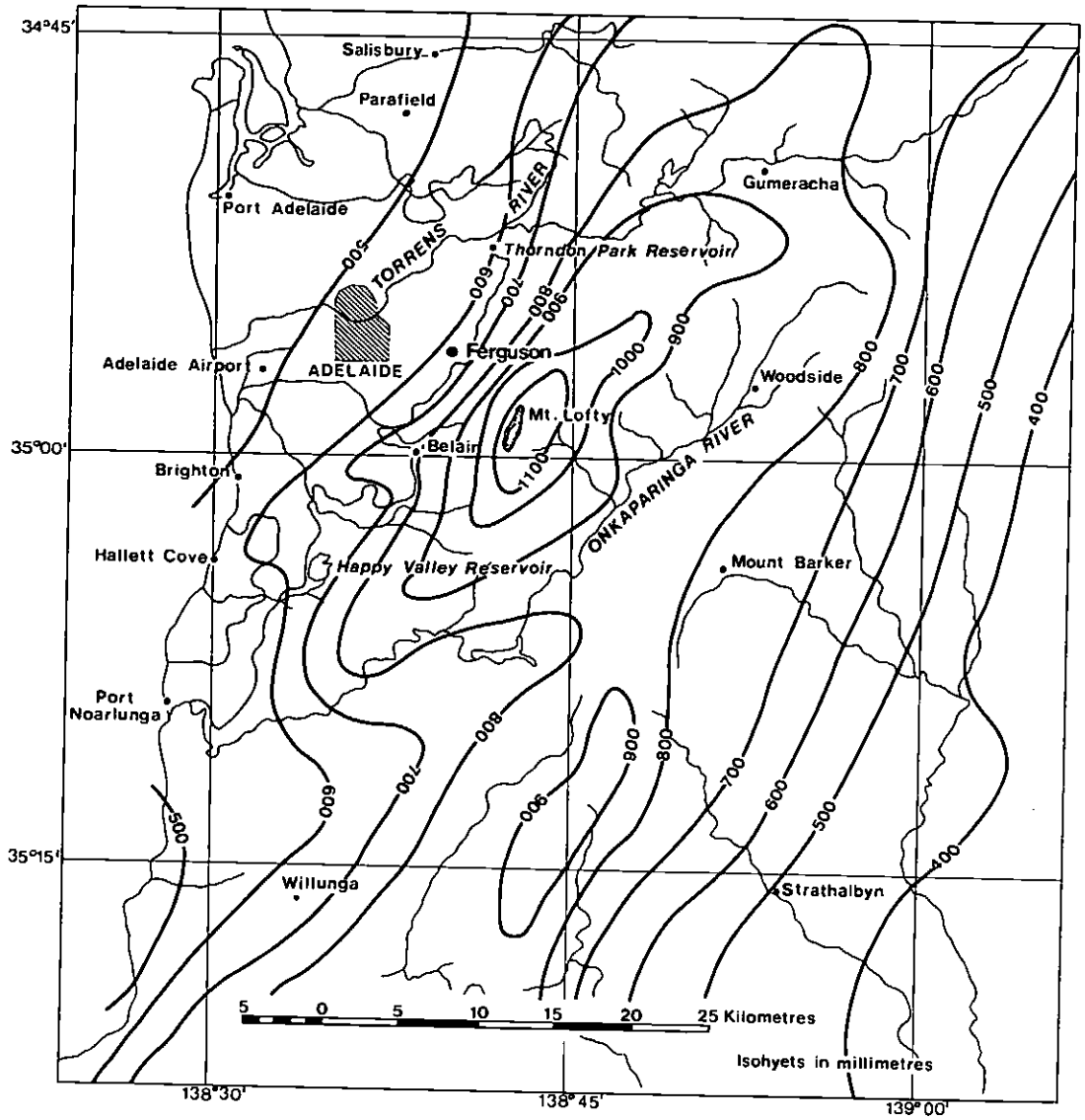
Streams are intermittent

Contour interval 2 metres

0 100 200 300 M

Figure 2

Conservation Park Area



Line 1: Monthly and Annual Average Rainfall in points

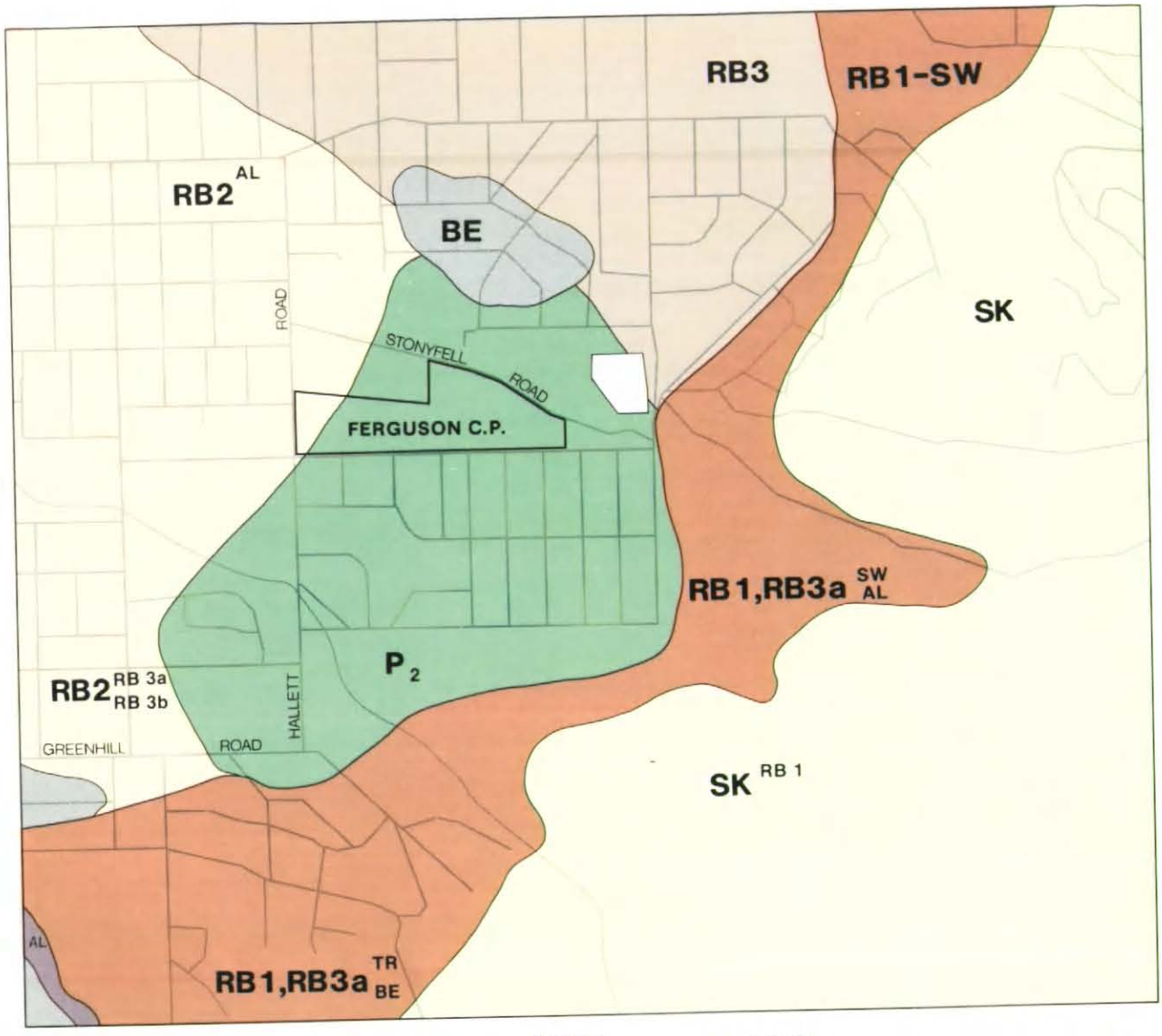
Line 2: Monthly and Annual Average Number of Days of Rain—1931-1960

Station and Period	Years of Record	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Adelaide 1839-1966	128	76	76	95	172	271	290	261	243	201	174	122	104	2 085
	30	5	5	5	11	13	14	16	16	13	12	9	7	126
Magill 1892-1966	75	86	87	103	207	326	355	323	296	253	212	143	126	2 517
	30	4	4	5	10	12	14	16	16	13	11	8	6	119

Source: Bureau of Meteorology (1971)

Figure 3

Rainfall



GENERAL DESCRIPTION	SOIL TYPE	GREAT SOIL GROUP
Shallow and stony red-brown clay soils overlying bedrock.	RB1	RED-BROWN EARTHS
Red-brown sandy clay soils of granular structure.	RB2	
Heavy red-brown clay soils of coarse prismatic structure.	RB3	
Heavy red-brown clay soils of coarse prismatic structure but with abundant stone fragments.	RB3a	
Heavy red-brown clay soils of coarse prismatic structure but with deep coarse-textured top soil.	RB3b	
Red-brown clay soils with thin calcrete layer on calcareous bedrock.	RB4	
Red-brown clay soils of granular structure.	RB5	
Black to dark-grey clay soils of coarse blocky nature.	BE	BLACK EARTH
Uniform red to red-brown soil on highly calcareous parent material.	TR	TERRA ROSSA
Uniform dark-brown to black soils on highly calcareous parent material.	RZ	RENDZINA
Grey sandy topsoil on yellow clay subsoil—developed on slates, shales or quartzites.	P_2	PODZOLIC SOILS
Grey sandy topsoil on red granular clay subsoil—developed on slates and shales.	P_3	
Stream alluvium—silts, sands and gravels.	AL	ALLUVIAL SOILS
Mixed stony red soils with no profile development.	SW	SLOPEWASH SOILS
Thin stony soils on bedrock.	SK	SKELETAL SOILS

DOMINANT SOIL TYPES	MINOR SOIL TYPES	SOIL ASSOCIATION
AL		
RB3	RB5, RB3a, BE, AL and intergrades	
BE	RB3 and intergrades	
SK	RB1, P_2	
RB1, RB3a, SW	SK, BE, AL, RZ, TR, RB4	
RB2	AL, RB3a, RB3b	
P_2	P_3, SK	

0 300 600 900 M

Figure 4

Soils

sandy A horizon readily absorbs rainfall and minimises surface runoff except on tracks where heavy foot traffic has caused compaction and degraded vegetative groundcover. Northcote (1976) notes that the Yellow Podzolic soils of the Adelaide region are deficient in nitrogen and phosphorus.

This occurrence of Yellow Podzolic, a soil requiring relatively high rainfall for formation, is at the lowest altitude record of this soil type in the Adelaide area and the only such area on the Adelaide Plains. A smaller area mapped as Red Brown Earth (Metropolitan Soil Map, Series 2, 1970) occurs at the western end of the park. This soil, developed on outwash from Stonyfell Creek, typically shows a brown to red-brown sandy A horizon which is compact and hard when dry. The B horizon, which becomes evident below 30-45 centimetres, is a sandy to silty clay, red-brown in colour and frequently exhibits scattered quartzite pebbles. Surface absorption of water is normally high on this soil type, although here the compaction and degradation of groundcover results in considerable surface runoff.

Soils of this type are generally deficient in nitrogen, phosphorus and zinc (Northcote 1976). Test holes located near the boundary of these two soil types indicate that in this area at least, the boundary between the two is poorly defined.

Recent deposits of undifferentiated quartzite sediments occur on the area north of Stonyfell Creek. These sediments, which are 20 centimetres thick in places, were deposited over the existing soil during flood conditions. The presence of approximately 10 centimetres of organic material overlying the quartzite grit indicates that serious flooding is unlikely to have occurred since the creekbed was deepened in 1965.

HISTORY

EARLY LANDOWNERS OF SECTION 289

On 7 March 1839, Robert Cock and William Ferguson purchased Sections 286, 287, 288, 289 and 291, Hundred of Adelaide, a total of 162 hectares (Figure 5). On 29 September 1839 their properties were mortgaged to David McLaren. McLaren divided Section 289 into two equal parts. The northern half (16 hectares) was reconveyed with the rest of the mortgaged property to Cock and Ferguson in April 1841.

McLaren sold the southern portion, which comprised 15 hectares, to two Adelaide builders, Richard Eales Borrow and James Goodiar in July 1840. In February 1843 they sold the property for £435 to John Joseph Looney, farmer of Walkerville. It is doubtful if Looney worked the property as he took up farming land in the Noarlunga-Willunga district.

In 1847 Looney sold the property to Thomas Wallis, tailor, for £200. His ownership was short-lived, for ten months later in November 1847 he sold it for £220 to Dr James George Nash, the Colonial Surgeon.

Cock and Ferguson's 180-hectare property (which now included Section 907) was further mortgaged, first to John Baker and then in November 1841 to Edmund Isaac Stevens Trimmer, merchant and landowner. Cock and Ferguson's financial problems caused their property to be conveyed in trust to Trimmer in June 1844 in lieu of £1,259 6s owed to him. On 18 July 1844, Trimmer sold the property to Dr Christopher Rawson Penfold for £1,200. Penfold moved on to William Ferguson's farm on Section 291, named it The Grange and established what is now known as Penfold's Grange Vineyards.

Dr Penfold mortgaged his property to Trimmer for £1,000 on 19 July 1844. In July 1849, £600 was repaid and an extension until June 1852 was granted for the outstanding amount. In order to repay the remainder, Trimmer and Penfold sold the northern portion of Section 289 to Dr James George Nash in December 1851 for £400.

Dr Nash built a residence near the eastern boundary of the land he had purchased from Thomas Wallis. He named his house and property Ilfracombe. In 1855 Dr Nash decided to return to England and offered Ilfracombe for sale. The following details are taken from the notice of sale (*Observer*, 17 November 1855):

> . . . Powell Rudall & Company have been favoured with instructions from J.G. Nash, Esq., who purposes visiting England, to sell by auction . . . That MAGNIFICENT SUBURBAN SECTION no. 289B known as ILFRACOMBE containing 80 acres of choice land through the entire length of which there is an ever-flowing creek.
>
> The Section is beautifully timbered with fine gum and other trees and substantially fenced. Half the fencing is but newly erected.
>
> The family residence is built of stone and contains 10 rooms.
>
> The outbuildings are convenient, comprising stable, gig house, sheds, piggery, &c., with a well of sweet water.
>
> The house is well protected from the north wind, while the land breeze renders it delightfully cool in the summer evenings.
>
> The gardens comprise about 3.5 acres, one being planted with upwards of 600 fruit trees (many of them in full bearing), the others with shrubs and flowers.
>
> The distance is convenient, being within three miles of town.
>
> For a Gentlemen's Residence the property is unexceptionable.
>
> For Grazing purposes the wood, feed and water render it particularly valuable.
>
> For Speculation it affords these advantages, viz.: besides a road frontage of 80 chains, it is full of beautiful building sites, commanding views of the ocean from Seacombe to the Head of the Gulf, well arranged for subdivision and equally accessible through Kensington and Magill.

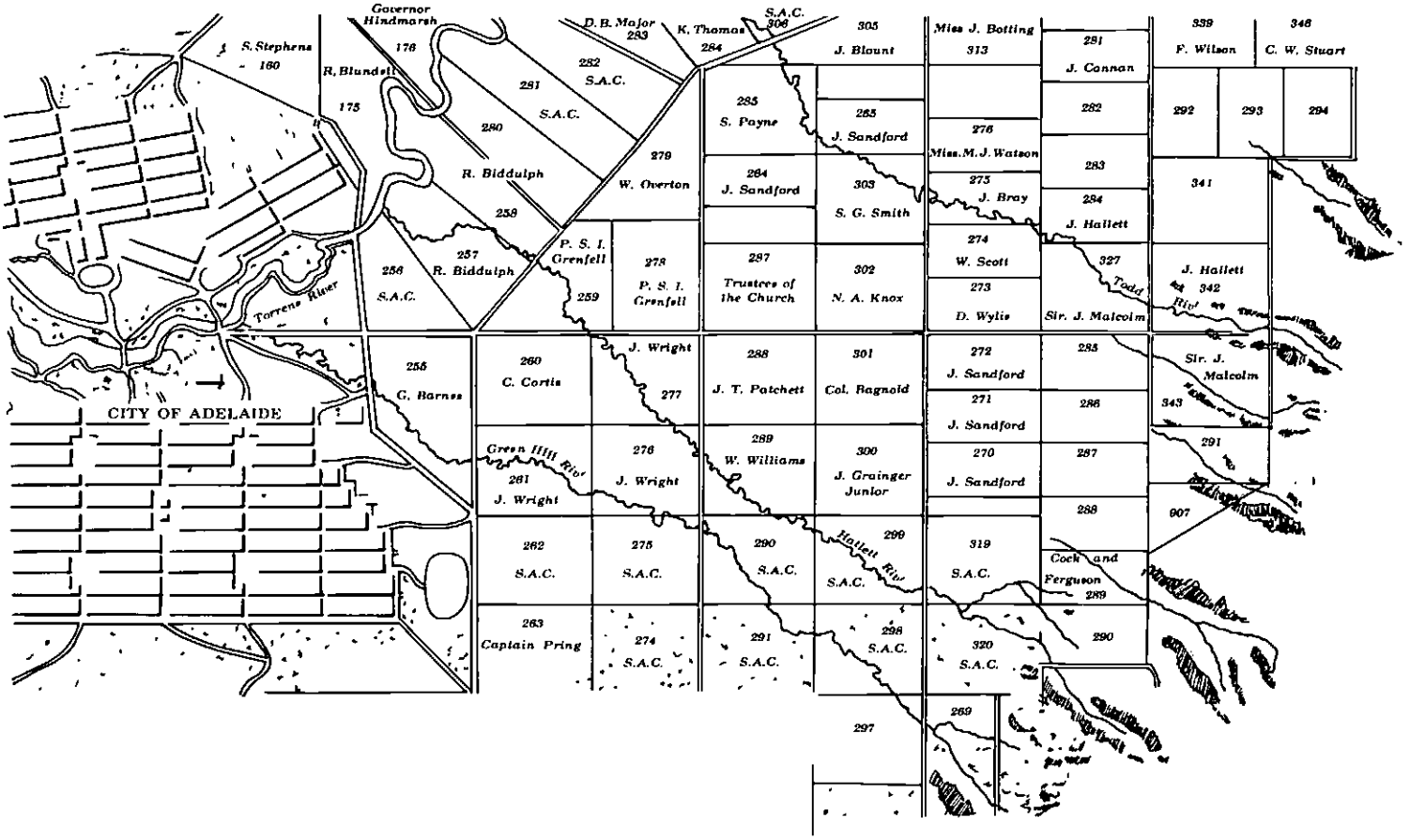
No sale eventuated; however, a fourteen-year lease from 25 March 1856 was contracted with Charles C. Collison, a bullion broker. Dr Nash left Adelaide in January 1856 and retired to Douglas on the Isle of Man.

The yearly rent was set at £140 of "lawful British money" to be paid quarterly, the first instalment due on 24 June 1856.

Collison, however, soon became insolvent and Nash's attorneys, B. T. Finniss and Charles Fenn, negotiated a sale to the pastoralist John Hallett. Between 1860 and 1870 Hallett appears in the Burnside Rate Assessment Books as owner/occupier, but the full amount of the sale was evidently never paid to Dr Nash. John Hallett died on 10 June 1868 aged sixty-four and his widow vacated Ilfracombe in 1870.

Dr Nash's attorneys then leased Ilfracombe to the State Government which conducted a reformatory there.

In March 1878 Nash's agents brought the property under the real Property Act, and in April of the same year sold it for £1,200 to Algernon Sidney Clark and Joseph Crompton, whose Stonyfell vineyards and winery adjoined Ilfracombe to the east.

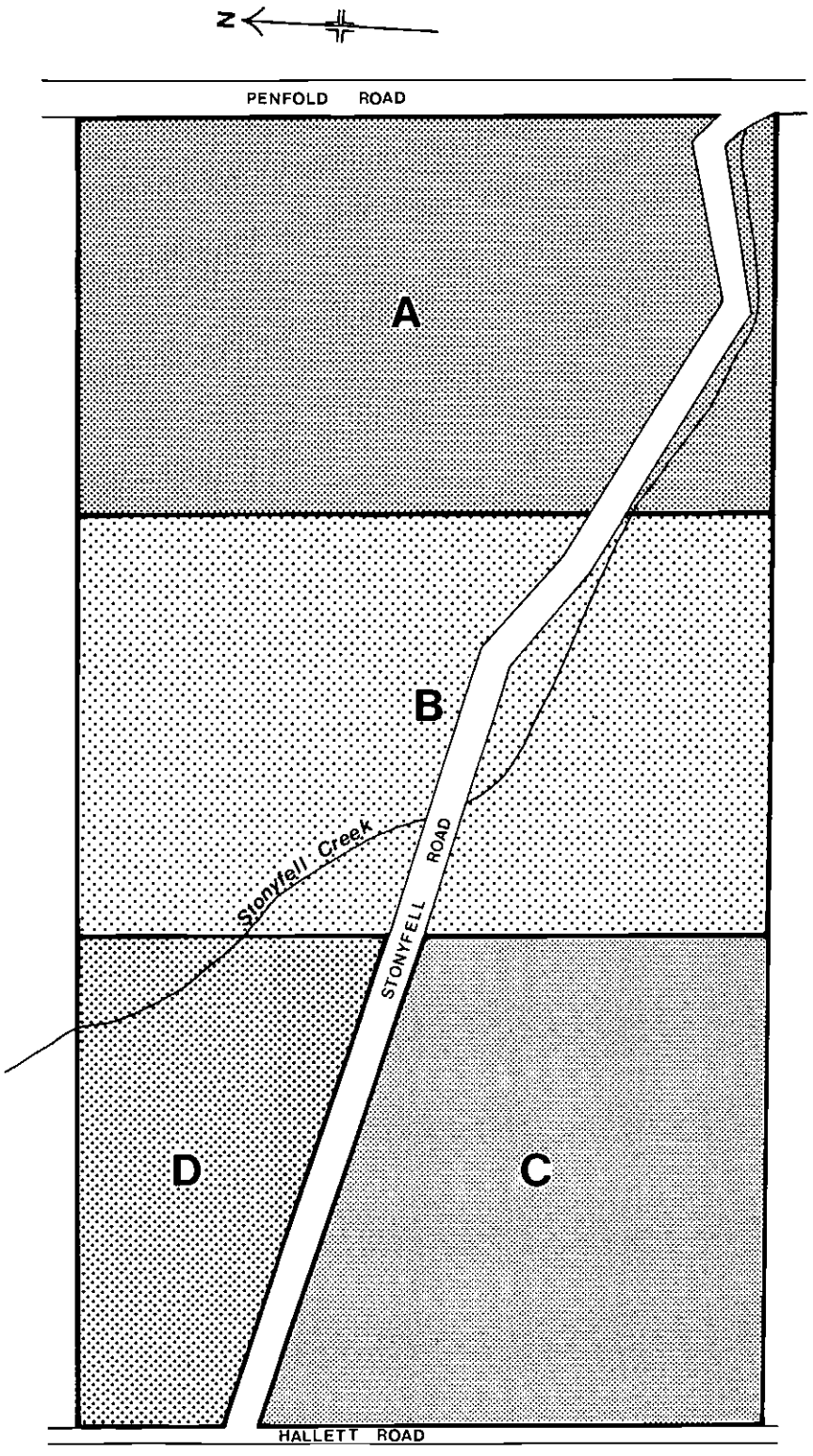


Redrawn from original, from South Australia Archives.

0 1 2 3 4 km

Figure 5

Land Purchased by Robert Cock and William Ferguson in 1839



Joseph Crompton — A

Algernon Sidney Clark — B

William McMinn — C

Ellen Barham Black — D

0 100 200 300 m

Figure 6

Subdivision of Section 289 in 1878

This sale was followed by the second major subdivision of Section 289. In December 1878, Clark and Crompton divided the property into four lots. The sale of the lots was as follows (Figure 6):

Lot A (10 hectares) Joseph Crompton
Lot B (9 hectares) Algernon S. Clark
Lot C (7 hectares) William McMinn
Lot D (4 hectares) Ellen Barham Black

Joseph Crompton also obtained title to the right-of-way—now Stonyfell Road—which followed Stonyfell Creek from the north-west corner to the south-east corner of the section. This private road was transferred to the District Council of Burnside in 1888.

In June 1879, A. S. Clark's brother M. Symonds Clark, acquired an interest in his portion of the section. The Clark brothers' property was transferred to their brother-in-law Joseph Crompton in June 1881.

In March 1882 Simpson Newland and land-agent John Henry Luxmoore purchased part of Crompton's property. The 12 hectares to the north of Stonyfell Road were subdivided into twelve allotments (L.T. Plan 1171). These are indicated by F on Figure 7.

HISTORIC HOMESTEADS

Bellyett

Two substantial residences were erected on Section 289 during the period 1879-1882. Bellyett (also spelt Bell yett) by Ellen Barham Black and Chiverton by John Thomas Nankivell, who purchased 3.5 hectares of McMinn's property in 1881 for £540. The Rate Assessment Books for 1882/83 list Nankivell as having 9 acres (3.5 hectares) and a bluestone mansion of twenty-seven rooms, annual value £210.

Bellyett was built in 1879 by Ellen Barham Black and designed by her son Alfred Barham Black. It was named from a field near Wigtown, Scotland where the Black family had lived. This field had a gate with a bell on it—*yett* is Scottish for gate.

Alfred Barham Black was the son of George Couper Black (1819-1864), a solicitor and manager of the British Linen Bank in Wigtown. After George Black's death in 1864 the family moved to Edinburgh and from there to near Newton Abbot in Devon. In 1877 Alfred, with his mother, brother John McConnell Black (born 1855) and sister Mathilda (born 1852) left England to settle in South Australia.

The family arrived in Melbourne on the *Lusitania* on 9 August 1877 and a week later were in Adelaide. After a year at Mount Barker in November 1878, Ellen Barham Black purchased 4 hectares of land at Burnside (Section 289) from Dr Nash. The building of a house was commenced soon after this because John M. Black recorded in his diary on 24 November 1879, "Mother and Alfred have gone into her house at Burnside" (Figure 9).

John McConnell Black, who is best known simply as J. M. Black, became a prominent figure in botanical and natural history circles in Adelaide. In March 1878 he purchased land at Baroota, 7 kilometres from Port Germein and commenced farming. By 1880 he had 48 hectares of his 214-hectare property under crop. Poor seasons forced him to leave the property in 1883 and return to Adelaide where, until 1902, he was a journalist with *The Advertiser*. After his retirement he devoted his time to the study of botany and in 1909 *The Naturalized Flora of South Australia* was published. This was followed by the four-volume *Flora of South Australia* (1922-1929).

The Black's connections with the district were strengthened by the marriage in 1890 of Alfred Black to Jessie Howard Clark, daughter of John Howard Clark of Hazelwood, Burnside. (Clark's property was the park now known as Hazelwood Park.) By this marriage, Alfred Black was connected by marriage to Joseph Crompton and Henry M. Martin (of Stonyfell Winery), both of whom had married daughters of J. H. Clark.

Soon after Bellyett was completed, Alfred Black's other sister, Helen, came out from Scotland to visit the family. Mathilda Black returned to England and died there in 1887. Mrs Ellen Black died in 1903, and six years later Alfred Black sold the house.

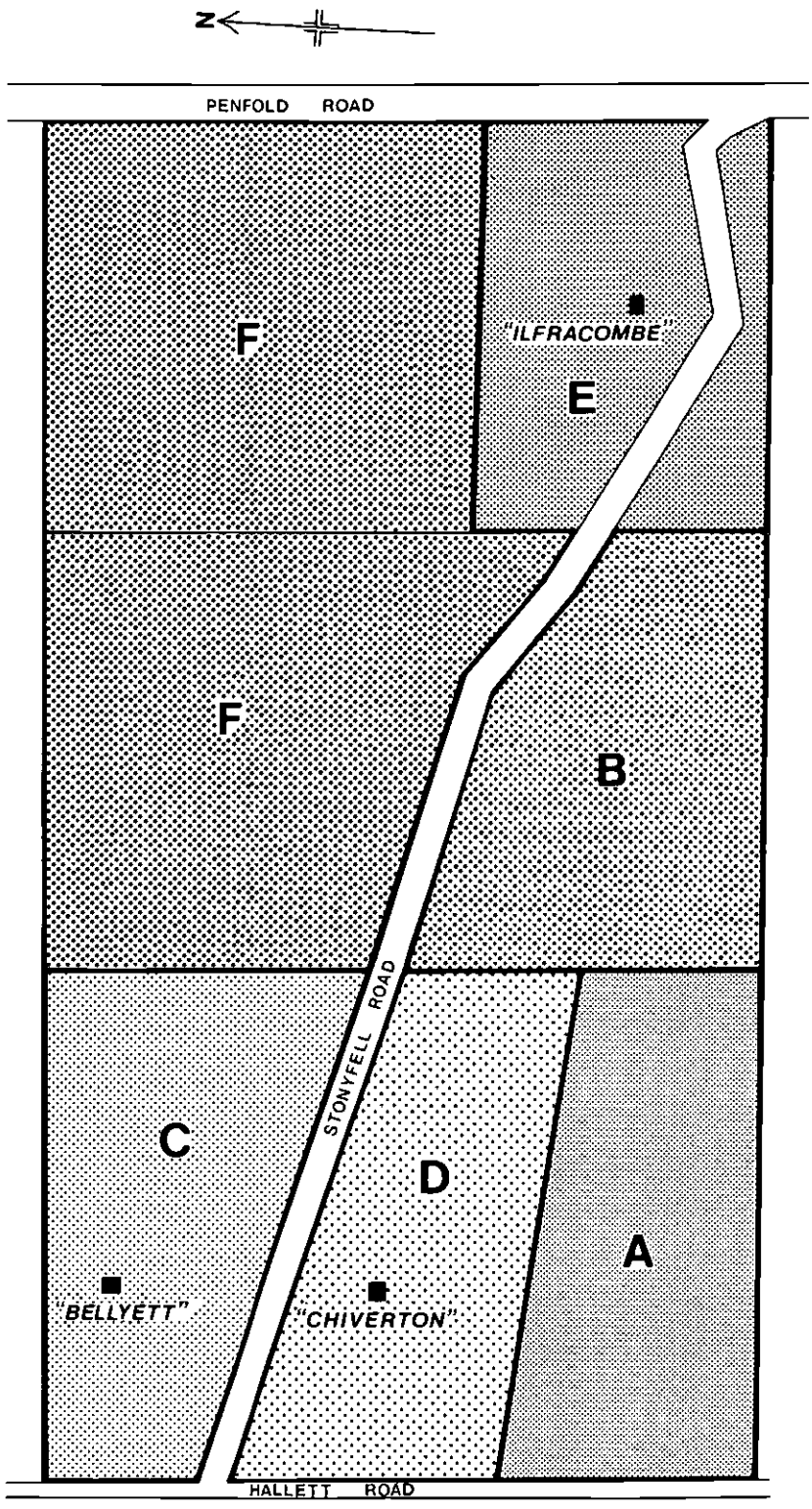
Mrs Helen Finlayson, daughter of Alfred Black, gives the following description of the country around Bellyett as she remembers it in her childhood during the first ten years of this century:

> *Bell yett* . . . was a wonderful place for children, with a creek running from one end to the other through the paddocks and garden; there were two ponds where we used to play a good deal. The long side of the land borders Stonyfell Road, at the end of which my mother's Aunt Mary and Uncle Joseph Crompton lived. One of our favourite walks was up this road with lovely wildflowers in the paddocks on both sides. They were not really paddocks but the original bush. Behind the house was the "Wattle Paddock"; between that one and the next was a surveyed road where I remember getting stuck in deep mud and leaving my shoes behind. Then, just below Ilfracombe, came the "Buttercup Paddock", the best of all, where one day my sister Mildred and the nursemaid jumped over a log almost on to a snake lying on the other side. This paddock grew many kinds of wildflowers as well as buttercups: blue and spider orchids, billygoat and pink ones, scarlet runner, creeping grevillea, vanilla plant, fly catchers, native primroses and many others, which we liked to pick and bring home. The other side of the road was a wilder place, with rising ground and more trees.

Bellyett had a home garden of about an half a hectare and this was surrounded by an impenetrable hedge of African Boxthorn *(Lycium ferocissimum)* which, with its 6-10 centimetre-long thorns, kept the livestock confined to their paddocks to the east of the house (Figure 10). Mrs Finlayson wrote of the running of the property:

> Naturally, there was a lot of work to be done in running this property, and for most of the time I can remember, we had a gardener called Charles Pitman. He looked after the horses and cows and the fowls, he dug the garden, grew the vegetables and did necessary repairs (he had been a coach-builder by trade), harnessed the horses when required and drove to Marryatville every evening to meet my father, collect the letters and any parcels from shops. These were delivered to the bootmaker's; we had no deliveries to the house. Charles lived on the place with his wife and family and he had his own bit of land. He always did the milking before working hours and had milk for his family in exchange. His brother Will Pitman had worked on the place for sixteen years, until he became ill and died; Charles happened to be out of work at the time and stepped into his brother's shoes. Men seemed to hang onto their jobs much more at that time; the Crompton's man, Rodgers, was with them even longer, I believe. The Fergusons' man used to take Charles' place when he went on holiday, and vice versa, Charles did work for the Fergusons (just across Stonyfell Road at Chiverton) when their man went away.

The William Pitman referred to in these reminiscences was, in fact, killed in a well accident in August 1878. Pitman, who had worked for Joseph Crompton for sixteen years as a vinedresser and cellerman, was repairing the stonework of a well when it collapsed on



Simpson Newlands property— now Ferguson Conservation Park. A

Simpson Newlands property— now Ferguson Conservation Park. B

Bellyett C

Chiverton D

Ilfracombe E

Newland and Luxmoore's subdivision of 1882 (12 allotments) F

0 100 200 300 m

Figure 7

Properties on Section 289 in 1882

Simpson Newland

Dr. James George Nash, photographed in retirement on the Isle of Man 1886

Sir Henry Simpson Newland

Figure 8

Owners of Section 289

Bellyett 1880. Mrs. Ellen Black in pony carriage, Mathilda Black on verandah, J. M. Black at rear of carriage and Tom Lambden holding horse.
From the memoirs of J. M. Black (1971)

"Barton Croft" (formerly *Bellyett*), Erindale July 1980, now Convent of Mercy

Figure 9

Bellyett 1880 and 1980

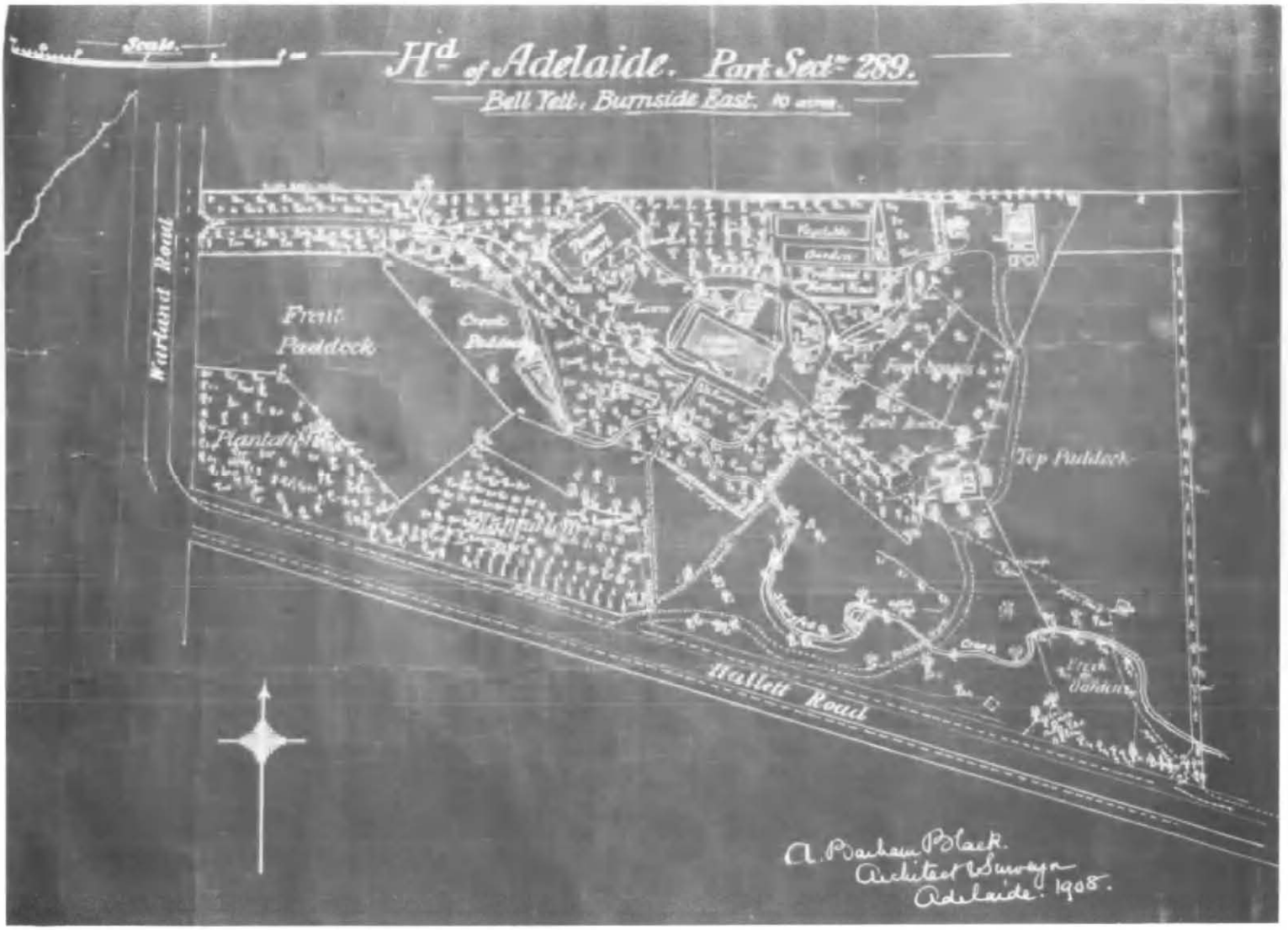


Figure 10

Bellyett—Plan of Garden 1908

him. The Coroner's Inquest brought down a verdict of accidental death (*Register*, 26 August 1878, p. 6d).

Bellyett was briefly owned from 1909 to 1912, by Annie Hawson and her husband Henry Francis Hawson before it was purchased in 1912 by Dr Richard Melville Hindmarsh Jay and his wife Clarissa, a sister of Edmund Bowman who built Martindale Hall near Mintaro. Dr Jay renamed the property Barton Croft, presumably after his wife's family home Barton Vale at Enfield.

After Dr Jay's death in 1919, Barton Croft, which also included Allotments 5, 6 and 12 of Newland and Luxmoore's subdivision, passed to his widow Clarissa, and then in 1926 to his son Dr Hubert Melville Jay.

In 1923 Dr Jay had major alterations done to the house. A second storey, designed by the architect F. Kenneth Milne, was added to the house. The additions were in brick, and to make the building look uniform, the whole was painted white (Figure 9).

Dr Hubert Jay sold the bulk of his property to the Convent of Mercy Adelaide Incorporated in 1948. Most of the Convent's land remained undeveloped until 1969 when the southern portion was subdivided. In December 1971 the Corporation of the City of Burnside purchased Allotments 5, 6 and 12 (of the Jay property) and several subdivision allotments along Stonyfell Creek. This area, which has very little in the way of native trees on it, is now being developed as a recreation park.

Chiverton

The second house, Chiverton, was built in 1881/82 by John Thomas Nankivell of Fanning and Company, merchants of Grenfell Street. The magnificent bluestone residence of twenty-seven rooms that Nankivell built now forms the centrepoint of Saint Peter's Collegiate (Girls') School (Figure 11). Nankivell's occupation of Chiverton was short-lived as it would appear that financial difficulties forced him to lease it to Harry Bickford of A. M. Bickford and Sons, chemists of Hindley Street.

Harry Bickford was in residence at Chiverton (or Leigh House as he called it) for about seven years. In April 1889 Bickford advertised the sale of his household effects, carriages and horses. Chiverton was put up for sale at the direction of Nankivell's mortgagees, the British and Australian Trust. It was purchased by John Drew, who like Harry Bickford, had been living at Glenelg before moving to Burnside.

J. T. Nankivell was living at Althorp Place, Glenelg in 1887. Fanning and Company changed its name in 1887 to Nankivell and Company and was still in existence as late as 1920 in Universal Buildings, Grenfell Street. Nankivell's name as managing-director disappeared in 1891.

In 1896 Drew sold Chiverton to Mrs Jessie Ferguson for £4,300. Jessie Ferguson, who was the widow of Dr Hugh Ferguson (1832-1887) of Glenelg, lived at Chiverton with her unmarried brother the solicitor Alexander Melrose, and her daughter Miss Alice Effie Ferguson. Jessie Ferguson died in 1939 at the age of ninety-one, and her brother died five years later in September 1944. The property then passed to Miss Alice Effie Ferguson.

Ilfracombe

When Joseph Crompton and Algernon Sidney Clark bought Dr Nash's property in 1878, Joseph Crompton acquired the Ilfracombe homestead. In 1882 Crompton sold his properties on Section 289, only retaining Ilfracombe on a 3-hectare block (Figure 7). This area included a well on the southern side of Stonyfell Creek. During the mid-1880s Crompton, who had invested heavily in rural properties and the wine and olive oil trade, was in financial difficulties. Ilfracombe was transferred to his mortgagees, the Bank of Adelaide, in September 1884 and they sold it to Henry Maydwell Martin (Crompton's brother-in-law) four years later. In the same year Stonyfell Winery was sold to quarry operator Henry Dunstan.

It is doubtful whether Joseph Crompton and his family ever lived in Ilfracombe because he had purchased Henry Septimus Clark's house Stonyfell in 1864. He lived there until his death in 1901.

By 1895, Henry M. Martin was leasing Stonyfell Vineyards from Henry Dunstan and in that year his German-born winemaker, August Bungert, took up residence at Ilfracombe. Bungert remained there until Henry Martin's son Ronald moved in. Ilfracombe later became the head office of H. M. Martin & Son, Stonyfell Vineyards. After being vacant for some years and suffering considerable damage by vandals, Ilfracombe was demolished in 1960.

Newland's Property

Ferguson Conservation Park is composed of the areas designated A and B on Figure 7.

Area A (3.5 hectares) was purchased by Simpson Newland from William McMinn in December 1879 and area B (4.5 hectares) from A. S. and M. Symonds Clark in March 1882.

Simpson Newland was a son of the Reverend Ridgeway Simpson Newland and was born in Staffordshire, England in 1835. He arrived in the colony with his parents on the *Sir Charles Forbes* on 7 June 1838. Simpson Newland was engaged in pastoral pursuits in New South Wales and was a Member of the House of Assembly representing Encounter Bay when he purchased Undelcarra on Hallett Road from the merchant George Debney. After a long association with the South Australian branch of the Royal Geographical Society, Simpson Newland was elected President in 1895 and retained this post until 1900. He was re-elected to the position in 1920.

The 8-hectare property on Section 289 remained in the Newland family until 1926. In 1902 Simpson Newland transferred the property to his son Dr (later Sir) Henry Simpson Newland. After Simpson Newland's death in June 1925, the land was sold to Alexander Melrose. Sir Henry Simpson Newland wrote in 1957 of his father's and Alexander Melrose's interest in the Ferguson Park property and its indigenous flora:

> I have had an interest, dating from boyhood, in the welfare of the native woodland at Erindale, now known as the Ferguson Reserve.
>
> My father cherished its bird life. When the late Mr. Alick Melrose acquired the property he continued to bestow the same care on it and planted many native Australian trees and shrubs with his own hands, adding to its attractions.
>
> When he died it appeared likely that subdivision and housing would be its fate. However, Miss Ferguson, a very old friend and my patient at the time, adopted my suggestion that she should purchase that portion of her uncle's estate. With the co-operation of his executors, and the devoted interest of her agent, this was achieved, the property at Miss Ferguson's wish becoming a public recreation reserve in perpetuity.

In 1947 Miss Effie Ferguson purchased the property from the estate of her late uncle, Alexander Melrose. On 22 June 1949, Miss Ferguson added a codicil to her Will by which she bequeathed the property to the Minister of the Crown under the *National Pleasure Resorts Act* 1914-1935. Miss Ferguson died on 29 June 1949.

LAND-USE CHANGES

The only parts of Section 289 that have remained relatively untouched since European habitation are the two blocks that now form the Ferguson Conservation Park (Figure 13). The north-eastern 12 hectares of the section were subdivided into twelve building allotments by Simpson Newland and John H. Luxmoore in 1882. Much of this land was subsequently grazed or planted to vineyards. The Black family grazed much of Bellyett; Chiverton and part of Bellyett were laid out with ornamental gardens and orchards.

Of the area around Ilfracombe, Mrs Rose Jenkin whose father August Bungert was winemaker at Stonyfell Vineyards and lived in Ilfracombe from 1895 until 1926, recalls that it was surrounded by vineyards which extended northwards as far as Simpson Road. Opposite Ilfracombe on the southern side of Stonyfell Road, the Dunstans of Stonyfell Quarry built stables and sheds for their horses, trolleys and carts when their depot was moved from Kensington Gardens. There was a well near what later became the eastern boundary of Ferguson Park.

The eastern paddocks on Bellyett were farmed and grazed. Dr Jay had up to five Jersey cows grazing the property. They produced their own butter and the skimmed milk was fed to the pigs. This usage can still be seen in the absence of many large trees on this property, part of which is now a recreation park vested in the Corporation of the City of Burnside.

Mrs Jenkin also made the comment that part of Ferguson Park and Dr Jay's property were often flooded by Stonyfell Creek after heavy rainfall. Ephemeral waterfalls were formed during the winter over the faces of Stonyfell Quarry.

The use of the Ferguson Park land before 1900 is not known. Mrs Rose Jenkin said that cattle were grazed on this land intermittently during her childhood. The origin of the livestock is not known, but could have been from Crompton's property at Back Valley near Victor Harbor. After the sale to Alexander Melrose, grazing ceased and a single-strand wire fence was erected around the property.

The comments made about Ferguson Park usually referred to it as an area of native scrub. Wild flowers, especially the orchids and native pines, were immediately recalled. Children from neighbouring properties would go for walks, collect wildflowers and go birdnesting there. Weeds were few—mainly Cape Tulip *(Homeria sp.)*—and made paths were notable by their absence.

RECENT EVENTS

Ferguson National Pleasure Resort 1949-1972 and Ferguson Recreation Park 1972-1977

From 1949 until 1971, Ferguson Park was administered by the south Australian Government Tourist Bureau. During 1950-1951 a stone wall and entrance gates were erected on the Hallett Road frontage. A plaque was mounted on this wall commemorating Miss Ferguson's gift. The plaque bears the following inscription:

> This Park was presented to the
> Government of South Australia
> by the late
>
> Miss A. E. Ferguson
>
> in June 1949
> At her express wish it has been
> dedicated as a National Pleasure
> Resort for the benefit of the public
> in perpetuity

During 1951, following public comment, the small earth dam in the park 68 metres east of Hallett Road was removed.

In August 1955, K. A. Preiss of Erindale (now of Stonyfell) submitted the first of several reports that he was to write on the importance of preserving the native bushland in Ferguson Park. The first report which was entitled *A Report Concerning the Native Birds and Plants of Ferguson Park and their Preservation* commented:

> . . . it must be realized that we have a valuable asset which must be preserved . . . It is obvious that to preserve some of our rapidly disappearing flora and fauna, immediate steps must be taken.

The need to take some sort of action was already apparent. Rubbish, both hard and garden refuse, was being dumped in the park, motor vehicles were gaining access, and campers and visitors were damaging trees.

Problems such as these continued to occur over the next decade. During 1957 Saint Peter's Collegiate (Girls') School undertook a major building programme and this resulted in some damage occurring along the western boundary of the park. It was also found that the school's southern boundary fence was encroaching on park land. This situation was rectified in 1965 when a high cyclone fence was erected.

During 1983 the Wattle Park and Rosslyn Park Progress Association requested that the Tourist Bureau carry out some maintenance work on the park. The Association stressed that this work should not be "improvement" in nature, but simply removal of rubbish and restricting access by motor vehicles.

The Association inspected the park with officials from the Tourist Bureau in November 1963. Reference was made to the need for a new sign prohibiting shooting and damaging the flora. The Departmental report stated:

> I pointed out to him (Dr Glaessner of the Progress Association) that we have not yet been able to find a type of notice board which would satisfactorily stand up to the work of vandals who fire rifles or throw stones at them.

Since his first report in 1955, Preiss has prepared two further reports on Ferguson Park. The second report *A Recommendation That Ferguson Recreation Park be Re-scheduled as Ferguson Conservation Park* was submitted to the National Parks and Wildlife Advisory Council through the Nature Conservation Society of South Australia in November 1973. A draft third report was submitted in September 1978 for inclusion in the Management Plan for the park which was to be prepared by the National Parks and Wildlife Service. This material was subsequently published in the *South Australian Naturalist* in June 1980.

The following material is taken from Preiss' 1978 report and deals with the administration of the park since 1949 and the national parks system in general in South Australia:

> The South Australian Government Tourist Bureau who administered the park for over twenty years followed a policy of maintaining it in a natural state. The Annual Reports of National Pleasure Resorts from 1949 to 1971 contain references to cleaning up, removing noxious and unwanted growth, trimming olives and treating Cape Tulip, and, apart from the construction of commemorative entrance gates, a toilet block and some work on signs and fences and the planting, in about 1952, of 30 native trees donated by the Botanic Garden, no development or improvements were carried out. In the three reports of the National Pleasure Resorts for 1969, 1970 and

"Chiverton" c1950

"Chiverton" July 1980

Figure 11

Chiverton 1950 and 1980

Hallett Road, Burnside c1890

Hallett Road, Burnside 1981

Figure 12a

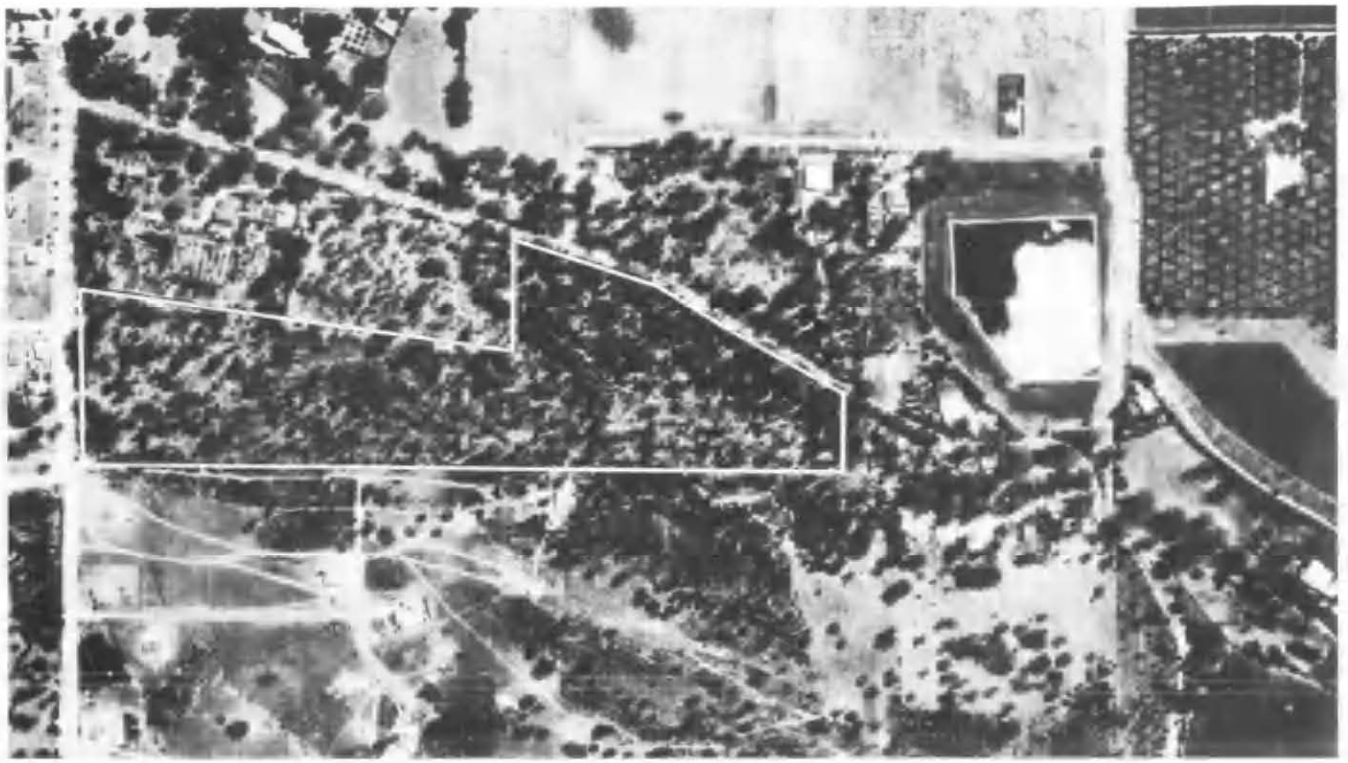
Hallett Road C 1890 and 1981

Looking east along Stonyfell Road in 1954 —buildings at right are stables

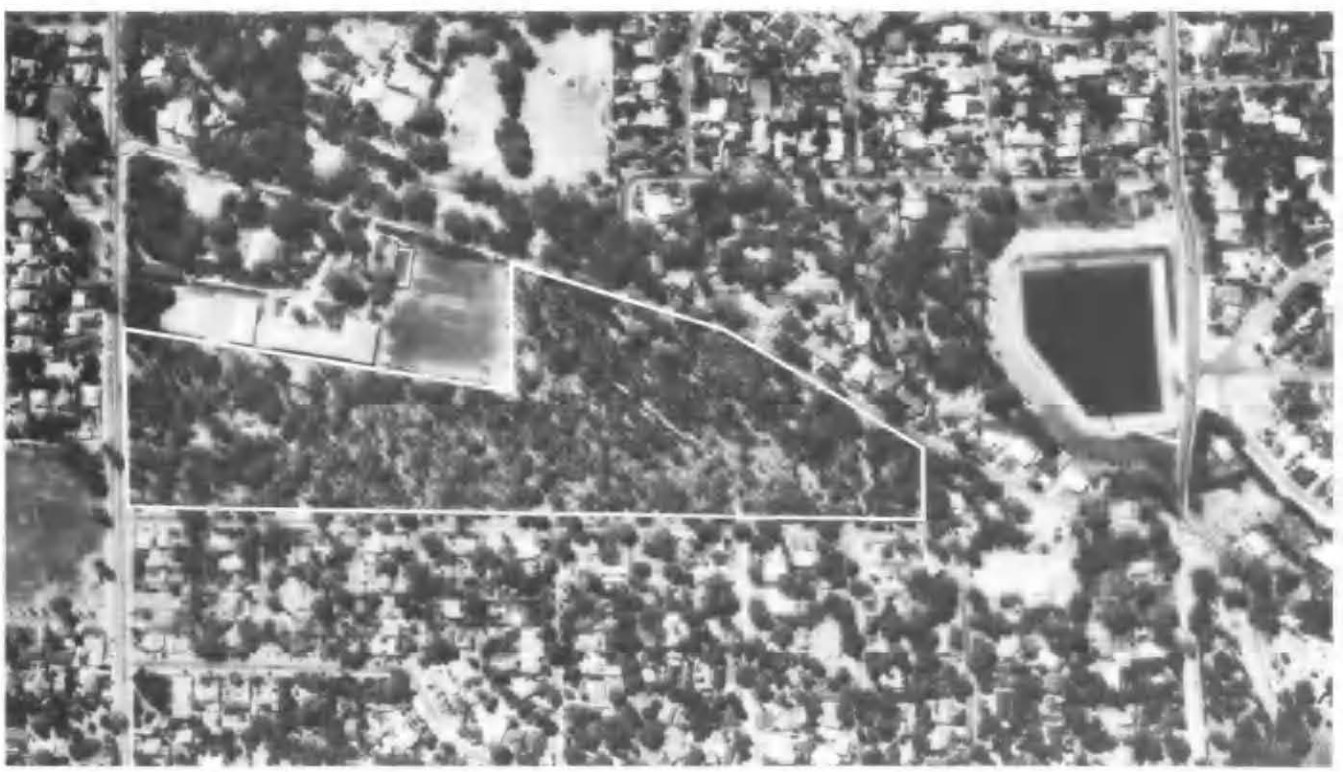
Stonyfell Road in 1980

Figure 12b

Stonyfell Road 1954 and 1980



Ferguson C.P. in 1949



Ferguson C.P. in 1979

Figure 13

Aerial Photographs 1949 and 1979

1971 the park was described as "a natural bushland park in a foothills suburb."

In 1949, when Ferguson Park was presented to the Government, legislation for holding and administering natural reserves and parks was not as comprehensive as it is today. Specific Acts of Parliament had created "The National Park" at Belair and "Flinders Chase" on Kangaroo Island. No other convenient way of holding natural areas existed, except as "National Pleasure Resorts" or as "Flora and Fauna Reserves" under the Crown Lands Act.

It is perhaps unfortunate that the land was designated a National Pleasure Resort, with the connotations inherent in that title. However, at the time of the gift there was no statute which encompassed the wishes of the donor and the tradition of management of the land over the previous seventy years.

The proclamation of the National Parks and Wildlife Act in 1972 rationalised the holding and administration of many reserves and parks which had been proclaimed for a variety of purposes over the years and which were held and managed by various Government authorities. The Act provides for four types of park; national parks, conservation parks, recreation parks and game reserves. Ferguson Park, formerly a National Pleasure Resort managed by the South Australian Government Tourist Bureau, now became Ferguson Recreation Park managed by the National Parks and Wildlife Service.

The reasons for its classification as a 'Recreation Park' under the Act are not known.

The Nature Conservation Society of South Australia (1972), commenting on the National Parks and Wildlife Act, were " . . . very dismayed by the haste with which this Bill was hurried through Parliament and believe a more leisurely passage would have given much better opportunity for informed Parliamentary and public comment . . .".

It is understandable that in classifying, under some pressure, about 150 areas, consideration of the background and relative merits of each may not have been possible, and that detailed local information may not have always been available.

It is possible that inadequate weight may have been given to the history relating to the initial creation of the park in 1949, its unusual natural values and the number of recreation areas in the immediate vicinity, so that a decision was made to group Ferguson Park with other recreation parks under the Act on the basis of its size and proximity to the city.

In 1973, because of its classification under the Act, association with other recreation parks catering for active recreation, and ambiguity in the Act regarding the purpose of various parks some apprehension was felt that the park may in the future be developed as an area catering for some form of active recreation. This apprehension was not dispelled by a National Parks and Wildlife Service (1973) guide book where the park is described as "Suburban bushland at Stonyfell, at present children's playground . . . yet to be developed.

Believing any such development would breach the implied wishes of the donor and her relatives, be contrary to local wishes and destroy an area of scientific interest, Preiss (1973) made a submission through the Nature Conservation Society of South Australia to the National Parks and Wildlife Advisory Council that the park be rescheduled Ferguson Conservation Park.

Following receipt of this submission, the National Parks and Wildlife Advisory Council recommended to the Minister of Environment and Conservation that Ferguson Recreation Park should be managed along the lines of a Conservation Park, pending further enquiry. The Minister accepted this recommendation in February 1974 and enquired of the Crown Solicitor if rescheduling of the park would violate the terms of Miss Ferguson's bequest. In April 1976 the Crown Solicitor advised that reclassification was possible. It was then recommended to the Governor, Sir Mark Oliphant, that the park be renamed the Ferguson Conservation Park and an announcement to this effect was made in the *Government Gazette* of 24 June 1976. However, shortly afterwards it was realised that the correct procedure for dedicating a piece of land as a Conservation Park had not been followed. Consequently, the 24 June 1976, dedication was found to be invalid; the park was correctly dedicated on 2 June 1977.

Following the dedication it was proposed to fence the park. An amount up to $15 000 was allocated for the project during 1977/78. Tenders for the work were called in August 1977 and involved 2400 metres of fencing, two cyclone gates and four stiles. The boundaries facing Stonyfell Road, Hallett Road and Marble Terrace were to be fenced, and the eastern boundary was to be negotiated with the owner of the adjoining land. The work was given to C. & B. Wegener, general contractors of Lobethal. The fencing was completed by November 1978 and cost $7330.

FIRE HISTORY

As a small park in a residential area, Ferguson Conservation Park would be expected to have a low fire frequency. Indeed this appears to be the case as only two fires, both fairly minor, are known to have occurred in the park over the past twenty years.

The earlier of these is thought to have occurred in the early to mid 1960s (Preiss pers. comm.), and to have burnt only a small area. The most recent fire occurred on the 27 December 1975 (S.A. Fire Brigade pers. comm.) and burnt an area approximately 15 metres in diameter. A combination of children and matches is thought to have been the probable cause.

The exact location of either of these fires is not known with certainty.

Personal communication with Mrs R. Jenkin, an early resident in the area, reveals that in the 1920s the park contained much more *Acacia paradoxa* than is currently present. *A. paradoxa* is a species which germinates strongly after fire. This and the fact that the area is now effectively isolated from fires, which would formerly have burnt in from adjacent properties, suggest that this area was probably subject to a higher fire frequency than is now the case. Such a change in fire frequency could have a far-reaching, long-term effect on the vegetation structure and species composition in the park.

VISITOR USE

Much of the information on which this section is based was obtained from an unpublished survey carried out by C. A. Dearman in March-April 1977. Dearman surveyed the resident population within 100 metres of the park and Saint Peter's Collegiate (Girls') School which lies in the same block as the park.

RECREATIONAL USE

Dearman (1977) interviewed thirty-four households, representing ninety-seven people, of which eighty-three said they visited the park at least once a week.

From personal observations, this figure would appear to be unacceptably high. It should be noted, however, that much of the usage recorded by Dearman is by children travelling to and from school through the park. With the construction of the fence around the park perimeter since the completion of his survey, this usage has been reduced. The fence has also prevented many elderly people from gaining ready access to the park directly opposite their homes, a factor which may also reduce usage to some extent.

Despite this, the park still receives considerable usage from local residents. While children regard the park as an adventure playground, adults, a major user group, use the park to walk young children or dogs and to obtain fresh air and relaxation. This form of passive recreation is most prominent during the flowering time of the eucalypts when birdlife is abundant. However, Ferguson Conservation Park as a small reserve is unlikely to attract great numbers of individuals other than those living in the general vicinity.

RECREATION AREAS NEAR FERGUSON CONSERVATION PARK

Within a 1-kilometre radius of Ferguson Conservation Park there are two large and at least six smaller reserves under the control of the Burnside City Council, and the 26-hectare Greenhill Recreation Park under the control of the National Parks and Wildlife Service. These reserves are shown in Table I.

TABLE 1: RESERVES WITHIN 1 KILOMETRE OF FERGUSON CONSERVATION PARK

Name of Park	Area (approx)
Kensington Gardens Reserve	16.6 ha
Hazelwood Park	15 ha
Greenhill Recreation Park	26 ha
Wattle Park Reserve	4 ha
Stonyfell Road Reserve	4 ha
Newland Reserve	2.25 ha
Effie Ferguson Reserve	0.6 ha
The Michael Perry Botanic Reserve	3.15 ha
Stonyfell Quarry Park	0.4 ha

Kensington Gardens Reserve has playing fields, tennis and bowling facilities and children's play areas, and Hazelwood Park has a swimming pool, playing areas, picnic facilities, lawns and gardens. Newland Reserve is largely a sporting reserve, while Effie Ferguson Reserve and Stonyfell Quarry Park are essentially playgrounds for children. The Stonyfell Road Reserve, which to date has not been given an official name, is to be developed as a recreation area. It is not expected that an oval will be included in development plans but a large area will be set aside for horse-riding facilities.

The Michael Perry Botanic Reserve mainly comprises the old garden at Clifton, once the home and wildlife sanctuary of the late Dr Michael Schneider. This area will be upgraded as a botanic-style park.

It can be seen that the general area is well endowed with playgrounds, picnic areas and facilities for active recreation. The presence of these reserves and the development of the reserve on Stonyfell Road removes any necessity to cater for active recreational pursuits in Ferguson Conservation Park. This sentiment is echoed by residents in the vicinity of Ferguson Conservation Park who expressed a desire to see the park remain as it is but with increased management input (Dearman 1977). No resident wished to see the park developed to cater for active recreational activities.

EDUCATIONAL USE

Study groups from schools, colleges and universities regularly use the park and constitute a significant user group. Saint Peter's Collegiate (Girls') School, being adjacent to the park, provides the most frequent visitors for educational purposes, principally for biology lessons, and when the tracks are dry, for short runs.

To find out the extent to which other schools use the park, all High schools and Colleges in the vicinity were contacted. Results indicate that Norwood and Marryatville high schools use the park on a regular basis for either geography or biology studies. It was pleasing to learn that teachers stressed the importance of minimising damage to the park and that students were instructed to refrain from picking plants.

A number of students from other institutions are known to have used the park for specific project-orientated studies.

TOILET FACILITIES

The toilet block near Hallett Road was erected in 1955 when the park was administered by the South Australian Government Tourist Bureau. These are currently the most accessible toilets in the area. Other facilities are, however, provided in Newland Reserve, and the Burnside City Council is building public toilets in the Stonyfell Road Reserve.

A number of "undesirable elements" frequenting the Ferguson Conservation Park facilities has resulted in complaints both from local residents and the Burnside City Council.

Dearman (1977) questioned thirty-two households as to the desired future of the toilet facilities. Fourteen households requested the toilets be removed, fourteen did not object to their presence and four had no opinion. He noted that those people living nearest the toilets voted most strongly for their removal.

PROBLEMS

Children frequently use the park as an adventure playground which is largely incompatible with its intended function as a Conservation Park.

Activities such as building "cubby houses" with plants torn from the ground, and ring-barking and chopping down trees, occur from time to time, although are fortunately not frequent.

Probably the greatest abuse results from people persisting in dumping lawn clippings, plant cuttings, wood chips and other forms of garden refuse in the park. This practice creates a visual eyesore and provides the potential for further introductions of exotic plants.

While walking dogs (on a lead) was permissible when Ferguson was designated as a Recreation Park, this practice is illegal now that the reserve has Conservation Park status. Never-the-less this practice still continues.

In March 1980 an enterprising young person dumped thirty-six copies of the local home-delivery newspaper in a patch of *Goodenia amplexans*—presumably to truncate his delivery round!

BIOLOGY

NATURAL VEGETATION

Ferguson Conservation Park is one of the few areas of predominantly native vegetation remaining on the Adelaide Plains. This location is of particular significance because it represents one of the highest

developments of alluvial outwash on to the Adelaide Plains. Largely as a result of elevation, this area receives the highest rainfall of any location below the Mount Lofty Ranges.

This is reflected in the vegetation, as indicated by a reference to this area in the *Proceedings of the Field Naturalist Section of the Royal Society of South Australia* (1884-85), and here quoted by Preiss (1980):

> This particular place is perhaps the nearest to town and most accessible site for obtaining similar plants to those growing on the higher elevations of the Mount Lofty Ranges. Some of these, also, that are met with here are not found in any other part of the range.

Preiss (1980) noted that the vegetation of Ferguson Conservation Park does not comply with any of the plant associations recorded by Specht and Perry (1948) although it had affinities with several. He concluded that it was probably transitional between several of these plant associations.

The native vegetation of Ferguson Conservation Park (Figure 14) is dominated by *Eucalyptus leucoxylon* (South Australian Blue Gum) open forest/woodland with scattered large *E. camaldulensis* (River Red Gum) along Stonyfell Creek. Numerous small trees, notably *Callitris preissii* (Native Pine), *Casuarina stricta* (Drooping She-oak) and *Acacia pycnantha* (Golden Wattle) form a variable second strata beneath the eucalypts. In the central part of the park *Callitris preissii* forms dense groves in which it is the dominant tree.

Native shrubs which are common in the understorey include *Goodenia amplexans*, *Hibbertia sericea*, *Bursaria spinosa* and *Pimelea stricta*, however, a considerable diversity of other native shrubs are also present. Native grass species include *Stipa* spp. (Spear-grass) and *Themeda australis* (Kangaroo Grass) which is common and in places occurs in moderate sized stands. This species, which was once abundant on the Adelaide Plains (Warburton 1977), disappears rapidly under grazing (Specht 1972). Its presence here is one indication that Ferguson Conservation Park is unlikely to have been intensively grazed.

A total of 262 plant species have been recorded for Ferguson Conservation Park of which 141 are indigenous and 121 exotic species (Table II).

The following list of plants recorded from Ferguson Conservation Park was derived from the species list of Preiss (1980). Of the 262 species recorded, the great majority were collected by Preiss prior to 1974 and are supported by voucher specimens in the State Herbarium. The occurrence of other species is based on published works by Jeffery *et al.* (1955), James (1959) and Cleland (1960). Two previously unrecorded species were noted in the 1980 National Parks and Wildlife Service Survey.

The subjective assessments of abundance used by Preiss (1980), based on assessments made in 1973, have been included. The assessments for orchids are those used by Jeffery *et al.* (1955) and quoted by Preiss (1980). The taxonomy of the orchids has been amended in the light of recent taxonomic judgments (J. T. Simmons pers. comm.).

The nomenclature used is after Black (1965, 1978), common names are according to Black (1965, 1978) and Specht (1972). Families are in alphabetical order.

An asterisk denotes an alien species which includes planted Australian species.

TABLE II: PLANT LIST AND ASSESSMENT OF ABUNDANCE

The following terms are used to record abundance:

Legend

- A *Abundant:* Numerous specimens occur, are widespread and immediately apparent on casual inspection.
- O *Occasional:* Isolated specimens or clumps may be seen with careful inspection.
- L *Locally:* When prefixing the other categories, indicates the occurrence is confined to one or more restricted areas.
- F *Frequent:* Several specimens occur and are easily located.
- R *Rare:* Less than about twelve occurrences have been noticed.

	ADIANTACEAE	
LF	*Cheilanthes tenuifolia*	Rock Fern
	AMARANTHACEAE	
R	*Ptilotus erubescens*	
	AMARYLLIDACEAE	
	**Agapanthus africanus*	Agapanthus
R	**Amaryllis belladonna*	
F, LA	*Calostemma purpureum*	
	**Leucojum aestivum*	Snowflake
	**Narcissus jonquilla*	
	APOCYNACEAE	
LA	**Vinca major*	Periwinkle
	ASCLEPIADACEAE	
R	**Ascelpias rotundifolia*	Broad-leaved Cottonbush
	BORAGINACEAE	
	Cynoglossum australe	
O,LF	**Echium lycopsis*	Salvation Jane
R	**Heliotropium amplexicaule*	
	CAMPANULACEAE	
R	*Lobelia gibbosa*	
	Wahlenbergia stricta	Bluebell
	CARYOPHYLLACEAE	
	**Silene nocturna*	
	CASUARINACEAE	
	Casuarina paludosa	
R	var. *robusta*	
LA	*C. stricta*	Drooping She-oak
	CENTROLEPIDACEAE	
	Centrolepis aristata	
	C. strigosa	
	CHENOPODIACEAE	
O	*Durlala villosa*	
	COMPOSITAE	
	**Arctotheca calendula*	
F	*Calocephalus citreus*	Cape Weed
	C. drummondii	
R	**Cassinia laevis*	
F	**Chrysanthemoides monilifera*	Boneseed
O	**Conyza bonariensis*	
R	**Cynara cardunculus*	Wild Artichoke
	**Gazania* sp.	
	Gnaphalium japonicum	
	**Hypochoeris glabra*	
R	*Ixodia achilleoides*	Fire Weed
	Lagenifera stipitata	
O	*Leptorhynchos squamatus*	
	Microseris scapigera	Yam
F	*Olearia ramulosa*	
O	**Picris echioides*	Ox-tongue
	Senecio hypoleucus	
O	**S. pterophorus*	African Daisy
	S. quadridentatus	Cotton Fireweed
O	**Sonchus oleraceus*	Sow-thistle
	Vittadinia triloba	
	CONVOLVULACEAE	
O	**Convolvulus arvensis*	Bindweed
O	*C. erubescens*	
	CRASSULACEAE	
	Crassula macrantha	
	CRUCIFERAE	
	Lepidium hyssopifolium	Cress
LF	**Rapistrum rugosum*	Wild Turnip
	CUPRESSACEAE	
F, LA	*Callitris preissii*	Native Pine

CYPERACEAE		
	Carex breviculmis	Sedge
O	*Cyperus vaginatus*	Flat-sedge
	Isolepis marginata	
R	*Lepidosperma laterale*	Variable Sword-sedge
	L. lineare	Little Sword-sedge
O	*Machaerina gunnii*	Slender Twig-rush
LF	*Schoenus apogon*	Common Bog-rush
DILLENIACEAE		
A	*Hibbertia sericea*	Guinea Flower
DROSERACEAE		
	Drosera glandulingera	Sundew
	D. peltata	Sundew
F	*D. planchonii*	Sundew
F	*D. whittakeri*	Sundew
EPACRIDACEAE		
A	*Astroloma humifusum*	Native Cranberry
EUPHORBIACEAE		
O	**Euphorbia terracina*	Spurge
	Poranthera microphylla	
GENTIANACEAE		
	**Centaurium minus*	Centaury
GERANIACEAE		
LF	**Erodium moschatum*	Heron's Bill
	Geranium pilosum	Geranium
LF	*G. cf. retrorsum*	Geranium
	G. solanderi	Geranium
GOODENIACEAE		
A	*Goodenia amplexans*	
F	*G. primulacea*	
O	*Scaevola albida*	Fun Flower
	Velleia paradoxa	
GRAMINEAE		
O	*Agrostis aemula*	Blown Grass
	A. avenacea	Blown Grass
	**Aira caryophyllea*	Silvery Hair-grass
O	*Amphipogon caricinus*	Long-grey-beard Grass
	A. strictus var. *setifer*	Grey-beard Grass
F	**Avena fatua*	Wild Oat
	**Brachypodium distachyon*	False Brome
A	**Briza maxima*	Large Quaking-grass
F	**B. minor*	Lesser Quaking-grass
F	**Bromus diandrus*	Great Brome
	**Catapodium rigidum*	Rigid Fescue
O	**Cynodon dactylon*	Couch-grass
	**Cynosurus echinatus*	Rough Dog's Tail
	Danthonia caespitosa	Common Wallaby-grass
	D. linkii var. *fulva*	Wallaby-grass
	D. setacea	Bristly Wallaby-grass
O	*D. tenuior*	Wallaby-grass
	**Ehrharta longiflora*	Annual Veld Grass
LA	**Festuca arundinacea*	Tall Meadow Fescue
LF	**Hordeum leporinum*	Barley Grass
	**Lolium perenne*	Perennial Rye-grass
QLF	*Neurachne alopecuroidea*	Fox-tail Mulga-grass
F	**Oryzopsis miliacea*	Rice Millet, Many Flowered Millet
LA	**Paspalum dilatatum*	Paspalum
LA	**Pennisetum clandestinum*	Kikuyu
	**P. villosum*	Feather-top
O	**Pentaschistis thunbergii*	
	**Phalaris canariensis*	Canary-grass
	**Poa annua*	Winter Grass
	P. cf. clelandii	
O	*P. crassicaudex*	
	**Polypogon semiverticillatus*	Water Bent
	Stipa clelandii	
	S. pubescens	Maritima
	S. cf. pubescens	
F	*S. semibarbata*	Fibrous Spear-grass
	S. variabilis	Variable Spear-grass
F	Themeda australis	Kangaroo Grass
GUTTIFERAE		
R	**Hypericum perforatum*	St. Johns Wort
HALORAGAGEAE		
F,LA	*Gonocarpus elatus*	
	G. tetragynus	
	G. mezianus	
IRIDACEAE		
LF	**Chasmanthe aethiopica*	
R	**Gladiolus tristis*	Gladiola
F,LA	**Homeria breyniana*	Cape Tulip
F	**H. ochroleuca*	One-leaved Cape Tulip
R	**Iris germanica*	German Iris
		Bearded Iris
A	**Ixia flexuosa*	
F	**Romulea rosea*	Onion-grass
F,LA	**Sparaxis bulbifera*	Harlequin Flower
	**S. tricolor*	Tricolor Harlequin Flower
	**Tritonia* sp.	
	**Watsonia pyramidata*	Rosy Watsonia
JUNCACEAE		
	Juncus bufonius	Toad Rush
	J. pallidus	Pale Rush
	J. vaginatus	
O	*Luzula meridionalis*	
LABIATAE		
R	**Lavandula stoechas*	Topped Lavender
R	**Salvia verbenaca*	Wild Sage
LEGUMINOSAE		
LF	**Acacia decurrens*	Early Black Wattle
	A. dodonaeifolia	Sticky Wattle
R	**A. iteaphylla*	Flinders Range Wattle
	**A. longifolia*	Sallow Wattle
O	*A. paradoxa*	Kangaroo Thorn
R	**A. paradoxa*	
A	*A. pycnantha*	Golden Wattle
F	*A. rotundifolia*	Round-leaf Wattle
R	*Bossiaea prostrata*	
LF	**Chamaecytisus proliferus*	
A	*Eutaxia microphylla*	
F	*Kennedia prostrata*	Scarlet Runner
	**Medicago intertexta*	Hedgehog Medic
L	**M. polymorpha* var. *vulgaris*	Toothed Medic
R	*Pultenaea acerosa* var. *acicularis*	Bush Pea
R	*P. largiflorens* var. *latifolia*	Bush Pea
R	**Templetonia retusa*	
	**Trifolium angustifolium*	Clover
	T. arvense	Hare's Foot Clover
	**T. campestre*	Hop Clover
	**T. fragiferum*	Strawberry Clover
O	**Vicia sativa*	Common Vetch
LILIACEAE		
R	**Allium neapolitanum*	Naples Onion
	**A. triquetrum*	Three-cornered Garlic
O	*Anguillaria dioica*	Early Nancy
O	*Arthropodium fimbriatum*	Nodding Chocolate Lily
F	*A. strictum*	Chocolate Lily
R	**Asparagus asparagoides*	Smilax Asparagus
R	**Asphodelus fistulosus*	Wild Onion
O	*Bulbine bulbosa*	Bulbine Lily
LF	*Burchardia umbellata*	Milkmaids
F	*Caesia vittata*	Blue Grass-lily
F	*Chamaescilla corymbosa*	Blue Stars
F	*Dianella revoluta*	Black-anther Flax-lily
O	*Lomandra densiflora*	Irongrass
F	*L. dura*	Irongrass
	L. micrantha	Small-flower Mat-rush
	**Ornithogalum arabicum*	
	Thysanotus patersonii	Twining Fringe-lily
LF	*Tricoryne elatior*	Yellow Rush-lily
R	*Xanthorrhoea semiplana*	Yacca
LINACEAE		
F,LA	*Linum marginale*	Flax
LORANTHACEAE		
O	*Amyema miquelii*	Mistletoe
O	*Lysiana exocarpi*	Mistletoe
LYTHRACEAE		
	Lythrum hyssopifolia	Lesser Loose Strife
MORACEAE		
R	**Ficus macrophylla*	Morton Bay Fig
MYOPORACEAE		
R	*Myoporum viscosum*	

MYRTACEAE		
	Agonis flexuosa	
	Callistemon cf. macropunctatus	Scarlet Bottlebrush
R	*C. macropunctatus*	Scarlet Bottlebrush
R	*C. salignus*	Bottlebrush
FLA	*Calytrix tetragona*	Fringed Myrtle
R	*Chamelaucium uncinatum*	
OLF	*Eucalyptus camaldulensis*	River Red Gum
O	*E. citriodora*	Lemon-scented Gum
R	*E. ficifolia*	Red Flowering Gum
R	*E. gomphocephala*	Tuart
R	*E. lehmannii*	Bushy Yate
A	*E. leucoxylon*	South Australian Blue Gum
R	*E. cf. nutans*	
	E. nutans	Red-flowered Moort
	E. odorata	Peppermint Box
R	*Melaleuca armillaris*	
	M. huegelii	
OLEACEAE		
LF	*Fraxinus excelsior*	Caucasian Ash
LF	*Ligustrum ovalifolium*	Privet
F	*Olea europaea*	Olive
ORCHIDACEAE		
O	*Caladenia catenata*	Pink Fingers
O	*C. deformis*	Bluebeard Caladenia
F	*C. dilatata*	Fringed Spider Orchid
R	*C. latifolia*	Pink Fairies
R	*C. leptochila*	Narrow-lip Spider Orchid
O	*C. reticulata*	Veined Spider Orchid
R	*Diuris longifolia*	Wall-flower Orchid
R	*D. maculata*	Leopard Orchid
	D. pedunculata	Snake Orchid
O	*Glossodia major*	Wax-lip Orchid
R	*Microtis parviflora*	Slender Onion-Orchid
A	*M. unifolia*	Common Onion-Orchid
	Prasophyllum fitzgeraldii	
	P. fuscum	Tawny Leek Orchid
	P. nigricans	Midge Orchid
	P. occidentale	
A	*P. pallidum*	Pale Leek-Orchid
	P. patens	
O	*Pterostylis nana*	Dwarf Green-hood
R	*Thelymitra antennifera*	Rabbit Ears
	T. aristata	Scented Sun-orchid
	T. decora	
A	*T. luteocilium*	Fringed Sun-orchid
A	*T. pauciflora*	Slender Sun-orchid
OXALIDACEAE		
O	*Oxalis corniculata*	Wood Sorrel
O	*O. hirta*	
LA	*O. pes-caprae*	Soursob
PAPAVERACEAE		
	Fumaria capreolata	Climbing Fumitory
PINACEAE		
LF	*Pinus halepensis*	Aleppo Pine
PITTOSPORACEAE		
F	*Bursaria spinosa*	Christmas Bush
LF	*Cheiranthera cyanea*	
	Pittosporum phylliraeoides	Native Willow
PLANTAGINACEAE		
	Plantago drummondii	Plantain
F	*P. lanceolata*	Ribwort Plantain
POLYGALACEAE		
LF	*Muraltia heisteria*	
POLYGONACEAE		
O	*Polygonum aviculare*	Wire Weed
O	*Rumex brownii*	Dock
	R. crispus	Curled Dock
PRIMULACEAE		
	Anagallis arvensis	Scarlet Pimpernel
PROTEACEAE		
R	*Grevillea lavandulacea*	
	G. rosmarinifolia	
O	*G. trifida*	
F	*Hakea laurina*	Pincushion Hakea
O	*H. petiolaris*	
O	*H. rugosa*	
RHAMNACEAE		
LF	*Rhamnus alaternus*	Buckthorn
ROSACEAE		
	Acaena echinata	
O	*Cotoneaster pannosa*	
	Cydonia oblonga	Quince
	Malus sp.	Apple
O	*Rosa canina*	Dog Rose
	Rubus sp. aff. fruticosus	Blackberry
RUBIACEAE		
	Asperula scoparia	
SALICACEAE		
	Populus cf. alba	Silver Poplar
	Salix babylonica	Weeping Willow
SANTALACEAE		
O	*Exocarpos cupressiformis*	Native Cherry
SAPINDACEAE		
O	*Dodonaea viscosa*	Native Hop
SCROPHULARIACEAE		
	Parentucellia latifolia	
STYLIDIACEAE		
	Levenhookia dubia	
	L pusilla	
THYMELAEACEAE		
	Pimelea humilis	
A	*P. stricta*	
TROPAEOLACEAE		
R	*Tropaeolum majus*	
UMBELLIFERAE		
LF	*Foeniculum vulgare*	
	Hydrocotyle callicarpa	Fennel
VALERIANACEAE		
R	*Centranthus ruber*	Kiss-me-quick

RARE AND ENDANGERED PLANTS

The park contains a number of species found on the rare and endangered list compiled by Specht *et al.* (1974) (see Table III). Seven are regarded as rare, and a further six as depleted. In addition to the thirteen species mentioned above, varieties of a further two species found on the rare and endangered list have been recorded from the park. This list includes four of the twenty-four currently recognised species of orchid recorded from the park (Black 1978; Jeffery *et al.* 1955; James 1959). Orchid taxonomy has been amended to accord with recent taxonomic judgments (J. T. Simmons pers. comm.).

TABLE III: RARE AND ENDANGERED PLANTS IN FERGUSON CONSERVATION PARK

Species	Status E	R	D	G	Geographical Region
Amaranthaceae					
Ptilotus erubescens				×	Southern Districts
Casuarinaceae					
Casuarina paludosa var. *robusta*	×				South-East
Compositae					
Senecio hypoleucus			×	×	Southern Districts
Cyperaceae					
Lepidosperma lineare			×		Southern Districts
Machaerina gunnii		×			South-East, Kangaroo Island
Gramineae					
Amphipogon caricinus		×			North-West and Nullarbor Plain, Far North-West
Danthonia linkii var. *fulva*		×			Southern Districts
Leguminosae					
Bossiaea prostrata		×			South-East, Southern Districts
Pultenaea acerosa var. *acicularis*			×		Southern Districts, Kangaroo Island, Eyre Peninsula
Juncaceae					
Juncus vaginatus			×		South-East, Southern Districts, Kangaroo Island

Orchidaceae				
Microtis parviflora	×			Southern Districts
Prasophyllum fitzgeraldii		×		Southern Districts
P. fuscum	×		×	Southern Districts
P. pallidum	×			Southern Districts
Pittosporaceae				
Cheiranthera cyanea	×			Murraylands, Southern Districts, Eyre Peninsula
Schenopodiaceae				
Duriala villosa		×		Southern Districts, Flinders Ranges
Stylidiaceae				
Levenhookia pusilla		×		Murraylands, Southern Districts

Code
E—Endangered
R—Rare
D—Depleted
G—Geographical Importance

EXOTIC PLANTS

The high number of exotic species recorded (Table II) indicates that Ferguson Conservation Park, as a whole, could not now be considered truly representative of the native vegetation which once occupied the site, although the central portions of the park retain a largely natural appearance. The problem is accentuated because Ferguson is a small park, surrounded by a cultural landscape in which native species are poorly represented. As such, it is susceptible to invasion by exotic species, particularly where the native vegetation is disturbed or removed. Disturbances such as siltation along Stonyfell Creek, construction of stormwater drains and school buildings adjacent to the park, and its considerable recreational use, all provide opportunities for invasion by weeds.

The introduction of exotic species washed in by runoff along nearby roadways or dumped in the park as garden refuse, seemingly a common practice, has accentuated the problem.

Some of the more prominent exotic species are Silver Poplar *(Populus* cf. *alba)* which dominates much of the Stonyfell Creek area, Olive *(Olea europaea),* Aleppo Pine *(Pinus halepensis),* Caucasian Ash *(Fraxinus excelsior),* Boneseed *(Chrysanthemoides monilifera)* and Kikuyu Grass *(Pennisetum clandenstinum).*

Several Australian species, mostly native to Western Australia, have also been introduced to the park both by Alexander Melrose and later by the Tourist Bureau administering the National Pleasure Resorts. Species planted include melaleucas, hakeas, acacias and several eucalyptus species (see table II). Of these, at least one, the Pincushion Hakea *(Hakea laurina),* has become naturalised and is spreading through parts of the park.

Some weed control efforts have been made in the past by the Tourist Bureau and have been continued by National Parks staff. These efforts have met with some success as Topped Lavender *(Lavandula stoechas),* once a prominent weed in the park (Jeffery *et al.* 1955), is no longer present. Periodic weed control measures are still practised in the current management of the park.

FUNGI

Over fifty species of macro-fungi were collected in Ferguson Conservation Park during the winter and spring of 1980. It would appear that the park has quite a rich fungal flora, both in terms of the number and variety of fungi recorded from a relatively small area in a short time (Table IV).

However, the state of knowledge of the Australian macro-fungi is extremely poor, and the only available South Australian text, which was written by Professor J. B. Cleland, is now outdated. This has resulted in many specimens being classified to genus level only, and indeed, some were too difficult to identify to that level.

Most of the fungi occurred in the region of indigenous vegetation, in particular under *Callitris preissii* in the central area of the park and under *Eucalyptus leucoxylon* in the north-western section of the park. A notable exception to this was the occurrence of two species of *Boletus* known to have a mycorrhizal association with the exotic Aleppo Pine *(Pinus halepensis).*

The most commonly recorded genera were *Clitocybe* and *Inocybe,* and the most frequent species were *Clitocybe campestris, Hebeloma mesophaeum* var. *minus, Laccaria laccata* and the small polypore *Colitricia oblectans.* Species of interest that occurred infrequently included the small, brilliant yellow *Omphalia fibula* among moss; the luminescent species *Pleurotus lampas* at the base of *E. leucoxylon;* the tan-coloured bracket fungus *Fomes* cf. *badius* on *Callitris preissii;* the impressive yellow and black polypore *Phylloporus paradoxus* and green and white *Russula viridis;* a small jet black species of *Inocybe* and the small but brilliantly coloured *Hygrocybe coccinea.*

TABLE IV: FUNGI RECORDED FROM FERGUSON CONSERVATION PARK

This collection was made by G. C. Bishop and C. M. Watson in the winter of 1980.

Cleland (1934-35) has been the major source of species descriptions and keys to fungi other than Agaricales, but Wood's Key (1979) was used for identification to genus of all the agarics. Singer's (1962) systematic arrangement of families was adopted. Other sources that were consulted were Dickinson and Lucas (1979) and Talbot (1971).

BASIDIOMYCETES

PHRAGMOBASIDIOMYCETES
TREMELLACEAE
Tremella mesenterica (Retz.) Fr. Witches Butter

HOLOBASIDIOMYCETES

Aphyllophorales
THELEPHORACEAE
Stereum illudens Berk.

Agaricales
AGARICACEAE
Agaricus campestris (L. ex Fr.) Common Field Mushroom
A. vinacea Clel.
Cystoderma sp.
Lepiota subcristata Clel.
Lepiota sp.

AMANITACEAE
Amanita angustispora Clel.
A. grisea Mass. et. Rodway
Amanitopsis pulchella Cke. et. Mass.

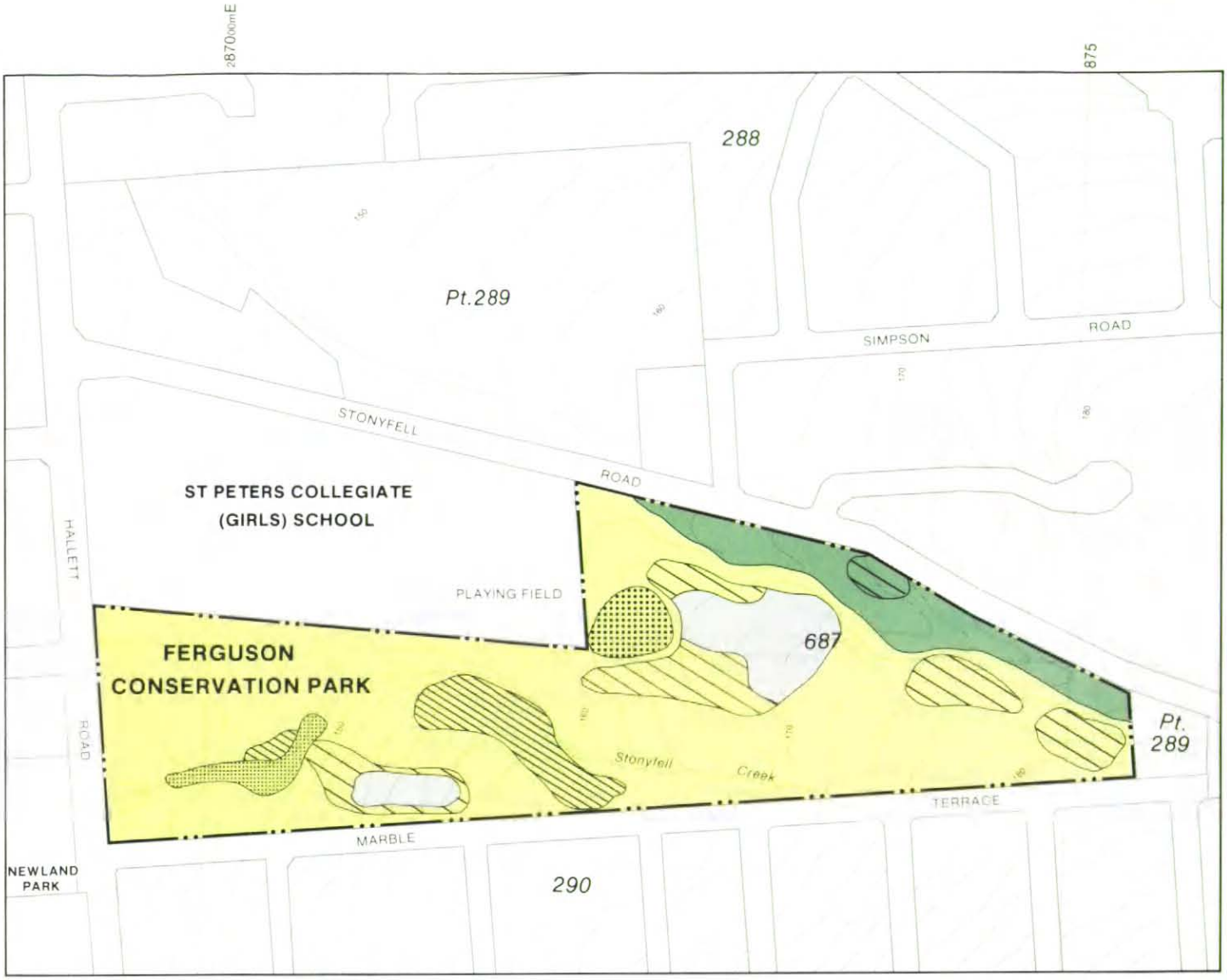
BOLETACEAE
Boletus punctato-brunneus Clel.
Boletus sp.
Phylloporus paradoxus (Kelch.) Bres.

BOLBITIACEAE
Agrocybe sp.

COPRINACEAE
Coprinus virgulicolens Clel.

CORTINARIACEAE
Cortinarius sp.
Gymnopilus sp.
Hebeloma mesophaeum Fr. var. *minus* Cke.
Inocybe granulosipes Clel.
I. serrata Clel.
Inocybe spp. (3 different species)

HYGROPHORACEAE
Hygrocybe coccinea (Schaeff. ex Fr.) Kummer



VEGETATION ASSOCIATIONS

WOODLAND/OPEN FOREST

Eucalyptus leucoxylon
Understorey variable, but in places features a prominent second strata of the following species

Callitris preissii

Casuarina stricta

Acacia pycnantha

Fraxinus excelsior

OPEN FOREST

Callitris preissii

Eucalyptus camaldulensis

0 100 200 300 M

Figure 14

Vegetation

POLYPORACEAE
Coltricia oblectans (Berk.) G.H. Gunn
Fomes cf. *badius* Berk.
Gyroporus caespitosus Clel.
Pleurotus lampas Berk.
Polyporus eucalyptorum Fr.
Schizophyllum commune Fr.

RUSSULACEAE
Russula viridis Clel.

STROPHARIACEAE
Pholiota rufo-fulva Clel.

TRICHOLOMATACEAE
Chaetocalathus sp.
Clitocybe campestris Clel.
C. flaccida Fr. var. *lobata* (Sow.) Cke.
C. peraggregata Clel.
C. semiocculta Clel.
Clitocybe spp. (4 different species)
Laccaria laccata (Scop.) B. et. Br.
Melanoleuca sp.
Mycena fusca Clel.
Mycena spp. (2 different species)
Omphalia fibula (Bull.) Fr.

GASTEROMYCETES

LYCOPERDEAE
Calvatia lilacina (Berk. et. Mont.) Lloyd
Lycoperdon glabrescens Berk.
Lycoperdon sp.

SCLERODERMATACEAE
Scleroderma radicans Lloyd

ASCOMYCETES

DISCOMYCETAE
Peziza sp.

PYRENOMYCETAE
Cordyceps sp.

BIRDS

The park supports a considerable population of native birds which contribute significantly to its attractions (Table V). The majority of species are insectivorous and/or pollen and nectar feeding birds and are present in large numbers during the flowering period of *Eucalyptus leucoxylon*. Particularly abundant are the Musk, Purple-crowned and Rainbow Lorikeets, Noisy Miners and Red Wattlebirds.

Three species, the Red Wattlebird, Noisy Miner and Australian Magpie, are known to breed regularly in the park (Preiss 1980), although other species would, no doubt, be added to this list with further observations.

A total of forty bird species have been recorded for the park or within 0.4 kilometre radius of it (Preiss 1980). It should be noted however that the White-browed Babbler, Regent Honeyeater, Grey Fantail and Scarlet Robin have not been seen in the vicinity of the park for some years (Preiss 1973). Likewise the White-faced Heron and Budgerigar should be considered chance sightings.

Only four introduced species occur in the park, and although relatively common in the residential areas around the park, only the Blackbird is found in any numbers.

TABLE V: BIRDS OF FERGUSON CONSERVATION PARK

The majority of these birds were observed between 1 May 1954 and 30 April 1955 and were recorded by Preiss (1955). Observations re-commenced in 1969 and sightings since then have been included. Birds not seen since the 1954-55 period have been separated from the main list. The comments on status are applicable at the time of writing (1980). Listing from Preiss (1980).

The nomenclature follows South Australian Ornithological Association (1980) and the following abbreviations have been used:

* Introduced species
\+ Sighting within 0.4 kilometre radius of park
r Birds recorded to 1955 but not recorded since 1969

\+ *Acanthorhynchus tenuirostris.* Eastern Spinebill.
Nomadic, common.

Anthochaera carunculata. Red Wattlebird.
Common.

Anthochaera chrysoptera. Little Wattlebird.
Uncommon.

\+ *Aquila audax.* Wedge-tailed Eagle.
Transient.

Ardea novaehollandiae. White-faced Heron.
Transient.

Artamus cyanopterus. Dusky Woodswallow.
Common.

Cacatua roseicapilla. Galah.
Common.

\+ *Calyptorhynchus funereus.* Yellow-tailed Black-Cockatoo.
Transient.

Cecropis nigricans. Tree Martin.
Common.

Colluricincla harmonica. Grey shrike-thrush.
Uncommon.

Coracina novaehollandiae. Black-faced Cuckoo-shrike.
Nomadic, uncommon.

Corvus mellori. Little Raven.
Uncommon, increasing.

Cuculus pyrrhophanus. Fan-tailed Cuckoo.
Nomadic, uncommon.

Dacelo novaeguineae. Laughing Kookaburra.
Common, increasing.

Dicaeum hirundinaceum. Mistletoebird.
Uncommon.

+r *Emblema temporalis.* Red-browed Firetail.

Falcunculus frontatus. Crested Shrike-tit.
Nomadic, uncommon.

Glossopsitta concinna. Musk Lorikeet.
Nomadic, common.

Glossopsitta porphyrocephala. Purple-crowned Lorikeet.
Nomadic, common.

Grallina cyanoleuca. Australian Magpie-lark.
Common, breeding.

Gymnorhina tibicen. Australian Magpie.
Very common, breeding.

Hirundo neoxena. Welcome Swallow.
Common.

Larus novaehollandiae. Silver Gull.
Transient, uncommon.

Lichenostomus chrysops. Yellow-faced Honeyeater.
Nomadic, uncommon.

Lichenostomus penicillatus. White-plumed Honeyeater.
Common, breeding.

+r *Malurus cyaneus.* Superb Fairy-wren.

Manorina melanocephala. Noisey Miner.
Very common.

Melithreptus lunatus. White-naped Honeyeater.
Nomadic, common.

r *Melopsittacus undulatus.* Budgerigar.

\+ *Ninox novaeseelandiae.* Southern Boobook.
Common.

Ocyphaps lophotes. Crested Pigeon.
Uncommon, increasing.

Pardalotus punctatus. Spotted Pardalote.
Nomadic, uncommon.

Pardalotus striatus. Striated Pardalote.
Nomadic, uncommon.

Pardalotus xanthopygus. Yellow-rumped Pardalote.
Nomadic, uncommon.

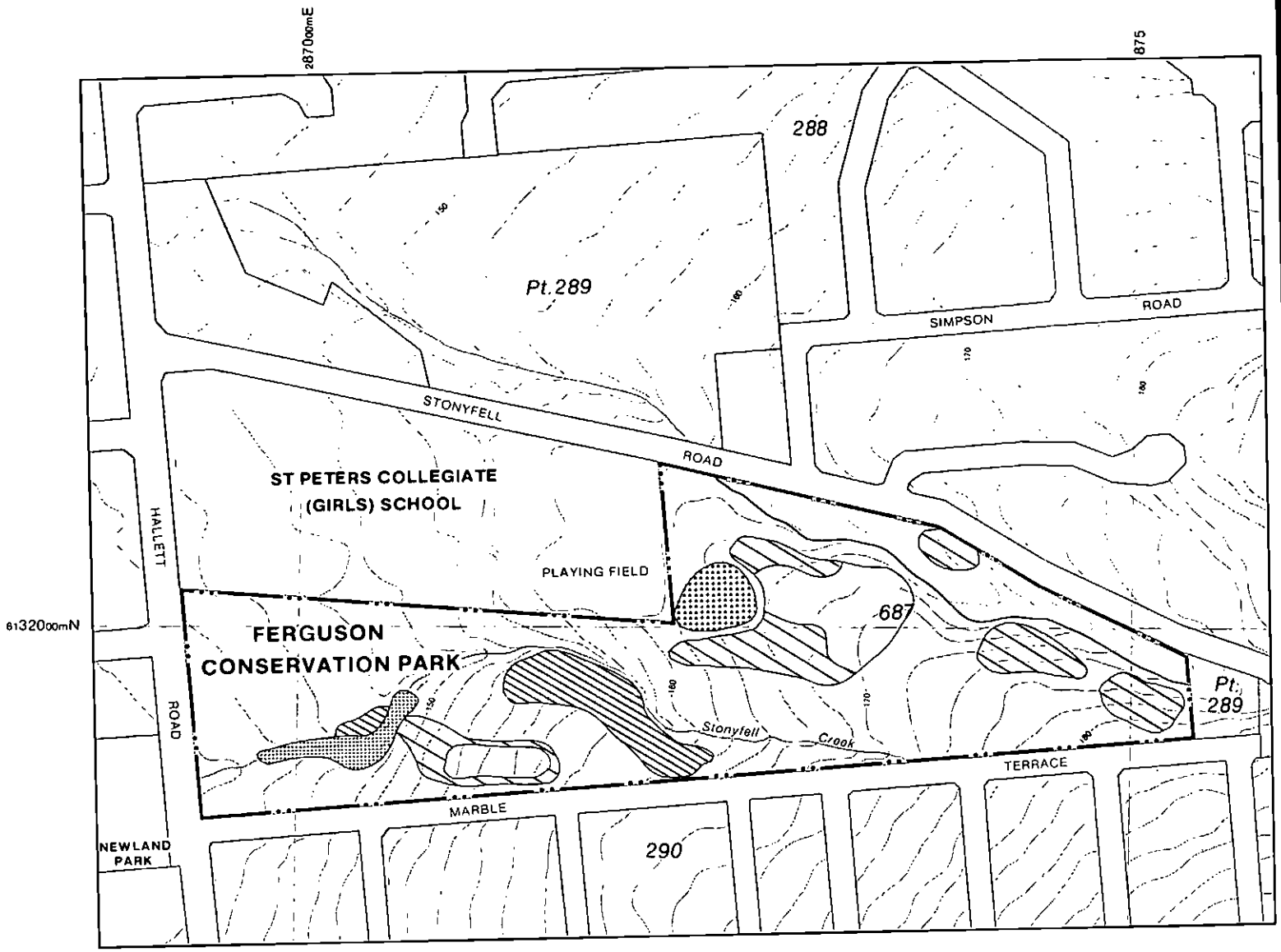
* *Passer domesticus.* House Sparrow.
Uncommon, breeding.

+r *Petroica multicolor.* Scarlet Robin.

Phylidonyris novaehollandiae. New Holland Honeyeater.
Common.

Platycercus elegans. Adelaide Rosella.
Common.

Platycercus eximius. Eastern Rosella.
Uncommon, increasing.



VEGETATION ASSOCIATIONS

WOODLAND/OPEN FOREST

Eucalyptus leucoxylon
Understorey variable, but in places features a prominent second strata of the following species

Callitris preissii

Casuarina stricta

Acacia pycnantha

Fraxinus excelsior

OPEN FOREST
Callitris preissii

Eucalyptus camaldulensis

0 100 200 300 M

Figure 14

Vegetation

Podargus strigoides. Tawny Frogmouth.
Common, breeding.

r *Pomatostomus superciliosus*. White-browed Babbler.

Porphyrio porphyrio. Purple Swamphen.
Transient.

\+ *Psephotus haematonotus*. Red-rumped Parrot.
Nomadic, uncommon.

r *Rhipidura fuliginosa*. Grey Fantail.

Rhipidura leucophrys. Willie Wagtail.
Common, breeding.

Strepera versicolor. Grey Currawong.
Uncommon.

\+* *Streptopelia chinensis*. Spotted Turtle-Dove.
Common, breeding.

* *Sturnus vulgaris*. Common Starling.
Uncommon, breeding.

Trichoglossus haematodus. Rainbow Lorikeet.
Nomadic, common.

* *Turdus merula*. Blackbird.
Uncommon.

Vanellus miles. Masked Lapwing.
Transient, uncommon.

r *Xanthomyza phrygia*. Regent Honeyeater.

\+ *Zosterops lateralis*. Silvereye.
Uncommon.

MAMMALS

The small size of this park and the abundance of dogs and cats associated with its location in suburban Adelaide preclude the presence of most native mammals.

With the exception of various bat species, which would range over the park, only two species of native mammal are found in the park. These are the Common Brushtail Possum *(Trichosurus vulpecula)* and the smaller Common Ringtail *(Pseudocheirus peregrinus)*, both of which are arboreal and thus able to escape the attention of dogs and cats.

Of the two, the Common Brushtail Possum is present in larger numbers and indeed appears to be causing minor overbrowsing problems in favoured trees. This species is, in all probability, present throughout the residential areas in this vicinity. Individuals are thus unlikely to be confined to the park as an isolated population. The Common Ringtail, however, was found only as a single individual in one of the large River Red Gums *(Eucalyptus camaldulensis)* lining Stonyfell Creek. This possum is less suited to residential situations and is most likely present as a small population more or less confined to the park. The broken line of River Red Gums along Stonyfell Creek may provide a possible link with populations in the Gandys, Slapes and Horsnell Gullies area. The only introduced mammal known to be present (excepting domestic animals) is the House Mouse *(Mus musculus)* which occurs in low numbers. It is quite likely that the Black Rat *(Rattus rattus)* is present in the disturbed areas along Stonyfell Creek.

REPTILES

Little is known of the reptile fauna of Ferguson Conservation Park although it is unlikely to contain species not commonly found in the nearby hills area. The scarcity of loose surface rocks and other secure refuges would preclude a number of species from occurring in the park. The only reptiles observed in the winter period when a survey was carried out were the sleepy Lizard or Shingle-Back *(Trachydosaurus rugosus)* and the Bearded Dragon *(Amphibolurus barbatus)*.

AQUATIC FAUNA

Lack of permanency, the degraded/eroded nature of the creeks and accessibility to local children, severely limits the density and diversity of aquatic fauna currently found in the park. The occasional call of *Ranidella signifera* (Brown Froglet) indicates that this species at least is present. Other species which were likely to have inhabited this area and may still do so are *Limnodynastes tasmaniensis* (Spotted Grass Frog), *Litoria ewingi* (Ewing's Tree Frog) and *Pseudophryne bibroni* (Brown Toadlet).

Ferguson Conservation Park is unlikely to contain species not represented by larger populations in less disturbed creeks of the adjacent Mount Lofty Ranges.

RESOURCE MATERIAL AND REFERENCES

MAPS

1:2500 Topographic/Cadastral 6628-42-I (South Australian Department of Lands)

AERIAL PHOTOGRAPHS

South Australian Department of Lands (1949) 1:16000

South Australian Department of Lands Metro Adelaide (1974) 1:8000 Survey 2409 no. 094

DOCKET REFERENCES

CSO 518/49	Transfers of property, A. E.—Ferguson (see S.A.A. GRG 24/6/1949/518)
TB 12/52	Unauthorized grazing of horses

(Note—TB dockets 10/51, 127/54, 388/55, 486/57, 127/58, 502/61, 121/64 and 181/70 could not be located)

DE 1089/72	Ferguson Recreation Park
DE 1089/A/72	Ferguson Recreation Park—fencing
DE 1089/B/72	Fire control
NPWAC 4030/1973	Rescheduling of Ferguson Recreation Park

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PART 2:

MANAGEMENT OBJECTIVES

INTRODUCTION

The following objectives for the management of Ferguson Conservation Park are designed to serve as a rigorous guide to the uses and developments permitted within the park. All park management should be constrained within the limits of these objectives. This section has been formally adopted under the provisions of Section 38 of the *National Parks and Wildlife Act* 1972-1981 by the Minister of Environment and Planning.

SIGNPOSTING

To adequately signpost Ferguson Conservation Park.

REVEGETATION

To restore and maintain the vegetation of Ferguson Conservation Park to a condition approaching that which pertained prior to European settlement.

FENCING

To complete and maintain the boundary fencing of the park.

WEED CONTROL

To control unwanted plant species in the park.

RUBBISH DUMPING

To discourage further dumping of garden refuse in the park.

STORMWATER

To control the flow of stormwater runoff in the park.

EROSION CONTROL

To prevent further erosion along Stonyfell Creek within the park.

ON-GOING MAINTENANCE

To continue the programme of regular, on-going maintenance within the park.

WALKING TRAILS

To rationalise the system of walking trails within the park.

TOILETS

To retain the toilet block in the park.

STAFFING

To ensure that sufficient staff are employed in the management of the park to permit the adequate implementation of the objectives embodied in this plan.

PART 3:

IMPLEMENTATION OF MANAGEMENT OBJECTIVES

SIGNPOSTING

To adequately signpost Ferguson Conservation Park.

Signs should be erected on the Hallett Road, Marble Terrace and Stonyfell Road boundaries enumerating that the reserve is Ferguson Conservation Park. Statements to the effect that dumping of rubbish and riding of horses are prohibited in the park should be included on suitable signs.

REVEGETATION

To restore and maintain the vegetation of Ferguson Conservation Park to a condition approaching that which pertained prior to the European settlement.

As a longer-term project, it is suggested that areas at present occupied by weed species could be re-established with *Themeda australis* and *Danthonia* sp. In attempting to do this, the work at Cleland Conservation Park (National Parks and Wildlife Service 1979) in re-establishing indigenous vegetation should be noted.

FENCING

To complete and maintain the boundary fencing of the park.

Most of the park was fenced during 1978. It is proposed that the post-and-rail fence be extended along the eastern boundary. It will be necessary to negotiate with the owner of the adjoining property before undertaking this work.

The eastern boundary fence of the Saint Peter's Collegiate (Girls') School needs to be rebuilt and the bank below the fence planted with shrubs and groundcover to prevent erosion which is undermining the fence. The school should be contacted in respect to this work.

WEED CONTROL

To control unwanted plant species in the park.

Short-term

Tne exotic plants that require immediate attention are as follows:

Olive *(Olea europaea)*
Boneseed *(Chrysanthemoides monilifera)*
Privet *(Ligustrum ovalifolium)*
Aleppo Pine *(Pinus halepensis)*
Aloe sp. or *Agave* sp.
Iris sp. and *Watsonia* sp.
Rice Millet *(Oryzopsis miliacea)*
Paspalum *(Paspalum dilatatum)*
Caucasian Ash *(Fraxinus excelsior)*

Most of these can be eradicated by a combination of handpulling (possibly with the help of volunteers), spot spraying, or by cutting and painting with a suitable herbicide. The privet is derived from the southern boundary hedge of Saint Peter's Collegiate (Girls') School—regular trimming of this would markedly reduce the fruit set.

The alternative to removing all olive trees from the eastern end of the park should be considered—that is, leave some of the old trees—because if all were removed at once the area would become very denuded. The control of Olive, Boneseed and the weeds along the southern creek will be an on-going problem, but would be somewhat alleviated if the drainage scheme outlined in Objective: Stormwater is carried out.

Longer-term

In the longer term it may be practical to control the spread of some of the bulbous plants, such as Cape tulip, Soursob and Sparaxis. Similarly, the eradication (or control) of Kikuyu along the creeks will be a fairly major undertaking.

Any programme of weed control must be of an on-going nature and may well involve attempts to revegetate areas at present invaded by pest plants (see Objective: Revegetation).

It is also considered important to monitor the spread of Pincushion Hakea *(Hakea laurina)*. This species was introduced in the early 1950s and has become naturalised in parts of the park. At present it does not present a problem but its spread should be kept in check.

RUBBISH DUMPING

To discourage further dumping of garden refuse in the park.

The dumping of garden refuse remains a problem in the park. It is suggested that at the same time as signs are erected, a circular be sent/delivered to homes near the park outlining the following points:

1. Fines are provided under the *National Parks and Wildlife Act* 1972-1981 for persons found disposing of rubbish in a park.
2. Garden refuse dumped in the park is a visual pollutant and aids in the introduction and spread of weeds.
3. Benefits of composting. If possible, a Department of Agriculture pamphlet on the subject should be included.
4. The Burnside City Council dump located in Chambers Gully off Waterfall Gully Road accepts garden refuse. It is open on Wednesdays and Saturdays from 10 a.m. to 12 a.m. and from 1 p.m. to 4 p.m. No charge is made for garden refuse.

STORMWATER

To control the flow of stormwater runoff in the park.

Flood and drainage waters are at present entering the park from three main sources: Saint Peter's Collegiate (Girls') School Oval; Marble Terrace (via pipes) and Marble Terrace (eastern end) by breaching the roadside verge.

It is proposed that the school feed their runoff into the drainage pipe that already enters the creek adjacent to their side fence.

It would be desirable if the stormwaters from Marble Terrace could be redirected into a culvert along Marble Terrace and then be piped outside the park boundary and allowed to enter the creek where it passes under Hallett Road. This would prevent the continued development of a weed-infested swampy area near the south-western corner of the park. However, it is recognised that the cost of such an operation would be considerable and beyond the resources of Burnside City Council at this time. Never-the-less, it should be borne in mind for the future.

The road verge at the eastern end of Marble Terrace should be built up so that stormwater will flow down the road and not into the park. Eventually this runoff should be made to enter the culvert discussed above. In the meantime, it should be fed into the drainpipe located where the creek enters the park.

EROSION CONTROL

To prevent further erosion along Stonyfell Creek within the park.

There is a serious erosion problem along Stonyfell Creek; both of the creekbed and banks. It is suggested that levees be built in the creek to assist in building up the level of the creekbed. Because of the erosion problem, it is not proposed to remove the exotic trees along the northern bank of the creek. There is very little in the way of native vegetation in this section of the park, and with careful management, the creek can be utilised as a natural barrier to stop the further spread of these species into the park. To make the creek an effective barrier it may be necessary to remove Ash *(Fraxinus excelsior)*, Silver Poplar (*Populus* cf. *alba)* and Olive trees *(Olea europaea)* that are at present on the southern bank of the creek; also the groundcover plants such as Periwinkle *(Vinca major)*.

ON-GOING MAINTENANCE

To continue the programme of regular, on-going maintenance within the park.

Several on-going management projects should be continued:

1. Mowing of grassed section in the north-eastern corner of the park, especially during the spring and summer months.
2. Removal of dead Pincushion Hakea *(Hakea laurina)* trees.
3. Occasional collection of litter and garden rubbish left in the park.

WALKING TRAILS

To rationalise the system of walking trails within the park

The number of walking trails at present in use in the park would seem to be excessive. It is proposed that the trail network should be reviewed and perhaps up to 30 per cent of the trails closed. Access to these trails could be restricted by the erection of barricades, and the unwanted trails then dug up and sown with native grass species. The closing of selected trails should also be considered on the basis of the erosion of some of the longer-established trails. A footbridge should be constructed across Stonyfell Creek at the eastern end of the park to discourage walkers trespassing on adjoining private property.

TOILETS

To retain the toilet block in the park.

Despite some problems, it is proposed that the toilet block be retained. However, maintenance of this facility requires a considerable input of time by the staff from the Black Hill District who administer the reserve. It is felt that the Burnside City Council may be willing to assist; consequently an arrangement for the maintenance and security of the toilets should be negotiated by the National Parks and Wildlife Service and the Burnside City Council.

STAFFING

To ensure that sufficient staff are employed in the management of the park to permit the adequate implementation of the objectives embodied in this plan.

Ferguson Conservation Park forms part of the Black Hill District and is managed by staff based there. The adequate management of the park is considered to warrant the input of a staffing equivalent of two man days per week, broken up into 20 per cent uniformed (patrol, interpretation) and 80 per cent non-uniformed (maintenance, development) officer time. This input of staff time is considered sufficient to maintain the park for the forseeable future, especially if a suitable arrangement for toilet maintenance and security can be negotiated with Burnside City Council.

PART 4:

SUMMARY OF MANAGEMENT PROPOSALS

As a guide to the orderly application of the provisions of this plan the foregoing management proposals are summarised and ranked. This ranking indicates the relative priority of projects and whether they are of a short term or a continuing nature. Those projects of a continuing nature will extend into the term of subsequent management plans for the park. A distinction has been made between research and monitoring projects and those requiring funding for works and maintenance.

RESEARCH AND MONITORING

PROJECT	PRIORITY	TERM	PAGE
Monitor spread of Pincushion Hakea	Moderate	Continuing	34

WORKS AND MAINTENANCE

PROJECT	PRIORITY	TERM	PAGE
Erect signs	High	Short	33
Draw up and implement a co-ordinated weed control plan	High	Continuing	33
Undertake erosion control measures	High	Medium	34
Complete boundary fence	High	Short	33
Negotiate with Burnside Council on toilet block maintenance and security scheme	High	Short	35
Circulate anti-dumping publicity material	High	Short	34
Rationalise trail layout	High	Medium	34
Revegetate with local plant species	Moderate	Medium	33
Rationalise stormwater flows	Moderate	Short	34
Continue regular maintenance programme	Moderate	Continuing	34