

# Behaviour Change for Natural Diversity (or Local Nature Spot Project) Project Summary



June 2008

## Acknowledgements

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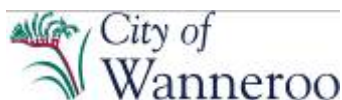
- City of Armadale
- Town of Cambridge
- City of Canning
- City of Swan
- City of Wanneroo

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## 1. Introduction

The Local Nature Spot (LNS) pilot project was designed to address various management issues associated with community attitudes and behaviour commonly affecting urban bushland reserves in the Perth Metropolitan Region of Western Australia.

The aim was to develop a methodology to assist natural area managers in designing strategies that increase community appreciation of local natural areas, increase support for management of local natural areas, and increase community involvement in natural area management.

**Five Local Governments** participated in the pilot project. **Fifteen nature reserves** were nominated (three nature reserves in each local government area) to be part of the study. Communities surrounding the selected nature reserves were targeted. The project was implemented between March 2007 and May 2008.

## 2. Bushland Management Issues addressed by the Local Nature Spot Project

A table of the management issues associated with each reserve has been included below (Table 1). Whilst the management issues are common for many urban bushland reserves; combinations of issues for each LNS reserve are different. Management issues are colour-coded for ease of comparison between reserves.

**Table 1: Summary of management issues at sites selected for the LNS Project**

<b>CITY OF ARMADALE</b>	
Lloyd Hughes Park Kelmscott	Long history of motorbike riding/unauthorised access
	Trail bike riding
	Household rubbish and building material dumping
	Garden waste, soil dumping
	Weeds
	Poor response to previous efforts for community involvement in bushcare
Bob Blackburn Flora Reserve Armadale	Use of informal tracks
	Weeds
	Littering
	Arson
	Poor response to previous efforts for community involvement in bushcare
Kendal Court Flora Reserve Westfield	Vandalism to infrastructure
	Use of informal tracks
	Garden waste dumping
	Littering
	Poor response to previous efforts for community involvement in bushcare
<b>TOWN OF CAMBRIDGE</b>	
Roscommon Reserve Floreat	Use of informal tracks
	Garden waste dumping
	Household rubbish and building material dumping (used to build cubbies)
	Weeds

Chipping Park City Beach	Use of informal tracks
	Weeds
	Littering
Templetonia Park City Beach	Garden waste, soil dumping
	Use of informal tracks
	Weeds
<b>CITY OF CANNING</b>	
Queens Park Bush Forever Site 283 Queens Park/ East Cannington	Motorbike riding/unauthorised access (western and central part)
	Use of informal tracks (western part)
	Weeds
	Vandalism to infrastructure (cutting through fence, damaging gates)
	Garden waste dumping
	Household rubbish and building material dumping
Prendwick Park Botanic Garden Willetton	Trampling through bushland
	BMX track in the middle of <i>Melaleuca</i> stand
	Weeds
Lambertia Creek Conservation Area Ferndale	Weeds
	Littering
	Garden waste dumping
<b>CITY OF SWAN</b>	
Moulton Wetland Ellenbrook	Trampling, use of numerous informal tracks
	Littering
	Household rubbish and building material dumping (used to build cubbies)
Emu Swamp Ballajura	BMX track
	Vandalism (extensive damage to vegetation)
	Weeds
	Littering
	Garden waste, soil dumping
Burley Park Bullsbrook	Motorbike riding/unauthorised access
	Use of informal tracks
	Horse riding
	Vandalism of infrastructure (bbq, seating, memorial plaque, signs)
	Garden waste dumping
	Household rubbish and building material dumping (dead animal carcasses)
<b>CITY OF WANNEROO</b>	
Kinsale Park Mindarie	Garden waste dumping
	Household rubbish and building material dumping
	Poor response to previous efforts for community involvement in bushcare
Marangaroo Conservation Reserve Marangaroo	Vandalism (fence, seats)
	Garden waste, soil dumping
	Household rubbish and building material dumping
	Arson
	Dog droppings
Celadon Park Banksia Grove	Garden waste, soil dumping
	Vandalism (gate)
	Littering
	Poor response to previous efforts for community involvement in bushcare

**The six common gaps in understanding/awareness assumed to be linked to the above management issues and addressed by the Local Nature Spot project were:**

**2.1 Lack of understanding that local nature reserves provide habitat to fauna**

Those involved in on-ground management of nature reserves see the damage to vegetation in conservation reserves, usually caused by trampling. This leads to the conclusion that those causing the damage lack understanding that vegetation in these nature reserves provides habitat to native fauna that have an important role to play in our environment. Anecdotal evidence also indicates that not many people understand the effects of frequent fires, loss of variety of flora in fragmented urban nature reserves on native fauna.

**2.2 Lack of understanding that urban bushland requires management**

While conservation reserves provide many benefits to local communities, funding towards their management is limited in many local governments. A 2007 survey of 24 local governments showed that budget allocation for on-ground bushland management represented 0.76% of local government's annual budget (Perth Biodiversity Project, 2007).

Many urban nature reserves benefit from community involvement in on-ground management, especially weed control, rehabilitation and awareness-raising. This not only delivers direct outcomes to the condition of a nature reserve, but often leads to other benefits, increasing the ability of land managers to attract funding for on-ground works from external sources. None of the reserves selected for the LNS project received this level of community support.

**2.3 Lack of understanding of local flora and fauna**

It is believed that some of the behaviour negatively affecting conservation reserves; and a lack of support for active bushland management is due to the lack of understanding of Western Australia's flora and fauna. For example, it is widely acknowledged that much of Western Australia's local native vegetation is hardy, well adapted to poor soils and harsh climatic conditions with long hot and dry summer periods. However, not many people understand that whilst native flora is hardy, its resilience is compromised by disturbances such as trampling, weeds and dieback. Anecdotal evidence also indicates that few people can distinguish between local and weed species in bushland.

**2.4 Lack of understanding of impacts caused by altered fire regimes**

It is generally accepted that fire is part of the natural process that forms the Western Australian vegetation. However, it is believed that not many people are aware that too frequent burning alters the composition of vegetation communities and causes loss of habitat to local fauna that is becoming more isolated in bushland reserves.

**2.5 Need to keep to the paths**

Local nature reserve users often leave behind evidence of off track usage, such as bike tyre marks off the paths or cubbies in the middle of a reserve. In two of the selected reserves, children had built a BMX circuit causing significant damage to the vegetation. All these activities contribute to the spread of dieback and weeds, prevent natural regeneration of bushland and often result in significant disturbance.

## **2.6 Impacts of inappropriate disposal of garden waste**

Dumping of garden waste and other household material is a problem common at many urban bushland reserves, greatly contributing to the introduction and spread of weeds. While penalties apply to those illegally disposing of any material in nature reserves, it is difficult to prove and prosecute those who dump rubbish in a reserve.

## **3. Project Methodology**

### **3.1 Site selection**

Each participating Local Government nominated 3 sites to be pilot sites for the LNS project. Criteria for the site selection included:

- sites of high conservation value;
- a lack of local community engagement, and
- evidence of use that is threatening the conservation values.

### **3.2 Project Working Group**

A Project Working Group was formed with a representative from each participating Local Government, an Environmental Officer, a Natural Area Manager or a Sustainability Officer, a community representative and the Project Coordinator. The purpose of the Project Working Group was to ensure that all aspects of the project are discussed and agreed on, ensuring regular communication among all project partners.

### **3.3 Literature Review**

A comprehensive literature review focussed on social research regarding behaviour change, necessary in designing strategies that address “the perceived barriers and benefits which underlie the behavioural choices that individuals make” (McKenzie-Mohr & Smith 1999). According to McKenzie-Mohr & Smith 1999, uncovering barriers and benefits involves three steps:

- literature review;
- survey; and
- qualitative research through observational studies and focus groups.

### **3.4 Community Survey**

Many of the issues (affecting the conservation values of urban bushland reserves) rely on community attitudes and awareness for their effective management. To gain an understanding of these, a targeted survey was carried out, with the aim of researching community awareness of conservation values of the selected nature reserves, the threats to those values, and also attitudes of local residents towards their local nature reserve.

A private consultancy was commissioned to assist with an initial benchmark study, followed by a tracking study. A self-completion questionnaire was developed using expertise within the LNS Project Working Group and the consultants. The questionnaire was distributed to 300 randomly selected residents living within a 500 metre radius of each reserve at each of the 15 selected sites. To encourage participation, all respondents that provided relevant contact details were entered into a draw to win one of five double movie passes.

The purpose of this initial benchmark study was to determine the following:

- people's feelings about urban bushland in their local area;
- the level of value or importance people place on urban bushland;
- the current level and way of use of urban bushland;
- the level of awareness of existing problems with how urban bushland is being used;
- some motivators and barriers for changing attitudes and selected behaviour;
- the best communication method; and
- variation in attitudes and behaviours by key geo-demographics.

The purpose of the follow-up (May 2008) survey was to evaluate the effectiveness of some of the LNS project strategies.

### **3.5 Bushcare Volunteer Survey**

Friends Groups associated with bushland reserves have an important role in management of these reserves. Friends Groups not only volunteer their time to do on-ground work in bushland reserves, but also have an important educational role within their communities. Many of them attract financial assistance through grants that are invested into these reserves. Clearly community involvement in bushland management offers many benefits to bushland managers and it makes good sense to encourage this involvement.

The aim of the 'Volunteering in Bushcare' survey was to gather information that would assist with the design of strategies to encourage community involvement at the fifteen sites selected for the LNS project.

### **3.6 Identification and Implementation of Management Strategies for Each Selected Site**

Results of the 2007 community survey guided the selection of appropriate management strategies to address the various issues affecting the conservation values of the selected nature reserves. They are described further in Section 4.

The effectiveness of implemented management strategies was assessed through analysis of responses to the follow-up community survey, focus groups and site assessments to determine if the threatening behaviour within selected reserves has stopped or at least been significantly reduced.

## **4. Implementation of Management Strategies**

Management strategies proposed at each LNS site incorporated principles of community based social marketing (McKenzie-Mohr & Smith, 1999) designed to initiate behaviour change. These principles include the following tools of behaviour change:

- Seek commitment;
- Set and promote norms of acceptable behaviour using a variety of communication tools;



- Provide self-explanatory prompts in close proximity to where positive behaviours are to be encouraged;
- Use a variety of communication methods, using captivating information and easy to remember messages;
- Provide incentives that meaningfully benefit targeted individuals and groups, and encourage the positive behaviour;
- Use personal contact to reinforce behaviour norms and provide feedback; and
- Remove external barriers to positive behaviour.

Using the above listed tools of behaviour change, management strategies were developed with contributions from members of the LNS project Working Group and then finalised for each pilot site with individual Local Governments responsible for management.

#### **4.1 Communication Tools**

Various communication tools were applied in implementation of the selected strategies. There were several methods to communicate project aims within the targeted communities. These included the following activities, events, promotion and promotional materials:

- Community newspaper articles promoting LNS project aims and events;
- Invitations and feedback letters;
- Fliers and posters advertising LNS events/activities and updates on works progress at the reserves (displayed in public places such as community libraries, display shelters and supermarkets);
- Magnets providing appropriate numbers for authorities including appropriate local government numbers, FESA, police and crime-stoppers;
- Clean-up events and Clean-up Australia Website;
- Guided nature/bird walks and survey;
- Gardening with Nature workshops;
- Local schools activities/presentations; and
- Promotion and provision of information via the Perth Biodiversity Project Website.

To enable easy recognition of the program, a project logo was created and used to brand all activities organized within the sites.



#### **4.2 Local Nature Spot Watch Program**

The Local Nature Spot Watch Program was introduced at all fifteen sites as a way to solicit a commitment from residents in watching out or caring for their

‘Local Nature Spot’; a nature reserve in their neighbourhood. As written commitments have been found to be more effective, local residents were asked to sign up as a ‘Local Nature Spot Watcher’ using a standard form developed for this purpose. By signing up, participants would demonstrate their willingness to regularly monitor and observe their LNS and to report behaviours/activities threatening the reserve.

The objectives of the Local Nature Spot Watch Program included:

- raising awareness of the local natural area and the threats to the values of the reserve;
- discouraging human behaviours threatening local nature reserves;
- empowering local communities by encouraging them to take action for their local natural area; and
- improving communication between those managing the reserves and communities that surround them.

There were several components of the program:

- on-site signs with phone numbers specific to each local government;
- Registration Forms for local residents;
- a Reporting Guide;
- fridge magnets with phone numbers specific to each local government; and
- a point of contact – the Local Nature Spot Officer.

The role of the Local Nature Spot Watchers was to use the contact numbers provided to report threatening activities occurring in the reserve, and to join others that care about their local natural area to demonstrate that behaviours that damage the reserve are unacceptable. Local Nature Spot Watchers were encouraged to report fires, illegal rubbish dumping, vandalism and unauthorised vehicles (including trail bikes).

As a reward they received information about activities planned in their local nature reserve and about the progress of the LNS program, including reports on any on-ground work the Local Government conducted.

The LNS signs installed at several strategic locations at all sites contained a positive message, ‘*Watched by local people that care*’, that was designed to encourage local residents to feel good about their involvement. However, the primary objective of the LNS Watch program was to act as a warning to those few that disregard the nature reserve that the local communities surrounding these reserves are not prepared to tolerate the behaviour that is threatening the values of bushland and that they are watching the reserve.



**Figure 1: Local Nature Spot signage**

Residents that expressed interest in the program received 'Reporting Guidelines' that provided a quick guide to what should be reported to which authority and also an explanation of why it is important.

The LNS Watch program was delivered at each site selected for the project. Fridge magnets were freely given out at LNS events, displays and workshops and mailed out with LNS Watch Registration Forms and the Reporting Guidelines. The Registration Forms and the Reporting Guide were available at each activity and were posted to selected residents living in streets that form a boundary of any of the reserves.

Stickers and magnets were distributed at LNS activities and community expos such as Garden Week, Landcare Show, the Great Gardens/ Heavenly Hectare events and other community fairs. The messages communicated via these materials were intended to act as prompts to behaviour change. The stickers display the LNS logo with the words "I Care about Our Local Nature Spot". The magnets provide appropriate numbers to call for reporting threatening activities such as vandalism and illegal rubbish dumping occurring at bushland reserves. The word "WATCH" is prominent at the top of the magnet; acting as a reminder to residents to observe their local bushland reserve regularly and report appropriately.

## **4.3 Activities**

### **4.3.1 Guided Walks**

Guided walks were held at selected reserves as a way of facilitating community involvement and connection with their local bushland. Local Nature Spot Officers invited 'City Bush Guides' and Birds Australia volunteers to lead nature walks which for community members. Incentives were provided, such as morning tea after each event.

These free events provided an opportunity for Local Nature Spot Officers to engage local communities with the purpose of raising awareness of the biodiversity values and the behaviours that threaten the sustainability of urban bushland reserves. The opportunity was taken to inform attendees of the threats affecting the conservation of the bushland and to explain how they could help by becoming a Local Nature Spot Watch volunteer or by modeling the desired positive behaviour; for example, keeping dogs on a lead, staying to the path when visiting the natural area, picking up litter while walking or cleaning shoes to help prevent the spread of dieback.

### **4.3.2 Clean up Days**

The baseline community survey results showed that one of the key drivers of dissatisfaction was the appearance of rubbish at the following reserves. It was thought that the best approach to take was to organise clean-up activities at the reserves to improve the profile of the selected reserves. The aim was to investigate whether removing litter and other rubbish will improve the perception of the nature reserves as being attractive and tidy.

### **4.3.3 Gardening Workshops**

Gardening workshops are generally popular events well attended by the general public. This is supported by the responses in the community survey conducted as part of the LNS project in April-May 2007 where 68% of respondents indicated that they were interested in learning about planting native plants in their gardens compared to 34% stating they would be interested in attending guided walks.

Gardening workshops offer direct benefit to participants who will learn about how the right selection of plants which will help them to save money and beautify their gardens, while providing an opportunity to raise awareness about local bushland and needs of local fauna.

The gardening workshops were used due to their great potential to attract the general public. The following aspects relating to bushland management were addressed through the gardening workshops, which included a guided walk through bushland:

- Recognition of local plants species and their adaptation to the local soil and climatic conditions
- Proper behaviour in bushland, such as need to stick to paths and dieback awareness
- Awareness of environmental weeds and how they can get introduced into bushland
- Awareness of habitat requirements of our native birds and other animals
- Awareness about responsible garden waste disposal

#### **4.3.4 Catchment Activity**

The base-line community survey highlighted concerns about water quality from Lambertia Creek Conservation Area residents in the City of Canning. Therefore a 'Catchment Code Activity' was held as a means to inform residents of ways that they can help to improve water quality within the catchment.

A representative from the South East Regional Centre for Urban Landcare (SERCUL) was invited to provide an information session on Phosphorus Awareness with participants.

#### **4.3.5 Working with Schools**

Active involvement largely occurred through the involvement of local schools adjacent to the reserves. The underlying aim here was to bring local residents on board through advertising the efforts and involvement of local children. The objective was to raise the environmental understandings in local youth to ensure future sustainability and to target a group involved in some of the destructive practices occurring in the reserves (e.g. cubby building, BMX riding, rubbish and arson).

The LNS Officers organised activities with students from several schools that adjoin the selected reserves, raising awareness about the impacts of taking short cuts through a reserve and through cubby/BMX track building.

## **5. Findings**

In areas where community engagement was successfully achieved, there is evidence to suggest that the community based social marketing strategies utilised, were successful.

Provision of activities that responded to people's self-interest was effective in engaging local residents. Communication of the project's aims via personal contact and the setting of acceptable behavioural standards were both shown to be worthy strategies. Provision of non-monetary incentives offered further encouragement.

The effectiveness of implemented strategies was assessed by a combination of methods:

- Comparison of 2007 and 2008 community survey results
- Site assessments
- Feedback from the focus group study

### **5.1 Comparison of 2007 and 2008 community survey results**

- The follow-up community survey results showed that satisfaction with local nature reserves was highest amongst frequent users with a 60% level of satisfaction. Infrequent users were less satisfied (47%) and least satisfied respondents were among non-users (23%). This may indicate that non-users

and infrequent users have not readily noticed changes in the condition of the reserve such as the reduction in the appearance of rubbish or new infrastructure. Frequent users are more likely to have noticed the positive changes that have occurred at their reserve.

- The only reserve to have experienced declining levels of satisfaction was Lloyd Hughes Reserve in Kelmscott. It appears that trail bikes and rubbish remain key concerns.
- Most respondents continued to think it is important to have a nature reserve in their local area; with 91% in 2007 and 92% in 2008 agreeing it was essential or very important to have an area of natural bushland in their local area.
- The importance of natural bushland is rated lower among non-users.
- Walking remains the most popular activity amongst those who use the reserves, 88% of respondents said that they use their LNS for walking. Other popular activities are exercising pets (40%) and nature watching (31%). Frequency of using reserves appears to have declined over the past 12 months with people less likely to use reserves for running, bird and nature watching, and sitting and relaxing.
- Areas of bushland are generally regarded as good places for wildlife to live, indicating there is a certain level of understanding of the purpose of natural areas in urbanised landscape.
- There are a considerable number of people who think these areas are relaxing (63%), attractive (67%), inviting (54%) and they increase the value of local property (60%).
- Perceptions that the reserves are untidy have declined over the past 12 months (42% in 2007 to 37% in 2008).
- Respondents had higher awareness of the following conservation activities taking place in their area between September 2007 and April 2008: promotions to encourage people to put native plants in their gardens; educational walks; and friends groups.
- One in two respondents reported planting native plants in their garden.
- One in ten respondents reported inappropriate or illegal activity.
- Future activities of greatest interest to respondents were learning about selecting and planting native plants in their garden, and attending practical workshops on composting and growing local plants.

## **5.2 Site Assessments**

Site assessments were carried out at the start and at the end of the project implementation period. These assessments involved observational reporting of

the status of various key performance indicators and signs of degradation or improved condition within the selected (15) reserves.

### 5.3 Feedback from the focus group study

Summary of key findings (knowledge 2008):

- *Importance of value* – participants did understand the importance and values of their local bushland, including ecosystem values and social benefits. For some participants, the thought of losing the reserve through development or degradation appeared to be a strong catalyst to state they would do whatever was needed to keep the bushland
- *Observe and report* – many of the participants stated they contacted authorities to report suspicious activities or fires
- *Local Nature Spot Watch signs* – the signs were seen as useful, but some commented that the signs were too small, and hard to read. The phrase “*Watched by local people that care*” evoked a positive emotional response. The phone numbers were seen as practical, and a fridge magnet was seen more practical to local residents
- *Size of bushland reserve* – influences peoples’ ability to use the reserve. If a reserve is too small, there is not much incentive to go there for popular activities such as walking
- *Council support for bushcare* – none of the participants were aware of the support to volunteers offered by their local governments. None of the groups wanted to commit to taking a responsibility for a formal entity, such as a ‘Friends Group’, but many were willing to volunteer for bushcare activities, such as clean ups, on a casual basis
- *Communication* – letterbox drops of information was seen as a good way to advise on matters relating to the bushland. The prominence of a Council logo may be a deterrent for people to stop and read the material. Recommendation from participants was to make the Council logo less prominent and ensure the communication material does not look like the corporate style
- *Surveys* – the participants welcomed the opportunity to take part in the bushland reserve survey and focus groups
- *Volunteer rewards* – these were not seen as necessary. However, some interest was shown in the following: discount at gardening stores, sponsors providing relevant giveaways such as gloves, low cost or free mulch or free advice on bushland management or planting natives in their own garden
- *Engagement of volunteers* – only a small number of people appear to be interested in volunteering. Suggestions to change the situation included involvement of individuals to motivate 5 other people to volunteer for the clean up days and greater involvement of schools
- *Participation in organised activities* – low awareness of the LNS activities was an issue. Sundays were suggested as good days for events. Frequent reminders should be sent out and same events should be held at various days as people have busy lives.
- *Requested activity* – community working bee, twice a year for clean ups and/or planting days. Further comments included: frequent communication about planned events; encouraging volunteer participation; undertaking bushland condition mapping; provision of expert advice on which natives are best suited for their local area; provision of the correct tools for any work; a small amount of

funding and provision of bins and/or skip removal for cleaning up rubbish. A number of participants were renting and did not have access to Council tip passes. It was recommended that Councils might like to address this.

## **6. Recommendations for addressing management issues associated with community attitudes and behaviour commonly affecting urban bushland reserves (in the Perth Metropolitan Region of Western Australia)**

- When addressing management issues affecting local nature reserves, use community based social marketing principles to design effective methods for influencing human behaviour.
- Identify local residents' attitudes and perceptions of an area. Select a survey methodology depending on the demographics and issues to be addressed
- Demonstrate an interest in local residents' concerns and offer solutions
- Develop a communication strategy including opportunities for personal contact, signage and information material. Use a varied range of media to promote project activities such as community newsletters, interest group networks and schools to supplement community newspaper releases
- Provide opportunities for personal contact; employ an Environmental Education Officer within a local government or share an officer based within an independent organisation to focus community engagement work towards long term behaviour change and awareness-raising for local natural bushland reserves
- Ensure public consultation prior to installation of infrastructure that will significantly affect the historical use of a reserve in an established urban setting, such as fencing or track rationalisation
- Inform the local community on activities undertaken by the land manager in a reserve
- Identify barriers to the desired behaviour and try to remove the barrier e.g. if littering is common, ensure adequate bins are provided and located strategically to encourage their use
- Be responsive to community requests to deal with on-ground management issues where possible i.e. collect dumped materials or clean graffiti straight away
- Encourage residents to use bushland reserves for compatible activities to encourage attachment to nature reserves



- Use annual, well promoted events such as clean-up and planting days to engage community. Provide ongoing support to established community groups interested in bushcare
- Provide an opportunity for social interaction and non-monetary incentives such as refreshments
- Promote local government support and incentives for bushcare volunteering, using various media and events
- Help people to identify themselves as being responsible and caring in relation to their local bushland reserve
- Use positive messages in your signage and promotional material. Avoid threatening messages
- Use various prompts at places where you want to encourage positive behaviour
- Give clear instructions what the desired behaviour is
- Use community engagement activities that take advantage of people's interests such as local gardening workshops
- Conduct further research into message development and delivery that raises awareness and understanding of consequences of threats to bushland reserves such as weeds, feral animals and human activities that impact on conservation reserves
- Further investigate negative perceptions around reserves where management issues are reoccurring to identify any underlying issues that might effect these perceptions
- Future behaviour change projects should allow adequate time for monitoring and measurement of key performance indicators associated with the desired behaviour change

## 7. Conclusions

The sustainable management of Perth's urban bushland areas is vitally important in conserving our richly diverse natural heritage. There are many conflicting actions working against urban patches of bushland. Unfortunately, a great proportion of management issues are due to various human actions which compound to degrade the condition of bushland reserves. This creates a requirement to manage not just the physical environment but the community that surround these areas.

The LNS project aimed to influence behaviour that is detrimental to the conservation of bushland reserves in the Perth Metropolitan Region. The project used community based social marketing principles to communicate messages that enable this change.

The project has also highlighted various bushland management issues within the targeted community and raised the profile of the fifteen LNS reserves as conservation reserves containing biodiversity, and that they require management.

It appears that the community based social marketing strategies, utilised by the LNS pilot project, have been successful in achieving behaviour change in the selected areas. This was achieved by targeting key gaps in understanding, underlying a range of management issues. However, it has to be emphasised that to fully evaluate the effects of strategies implemented during the LNS project, a much longer timeframe should be allowed.

In areas where community engagement has been achieved, there is evidence to suggest that the selected strategies have had impact. In areas where community engagement has proven difficult or results do not show real improvement in terms of reserve condition; there is more work to be done in assessing the reasons behind community perceptions and issues affecting bushland reserves.

There are some behaviours which cannot be changed using community based social marketing principles. These include criminal actions such as vandalism, arson and destruction of infrastructure. However, the LNS Watch program has assisted in the reporting of inappropriate behaviour occurring in bushland reserves and may go some way to protecting reserves in the future.

The LNS project has served to raise the profile of bushland reserves within local councils which in turn boosts higher level support for natural area management. A key strategy to raise awareness of the management issues affecting urban bushland was to engage community via project communication tools.

Communication between community and local governments has also been facilitated through the LNS project, directly and indirectly. Additional benefits of this dialogue may include a higher level of community support for increased spending on bushland reserve management and increased interest and participation from community.

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