DRAFT

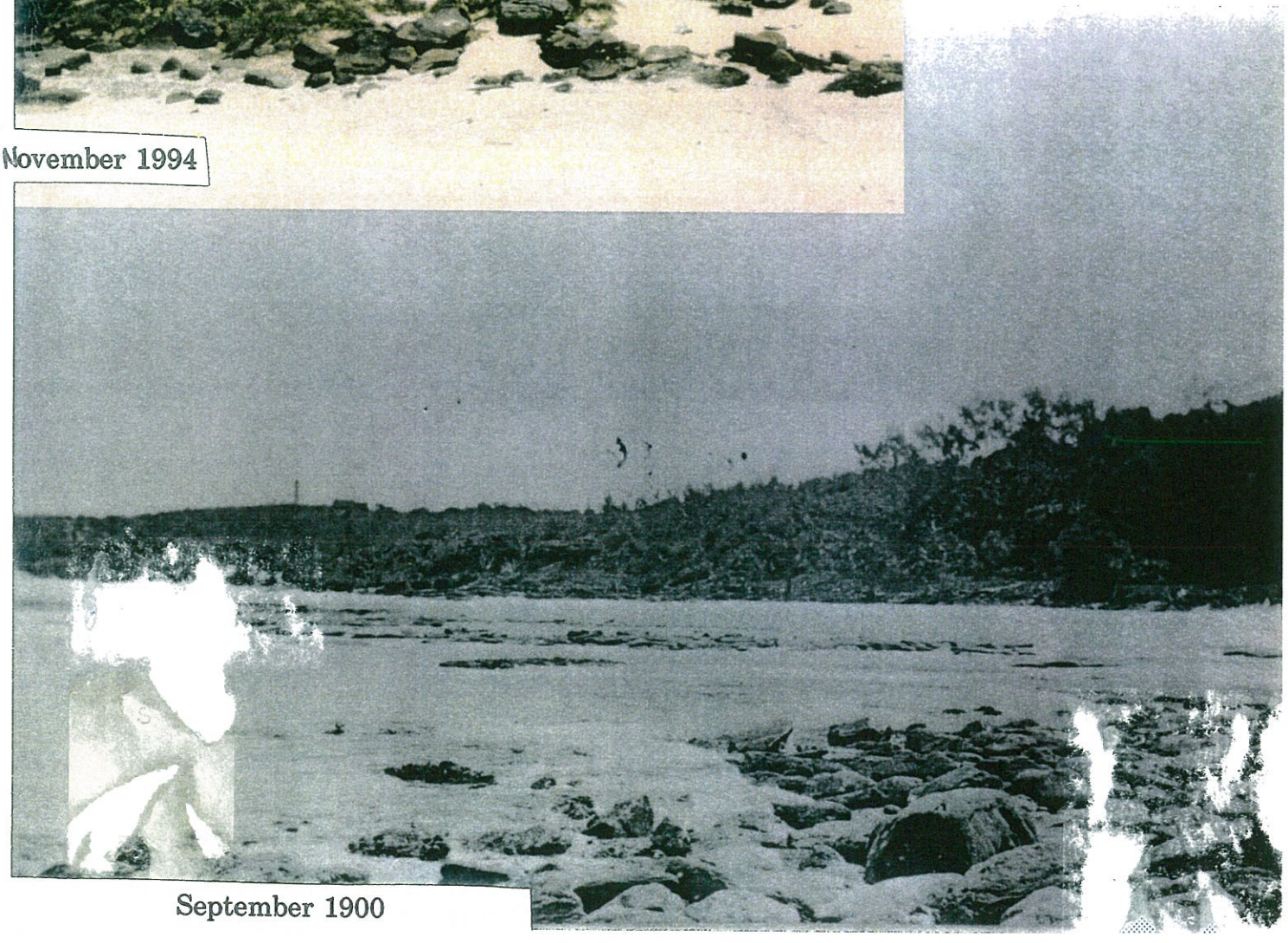
WATSON PARK MANAGEMENT PLAN

CALOUNDRA CITY

NOVEMBER 1994

November 1994

WATSON PARK
CALOUNDRA'S
NATURAL HERITAGE
PAST, PRESENT
AND FUTURE



September 1900

Watson Park

Management Plan

Project Team:

Co-ordinator: Kathy Young
(Greening Caloundra Project Officer)

Committee Members: Jill Chamberlain

Rob Eva

Helen Kershaw (Supplied Photographic Works)

Wendy Lyons

Julie Stewart

Tim Stumer

Greg Robinson (up until 8/

TABLE OF CONTENTS

INTRODUCTION

Watson Park is ideally located with panoramic views of Shelly Beach, and includes an undulation of native vegetation - including one of the last remaining coastal rainforests in Caloundra City. This is a position that anyone would enjoy. In fact anyone can!

As shown on Map 1, Watson Park is almost an isolated pocket of vegetation adjacent to the beach - an "island in suburbia". This enhances the Park's value, especially when it is only one of three passive recreational and vital habitat refuges within Caloundra City - the others being Point Cartwright, and Crummunda Environment Park. On the Sunshine Coast, Watson Park can be included with Point Cartwright, Crummunda Environmental Park, Mount Coolum, and Noosa National Park as areas of important passive recreation and vital habitat refuges.

Figure 1 Watson Park - a vital island of vegetation surrounded by development.

Even though the park was mostly denuded of vegetation in the 1960's, it has - through both natural regeneration and some planting of native trees, survived a very chequered history. The survival and revegetation of the park has endured amid continuous speculation of development.

Map 1 - AERIAL PHOTO OF WATSON PARK - AN ISLAND IN SUBURBIA.

Some of the numerous activities that can be undertaken in the park are:

- → viewing wildlife
- → bushwalking
- → bird identification
- → sampling native tucker
- → strolling through the park on the way to the beach for swimming, surfing, or fishing
- → admiring the views
- → sitting and contemplating
- → whale watching
- → viewing wildflowers

Watson Park is a vital link in any proposed headland walk, and should also be protected as a component of our natural heritage for future generations.

Figure 2 - Potential for inclusion in a headland walk.

Watson Park is also of high tourism value to Caloundra, with it's enticing vantage points for whale watching (during appropriate months) and the parks display of wildflowers, thus increasing the quality of the holiday experience for people holidaying in the Moffat and Shelly Beach area. All too often the economic value of ecological areas is overlooked. However, the economic value of Watson Park is obvious with regard to the above mentioned tourism values. Watson Park is also of high social significance with many elderly residents commenting that Watson Park was their "children's playground" when they were young, and is now utilised by their visiting grandchildren. As Watson Park is centrally located, it provides opportunities for many groups, such as schools and local community groups, to utilise the park for educational excursions.

The value of Watson Park's natural ecosystem should not be overlooked, especially considering that the Park is a part of the intrinsic and vital coastal ecosystem. A variety of 5 main vegetation communities are present in the park, they include:

1) Foredune Community
2) Foredune Littoral Rainforest Community
3) Eucalyptus Community
4) Melaleuca Community
5) Headland Grass/Sedgeland Community

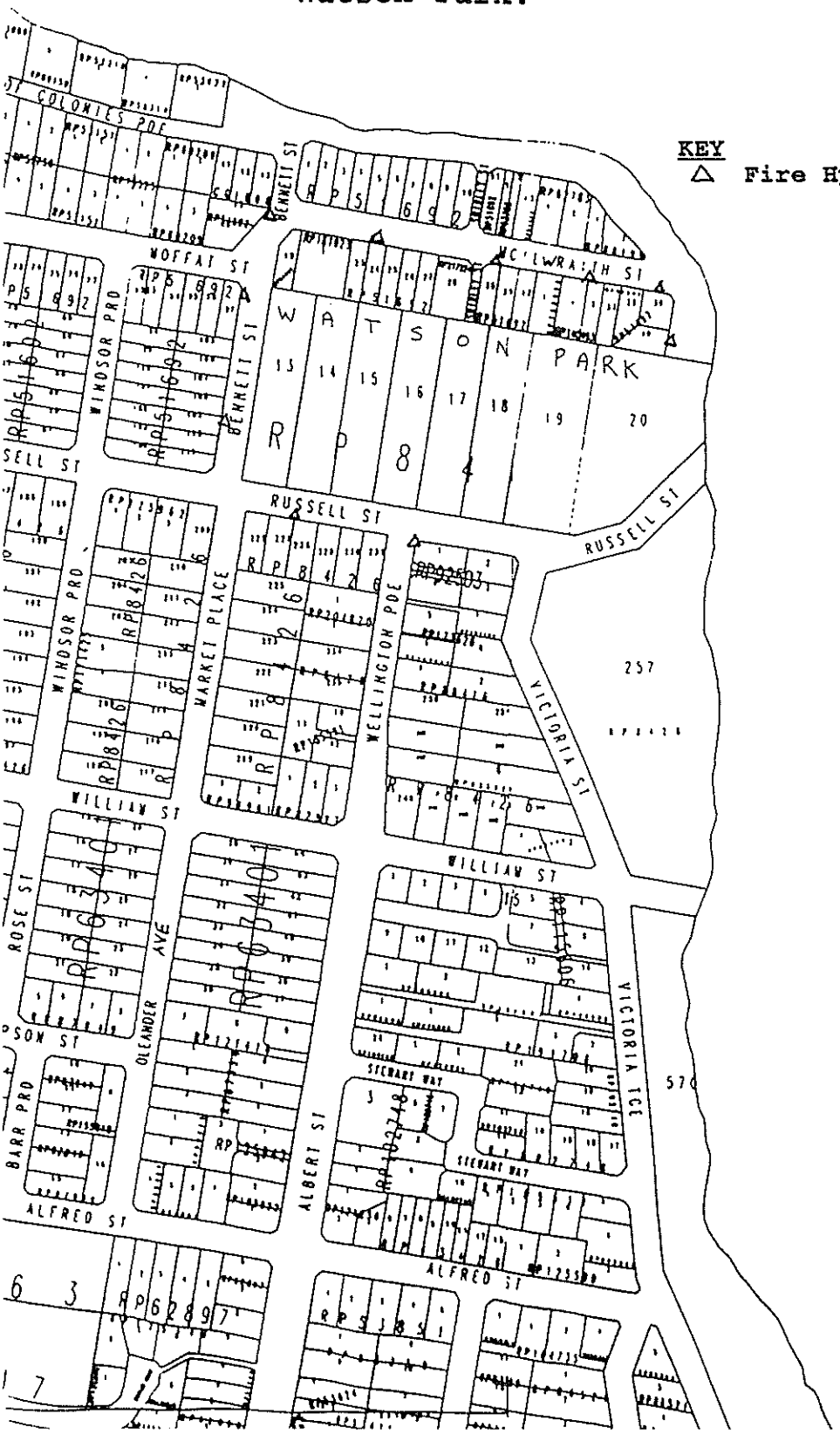
This diversity offers habitats and food for much wildlife, such as Brahminy Kites, and White Faced Herons.

The willingness of the community to participate in revegetation projects gives an indication of the importance that the community places on Watson Park. Hence, Watson Park is a vital resource for the people of Caloundra.

LOCATION AND STATUS

As shown on Map 2, Watson Park (an area of 3.7ha) is located on Lots 13 to 20 on RP8432. The park is bordered to the west by Bennett Street and to the south by Russell Street and the Shelly Beach Caravan Park. On the northern boundary the park abuts the rear of residential houses and units in McIlwraith Street. The eastern boundary of the park leads down to the northern end of Shelly Beach.

Map 2 - Denoting Locality & Lot Numbers in Watson Park.



THE HISTORY OF GEORGE WATSON PARK

Watson Park was originally part of a much larger parcel of land purchased by J C Moffat in 1880. Moffat owned 520 acres of land stretching from Moffat Headland, past Moffat Beach and along Tooway Creek, inland to where the Caloundra sewage treatment plant is today. His land was bounded by Cooroora Street to the north and William Street to the south.

Moffat was one of the earliest developers in Caloundra. In 1884, just four years after his original purchase, he subdivided his land between Russell and William Streets into hundreds of small allotments.

By 1892 the land which now constitutes Watson Park had been sold to a new corporate owner. It was then subdivided into nine larger allotments for the purpose of eventual sale. Eight of these blocks were one acre each; the ninth eastern-most block was larger.

For reasons unknown, the blocks were not built on. In 1933 the land was again surveyed, this time by C F Bennett. The western one acre lot (see lot 1 on map 3) became Bennett Street. Shipley and Russell Streets were named after two of the owners of the land at the time. On a 1933 Sale Plan the eastern section of the block (lot 9) is shown as a "Rec. Res" (all the other blocks were for sale).

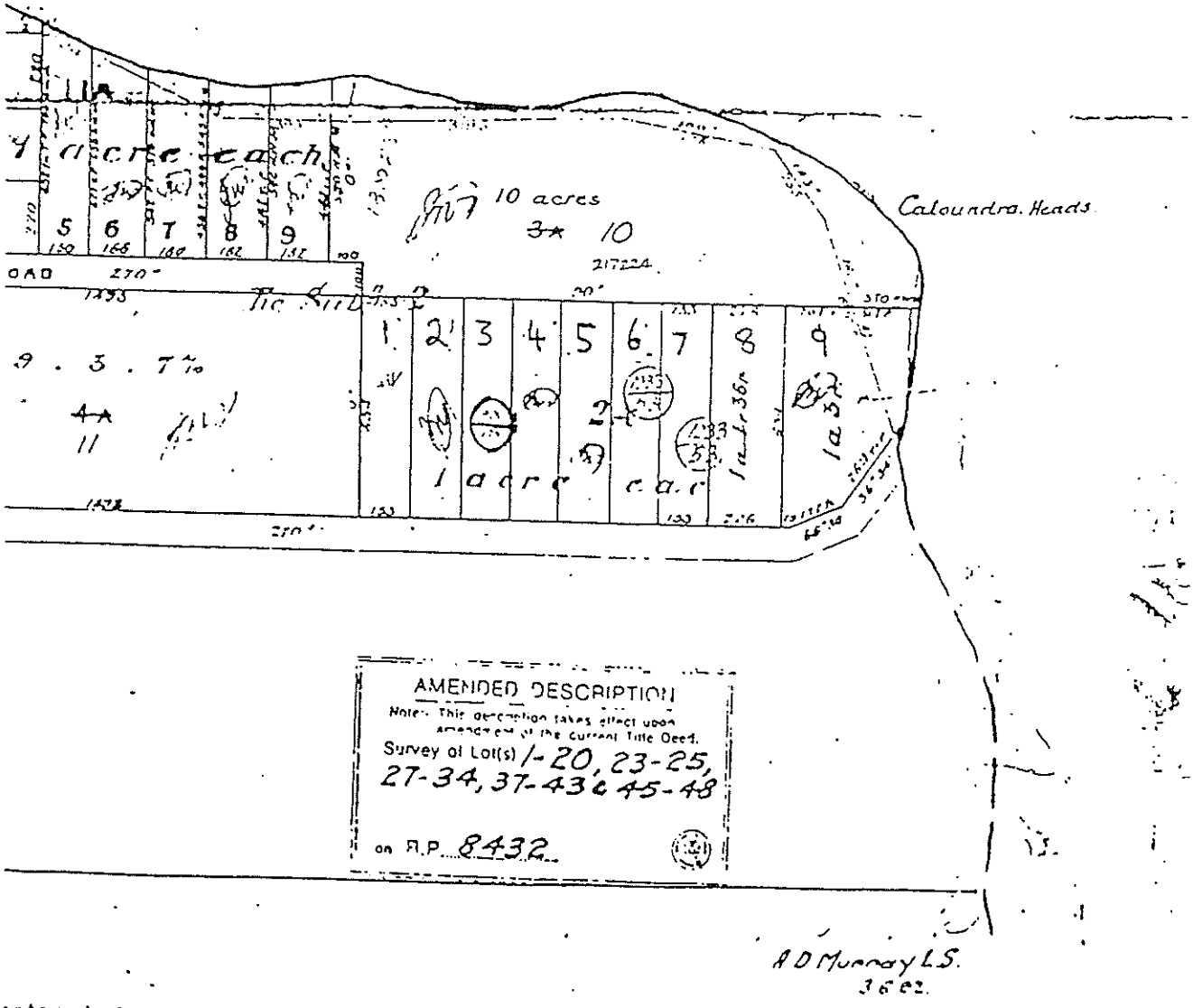
In 1934, the Landsborough Shire Council acquired lots 2 and 3 through rate arrears. Lots 4 and 5 were bought by the Council for £23-6-2d and £50 respectively, and registered on 19th January, 1934. Lots 6, 7 and 8 comprising in total over three acres, were resumed by the Queensland State Government in 1935 (Government Gazette, 30/03/35:P120).

Kathleen McArthur relates in her book, "Living on the Coast" that in the early 1960's Watson park was "good wildflower country and needed only a few tracks to enable walkers to enjoy it" (McArthur, 1989,P134). One of the first actions of the Caloundra Branch of the Wildlife Preservation Society after its inauguration in 1963, was to request the Council to allow the society to manage Watson Park (The Advertiser,27/11/74). The society wanted the Council to remove several tall dead paperbarks, thought to be a hazard. The Council's response was that the £300 needed for the task was not available.

Soon afterwards, according to Kathleen McArthur, "the reserve was clear-felled, stacked, burnt, ploughed and harrowed - using peanuts for finance presumably." (The Advertiser,27/11/74). In an attempt to beautify the area, the Council began replanting the park in neat parallel rows with small trees which had been established in black sanitary cans, which were then left behind in tidy rows. The park thus acquired its first ignominious title of "Dunnycan Park".

Later, probably in the late 1960's it was given the name George Watson Park, as a tribute to that local Caloundra identity and businessman. In the 1940's George Watson bought out Boxsell's Garage (near the "Carousel Fair" today) and operated a bus depot there until 1959. However, George Watson never owned the land comprising Watson park nor did he leave it to the Council for parkland, as is popularly believed by many locals.

Map 3 - 1933 Registered Plan of Watson Park - denoting old lot numbers.



1s to an inch.

SURVEY

In the 1960's Watson Park (after the park's decimation) was little more than a barren wasteland. The minutes of the Caloundra Parks and Gardens Committee of the Landsborough Shire Council of 28.02.74 report moreover that a "north to south scour" had developed on the sewage alignment through Watson Park (Minutes - Parks and Gardens Committee Meeting 28/02/74).

The initial attempts at re-establishing the greenery were largely a failure due to the fact that the trees were planted in rows in the same alignment as the prevailing south-easterly winds which abraded between the rows, stunting all growth. The Council continued with its "tidying" efforts, by mowing between the rows, effectively preventing any regeneration.

By 1973 the Council had become much more appreciative of the native vegetation. The Parks and Gardens Advisory Committee were beginning to experiment with wildflower regeneration. A report of inspection by the Committee on 14.12.73 contained the following recommendations:

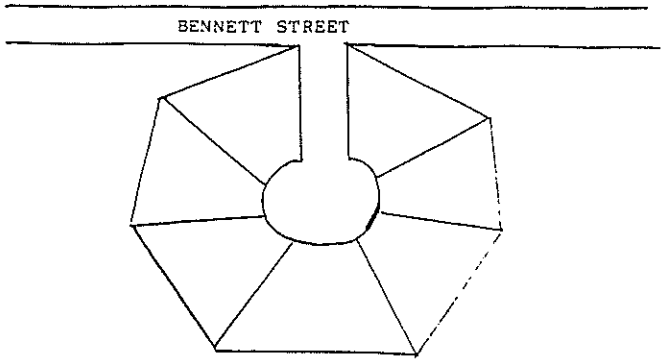
> *"That part of the park near the gully at the eastern end of Russell Street be enriched with more planting, particularly Pandanus, Cotton Tree and other suitable plants. That in some places, a slat fence be established to protect certain species until they become established. In this area, mowing should be restricted and stakes placed near natural regrowth which has, in the past, been mown off." (Report of Inspection,14/12/73).*

The committee resolved that experimental watering be commenced and that poles of bush and leaf litter be built up at the south-easterly ends of the rows to protect the regrowth from the winds.

The second major furore in the history of Watson Park occurred in 1974. The land on which the Shelly Beach Caravan Park is presently sited was owned by an F R Hendy. It had previously been a sand grit mine, but was later zoned for a caravan park, though not developed as such in 1974.

Hendy had tried to get the land rezoned for medium density housing with no success. He approached the Council with the idea for a land swap; five acres of Shelly Beach foreshore in exchange for a smaller amount of land (about one acre) of equal monetary value from the western side of Watson Park.

Hendy thought that the Shelly Beach land would make a better Watson Park and would give the Council a better control of the coast. He asked surveyor, Gerry Bell to design seven residential blocks in Watson park around a cul-de-sac as follows:



The 1974 Development Proposal - the western end of Watson Park.

The Landsborough Shire Council gave public notice on 30.10.74 of its intention to -

> *"amend the Town Planning Scheme...by excluding from the 'Parks and Recreation' zone thereof, land containing 1 hectare 6,187.4m2, described as Subs. 2, 3, 4 and 5...fronting Russell Street, Caloundra and by including such land in the 'Residential Medium Density zone of the said Town Planning Scheme".*

This was met with a tidal wave of residents outrage, disgust and suspicion. A petition of 1400 objections to the proposed rezoning was presented to Council on 3.12.74. The Council was widely decried for attempting to sell off public land.

In hindsight, the proposal had some merit in that the public would have gained a corridor of parkland and green space from Moffat Headland to Caloundra Head.

In March 1975, the Council notified the public of its decision to withdraw the application for rezoning in view of the number of objections received. Watson Park was left to its own resources.

In 1991 Mrs Helen Kershaw, (at Council's request) presented Council with a Management Plan, and Council did act upon some aspects e.g. cease mowing in certain areas.

A few fires in the park in 1991 resulted in the Council clearing a wider firebreak on the northern side in 1992, as well as the clearing away of dead trees in the burnt areas. In 1992 the Council requested a thorough assessment of the vegetation in Watson park. This was completed by Dr M F Olsen and Ms C M Drane and presented in 1993. (Refer to Appendix). In 1994, a group of concerned local residents met to form "Friends of Watson Park" with the help of Greening Australia and the Caloundra City Council.

VEGETATION ATTRIBUTES

The vegetation in Watson Park is defined as fore-dune and headland vegetation by Dr M. F. Olsen and Ms C. Drane in The Vegetation Mosaic of Lands within the boundaries of Caloundra City (Final Report 1993).

Within these categories are five main vegetation types identified by Dr Olsen and Ms C M Drane in The Vegetation of Watson Park, Caloundra City, 1993:-

1 Foredune community
2 Foredune littoral rainforest community
3 Eucalyptus intermedia (Bloodwood) community
4 Melaleuca quinquenervia (Tea-tree) community
5 Native Grass/Sedgeland community

Dr Olsen and Ms Drane's comment that, "the diversity of vegetation types apparent within the highly urbanised part of Caloundra City Council should ensure that the highest priority be afforded to protecting the existing values of the site and enhancing those values through rehabilitation fo degraded sites" (Olsen & Drane;1993;P6). The particular attributes and value of each area follows:-

1. Foredune Community

This community is highly significant as the last reasonably intact headland/dune formation and vegetation in Caloundra City. The Sweet-scented Fanflower, Twining Guinea Flower and other ground covers are under severe threat from weed invasion. This invasion, and multiple tracks threaten the integrity of the whole area.

Figure 3 - The foredune Community of Watson Park

2. Foredune Littoral Rainforest Community

Littoral rainforest was once an integral part of the coastal dune system between Caloundra's headlands, but has largely been replaced by roads and buildings. The Watson Park rainforest, even though regenerated and not the original vegetation, is therefore a highly valuable example of what has been lost. Its specific plants, such as the attractive shady Tuckeroos and the dense Coastal Aspen add variety to the vegetation in the park. The density of growth provides excellent cover for birds, and for other wildlife that can survive predation by cats and dogs.

Figure 4 - Foredune Littoral Rainforest Community - rich green vegetation.

3. "Eucalyptus intermedia" (Bloodwood) Community

Described as "unusual" in its headland context by Olsen and Drane, this community again contributes greatly to the variety of vegetation. A notable feature is the stunted growth of the Bloodwoods due to salt-laden winds. Excellent bird cover is provided by these thickets. The purple Iris is a special feature on exposed sub-soil areas.

Figure 5 - Eucalyptus intermedia Community largely self regenerated.

4. "Melaleuca quinquenervia" (Tea-tree) Community

This community comprises the largest portion of the Park, and varies from closed woodland to open scrubland. Interspersed among the Tea-trees, depending on soil and drainage, are fine examples of Coastal Banksia, Pandanus, Casuarina and Tumbledown Red Gum. The understorey contains the bright yellow-flowered Twining Guinea Vine and the edible-berried Midyim. The Iris is found in drier areas.

Figure 6 - The vital Melaleuca quinquenervia Community

5. Grass/Sedgeland Community

This community is located at the north-eastern end of the park, and consists of native grasses and wildflowers. The grass/sedgeland community is rare and provides habitats for a number of small native animals - such as finches.

Figure 7 - The rare native grass and sedgeland community in the foreground.

FAUNA OF THE PARK

Although an extensive fauna survey has not been undertaken, an avifauna survey has been undertaken by Mrs Betty Pares (refer to Appendix). The result of the bird survey can be used as an indication as to the extent of fauna diversity presently existing in the park. Watson Park appears to be an important fauna habitat with the sightings of Brahminy Kites, White-faced Herons and Black Faced Cuckoo-shrike to name a few. The retention and revegetation of this important habitat region is imperative to the continued survival of many species.

Figure 8 - Brahminy Kite, one of the many wildlife that use Watson Park.
Source: Graphic Colour Copies

RESULTS OF SURVEY

A community survey was undertaken (refer to Appendix for a copy of the questionnaire and area surveyed). The responses received were analysed and the results are listed below.

- *Graph 1* shows that a wide variety of age groups use the park with the categories of 36 to 55 years and 66 years and over being the main utilisers of the park.

- 92% of people who responded to the survey were local residents, 3% visit on weekends only, and 5% were visitors from Sydney, Toowoomba, southern and western Queensland.

- *Graph 2* shows that the majority of residents visit Watson Park more than once per week, and comments from questionnaires indicate that a large majority of people utilise the park on a daily or twice daily rate.

- 83% of people walk to the park, while 8% drive cars and 9% ride bikes.

- *Graph 3* shows that the majority of people spend up to half an hour when visiting the park. Their main aim being to access the beach, or utilise the walk through the park as part of their circuit walk.

- *Graph 4* shows activities that people undertake in the park - the main activity being walking.

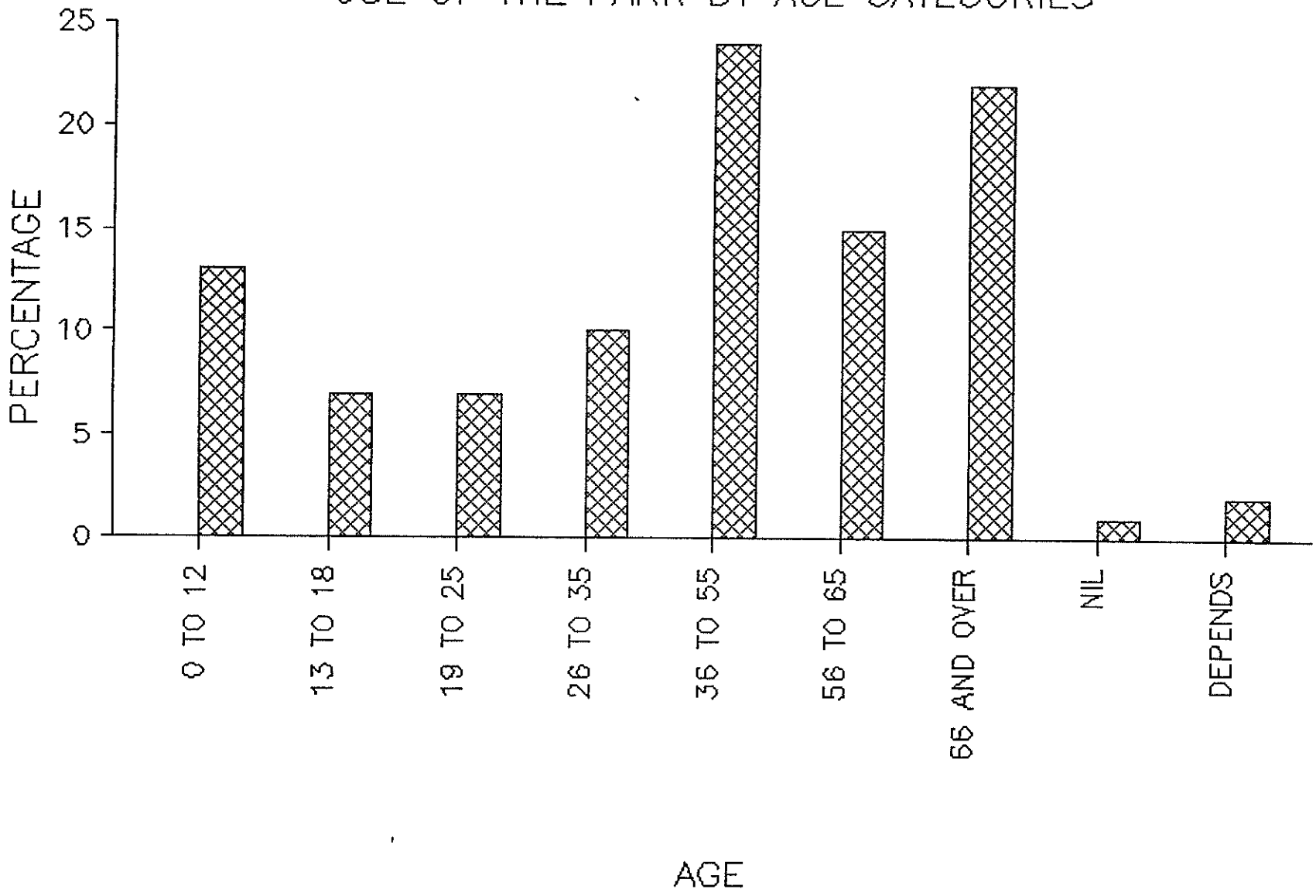
- *Graph 5* indicates concerns that people have with regard to the present state of the park. The concerns raised are further discussed in the Issues and Solutions section of this report.

- *Graph 6* indicates tasks that people believe should be undertaken in the park, the 3 major tasks identified are weed removal, planting of native trees and erosion control.

- 66% of people who responded are willing to undertake work in the park, whilst the 34% who were not willing to undertake work gave reasons such as ill health, old age; and a few did not wish any work to be undertaken. Of those who wish to undertake work, Figure 7 shows tasks they are willing to do - the main tasks being revegetation and weed removal.

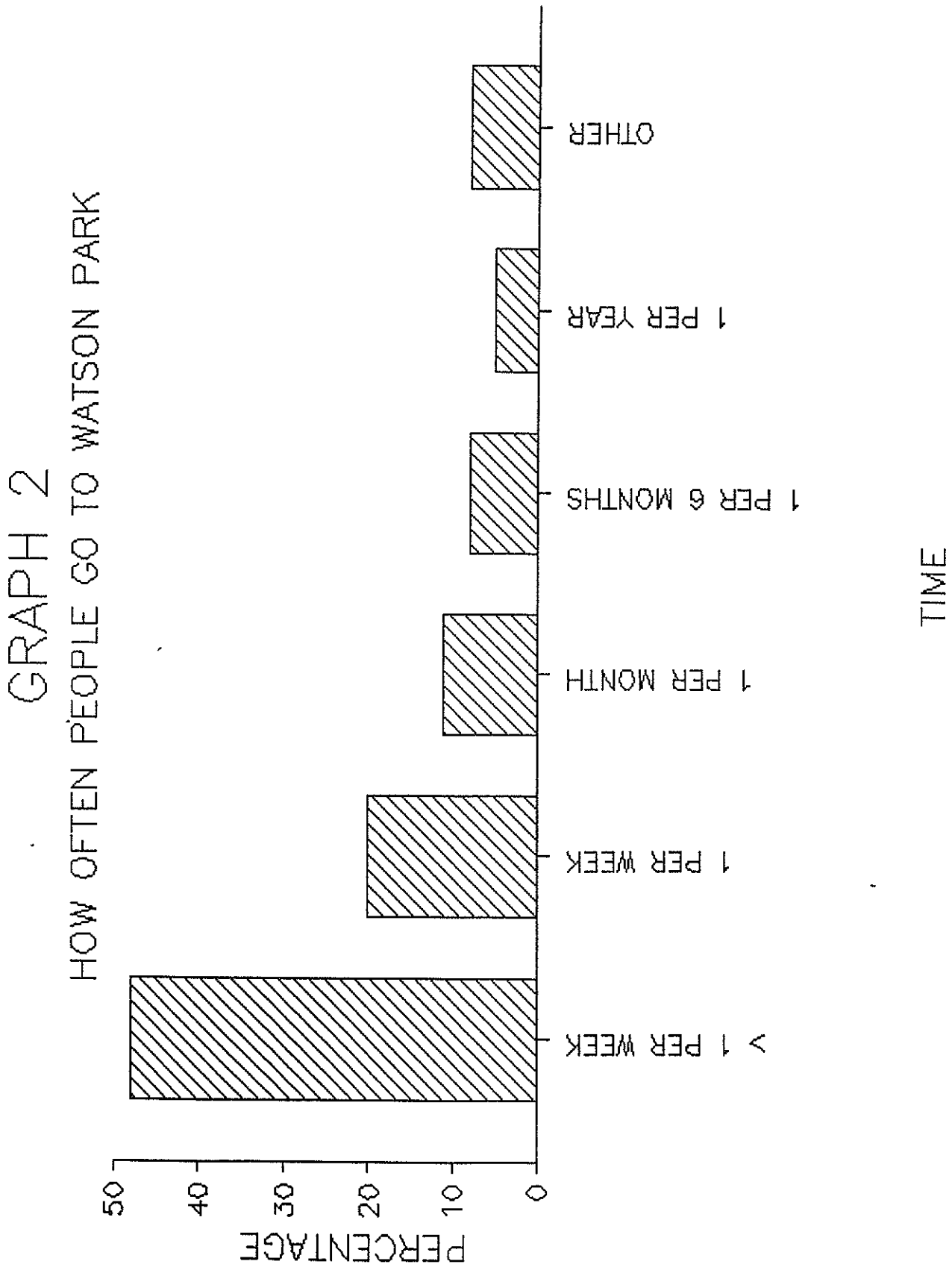
GRAPH 1

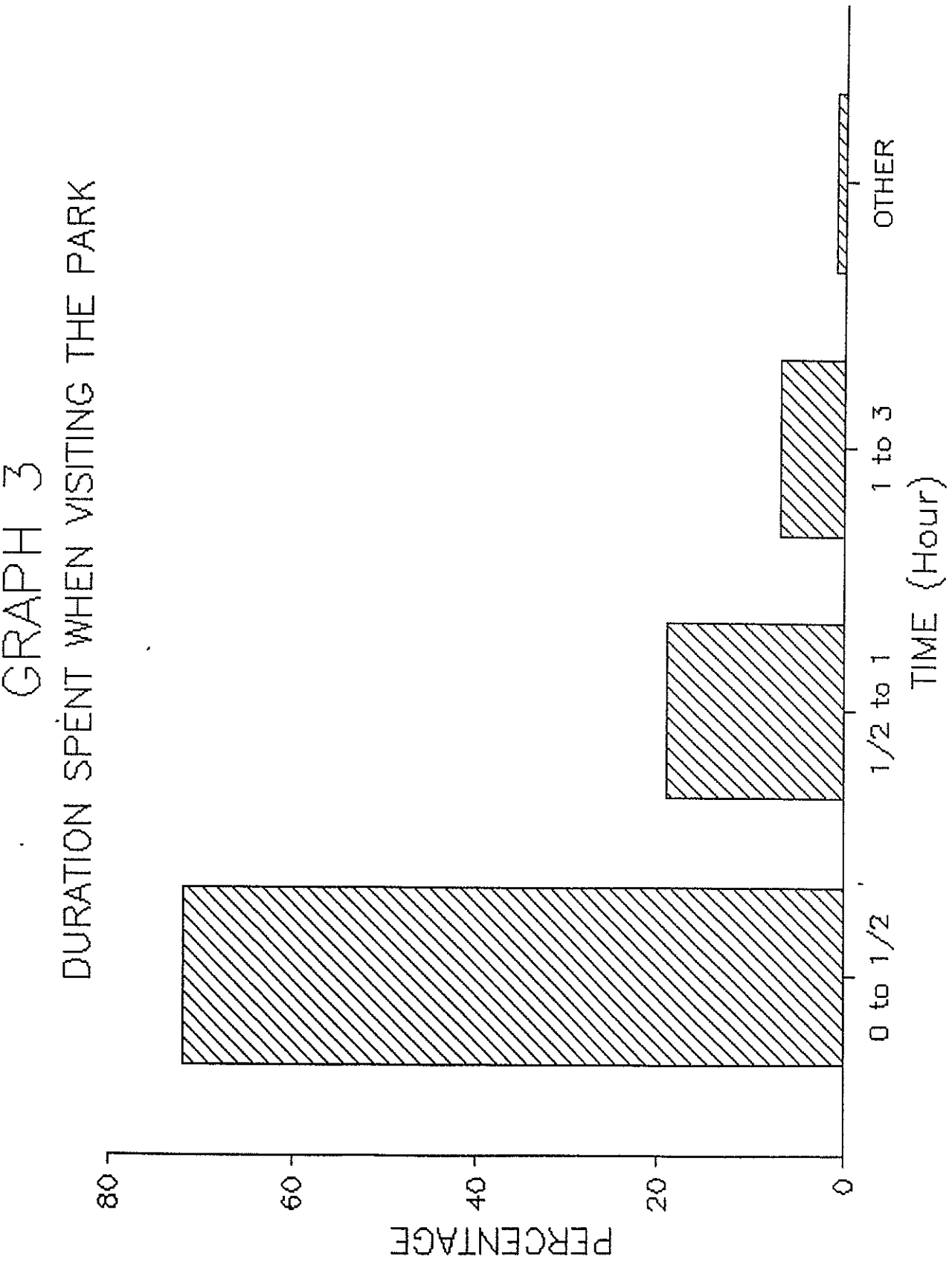
USE OF THE PARK BY AGE CATEGORIES

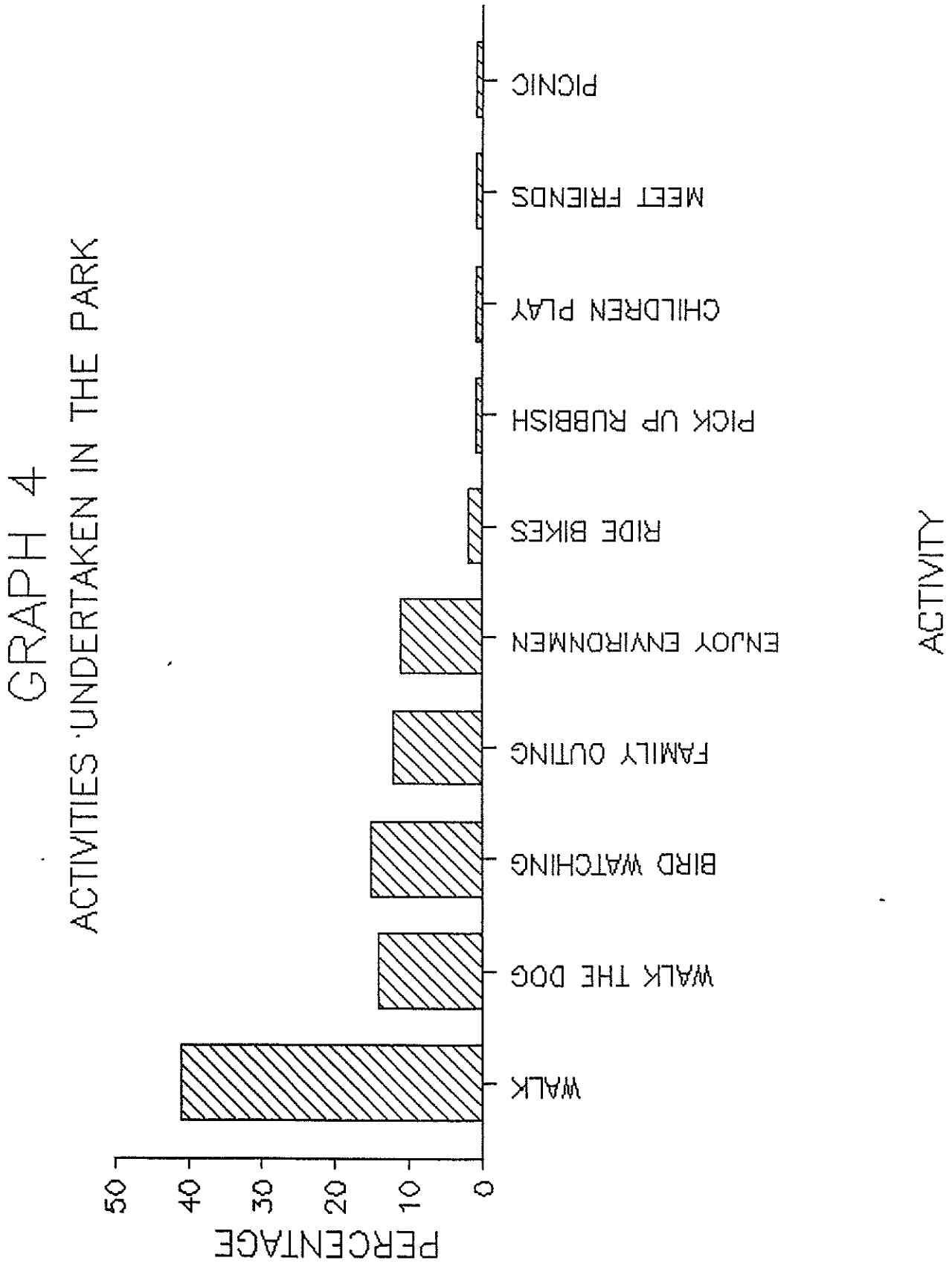


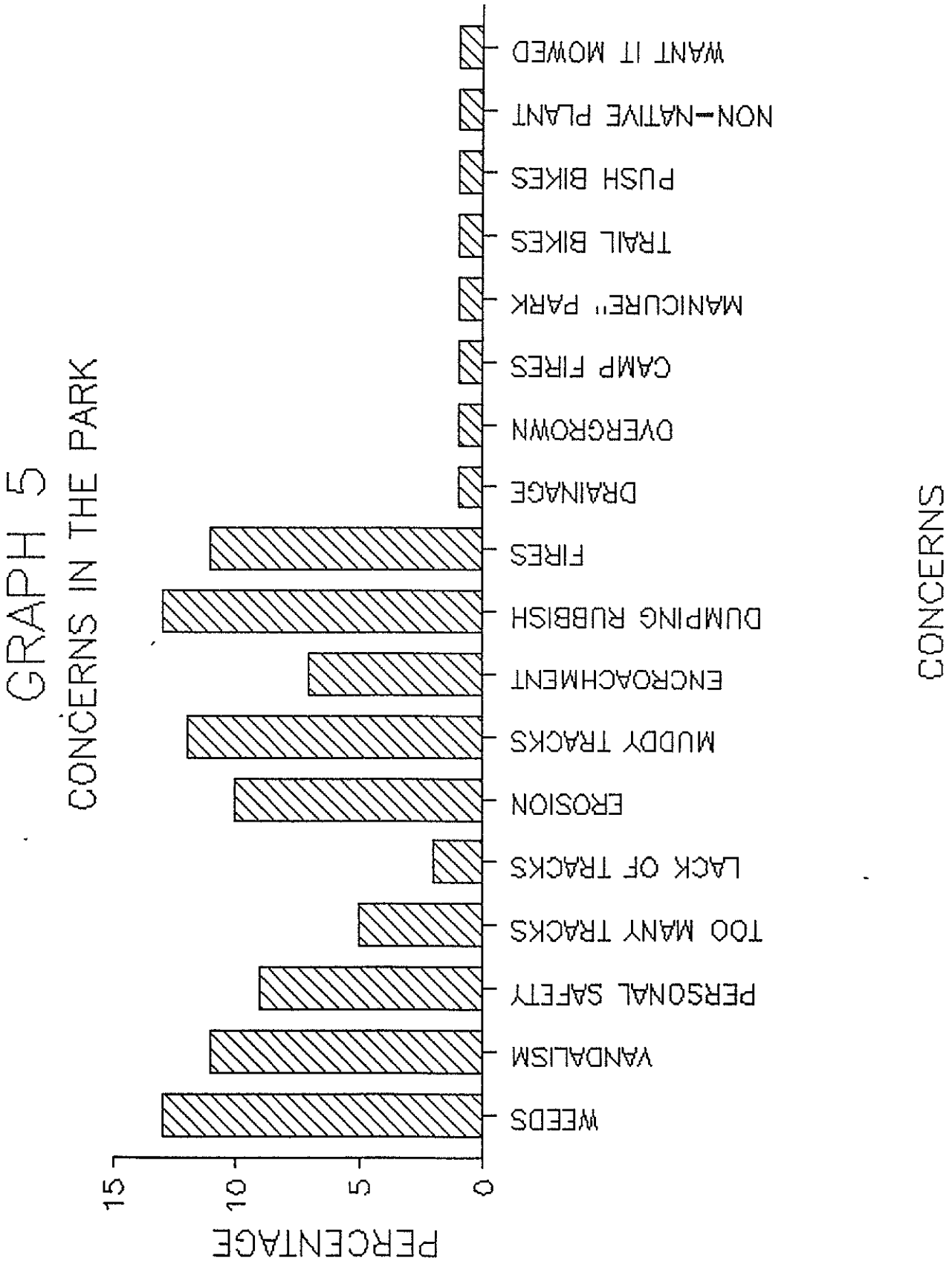
"Depends" - Depends apon who is visiting the house at the time.

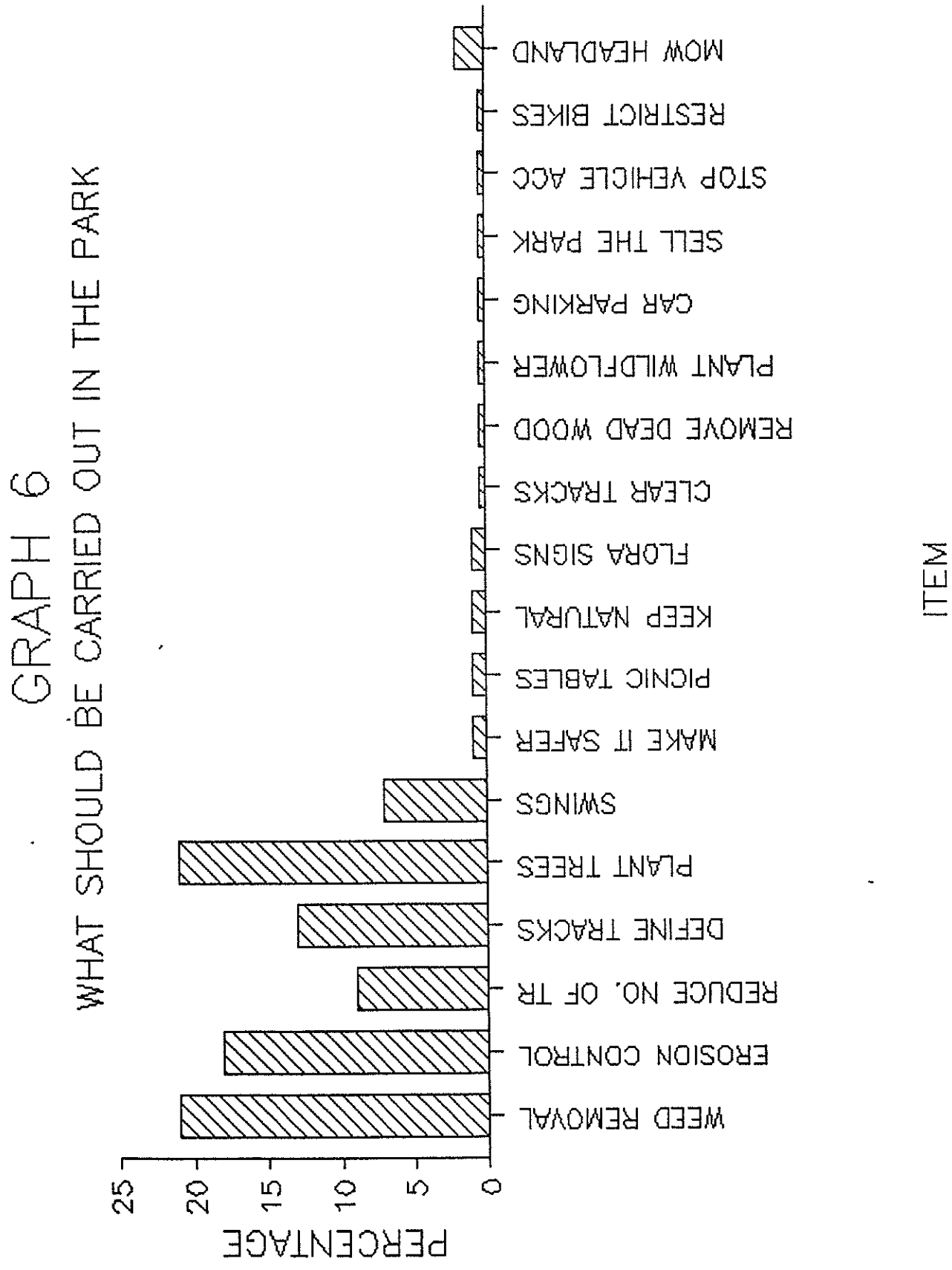
"Nil" - No longer go to the park

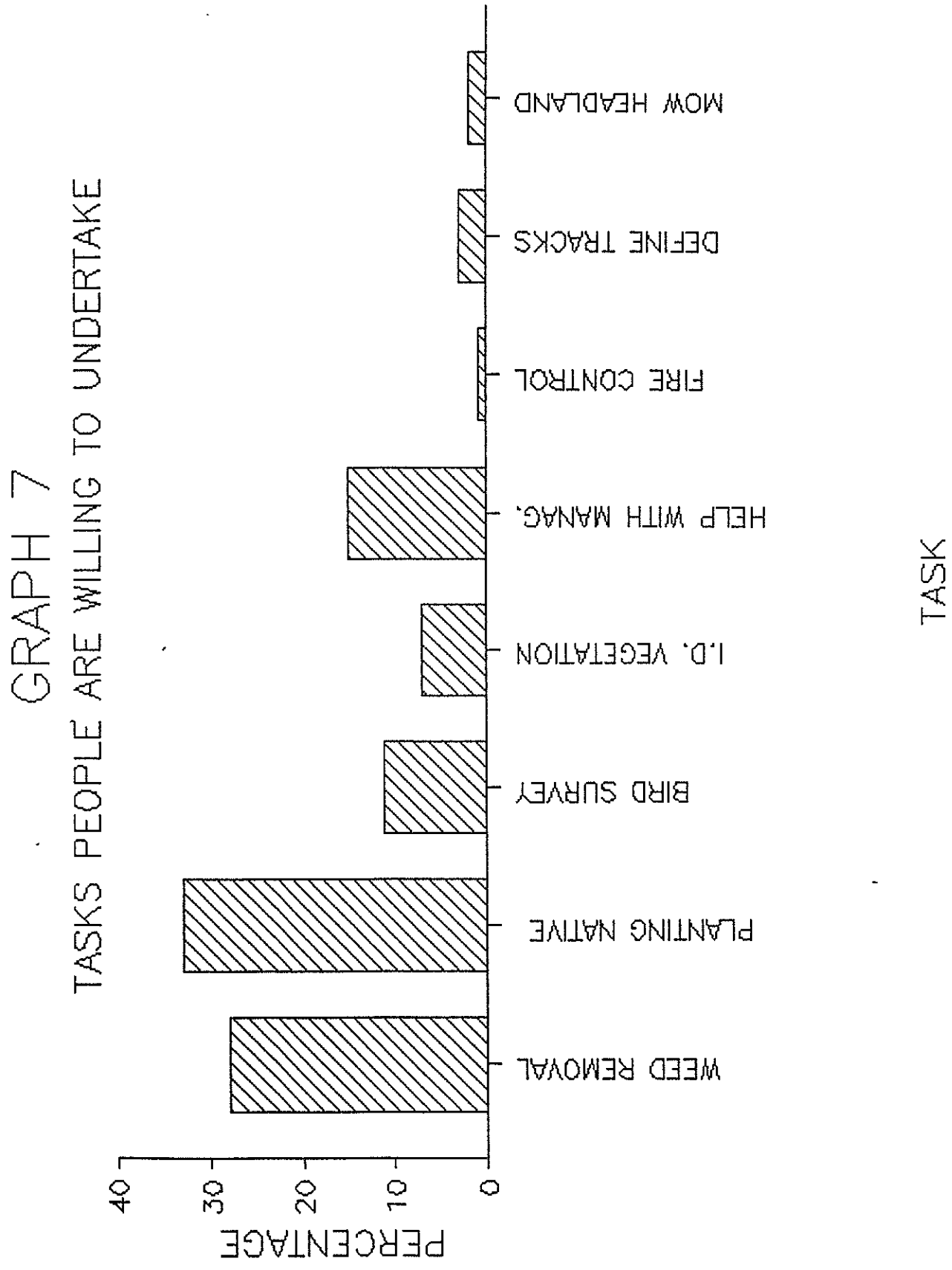

GRAPH 2
HOW OFTEN PEOPLE GO TO WATSON PARK
PERCENTAGE
0
10
20
30
40
50
> 1 PER WEEK
1 PER WEEK
1 PER MONTH
1 PER 6 MONTHS
1 PER YEAR
OTHER
TIME


GRAPH 3
DURATION SPENT WHEN VISITING THE PARK
PERCENTAGE
80
60
40
20
0
0 to 1/2
1/2 to 1
1 to 3
OTHER
TIME (Hour)


GRAPH 4
ACTIVITIES UNDERTAKEN IN THE PARK
PERCENTAGE
0
10
20
30
40
50
WALK
WALK THE DOG
BIRD WATCHING
FAMILY OUTING
ENJOY ENVIRONMEN
RIDE BIKES
PICK UP RUBBISH
CHILDREN PLAY
MEET FRIENDS
PICNIC
ACTIVITY


GRAPH 5
CONCERNS IN THE PARK
PERCENTAGE
0
5
10
15
WEEDS
VANDALISM
PERSONAL SAFETY
TOO MANY TRACKS
LACK OF TRACKS
EROSION
MUDDY TRACKS
ENCROACHMENT
DUMPING RUBBISH
FIRES
DRAINAGE
OVERGROWN
CAMP FIRES
MANICURED PARK
TRAIL BIKES
PUSH BIKES
NON-NATIVE PLANT
WANT IT MOWED
CONCERNS


GRAPH 6
WHAT SHOULD BE CARRIED OUT IN THE PARK
PERCENTAGE
0
5
10
15
20
25
ITEM
WEED REMOVAL
EROSION CONTROL
REDUCE NO. OF TR
DEFINE TRACKS
PLANT TREES
SWINGS
MAKE IT SAFER
PICNIC TABLES
KEEP NATURAL
FLORA SIGNS
CLEAR TRACKS
REMOVE DEAD WOOD
PLANT WILDFLOWER
CAR PARKING
SELL THE PARK
STOP VEHICLE ACC
RESTRICT BIKES
MOW HEADLAND


GRAPH 7
TASKS PEOPLE ARE WILLING TO UNDERTAKE
PERCENTAGE
0
10
20
30
40
WEED REMOVAL
PLANTING NATIVE
BIRD SURVEY
I.D. VEGETATION
HELP WITH MANAG.
FIRE CONTROL
DEFINE TRACKS
MOW HEADLAND
TASK

PROBLEMS, SOLUTIONS & ACTIONS

DRAINAGE

PROBLEM:-

Units located in McIlwraith Street are discharging stormwater from pipes into Watson Park. After consultation with Caloundra City Council's Plumbing Department, it was discovered that approval has been given for the units to discharge stormwater in such a way. Walking tracks do become muddy during periods of rain, particularly in the northern end of the park. The altered drainage pattern (i.e. the runoff from units and houses being directed into the park) has also altered the native vegetation constituent of the park. As stated by Dr Olsen and Drane (refer to appendix) Melaleuca quinquinervia seems to be colonising in areas that were dominantly Eucalypt communities.

Figure &- Erosion and weeds flourishing near the drain outlet.

SOLUTIONS & ACTIONS:-

There are a few ways that this problem can be overcome and are as follows:-

1) Disperse the runoff in such a way so as the native vegetation can take up the runoff. This could be undertaken by the use of energy dissipating devices, such as ag pipes, which reduce water velocity and disperse water into native grass/vegetation (such as Lomandra, Dianella, and Midyim).

2) Conversion of seasonally muddy tracks to boardwalks. This would need only extend to a length of approximately 10m.

TRACK DEFINITION AND ABUNDANCE

PROBLEM:-

The large number of tracks currently existing in Watson park does pose a problem in that they segment the park to such a large degree that it creates a 'lost and insecure' feeling to park users. The large number of tracks also causes greater impact on the environment and as future visitor numbers increase, trampling of vegetation and erosion will increase. The segregation also inhibits the ability for fauna to survive in such areas as it decreases habitats and increases disturbance to remaining habitats.

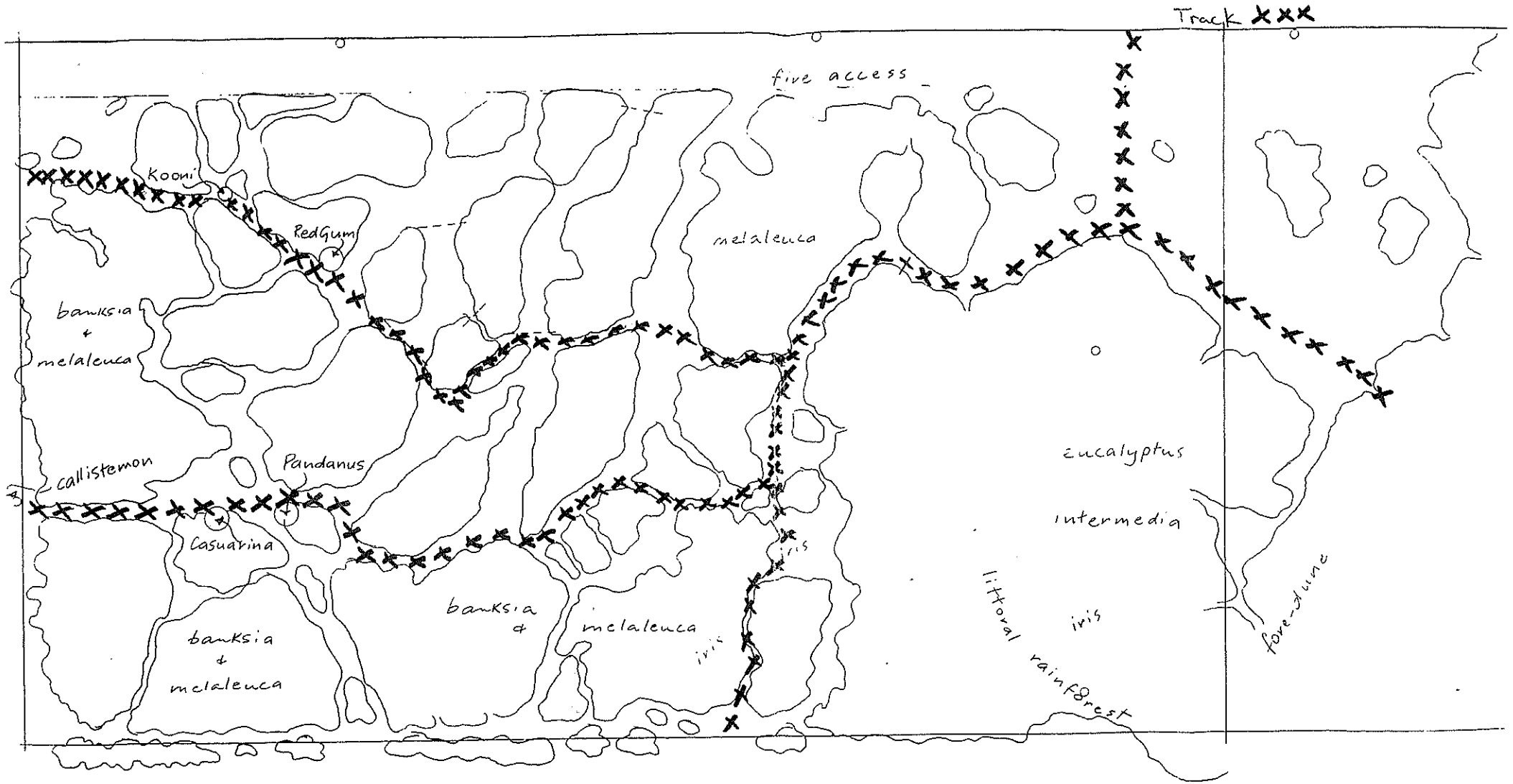
Figure 9 - Excessive track widths leave the land barren and open to erosion (1991 photo).

SOLUTION & ACTIONS:

- It is proposed that 'Friends of Watson Park' define and harden tracks by using a mixture of materials such as road base bark and concrete and line where appropriate with small rocks or log edges, and a timber board walk be erected over the muddy section of track.
- Tracks that need to be closed are revegetated with natural endemic flora and fenced.
- A proposed circuit track system is shown on Map 4.
- Tracks are to be a standard of 2 metres in width as stated in the Australian Walking Track Manual.

Figure 10 - Track widths of approximately 2 metres decreases the possibility of erosion occurring (1994 photo of the same track as in Figure 9).

Map 4 - Proposed Track System in Watson Park.



FIRE AND FIRE MANAGEMENT

PROBLEM:-

Despite the minimum risk from fire spreading to adjacent residences, some concerns exist about potential danger. Fire is also devastating to wildlife and overtime causes changes in vegetation community structure and composition.

SOLUTION & ACTIONS:-

- Implementation of a fire management scheme comprising a mosaic of "spotburns" for the park by Caloundra City Council would reduce the severity of any such fires. Spotburns are small contained pockets of low intensity fire which are used in order to maintain low fuel loads. Spotburns should be undertaken on a five year rotational program, and should be carried out with involvement from the Fire Brigade. However, it should be noted that there is not enough biomass nor height to experience the severity of fires as experienced recently in the Glasshouse Mountains area.

- The circuit track would provide access to large areas of park in the event of any fire. Also any fire in the area would be easily contained as the park is boarded by roads and the fire access easement. The close locality of water mains (as shown on map 2) will also alleviate the degree and intensity of any fire.

- The implementation of Council's Honorary Park Ranger Program in Watson Park would decrease the probability of anyone misusing the park by lighting camp fires.

Figure 11 - More than adequate fire access adjacent to housing.

WEEDS

PROBLEM:-

A number of weeds are present in Watson Park and are listed in Table 1. Dr Olsen and Drane (refer to appendix) have stated that "some of the weeds that are presently seen in this vegetation type are of concern for the future integrity of this community". The weeds displace native vegetation and therefore have the ability to alter the natural attributes of the park.

Figure 12 - Dumping of garden rubbish into the park introduces weeds e.g. Singapore Daisy.

SOLUTION & ACTIONS:-

- Implementation of a Weed Management Program involving removal of weeds and revegetation of these areas.

TABLE 3

WEED SPECIES IN WATSON PARK

Ageratum houstonianum
Brachiaria mutica
Bryophyllum tubiflorum x B. diagremontianum
Cassia coluteoides
Commelina benghalensis
Ipomoea cairica
Macroptilium atropurpureum
Ochna serrulata
Passiflora suberosa
Protaaparagus densiflorus
Pteridium esculentum
Schefflera actinophylla
Schinus terebinthifolia
Sida cordifolia
Solanum americanum
Stenotaphrum secundatum

Source: Adapted from Olsen & Drane 1993: The Vegetation of Watson Park, Caloundra City

ENCROACHMENT INTO THE PARK

PROBLEM:-

The encroachment into the park by the dumping of urban garden waste and rubbish, as well as the planting of non-native plants, is displacing native vegetation.

SOLUTION & ACTIONS:-

Encroachment of such nature will be discouraged by community education programs. Community education will be undertaken in a number of forms such as:

- Erection of community notice boards at two entrances of the park. These notice boards will contain information on weeds, proposed planting days and other relevant information that needs to be passed onto the community.

- Circulation of a weed leaflet to local residents, highlighting the impact of garden dumping and environmental weeds.

RECREATION FACILITIES

PROBLEM:

Some local community members would like the north-east end of the park mowed. Others would like children's swings placed in the area. There is a division among the community with some members being violently opposed to mowing and or swings, thus 'Friends of Watson Park' has sought professional advice from Council's Environment Officer and Recreation Development Officer regarding this matter.

SOLUTION & ACTIONS:-

The advice received from Council's Environment Officer and Recreation Development Officer was that given the close proximity to recreation areas such as Shelly Beach (650 metres away) and Moffat Beach (480 metres away) park facilities, (areas that are more suited to activities such as swings, BBQs, and mowed areas for playgrounds), Watson Park should be reserved as an a park of environmental value. (Refer to map 5). Installation of seating could be undertaken in order that people can stop, rest, and enjoy the natural surrounds of the park.

MAP 5

Moffat Beach<——480 meters away——>Watson Park<——650 meters away——>Shelly Beach

Facilities Available:

* BBQ's
* Toilets
* Bins
* Lighting
* Boat Access
* Lighting
* Assess to Shops
* Swings

Facilities Available:

* Playground area
* Toilets
* Parking
* Bins
* Water
* Rock pools
* Parking
* Picnic Tables
* Undercover tables & seats.

DECREASED WILDLIFE HABITATS

PROBLEM:-

There is concern due to the lack of tree hollows in Watson Park for habitats for some hollow dwelling animals e.g. Rainbow lorikeets. The lack of habitats is an emerging issue in relation to wildlife management and nature conservation. The lack in availability of habitats decreases the chance of the breeding ability of some species therefore threatening the survival of such a species and lowers the number of nesting sites available for nurturing of young. The decrease in habitat areas then can cause changes in fauna diversity, abundance and species richness. Caloundra would be so much poorer if it lost its rainbow lorikeets, for example.

SOLUTION & ACTIONS:-

- That nesting boxes be installed and be strategically placed in suitable trees for the provision of habitats. This would also provide an excellent research opportunity to examine the effectiveness and use of alternative styles of habitat boxes, and monitor the use of such structures by various species.

- The retention of trees with hollows existing in the park. Council inform parks and gardens staff to retain trees with hollows.

COMMUNITY EDUCATION AND AWARENESS

PROBLEM:-

The majority of problems in the park are due to a lack of community understanding in respect to the adverse effects that some of their actions produce on the fragile ecosystem of the park.

Often people do not realise that actions such as walking off tracks, dumping rubbish, lighting fires and riding trail bikes through the park can have serious consequences for the natural environment. Increasing the community's knowledge on flora and fauna protection and conservation and the provision of information about different species can contribute to decreasing the impacts on the environment.

SOLUTION & ACTIONS:

- To alleviate this problem the community would be invited to attend and participate in all projects undertaken in the park.
- The erection of two notice boards at park entrances which indicate the track system and also serve as an information bulletin board for the public. Information on these boards would be updated regularly.
- Signage of vegetation along the main walking track of the park would be undertaken, in order that the community obtains some knowledge of the resource of local native vegetation that is endemic to the area.
- Once Friends of Watson Park has accomplished the track definition and signage, school groups would be invited to undertake a guided educational tour through the park.
- Circulation of a leaflet highlighting the problems caused by the dumping of garden rubbish and environmental weeds.

DUNAL EROSION

PROBLEM:-

There is a small amount of erosion occurring on the tracks leading down to the beach. This is due to two main reasons:

(1) during times of heavy rain, water flow erodes the dunes.

(2) heavy pedestrian traffic has created numerous well worn tracks down to the beach.

SOLUTION & ACTIONS:-

- The definition of tracks and possibly Council supplying and constructing a wooden beach access ramp could be installed to alleviate the erosion.

OBSTRUCTION OF VIEWS

PROBLEM:-

Some residents have expressed concern that their sea views from residences would be lost. Specifically that growth of vegetation and natural regeneration in areas would cause loss of sea views.

SOLUTION & ACTIONS:-

- The majority of vegetation (especially on the foredune area) is already fully mature and will not grow any higher. The reason for this stunted vegetation is that the vegetation has and will continue to be sheared by the wind. This is also stated by Dr Olsen and Ms Drane's report on Watson Park "The canopy is stunted by the persistent salt laden south-easterly winds" (Olsen & Drane; 1993, P 4).

- Areas (such as the north-eastern end of the park) contains native grass (Kangaroo grass) of a maximum height of 50 cm. Sedge (native grass) areas are very rare and provide habitats for small wildlife such as Finches. Therefore this grassland area should be retained and this will also allow for views to the sea.

- Calculation of view lines both from residents and from tracks within the park will be continually monitored. In some cases pruning may be undertaken to retain views.

- It should be noted that if we accommodate everyone who wanted sea views in Caloundra, the entire coastline would be stripped of vegetation, resulting in massive erosion problems.

FUNDING

Community members will be invited to attend all works proposed to be undertaken. This will significantly reduce costs incurred. A number of funding options are currently being sought such as:-

- National Landcare Funding
- Casino Community Benefit Fund, and the
- Gaming Machine Community Benefit Fund

Funding will also be sought from Council and it is understood this depends upon Council's financial restrictions.

ACTION PROGRAM

YEAR 1 (1995)

→ Introduction of Honorary Park Ranger Program in Watson Park

→ Weed removal

→ Erection of Community Notice Boards

→ Calculation and Monitoring of View Lines

→ Building and Installation of Nesting Boxes and monitoring of their usage

→ Retention of Tree Hollows - Council inform Parks and Gardens Staff

YEAR 2 (1996)

→ Weed Removal

→ Natural Revegetation and Planting

→ Monitoring Useage of Nesting Boxes

→ Beach Access Ramp/Stairs installed

→ Monitoring of View Lines

→ Track Definition and Hardening

→ Drainage - Dispersion and Planting

→ Vegetation Identification and Signage

→ Compilation of Weed Leaflet and How to Care for the Park

YEAR 3 (1997)

→ Weed Removal

→ Natural Revegetation and Planting

→ Monitoring of View Lines

→ Track Definition and Hardening

→ Vegetation Identification and Signage

→ Construction of Boardwalk

→ Implementation of Fire Management Scheme

YEAR 4 (1998)

→ Weed Removal

→ Natural Revegetation and Planting

→ Monitoring of View Lines

→ Monitoring of Nesting Boxes

→ Track Definition and Hardening

→ Vegetation Identification and Signage

→ Implementation of Fire Management Scheme

YEAR 5 (1999)

→ Weed Removal

→ Natural Revegetation and Planting

→ Monitoring of View Lines

→ Monitoring of Nesting Boxes

→ Implementation of Fire Management Scheme

YEAR 3 (1998)

→ Weed Removal

→ Natural Revegetation and Planting

→ Monitoring of View Lines

→ Track Definition and Hardening

→ Vegetation Identification and Signage

→ Construction of Boardwalk

→ Implementation of Fire Management Scheme

YEAR 4 (1999)

→ Weed Removal

→ Natural Revegetation and Planting

→ Monitoring of View Lines

→ Monitoring of Nesting Boxes

→ Track Definition and Hardening

→ Vegetation Identification and Signage

→ Implementation of Fire Management Scheme

YEAR 5 (2000)

→ Weed Removal

→ Natural Revegetation and Planting

→ Monitoring of View Lines

→ Monitoring of Nesting Boxes

→ Implementation of Fire Management Scheme

REFERENCES

Government Gazette, 30.03.35, p 120.

Davern, Rob. 1992 Australian Walking Track Manual Track Constructions Ltd.

McArthur, Kathleen. 1989; Living on the Coast;Kangaroo Press.

Minutes of Caloundra parks and Gardens Committee;28.02.94; Landsborough Shire Council.

Olsen, Dr M.F. & Drane, Ms C.M., 1993; The Vegetation of Watson Park, Caloundra City. General Partner Pty. Ltd.; Brisbane.

Olsen, Dr M.F. & Drane, Ms C.M., 1993; The Vegetation Mosaic of Lands Within The Boundaries Of Caloundra City Council - Final Report. General Partner Pty. Ltd.; Brisbane.

Report of Inspection made by Members of the Parks and Gardens Advisory Committee Friday 14th December, 1973.

"Sad Story of Dunnycan Park", 27.11.74 The Advertiser

APPENDIX

BIRD SURVEY - BY Betty Pares

FAUNA SURVEY SHEET (YELLOW)

NATURE SEARCH

OFFICE USE ONLY
A.C.. PROFORMA ID ENTER

NAME:BETTY PARES OBSERVATIONS:FROM:4/9/94 TO 4/9/94 DAY
ADDRESS:10 BRYCE ST L.AUTHORITY:CALOUNDRA C.C.
MOFFAT BEACH CALOUNDRA 4551. GRID CELL SURVEYED:"2759-Y"
PH: (074) 91 2482 FAUNA GROUP(S) SURVEYED:BIRDS
FURTHER DETAILS:WATSON PARK AND HEADLAND PATH. OBS:9.20-11.45AM.
FINE, BLUE SKY WITH JUST A LITTLE CLOUD. A BIT HUMID. CALM. MILD.

WEATHER: FINE SHOWERS RAIN COOL(15% MILD 15-30 HOT)30
(50%CLOUD)50%CLOUD CALM BREEZE WIND
HABITAT: VEGETATION TYPE: SUBSTYPE TOPOGRAPHY SUBSTRATE

SPECIES NAME	CELL	SUB NO.	ID	ST	RE	COMMENTS
1. SILV SILVEREYE		2	OB	HE		F. IN BANKSIA.
		1	OB	HE		ON DEAD TREE.
		2	OB	HE		FLY. AND ROLLING ROUND EACH OTHER
		1	OB	HE		F. IN GUMTIPS.
		2	OB	HE		IN LANTANA. H/LAND PATH
2. BRHE BROWN HONEYEATER		30	OB	HE		VERY ACTIVE. F. IN BANKSIA MEL. WATTLE, CAS. GUMTIPS. MUCH HOVERING JUST ABOVE LEAVES. NOT MUCH SONG. SEEMED TO BE TOO BUSY. NOT SURE OF NUMBER BECAUSE OF THIS ACTIVITIY. YELLOW GAPE VERY OBVIOUS IN MANY. AS WELL AS GREENISH YELLOW WASH ON WING EDGES.
		6	OB	HE		FLY. FROM TREE TO TREE ON H/LAND PATH.
3. TCRO TORRESIAN CROW		2	OB	HE		FLEW FROM PARK TO HIGH RAIL, HOUSE AT LANE.
4. SPTD SPTTED TURTLE-DOVE		1	OB	HE		IN E. TREE IN PARK
		1	OB	HE		IN MEL. CLOSE BY
5. BFCS BLACK-FACED CUCKOO-SHRIKE		1	OB	HE		FLEW TO CAS.
6. LWTB LITTLE WATTLEBIRD		4	OB	HE		FLY. TO BANKSIAS SEPARATELY
7. WESW WELCOME SWALLOW		3	OB	HE		HAWK. OVER CLEARED AREA
8. BRKI BRAHMINY KITE		1	OB	HE		GLIDING ALL AROUND PARK. MAY HAVE BEEN TWO.

1/...2

FAUNA SURVEY SHEET (YELLOW)

NATURE SEARCH

OFFICE USE ONLY
A.C.. PROFORMA ID ENTER

NAME:BETTY PARES OBSERVATIONS:FROM:7/8/94 TO 14/8/94 DAY
ADDRESS:10 BRYCE ST L.AUTHORITY:CALOUNDRA.C.C.
MOFFAT BEACH CALOUNDRA 4551. GRID CELL SURVEYED:"2759-Y"
PH: (074) 91 2482 FAUNA GROUP(S) SURVEYED:BIRDS
FURTHER DETAILS:OBS.10.55AM-12.15PM.BLUE SKY. WARM 24 DEGREES.
CALM. ‹ 50% CLOUD. JUST A FEW FLEECY CLOUDS.AREA WATSON PARK.

WEATHER: FINE ✓SHOWERS RAIN COOL‹15% MILD 15-30 ~~HOT~~›30
✓‹50%CLOUD ›50%CLOUD CALM ✓BREEZE WIND
HABITAT: VEGETATION TYPE: SUBSTYPE TOPOGRAPHY SUBSTRATE

SPECIES NAME	CELL	SUB NO.	ID	ST	RE	COMMENTS
1. LWTB LITTLE WATTLEBIRD		2	OB	HE		FLEW TO MELALEUCA TREE
		4	OB	HE		ON DEAD BANKSIA;BY CLIFF
		1	OB	HE		FEEDING IN BANKSIA
2. SILV SILVEREYE		1	OB	HE		F. IN MEL.
		10+	OB	HE		F. IN ANGOPHORA
		2	OB	HE		F. IN ACACIA
		6	OB	HE		F. IN BANKSIA OF GARDEN BY LANE.
3. WESW WELCOME SWALLOW		6+	OB	HE		HAWKING OVER PARK.
4. BRHE BROWN HONEYEATER		30+	OB	HE		FLYING INTO & F. IN MEL. AND BANKSIA.
5. SPTD SPOTTED TURTLE-DOVE		2	OB	HE		FLEW FROM MEL TO DENSER GROWTH;STARTLED BY US.
		3	OB	HE		IN GARDEN MEL.BY LANE
6. OBOR OLIVE-BACKED ORIOLE		1	OB	HE		PERCHED ON BANKSIA
7. NOFB NOISY FRIARBIRD		1	OB	HE		FLEW TO BANKSIA
8. HSPA HOUSE SPARROW		3	OB	HE		IN GARDEN BY LANE.
9. WFHR WHITE-FACED HERON		1	OB	HE		F. IN GRASS BY LANE
10. SIGU SILVER GULL		1	OB	HE		FLEW PAST CLIFF.

BLOOMING: ACACIA (WATTLE), BANKSIA.

1/...2

FAUNA SURVEY SHEET

(YELLOW)
NATURE
SEARCH

OFFICE USE ONLY
A.C..

PROFORMA ID

ENTER

NAME:BETTY PARES
ADDRESS:10 BRYCE ST
MOFFAT BEACH CALOUNDRA 4551.
PH: (074) 91 2482

OBSERVATIONS:FROM:16/6/94 TO 16/694 DAY
L.AUTHORITY:CALOUNDRA C.C.
GRID CELL SURVEYED:2759-Y
FAUNA GROUP(S) SURVEYED:BIRDS

FURTHER DETAILS:WATSON PARK AND MOFFAT HEADLAND AND CLIFF PATH TO QUEEN OF COLONIES PDE. OBS:10.00-11.30AM. CLEAR SKY S.W. BREEZE. WATSON PARK HAS THICKETS OF BANKSIAS AND MELALEUCA, SOME ACACIAS ON EASTERN SIDE. SOME CASSIAS BY HEADLAND. A FEW OTHER SPECIES AS SINGLE TREES USUALLY.

WEATHER: FINE ✓ SHOWERS RAIN COOL(15% MILD 15-30 ✓ HOT)30
✓(50%CLOUD)50%CLOUD CALM BREEZE S W ✓ WIND
HABITAT: VEGETATION TYPE: SUBSTYPE TOPOGRAPHY SUBSTRATE

SPECIES NAME	CELL	SUB NO.	ID	ST	RE	COMMENTS
1. BFCS BLACKFACED CUCKOO-SHRIKE		1	OB	HE		FLY. ACROSS RUSSEL ST
2. AUKE AUSTRALIAN KESTREL		1	OB	HE		HOVERING OVER BACKYARD IN RUSSEL ST
3. LWTB LITTLE WATTLEBIRD		12	OB	HE		F. IN BANKSIAS AND FLY. ABOUT THE TREES.
4. RALO RAINBOW LORIKEET		9 2	OB OB	HE HE		FLY. OVER PK. IN GROUPS F. IN BANKSIAS
5. BRHE BROWN HONEYEATER		30+	OB	HE		F. & CALLING IN BANKSIAS MELALEUCAS, CASUARINAS, & ACACIAS.
6. TCRO TORRESIAN CROW		1	OB	HE		FLY. & CALLING ACROSS PK
7. SPTD SPOTTED TURTLE-DOVE		1	OB	HE		ON GROUND. FLEW TO MEL.
8. RFWH ? IMM. ? RUFOUS WHISTLER		1	OB	HE		LIGHT RUFOUS UNDERBODY EXCEPTING FOR TOP OF BREAST AND NECK WHICH WAS CREAMY WITH STREAKS. GREY HEAD AND UPPER PARTS, MARKINGS ON BACK WHERE WINGS FOLD BACK TO TAIL LIKE THOSE ON RFWH. ROUNDED HEAD WITH DARK ROUND EYE. NO EYERING. MOVED QUICKLY THROUGH THE INNERMOST LEAVES OF MEL. SLATERS SHOWS IMM. RFWH WITH GREY HEAD AND BACK AND BUFF UNDERBODY. THIS WAS RUFOUS BUT NOT AS RICH AS A M. RFWH. QUITE SURE IT WAS NOT A F. RFWH. IF NOT AN IMM. COULD IT HAVE BEEN A LITTLE SHRIKE-THRUSH?					

1/...2

9. MIST MISTLETOEBIRD	1	OB	HE	FLEW INTO MEL. AND AWAY.
10. SILV SILVEREYE	5	OB	HE	F. IN CAS.
11. STHR STRIATED HERON	1	OB	HE	F. ON LARGE GRUBS IN LONG GRASS BY PATH NEAR TOP OF MOFFAT H/LAND. VERY DARK CAP THAT IN SUNLIGHT WAS A BEAUTIFUL DEEP BLUE. LIGHTISH BROWNY GREY FRONT WITH A WHITE STRIPED RUFFLE DOWN CENTRE OF BREAST. BIT DARKER GREY BACK. SHORT TAIL, YELLOW LEGS, BIG FEET. YELLOW EYE WITH A TICK MARK UNDER BACK OF EYE RUNNINNG BACKWARDS. DARK MARK RUNNING FROM BILL TO EYE. GREY LONG HEAVY BILL. WHITE ON FRONT EDGE OF WING.

NECK APPEARED SHORT UNTIL HEAD SHOT OUT TO CATCH PREY. NECK WAS LONG BUT NOT AS LONG AS WFHR AND ITS BODY WAS MORE HEAVILY BUILT. ONCE IT STOOD ERECT, I THINK TO LOOK FURTHER AFIELD FOR PREY, AND LOOKED SURPRISINGLY TALL AS WE USUALLY SEE THEM HUNCHED. I TOOK PARTICULAR NOTE OF IT AS I COULD NOT IMAGINE A STHR WOULD BE UP THERE. IT CAUGHT A LOT OF PREY. ALL OTHER STHR I HAVE SEEN HAVE APPEARED TO HAVE A DARKER BODY, BUT THIS MAY BE BECAUSE THEY ARE USUALLY HUNCHED OVER MUD OR UNDER MANGROVES AND IN SHADOW. THIS ONE WAS IN SUNLIGHT BUT IN SHELTERED SPOT. (THERE IS THICK GROWTH AT EDGE OF CLIFF.)

ALSO THEY HAVE NOT APPEARED TO BE AS TALL AS THIS ONE - POSSIBLY BECAUSE OF THEIR HUNCHING. THIS ONE WAS NOT HUNCHED ~~MUCH~~ CS & PROBABLY BECAUSE ITS PREY WAS IN THE GRASS, SOMETIMES AS MUCH AS SIX INCHES FROM THE GROUND. IT EYED US BUT DECIDED WE WERE NOT A THREAT. WE STAYED ABOUT 20 FEET FROM IT AS I HAVE NOTICED WFHR WILL ALLOW YOU THAT CLOSE, ANY CLOSER AND THEY FLY. I CANNOT FIND ANY OTHER BIRD IT COULD HAVE BEEN DESPITE IT LOOKED A LIGHTER COLOUR AND WAS TALLER THAN OTHERS I HAVE SEEN.

PRESENT FELIPE AND BETTY PARES. RECORDER: BETTY.Q

WATSON PARK QUESTIONNAIRE

1) OPTIONAL

Name:.....

Address:.....

.....

Phone number:.....

2) Are you: (please tick appropriate box)

☐ Male ☐ Female

3) What are the age groups of people in your family that use the park?

☐ 0 - 12

☐ 13 - 18

☐ 19 - 25

☐ 26 - 35

☐ 36 - 55

☐ 56 - 65

☐ 66 and over

4) Are you (please tick appropriate box)

☐ A local resident

☐ Visitor

5) If you are a visitor, where do you normally reside?

.....

6) How often do you visit Watson Park?

- ☐ Once a week
- ☐ More than once per week
- ☐ Once a month
- ☐ Every six months
- ☐ Once a year
- ☐ Other, please state .....

7) How do you travel to Watson Park?

- ☐ Walk
- ☐ Car
- ☐ Bike
- ☐ Other, please state .....

8) How long do you stay when you visit the park?

- ☐ 0 - 30 min.
- ☐ 30 - 60 min.
- ☐ 1 - 3 hours
- ☐ Other, please state .....

9) What do you do when you visit the park?

- ☐ Walk
- ☐ Walk the dog
- ☐ Bird watching
- ☐ Family outing
- ☐ Other, please state .....

10) There have been concerns that problems are occurring in Watson Park. Does any of the following issues affect you?

Weeds ..... yes/no
Vandalism ..... yes/no
Personal Safety ..... yes/no
Too many walking tracks ..... yes/no
Lack of walking tracks ..... yes/no
Erosion ..... yes/no
Tracks become muddy ..... yes/no
Encroachment of private gardens, and structures into the park ..... yes/no
Dumping of rubbish and garden refuse into the park ..... yes/no
Fires in the park ..... yes/no
Other, please state _____

_____

11) Do you think any of the following work should be undertaken in Watson Park?

- ☐ Weed removal
- ☐ Erosion control
- ☐ Reduction in the number of tracks
- ☐ Definition of tracks and signage
- ☐ Planting of native shrubs/trees in areas where required
- ☐ Placement of children's swings in the existing cleared area in the park
- ☐ Other, please state

12) Would you like to be involved in helping undertake work in the park ?

☐ Yes - Please make sure you record your name & address at question 1

☐ No

If yes, please indicate which of the following you can help with:

☐ Weed removal

☐ Planting native trees/shrubs

☐ Bird survey

☐ Identification of Vegetation

☐ Assisting with the preparation of a Management Plan for the Park

☐ Other, please state_____

_____

THANK YOU FOR YOUR PARTICIPATION

PLEASE RETURN THIS SURVEY WITHIN 2 WEEKS TO ONE OF THE FOLLOWING PLACES:

→ A BOX AT THE MOFFAT BEACH POST OFFICE
→ LETTER BOX AT 8 McILLWRATH STREET
→ COUNCILS ENVIRONMENT AND COMMUNITY SERVICES DEPARTMENT.

AREA SURVEYED

THE VEGETATION OF WATSON PARK,

CALOUNDRA CITY

General Partner Pty. Ltd.,
Dr. M. F. Olsen and Ms C. M. Drane.
07/06/93.

INTRODUCTION

As part of the vegetation survey currently being undertaken for Caloundra City Council, a field inspection of the vegetation mosaic of Watson Park at Moffat Head was made early in June, 1993. This detailed survey was undertaken in response to initiatives which have proposed a range of options for management of the existing vegetation mosaic of this reserve.

The vegetation has been mapped on the Council-wide vegetation map as fore-dune and headland vegetation, as the scale of that exercise was inadequate to differentiate the vegetation types present in Watson Park. This situation repeats itself across the Shire where environmental variation interacts with the vegetation mosaic at a finer scale than that which can be delineated at a scale of 1:25,000. This matter is discussed in greater detail in the main body of the report on the coastal vegetation of Caloundra City Council and in the report detailing the vegetation found across Caloundra City Council.

A vegetation map has not been provided for Watson Park as a cadastral base map at an appropriate scale was not available. Therefore, the vegetation types present in the mosaic found in Watson Park will be described and their relationships discussed, including a description of their relative locations and biological significance.

Some possible management prescriptions are proposed along with suggestions as to the most utilitarian means of rehabilitating the degraded portions of the extant vegetation of Watson Park.

VEGETATION TYPES FOUND IN WATSON PARK

Four main vegetation types were identified during the survey of Watson Park: A Foredune Community; A Foredune Littoral Rainforest Community; A *Eucalyptus intermedia* Community; and A *Melaleuca quinquenervia* Community. Each will be dealt with in the sequence in which they are found westward from the beach at Moffat Head inland to Bennett Street.

Foredune Community

This vegetation type is found in similar locations along the coastline of South-East Queensland. However, many of these sites have been greatly modified by construction of tourist facilities or residential development. Therefore, the remnant vegetation on Moffat Head is an important conservation reserve for this vegetation type along the coastline. Taken in the context of Caloundra City and environs, its significance is re-inforced. Considering the obvious visitation to the site as evidenced by the plethora of tracks which traverse this reserve, it is surprising that so few weeds have invaded this community (See Appendix 1). Some of the weeds that are presently seen in this vegetation type are of concern for the future integrity of this community. Several weed species with a well renown reputation for displacement of the native flora are found eg. *Protoasparagus densiflorus, Cassia coluteoides, Lantana camara, Ochna serrulata, Pinus elliotii, Schefflera actinophylla* and *Schinus terebinthifolia*. Both *Pinus elliotii* and *Schefflera actinophylla* are becoming increasingly serious weed problems on the coastal lowlands and, in the instance of the latter species (despite being native to North Queensland), in the hinterland.

Foredune Littoral Rainforest Community

Despite the small area occupied by this community in a gully on the south-eastern margin of Watson Park and its partially degraded state, it has the potential of contributing greatly to the diversity of Watson Park. Rehabilitation measures for this restricted vegetation type are given in a subsequent section of this report.

The weed species have invaded the disturbed margins and in some areas utilised by local youth inside the denser parts of the canopy. The main rainforest species which make up the canopy and shrub layers are *Canthium coprosmoides, Cassine australe, Elaeocarpus obovatus* and *Acronychia imperforata* (See Appendix 2). These species should be utilised as the main components of any replanting of the weed infested area on the south-eastern fringe of Watson Park (near the Car Park for the beach access to the southern end of Moffat Beach). In particular, the area of *Brachiaria mutica* (Para Grass) near this Car Park should be re-planted to prevent the invasion of this grass species into the rainforest remnant should a serious fire or other related anthropogenic disturbances impact upon this community.

Eucalyptus intermedia Community

This unusual community is situated immediately inland of the headland vegetation characterised by a dominance of *Casuarina equisetifolia*. The canopy is stunted by the persistent slat laden south–easterly winds. Some individuals of *E. intermedia* are only 2 m tall. Few weed species are present which would appear to be related to the shallow and nutrient poor soils of this site which do not enhance the likelihood of weed establishment (See species list in Appendix 3). However, these shallow soils are prone to erosion as is evidenced along the many tracks which traverse this area. Some of this erosion may have been due to early clearing activities which occurred in this area some 20 years ago (J. Birbeck, pers. comm.).

Some areas of this community on the northern margins of Watson Park have been recently slashed. Similar seriously degrading impacts on the natural vegetative cover of Watson Park should not be condoned. The prevention of further disturbances of this kind should be prevented through education of the relevant authorities or regulation and enforcement.

The western margin of this community merges with the next vegetation type near the gully which traverses Watson Park from north to south (the remnant rainforest occupies this gully near its exit onto the beach). This gully exhibits all the symptoms of degraded gullies elsewhere in Caloundra City Council. Canopy species in the gully such as *Cupaniopsis anacardioides* appear to be incapable of regenerating in the face of competition from numerous herbaceous and woody weeds such as *Panicum maximum, Ageratum houstonianum, Schinus terebinthifolia, Schefflera actinophylla* and *Lantana camara*. This bears testament to the nutrient pollution of the aquifer which flows into this drainage system and the erosion and subsoil exposure probably associated with increased storm flows. This is often due to altered drainage patterns from the urban areas. Lowered infiltration on areas under urban housing can increase volumes and flow rates in natural drainage lines. As with the adjoining communities, the recovery from earlier clearing in this area may be retarding the rate of regeneration and recovery of the disturbed sites in this area.

Melaleuca quinquenervia Community

The majority of Watson Park is covered by this community. The canopy varies from closed woodland to open shrubland (See species list in Appendix 4). This structural variation is due in part to different depth and water holding capacity of the substrate and partly the result of past anthropogenic disturbances. Due to the proximity of this community to urban areas (fronting Bennett Road to the west and housing to the north), the number of weed species spreading from the adjacent urban settlements is not surprising. The infestation of disturbed sites by a variety of weeds is further exacerbated by inappropriate (and apparently illegal) plantings of some well meaning residents eg. *Callistemon* spp. Where such plantings have occurred, the plants should be transplanted to more suitable locations or destroyed.

This community also has a plethora of tracks which traverse its extent. Unlike the other sites on more shallow soils or of more restricted in extent, the tracks do not appear to be causing the some degree of degradation or erosion. However, they provide access to more sensitive and restricted vegetation types and act as sites for weed dispersal throughout this and the other vegetation types in Watson Park. If this area is in a recovery phase following the clearing of some of the vegetative cover of the park some 20 years ago, then every opportunity should be given to encouraging the native species and deterring the establishment and persistence of weed species. In the instance of some weed species, this would require active control measures. For many others, reducing artificial disturbances (eg. fires, erosion exposing mineral soil and/or subsoil and dumping of garden refuse) which create the sites suitable for their establishment should be eliminated.

Some common weeds continue to pose threats to this community eg. *Baccharis halimifolia, Cinnamomum camphorum, Gloriosa superba, Lantana camara, Ochna serrulata, Panicum maximum, Protoasparagus densiflorus, Schefflera actinophylla* and *Schinus terebinthifolia*. It is of interest that several of these weeds are woody species which have escaped from cultivation in recent years. Their threat to the native flora should not be underestimated. With the enforced artificial disturbance regime to which most remnant vegetation in Caloundra City Council is exposed, the conditions are conducive to the further spread and infestation of native vegetation by such species.

The present dominance of some areas of the site by *Melaleuca quinquenervia* may be due to altered volumes and patterns of drainage from adjacent urban areas into the Park. Similar situations in areas of native vegetation adjacent to urban areas which drain into the remnant native vegetation have *M. quinquenervia* colonising vegetation types which previously had Eucalytpus spp. common in the canopy. The species less tolerant of waterlogged soils (either periodically or regularly) are displaced in favour of the more tolerant *M. quinquenervia.* It would be virtually impossible to ascertain the causes or remedies for such a situation with a lack of data on the original vegetation. Despite this, it should be the primary aim in Watson Park to retain native vegetation at the expense of weed species.

With any artificial disturbance, be it artificial fire regimes, weed infestations, altered drainage patterns or altered nutrient pools and cycles, it may be impossible or impractical to attempt to retain any semblance of the original vegetative cover. However, this should not be seen as an excuse to destroy the remaining environmental values of the site as they may be considerable in their own right despite the impacts of degrading influences. It is only where the contribution of the remnant vegetation to local or regional flora and faunal values is reduced to the point where they do not retain any natural values or there is no possibility for the long term viability and integrity of the site, should the biological values be discounted and alternative land uses given a greater weighting. Otherwise, the natural values must be given a role in deterring the most appropriate land use for any given site.

Proposed Management Options for Watson Park

The diversity of vegetation types apparent within the perimeter of Watson Park and its location within the highly urbanised part of Caloundra City Council should ensure that the highest priority be afforded to protecting the existing values of the site and enhancing those values through rehabilitation of degraded sites. All of these objectives could be achieved by following the proposed prescriptions detailed below:

1) Construct walking trails and bikeways based on vegetation and landscape constraints to remove the plethora of anastomosing and eroding unconstructed tracks which traverse the area at present;

2) Implement an environmental management plan which addresses the following issues:-

a) fire management,
b) protection of threatened plant communities,
c) nutrient pollution of the aquifer,
d) erosion of waterways by urban runoff,
e) weed infestations (existing and future threats);

3) Rehabilitate the degraded areas (particularly the remnant littoral rainforest and the are of *E. intermedia* which has been slashed);

4) Prevent feral and domestic animals from soiling the area and disturbing the wildlife;

5) Put in place interpretive signage so that local residents and visitors can gain a greater appreciation of the significant environmental values of Watson Park.

The last two matters are critical to the future management of Watson Park. There is a healthy and diverse avifauna which probably exists throughout the year and seasonally in Watson Park. This diverse fauna would be threatened and the bird numbers diminished if some controls were not put in place to limit the access of domestic and feral animals into this area. There were signs of both cats and dogs frequenting Watson Park. This should be avoided, if practicable, in the future. The most effective means for implementing such measures and assisting people to understand the reasons for such controls and the values which are to be protected in Watson Park is to have signage, pamphlets or some other means of passing on the understanding of the interrelationships between the diverse components of Watson Park. Increased patrols to inform the public of the values of the area and where necessary enforce existing or future regulations designed to protect the natural environment of Caloundra City Council.

APPENDIX 1 – Indicative Species List for the Fore-dune community in Watson Park. * – Introduced or Weed Species.

Banksia integrifolia
Carpobrotus glaucescens
Casuarina equisetifolia
* *Cassia coluteoides*
Cynodon dactylon
Dianella congesta
Emilia sonchifolia
Eragrrostis interrupta
Eucalyptus intermedia
Gahnia sieberana
Hibbertia scandens
Ipomoea pes-caprae
Ischaemum triticeum
* *Kalanchoe sp.*
* *Lantana camara*
Lomandra multiflora
Myoporum acuminatum
* *Ochna serrulata*
Pandanus tectorius
Pimelea linifolia
* *Pinus elliotii*
Pratia purpurascens
* *Protoasparagus densiflorus*
Scaevola calendulacea
* *Schefflera actinophylla*
* *Schinus terebinthifolia*
Sporobolus virginicus
* *Stenotaphrum secundatum*
Stephania japonica
Themeda triandra
Wedelia biflora
Zoysia macrantha

APPENDIX 2 – Indicative Species List for the Fore-dune Rainforest community in Watson Park. * – Introduced or Weed Species.

Acacia leiocalyx

Acronychia imperforata

* *Ageratum houstonianum*

Alphitonia excelsa

Austromyrtus dulcis

Banksia integrifolia

* *Brachiaria mutica*

* *Bryophyllum tubiflorum x B. diagremontianum*

Canthium coprosmoides

Cassine australe

Cassytha glabella

Casuarina equisetifolia

* *Commelina benghalensis*

Elaeocarpus obovatus

Glochidion ferdinandi

Hibbertia scandens

* *Ipomoea cairica*

Lomandra longifolia

* *Macroptilium atropurpureum*

Monotoca scoparia

Oxalis corniculata

* *Passiflora suberosa*

* *Protasparagus densiflorus*

* *Pteridium esculentum*

* *Sida cordifolia*

* *Solanum americanum*