

Nature on the Doorstep: Social Perspectives of Urban Nature Reserves

Volume II. Appendices



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**A thesis submitted for the degree of Doctor of Philosophy of
The Australian National University.**

July 2020

Declaration of Originality

I hereby declare that this submission is my own work and, to the best of my knowledge, it contains no materials previously published or written by another person, or substantial proportions of material that have been accepted for the award of any other degree or diploma at this or any other educational institution, except where due acknowledgement is made in the thesis. Any contribution made to the research by others, with whom I have worked at this university or elsewhere, is explicitly acknowledged in the thesis. I also declare that the intellectual content of this thesis is the product of my own work, except to the extent that assistance from others in the project's design and conception in style, presentation and linguistic expression is acknowledged.

Signed: Kathryn Eyles

Date: 26 July 2020

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Abbreviations

ABS	Australian Bureau of Statistics
ACF	Australian Conservation Foundation
ACT	Australian Capital Territory
ACTG	Australian Capital Territory Government
ACTFR	Australian Capital Territory Fire and Rescue
ACTPLA	Australian Capital Territory Planning and Land Authority
AGPS	Australian Government Publishing Service
APZ	Asset protection zone
BoB	Bush on the Boundary
BPA	Bushfire-prone area
CALD	Culturally and linguistically diverse
CCACTR	Conservation Council of the ACT and region
CIC	Canberra Investment Corporation
C of A	Commonwealth of Australia
COG	Canberra Ornithologists Group
CNP	Canberra Nature Park
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CT	Canberra Times
CFU	Community Fire Unit
DCT	Department of the Capital Territory (Commonwealth)

DTLG	Department of Territories and Local Government (Commonwealth)
EIS	Environmental Impact Statement
EPBC	Environment Protection and Biodiversity Conservation (Act) (Commonwealth)
EPSDD	Environment Planning and Sustainability Development Directorate (ACT)
ESA	Emergency Services Agency (ACT)
FCC	Federal Capital Commission
FCT	Federal Capital Territory
GIS	Geographic Information System
GCG	Ginninderra Catchment Group
IUCN	International Union of Conservation and Nature
LDA	Land Development Agency
MCMC	Merri Creek Management Committee
MFWS	Mulligans Flat Woodland Sanctuary
MWS	Maroochy Wetlands Sanctuary
MWSSG	Maroochy Wetlands Sanctuary Support Group
NAA	National Archives of Australia
NCA	National Capital Authority
NCDC	National Capital Development Commission
NCPA	National Capital Planning Authority
NCOSS	National Capital Open Space System
NLA	National Library of Australia

NPWS	National Parks and Wildlife Service (of NSW)
NSW	New South Wales
PCS	Parks and Conservation Service (of the ACT)
PWS	Tasmania Parks and Wildlife Service
QLD	Queensland
RFS	Rural Fire Service
SACTCG	Southern ACT Catchment Group
SBMP	Strategic Bushfire Management Plan
SCC	Sunshine Coast Council
SMH	Sydney Morning Herald
TAMS	Territory and Municipal Services Directorate (ACT)
TCCS	Transport Canberra and City Services
TL	Territory Lease
WSUD	Water Sensitive Urban Design
WA	Western Australia
WPC	World Parks Congress
WWF	World Wildlife Fund
WWT	Woodlands and Wetlands Trust

Appendix 1: Research Statement and Consent Forms



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Research Study Information Statement

Nature on the doorstep: Social perspectives of nature reserves and developing urban areas

The research

This research project is being undertaken by Kathy Eyles, a PhD student at the Fenner School of Environment and Society, Australian National University (ANU) with funding support provided by the ACT Government's Land Development Agency. [See media release <http://www.chiefminister.act.gov.au/media.php?v=10243&s=9>]

The purpose of the research

Nature reserves in urban settings have a broad range of values: for habitat and heritage conservation; the provision of environmental services; and, for visual amenity, recreation and education. Importantly reserves provide sense of place and breathing space for nearby residents as well as opportunities for connection with nature, learning and community care.

The potential for beneficial relationships between urban people and nearby nature has not been widely studied and there is little post-occupancy research about social and ecological outcomes of developing suburbs near nature reserves. This qualitative research is designed to improve our understanding about how nature is valued and experienced in urban settings and ways to foster positive relationships and collaboration in conservation management. The research task will be to understand:

- how people value, experience and identify with nearby nature in urban settings
- how people involved in planning and development approach residential projects in sensitive conservation settings and views about sympathetic and sustainable development practice
- what types of knowledge are used to inform planning and management decisions in these settings
- how effective are interventions at the interface for management of fire risk, biodiversity and recreation
- what motivates local people and groups to get involved in care of local reserves and fire management
- how collaboration and partnership assist to maintain ecological and social values of reserves
- how scientific research in nature reserves might be used for community learning and care projects.

Canberra with an extensive urban-bush interface provides an ideal lens to explore these questions, drawing on the perspectives of the local people who use and live near nature reserves, people involved in planning and developing new suburbs and the managers of reserves, including local groups and volunteers.

Case studies will be used to capture different stages of development, residential occupancy and use, thus maximising the relevance of the research to the ACT while also ensuring relevance to management contexts elsewhere. The case studies include:

- a future urban community, Molonglo adjoining the Molonglo River Corridor, Canberra Nature Park
- a new urban community, Forde/Bonner in Gungahlin adjoining the Mulligans Flat Woodland Sanctuary
- an established community, Woden suburbs, adjoining Mt Taylor Nature Reserve, Canberra Nature Park.

Case studies of community partnerships and governance models used to manage reserves in urban settings outside of the ACT will also be undertaken.

What the research involves

The research will involve semi-structured interviews, focus groups and participant observation. Research participants will also be asked if they are willing to be contacted in the future. The interviews and focus groups will be completely confidential with participants identified only by a coding number in the recorded data.

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Participation is voluntary

Your participation in this research is completely voluntary. You may choose not to participate in any part of the research and can withdraw at any time during the project without repercussion. If you withdraw from the study you may request the deletion of any audio files and/or transcripts of your participation. Declining to participate will not impact on your relationship with any organisation or group involved in the project. Participants can ask questions at any time and may decline to answer any questions. Questions about the research will be answered as long as they do not involve a breach of another's confidentiality.

Use of the information, confidentiality and privacy

The information from this study will form part of a PhD thesis and may also be used for conference papers, local community presentations and articles in journals. Such outputs may contribute to wider public discussions about urban biodiversity, among practitioners and academics, within Australia and beyond. However, no information that identifies participants will be published and the names of individuals will not appear in any of the research outputs. All possible precautions will be taken to protect identities and the security of the information provided by participants, to the extent that this is permissible by law.

Interview and focus group recordings will be destroyed after transcription into text files. Text files (with coding numbers only) will be stored securely in a lockable filing cabinet both during the study and for five years after completion of the project. Pending transcription, data files and any observation notes made by the researcher will be stored in a locked office at the Australian National University. Electronic data, including sound files and digital text files, will be securely stored in a computer accessible only by password by the researcher.

Questions or Concerns

For questions or concerns about any part of this research please contact Kathy Eyles or her supervisor, Dr Robert Dyball (contact details below). If there are any problems or queries about the way in which the study was conducted please contact the Australian National University Human Research Ethics Committee (contact details below).

Contact details

Researcher: Kathy Eyles PhD student
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Interview consent form

(PHD research: Social perspectives of nature reserves and developing urban areas)

This interview is being undertaken as part of the research project, *Social perspectives of nature reserves and developing urban areas*. The project forms part of a PhD study being undertaken at the Fenner School of Environment and Society, Australian National University (ANU).

The intent of the interview is understand different views and approaches to residential development in important conservation settings. Participants will be asked about the challenges and opportunities, what knowledge is used in decision-making, the value of collaborative relationships between community, industry and government agencies and, the nature of their role in these processes.

It is expected this interview will take around one hour. The interviewer will audio record the discussion and take some notes. No participant will be identified in the research material resulting from the interview. You are not required to answer questions if you are not comfortable with responding, you may withdraw from the interview at any time and may request that certain material not be used in the research. This research is conducted under the research ethics protocols of ANU and there are any queries about the way in which the study was conducted please contact the Australian National University Human Research Ethics Committee:

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Phone (02) 6125 3704 or Email rob.dyball@anu.edu.au

I hereby agree to be interviewed on the conditions set out above.

Name: ----- Signed: -----

Date: -----

I would also be willing to be contacted again should further research be undertaken in the future.

Please circle: Yes No

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This interview is being undertaken as part of the research project, *Social perspectives of nature reserves and developing urban areas*. The project forms part of a PhD study being undertaken at the Fenner School of Environment and Society, Australian National University (ANU).

The intent of the interview is to understand how urban residents value and experience nature in their local suburb. Participants will be asked about their experiences living near nature reserves, how they use the reserve, what they know about reserve values and management, and decisions they make about living in their local community and environment. Residents who are also members of Community Fire Units or Landcare or Parkcare groups will be asked about their volunteering experiences and motivations for involvement.

It is expected this interview will take around one hour. The interviewer will audio record the discussion and take some notes. No participant will be identified in the research material resulting from the interview. You are not required to answer questions that you are not comfortable responding, you may withdraw from the interview at any time and may request that certain material not be used in the research. This research is conducted under the research ethics protocols of ANU and there are any queries about the way in which the study was conducted please contact the Australian National University Human Research Ethics Committee:

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The intent of the interview is understand different views and approaches to management of reserves in urban settings. Participants will be asked about the challenges and opportunities of managing urban reserves, effectiveness of measures to manage edge impacts, liaison with park neighbours and the public and collaboration with Catchment and local Parkcare groups and the Bush on the Boundary Reference Group.

It is expected this interview will take around one hour. The interviewer will audio record the discussion and take some notes. No participant will be identified in the research material resulting from the interview. You are not required to answer questions if you are not comfortable with responding, you may withdraw from the interview at any time and may request that certain material not be used in the research. This research is conducted under the research ethics protocols of ANU and there are any queries about the way in which the study was conducted please contact the Australian National University Human Research Ethics Committee:

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Name: ----- Signed: -----

Date: -----

I would also be willing to be contacted again should further research be undertaken in the future.

Please circle: Yes No

Appendix 2: Research Participation Flyer

Let's talk about . . .
Gungahlin's nature reserves



Exploring the Old Coach Road, Mulligans Flat

Angharad Dean, 2011

Gungahlin is a unique place to live. The natural landscape provides many opportunities for residents to enjoy the bush and experience the incredible diversity of nature.

New research is exploring the relationship between urban communities and nature reserves. Using Mulligan's Flat Woodlands Sanctuary as a case study, local residents will be interviewed about their experiences living near nature.

The researcher, Kathy Eyles, would like to hear from residents of Forde and Bonner, and others who visit Mulligans Flat, who may be interested in participating in this research.

Please contact Kathy Eyles
on 0407 899 698
or email kathy.eyles@anu.edu.au
for further information.

This research is being conducted at the
Fenner School of Environment & Society
and is supported by



Appendix 3: Demographic Data—Research Informants

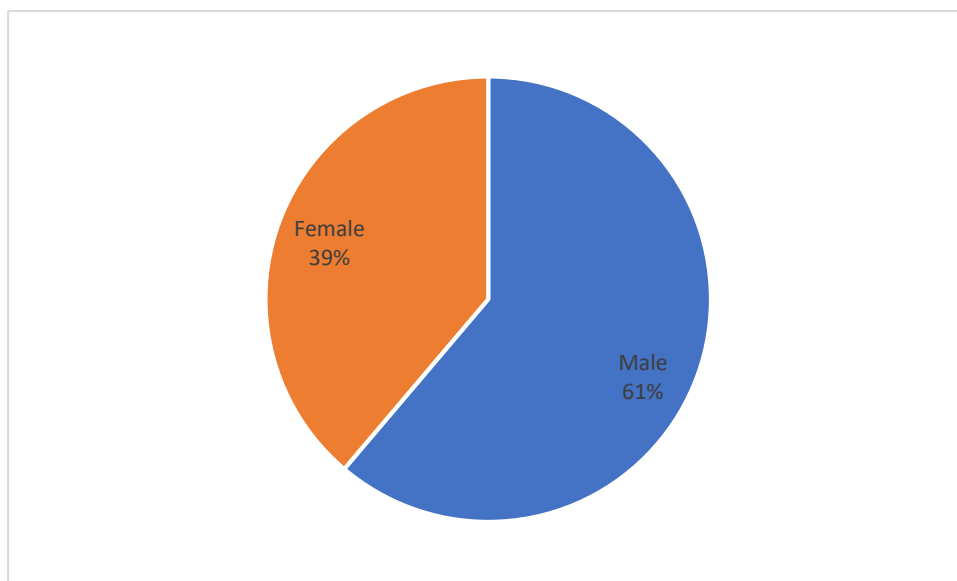


Figure 3.1 Gender of research informants (%)

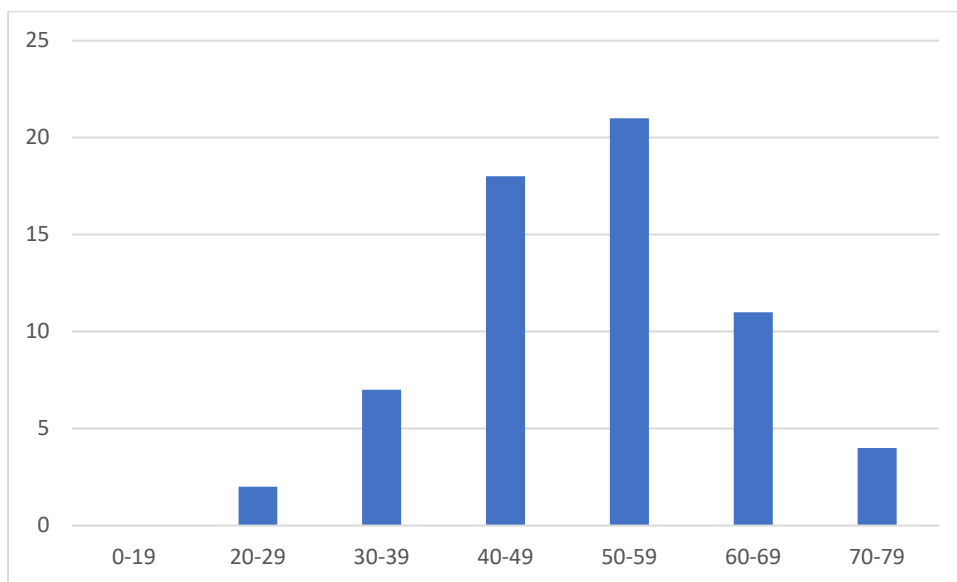


Figure 3.2 Age Breakdown of research informants

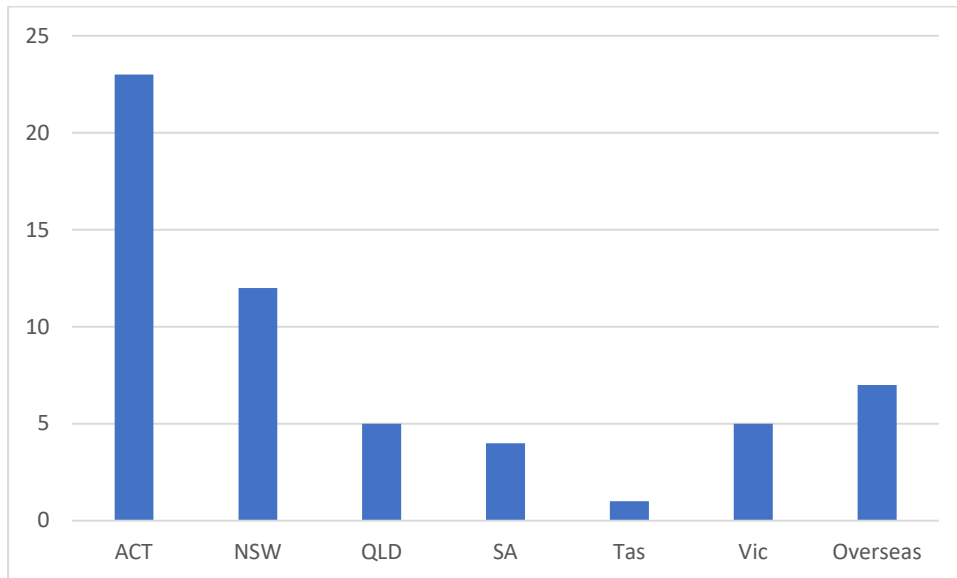


Figure 3.3 Birthplace of research informants

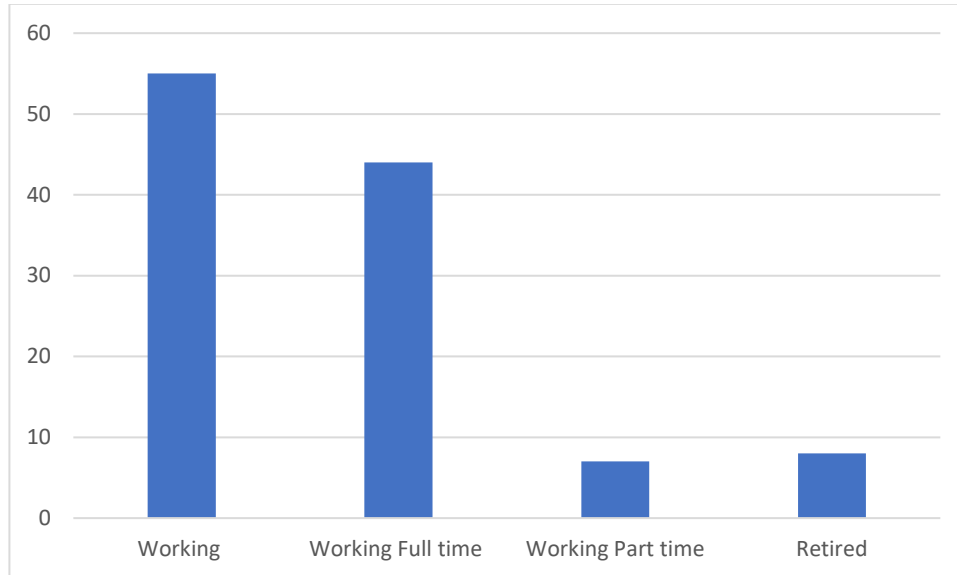


Figure 3.4 Employment status of research informants

Appendix 4: Interview Questions—Living, Developing and Managing Case Studies

informants – Introduction and Warm up question

Social Perspectives of Nature Reserves and Developing Urban Areas

A. Background Briefing for Interviewees

1. Thank you for your participation.
2. Ethics:
 - a) Give participant a research information sheet and refer to contact people.
 - b) Ask the participant to read and sign consent form.
 - c) Remind the participant they can withdraw from the project at any time.
3. Explain process of interview:
 - a) Explain that the interview will take around 60 minutes or more.
 - b) Confirm that the participant is willing to be recorded (audio).
 - c) Remind the participant they may ask to terminate the interview at any time.
 - d) Remind the participant that they do not have to answer all questions.

Introductory questions (all)

I will begin with a few introductory questions about you and your housing and/or work history.

This data will allow me to develop a general social profile of participants

- i. What age group are you? Under 20; 20-29; 30-39; 40-49; 50-59; 60-69; 70-79, 80+
- ii. What is your occupation? Full-time, part-time, casual?
- iii. Length of time living/working in the ACT
- iv. How long have you lived near/worked for X?
- v. Have you worked on similar projects in ACT? Elsewhere?

Warm up question (all)

Now I will ask a warm up question in preparation for our conversation

Research suggests that our formative experiences as children may influence our adult life choices, decisions and behaviours particularly how we appreciate the natural world.

- a) Tell me where you were living at age seven?
- b) Did you have access to open space or bush for nature play?

Probe this experience as needed for example:

- whether any parental supervision?
 - in company of older siblings, street friends etc.?
 - what did you get up to?
 - what % of time did you spend outside? *Probe after school weekends*
 - was there a favourite place that you explored or loved?
- c) Was there someone (family, friend, teacher) that introduced and taught you about nature near your home or elsewhere?

How do you think your childhood experiences have influenced your life choices around where you have lived, your study, job travel and interests?

B. Indicative Research questions for each theme

C. Thanks (all)

1. Thank you for participation.
2. Project:
 - a) Remind the participant to contact me regarding how the project is going.
 - b) Remind the participant again that they can withdraw from the project at any time.
 - c) Remind the participant that a copy of any publications etc. will be made available

B. Indicative Research Questions – ‘Living’ theme

Overview

Thank you for agreeing to participate in this study. I am interested in talking to you about living in suburb X near (Select as appropriate)

- Mulligans Flat Sanctuary
 - Mt Taylor Nature Reserve
1. The purpose of this project is to generate data on:
 - a) how people view and value nature; (substitute as relevant for each group)
 2. I will ask questions about:
 - a) your home and household
 - b) how you use and value the reserve
 - c) other ways you interact with nature
 - d) what you know about the reserve and where you get information
 - e) community involvement belonging and volunteering

Meaning values and nature experience

I'd like to ask you about your experiences living near nature in this suburb

1. If you had to describe where you live to a friend what would you say?
2. What does living near (X nature reserve) mean to you? Probe as necessary the nature of the connection
3. What was important when you were looking for to buy your home? Probe as necessary what influenced the decision.
4. How often do you visit the reserve and how do you use the X reserve? Probe as necessary, activities like dog walking, exercise, biking time-out
5. Do you have a favourite walk/view/spot in the park and what is it about this place that you enjoy?
6. Is there anything that worries you about walking in and using the reserve?
7. Is there anything that worries you about living near the reserve?
8. (If relevant) Do you let your kids explore the reserve with a group of other kids - or alone? If no why not?

Identify this may be a sensitive question for those personally affected by 2003 fires.

9. Where were you living when the 2003 fires hit Canberra? Have the fires changed the way you feel about living near the nature reserve? If yes, in what way? Have you made any changes to your property or other household changes since the fires?
10. What other ways do you experience nature in this suburb and elsewhere?
11. Do you encourage native wildlife to your home yard or garden? If not, probe whether they have had any problems with wildlife in their gardens?
12. Are you able to identify any native species in the reserve or in your garden?
13. Are there any native species you particularly like (or dislike or cause nuisance)?
14. Are there other things you do to look after the local environment?

Knowledge and information

These questions are about the X reserve, how much you know about the reserve and where you might look for information.

For Mulligans Flat

15. How much do you know about the Mulligans Flat reserve, its purpose, why it has been protected, its conservation values, and how it is managed?
16. What sort of things do you think might be harmful to conservation values of reserve?
17. If little knowledge,

Where would go to find information? *Prompt do you recall the Gungahlin Treasures publication in the Forde Welcome Pack?*

Or, if knowledge

Where learned/acquired this knowledge?

18. Who do you think should be most responsible for managing the nature reserve?
19. Are you aware of any of the groups that help out with management?

Depending on response above, note that Mulligans Flat is a wildlife sanctuary and is managed differently to other Canberra reserves with an expert Board and there is a proposal to set up Friends of Mulligans Flat Group

20. What do you think about the idea of a wildlife sanctuary in an urban area and the predator proof fence around part of Mulligans Flat? Does it affect the way you might use the reserve?

21. The new Board will need to prepare a management plan for the reserve- would you like to be involved or consulted on the plan? What sort of involvement would suit you best?

22. Living close to the reserve what sort of things do you think neighbours to the reserve should be advised about? *Probe as necessary hazard reduction burns, weed spraying etc.*

23. How do you feel about the 24 hour cat containment rules in Forde and Bonner? *Probe as necessary whether own a cat or desire to own a cat.*

For Mt Taylor

15. How much do you know about the Mt Taylor reserve?

16. What sort of things do you think might be harmful to conservation values of reserve?

17. If little knowledge, Where might you go to find information?

Or if knowledge, Where learned/acquired this knowledge?

Note that some reserves in Gungahlin don't allow dog walking and the adjoining suburbs have 24 hour cat containment rules to protect endangered wildlife.

18. What do think about these sorts of restrictions – how would you feel about a proposal to apply these rules on Mt Taylor to protect threatened wildlife?

19. Who do you think should be most responsible for managing the nature reserve?

20. Are you aware of any of the groups that help out with management on Mt Taylor?

21. Living so close to the reserve what sort of things do you think neighbours to the reserve should be advised about?

22. What sort of activities in the reserve are you likely to be interested in or you think might interest local residents?

23. Have you ever attended any other community environment events in the Canberra Nature Park or other reserves?

Community involvement and belonging (Mulligans Flat and Mt Taylor)

These questions are about the local community and your sense of belonging, connection and involvement

24. What makes a good neighbourhood and makes you feel part of the local community?

25. Do you feel part of, and connected with your local community?
26. Do you interact with your neighbours and other residents from the suburb?
27. Are you a member of any clubs or groups in the Canberra?
28. Are you involved or have you been involved in any community volunteering?
29. What motivated you to get involved?
30. Did you have a parent who volunteered?

B. Indicative Interview Questions – ‘Developing Theme’

Overview

Thank you for agreeing to participate in this study. I am interested in talking to you about your work in the new urban areas adjoining the (Select as appropriate)

- Molonglo River Nature Reserve
 - Mulligans Flat Sanctuary
1. The purpose of this project is to generate data on:
 - how people view and value nature; (substitute as relevant for each group)
 2. I will ask questions about:
 - a) issues around developing near nature reserves in the ACT;
 - b) planning approaches and rules in the ACT
 - c) where you access ecological information and knowledge;
 - d) effectiveness of current approaches and processes

Open with informant demographic data and warm up questions

General all

1. What do you consider to be the major issues of locating urban development near important nature reserves? *Probe both challenges and opportunities?*
2. What do you know about Canberra’s grassy woodland ecosystems?
3. Can you identify barriers to integration of biodiversity and achieving good ecological outcomes in planning processes in the ACT?
4. In your view how well does the current planning framework [strategic and structure plans and controls] enable conceptual planning at suburb and estate level?

Molonglo Only

5. The EPBC ‘strategic’ environmental assessment and approval process is designed to address the likely impacts on listed ecosystem and species at the regional scale. How did the process address management and scientific uncertainties around conservation of these matters? What is your view about the outcome for the NES matters following the process of negotiation, offsets and mitigation measures?

Knowledge information and learning

6. Given complex planning issues (fire, habitat, recreation) and scientific uncertainties – did you have access to sufficient ecological and other data at right scale for concept/estate planning? What about guidelines and practice advice etc.?
7. (Molonglo EPBC Assessors only) Given the complex planning issues (fire, habitat, recreation) and uncertainties – did you have enough information (e.g. about species habitat requirements or vulnerability to threats etc.) to identify likely impacts over the development timeframe. Were there gaps? How did you address this?
8. What level of interaction did you have with ecologists during the development process? Do you have access to a specialist in-house? If not, where would you go?
9. What local and community knowledge did you draw on? Did you interact with the BoB? In your view how well has the BoB operated as an information-sharing Forum?
11. What weight was given to local and community ecological knowledge in the EPBC assessment process – In your view whose knowledge generally prevails?
12. In your view, how could these local knowledge networks be better used in planning and management processes?
13. What are your observations about how the development industry is addressing ecologically sensitive sites?
14. The ACT uses a number of measures at the urban interface to manage fire risk and biodiversity impacts. *Discuss edge roads, habitat buffers, fire asset protection zones, domestic animal controls.* What do you think about these measures?
15. Have you (or your agency/firm) been frustrated by particular policies or regulations? Provide examples?
16. Are you aware about whether post occupancy evaluation and monitoring of interface measures is underway and what learning and feedback happening within assessment teams and outside agencies etc.?

17. Thinking about your role in the process, do you have some ideas of how things could be done differently and have you tried out any of these ideas here or elsewhere? Is there anywhere you could see these ideas in action?
18. What sort of research might assist future suburban planning in interface settings?
19. What ideas so you have about education of people living in these estates?
20. I am interested in your ideas about how I might present this post occupancy research?
21. How we will we know what the outcome is for a species or the ecosystem in 5 years, 10 years, and 20 years post-development?
22. How will conditions be enforced?

Developers (both Molonglo and Forde)

1. What do you consider to be the major issues of locating urban development near important nature reserves? *Probe both challenges and opportunities?*

Values and responsible practice

2. How does your firm approach development in sensitive ecological settings? How important is the amenity of the natural setting to your residential product?
3. How does developing in a sensitive site context affect the planning process and development costs?
4. What is your firms general attitude to sustainability and innovation i.e. preparedness to go beyond minimum to comply, respond to site and test new approaches?
5. What sort of site responses are you employing generally in your developments?
6. Have you had any push back about trying new approaches - difficulties with agencies, with existing rules and regulations? Can you provide examples?
7. What is your view about the new eco/environmental branding schemes for residential development – what are the benefits?
8. How do you envisage these schemes be effectively measured over time (beyond development phase) true test of sustainability?

Knowledge and information and learning

10. What specialist ecological information and advice did you draw on given the sensitive site context? Did you retain ecological advice throughout the process?
11. What local and community knowledge do you draw on? I am particularly interested in your views about the Bush on the Boundary (BoB). How well has the BoB operated as an information-sharing Forum? What was your interest in participating?

12. How is learning transferred in your firm/organisation [from here or elsewhere]. Have you undertaken any post occupancy evaluation and monitoring in your estates?
13. Thinking about your experience at Forde or Molonglo - do you have some ideas of how things could be done differently in the ACT? Have you tried out any of these ideas here or elsewhere? Is there anywhere you could see these ideas in action?
14. What sort of research might assist future suburban planning in interface settings?
15. I am interested in your ideas about how I might present this post occupancy research

Developer – Marketing Community Development Teams

1. How important is being close to a nature reserve to your marketing?
2. What are the key things buyers are looking for in new estates?
3. How interested are home buyers in sustainability features?
4. Molonglo Stage 1 is the first estate to receive UDIA envirocertification - What are your views about eco branding/certification and value for your marketing?
5. There are many new requirements in the ACT near nature reserves – *cite APZ, building fire protection - domestic animal control* – are these issues for purchasers?
6. Is understanding sustainability of buildings and new estate design part of your firm's training for agents – where do you get your information from about these elements?

B. Indicative Research Questions – ‘Managing’ theme

Overview

Thank you for agreeing to participate in this study. I am interested in talking to you about your interests in the management of the (Select as appropriate)

- Molonglo River Nature Reserve
 - Mulligans Flat Sanctuary
 - Mt Taylor
1. The purpose of this project is to generate data on:
 - a) how people view and value nature; (substitute as relevant for each group)
 2. I will ask questions about:
 - a) issues around managing nature reserves in the ACT;
 - b) fire management planning in the ACT
 - c) use of ecological information and local community knowledge;
 - d) governance models and role of volunteering

Open with informant demographic data and warm up questions

Reserve managers

1. What do you think are the key management issues for Canberra’s nature reserves?
2. What factors do you think most affect the management of the reserve?
3. From your on-ground experience, what is the condition of the reserve? What do you look for as an indicator of condition?
4. I’m interested in how well you think the new urban interface measures are working from a within park perspective? Examples:
 - i. use of edge roads,
 - ii. setbacks, buffers,
 - iii. APZ fire management,
 - iv. Defined access points for recreation etc.
5. How closely do you work with urban open space managers and on which issues?
6. What are the key planning documents you draw on to manage the reserve?
7. (for Mulligans Flat only) In your view how effective has the BoB been for sharing information? Examples?

8. How do you build local place knowledge into reserve planning and management processes? Do you use community citizen science in your management?
9. From your experience, what sort of reserve governance in the urban interface settings?
10. What sort of experience have you had working with ParkCare or other volunteers?
11. What do ParkCare groups bring to the management of the reserve?
12. How is the ParkCare and Parks agency partnership faring?
13. How do you think Parks can best support volunteers working in nature reserves?
14. How do you go about consulting with urban neighbours and local groups about decisions relating to the reserve (e.g. fire weeds and pest management] and how do you accommodate local views/knowledge/input?
15. Thinking about your role in the X reserve, do you have some ideas of how things could be done differently and have you tried out any of these ideas here or elsewhere? Is there anywhere you could see these ideas in action?
16. What sort of research might assist future suburban planning in interface settings?
17. I am interested in your ideas about how I might present this post occupancy research?

Advisors, Ecologists/inc. Fire/Researchers

1. What do you think are the key management issues for Canberra's nature reserves?
2. What factors do you think most affect management of the reserve and Canberra Nature Park more generally?
3. From your experience, what is the condition of the nature reserve network? What do you look for as an indicator of condition?
4. What role do you play in conservation planning and providing ecological advice?
5. Have you been called on as an advisor to articulate biodiversity priorities, management implications, and fire management? Tell me about a particular case? How was your professional knowledge was applied and treated?
6. How would you approach a situation where you were called on to provide advice?
7. I'm interested in whether you have worked with developers in conservation settings? How well do you think industry is addressing the sensitive site context?
8. I'm interested in your views about the ACT's new urban interface measures both from a 'within park' perspective and for minimising risks in the urban context?
9. What sort of role can urban areas play to support the function of reserve
10. How can we best manage the urban habitat matrix and biodiversity given different tenures, multiple agencies and responsibilities?
11. From your experience, what conservation governance works in an urban setting?

12. Have you had any experience working with Parkcare or other volunteers? What are your views about citizen science?
13. What do ParkCare groups bring to the management of the reserve?
14. In your view, how is the ParkCare and Parks agency partnership faring?
15. What sort of research might assist future suburban planning in interface settings?
16. What is your preferred means/medium for communicating your work and research – who do you think is your target audience?

NGO Conservation volunteer program managers/Catchment Groups/GA

1. What do you think are the key management issues for Canberra's nature reserves?
2. What factors do you think affect management of the reserve and Canberra Nature Park more generally?
3. From your experience, what sort of condition do you think Canberra's nature reserve network is in – what do you look for as an indicator of condition?
4. Can you describe some of the group's most successful partnerships and collaborations over the years? What worked about these partnerships – or not?
5. Tell me about your relationship with ACT government agencies:
 - i. has it changed since the group started?
 - ii. how regularly are you in contact (and vice versa)?
 - iii. what level of freedom to act and autonomy?
 - iv. have you been able to get access to all the information and training you need?
 - v. what helps to build trust in this relationship?
5. Do current funding arrangements affect your groups ability to deliver programs? How do you deal with funding uncertainty as a group?
6. Are your activities guided by a management or restoration plan?
7. Tell me about your experience working with Parkcare or other volunteers? What is your view about the role of Parkcare groups in restoring and managing nature reserves? Any ideas about how we better measure this contribution?
8. In your view, how is the ParkCare and Parks agency partnership faring?
9. How do you think Parkcare views/local knowledge/input is treated in management?
10. Do you have any views about the level of support and information and training for Parkcare volunteers provided by the PCS?

11. In your view is the community adequately involved and/or consulted about management decisions relating to the reserves and Nature Park? What are your expectations about being consulted for example?
12. What do you observe is the key motivation for local people to volunteer? How do you go about succession planning and recruiting new members?
13. As an organisation relying on goodwill of volunteers for on-ground management, what suggestions do you have for motivating individuals and groups?
14. From your experience, what sort of governance does/might work well in urban interface settings?
15. Thinking about your role in the X reserve, do you have some ideas of how things could be done differently and have you tried out any of these ideas here or elsewhere? Is there anywhere you could see these ideas in action?)
16. What ideas do you have about educating reserve neighbours to promote sympathetic behaviours?
17. I am interested in your ideas about how I might present this post occupancy research?

Parkcare volunteers

1. What do you think are the key management issues for Canberra's nature reserves and for the reserve?
2. What factors do you think affect management of the reserve and Canberra Nature Park more generally?
3. How did you first get involved in x group?
4. What motivated you to get involved in the Parkcare group?
5. What are the benefits for you personally of being part of the group?
6. What sort of Parkcare activities do you most enjoy doing?
7. From your experience with the group, what is the condition of the reserve? What do you look for as an indicator of ecological condition?
8. What ways do you think the Parkcare group has assisted to restore the reserve? Any ideas about how we can better measure this contribution?
9. Have you accessed any training for volunteers working in ACT parks?
10. Do you have any views about the level of support and information and training for Parkcare volunteers provided by the PCS?

For Parkcare Coordinators only

- Age/gender composition of group?
 - Years of operation?
 - Frequency of meets?
 - Group structure i.e. self-organizing or facilitated group (and why)?
11. Can you describe some of the group's most successful partnerships and collaborations over the years? What worked about these partnerships or not?
12. Tell me about your relationship with park rangers and ACT government managers:
- How has it changed or evolved over life of the group?
 - How regularly are you in contact (and vice versa)?
 - Do you have autonomy freedom to act in the reserve?
 - Have you been able to get access to all the information and training you need?
 - What sort of things do you feel are basic to building trust in this relationship?
13. What plans do you use to guide your group's on-ground activities?
14. Are you involved and/or consulted about key management decisions relating to the reserve? (e.g. fire management, weeds and feral pests) What are your expectations about being consulted?
15. How is your community knowledge and expertise used in decisions about the park? – Whose knowledge prevails?
16. Does the Parkcare group engage the local community? If so, what sort of activities work well? What sort of interactions do you have with the public/reserve users?
17. What opportunities exist for exchange and sharing of knowledge about working in the nature reserves with other groups?
18. If you could change something about how the reserve is managed what would it be?

For CFU informants

1. What do you think are the key management issues for Canberra's nature reserves and for the X reserve adjoining CFU X?
2. How did you get involved in the CFU?
3. What was the key motivation for you to get involved in the CFU?
4. What are the benefits of being part of the Unit?
5. Does your property back onto the nature reserve and do you have your own fire plan?

6. What do you understand to be the primary role of the CFU's?
7. Are there any aspects of your role as a volunteer that you are unclear or uncertain about?
8. What sort of activities have you been trained in, and by whom?
9. Do you feel confident about what you've learnt? Have you got any specific concerns about using the equipment or is there anything else that worries you about being a community fire volunteer?

Indicate this question may be sensitive if affected by 2003 fires

10. Have you had any direct experience with fire (2003) Was this event the primary motivation to get involved in the unit (*probe only if not mentioned previously*)
11. From your experience to date what do you think is working well in the unit?
12. Do you have any views about the level of support and information and training for CFU volunteers provided by the ACTFR?
13. Thinking about your role in the unit, do you have some ideas of how things could be done differently and have you tried out any of these ideas here or elsewhere?

For CFU Unit Leader/Comms officer only

- Age/gender of current volunteers?
 - Coverage of interface?
 - Frequency of meets?
14. Tell me about your relationship with ACT (Urban) Fire and Rescue
 - Has it changed since the group started?
 - How regularly are you in contact (and vice versa)?
 - Do you feel the unit has sufficient autonomy to act at the reserve interface?
 - Have you/Unit been able to get access to the information and training you need?
 - What sort of things do you feel are basic to building trust in this relationship?
 15. Have you got a clear idea about how the CFU will be deployed in the event of fire?
 16. What do you understand to be process for activation and what sort of information do you expect to be conveyed to you by the Fire Brigade?
 17. What sort of comms system do you use to contact CFU members in event of fire?
 18. How do you see your role to be in relation to the local community - what sort of interactions have you had with other neighbours and local residents?

19. What sort of activities do you think would be useful to run in the local community to raise awareness about fire risk?
20. Have you been involved and/or consulted about key fire management decisions relating to the reserve? (e.g. buffer maintenance, fire and weed management) What are your expectations about being consulted about these decisions?
21. What are your views about an annual event/opportunity for exchange and sharing of learning and knowledge with other neighbourhood CFU's?
22. Any thoughts about establishing a future relationship with other groups like Parkcare involved in land management in the reserve?
23. What ideas have you got about keeping the unit motivated and about how you might co-opt new members and about succession planning?

Additional questions for Emergency Services Decision-makers and Managers (and others advising on fire risk)

1. What do you think are the key fire risks and management issues for Canberra, noting our extensive urban edge to, and structure arranged around, over 30 nature reserves?
2. In your view, what does 'shared responsibility' mean in the ACT?
3. How do you think the ACT CFU program is evolving - what value does the program bring to our bushfire prone urban edge communities and Agency expectations?
4. In your view is the Canberra community more aware and better prepared for a significant fire event?
5. What about the ESA and partners, risk planning and response compared to 2003?
6. Can you provide examples of what is working well and any areas for improvement?
7. After 2003, the ACT introduced a number of measures at the urban interface to manage fire risk. *Cite edge roads, asset protection zones, building controls in BPA.* What do you think about these measures?

Appendix 5: Public Fora Attended by Researcher and Abstracts

- Land Development Agency – Mingle events at Bonner and Molonglo including Barrer Hill tree planting events, Molonglo River Corridor, 2014 and 2016.
- Land Development Agency – Meeting to share research findings with Throsby project team, 13 June 2013; Workshop about new woodland education centre in Throsby 22 August 2013; meeting with consultant designing new estate, 7 April 2014 (**Guidelines provided to LDA see below**).
- Gungahlin Community Development Forum, September 2013.
- Myer Forum on Urban Grasslands Melbourne, 6-7 2013.
- Myer-K2C Native Grasslands Sustainability Symposium, 21 May 2014.
- National Capital Authority (NCA) Community Planning Forums 2011, 2012, 2013.
- Conservation Council Member Forum - Reptiles and Urban Development, April 2011; Molonglo River Corridor - What do we want for its future management? May 2011; Ensuring Environmental Outcomes through the Planning Process, July 2012.
- Conservation Council Environmental Exchange –Canberra’s Cats Pets or Pests January 2015 (**Presented**)
- Places you love - Next generation of environmental laws, March 2016.
- ACT Election Forum, June 2013 and September 2016.
- Parkcare and Catchment Coordinator meetings, held quarterly 2013 (ongoing)
- Frogwatch Volunteer Training 2012, 2013, 2014.
- Frogwatch Field trips, Mulligans Flat October 2013, 2014, 2015.
- Indigenous Heritage Walks and Talks - Mulligans Flat March 2014; October 2015; Umbagog June 2014, Riverview October 2014; Lanyon May 2014; Red Hill, June 2014; Ginninderra Falls November 2014; Mt Taylor September 2015.
- Attendance and observation CFU 38 (Hawker) Training October 2011.
- Marist College community service work-parties - Mt Taylor June and November 2013.
- Draft ACT Nature Conservation Strategy public consultation, November 2012.
- Waterwatch CHIP Report 2013/14 Workshop, March 2015.
- ACT Woodlands Forum, November 2010.
- Eco Focus 2013, 2014, 2015, 2016, 2017. (**Presented 2013 – Abstract below**)
- 2003 Canberra Fires 10 years after: What have we learned? Seminar, August 2013

- AFAC & Bushfire CRC 2013 Conference September (Scholar attendance sponsored by ACT Emergency Services Agency).
- ParkCare and Share Workshop at Cooleman Ridge Nature Reserve, February 2014,
- Community Consultation Session Living on the edge, Strategic Bushfire Management Plan (v.2), August 2014.
- World Parks Congress 2014 Sydney, Stream 8: Inspiring a new generation (**Presented Proposal below and Fact Sheet Appendix 18**).
- Poster Presentation *Gang-gang Cockatoo Citizen Science Survey* to the first National Australian Citizen Science Association Conference, 23-25 July 2015 (**Poster presentation below**).
- Research presentation to the LDA, *Practitioner perspectives on nature conservation at the urban edge*, 22 March 2017 (**Presented**).
- Fenner Forum 2016 – *Finding the Wild things in Canberra Urban Ecology in and around Canberra*, 27 April 2016 (**Chaired and presented - Flyer below**).
- Community Voices in Reserve Management, 11-12 September 2015 (**Presented – Abstract below**).
- *Conservation in urban areas: opportunities and advances* Society Conservation Biology Oceania Conference Brisbane, 5-8 July (**Presented –Abstract below**).
- National Volunteering Conference, April 2016, Canberra (Scholar attendance sponsored by ACT Emergency Services Agency).
- National Landcare Conference, September 2016 (Scholar attendance sponsored by Landcare Australia Ltd, and the ACT Regional Landcare Facilitator Program).
- Bushfire Management: Balancing the Risks Symposium, 21-22 July 2017 (**Presented**).

Abstracts

Symposium: Conservation in urban areas: opportunities and advances

Society Conservation Biology Oceania Conference Brisbane (5-8 July) 2016

Nature on the Doorstep: Creating pathways to engage urban communities in nature

Australian cities are disproportionately important for conservation of species of national significance, with urban regions supporting more threatened species per unit-area than non-urban regions. Canberra is a case in point with existing suburbs and new development in Gungahlin and the Molonglo Valley occurring alongside nationally listed threatened ecological communities and species.

Canberra has morphed from a symbolic bush capital designed to marry landscape protection with urban amenity and recreation (Seddon 1977) to a city within a Nature Park, a network of almost 40 nature reserves woven through the suburbs, most bounding or in walking distance of a reserve.

This qualitative research uses case studies to explore how local people value these reserves and their biodiversity, and what motivates those who care for these places. It draws on the perspectives of users and nearby residents, and those involved in managing reserves, including volunteers.

Urban reserves are primarily valued for their amenity and breathing space for nearby residents and the opportunity to connect with nature. They are 'social' egalitarian spaces connected with their urban neighbourhoods but remain managed as 'bounded' conservation units. Not accounting for these social values, limits the potential to foster beneficial relationships with users.

Managers who understand these social perspectives are better placed to identify effective pathways to engage and educate users and target programs that align with their needs and interests. These might include projects and partnerships that engender local stewardship, knowledge-sharing and new ideas creating additional capacity for on-ground management.



ACT
Government



Programme Content Proposal - IUCN World Parks Congress - Sydney 2014

This proposal is from the Fenner School of Environment and Society at the Australian National University (ANU) and the ACT Parks and Conservation Service, part of the Territory and Municipal Services Directorate (TAMS) of the ACT government.

Stream: Inspiring a new generation

Stream Topic: Initiatives conducted within parks and/or by park agencies; Initiatives advanced within cities; and Initiatives advanced through innovative partnerships.

Title of Proposal

Challenges of the ‘urban’ century – new perspectives and approaches to management of protected areas in our cities *Park Care – a 25-year partnership with local communities - Canberra Nature Park ACT*

Description of Proposal

We are living in the ‘century of the city’. Global social changes mean more people now live in cities. By 2050, over 70% of the world’s population will be urban dwellers (Nature 2010).⁴⁸ This will place unprecedented pressure on protected areas within our city regions and the important ecological services they provide. It will also create significant opportunities to present parks as places for nature connection and learning about our dependence on these valuable natural systems.

Management approaches in urban regions need to acknowledge the ‘peopled’ landscape and the social values that attach to parks alongside their ascribed values for protection. The idea of writing people ‘into’ not ‘out of’ parks represents a fundamental shift in the way we plan for protected areas - moving from the lens of impact to an understanding of human needs and interests in nature. Park managers that embrace local people and communities in authentic partnerships will reap the benefits of grass roots stewardship, knowledge sharing across the generations and new ideas, social networks and capacity to deliver on-ground park management.

Canberra’s 25-year Park Care partnership is an enduring case study of collaboration between park users and park managers in urban nature reserves. With volunteer groups now operating in over 30 ACT reserves, there is a rich store of local knowledge and capacity for on-ground ecological recovery and care. This innovative partnership has delivered a diversity of experiences for local people to learn about nature reserves and play an active role in management, some examples include:

- *Making it fun for young people – Bioblitz - Black Mountain Nature Reserve*
- *Co-opting recreational users to manage their mates – Bruce Ridge Nature Reserve*
- *Charismatic wildlife - a hook for learning about habitat loss – Mulligans Flat Woodland Sanctuary*
- *Urban citizen scientists track vertebrate pests - Mt Majura Nature Reserve*

⁴⁸ Cities: The century of the city, *Nature* 467, 900-901, 20 October 2010.

Delivery of the proposal

We are flexible about how this topic might be explored at the Congress and are happy to mesh and work with other proposals addressing the urban setting and implications for management practice for protected areas. Ideas might include:

- **Practitioner workshops** where case studies explore park agency initiatives to engage urban communities and integrate social values (as above for ACT).
- **Practitioner forum/symposium** exploring urban relationships and park management practice which could take the form of short talks and discussion about approaches and the professional skills and competencies needed. Prof. Steve Dovers, Director, Fenner School of Environment and Society and ANU Public Policy Fellow has offered to convene a forum and Daniel Iglesias, Director, ACT Parks and Conservation Service would participate in the Forum.
- **Practitioner conversations** about urban protected area management and practice in cities, using the ‘World Café’ conversation method.

Sydney and its hinterland supports many iconic nationally and internationally significant national parks. We believe this setting provides a fertile ground for these conversations and are happy to explore opportunities to progress the ideas above with the stream developer. Biographies of the key ACT participants in the proposal are provided below.

Please contact Kathy Eyles on 0407 899 698, kathy.eyles@anu.edu.au or Jasmine Foxlee on 02 6205 7384, jasmine.foxlee@act.gov.au to discuss this proposal.

Biographies

Professor Steve Dovers is Director of the [Fenner School of Environment and Society](#), Australian National University, specialising in environmental policy and institutions, and lead author of the chapter on engagement and public participation in the forthcoming global e-text on protected area management.

Kathy Eyles is a PhD scholar with the ANU’s Fenner School undertaking social research exploring the relationship between urban neighbours and nature reserves. Prior to embarking on this research, Kathy has worked as an environmental planner, policy analyst and natural resource management facilitator and is a volunteer Park Carer in the ACT.

Jasmine Foxlee is the Park Care and Volunteer Coordinator for the ACT Parks and Conservation Service. She has worked in a variety of community engagement and visitor management positions in parks and reserves throughout Australia. She has also undertaken a PhD which documented the social significance of visitors souveniring and returning rocks at Uluru-Kata Tjuta National Park.

Daniel Iglesias is Director of the ACT Parks and Conservation Service, responsible for planning and management of parks, reserves and rural lands in the ACT and promoting appropriate recreational, educational and scientific uses of parks and reserves. Daniel has over 20 years’ experience in the Service, including as a ranger in Canberra Nature Park.

Community Voices in Reserve Management

11-12 September 2015

Theme: People and Partnerships

Building the diversity of community voices into reserve management

Summary

Understanding the social values and practices of the users of nature reserves will assist care groups and Park managers to develop engagement and management responses.

Key message: Engaged park users are the key to effective nature reserve management

Abstract

Canberra Nature Park is a network of more than 30 reserves woven through the suburbs of Canberra. This is a 'peopled' landscape with almost all Canberra suburbs bounded by, or within walking distance of a nature or open space reserve.

Canberra Nature Park evolved from the open space system- hills, ridges, and buffers, created to provide a foci setting for development of the national capital. These reserves now protect endangered and critically endangered lowland woodland and grassland vegetation, flora and dependent wildlife, the most extensive area of these ecosystems in public ownership.

Canberra has a population of 386,000 people, and is predicted to grow to over 500,000 people by 2031, with a doubling of the current population by 2061. This will place additional recreational demands on our nature reserves but also creates opportunities to present them as places for nature connection and learning.

One way to plan for this future is to recognise the social values that people attach to reserves alongside their conservation values. The idea of writing people 'into' not 'out of' parks represents a fundamental shift in the way we plan for nature reserves, moving from the lens of impact to embracing human needs and interests in nature.

This social study employs participant observation to explore how people use nature reserves, with Mt Taylor Nature Reserve and Mulligans Flat Woodland Sanctuary used as case studies. Mt Taylor is uniquely situated on the boundary of three towns, Woden, Weston Creek and Tuggeranong, Mulligans Flat on the edge of the growing town of Gungahlin. Observational data collected during the study will be presented to provide a picture of reserve users and their recreational practices. This data will inform the development of a typology of users to assist Park managers and care groups better understand the diverse spectrum of users and possible management responses.

Kathy Eyles
PhD scholar
Fenner School of Environment and Society
Convenor Friends of Mulligans Flat
Member of Mt Taylor Park care group
Kathy.eyles@anu.edu.au

Eco Focus Seminar 2013 Canberra August 2013

Pets not pests: Improving cat management in the ACT

Kathy Eyles PhD Scholar

Abstract

As part of funding received from the Invasive Animals CRC (IACRC), Conservation Planning and Research in Environment and Sustainable Development Directorate (ESSD) commissioned a telephone survey in May 2011 on cat ownership and community attitudes to management controls.

The survey was designed by an overseeing Committee comprised of members from the IACRC, CPR, the Land Development Agency, the Australian National University, Territory and Municipal Services and the RSPCA. The survey polled 1085 ACT residents (including 506 cat owners) and also targeted a further 192 residents of the declared cat containment suburbs of Forde and Bonner. The survey found that ACT residents:

- are generally responsible cat owners
- strongly support cat containment in the ACT
- recognise the benefits of cat containment
- think cat containment is working
- think contained cats have fewer injuries and related vet bills
- favour control of stray cats

As well as the community survey, background research was undertaken to compare the regulations, education and compliance programs in each state/territory, and assemble evidence about cat predation risk for ACT woodland and grassland wildlife species.

The overview of management practice elsewhere reveals that most states are moving towards uniform regulations, education and control programs, with the ACT lagging behind on cat registration, stray and feral cat management, education and compliance.

Cat predation and tracking studies point to significant risks for ACT's threatened and 'of concern' fauna (especially day active reptiles, small woodland birds and insects). Domestic cats have been recorded travelling 390m and 900m into ACT nature reserves and 50% of Canberra suburbs are within 500m of threatened fauna habitat, and a further 27% within 1000m of fauna habitat.

Drawing on the community survey and the background research, it was concluded that an integrated package of reforms (regulations education and stray cat control programs) is required to address cat welfare, nuisance and predation. Further much better alignment is needed between the ACT's cat curfews and wildlife conservation objectives.

Nine inter-related actions have been identified to improve the management of cats in the ACT with the dual aim of promoting responsible pet ownership and ensuring protection of vulnerable wildlife. The actions include adoption of a system cat registration, a targeted extension of cat curfews, and increased public education, compliance and enforcement.

These actions are designed to enforce and build on existing legislative provisions, bring the ACT in line with cat management legislation and programs in other jurisdictions, and complement the ACT's wildlife species and landscape conservation policies.

THROSBY DEVELOPMENT: ANU CONSULTATION

A list of key conservation guidelines has been prepared based on the most recent urban ecology research undertaken at The Australian National University.

General

- ❖ Mulligan’s Flat and Gorooyaroo Nature Reserves are two of the best performing protected areas in the ACT, and are nationally important woodland habitats.
- ❖ Urban development in the area presents challenges to woodland flora and fauna conservation, but also offers many exciting opportunities to marry biodiversity objectives with the formation of a new urban community.
- ❖ Sympathetic design and management principles to protect the ecological values of the site and the adjoining reserves should be articulated during the planning phase and carried through the development process, creating a benchmark for estate construction.

Urban Edge Effects

- ❖ The effects of urbanization on wildlife are likely to extend well into ACT nature reserves. The distance of impact varies between animal species, but is likely to extend beyond 300m and over 1 kilometer for urban-sensitive species
- ❖ Urban edge effects vary depending on housing density adjacent to the reserve boundary. Medium and high density housing on the urban fringe is more likely to have negative impacts that extend further into the reserve than low density housing.
- ❖ On their own, buffer zones established for asset protection will not dampen the effects of urban-related disturbances on wildlife in the short or long term.
- ❖ Therefore, planning ecologically sensitive suburbs at the urban-reserve interface is particularly important. Urban planning should carefully consider the impacts of encroachment, housing density and urban-related disturbances.

Urban Greenspace

- ❖ Urban greenspace, such as parks, backyards, ponds, roadside margins and recreational facilities, provide important habitat refuges for wildlife, including woodland birds, mammals, amphibians, reptiles and invertebrates.
- ❖ Greenspace increases connectivity and facilitates animal movement throughout the wider landscape.
- ❖ Maintaining habitat structures in the urban greenspace that are known to provide important foraging and nesting resources for a wide range of animal groups is very important. These include:
 - Coarse and fine woody debris (logs and litter substrates)
 - Understorey vegetation (native shrub cover)
 - Large trees and hollows

Tree Management

- ❖ Maintaining mature (>50cm DBH) and large old trees (>80cm DBH) in urban landscapes is very important, because these structures provide resources such as hollows, dead branches, peeling bark and nectar, which are crucial to the persistence of wildlife.
- ❖ It is vital that trees in our urban areas are managed with long-term sustainability in mind (i.e. over centuries). This involves maintaining healthy tree size structures, including regenerating trees (young seedlings and saplings < 20cm DBH) as well as intermediate sized trees (> 50cm DBH), which replace old trees lost over time. This also requires designating greenspace needed for future tree replacement / replanting and ensuring that current younger trees have sufficient 'safe space' needed to grow in size.
- ❖ Native trees, including street trees, provide better habitat for wildlife, including urban-sensitive species, compared with exotic trees.

Education and Engagement

- ❖ Innovative management strategies need to be employed to retain habitat structures in urban greenspace that may be perceived as 'hazardous' or 'untidy' by the public (e.g. large old trees, dead trees and woody debris).
- ❖ Spatial zoning techniques can be effectively employed, which partition greenspace habitat in a way that mitigates risk and minimizes conflicts of interest (e.g. separating out public structures like footpaths, benches and playgrounds from large and dead trees or areas of debris and re-vegetation).
- ❖ Public integration, awareness and education about local biodiversity values are anticipated to have a strong effect on how people perceive and interact with urban greenspace and adjacent reserve habitat. Promoting these areas as important, multi-functional spaces for people and biodiversity provides an opportunity to connect residents with nature.
- ❖ Estate marketing and welcome programs should deliver messages about the specialness of the setting – creating the nexus between nearby nature and sensitive ways of living in the suburb. These messages should be underpinned by practical household information about suitable species for landscaping gardens; responsible pet ownership; and appropriate recreational uses like walking, photography and wildlife observation. This foundational awareness is critical to evolve a sense place identity/attachment and facilitate local stewardship and a community care ethic.
- ❖ Public structures and interpretative signage within the suburb can be used to reinforce sympathetic design principles and provide 'cues for care' (attractive seating, habitat fencing, natural edges, pathways and reserve access points) as well as educating residents about the importance of habitat diversity and connectivity within the urban landscape.

2016 Fenner Forum Series, Forum 1: Finding the Wild things in Canberra Urban Ecology in and around Canberra

Wednesday 27 April 5.30pm for 6 – 7pm

Speakers

Kathy Eyles (Chair)
PhD Scholar

Dr Karen Ikin
Postdoctoral Fellow

Darren Le Roux
PhD Scholar

Adrian Manning
Associate Professor

Dr Laura Rayner
Postdoctoral Fellow

Location

Forestry Room 1.02
Forestry Building #48,
Linnaeus Way, ANU

Forum is followed by light refreshments

Registration required

E fennerschool-events@anu.edu.au
T 02 6125 4882

This forum is free and open to the public

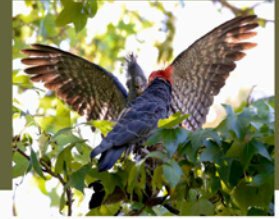
Presented by
Fenner School of
Environment & Society
ANU College of
**Medicine, Biology &
Environment**



A growing band of Fenner landscape ecologists is researching the relationships between habitat and wildlife in and around Canberra. We are learning how wildlife responds to residential development at the urban/ woodland edge and what we need to do to maintain urban biodiversity over time.

This first Fenner Forum will provide a snapshot of our exciting research, including important habitat structures for birds, innovation in urban habitat management, roles for citizen science and the effectiveness of nature reserves for woodland bird conservation. The forum will also explore the important role of the Mulligan's Flat Woodland experiment, to guide future restoration of habitats in our region.

The Gang-gang Cockatoo Citizen Science Survey



Why survey the Gang-gang ?

- Find out more about this vulnerable species
- Charismatic and easily recognised bird – over 5000 observations from almost 500 participants
- To celebrate 50 years of COG activities in the ACT region
- Faunal emblem of the ACT and the emblem of COG and ACT Parks and Conservation Service

Survey Objectives

- Collect observations where Gang-gangs occur in the COG region
- Engage the community in a regional citizen science survey
- Provide data on movements, distribution and behaviour
- Inform the design of future citizen science projects in the ACT

Methods

- Observations collected for 12 months from March 2014
- Survey information page for the COG website
- Atlas of Living Australia (ALA) provides online data input portal
- Observations entered on-line or on paper form
- Set up on-line query desk
- Regular survey progress reports

Two survey protocols:

Muster survey

- Five quarterly surveys from February 2014
- Seven days of observations from a set point (i.e. garden)
- Maximum birds observed any one day
- Encouraged to provide nil observations

Casual observations

- Location
- Numbers, sex, age
- Behaviour, interactions

Media releases and community events to promote survey
Participant Feedback form and survey evaluation

Further information

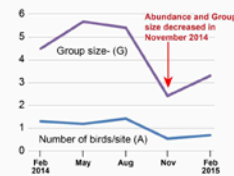
Chris Davey
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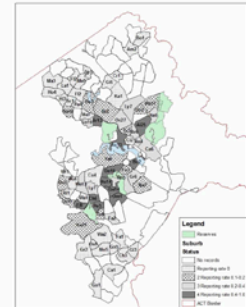
Survey Results

Gang-gang Muster survey summary statistics



	Feb-14	May	Aug	Nov	Feb-15
Number of sites	45	119	79	72	72
Number of sightings (A)	26	96	43	39	38
Abundance (G)	1.21	1.2	1.42	0.54	0.51
Reporting rate (R)	0.79	0.22	0.25	0.22	0.22
Frequency (F)	0.6	0.38	0.43	0.43	0.48
Group size (G)	4.5	4.88	5.4	2.48	3.31

A. Number of birds per site
B. Proportion of days birds reported
C. Proportion of sites with birds



Gang-gang Muster 2014-15
Number of forms and status by suburb
Data supplied by ACT Government

Gang-gang Distribution

Gang-gangs mainly sighted in and around forested urban nature reserves - Black Mountain, Mts Ainslie Majura and Taylor.



Nesting and Breeding Behaviour

Lots of hollow exploration and occupied late in season

Survey Lessons

Develop function to set favourite locations in on-line data input portal for ease of reporting.

Make data fields and forms as self-explanatory as possible.

Use a survey query line and promote widely as first point of contact for trouble-shooting.

Work with local media and allied conservation groups to expand reach of survey and recruit project ambassadors.

Promote observer anecdotes, photos and videos to excite people about survey.

Greater use of social media to capture and maintain younger audiences.

Regular updates to participants outside of project host.



Australian National University



Appendix 6: Comparison of Reports into the NCOSS and Canberra Nature Park

NCDC: <i>National Capital Open Space System Interim Report 1976, Untitled NCOSS report 1981 (Seddon)</i> 16 recommendations	Joint Committee on the National Capital: <i>Protecting and Managing the National Capital Open Spaces 1992</i> 40 recommendations	Legislative Assembly for the ACT: <i>Final draft Management plan for Canberra Nature Park 1998</i> 20 recommendations	ACT Commissioner for the Environment: <i>Inquiry into Canberra Nature Park 2011</i> 29 recommendations	NCA: <i>NCOSS Review Report 2014</i> 10 recommendations
Reviews				
		Independent Audit on three-yearly basis		Review plan; seven years to reassess community values and effectiveness
Governance				
Manager of the NCOSS in DCT In-house Board of Management and Coordinating Committee	NCOSS Advisory Committee to: complete policies, coordinate research review policies, investigate extensions	Conservator of Flora and Fauna to be separate from Director of Agency		Set up reference panel to guide plan review: NCA, ACTG Consultation community, experts/ stakeholders to identify the key landscape values of NCOSS and alter boundaries
Additions				
	For NCOSS: Mulligans Flat, Callum Brae, Molonglo River Corridor, Castle Hill, Rob Roy Range, Tuggeranong Hills, Mt Painter, Molonglo Gorge, Stirling Ridge			Include new sections of Canberra Nature Park (and existing sections that are adjacent to and/or function as part of it) in NCOSS
Policy				
Policy plans by NCDC; management plans by DCT to guide management	NCPA priority to complete detailed policies for Inner Hills and study for Molonglo	Management plan to acknowledge garden city design and planning function as well as conservation	Review CNP management plan to include: new areas, policies for current issues, Action Plans (27, 28, 29), climate change; develop Protected Area categories: (goals, objectives) and implement criteria that reflect values using IUCN; integrate into operational plans	Review policies for Lake and Inner hills; consolidate NCOSS land use policy areas (4) into single category; consolidate principles and policies for national land use interests into single category: NCOSS; amend description of open space types (symbolic, conservation, living and linking)
Management Planning				
Management plan for all areas	NCPA and DLEP to develop common guidelines for management plans and PCS to complete plans (Inner Hills, Murrumbidgee, Tidbinbilla, Lanyon Bowl)	Address conflicts (horse riding and conservation); prohibitions in particular Park units; code of conduct for equestrians; mountain bike competition track outside of CNP; signage and trail closures Implementation plans to be made available	Nature Reserve Recreation Strategy Nature Reserve Operational Plan for each nature reserve; improve provision and management of appropriate recreation infrastructure in serves; improve on nature reserve signage	Management plans to identify future works in designated areas and grant works approval for low-risk/impact works

Restoration				
Vegetation management	Listing of sites of significance in the NCOSS and GIS; invasive weeds		Nature reserve restoration program in addition to routine management to strengthen connectivity; ACT Rabbit Pest Management Plan	Review plan to recognise ecological concepts: connectivity, mitigation, plant and animal migration, biodiversity conservation and resilience (particularly for bushfire risk)
Resources				
Management strategy for core areas to identify costs, people, resources; accounting to produce unit costs	Increased funding for NCPA and for ACT to meet additional responsibilities of NCP	Increased resources: staff and monitoring	Sourcing new funding for monitoring; Explore effectiveness of Trust[s] in sourcing additional funds; New funding sources (environmental levy)	
Works control				
	Clarify and resolve inconsistencies definitions permitted uses etc. NCP and TP	Clarification of power of agency to undertake 'work' on designated land definitions		Review policies for the Lake and Foreshores and Inner Hills to establish more detailed development controls
Research and Monitoring				
Research techniques for monitoring use and users			Implement a nature reserve monitoring strategy; promote research partnerships and evidence-based management	Host a 'wiki' page to share information among land managers
Utilities				
	Telecommunications plan and policy guidelines for Actew	Managing utility agencies like Actew	Finalise Actew Code of Practice	Education material for NCOSS stakeholders with management roles
Community Education				
Promotion to invest the system with national significance	More focus on ecological values		Implement community education/awareness program promoting ecological, health, social values/benefits and appropriate nature reserve use	NCOSS landscape values into Comms strategy for Capital using Exhibition, web; NCA website to enable local knowledge/input
Community programs				
	ParkCare to be continued and supported		ParkCare groups to be encouraged and supported	Consult community stakeholders including Friends groups

Appendix 7: Demographic Analysis—Suburbs adjacent to Case Study sites

7.1 Results

The Census of Population and Housing (Census) by the Australian Bureau of Statistics (ABS) was used to prepare this demographic analysis of the suburbs adjoining the case study nature reserves (See Volume 1 - Section 5.12). The 2016 Census was the primary dataset for the social analysis (ABS 2016a).

There are seven suburbs of interest in the analysis. They combine to form three core areas adjacent to the case study settings (see Table 7.1).

Table 7.1 Suburbs for Demographic Analysis

Suburb	Area of Interest	Abbreviation	Established	Characteristics
Bonner	Bonner/Forde	B/F	2010 (dev)	Border Mulligans Flat Nature Reserve
Forde			2008 (dev)	
Chifley	Chifley/Pearce/Torrens	C/P/T	1966 (gazetted)	Border Mt. Taylor Nature Reserve
Pearce				
Torrens				
Coombs	Coombs/Wright	C/W	2010 (gazetted)	Border Stromlo Forest Park and Molonglo River Corridor
Wright				
Whole ACT				Main comparator

7.1.1 Population and dwellings of suburbs

The populations and the number of dwellings of the suburbs for analysis at the 2016 Census are shown in Table 7.2. The suburbs were of different sizes with larger populations in the newer suburbs of Bonner and Forde. More will settle in Wright and Coombs with the release of additional land for single dwelling houses (Nguyen 2018).

**Table 7.2 Population by suburb, area of interest and number of dwellings
(Census 2016)**

Suburb	Population per suburb	Total population in area of interest	Dwellings per suburb	Total dwellings in area of interest
Bonner	6730	11,037	2161	3,607
Forde	4307		1446	
Chifley	2407	7,195	1132	3,139
Pearce	2582		1120	
Torrens	2206		887	
Coombs	1810	4,565	705	1,967
Wright	2755		1262	

The new suburbs had larger populations due to their increased densities as a result of medium density housing (particularly in Wright and Coombs) and many smaller housing lots for single dwellings in Bonner, Forde, Wright and Coombs (Gardner 2017). When the older suburbs were developed, they were designed to accommodate 3000–4000 people with most blocks approximately a quarter acre (1000 m²) in size and medium-density housing around local shops and schools and along transport routes (NCDC 1970)

7.1.2 Median Age

In 2016, the median age in the ACT was 35 years. Three of the suburbs of interest had a younger median age of 30: Bonner, Wright and Coombs. Forde had a median age of 33, while the established suburbs of Chifley (37 years), Torrens (41 years) and Pearce (42 years) were all above the Canberra average (ABS 2016a).

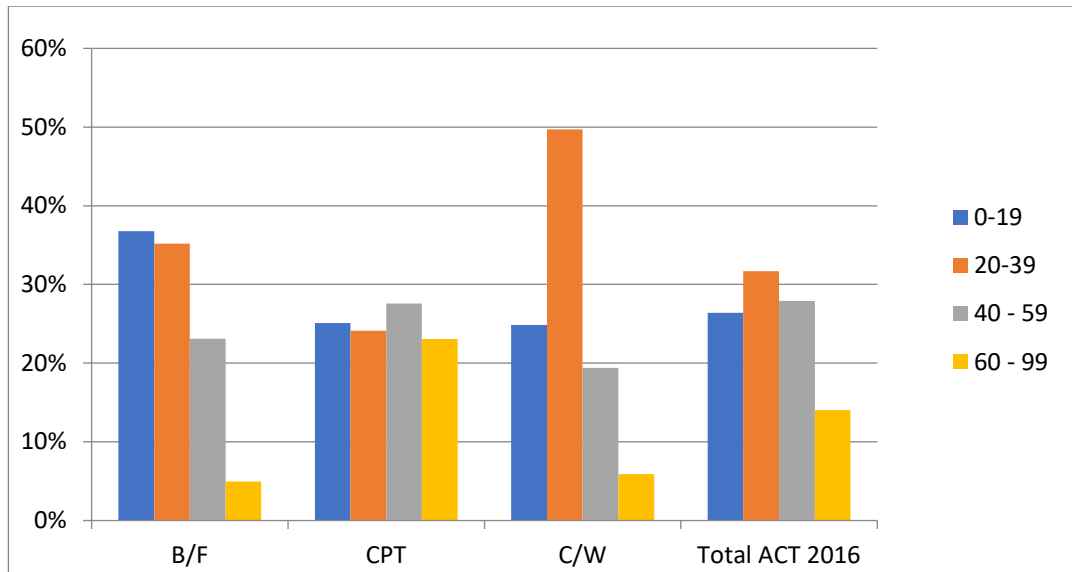


Figure 7.1 Proportion of population by broad age range in each area of interest (2016 Census)

Notes: Age ranges as provided by the 2016 Census tables and calculated from single age data.

Figure 7.1 shows that Forde/Bonner has the most children under 19 years old, with Bonner having the highest proportion of people younger than 18 years of age across all Canberra suburbs (37.3 %), closely followed by Forde (36%). The number of children under 14 years in Bonner (32%) was almost double the ACT average of 18.7%. The median proportion of people aged 65 or older in Canberra suburbs was 13%. Bonner had the lowest proportion of people within this age group (2%) and the remaining three new suburbs (Forde, Wright and Coombs) had approximately 3%.⁴⁹ The Coombs/Wright area had a younger population overall, with almost 50% of residents being aged 20–39, compared to 32% for Canberra overall.

The established suburbs adjoining Mt Taylor had a homogenous mixture of ages with almost one quarter of residents aged 60 and older. This was 9% higher than the Canberra average and 19% higher than Bonner and Forde. The age distribution of the Chifley/Pearce/Torrens (CPT) area remained relatively stable over the past three censuses (2006, 2011 and 2016; see Table 7.3).

⁴⁹ Calculated from single age data from 2016 Census.

**Table 7.3 Population (%) by broad age range: Chifley, Pearce and Torrens
(CPT) combined**

Census year	0-19 years	20-39 years	40-59 years	60-99 years
2006	24%	27%	27%	22%
2011	25%	27%	27%	22%
2016	25%	24%	28%	23%

7.1.3 Place of residence

As a result of Canberra's population growth, there was considerable movement of people into all suburbs of interest from elsewhere in Australia, accounting for 19.3% of the population in these three areas at the 2016 Census. Interstate in-migration was particularly high in the newest suburbs of Coombs and Wright and accounting for 59.5% and 30%, respectively, of their populations in 2016. (ABS 2016b) A similar pattern was recorded for the new suburbs of Forde and Bonner at the 2011 Census, when interstate in-migration contributed 42.5% and 67% of their populations, respectively (ABS 2016b).

7.1.4 International immigrants and non- English-speaking households

The suburbs of Bonner, Coombs and Forde had higher proportions of people born overseas and who spoke a language other than English at home (see Table 7.4). All the new suburbs had higher proportions of people born in India than the Canberra average (2.6%), particularly Bonner (9.5%), Coombs (7.8%) and Forde (4.8%). Bonner had a significant number of people born in Pakistan; the same was true for Coombs's Nepalese-born population. Both were higher than the Canberra average and both suburbs also had more Filipino-born people. In contrast, Forde had more Chinese- and South African-born residents than the Canberra average.

Table 7.4 Percentage of People Born in Australia and the Five Most Common Countries of Birth in Each Suburb and Percentage of Households in Each Suburb Where a Language Other Than English Is Spoken

Place of birth	Forde	Bonner	Chifley	Pearce	Torrens	Wright	Coombs	ACT
Australia	66.3	57.5	68.4	71.9	73.4	64.4	58.4	68.0
India	4.8	9.5	4.2	2.8	2.8	5.3	7.8	2.6
Sri Lanka	1.3	2.3				1.5		0.7
Pakistan		2.3	1.2					0.5
China	3.7	2.3	1.7		1.6	2.7	2.5	2.9
Philippines		2.2			1.1	1.5	2.8	1.0
England	3.2		2.8	4.1	3.7	2.7	2.3	3.2
South Africa	1.5			0.7				0.5
Nepal							1.6	0.2
New Zealand			1.0	1.6	1.1			1.2
Scotland				0.8				0.5
Household language other than English	33.9	45.9	24.7	20.3	22.6	25.3	38.8	23.8

7.1.5 Family and household composition

At the 2016 Census, the average number of children per family was 1.8 in the ACT. Reflecting both the age and family structures, Bonner had an average of 2.0 children per family and Forde and Torrens had 1.9—all above the ACT average. Coombs and Pearce matched the average at 1.8 children per family, while Wright and Chifley had 1.7, just below the average.

Most families in Forde and Bonner were couple families: 71.8% and 67.7%, respectively—well above the ACT average of 53.7% (see Figure 7.2 and Table 7.5). They also had many families with children under 15 years old (see Figure 7.3), accounting for 49% of families in those suburbs.

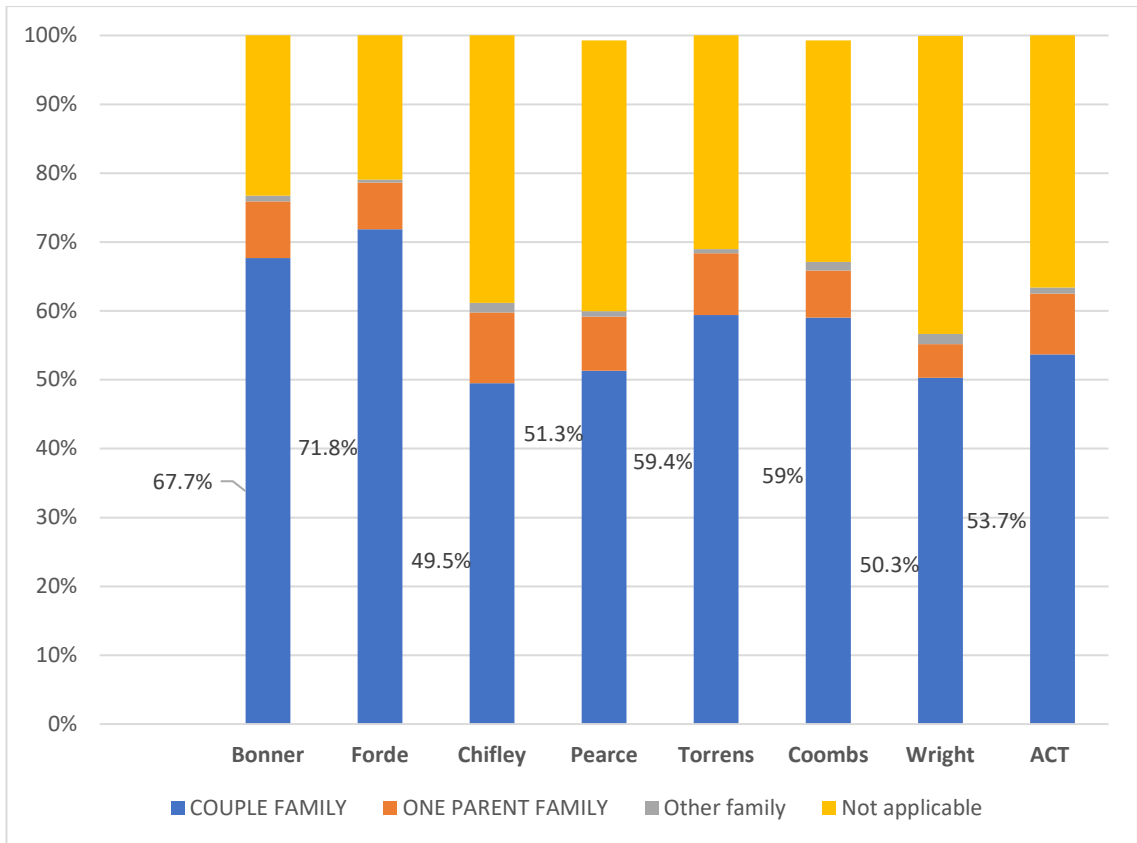


Figure 7.2 Family type by suburb showing % of couple families

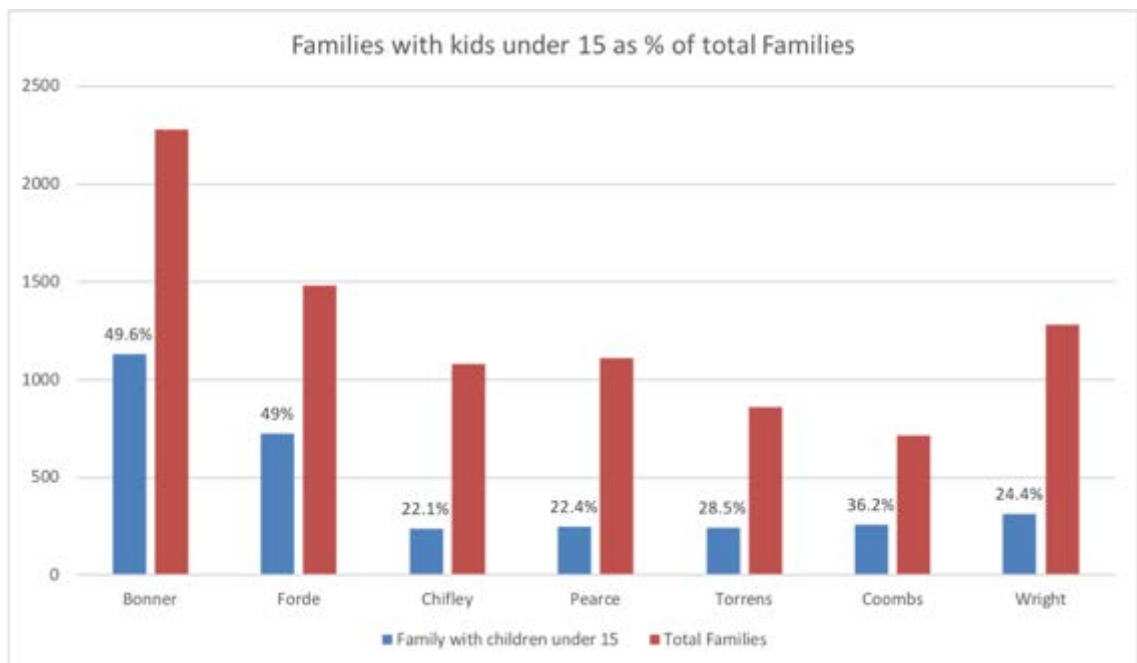


Figure 7.3 Percentage of families with children younger than 15 years

The households across the suburbs of interest were found to be diverse, which reflects the nature of the housing stock and also the predominant age and family groups of the individual suburbs (see Table 7.5). Forde had a high proportion of one-family

households (85.2%), the third-highest in Canberra, closely followed by Bonner (82.9%). The new suburbs were all above the Canberra average, reflecting their popularity with younger families. The higher numbers of single-person households in Chifley and Pearce was likely to be a combination of smaller more affordable dwellings and also younger singles and older people living alone. The average household size of the newer suburbs of Forde and Bonner was above the Canberra average (see Table 7.5). The new suburb of Wright had less people per household due to the higher number of small apartments in the dwelling stock (50.9%).

Table 7.5 Household Type (%) by Suburb and Average Household Size

Suburb	Single-person household (%)	Group household (%)	One-family household (%)	Two-family household (%)	Average household size (people)
Forde	11.1	2.5	85.2	1.4	3.2
Bonner	11.7	3.1	82.9	2.8	3.3
Coombs	19.5	2.4	76.7	0.0	2.7
Torrens	22.7	3.4	73.4	0.8	2.7
Pearce	30.7	2.2	66.0	1.4	2.4
Wright	27.3	6.7	64.4	1.0	2.3
Chifley	30.2	3.7	64.4	0.7	2.3
Total	24.8	4.9	69.1	1.1	2.5

7.1.6 Housing types

In Canberra, 17% of dwellings were flats or apartments. Bonner and Forde had very few flats or apartments (1%) whereas Wright had a high proportion of flats and apartments (50.9%). In the older suburbs, only 5% of dwellings were flats or apartments; Chifley was the main contributor to this figure and also had more bedsit dwellings than the Canberra total (see Figure 7.4).

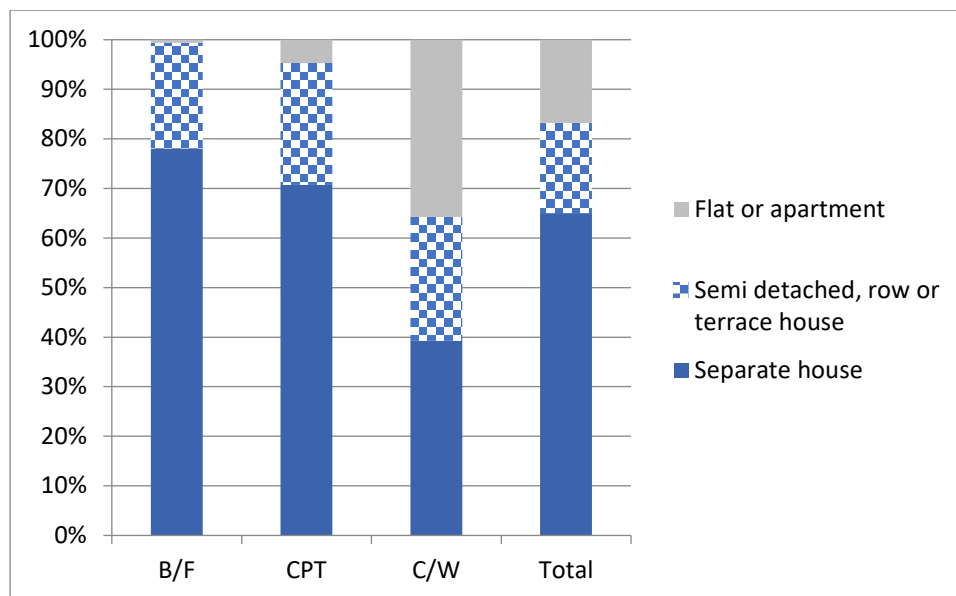


Figure 7.4 Dwelling structure by area of interest 2016

Note: B/F Bonner and Forde; CPT – Chifley, Pearce and Torrens, C/W Coombs and Wright

Table 7.6 shows the number of bedrooms in occupied dwellings. The newer suburbs of Forde and Bonner and the new suburb of Coombs had larger dwellings, and considerably more large dwellings than the Canberra average: 69.4% of dwellings in Forde had four or more bedrooms—almost double the average. Similarly, 55% and 53% of dwellings in Bonner and Coombs, respectively, had four or more bedrooms. This larger stock affects housing costs in these suburbs.

Table 7.6 Number of bedrooms in dwellings (%) and household size by suburb 2016

Bedrooms	Forde	Bonner	Chifley	Pearce	Torrens	Wright	Coombs	ACT total
None (bedsit)	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.2
1+	1.1	0.8	4.1	5.9	2.9	16.2	3.2	7.1
2+	5.4	6.1	18.8	19.7	8.7	31.0	10.7	14.9
3+	23.0	36.1	46.1	35.5	41.0	22.1	32.0	39.7
4+	69.4	55.7	26.1	37.9	45.4	29.0	53.0	36.1
Average per occupied dwelling	3.7	3.6	3	3.2	3.4	2.7	3.5	3.1

7.1.7 Housing tenure and costs

The new suburbs had more households with a mortgage than the established Woden suburbs and the rest of Canberra (see Figure 7.5). Two-thirds of dwellings in Coombs were mortgaged (66.1%). Only one other new Canberra suburb, Jacka, had more mortgaged dwellings than Coombs in 2016. More dwellings in the C/P/T area of interest are owned outright compared to the total for Canberra: Chifley (26.7%), Pearce (33.5%) and Torrens (32.5%). This reflects of the age of the population and suburbs themselves.

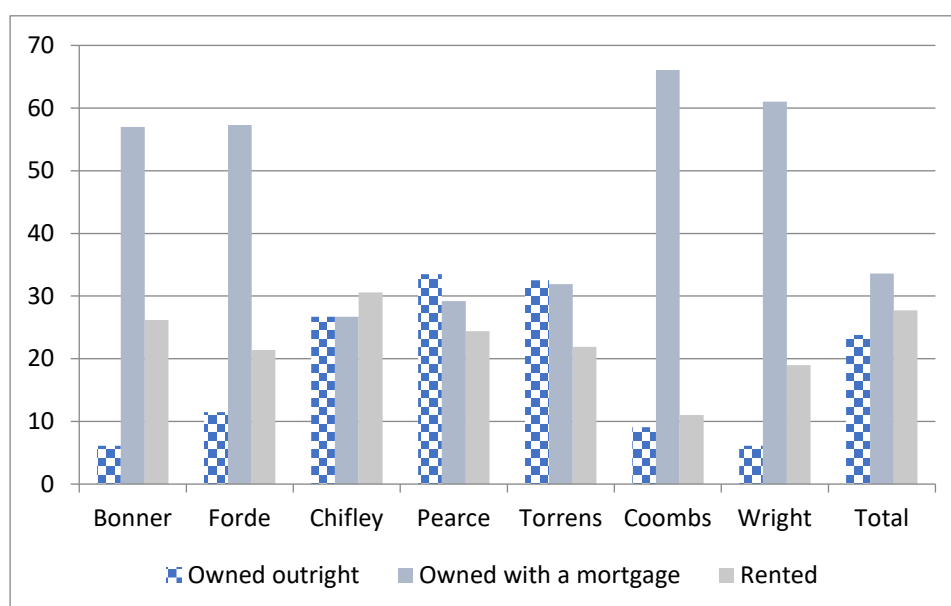


Figure 7.5 Housing tenure by suburb (Census 2016) as a percentage of occupied dwellings

Note: Totals do not equal 100% due to ‘not stated’ and minor housing tenure classifications

Table 7.7 shows that in five of the seven suburbs of interest, the median monthly mortgage repayment was higher than the median for Canberra (\$2,058). This included two of the established suburbs of Pearce and Torrens and possibly reflects the high value and cost of housing in more elevated parts of the suburb adjoining the nature reserve. Forde has the fourth-highest monthly mortgage repayments in the ACT (\$2,600), equal with those in O’Malley.

The median mortgage repayment for Wright is slightly below the Canberra median, which likely reflects the higher proportion of smaller dwellings (flats and apartments) in this suburb. In the four newer suburbs, more households were spending above 30%

of their monthly income on monthly mortgage repayments. For Coombs and Wright this was almost double the Canberra average (14.1% and 13%, respectively). Forde and Bonner were also above average and had high monthly mortgage payments reflecting the size of the houses (see Table 7.7).

Less than 5% of households in Chifley and Pearce paid more than 30% of their household income, which could be due to many factors, including older mortgages and higher incomes.

The situation was similar for median rent: four of the seven suburbs had a median rent higher than the Canberra average (\$380). Rents appeared particularly high in Forde, with a median rent 34% higher than average (\$510). Interestingly, only renters in Chifley were more likely to spend more than 30% of the household income on rent 9.3% versus the Canberra average 8.1%.

Table 7.7 Monthly mortgage repayments and rent by suburb 2016

Suburb	Median mortgage	Monthly mortgage payment more than 30% of household income (%)	Median rent	Monthly rent payment more than 30% of household income (%)
Bonner	\$2,200	11.50	\$430	7.4
Forde	\$2,600	9.10	\$510	5.3
Chifley	\$2,000	4.10	\$361	9.3
Pearce	\$2,147	3.70	\$370	6.6
Torrens	\$2,167	6.20	\$380	6.2
Coombs	\$2,167	14.10	\$410	2.8
Wright	\$1,950	13.00	\$400	4.3
Total Canberra	\$2,058	7.20	\$380	8.1

7.1.8 Education and income

The suburbs of interest all had many people with tertiary qualifications; the number of people with Bachelor degrees or higher was above the ACT average of (37.1%) and

national average (22%). Indeed, 49.8% and 48.2% of Wright and Coombs residents, respectively, had a Bachelor degree or above, followed by those in Forde (42.8%), Pearce (41.3%), Chifley (41.2%), Torrens (40.2%) and Bonner (39.5%).

Figure 7.6 shows the proportion of households in each suburb at both ends of the income spectrum for comparison with the ACT and national totals. Forde has a very large proportion of households earning \$3000 or more (48.6%): 20% above the ACT average (28.4%) and more than 30% about the National Total (16.4%). All the new suburbs had large proportions of high-earning households (>\$3,000), with Bonner and Coombs both at 32.2% and Wright at 31.3%. So too did the established suburbs of Pearce (31.8%) and Torrens (32.4). Chifley had less high earning households (24.6%) and more at the lower end (13.4%). Pearce and Torrens also had more lower income households than the Canberra average, reflecting the higher numbers of retired households on fixed incomes.

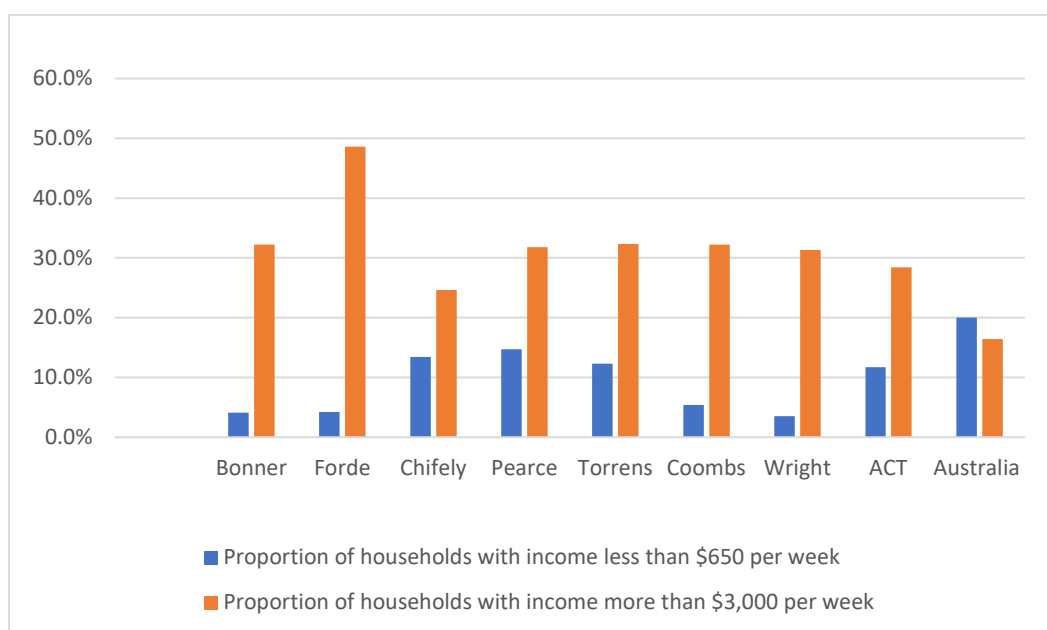


Figure 7.6 Income levels by suburb (Census 2016)

7.1.9 Employment and occupation

Wright had the fourth highest employment level (65.7%) across all Canberra suburbs and one of the lowest levels of people not in the labour force (8%). Forde and Coombs also had more employed people than the Canberra average (see Table 7.8). Reflecting the older age structure of the established suburbs, there were more people not in the labour force in Chifley, Pearce and Torrens, which have many retirees.

Table 7.8 Employed people by suburb (Census 2016)

Suburb	Total employed	Unemployed	Not in labour force	Not stated	Not applicable	Total employed
Pearce	47.5%	2.2%	27.7%	4.3%	18.1%	47.5%
Chifley	51.8%	2.6%	24.2%	3.7%	17.7%	51.8%
Torrens	51.0%	2.5%	24.1%	2.7%	19.7%	51.0%
Forde	53.5%	2.3%	11.6%	2.7%	29.8%	53.5%
Coombs	55.4%	1.8%	10.9%	5.5%	25.9%	55.4%
Bonner	51.5%	2.5%	10.9%	3.1%	32.0%	51.5%
Wright	65.7%	1.3%	8.5%	6.0%	18.4%	65.7%
ACT	51.7%	2.6%	22.3%	4.7%	18.7%	51.7%

Considering the employment status across the couple family households with children, the relationship between housing costs becomes apparent: the number of families where both partners work full-time was higher in the new suburbs than the Canberra total of 30.5% (see Table 7.9). In Wright and Coombs, 46% and 40% of families, respectively, both partners worked full-time, while in Forde and Bonner, the was the case for approximately 38% of families.

Table 7.9 Employment status of couple families with children by suburb (%)

	Forde	Bonner	Chifley	Pearce	Torrens	Wright	Coombs	ACT
Both partners employed full-time (%)	37.9	38.1	30.0	27.5	25.6	45.8	40.1	30.5
One partner employed full-time and the other part-time (%)	25.2	21.4	19.8	20.5	23.2	20.9	19.0	20.7
Total (%)	63.1	59.5	49.8	47.5	48.8	66.7	59.1	51.2

Of employed people, 49.4% from Wright and 49% from Forde worked more than 40 hours per week—6% above the ACT and national averages of 43.8% and 43%, respectively. Pearce employees (46.2%) also worked more than 40 hours per week (see

Figure 7.7). This relates to the higher number of managers in Pearce and Forde and young professionals in Wright (see Table 7.10).

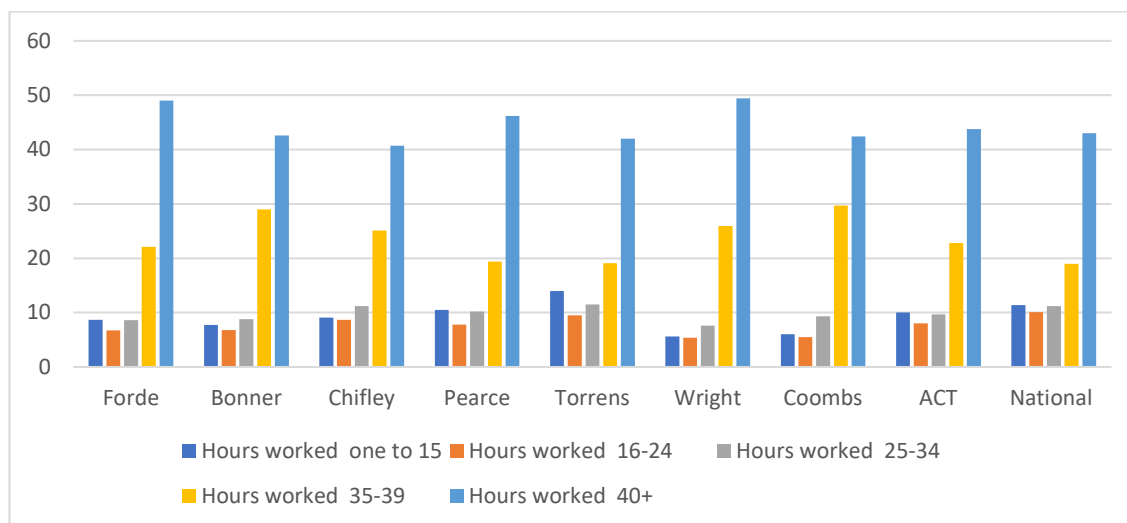


Figure 7.7 Hours worked by suburb (Census 2016)

All suburbs except Bonner had a higher number of professionals than the Canberra total (31.1%) with significantly more professionals living in the new suburbs of Wright (39.4%) and Coombs (41%). Forde has the highest number of managers (20.4%) and Bonner the highest number of technical and trades people of all the suburbs of interest see Table 7.10.

Table 7.10 Occupations by suburb (%) (Census 2016)

	Professionals (%)	Technicians and trades workers (%)	Community and personal service workers (%)	Clerical and administrative workers (%)	Sales workers (%)	Machinery operators and drivers (%)	Labourers (%)	Managers (%)
Coombs	41.1	8.6	9.4	17.4	4.8	1.3	3.2	14.3
Wright	39.4	8.2	8.1	18.8	6.0	0.9	3.0	15.6
Pearce	35.4	7.2	9.4	16.3	6.3	2.0	3.6	19.7
Forde	33.3	8.3	9.9	16.8	7.5	1.3	2.5	20.4
Chifley	32.6	9.3	11.0	16.6	5.7	2.7	5.3	16.7
Torrens	32.1	9.8	11.3	14.8	7.3	2.1	3.9	18.6
Bonner	30.9	11.1	12.0	17.6	7.8	2.0	5.1	13.5
ACT	31.3	9.8	10.8	17.3	7.0	2.3	5.2	16.3

7.1.10 Volunteers

In 2005, 23.3% of ACT residents did voluntary work through an organisation or a group; the national figure was 19% (ABS 2016a). These included education (17%), welfare and community (9.6%), health (7.1%) and sport and recreation (6.7 %) groups. Figure 7.8 shows the percentage of people in each suburb that did voluntary work in 2016. The established suburbs had higher numbers of volunteers across all the suburbs and the ACT average, with Chifley (24%), Pearce (28%) and Torrens (29%) reflecting the older age groups and higher numbers not in the labour force (see Table 7.8).

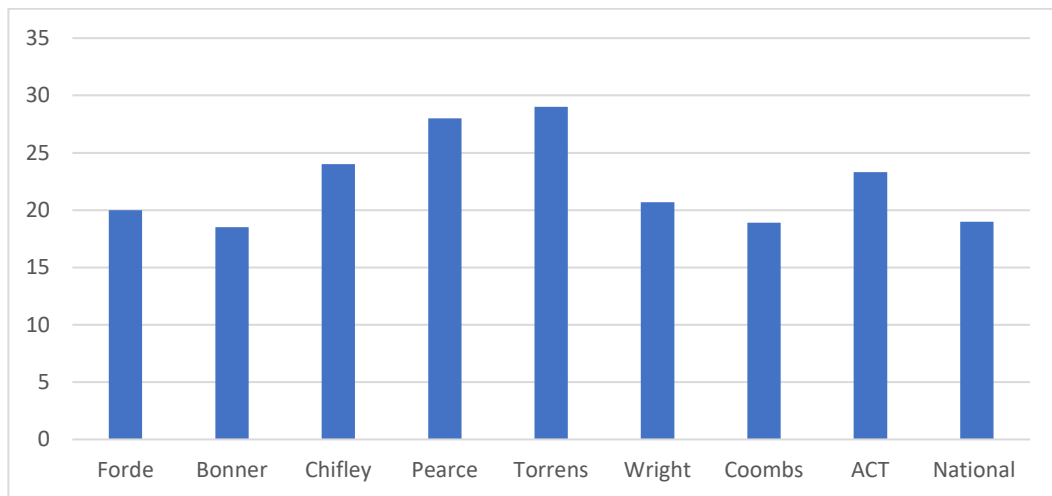


Figure 7.8 Percentage of people volunteering by suburb (Census 2016)

Notes: In the General Social Survey (GSS), a volunteer was defined as someone who, in the previous 12 months, willingly gave unpaid help in the form of time, service or skills, through an organisation or group.

The ABS General Social Survey provides information about the nature of volunteering in the ACT (ABS 2015a). The 2014 survey showed that higher proportions of people in the ACT (and also in South Australia and Tasmania) participated in voluntary work when compared to the larger states. In the ACT, more than one in three people had provided unpaid help through an organisation or group, with rates of volunteering highest for people aged 35–64 years (ABS 2015b). Education and training organisations attracted 30% of all volunteers in the ACT, suggesting high levels of volunteering in schools.

About one in two volunteers had committed 50 hours or more to voluntary work in the 12 months before the survey.

References

ABS (2016a) 2016 Census *QuickStats, Bonner, Forde, Wright, Coombs, Chifley, Pearce Torrens and ACT*, Australian Bureau of Statistics, Canberra.

ABS (2016b) *Fact Sheet – Internal Migration*, Australian Bureau of Statistics, Canberra.

ABS (2016c) 2016 Census *QuickStats, Molonglo*, Australian Bureau of Statistics, Canberra.

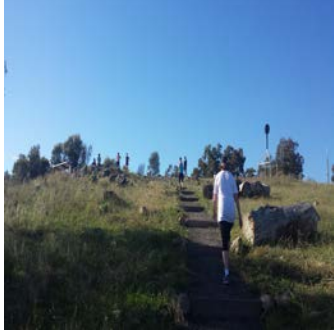




ABS (2015a) *General Social Survey: Summary Results, Australia, 2014*, Catalogue Number 4159.0, Australian Bureau of Statistics, Canberra.






ABS (2015b) *Small states lead the way in volunteering*, Media Release, 17 September, Australian Bureau of Statistics, Canberra.







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Appendix 8: Summary: Direct Observation Mt Taylor

Users	Statistics	Description	Images
Walkers	<p>95+% of all observations (obs)</p> <ul style="list-style-type: none"> • <i>Most popular activity</i> • <i>Strong seasonal patterns with 5 times as many walkers on weekends in summer versus winter</i> • <i>Peaks on public holidays and Sundays (am & pm)</i> • <i>Older cohort in the morning</i> • <i>Younger cohort evenings</i> 	<p><i>Strong social component</i></p> <p><i>Regulars walking, talking together</i></p> <p><i>Women in pairs and groups</i></p> <p><i>Some formal groups (FIT, Walking for Pleasure)</i></p> <p><i>Regularly people with backpacks training for mountain treks</i></p> <p><i>Early morning walkers gather for Annual Xmas drinks</i></p>	 
Runners	<p>3.5% of all obs</p>	<p><i>More men than females</i></p>	
Mountain bikers	<p>1.2% of all obs</p>	<p><i>Only males observed</i></p> <p><i>A few groups of kids (6 in total)</i></p>	
Dog walking	<p>9% walkers out with a dog</p> <ul style="list-style-type: none"> • <i>Two thirds on the lead</i> • <i>One third off – constant for weekdays and weekends</i> • <i>Few with poo bags</i> 	<p><i>Both sexes and all ages involved</i></p> <p><i>Water bowl at the top with water carried up male walker ‘Yankee John’</i></p>	

<p>Kids in the reserve</p>	<p>4.2% all walking obs with adults 20 % of these grandparents</p> <p>1.7% all obs kids on their own mostly older kids</p>	<p><i>With adults: walking, picnics, rock climbing, exploring</i></p> <p><i>On their own: on bikes (=30% of bike obs), at a cubby and walking a small dog</i></p>	
<p>Hobbies</p>	<p>3 obs radio transmitting gear and yoga practice</p> <p>3 obs walkers with binoculars</p>	<p><i>Evidence of Geocaching sites on the mountain</i></p>	
<p>School groups</p>	<p><i>Melrose High</i></p> <p>Weekly physical education activity walk around base for years 7–9.</p> <p><i>Marist College</i></p> <p>2 obs Community service activities x 60+</p> <p>1 ob Science class x 20</p> <p><i>Torrens Primary</i></p> <p>1 ob walkathon event (whole school)</p>	<p><i>Community service activity-assisting ParkCare with weeding and trail maintenance. Science class vegetation study</i></p> <p><i>Some periodical events e.g. walkathon</i></p>	 
<p>ParkCare</p>	<p>217 participants over 28 events</p>	<p><i>Included 2 citizen science projects: Reptile survey in 2011</i></p> <p><i>Vegwatch monitoring 2012 to 2014</i></p>	 

<p>Park manager</p>	<p><i>3 obs rangers</i></p> <p><i>2 obs works crew</i></p> <p><i>4 obs maintenance activities</i></p>	<p><i>Management activities: prescribed burn; fire trail repairs; New seat; weed contractor; track inspection</i></p>	 
<p>Other: Youth activity</p>	<p><i>13 obs youth activity: burn-outs drinking; drugs; sex; trail bikes; BMX tracks; cubbies; campfires.</i></p>	<p><i>Evidence: bottles, bongs condom wrappers, foil, envelopes, discarded clothes, lubricants, oil bottles, skid marks, dirt mounds and tracks</i></p> <p><i>More burn outs in school holidays</i></p> <p><i>Car-based activity along access roads</i></p>	 
<p>Other: Dumping</p>	<p><i>10 obs household and garden rubbish dumping</i></p>	<p><i>Trade and household dumping observed along access roads at edges of reserve</i></p>	
<p>Other: Theft</p>	<p><i>3 obs rock-turning likely scorpion and reptile theft</i></p>	<p><i>Different locations around the reserve, all in school holidays</i></p>	

Appendix 9: Friends of Mulligans Flat— Example of Reports to Management Committee 2013-2015

Friends of Mulligans Flat Report–November 2013

Mulligans volunteers branching out

Volunteer Sybil Free is working with Michael Mulvaney from CPR on the Rare Plant Survey assisting with ground-truthing and mapping the occurrence of rare plant species in Mulligans. Volunteer Mark Smith has been assisting Fred Ford with the New Holland Mouse research and also covered numerous Frogwatch sites during Census week and the annual kangaroo count. Friends Cedric Bear and Leonie Lewington also counted kangaroos on the Friday 1 November count.

Snap-Film-Draw Competition

The competition winners were announced by the Minister at CSIRO Discovery on 20/11/13. Thanks to Tony, David, Stephen Hughes and Craig Wainwright TAMS for attending. Good show all round - the kids were delighted to see their work on display and our sponsor, bankmecu, a dream to work with. Kate will create a drawing and photo gallery on the website and the artwork is currently on display at bankmecu and then to the pin-boards at the woolshed. We are proposing a Mulligans kids club using our comp entrants as the start up. Idea would be to send a once a month email with piccies of wildlife that Kate (and others) have encountered in the Sanctuary and amazing science facts. The email comms could be supported by a few kids' specific events every year like nocturnal walks. I will run a small comp before Xmas among the entrants asking for suggestions for the club name and then get them to vote (think the Shinglebacks or the Bettong Gang?). See Backyard buddies (Bmail model), run by NSW Foundation for National Parks, by way of example. <http://www.backyardbuddies.net.au/>

ACT Parkcarers Xmas Party @ Mulligans Flat – 11/12/13@5pm

PCS and the Friends will be hosting the ACT Parkcarers and Landcarers Xmas Party at Mulligans Flat on Wednesday 11 December from 5pm. This will also be our Friends Xmas celebration and good opportunity to celebrate the first 2 years of community volunteering and interest in the Sanctuary with the wider volunteer community. Would be great to have some Board members along to this event. Rsvp to jasmine.foxlee@act.gov.au

Friends Events for 2014

We are planning our work parties and activities with PCS Mulligans ranger team for 2014 – please put these dates in your diary and join us as able for the quarterly work parties. Other seasonal activities will be organised with volunteer guides, including bird walks in autumn and spring (with John Brannon and Bill Graham) and wildflower walk in spring (Michael Doherty).

Work Parties

Autumn 2014

Sunday 2 March. Clean up Australia Day event. Ranger Woody will register the site as per last year and arrange for truck, maps, radios, sign on sheets etc.

Winter 2014

Sunday 22 June. Painting of Mulligans Flat Bird Walk Signs- To be painted a eucalypt green. Ranger Woody to provide materials. We can split into two teams and do 5 each and meet back at woolshed.

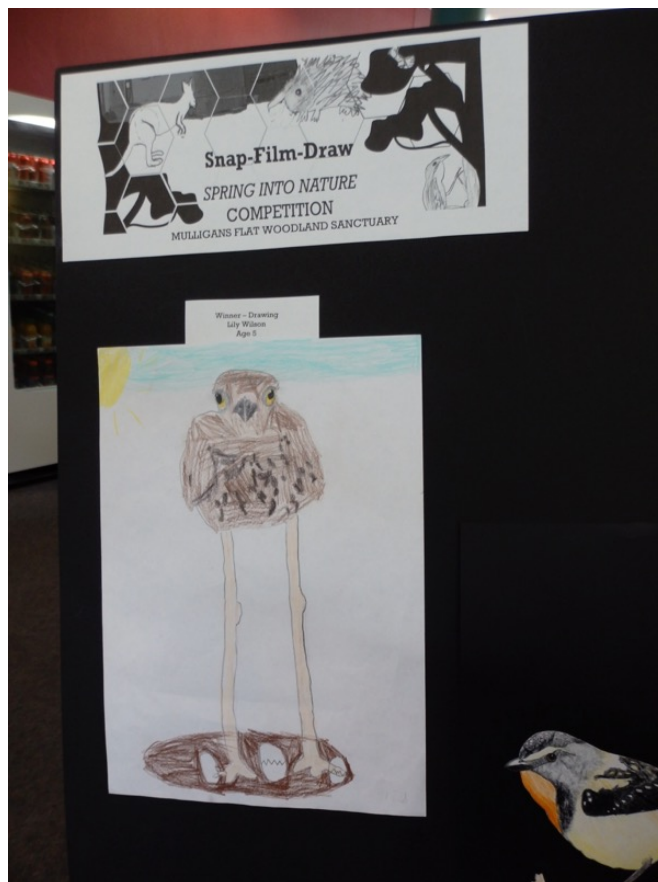
Spring 2014

Sunday 28 Sept. Agistment Blocks 1 & 2 (South of Quoll Gate) Cut and dab briars that have re-sprouted. Ranger Woody to supply loppers, chemicals, Gloves and chemcert supervision.

Summer 2014

Wed 10 December (**Twilight**). Xmas Party/BBQ. Staining/painting of woolshed and rails with linseed oil and turps. Materials provided.

Kathy Eyles (22/11/2013)



Report to Mulligans Management Committee: Friends of Mulligans Flat – March 2014

Bettong Buddies Kids Club

A School Holiday activity “Hike and Bike Buddies” around Mulligans is being planned for Sunday 13 April. It will operate as pilot to identify overall interest in holiday activities and what grabs the kids, ahead of applying for a grant to fund similar healthy outdoor activities for kids under the ACT Health Promotion Innovation Fund.

Friends Events

We had a very successful Clean up Australia Day event on Sunday 2 March. Over 40 local residents turned up in force filling the huge PCS truck to the brim. This photo of the crowd at Mulligans appeared in a story about the clean-up events around Canberra in the Canberra Weekly. The Weekly Editor, Julie Samaras attended the Mulligans event with her son. This is the third year the event has been held around Mulligans and our best attendance yet. Thanks to the PCS team for the flawless clean-up plan and logistics.



The next Friends event is a guided bird walk to be led by John Brannan on Sunday 11 May 2014. Meet 9am at the Mulligans car park Amy Ackman Street Forde.

Other community events

A report about the Seniors Week Walk at Mulligans on Friday 21 March and Ginninderra Catchment Group’s Indigenous Heritage Walk on 23 March will be given at the meeting.

Bush Stone- curlew Project

The Friends is keen to become a community partner in this project. I reiterate issues raised at the last meeting about the resources (comms, training and coordination) required to manage volunteers on an experimental science project, as opposed to our current low-key ‘adopt a patch’ weeding activities and ranger-led work parties.

Volunteers to be involved in monitoring the Bush Stone-curlew will require training about what, where and how to report and a simple reporting method/system will need to be developed.

The project will provide a good touchstone for how we might manage these ‘citizen science’ projects in relation to other species in the Sanctuary. A Volunteering Strategy for the Sanctuary is one of a suite of management policies that is required to guide such projects.

Kathy Eyles (20/03/2014)

Friends of Mulligans Flat – Winter 2014

Friends Events

Our winter work party was held on Sunday 22 June and 12 volunteers assisted the rangers with erosion control works in Management Area 9. We moved a huge pile of rocks into place and made a great start on repairing this gully – before and after shots below.



Friends Events

Please put these dates in your diary and join us as able:

Mulligans Woodland Wildflower Walk – Sunday 21 September 10 am led by plant ecologist, Michael Doherty, meet us at the woolshed.

Spring work party - Sunday 28 September at 10am. We will be working in Agistment Blocks 1 & 2 (South of Quoll Gate) to cut and dab briars that have re-sprouted. Loppers, chemicals, gloves and chemcert supervision provided.

Mulligans Woodland Bird Walk – Sunday 2 November 9am led by birdos Bill Graham and John Brannan. Meet at the reserve car park, off Amy Ackman St Forde.

Summer work party and Xmas party - Wednesday 10 December - twilight.

We will be staining/painting the external timber around the woolshed and the rails with linseed oil and turps. Materials provided.

Other activities

I attended COG's Birding by Bike in Mulligans and Gooroo in July – a great Sunday morning out led by Duncan McCaskill and attended by a dozen birdos, including 3 kids.



Mulligans Friend Mark Smith and myself have been supporting Kate with the National Science Week Walks and a few participants have joined the Friends list.

In addition to regular weeding work, a small group of Friends has been assisting the Bush Stone Curlew feeding program, and with the bettong trapping. Volunteer Mark Smith is also the feeding the New Holland Mice. The Frogwatch census is coming up in October.

Bettong Buddies Kids Club

The Winter Edition of the Bettong Buddies Newsletter is out and work is underway on the Spring Edition. We are still waiting to hear whether our funding application for the 'Active Buddies' School Holiday activities (based on the pilot "Hike and Bike Buddies" activity in April) to the ACT Health Promotion Innovation Fund was successful

Mulligans Volunteering Strategy

I raised last year the need for a Volunteer Policy/Strategy for Mulligans and this should be developed in concert with the Outreach program identified in our Strategic plan. I am happy to input to this work from the Park Care angle and engage our rangers.

Kathy Eyles (24/08/2014)

Report from Mulligans Friends March 2015

Our Summer Friends Work Party and Xmas event was held at twilight on **Wednesday 10 December** 2014. Ahead of a sausage sizzle, we were planning to paint the Mulligans bird walk totem signs around the reserve but got gazumped by a rain shower. The rangers moved the BBQ under shelter and we all enjoyed a meal around the woolshed table. Thanks to Barry Richardson for attending on behalf of the Management Committee and thanking the volunteers for their efforts and last but not least the Mulligans Ranger team for celebrating with the volunteers. Volunteer Mark Smith and ranger Grant Woodbridge painted the totem signs over January.

Clean Up Australia Day Sunday 1 March 2015

Around 40 volunteers turned up for our 3rd annual Clean Up Australia Day work party around the edge of Forde and the nature reserve and along Mulligans Flat Road. While the construction rubbish has reduced with the completion of Forde, there is still plenty of urban litter accumulating against the fence and in buffer landscaping. Domestic dumping has also increased along Mulligans Flat Road. Big thanks to our junior Mulligans Friends, the Amaroo Scout group who turned out in force to help out and to Ranger Woody and the Mulligans team for organising the logistics and the Parks truck.



Upcoming Events

Birdos John Brannan and Bill Graham are leading our **Autumn ‘Mothers Day’ bird walk** in the Sanctuary on **Sunday 10 May**. We are meeting at 9am in the Mulligans Flat Reserve car park, Amy Ackman St Forde.

Our **Winter erosion control Work Party**, will be held on **Sunday 21 June**. We are meeting at 10 am at the Mulligans woolshed before heading to the work site

Our annual '**Science in the Sanctuary**' Forum will be held on **Thursday 2 July, 7pm** at the Gungahlin Library, where we will have talks from Will Batson and Nicki Munro on the bettong translocation and diggings projects and Kate Garrock on the Bush Stone Curlews.

New Landcare ACT Peak Body

I am part of a steering group working towards the establishment of a peak body for Landcare in the ACT (similar to Landcare NSW and Vic). I will keep the committee posted and a short blurb follows.

Landcare ACT is being developed as peak body to represent the voice of active local land stewardship groups in the ACT, including at the national level as part of the National Landcare Network. It will also support the long term sustainability of the Landcare networks (Catchment Groups) to develop an enduring framework for increasing the awareness, participation and investment in Landcare by the broader ACT community. Landcare ACT is using the term "Landcare" in its broadest sense to refer to any organised community groups such as urban and rural landcare groups, Parkcare, "Friends-of" groups, Waterwatch and Frogwatch, and is aiming to be inclusive of rural landholders and indigenous interests in the region.

Kathy Eyles

24 March 2015

Report from Mulligans Friends May 2015

Mulligans Bird Walk Mothers Day Sunday 10 May 2015

Over 30 hardy bird-watchers turned up in cold gale force weather for our Autumn Bird walk. We broke into 2 groups and took different routes through the reserve. Just over 20 species were seen by each group including a family of Varied Sitellas and a gorgeous mature male Golden Whistler in my group. The woolshed provided welcome respite for a hot cuppa afterwards. Our next bird walk will be in spring hopefully in calmer weather. A big thanks to our volunteer COG guides, John Brannan, Bill Graham and Duncan McCaskill for leading our walk.





Rabbit Control work

10 Friends assisted the ranger team on 8 April with identification of rabbit hides. This involved transects on foot across the northern part of the reserve and the rangers using GPS to log the active burrows/stops/activity. This information was then mapped to guide the control program. Nick Daines provided a copy of the mapping (below) and feedback on control to the volunteers - great stuff!



This was followed by another session with 5 Friends on 7 May assisting to train up the Green Army team, locating hides in the large dam paddock, with plenty of active burrows located.



Upcoming Events

Our **Winter Work Party**, will be held on **Sunday 21 June**. We are meeting at 10 am at the Mulligans woolshed before heading to the work site.

Our annual ‘**Science in the Sanctuary**’ Forum will be held on **Thursday 2 July, 7pm** at the Gungahlin Library, where we will have talks from Will Batson and Nicki Munro on the bettong translocation and diggings projects and Kate Garrock on the Bush Stone Curlews. Free registration is via <http://bettongs.org/community-events/> and click across to July.

Launch of new Landcare ACT Peak Body

As previously advised, I am part of a steering group working towards the establishment of a peak body for Landcare in the ACT (similar to Landcare NSW and Vic). The new peak body will be officially launched on **Saturday 13 June 10am-12.30pm at Saints Peter and Paul Primary School, Garran** (entry of Boake Place Garran) and will involve short talks and a community planting event in the adjacent Hughes Garran Woodland. All welcome. We can also set up an info table for the Mulligans Sanctuary, Jerra Wetlands and the Trust.

Kathy Eyles

15 May 2015

Report from Mulligans Friends September 2015

Our **Spring Work Party** was held on **Sunday 13 September 2015** in glorious sunshine. We headed back to former Agistment paddocks 1 and 2, the Throsby neck offset site. Eight Friends were joined by 30 ADFA cadets supported by Ranger Whitty and Emily Belton. We chipped Paterson's curse and the cadets got stuck into the stinging nettle under the heritage peppercorn tree (the Dungarvon ruin). We also flagged rabbit (buck) dung heaps and started the process of removing wire from a collapsed paddock fence. The wooden posts will be left and fortified for future heritage interpretation. The Throsby neck is shaping up as an excellent long-term project for the Friends where we can actively contribute to the regeneration process through plant and pest control and future heritage projects.

I have proposed that this regeneration process might include a future partnership with the traditional custodians (Ngunawal women) to restore yam daisy to these lowlands, similar to the project where our own Dr Sue McIntyre has been working with Aboriginal women to restore yam daisy along the Bundian way. It is also potentially an excellent site to pilot autumn ecological burns, drawing on research by Ken Hodgkinson on other grasslands of the Ginninderra catchment where autumn burns have been found to be the most effective treatment to increase species through natural regeneration.



Our Kids night walk and launch of *Snap-Film-Draw, Spring into nature* – kids art competition.

Friday 28 August 2015 – was a raging success with over 20 families participating and everyone catching a glimpse of a bettong or 2 guided by Emily and Kate. We enjoyed bettong cupcakes afterwards at the woolshed and promoted Brian's wines with a tasting of the reds for the adults



Communications for Curlew release

Friends are letter-boxing Forde homes over the weekend and this week with the Curlew postcard and also a flyer for the Snap- Film-Draw competition.

Upcoming Events

Frogwatch ACT Census Week – training (last night 14/9) and annual Mulligans field trip (this Friday 18/9) ahead of Census week 18 -24 October 2015. Both fully booked

Spring Bird Walk – 20 September 2015, led by John Brannan – meet 9am at the reserve car park, Amy Ackman St.

Spring Wildflower Walk - 25 October 2015, led by Michael Doherty – meet 10 am at the woolshed

Snap-Film-Draw Exhibition of kids artwork – November 2015, at the woolshed

Change to Friends convener

I will be stepping back from the Convener role at the end of this year and am thrilled that one of our very active volunteers and Forde local, Mark Smith has put his hand up to take on the key roles. Mark will be attending management committee meetings and Han Chia another of our regular volunteers will deputise for Mark as needed. This is a great outcome from my personal perspective and for the Friends and the investment in the social research that helped me to help facilitate the Friends to date.

Kathy Eyles

September 2015

Report from Mulligans Friends November 2015

Spring has been a busy time with lots of community participation in the Friends **bird walk** (20 September 2015) led by Chris Davey and John Brannan, **wildflower walk** (25 October) led by Michael Doherty, and **Indigenous heritage walk** (8 November) led by Wally Bell. We had upwards of 50 people at each event and fabulous weather.

Turtle Patrol

The Friends assisted Emily with the training days for the Turtle patrol and a number of Friends have signed up and bust patrolling. The turtle project has unearthed lots of new peachey keen volunteers many of whom have joined in on our Friends interpretative walks in recent weeks.

Snap-Film-Draw, Spring into nature – kids art competition

Entries are now on display at the woolshed in our **Snap-Film-Draw**, art **competition**. There are some fabulous entries and many from year 2 students from Gold Creek Primary School that spent a day in the Sanctuary doing a learning activity and then drew about their experiences back at school – the sugar gliders obviously a real hit. Gold Creek teacher, Bev Job is part of our Friends network and happy to help us with advice about primary educational activities. Visitors to the exhibition are invited to vote for their favourite artworks in 3 categories: most creative overall; senior; and junior works. Winners will be announced at the Friends twilight Xmas party on 3 December.



Upcoming Events

Snap-Film-Draw Exhibition of kids artwork – November 2015, now on at the woolshed

Friends Twilight Work Xmas Party - Thursday 3 December from 5pm. Maintenance around the woolshed, followed by a barby, farewell for Ranger Woody and mini night walk for the kids. Please rsvp to me for catering: kathy.eyes@anu.edu.au

Forde Party at the shops - Saturday 5 December – the Friends and the Trust will be having an information table at this Forde event – let Emily or I know if you can spare an hour or 2 to talk to the locals.

Please welcome Mark Smith, our new Friends convener. Mark is a Forde local and one of our most active volunteers keen to maintain the important role of Friends and community volunteers in partnership with Parks and the Trust management of the Sanctuary.

Kathy Eyles

November 2015

**Appendix 10: Friends of Mulligans Flat—Science in the
Sanctuary, Bird, Wildflower and Heritage Walk Posters
and Bettong Buddies Newsletter**



THE FRIENDS OF MULLIGANS FLAT INVITE YOU TO OUR 2014 FORUM

SCIENCE IN THE SANCTUARY

Thursday 26 JUNE 2014 – 7pm start

GUNGAHLIN LIBRARY COMMUNITY ROOM

(use nighttime Library entrance from Hibberson St)

Join us to learn more about the exciting ecological research and species management underway in the Sanctuary

- 7pm** *Welcome grab a cuppa or glass of wine*
- 7.10** Dr Barry Richardson **Building new knowledge and management partnerships: rabbit control at Mulligans Sanctuary**
- 7.30** Will Batson PhD scholar **Bettong Population update: results of Autumn trapping and health check**
- 7.50** Dr Nicki Munro **New ecological research: investigating the role of Bettongs as ecosystem engineers**
- 8.00** *Short break – refreshments*
- 8.10** Dr Kate Grarock **Species monitoring: the role for volunteers**
- 8.20** Dr David Shorthouse **Management Committee report: the year ahead**
- 8.30** Close

Please rsvp for catering purposes Kathy.eyles@anu.edu.au

An initiative of the Friends of Mulligans Flat working in partnership with the Mulligans Flat Committee and



THE FRIENDS OF MULLIGANS FLAT INVITE YOU TO OUR 2016 FORUM

SCIENCE IN THE SANCTUARY

Thursday 30 June 2016 – 7pm start

GUNGAHLIN LIBRARY COMMUNITY ROOM

(use evening Library entrance from Hibberson St)



- | | | |
|------|-----------------------------------|---|
| 7.00 | <i>Welcome</i> | |
| 7.05 | Jenny Bounds COG and W&WT | Woodland bird surveys at Mulligans Flat |
| 7.15 | Catherine Ross PhD scholar ANU | Research on the role of Bettongs as ecosystem engineers |
| 7.25 | Dr Will Batson ANU | Bettong update & Eastern Quoll translocation project |
| 7.35 | Dr Kate Grarock W&WT | Re-introduction of the Bush Stone-curlew - Year 2 |
| 7.50 | <i>Short break - grab a cuppa</i> | |
| 8.05 | Emily Belton W&WT | Turtle translocation project and Echidna monitoring |
| 8.20 | Woodlands & Wetlands Trust | The year ahead – Trust projects @Mulligans |
| 8.30 | <i>Close</i> | |

Please register for this free Forum at <http://bettongs.org/calendar/> NB: click across to June and click on the date.

An initiative of the Friends of Mulligans Flat working in partnership with the ACT Parks and Conservation Service and the Woodland and Wetlands Trust



SPRING WOODLANDS WILDFLOWER WALK



Photos from Snap-Film-Draw kids art competition at Mulligans Flat: Left to right Kate Sherren, Sophie Taylor and Kira Wright

*Join the Friends of Mulligans Flat for our Spring Wildflower Walk
Canberra ecologist, Michael Doherty, will lead our walk in the Sanctuary
Bring your lunch and enjoy a picnic at the woolshed afterwards.*

SUNDAY 21 SEPTEMBER 10 am -12.30 pm

MEET AT THE WOOLSHED @10am BYO: WATER, HAT & STURDY SHOES

SPRING WORK PARTY

The Friends will be helping the rangers with woody weed control in former Agistment blocks 1&2 south of Quoll Gate. Supervision and all equipment provided. BYO water and morning tea and wear a hat, long sleeves and sturdy shoes. Meet at the woolshed at 10am or follow the signage to the work site from the woolshed.

SUNDAY 28 SEPTEMBER 10 am – 12.30 pm



An initiative of the Friends of Mulligans Flat in partnership with the Mulligans Flat Management Committee &



Any queries please contact Kathy, Friends of Mulligans Flat, 0407 899 698

MOTHERS DAY AUTUMN BIRD WALK



Photo: Scarlet Robin – Kathy Eyles

*Join the Friends of Mulligans Flat for our Autumn Bird Walk
Canberra birdos, John Brannan and Bill Graham, will lead our walk in the
Sanctuary- bring your mum and enjoy a cuppa at the woolshed afterwards*

**MEET US AT THE MULLIGANS FLAT CARPARK
AMY ACKMAN ST, FORDE**

SUNDAY 10 MAY 9.00 -11.30AM

BYO: WATER – THERMOS – MORNING TEA

HAT & BINOCULARS (IF YOU HAVE THEM)

An initiative of the Friends of Mulligans Flat working in partnership with the



ACT
Government



THE MULLIGANS FLAT



Edition 1: SUMMER 2014

Welcome to our first Edition of Bettong Buddies. Phew, it's been a hot summer; have you ever wondered how our native wildlife stay cool? Kate our Mulligans Ecologist has been watching the kangaroos.

Inside the fence with Ecologist Kate



Hey there Bettong Buddies

Things have really been heating up in the Sanctuary this month. We have had a couple of total fire ban days in the ACT and the Sanctuary is closed on these days due to extreme fire danger. The animals are also feeling the heat. Here is a picture I took of Eastern Grey Kangaroos trying to keep cool in the shade. Can you see they are licking their arms?



Kangaroos have a lot of blood vessels just below the surface of the skin and by making this area wet, it helps to cool their blood. This process is called evaporative heat loss. Next time you see kangaroos on a hot day take some time to see if they are using this neat trick to keep cool.

Till next time © Kate

How can I help wildlife in summer?

Alison Russell-French from the Canberra Ornithologists Group* says you can provide water in your garden for wildlife with a range of different billabongs. Little birds, like wrens and finches may just flit in for a quick drink and a bath in something shallow while bigger birds, like magpies need something big and deep enough to plunge into and use like a spa. Put water in the shade because birds need the water to be as cool as possible and change the water often. Put some water up high and some on the ground (although not if you have a cat!) More info:

<http://www.birdsinbackyards.net/Bird-Baths>

*Alison speaking to Ian Warden in *Gang-Gang*, *The Canberra Times*, 16 January 2014.

btw - an ornithologist is a person who studies birds, affectionately known as birdos they are often found looking into trees through binoculars.



Zoe Reid photographed these kangaroos (a mum and her bub) drinking from her bird bath in the garden at Tarago (just north of Canberra). Zoe also put out a sheep trough of water and snapped this thirsty wombat helping himself to a drink at night.



Bettongs Galore by Will Batson

Hi Buddies - I'm doing research at ANU about how the bettongs are adapting to their new life at Mulligans Flat. The good news is that the bettongs are doing really well. The population is close to 100 and growing. Almost all the adult females have active pouches and many also have a young-at-foot. The bettongs are also in good condition which is great, especially considering the extremely hot and dry conditions this summer. We think this means the bettongs were always meant to be here and we made the right choice bringing them back to Mulligans. We are seeing lots of diggings which means the bettongs are finding truffles and the right things to eat.



A Bettong happily foraging in Mulligans Flat
(Photo: Kate Grarock)

We have also passed another big milestone in terms of how we manage the population, as we recently removed the last radio-collar from the group. These collars were important because they allowed us to track each bettong to their nest and trap them to check their health and body-condition. We also used the collars to record their movements at night to see how they use different habitats at Mulligans Flat. The information from the collars and health-checks allows us to study how bettongs adapt to life at Mulligans and teach us what we can do better in the future.

Although, the collars have been great for collecting information, we are relieved to get them all back because trapping is hard work and we are often up past midnight (yawn). It also means the bettongs are now completely free which is how mother-nature intended.

We will still carry out at least two large trapping events each year so we can see how they are going. More news in Ed. 2 Will



The research team (Will on the left) attaching a radio collar to a bettong (Photo: Will Batson)

Baby bettong featured on ABC3

Catch this fun zoopedia video on ABC3 featuring a baby bettong and red-necked wallaby - both species found@Mulligans
<http://www.abc.net.au/abc3/watchnow/studio3/abc3/?s=3827216#3827216>

Events@Mulligans

Snap-Film-Draw entries now on display at the Mulligans Woolshed

Clean Up Australia Day@Mulligans Flat - Sunday 2 March 2014 from 9.30am
Ranger Woody has registered Mulligans Flat as a clean-up site. Meet us in the Mulligans car park (off Amy Ackman Drive Forde) Bring water, snacks, hat & gloves.

Below is some of the stuff collected along Mulligans Flat Road last year arranged into Canberra 100 (before disposal /recycling).



Stay tuned for the Buddies Nocturnal Night Walk with Ecologist Kate in Autumn and our school holiday activity, Hike and Bike Buddies around Mulligans.

Get to know the people at Mulligans Flat Woodland Sanctuary

Spotlight on 'Ranger Woody'

Ranger Woody in action at Mulligans Flat

Checking the remote cameras (right) and with John Lawler (below) building mouse houses for the New Holland Mouse release into the Sanctuary



Where did you grow up and what did you enjoy doing as a kid?

I grew up in rural NSW in the small town of Boorowa and had a very free range childhood with lots of roaming around in the bush.

What made you decide to be a ranger?

I always wanted to be a Ranger and "Skippy" was my favourite TV show. I also dreamed a lot of playing Test Cricket. This distraction meant I did not finish my University Studies until I was 35 which delayed my entry into the Ranger ranks (and btw I didn't play test cricket).

What's cool about working at Mulligans Flat?

Great opportunity to work in a beautiful woodland environment and be involved in some cutting-edge scientific research. Also great to be involved with the local community in fostering a love and custodianship of the Reserve. I also get to hang out with great work mates (the Mulligans ranger team John, Dave and Steve) who all share the same passion and enthusiasm for the job.

Do you have a fave spot in Mulligans?

Lunch is at 12.15pm at the rustic picnic tables made by John Lawler in our ranger team. It is a place where we eat, laugh and hold work meetings. The shearing shed reminds me of my grandfather's farm and it was my idea to relocate it from Forde before it was developed for housing and this was supported by Peter Mills our then Head Ranger. Pop in and join us for lunch and a chat around the table.

Ranger Woody's fave food?

Anything cooked by my wife Natalie. Leftovers used to be plentiful for lunch but with 14 and 18 year old sons pickings are now slim. I like a good lamb roast.

Ranger Woody's fave sport?

After family and work Sport is my other passion. I opened the batting for the ACT cricket team for 10 years and also played 1st Grade in Sydney and in professional leagues in England. I was 12th man against the West Indies in the PM's XI when I was 19. Currently I play on the ITF seniors tennis circuit and have an Australian ranking in the mid 40's for my age group. I am also a Canberra Raiders tragic and would put watching Rugby League as my favourite pastime.

Australian Mammals Word Search Puzzle

Find the names of these amazing creatures from 'Down Under'.

E H N D B R U B A N D I C O O T N W
 Q L M D Y S D M Y O T I S C Y X O C
 O K Z D C D I B B L E R L B Q L Q Y
 Y A U O O Y Q H O T W C O R U E E Q
 D L F L M R E O P L A T Y P U S M B
 V F L P T C R N V T V B I G S N G T
 W C T H N A U F N V Y Z T U Q M T P
 P C Z I G O R S O S U B N C U E P A
 A Y B N W F W R C Q Z I L L B H D N
 C F A L U X R U M U H I G I A Q V D
 M K V Y X Z L E B C S A R S B W Q E
 R J H K W P L G E T R P C A Z V X M
 E E F W B O O T N R A O X D W W R E
 D S E U M K N I A C G B E Q Y O U L
 I J L Y U A N S S A O U M U I E K O
 L I S E O G V K L B H G G U N H E N
 G L K O A L A E E F J T N W N R C I
 L G Q U X H C T I D U H C I K S H A
 H N I U F M T U Z U M X L E D L I T
 O O L X O O Q Q B A Z Y F D Z R D B
 V G C Y N L H D S N A O M J W Z N U
 F U S G R V L B T P S M Y C O G A I
 V D A T R A N N U D O O R O T O P S

ANTECHINUS
 BANDICOOT
 BETTONG
 BILBY
 CHUDITCH
 CUSCUS
 DIBBLER
 DINGO
 DOLPHIN
 DUGONG
 DUNNART
 ECHIDNA
 EURO
 GLIDER
 KANGAROO
 KOALA
 KOWARI
 KULTARR
 MELOMYS
 MULGARRA
 MYOTIS
 NINGAUJ
 NUMBAT
 PANDEMELON
 PHASCOGALE
 PLATYPUS
 POTOROO
 QUOLL

All About Puzzles
 puzzles.about.com



Some of the names of the mammals in the puzzle are the Aboriginal names for these native species. Search on Wikipedia to learn more about them and where they live. For example, the 'Ningai' is a tiny nocturnal marsupial that lives in the desert and eats insects. It looks a bit like a mouse but with a pointier nose. The photo to the left is the Southern ningai (Photo: Invasive CRC)

<http://en.wikipedia.org/wiki/Ningai>

Bettong Buddies is the Kids Club of the Friends of Mulligans Flat. We work in partnership with the ACT Parks and Conservation Service and the Mulligans Flat Board. The Newsletter will be four editions a year so kids can learn about Mulligans and its wildlife across the seasons. Enquiries to the ed. c/ kathy.eyles@anu.edu.au



Appendix 11: Focus Group Plan and Seminar Flyer—Land Development Agency

Focused Conversation – LDA 24/07/12 Facilitated by Mark Butz – Futures by Design

Research presentation will set context (see flyer below)

Aims of workshop

Tease out (their) LDA perspectives:

Professional role and challenges of developing next to nature reserves

How they view working within a sensitive environmental context (opportunity/problem)

What they view their (environmental) responsibilities as a developer (lead or follow)

How well delivering on these responsibilities – reflecting on their experiences

How do views of others (senior within agency government, industry etc.) assist or constrain these efforts

Professional learning that evolves from developing next to nature reserves – knowledge transfer within and outside LDA

Do they have access to the right information and knowledge (ecological etc.) and people with skills to interpret?

How much formal de-briefing about projects vs informal stuff (i.e. telling someone to go and see Bob he did it last time)

How much desire to move beyond traditional knowledge sets and build practice.

How to lead or set the standard (Enviro development) when only one player in process and working with financial constraints

How to use reporting to track and measure progress (inc: social outcomes)

Managing agency and community relations – stakeholder management from development ideas/process to new urban community

Are they comfortable with public realm and do they have people with those skill sets

What is their understanding of community expectations of them as an agency

How to achieve design innovation and survive the planning (ACTPLA) and handover (TAMS) process

How to create well-informed environmentally responsible new communities (leaving positive legacy)

Focus question: *How can the LDA become a leader in planning and development practice near nature reserves and facilitate/foster meaningful social connections with nature for new neighbours?*

Objective	Reflective	Interpretative	Decisional
What (2-3) Facts and details	Then What (2)	So What? (1-2)	How What? (1)
<ul style="list-style-type: none"> • What is the LDA's (roles and?) responsibilities developing near nature reserves? • Who are your stakeholders in the development process? • How do you get to know about the needs of the people who buy into your estates and their post occupancy experiences? 	<ul style="list-style-type: none"> • When you look at development of Bonner/Molonglo so far, what gives you pride/pleases you? • What concerns you? • What things do you (or agency) get a hard time about when developing near reserves? • Approval processes • Communications • Industry pressures • Quality of information • Conservation community expectations/objections extra \$\$ for works 	<ul style="list-style-type: none"> • What have you learned through these development experiences? Probe • Learning @ 2 levels <ul style="list-style-type: none"> ○ personally ○ institutionally • How important is it for you to leave a positive legacy as part of your professional work in LDA? (and as an agency?) • Another 'D' How what? • What things might you do as an agency to equip new residents to be sympathetic neighbours? 	<ul style="list-style-type: none"> • What would it take to maximise the positive legacies and learnings? • In the next 12 months what are some of the things you could put place to make it happen - Probes • Skills that may need to further developed? • Improved comms and stakeholder relationships? • Learning and knowledge transfer (internal and external) about developing near reserves? • Tracking progress over time + Implications for reporting? • Next steps (Kathy) What I will do with this data Who else in LDA I need to talk to



Research Presentation and Focus Workshop

24/07/2012

ACT Land Development Agency

Eucalypt Function Room

Nature on the Doorstep: Social Perspectives of Nature Reserves and Developing Urban Areas



10.30 am: Research Presentation

Kathy Eyles – Fenner School of Society and Environment ANU

Nature reserves in urban settings have a broad range of values: for habitat and heritage conservation; the provision of environmental services; and for visual amenity, recreation and education. Importantly reserves provide sense of place and breathing space for nearby residents as well as opportunities for connection with nature, learning, and community care. The potential for beneficial relationships between urban people and nearby nature has not been widely studied and there is little post occupancy research about social and ecological outcomes of developing suburbs near reserves.

Canberra with an extensive urban-bush interface provides an ideal lens to explore these people and nature relationships. Using case studies, this qualitative research will draw on the perspectives of the local people who use and live near nature reserves, people involved in planning and developing new suburbs and the managers of reserves, including local groups and volunteers. These perspectives will produce narratives about how nature is valued and experienced by the different actors and provide insights into their interests, knowledge and practices. By improving our understanding about post-occupancy relationships, this narrative will reveal pathways for promoting sympathetic behaviours for urban neighbours and opportunities for collaboration in management of reserves.

11.00 am: Morning tea

11.20 am: Focus Workshop (6-10 LDA participants)

This workshop will explore the LDA's role, learning culture and current practices as a developer of new urban communities adjacent to nature reserves with a focus on Bonner and Molonglo.

12.30 pm: Close

RSVP: Rob.Thorman@act.gov.au

Appendix 12: Achievements Flyers—Bush on the Boundary

BUSH on the BOUNDARY Molonglo Forum



Construction of the new suburb of Coombs adjoining the Lower Molonglo River, ACT.

As our cities expand to the urban edge, residential suburbs are being developed close to areas of nature conservation significance and in some cases working farms.

Bush on the Boundary (BoB) is an exciting collaboration between developers, government agencies, scientists, farmers, environment and catchment groups that has achieved wins for nature and future urban communities in the Molonglo Valley.

What is BoB?

The Molonglo BoB is a forum for information exchange where stakeholders in the development process discuss proposals and work in a collegiate way to resolve issues early in the design process. Conservation concerns are flagged and alternate design avenues explored, drawing on local expertise, emerging research, and innovative practices. The input of land managers ensures practical ideas are tabled. BoB forums operate with minimal formality and confidentiality is respected. The Molonglo Catchment Group provides the contact point for the Forum.
<http://www.molonglocatchment.com.au/>

What has the BoB Forum achieved?

Case Study – Molonglo Urban planting guidelines

As part of the urban development of the Molonglo Valley, woody weed removal is underway along the lower Molonglo River corridor. This work is the first stage in rehabilitation of the River corridor for nature conservation and passive recreation uses.

To safeguard this rehabilitation effort, the Molonglo BoB initiated a Species Planting Guide for the new Molonglo suburbs to minimise future spread of weed species into the corridor. The Planting Guide was compiled using the ecological and rehabilitation expertise on the BoB Forum, working in close cooperation with the developer, the ACT Land Development Agency (LDA).

A holistic landscape-based approach was adopted for the Guide, covering selection of suitable species for restoration planting in the riparian corridor; landscaping in public open spaces, street planting and home gardens. The LDA is using the Guide in landscape design and delivery.

A sample of some of the garden species recommended in the Guide will be provided to new residents as part of their welcome materials. The recommended garden species are also available for purchase through the Yarralumla Nursery.



Lower Molonglo River - Blackberry for removal right foreground

BUSH on the BOUNDARY Gungahlin Forum



Bush on the boundary - Mulligans Flat, ACT

As our cities expand to the urban edge, residential suburbs are being developed close to areas of nature conservation significance and in some cases working farms.

Bush on the Boundary (BoB) is an exciting collaboration between developers, government agencies, scientists, farmers, environment and community groups, which has achieved wins for nature and new urban communities in the north of Canberra.

What is BoB?

The Gungahlin BoB is a forum for information exchange where stakeholders in the development process discuss proposals and work in a collegiate way to resolve issues early in the process. Conservation concerns are flagged and alternate design avenues explored, drawing on local expertise, emerging research, and innovative practices. The input of land managers ensures practical ideas are tabled. BoB forums operate with minimal formality and confidentiality is respected. The Ginninderra Catchment Group provides the contact point for the Forum .
<http://www.ginninderralandcare.org.au/>

What has the BoB Forum achieved?

Case study 1 - Respecting nature near Forde, Gungahlin ACT

During the development of the new suburb of Forde, the Gungahlin BoB fostered design ideas that have contributed to the creation of Gungahlin's most desirable suburb whilst ensuring sensitive edge treatment to the adjoining Mulligans Flat Nature Reserve.

Significant mature eucalypt trees retained during the development provide a focal setting for local parks and gracious foundations for landscaped green spaces through Forde. Native landscaping across the suburb creates a sense of visual and physical connection to the nature reserve.

A perimeter road and grassed buffer strip constructed along the suburban boundary with the reserve provides an urban setback, landscaped walking trail and fire safety zone.

Developer-led 'welcome' activities for Forde residents included information about the conservation values of Mulligans Flat and rules requiring 24 hour containment of domestic cats.



Mature tree retention - Forde, Gungahlin ACT

Case Study 2 – Sensitive re-design of Mulligans Flat Road

The Gungahlin BOB provided the impetus to re-design plans for the proposed upgrade of Mulligans Flat Road that passes through two sections of Mulligans Flat Nature Reserve.

The re-design brought together engineering and ecological expertise to draft an environmentally sensitive response recognising the unique location, incorporating fauna sensitive design features and avoiding removal of large numbers of eucalypt trees.



Responsive design retains mature eucalypts

The construction phase involved close collaboration between the project manager, contractors, and nature reserve rangers to manage impacts around the work site including flagging and fencing significant trees and other features like drainage lines.



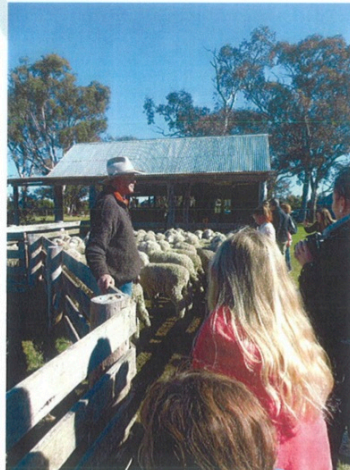
Wildlife underpass, Mulligans Flat Road

Case Study 3 – Living near Rural Lands: education for urban residents

When suburbs are developed adjacent to working farms, many new urban residents are not aware of these ongoing land uses and their potential to impact on farming activities.

The Gungahlin BoB was the catalyst for production of an educational flyer for new residents, *Living near Rural Land*. The flyer gives residents strategies to respect nearby farming properties including asking them to control domestic dogs.

Living near Rural Land was produced by BoB participants including, the Ginninderra Catchment Group, rural lessees and Lend Lease, the developer of Springbank Rise in the new suburb of Casey. It is provided to new residents in welcome materials and will be able to be distributed at other locations in Canberra where residential suburbs adjoin farming properties.



Open Day at Gold Creek Station for residents of Springback Rise, Casey

Appendix 13: Focus Group Plan and Responses—Bush on the Boundary

Focus Group - 6 November 2012, Gungahlin Library. (Facilitated by Mark Butz based ORID Framework)

Focus question: *How can BoB maximise its contribution to planning and development practice near nature reserves in order to protect and enhance the ecological and social values of reserves?*

Practical Result:

Document participant experience of BOB and develop ideas about its future

Rational Aim:

Understanding what BoB is and what it has contributed to practice

Experiential Aim:

Participant understanding about how they experience and contribute to BoB

Context	Objective What (2-3) Facts and details	Reflective Then What (2) Thinking	Interpretative So What? (1-2) Implications - Options	Decisional How What? (1) Directions
<ul style="list-style-type: none"> • Kathy: Brief intro about purpose • Mark: Explain process, time frame & rules • <i>Reflect on BoB based on your experiences and ideas for the future</i> • Who's there? • Warm up exercise? • Self-select cards that have words that reflect functions of BoB e.g.: <ul style="list-style-type: none"> • Communication • Problem-solving • Info sharing • Advocacy 	<ul style="list-style-type: none"> • What does the BOB do? • Who participates in the BOB and how do they get invited to attend? • How is BoB different to other groups and bodies? • What has been the focus of BoB's activities and efforts? • [segue to next] 	<ul style="list-style-type: none"> • When you look at development of Forde/Bonner and now Molonglo... • What has been challenging/frustrating exciting/pleasing? 	<ul style="list-style-type: none"> • Which BoB activities do you think have been the most effective (or not so)? • Where do you think more work or traction needed? • What does this mean for operation of BoB? • How has the BoB been beneficial to your group organisation? • What have you learned from your experience with BoB? 	<ul style="list-style-type: none"> • What are the options for BoB? • What would it take to develop these ideas /maximise these benefits/learnings? • What would make the most difference? Probe • In the next 12 months what needs to be put in place to make it happen? • Next steps (Kathy) • Where to from here? Others to talk to? Thank you etc.

Focus Questions and Group Responses

Questions and Participant Responses

1. *BoB: What is it? What does it do?*

- *'Bring different views together with same main aim—in the title'*
- *'Where urban interface issues—human nature versus nature'*
- *'About trying to preserve what we have and keep that space'*
- *'Identify issues present and future around human impacts'*
- *'Involving people from a very wide basis in sharing knowledge as well as traditional channels of groups and government'*
- *'Even broader, because you've got the developers and open atmosphere where you can exchange, important it is not minuted'*
- *'Not an entity in itself doesn't put out documents allows people to speak more honestly in a trusting atmosphere'*
- *'Helps remove perceptions about specific interest groups - provides a more balanced view of stakeholders'*
- *'Conduit between community and government represent balance'*
- *'Opportunities from the urban side of the communities to work together—see how my program can fit with reserves'*
- *'Not the voices I usually hear but voices from your organisations that might not have the chance to hear otherwise'*

2. *Who needs to be part of BoB? How do people get invites? Does participation change?*

- *'Developers, catchment groups, local community, rural lessees, rangers'*
- *'Group collectively says who should be part and sharing—for e.g. when agency about to do a management plan, we invite them to be there'*
- *'Different parts of government involved as need shifts and changes'*
- *'Nobody within TAMS advocating they should be here so I look at the agenda and not always issues for them every meeting'*
- *'Informality helps with floating according to issues but need a repository of that expertise and information and recognition of value'*
- *'BoB's strength also one of the weaknesses - it isn't a decision-making body - not a 'must be at' so turnover in participants and changing priorities'*
- *'Turnover is an issue in the last 3 years Gungahlin BoB 8 different Parks managers and about 40 rangers going through Mitchell'*

- *'The thinking when we started, we felt needed to influence the developers and planners and that has now weakened'*
- *'Some developers won't be interested others like Lend Lease have a history of trying to create high quality living environments and were very receptive'*

3. What is different about BoB?

- *'As an outsider power is that everyone has different perspectives don't all have to come to same perspective'*
- *'People can speak freely'*
- *'Having government, developers and community all participating'*
- *'Non-judgmental intelligent democratic ways of doing things not the usual aggressive approach between the players'*
- *'Non-adversarial but still capacity for the groups to go beyond the BoB, to take to further outside of the forum'*
- *'Respect people say stuff out of turn and doesn't go out of forum'*
- *'Ability to frankly discuss issues—fine balance as soon as someone quotes someone outside lose that ability'*
- *'If it wasn't that sort of forum people would be careful what they say'*
- *'How we behave using Chatham House Rules'*
- *'Relaxed not them and us, listen to each other'*
- *'The forum/platform a lot more open than you will find at an agency-led meeting, the strength everyone can be involved as opposed to a set structure'*
- *'When forums are managed by agency people, they can only speak when they were allowed to speak and you have to listen to what you were being told'*
- *'Opportunity to come and talk to the right community reps – developers and government still learning about this, change takes time'*

4. What stands out about how BoB made a difference. Identify specific issues and projects?

- *'The experience of BoB and gains are made where the development is starting – lots of other groups once suburbs established'*
- *'Move around the development front 7-10 years you sort out the boundary road, dog park as the development proceeds, influence the environmental planning outcomes then over to catchment groups'*
- *'Value of BoB is new development and it comes to an end'*
- *'BoB useful putting out fires – right people at the right time ability to make strategic 'input'*

Examples of issues resolved through BoB players:

- *‘Mulligans Flat road example—completely changed design because of this group; the people in the room were the ones with the knowledge that it doesn’t have to be designed like this and were there to influence it. Also got info at early stage that allowed us to participate’*
- *‘Urban dogs for rural leases, we decided on an (education) leaflet and needed someone to pay for it - had (the developer) not been at BoB, we may not have got that cooperation or distribution point with the Gungahlin community service’*
- *‘The need for unleashed areas and a Dog park raised by Molonglo BoB and TAMS now doing a study’*
- *‘The Molonglo species list where BoB has come up with planting guide – LDA asked for it and three different groups contributed to it’*

5. Where is Bob evolving? Are there some themes?**Theme: Independence and value**

- Avoid urge to be formalised and owned by government
- Needs to retain independence and autonomy
- Ideally consistent structure to do this edge work flexibility
- Ensure people recognise its value

Theme: Strategic principles

- Government still learning things so BoB principles important as solid foundation known by government and developers, then issues don’t come up as frequently and have to be dealt with every time
- A key thing is to get the learnings from Bob in one document so each group does not have to go off and do the same things
- BoB easier to be effective on a smaller scale
- Localising the big decisions and principles

Theme: Membership and meetings

- It evolves and you have different people involved north Gungahlin
- So membership evolves and fluctuates as well
- Groups recognise their (BoB) differences and mix up attendance
- Evolution with meetings become less frequent over time you have to bring it in
- Naturally needs to evolve as suburb is completed
- May change its geographic focus but does not need to change its modus operand

Theme: Conduit to community

- Catchment groups as point of contact for community involvement longer term
- We need this group to feed in so can help to skill up - community awareness
- Allows local people to own what happens and be part of those choices
- Draws on strength of local groups passion and knowledge on the ground
- BoB came to be seen as primary community contact

Theme: Coordinator and programs?

- No presence for BoB beyond the organisations and nothing in between
- BoB Coordinator could have that point of contact and get across the groups
- Engagement in Forde was very effective but no mechanism to roll out elsewhere
- Inconsistency in funding arrangements for community education- Cons Council urban edge community education work and catchment group not ongoing
- Get to point where in every suburb there will be a community engagement program tailored for those suburbs
- Lumping in together disservice as different outcomes—local residents evolve into other groups and keep it going

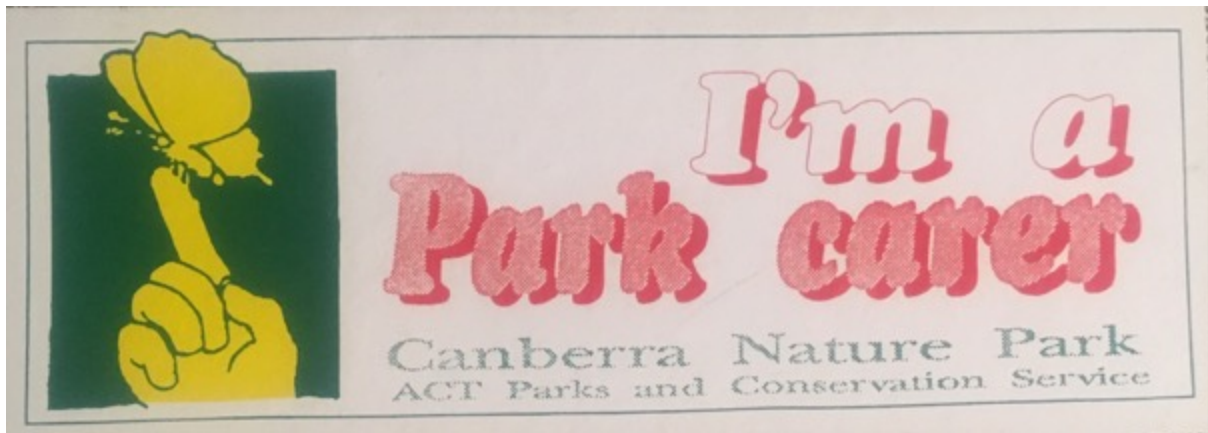
6. What needs to happen with BoB? Over next 12 months? Beyond that?

- *'Look at the experience and development of Molonglo'*
- *'Would hate to see Molonglo BoB stop at Coombs and Wright'*
- *'Get some of the other developers on board at Molonglo'*
- *'Broader strategic dialogue about the edge'*
- *'Document success and experience of BoB'*
- *'Influencing the standards rather than individual developers'*
- *'Community Councils would benefit from being aware of BoB successes on environment - bring it in as a resource'*
- *'Gungahlin—shift focus to new edge Moncrieff and Jacka'*

Appendix 14: ParkCare Case Study

14.1 History of the Program and Profile of Volunteers

'Volunteers already interested in the bush take to the work like ducks to water and need only to be told which plants are weeds and when to stop' Joan Bradley quoted in Friends of Kelly's Bush Newsletter (2018).



14.1 History of the ParkCare program

ParkCare started as a pilot bush regeneration program following a public meeting to discuss invasive weeds in September 1989, jointly hosted by the Horticultural Institute and the Parks and Wildlife Service CNP managers (ACTG File 89/15573).

The program began with a budget of \$15,000 for an interim coordinator in 1989/1990 to develop funding from outside the ACT budget. Simultaneously, the new community volunteers worked closely with the nursery and horticultural industry to remove invasive weed species (e.g., cotoneaster and pyracantha) from retail nursery shelves. Leon Horsnell from the Horticultural Institute and Michael Mulvaney (who had charted the spread of these weeds in the ACT in his Honours thesis) spearheaded the promotion and supply of alternative hedging native species for Canberra gardens through outlets like the Yarralumla Nursery (M. Mulvaney, 2015, personal communication) .

The ParkCare program was funded for the 1990–1991 year, with the then-manager of CNP championing the value of volunteers and pivotal to embedding the program into the 'management ethos' of the park (Brownlie 1991). The strategy involved keeping a record of

volunteer hours and number of people involved to maintain 'essential' statistics for later applications (June 1991) for continued funding. Groups prepared a short monthly report about their activities and there were set weekends for activities on the 1st and 3rd of the month so a CNP ranger could be present. Groups also worked to a broad seasonal work schedule prepared by CNP land managers to coincide with potential weed growth and conditions. This monthly reporting revealed that by June 1991, 6,000+ trees had been planted in CNP and Googong and 80,000 woody weeds removed involving 6,000 volunteer hours (ACTG 1992), with the volunteer effort attracting local media attention (see Figures 14.1 and 14.2).



Figures 14.1 and 14.2 Local newspaper articles about the ParkCare Program

Source: ACTG File 89/15573 Leon Horsnell working on Farrer Ridge and Red Hill Nature Reserves, 1991

The program continued to be funded from 1991 to 1993 after the Chief Minister announced the Labor Government's environment policy including support for ParkCare on 10 February 1992. The budget of \$50,000 comprising \$32,000 for a coordinator's salary and \$18,000 for tools, safety equipment, tree guards, stakes and herbicide. The ParkCare program enabled:

not only the rangers to pass on their skills to the volunteers, but for the volunteers to pass on their skills to the rangers. For every dollar spent on training, the ACT gets \$10 worth of service (labour) at no cost. Park Care also plays a valuable part in the formation of community groups dealing with broader social issues and encourages a community spirit which is benefit not only to those people participating directly but indirectly to the whole community. (Maxwell 1992: 11)

While the ACT ParkCare program emerged at the same time as the rurally-focused National Landcare program, it had a different genesis and mode of practice. In the early 1970s, sisters Ruth and Joan Bradley pioneered a low-impact restoration practice in harbourside bushland reserves in Mosman, Sydney, that became known as the 'Bradley Method' of bush regeneration. The Bradley sisters' trialled their methods and developed simple principles for practice: work outwards from better bush towards the weed infestation; create minimal disturbance and do not over-clear. The 'slash and burn' approach to weed removal fails because the bush takes time to regenerate and 'bare-earthing' only favours the weeds that thrive in open space and re-invade. The Bradley Method is subtler and longer lasting: 'bringing back the bush is a gentle art, demanding a strong will and patience.' (Joan Bradley quoted in Friends of Kelly's Bush 2018).

These techniques were initially practiced in Sydney under the auspice of the NSW National Trust and a small team of professional bush regenerators (led by Joan Bradley) on Trust lands (National of Trust of NSW u.d.). It evolved into a management technique widely practiced across urban parks reserves in Sydney and was incorporated into the vocational training curriculum for regenerators at Technical and Further Education, NSW (Buchanan 1989). Judith Rawlings, a Sydney-based bush regenerator, visited the ACT in the early years and excited the volunteers and Parks agency staff about what might be achieved in ACT nature reserves (J. Rawlings, personal communication). Ranger Mike Ivill, one of the first ParkCare Coordinators describes the genesis of the program:

'The idea for the program came from the community – they expressed a willingness to protect and manage bushland within reserves. One of the most pressing programs was weed invasion. Park care volunteers have tended to be local folk- often neighbours – who have either heard about the program from the Service, the media or

friends, have seen volunteers working in 'their' reserve and asked to join in or have been recruited by other volunteers through letterbox drops or word of mouth promotion. But Canberrans go further than simply sitting on committees and writing submissions- they get their hands dirty. They want to be there on the ground. They demand a right to participate and follow up with great responsibility, with great dedication and skill' (ACTG File 89/15573)

ParkCare quickly grew from a pilot bush regeneration program with one group and 13 volunteers in CNP to 13 groups and 400 volunteers within 3 years (see Figure 14.3). The first ParkCare Awards were held at Black Mountain in February 1992. The active groups were: Farrer Ridge Revegetation; Friends of Mount Painter; O'Connor Ridge ParkCare; Friends of Macarthur Ridge; Friends of Aranda Bushland; Remembrance Nature Park group; Cooleman Ridge ParkCare; Mount Taylor ParkCare; Red Hill Regeneration group; Friends of Gossan Hill; Mount Ainslie Weeders; Friends of Urambi Hills and the Pinnacle Environment group. The ParkCare Monthly Report for September 1992 described the Mt Taylor group's activities:

Mt Taylor Park care continued their fight against the woody invaders. The whole western side of the hill is almost woody weed free, thanks to Anne I'ons and her team. The group has cut down over 4000 plants in and even outside the park boundary! A leaflet drop last month attracted a number of new volunteers and future emphasis will be on rousing the Pearce/ Torrens residents to work on the eastern flanks. Mt Taylor has some extremely species rich areas of vegetation, especially up the western drainage lines. Spring time walks will delight the orchid lovers! (ACTG File 89/15573)



Figure 14.3 Ranger Mike Ivill, ParkCare Coordinator, promoting the program, 1992

Source: ACTG File 89/15573

The success of ParkCare in CNP drew proposals to expand ParkCare to Namadgi, Tidbinbilla, Murrumbidgee Corridor and Googong Foreshores. A junior ParkCare program and newsletter began mid-1992 (see Figure 14.4) and the next phase of the program worked with primary schools and their environmental education classes (ACTG 1993).

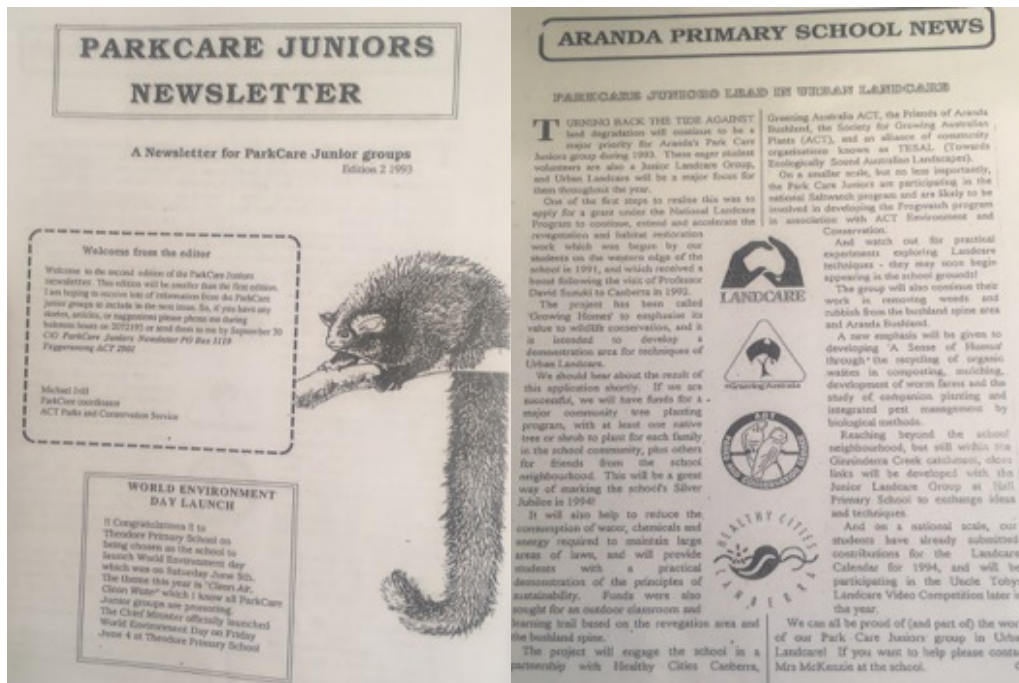


Figure 14.4 The ParkCare Juniors Newsletter, Edition 2, 1993

Source: ACTG File 89/15573

Early training for volunteers included a Eucalypt Identification Workshop (February 1991) and an Urban Bushland workshop in Heritage Week (15 April 1991) where Judith Rawlings, the NSW Bush Regenerator and 20 National Trust members demonstrated cut and dab techniques at Red Hill Nature Reserve. By 1992, induction and refresher training were provided by the Parks Service. They covered an introduction to the Parks Service and ParkCare, safe use and handling of chemicals and safety working with hand tools (ACTG File 89/15573).

In May 1999, the first ParkCare workshop was held to review the program. The organisation and planning of activities by District rangers, ranger support and group motivation were identified as factors supporting the program, along with the enthusiasm of a small core of people within each group. Factors hindering the program included staff turnover and failure to recognise the skills and knowledge of ParkCare members. Priority actions included involvement in annual works planning, input to business planning, availability of management

and business plans for groups, increased resources and development of management skills. Many groups received grants to undertake conservation and interpretation work with the National Heritage Trust in the late-1990s and the commitment and dedication of some groups was recognised by State and Regional Landcare awards. In 2004, ParkCare volunteers participated in a workshop to identify priorities for environmental work. Participants were encouraged to imagine what parks and reserves might look like in 10 years and what changes might evolve. Increased use of reserves for recreation, declining resources for conservation and land management and a need to engage communities in reserve management were discussed (ACTG File 89/15573).

The next decade of the program saw considerable changes to the program's administration; the PCS maintained a ParkCare program coordinator but suffered competing demands for District ranger resources. Groups had to become more autonomous and CNP rangers rarely attended meetings (Steve Welch 2011, personal communication)—though key elements like training in chemical use were still provided through the program Coordinator. These resource limitations made the agency reluctant to support new groups. Submissions to the Commissioner for Sustainability and Environment's Inquiry into Canberra Nature Park provide a good summary of the issues facing ParkCare groups and the partnership at that time (OCSE 2011c; see Table 14.1). The Inquiry report recommended 'enhancing support for and encouraging the formation of new ParkCare Groups so that the majority of reserves [were] supported by such a group,' (OCSE 2011a: 8). The ACT Government gave a non-committal response: 'New groups require staff support and coordination as well as insurance cover, training, protective clothing and equipment. Implementation arrangements and likely resourcing needs will require further consideration and examination. Support for new groups will be conditional on funding through budget processes' (ACTG 2012b: 8).

**Table 14.1 Submissions to Commissioner for Sustainability and Environment’s Inquiry
into Canberra Nature Park 2011**

Community submissions about roles and support for ParkCare	Submission No. & Group
<i>‘There is a crying need for adequate staffing levels and continuity of departmental PCL staff so that relationships can develop, and knowledge accumulate. The ACT Government does not have the resources to care appropriately for these reserves without community involvement. This involvement must be strengthened. The resources put into setting up and supporting ParkCare and Landcare groups are currently inadequate. Each and every reserve needs at least one group of voluntary caretakers or ‘friends’. The network could be actively promoted to tap into the ‘grey army’ of active, intelligent retirees. Recruiting volunteers would not only provide resources, but also increase awareness of these valuable assets’.</i>	Submission 3 Cooleman Ridge ParkCare Group page 30
<i>‘We recommend that the management structure and functions, as they relate to Parkcarers be streamlined. We feel there is scope for further clarification of the lines of communication for different aspects of Parkcarers’ work... It is our impression that PCL is inadequately resourced to fully carry out its function of reserve management. The PCL staff with whom we deal are very dedicated, hardworking and unfailingly helpful, but appear not able to deal with all that should be done. For example, when a group of Hawker and Weetangera residents, whom FOMP was assisting, proposed forming a Parkcare group to work on The Pinnacle, we were told that PCL was unable to support an additional group. We are somewhat puzzled by the management structure for the reserve. Communication between PCL and FOMP has not been helped by the somewhat puzzling management structure and the heavy workload carried by PCL staff. Nor was it very smooth during recent, frequent staff changes’.</i>	Submission 4 Friends of Mt Painter page 31
<i>‘To date the co-ordinator of Parkcare has been a person with facilitation and communication skills. There would also seem merit in this person having a supervisory role of on-ground activities and expertise in bush regeneration to advise Parkcare Groups on the most appropriate ways of addressing a particular regeneration issue, assisting in coordination between volunteer and the professional activities and ensuring that inappropriate activities are minimised’... ‘there should be improved coordination between Canberra Nature Park management and volunteers on specific weed management - currently there is very little real coordination and much could be gained by professional spraying being coordinated with the Group’s efforts via an agreed annual work plan. For example, the Group could map weed infestations, Canberra Nature Park could arrange for spraying larger patches while volunteers mop up and tackle outliers’.</i>	Submission 9 Red Hill Regenerators Group page 74, page 78
<i>‘Since stakeholders, in the form of Parkcare Groups, provide a massive amount of the labour force working for Park improvement, communication, support and active involvement are essential between CNP staff and volunteer groups’.</i>	Submission 12 Friends of Aranda page 103
<i>‘The contributions that Parkcare and Landcare groups...have made with species lists of flora and fauna in reserves be acknowledged and used as valuable assets in the study of local biodiversity’.</i>	Submission 16 Field Naturalists page 127
<i>‘Funding pressures on PCL limits its ability to employ more rangers who would be able to increase the on-ground presence of PCL throughout the reserve system. There is an increased reliance on parkcare groups to address field issues, such as weeds, in the reserves... Recommend a real increase in the level of funding for conservation’.</i>	Submission 20 NPA 180 page 178

<i>purposes by the ACT government with an emphasis on increasing ranger numbers, supporting park and landcare groups and the expansion of weed and pest programs. Work with local Parkcare groups...with specialist information to develop local species lists for individual urban reserves and local areas’.</i>	
<i>‘ParkCare is generally considered a successful example of government and community working together. In 2009/10, volunteers spent in excess of 1500 hours surveying and mapping rabbit warrens on Mt Ainslie and Mt Majura. Clearly, PCL rangers could not have done this as well as attend to their other duties. Dedicated volunteers also do many hours of other work in CNP, particularly weeding. They develop an intimate knowledge of their patch and can become experts in many aspects of their work. This should be valued and nurtured by government and recognized as a valuable investment’.</i>	Submission 22 Mt Ainslie Weeders Watson Woodlands Working Group Friends of Mt Majura page 198
<i>‘Basic financial administrative support for Parkcare...to maximise their voluntary contribution to conservation reserve and natural area management (with consequential value-adding to ACT Government)’.</i>	Submission 27 CFACTR page 232
<i>‘ParkCare groups already make significant contributions to the functioning of areas within CNP but there is room for these contributions to be enhanced through the provision of greater support and tailoring some procedures to better meet volunteer needs. Matters that could benefit in this way include training, availability of tools, support through services beyond volunteer capacity, coordination with staff operations and improved access to work sites. Resources applied in this way can be very efficiently used due to the “multiplier effect”. There is room for greater community identification with CNP areas in their local areas...through existing community organisations, schools, implementing concepts such as “Adopt a Park”, provision for better access within existing recreational guidelines, ready availability of information about the park through ranger-based activities or printed material. Resources applied in these directions could give good returns to park management as well as adding to community amenity’.</i>	Submission 34 Syd Comfort page 271
Source: https://www.envcomm.act.gov.au/_data/assets/pdf_file/0007/590893/Part_III_Submissions_CompressedR.pdf	

The ACT Greens proposed much greater investment in CNP, including support for volunteers, as part of its platform for the 2012 ACT Election (ACT Greens 2012). The subsequent Parliamentary Agreement with the Labor Government in 2012 to secure majority government led to the employment of a dedicated ParkCare ranger for CNP in 2013 and additional resources for weed control (Page 2013b). Non-conservation organisations like Greening Australia have also supported ParkCare since its inception with community planting days in the first decade (Greening Australia 1996) and provide continuing support with revegetation work, particularly site preparation and providing local native tube stock.

The establishment of three catchment groups in the ACT: Ginninderra in 1997 (<https://ginninderralandcare.org.au>), Southern ACT in 2002 (<http://sactcg.org.au>) and Molonglo in 2003 (<http://molonglocatchment.org.au>) provided a strategic catchment planning focus and much-needed capacity building support for ParkCare and landcare groups and rural

landholders (See Submission 3, OCSE 2011c). The Catchment groups have been instrumental in leveraging additional investment into CNP over the last decade through successful ACT Heritage and Environment Grants and national project funding from the Commonwealth Caring for Country, Envirogrant and Green Army programs. They also drove the creation of a peak advocacy organisation, Landcare ACT, for care volunteers (Landcare ACT 2015). The network of ParkCare and Landcare groups in each catchment is shown in Figure 14.5.

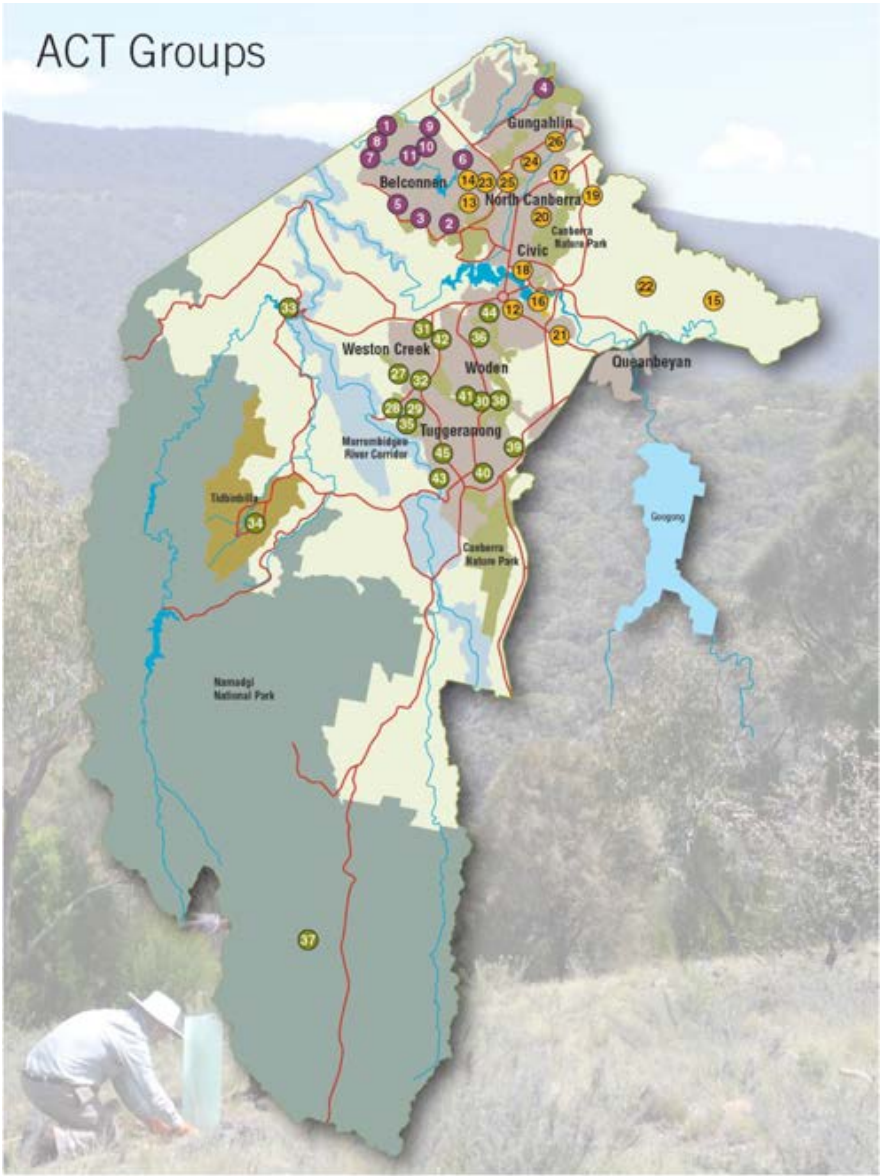


Figure 14.5 Conservation stewardship groups in the ACT

Notes: CNP ParkCare Groups: Friends of Aranda Bushland (2); Friends of Mt Painter (3); Friends of Mulligans Flat (4); Friends of the Pinnacle (5); Friends of Black Mountain (13); Friends of Bruce Ridge (14); Friends of Jerrabomberra Wetlands (16); Friends of Mt Majura (17); Mt Ainslie Weeders (20); Cooleman Ridge ParkCare (27); Farrer Ridge ParkCare (30); Friends of Urambi Hills (35); Isaacs Ridge Mugga ParkCare (38) Mt Taylor ParkCare (41); Oakey Hill ParkCare (42); Parkcarers of the Southern Murrumbidgee (43); Red Hill Regenerators (44). Source: https://www.environment.act.gov.au/__data/assets/pdf_file/0006/575151/WEB_Volunteering_brochure_A5_booklet_2.pdf

14.2 ParkCare Volunteers

Just ahead of the 25th anniversary program, the (then) ParkCare Coordinator surveyed the Parkcare volunteers and Parks staff to inform a review of the Volunteer Policy (Foxlee 2013). The survey results provide a useful snapshot and include responses from 64 volunteers and 20 Parks and City Services (PACS) staff. The survey revealed that most volunteers found out about volunteering in ACT reserves through word of mouth (70%); 22% found out at an environmental event and 8% read either the ParkCare brochure or website. In total, 60% of surveyed volunteers were women; 40% were men. Around 50% of volunteers were employed either full- or part-time; 48% were retired and a small number undertook full-time study. Interestingly, none of the participants in the survey were seeking work or worked as a full-time parent/carer (see Figure 14.6).

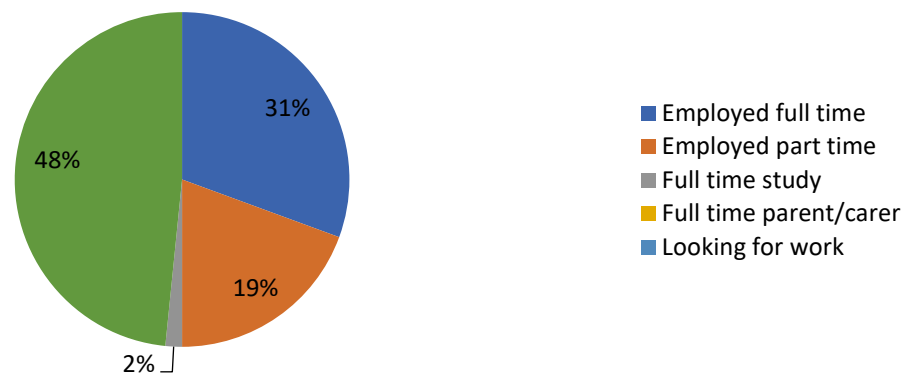


Figure 14.6 The percentage of volunteers in paid employment, retirement or study

Source: Foxlee (2013)

Consistent with the employment data showing many part-timers and retirees, almost 58% of volunteers were over 60 years of age, with 74% over 50 years (see Figure 14.7).

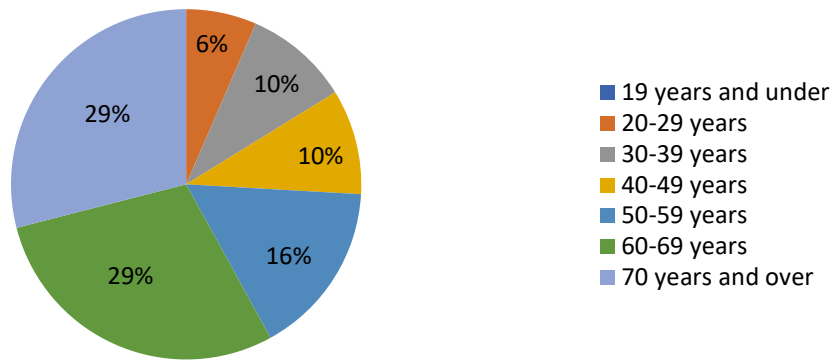


Figure 14.7 Age profile of volunteers working in ACT parks and reserves

Source: Foxlee (2013)

Volunteers were also asked to rate the priority of a number of pre-determined volunteer management issues. The volunteers' highest priorities were:

- A safe working environment
- Adequate insurance coverage
- Agreed common conservation goals
- PACS land management activities impacting on volunteer efforts

Volunteers felt that volunteer and PACS activities were not well coordinated; setting common goals was an area for improvement. Communication and explanations about land management provided to volunteers were also an area for improvement. There was strong support for an induction program primarily based on workplace health and safety, and processes for undertaking activities. The time commitment of volunteering was recognised, as was the need to make volunteering as streamlined as possible from both the participant and PACS perspectives (Foxlee 2013). PACS staff responded to the same pre-determined issues and priorities were:

- A safe working environment
- Consistent application of the volunteer policy
- Agreed common conservation goals
- Insurance coverage

PACS staff wanted to work through work plans with groups to better align goals and improve communication by including volunteers in information sessions about Parks management and creating forums for these sessions (although staff lacked the time to do this properly). PACS staff suggested more collaborative projects and joint planning and also recognised the need to provide better training and support on the ground. This involves skill transfer in both directions.

According to 2013–2014 volunteer reporting, 45% of volunteer hours were spent on weeding (around 7,000 hours; see Figure 14.8), with 75% of total ACT volunteer hours recorded by the 14 CNP groups (Foxlee 2015).

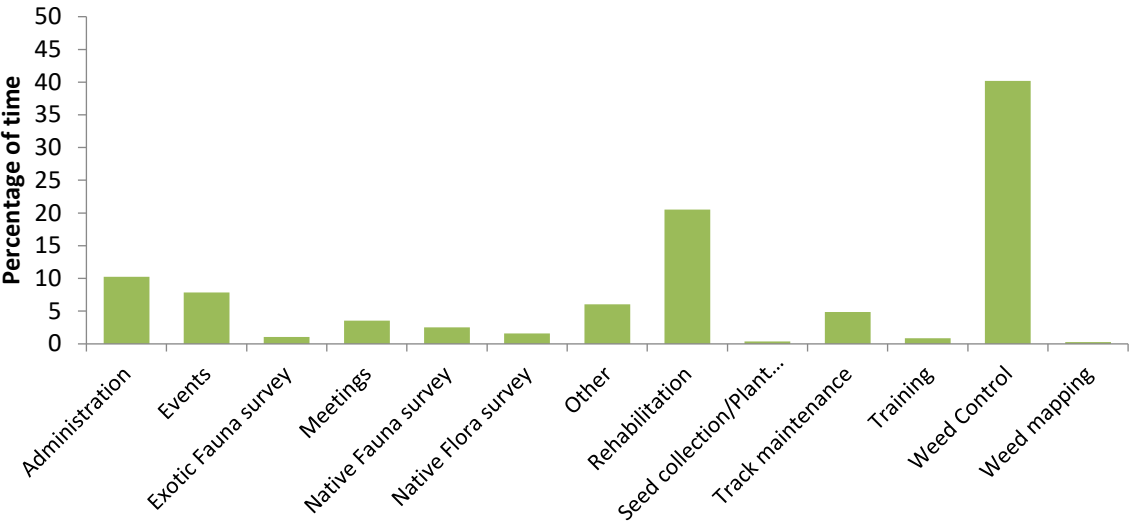


Figure 14.8 The proportion of time (%) spent by volunteers on reported activities from June 2013 to July 2014

Source: Foxlee (2013)

14.3 ParkCare: 25 years

By the 25th anniversary of the ParkCare program in 2014, there were 20 ParkCare groups—eight of which originated in CNP—and 15 urban Landcare groups (see Figure 14.5). As part of the 25-year celebration, a forum was held for the care community to ‘Reflect, Explore and Inspire’. This provided an opportunity for the 60 participants to reflect on volunteers’ achievements, explore land management challenges and consider future possibilities (Hall 2014). The researcher played an active role in the organisation of this forum, as both a ‘participant observer’ and also a researcher collecting data from volunteer participants (see Volume I Thesis - Section 1.8.2.4). The Forum elicited both critical reflections and ideas from

volunteers (see Table 14.2) and the outcomes were compiled to develop a set of goals for 2020 (Hall 2014). Participants recognised the improved ecological health of ACT nature reserves as a direct result of active community involvement in land management and acknowledged the sheer commitment of key individuals to making a difference.

Table 14.2 Participant Reflections on ParkCare and Ideas for the Future

Reflection Questions	
What has ParkCare achieved?	What are your ideas for the future?
<ul style="list-style-type: none"> • make the idea of the ‘bush capital’ a reality; • restore degraded environments – noticeably improved results over the life of the programs; • put people in touch with, and help them connect with nature; help foster a sense of local ownership and ‘stewardship’ of local bushland; • create a community of people, sharing experiences, knowledge and providing social benefits as a result of being involved; • improve awareness and recognition of the value of reserves and achieved additional legal protection; • improved on-ground management; • create a real grass roots initiative and a genuine government and community partnership 	<ul style="list-style-type: none"> • review what is achieved –clarity about conservation aims and objectives for each patch; • learn from practice and experience across the ACT and further afield; • improve coordination with Parks and Conservation Service and City Services; • adopt new approaches to land management in response to research; • focus not just on reserves, but interconnectivity of bushland, urban fringes and suburban ecology/ecosystems; and • get out and talk to people about local bushland, ecology and why it is important to look after it (raising awareness in the local community).

Source: Hall (2014)

Considering the program’s history, the same issues were raised by volunteers at workshops in 1999, 2004, the ParkCare Survey 2013 and the 25-year forum in 2014: the need for better coordination of work planning and communication with the Parks Service, especially with the district land managers; the application of learnings and skill transfer; and wider community engagement. The impression is one of a resilient community network that has persevered through the fluctuations in program support by the agency. This inherent community capacity is explored in Chapter 8 of the thesis (Section 8.7) through the perspectives of land managers within and outside the agency and the volunteers. Chapter 9 of the thesis (Section 9.6) puts forward a number of recommendations to reframe how support is provided for ParkCare groups and build new partnerships to draw on the regional networks, coordination and community education capabilities of the ACT Catchment Groups.

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Appendix 15: CFU Saturday Letterbox Flyer/Poster

RESIDENTS OF CHIFLEY, PEARCE AND TORRENS

ARE YOU BUSHFIRE READY?

A hot and dry summer is predicted so families living close to the bush need to get prepared for this fire season. Catch up with the volunteers from your local Community Fire Units in Chifley, Pearce and Torrens, and learn more about what you can do to prepare your home and family.

Join us for a free sausage sizzle

Saturday 8 November 2014

10-12 noon

Chifley Neighbourhood Park



*Working in partnership to protect and preserve life,
property and the environment in the ACT*



Community Fire Units are proudly supported by ACT Fire and Rescue

<http://esa.act.gov.au/actfr/community-fire-units/>

RESIDENTS OF CHIFLEY, PEARCE AND TORRENS

ARE YOU BUSHFIRE READY?

Above normal bushfire potential is predicted for the 2015-2016 fire season so families living close to the bush need to get prepared for this fire season. Catch up with the volunteers from your local Community Fire Units in Chifley, Pearce and Torrens, and learn more about what you can do to prepare your home and family.

Join us for a free sausage sizzle

Saturday 10 October 2015

10-12 noon

Chifley Neighbourhood Park



Working in partnership to protect and preserve life, property and the environment in the ACT



Community Fire Units are proudly supported by ACT Fire and Rescue

<http://esa.act.gov.au/actfr/community-fire-units/>

Appendix 16: Interstate Case Studies

16.1 Overview and Case Studies

This Appendix presents the findings of two interstate case studies selected for their demonstration of collaborative community management of nature reserves in different urban edge settings: Ngarri-djarrang (Central Creek) Grasslands at Reservoir in north-west Melbourne Victoria and the Maroochy Wetlands Sanctuary at Bli Bli on the Sunshine Coast, QLD. In both cases, the local government reserve manager has devolved various management, interpretation and communication activities to community-based organisations, who have valuable site knowledge and good relationships with their urban neighbours. The Appendix describes the case settings, research methods and findings about the social perspectives of the groups, and closes with some insights and learnings drawn from the case studies.

16.2 Case Study Selection

The research strategy included purposefully selected interstate case studies that are ‘information rich’ and relate to the phenomenon of interest (Patton 2015: 46). Models used to manage nature reserves in urban edge settings outside Canberra allow for some comparisons of history, social relations with neighbours and important roles for local knowledge and activism across time and space. The intention is to draw on the experience of practitioners and communities involved in partnerships that foster collaboration and co-management approaches. An established native grassland reserve in suburban Melbourne, and a wetland in an urbanising rural setting on the Sunshine Coast were selected for study. Both sites have regional conservation values and are owned by the local municipal authority. Of interest for this research, both sites have:

- long histories of community activism, advocacy and stewardship that has shaped their management
- dynamic socio-economic settings
- adaptive and innovative approaches to neighbour engagement
- enduring partnerships and devolved community management structures.

Ngarri-djarrang (Central Creek) Grasslands is located in the north-western suburb of Reservoir, Melbourne, a diverse multi-cultural suburb. The Ecological Restoration team of Merri Creek Management Committee (MCMC) have a long history of working with CALD neighbours and, through the foundational work of the Friends of Merri Creek, of integrating Indigenous stories of the Aboriginal custodians and building their knowledge into management.

At Maroochy Wetlands, there has been rapid change around the perimeter of the Sanctuary with farmland being converted to urban estates. Simultaneously, the Maroochy Wetlands Sanctuary Support Group (MWSSG) has initiated innovative partnerships with a tourism boat operator on the Maroochy River and their rural neighbours to present the Sanctuary and targeted events to engage with urban neighbours and the wider regional population.

16.3 Research Setting—Ngarri-djarrang (Central Creek) Grasslands

The Ngarri-Djarrang grassland reserve is a 9 ha remnant adjacent to Central Creek, a tributary of Merri Creek in Reservoir, Melbourne, Victoria (see Figures 16.1 and 16.2). Reservoir is 14 kms north of the CBD and 10 km south of Melbourne's northern urban growth corridor, which extends into the upper Merri Catchment (Growth Areas Authority 2012). Reservoir has a culturally diverse population: Australian-born residents constitute 57.5% of the population and 34.3% were born overseas with a large population of southern European- and African-born residents (ABS 2016d). Households are shrinking (more single households), due to factors that include the maturation of younger families who migrated to Reservoir in the 1960s and 1970s (City of Darebin 2012).



Figure 16.1 Location Merri Creek catchment in Victoria



Figure 16.2 Ngarri-Djarrang Grassland east of Merri and Central Creeks, Reservoir, (top right)

Source: MCMC

Housing was developed around Ngarri-djarrang in the 1950s, with Davison Street constructed through the site in the 1960s. The remainder of the land was not developed because it was reserved for a future freeway. By the 1970s, community concern about the condition of Merri Creek and government plans to concrete the creek, construct a new overhead power line and construct a freeway from Craigieburn to Clifton Hill led to a community campaign that stopped the Merri Freeway. In 1976, a coalition of community groups (including the Friends of Merri Creek) and the then eight municipal councils adjoining Merri Creek founded the Merri Creek Coordinating Committee (later the MCMC). Objectives included preserving the catchment; regenerating and restoring the landscape; providing for passive and active recreation; establishing habitats for fauna; encouraging public interest and participation and implementing appropriate flood control measures (Bush et al. 2003).

The Friends of Merri Creek conducted another campaign in 1984 to protect the Central Creek Grasslands using a postcard drop and media campaign with an appearance by Tasmanian environmentalist and new MP Bob Brown (McGregor 1992; Bainbridge 2009; see Figures 16.3–16.6)



Figures 16.3 and 16.4 ‘Save the Central Creek Grassland’ campaign

Source: MCMC

Preston Post Times 3/15/94.

ST TIMES May 3, 1994

NEWS

Creek land sale fear

by MICHAEL COULTER



THE Merri Creek Management Committee fears Melbourne Water and VicRoads are about to sell off a large tract of rare native grassland in Reservoir.

Committee manager Mr Rod McLellan has written to Roads Minister Mr Baxter and Conservation Minister Mr Birrell about the future of the 21 ha plot, formerly part of the F2 fireway reserve.

He said the site had state significance and represented one of the last bastions of grasses that once covered Victoria from Melbourne to the South Australian border.

"The State Government keeps telling us that funds to buy more land for conservation are very limited and we look like losing the last large areas of native grassland further upstream on Merri Creek as a result," he said.

"But here are two Government authorities sitting on prime conservation land expecting to make a quick buck from the sale because they say the environment is not their problem."

Melbourne Water's property manager, Mr Ian LeNouary, said the land was not yet for private sale.

He said Melbourne Water had been advised of the environmental significance of the land and had written to the Department of Conservation and Natural Resources (DCNR) asking it to buy the land.

"The course we have taken is that we have made approaches to the DCNR to place an interim conservation order on the land," he said.

"If the DCNR accepted financial responsibility I think it would be a very good outcome."

A spokesman for the DCNR said negotiations over the site were in progress but could not say how much Melbourne Water wanted for it or whether the department would buy it.

Mr LeNouary said Melbourne Water was acting on behalf of all owners of the land, including VicRoads and 12 private owners.

He said if the land was sold to the DCNR each owner would receive money according to the size of their holding.

He could not speculate on what might happen to the land if the DCNR did not take it over.

Mr McLellan, however, criticised Melbourne Water for trying to sell the land to the DCNR instead of donating it.

"This is an untenable position for Melbourne Water and VicRoads to take," he said.

Parts of the F2 reserve have already been sold, with a large tract around Bartrop St bought by developers in 1992.

Preston Council last Tuesday issued a permit for a 33-lot subdivision on the Bartrop St land.

● Rod McLellan and Merri Creek management committee conservation officer Tony Faithfull at the Reservoir site.

THE AGE 26/5/94



More than just a pasture? July Bush and Rod McLellan in the internationally important native grassland at Reservoir.

The green, green grass of home under threat of sale

By MICHAEL COULTER

To most people it looks like an overgrown paddock. But to Rod McLellan and July Bush of the Merri Creek Management Committee, the patch of indigenous native grassland along Central Creek in Reservoir is one of the country's most important, and endangered, natural environments.

Within the reserve's 200-hectare plot are more than 200 plant species, many threatened by the area's surrounding natural grasslands. Since their appointment in 1988, the duo has led a drive to protect the state's native grasslands on the western border plains from the axe.

Mr McLellan, manager of the Merri Creek Management Committee, wanted this week that the international, where, all the

Water and VicRoads is set to sell the land.

The land, worth an estimated \$1.5 million, is scheduled for sale later this year for mixed residential and commercial use. Until now the grassland has remained unaltered, designated a government heritage asset, but since this year was declared heritage by the State Government.

Mr McLellan said if the land - owned partly by VicRoads, Melbourne Water, the City of Preston and private owners - was sold to developers Melbourne would lose its fourth most important natural grasslands site.

He said it should be kept in public ownership or an addition to the Merri Creek National Land Reserve in a small subdivision of the western plains grasslands and the threatened area contained three plant species of state significance and one of national importance.

The western plains grasslands have been listed as a threatened ecosystem under the Flora and Fauna Conservation Act.

July Bush, a botanist involved in managing Merri Creek's grasslands, said the site was one of the few remaining where the threatened plant community is flourishing. Land management by other Melbourne parks and reserves is in the Department of Conservation and Natural Resources.

But a subdivision from Melbourne Water would see the land sold to a developer for residential use.

Figures 16.5 and 16.6 Media articles about the campaign

Source: MCMC

By 2000, 9 ha of land was finally protected and transferred to Darebin City Council; the rest was given to the Urban Land Authority for a housing development around the north-east of the reserve (see figures 16.7 and 16.8). New boundary fencing and a sensitively designed residential interface was funded as part of the housing estate to protect the values of the reserve. Over 120 flora species have been recorded in the grassland and management of the reserve has been funded through a partnership between Darebin City Council and the MCMC since 1993 (Bainbridge 2009).



Figure 16.7 and 16.8 New housing estate adjoining the north-east section of the Grasslands

The MCMC has been formed in 1989, made up of the Friends group and local authorities in the catchment. It established a professional restoration team to undertake works at more than 80 sites along Merri Creek and its tributaries, including Central Creek, guided by a concept plan and later, Strategy 2009–2014 (MCMC 2008).

Beyond providing professional ecological management at Ngarri-Djarrang, the volunteer Friends of Merri Creek play a critical role in ongoing management. The Friends assisted with early community engagement and hold regular work parties in the reserve, bailing kangaroo grass, collecting litter and, most recently, targeting weeds through ‘SWOT team’ (or Special Weed Orchid Terminators), which eliminates highly invasive South African weed orchid (*Disa bracteata*) (Friends of Merri Creek 2017a, b, c; see Figures 16.9 and 16.10).



Figures 16.9 and 16.10 South African Weed orchid (left) and Weed Terminators (right)

Source: Friends of Merri Creek

The important role of Aboriginal grassland management has been recognised and traditional custodians, the Wurundjeri, have partnered with MCMC to explore how traditional ecological knowledge might assist recovery of grassland function and diversity. Central Creek Grasslands was re-named ‘Ngarri-Djarrang’ to acknowledge the connection with the Wurundjeri in 2012 (as were other reserves along the creek).

Ecological burning is an innovative and visionary management intervention undertaken at this small wholly urban-edged site. Frequent burning and cultivation of grasslands over tens of thousands of years by Aboriginal people influenced the composition and dynamics of grasslands. These were disrupted in the 1830s by sheep

grazing and the end of Aboriginal burning practices (Bainbridge 2009). The introduction of burning has necessitated good social relationships with the neighbours to sell the benefits and the design of safe and careful burning practices. This was challenging given the proximity of houses along the three boundaries (and across the creek to the west) and the linguistically diverse residents (see Section 16.5.3). Every year, about one-third of the grassland is burned and the Restoration team have optimised this practice using fuel reduction on edges, downwind lighting and weather stations to measure temperature, wind-speed and relative humidity so that conditions are ideal (Bainbridge 2009). Fire was first used in 2006 in the north-western degraded area of the site in preparation for restoration and then expanded across the site (see Figures 16.11--16.14); the burn extent is shown in Figure 16.15.



Figures 9.11–9.14 Careful burn practices and extent of burns

Source: MCMC – The figures show the close proximity to housing (top left and right), an aerial view of the 2009 burn (bottom left) and the 2007 burn’s northern section beside new housing (bottom right)



Figures 16.15 Ngarri-Djarrang Grasslands burn extent, 2007 to 2011

Source: MCMC

The grasslands encompass three vegetation communities. The first is plains grassland which is dominated by kangaroo grass (*Themeda triandra*), tussock grass (*Poa labillardierei*) and wallaby grasses (*Rytidosperma* spp.) and includes a high diversity of grasses and herbs in which the daisy, pea and orchid families are prominent (see Figures 16.16 and 16.17). The second is stony knoll shrubland, dominated by various *Acacia* tree and shrub species, wallaby grasses (*Rytidosperma* spp), spear grasses (*Austrostipa* spp) and a high cover of rock in the north-western corner of the site. The third is a grassy wetland with swamp wallaby grasses (*Amphibromus* spp), sedges and rushes. It occupies a small area immediately north of Davidson Street was affected by

change of runoff from the northern housing estate development. The grasslands have been physically separated from the Merri Creek corridor by housing (see Figure 16.18)



Figures 16.16 and 16.17 Kangaroo grass stand and milk maids



Figure 16.18 The grasslands (centre) in relation to the Merri Creek corridor

Source: MCMC

Management of the reserve is guided by multiple strategic documents, including the Merri Creek and Environs Strategy 1999 (reviewed 2007 and republished 2009–2014), which incorporates Victoria’s Native Vegetation Strategy, targets and objectives for the Merri Catchment in the Port Phillip and Western Port Regional Catchment Strategy and the Port Phillip and Western Port Native Vegetation Plan (2006). The Environs strategy provides that each reserve along Merri Creek has a node plan, which for Ngarri-Djarrang is the five-year work plan prepared by the MCMC.

Ngarri-Djarrang was identified for Conservation Parkland and Bushland and zoned accordingly in the Planning Scheme (City of Darebin 2012: 22). The Planning Scheme and Open Space Strategy also contain strategic directions to support: the MCMC (p. 6), community-based partnerships, Friends' groups and committees where volunteers engage in the enhancement and preservation of open space throughout Darebin (p. 4) and opportunities for environmental education and leadership through interpretive signage in open space.

16.4 Research Methods—Ngarri-djarrang Grasslands

The primary data were obtained through a two-hour semi-structured interview with the (then) ecological restoration planner at MCMC. A copy of the invitation to MCMC and the interview questions are in Appendix 17. Despite numerous attempts, I was unable to secure an interview with reserve manager at Darebin Council. The case study also draws on research with Melbourne's urban grassland managers (Kendal et al. 2015) and documentary analysis of plans and reports. At the time of the interview, the strategic assessment of Melbourne's Northern Growth Corridor was underway under the Commonwealth EPBC Act. I also visited the site on three separate occasions, including with a group of grassland ecologists and managers as part of a Grasslands Forum on 7 November 2013. We met with Megan Maroney, the MCMC site leader for Ngarri-djarrang (see Figures 16.19 and 16.20) to learn about the site's management.



Figures 16.19 and 16.20 Meeting the MCMC site manager at the grasslands

On an earlier site visit (5 September 2013), I sighted mob of kangaroos in the grasslands. They appeared wary and continuously moved into the middle of the grassland as I walked around. Another delightful thing happened. The only other person walking around the Grasslands was an older man, who from his accent and age, was likely a southern European post-war migrant. He was very excited about the kangaroos and proudly pointed to them (see Figure 16.21). The kangaroos play an important role, a ‘cue’ for people to engage with, and care about the reserve. This observation was confirmed in the manager’s interview. I also observed a lively blend of ‘cultivated’ nature amid the creek bank restoration and remnant grassland conservation: productive and neat vegetable gardens encroaching on the creek reserve from the backyards of houses. This suggests an ageing cohort of post-war migrants, as it is reminiscent of the backyards of the same generation of migrants I once observed from the train in inner-western Sydney in the 1970s.



Figure 16.21 The resident eastern grey kangaroo mob at the grasslands

16.5 Results

Interview findings have been presented thematically and describe the MCMC grassland managers' experience and perspectives in this urban setting, with a focus on the social dimensions of their management practices, both within the group and beyond, and on the temporal history of how the reserve is managed.

16.5.1 Theme 1: Adaptive human intervention

Decades spent planning and mapping this urban catchment have given the MCMC a grounded and realistic view of the restoration task in terms of both the historical human impacts and the challenge of managing remnants of different areas and qualities:

Predominantly the grassland environment along the Merri Creek has been almost totally expunged; virtually no remnant vegetation. When planning and mapping, we think of four qualities: the top quality being quite diverse high-quality grassland with a low proportion of environment weeds and there'd only be probably only a few per cent at most in that category. Yeah, probably two-thirds of Central Creek would fit in that quality. The other third

would be a mixture of the other three qualities—moderate quality, light quality and what we might call weedy sward.

The legacy of weed invasion keeps resurfacing in particular, which we now strongly recognise as being human cultural artefacts and being an environment that needs quite vigorous and frequent human intervention to maintain the health and diversity. So, achieving that level of continuity and high level of intervention and in doing that in an environment where there's still big knowledge gaps, so being able to apply adaptive management to maintain the kind of monitoring and improvement.

The MCMC face different challenges from those of most nature reserve managers, as they work at smaller scales (Ngarri-Djarrang is only 9 ha):

Certainly, protection of the highest quality—that's usually our highest priority where we will focus resources. In some cases, we've got a very complex mosaic because of these different qualities so as far as trying to maintain a high-quality area, you might need to apply reconstruction of a patch within it that's a weed source so that might involve doing even planting in a small patch for several square metres and doing a—sort of tackling a piece that would be sward. One big issue is about scale, ecological scale, and that can be quite interesting talking with other agencies and realising that you're thinking about things in different scales. We have, I guess, that luxury to think about things at quite a minute scale, whereas a 400-hectare reserve has got less resources than that nine-hectare reserve probably.

An important element of MCMC's work is enabling the ecological literacy of their management crews and adapting as they learn and transferring knowledge across all the sites they managed:

We try for high-quality education in the team—ecological education and put resources into training so they can work more autonomously on the ground.

One of my roles is to maintain monitoring programmes and help with the ecological feedback about the experimentation and lessons and observations to make sure they get retained and passed on because there is a gradual changeover of crew. We've got up to eight or nine crew members out there, trying to integrate more of that high-quality onsite knowledge and a Parkland Management Team Coordinator who has to try and take feedback from all those crew members and adjust and adapt across 80 sites. The crew we have at the moment are very highly motivated.

16.5.2 Theme 2: Re-tracing cultural management

Incorporating the perspectives of the Wurundjeri elders added a new dimension to management of the Merri Creek grasslands network and enhanced the history and importance of these remnants in their urban context:

For us learning, how they see and think about the different sites as one entity; people have become very excited by that concept and seeing relationships between different patches. Certainly, the story around the value of fire for detecting food plants and maintaining the health of sites and making it easier and more comfortable to look for food plants.

And the nice thing is the relationship with [them] has been built up over a couple of years and we're now learning together, and they're invited to all of the different management treatments and have been resourced to help their capacity to get there. They've got a group building their natural resource management capacities so there's aligned projects.

The shared learning encompasses management, ecological and cultural learning which has spawned new and exciting restoration projects:

And the project for one of their food plants, the Plains Yam Daisy: we have a site with a remnant population and are now closely monitoring that wild population because this yam daisy is only recently been recognised as completely distinct from the more widespread form with a different ecology. It's got a much smaller root, but it grows in waterlogged soils and has a different growth pattern and often grows strongly in summer.

Now we began monitoring and got this grant to do follow-up burning and this chance to see how the plants responded to burning.. We set fire to the grassland; 10 days later and you go 'there it is, there it is, there it is, there it is, there it is'...and those plants were among the first things to regrow...and they regrew faster than anything else and we're going 'well, if you were cutting into a grassland area that might be the first thing you do, set fire to it. See if there's daisies here'.

16.5.3 Theme 3: Understanding the community

16.5.3.1 Soft entry points

The thread of the conversation suggested that as time passes there is adaptive management in both the social and ecological realms. This indicates managers are testing strategies and regularly interacting with the community, which then supports future MCMC work to engage people. The approach is to be guided and respond rather

than pushing a heavy education angle and to focus on activities that attract the neighbours:

We actually try to adapt and not get too tightly figured. So every year for many years we'd run a wildflower walk here. We'd get a few takers and they'd all come from Brunswick and virtually no-one local...even with the letter drop and we'd put signs up and things in the paper and so, we're putting all this energy into this but then we'd go and do the snake handling because we knew that that was the people's top priority living here and we'd have 60 or 70 people—we'd spend all our time talking and actually interacting. So, the snake show in the grassland is really successful.

The MCMC has been able to design events to work with the interested community and this seeded the involvement of some new volunteers:

A few years back, we followed up on a request from a local in these new houses, where there are lots of young families with young kids. They had a play group and we built a mini-grassland festival to work with that play group and we did very simple activities with the children: chalk drawings on the surrounding pathway, a short little walk into the grassland, again story reading, but alongside that there was lots of information for the parents who were there and that was...a way to build that because it came from their request, it was really successful.

So, and a couple of young girls there needing work experience and...we go 'okay, you can do letter dropping' and for a few years, that was absolutely a fantastic role because they were then inspired to come and participate.

Engaging experts helped the MCMC understand their new residents, the importance of early orientation and likely interests:

We had community engagement expert to come down and give a workshop for us and for other stakeholders they told us—people moving into a new suburb that you've got a few years where they're very plastic in their ideas about what might be part of their life and that's the time to come in and say 'well, maybe you want to be interested in conservation and make that part of your life', so you really should try to have things ready for as [soon as] they move in and absolutely to follow up when people express to interest.

There is also a process of recording community interactions when the MCMC project officers are working at the grasslands:

Our site monitoring includes taking the time to record down community interactions and provide a summary each year. Generally, they'll report

back negative interactions, positive interactions as well and we just need to remember [to respond]. I would have liked to see resourcing for community engagement around building a local constituency for the grassland. We're still only doing that kind of as an add-on. And some people have moved in because they actually like the open space as opposed to just buying a block.

16.5.3.2 Public access management

The MCMC planners and managers also observed how people use the reserve and what works are most effective in managing public access:

Look, it's a small reserve surrounded by houses. As far as habitat goes, we like to minimise the amount of criss-crossing that people do. We've been able to rely partly on the passive in hospitability of the grassland. People don't like to walk through long grass. They're terrified of snakes. Also people with dogs don't like walking through long grass partly for snakes but also because the seeds get into their coats. Another passive thing was that they put a walkway all around that new northern interface and it worked...there's an alternative recreational route.

Certain simple techniques have been successful to manage human behaviours, including cable and bollard fencing (see Figure 16.22), which has been continued using cypress pine along the new northern housing interface:

In fact, before the grassland was even reserved fencing on these two Davidson Street alignments on the Park Drop Street alignment helped to address illegal vehicle access. It's simply bollard and cable fencing. And that was, yeah, and that was sufficient actually to nip that in the bud.

16.5.3.3 Wildlife as ambassadors for place

The resident kangaroo population at Ngarri-Djarrang grasslands has played an unexpected but delightful engagement role with the local people, attracting visitors to the reserve and building pride in the place. I experienced this myself on a site visit in 2013 (see Figure 16.21) and this also was documented in the best practice guidelines for grasslands (Marshall 2013). The Friends reported that the eastern grey kangaroos have increased in number (Friends of Merri Creek 2017a):

The really unexpected consequence [of] the kangaroos occupying the grassland is we noticed that people were doing evening walks around the grassland with the kangaroos being there and having become habituated. We did an evening stall there to ask people how they were using it and they said 'Oh yeah, we come down here with the grandkids to show them the

kangaroos' and...other events we had people come up: 'I saw someone with a dog chasing the kangaroos and what—who do I call?' and...that changed everything and those kangaroos maintained a mob of about six or seven—five to seven for the last 10 years or more.

The kangaroos have been an important ambassador for the grassland, with many people bringing children to walk the trail along the grassland edge to view the kangaroos

The MCMC have been observing how the kangaroos are using the grassland and creek reserve and the impacts of humans as well as being mindful of the carrying capacity of the small reserve:

The kangaroos use the shrubby habitat on the knoll as a shelter during the day and the edge, which is a weedy mown edge, is constantly mown, which provides a lot of fresh green pick all the year round. The burning where we burn a third of the grassland creates perfect habitat for them to come and graze in the re-shoots. And the five or six kangaroos seems to be a really nice number. The...perfect numbers per hectare. We have noticed that they have occasionally spent time on the other side of the creek. They come back to this area and the shrubby area here. They still appear wary of people with dogs, and while some residents report instances where dog owners encouraged their dogs to harass the roos but I suspect this is quite rare.

The numbers have remained remarkably stable; new joeys are born and we occasionally find individuals that have been hit by cars. We suspect new animals occasionally reach the site from the large mobs that occur upstream.

16.5.3.4 CALD communities

Ngarri-Djarrang is located in Reservoir, which has a culturally diverse population (ABS 2016d). The MCMC has developed simple techniques to communicate about the grasslands translating flyers and doorknocking ahead of burn treatments using laminated photos and allowing local people to observe:

On the burn day the crew doing the door knocking will actually have laminated photos showing what the burning is about.

We did a 'Get to know your grassland' flyer translated into multiple languages...in Arabic, Urdu, Italian and Vietnamese, I think. Anyway, based on demographic data, choosing the top four. That's of course problematic about keeping up to date.. But the big thing is that in the years since we did the signage project back in the late-90s getting things translated is just hugely cheaper and easier to incorporate into graphics. And we have places like E-translate that can do it within days and that do a really good—in the

past we're still a bit stuck with that 'oh, translation can be really difficult' but I've had to say to people: it's really not so difficult. It's relatively cheap; it can all be done on the internet.

16.5.4 Theme 4: Partnerships

The key to the success of the MCMC model has been the longevity of the mutually beneficial relationship between the Friends of Merri Creek, the Council partner/s and the communities living around the grassland. The long-term planning for the catchment provides a shared and agreed framework for works and professional delivery by the MCMC work team. The team also maintains relationships with other agencies despite changes in the commitment by some state agencies:

Darebin Council

So, we don't own any of the land but there are some high-level processes such as the Merri Creek Environment Strategy, which is the overriding document; it's signed off by all of the Councils so a lot of the understandings are already signed off on.

We've got ongoing relationships that are strong and understandings that are strong and that does permit us a high degree of autonomy; however, there are control points, from certainly within a management plan, Darebin is the committee for management for that reserve and need to be able to sign off and acquit—need to have had oversight of what we're planning to do. They're party, especially to ecological burns, to all communications. With our second five-year works plan, council added on a new contract to do monitoring and so we tried to identify what do we need to monitor and so now there's a monitoring programme.

I guess also our proven history of being able to fulfil and acquit grants and contracts but also to fulfil and exceed in many cases things like OH&S. So being able to tick and actually fulfil and understand their goals and objectives and contribute to those and make their job a bit easier.

The value of using a community organisation like the MCMC to manage the reserve is not only about their restoration skills but the continuity they provide for the local community and the trusted relationships that have evolved:

Definitely the community relationship also comes up again and again. I do see that without that relationship being a positive one—even though we legislative protection—the approach really demands people trust us—what's the word I'm looking for? It's...credibility. And occasionally some councils have gone a bit cold on us but because we've got that broad support and the

Friends make up half that support—it's been the broad base of our committee structure.

Plus, longevity of the relationships there. There's been in the time I've been here just three environment officers at that particular council...so we've had time to build a long-standing relationship. There's good understanding on ground of which bits each are responsible for and, I don't know, goodwill.

Other agencies

In the earlier days, there wasn't just the councils; there was also a Melbourne Water and Parks Victoria representative. As time went on, their organisations had directives that 'no, you're not to be part of these things'. And they've had to make those decisions. My sense is we've got very strong relationships with those other agencies with DSE and Parks and on water, through other avenues; we do meet Melbourne Water usually quarterly...So you kind of set up other means of keeping those relationships healthy, yeah.

The Friends of Merri Creek

Certainly [at Central Creek] in the past quite a lot of involvement of the Friends with the northern planting, replacing patches to help consolidate the better areas. Even though we'll build engagement displays and stuff around them, we don't really want planting every year. We'd rather be doing direct seeding and that's tightly matched to ecological—environmental conditions and seasonality issues that can't be scheduled in advance.

Volunteer assistance with grasslands can be problematic.. The main task that needs to happen in there is weed control and there's a lot of high skill of identification needed to allow people who do that well. Grasses are difficult. We've got I think—I can't remember—it's about a hundred species. So, most of it requires herbicidal applications as well.

Certainly community run a bird monitoring at a number of grassland sites and that's been going for three or four years and it's incredibly valuable data so I do that in a Friends—voluntary capacity lead two of these groups—that data gets put into this database, which is available to anyone on the net. They've also been incorporated in our golden sun moth surveying right from the beginning. They led that push and also in the plains yam daisy monitoring, which is coming up and we've learned how to incorporate them into monitoring of individual plants and into searches because that's a really high level of identification required but with sufficient support, we actually found dozens of new plants and that's been really valuable.

16.5.5 Theme 5: Retaining community values in the contracting world

The MCMC's professional management team has secured other contracts beyond the council partnership. Part of the challenge of becoming a landscape management 'contractor' is maintaining their role as an advocate in the catchment and a community partner on other grant projects:

So, yeah, after our core funding, which is the direct funding from councils, there's a number of contracts we apply for. We've been usually successful in retaining over a long time generally as acting as bush crews for a couple of councils and then you're going into grants and a broad variety of grants and with our organisation we're looking for grants of substantial size.

There have been some tensions because we've got this breadth of roles. We're applying for grants, we're a partner in other things and for them to try and avoid treating us differently to a contractor that people really struggle with that and in some cases, that's created stresses. We try to provide—if there's feedback on contractors' stuff—we just try to provide it in a neutral manner a very factual manner and we use photographs—try not to jump to conclusions with stuff that's really important, yeah, to maintain that relationship.

The MCMC's strategic and cross-catchment views and historical and on-ground knowledge with a focus on solutions add value to projects, but not all developers (for example) want a contractor with an ongoing relationship with the site:

There's a lot of people say, 'you keep trying to find solutions' and they find that refreshing and partly because we're very used to thinking across boundary whereas some organizations are more limited. We think more broadly about, well, maybe the next organisation or the volunteers might have a role in bringing something or advocating for something or making change so we've probably got more ideas about what's happened in the past too and what might be possible. It's like, because we've been able to perhaps retain more freedom of movement in the kind of hybrid model that we are.

We often try to build a relationship with a site and that can be uncomfortable for someone just looking for a contractor to get work done on a site because we're still a bit unique—how they might compare us to just a contractor who'll come in there. We have in the past done a couple of examples where we'd cooperated in engagement projects and had quite good relationships with them. There can be tension there or there has been underlying tension where you're cooperating with them on an engagement project but at the same time, we've got a planning issue that we might...be with their next development of sort of trying to push for better outcomes for the creeks'

MCMC have also helped seed and support innovation in restoration practice, with many ex-employees working in private firms:

And there are some contractors who sort of go ‘Oh, we’re not going to work there because, you know, it’s Merri Creek’s patch’; they’ll certainly defer to us—well, a few—and that’s very nice but it’s our own capacity to do that. So, a lot of contractors work in this area and with the offsetting projects that’s led to...more and they’re innovating in many cases they’re ex-employees involved.

16.5.6 Theme 6: Complex management in urban settings

The MCMC undertakes perhaps one of the most challenging management tasks in an urban matrix: the yearly ecological burn in Ngarri-Djarrang (see Figure 16.22). Each year, one-third of the site is burnt and they are learning about safe conditions and curing to minimise impacts:

So there’s quite a well-established process, the fire captain will get a permit to burn. That role goes to someone with a lot of experience because they will come up with burn regimes. So, the burn pattern is actually set in this five-year plan...like a third of the grassland we try to burn every three years, . less frequently on the knolls. That’s one of the principles. We need to burn on a particular wind direction to avoid things. We know usually well in advance what the curing rate is. We can only burn when it’s over 70% cured otherwise, yeah, we’ve had a couple of years in those wet years when massive smoke and we realize we needed to tighten up our curing.

Adjacent and nearby neighbours are advised up to two weeks ahead of the burn and there is a doorknock on the day of the burn:

Of the four grasslands we burn, this one is pretty close. In a two-week window ahead when the conditions become suitable, we’ll put out a leaflet saying that we’re looking to burn, with a map showing where the burn is going to happen and give some basic advice and a contact number.

The letter drop goes out to all of the adjoining properties and a couple of streets back, and it goes south of there to include some people in the nursing home. [The fire captain] can only confirm on the morning. He’ll have a very good idea the day before and get packed but on the morning, he may need to call off. On that morning, we’ll drive in trucks with the equipment and then there’s doorknocking. So, two crew are sent off to do doorknocking.

There’s a lot of other notifications going off to police, to the CFA, to the MFB. We have, yeah, two water tankers. If anyone—and there’s a lot of preparation of breaks and so on that happens beforehand—if anyone phones

the MFB or the CFA then they have to respond even if they have been notified that...there's a burn going on.. They have to respond and so maybe half or a third of the burns we still get some MFB truck turning up and mostly they know us and they'll go yep, they'll check with...the fire captain will walk across and talk to them and them'll confirm that everything is going fine.

This finely-honed process provides a foundation for burn practice elsewhere. Importantly, when neighbours are affected, this is noted for future burns and improved approaches in the following year:

We did a burn of this block [pointing to map] and unfortunately it was in a drought year—we had two or three weeks of constant northerly wind and the ash and soot just continually blew into this house. I spent about two hours hearing about the problems and they wanted to put trees in to stop it happening next time. I discovered she was cleaning the house three times a day, pulling down curtains. Yeah, there were just lots of white tiles and she was a cleaner but she'd also injured herself, wasn't able to work

We adapted our burning by trying to schedule burns with rainfall events to follow, because the rains pushes the soot down into the ground very nicely and also us leaving a filtered strip to try and block that fine and so that became inserted into our planning to try and make sure that if we're burning we be very careful about doing it with rainfall. And yeah, somewhat better interface design there means it's not such an issue.



Figure 16.22 Close proximity to housing is challenging for ecological burns

16.5.7 Theme 7: Advocacy of the value of small urban remnants

The MCMC's valuable experience managing small urban remnants and their biodiversity was highlighted during the EPBC Act strategic assessment for the Melbourne's urban boundary, the northern and north-western growth corridors that take in the upper catchment of Merri Creek.⁵¹ They were hoping to input their local knowledge and conservation management experience but were limited by the questions posed and decisions already made about the assessment process:

And [the process] was very disappointing because that kind of catchment-wide planning is exactly what's called-for in conservation planning—and we thought 'Oh, maybe this is a chance to kind of actually secure things from the basis of what the environment needs' but it was very much done on the basis of what the developer needs and the conservation had to squeeze in.

We were being given opportunities but they'd made the choices and things had been put in place to try and secure certainty for the developers and their activities and very little in the way of dealing with new discoveries, new understandings because there's the time stamping process. This will be the basis on which all decisions will be made forevermore even though we know that things get re-discovered, seasons change, wetlands and stuff like that.

The MCMC also identified issues with data quality and that the process relied heavily on consultants' reports about the catchment that were considered deficient:

We had grave concerns about the quality of the data that came from the consultant who did [Merri] catchment compared with the data from other areas. The whole catchment was poorly documented and we knew that there was data gaps and said, 'You know, you should start looking for—this species still seems to occur' and perhaps that link needs to be considered.

They also observed that smaller remnants like Ngarri-Djarrang would not be protected under the biodiversity offset and ecological prescriptions approved for the corridor that was focusing on the creation of large grassland reserves designed around particular listed species:

And certainly that focus on just a few threatened species that had been EPBC listed as a basis on which to reserve areas. And then for those threatened species it felt like the prescriptions for reservation or conservation of the

⁵¹ <https://www.environment.gov.au/protection/assessments/strategic/melbournes-urban-growth-boundary>

areas were all pretty much set at a level that would obliterate any of the reserves from the Merri [catchment], such as for grasslands you need 100 hectares of high-quality grassland.

Noting that other design options that might favour landscape-scale fauna movement were not on the table, the MCMC used their knowledge of the catchment to propose habitat linkages and connections that were then identified as potential habitat corridors in the growth corridor plan (Growth Areas Authority 2012):

There was—the work based on 30 years of observations and accumulated data and it still had huge relevance so we turned this work into a corridor network. We were having to try and start incorporating the quality of the matrix and the nature of the matrix, which...wasn't part of like value of farmland especially in grassland reserves. It's often analogous so lots of the fauna can...move through it as opposed to a reserve model that you might actually consider a matrix with multiple land uses. So, we had to speed up our thinking and build that into a vision and get people excited about that.

Ecological research has since supported the MCMC's concerns, highlighting that both small and large reserves are important for conservation in urban areas (Kendal et al. 2017). This research noted that 'normative' beliefs that preference larger reserves can become embedded in conservation planning and management, and the MCMC observed this during the as observed

16.6 Research Setting—Maroochy Wetlands Sanctuary

The Maroochy Wetlands Sanctuary (MWS) is located at Bli Bli on the Maroochy River, Sunshine Coast, north of Brisbane, QLD (see Figures 16.23 and 16.24).

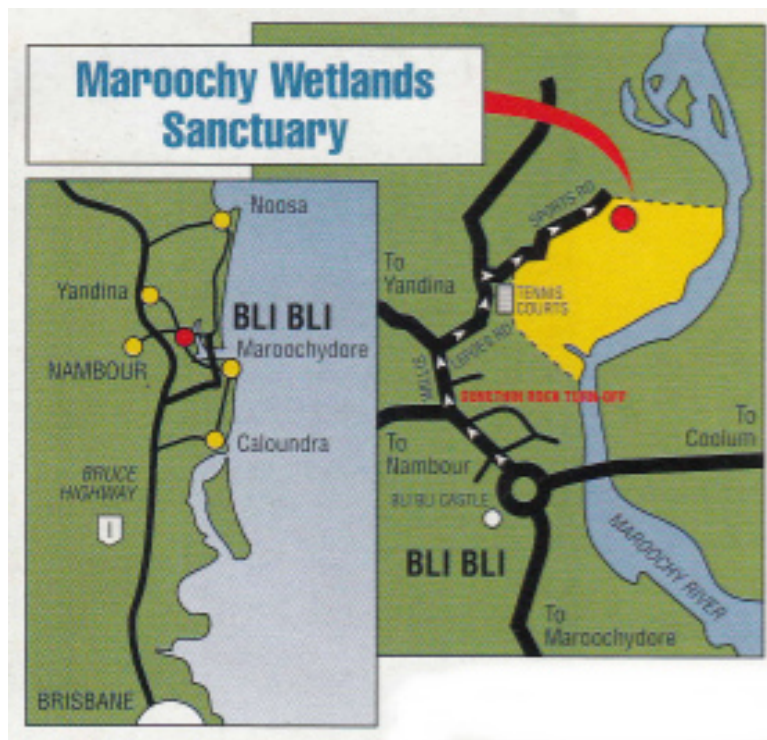


Figure 16.23 Location of Maroochy Wetlands Sanctuary, Sunshine Coast QLD



Figure 16.24 Map of Maroochy Wetlands Sanctuary

Source: SCC

The Sanctuary is a remnant coastal wetland (108 ha) that was the site of protracted battles to construct a residential canal estate in the 1970s (Alcorn 2010). The site was purchased by Maroochy Shire Council in 1982. A marine science educator proposed reserving the land for an nature education and recreation facility that was supported by the Shire. The Maroochy Wetlands Sanctuary Support Group (MWSSG) volunteers have been restoring and interpreting the wetlands since 1990. Over this time, the land around Bli Bli and the Sanctuary is being converted from farming to residential development.

The Sanctuary is managed by a unique partnership between the Sunshine Coast Environmental Education Centre (former Bilai Centre), the MWSSG and the Sunshine Coast Council (formerly Maroochy Shire Council). It is zoned Environmental Management and Conservation in the Council's Planning Scheme and identified on the Biodiversity, Waterways and Wetlands Overlay Map (Sunshine Coast Council 2014). Council's new Environmental Reserves Network Management Plan provides for 'Landscape plans' to be developed addressing ecotourism, education and nature-based recreational opportunities at key environmental sites, including the sanctuary (Sunshine Coast Council 2018).

The Sanctuary houses an environmental centre/classroom,⁵² a visitor centre, which is a former cane cutter's cottage moved to the site in 1989 and a constructed boardwalk to the Maroochy River. New interactive exhibits (touch screens, audio stories, push-button bird calls) were opened in August 2016. MWSSG volunteers staff the visitor centre every Sunday, run guided walks and provide interpretative materials for visitors to self-guide. The Maroochy River boardwalk allows visitors to explore a diverse landscape from moist eucalypt forest, through a casuarina forest to a mangrove shrub community that lines the river loop to a bird hide and crab viewing platform (See Figure 16.25).

The MWSSG is incorporated with 35 members: 10–12 regular volunteers and office bearers. The annual general meeting is in December; the group meets monthly and holds a strategic planning meeting every January. Quarterly meetings are held with the

⁵² <https://www.sunshinecoast.qld.gov.au/Environment/Education-Resources-and-Events/Bilai-Environmental-Education-Centre>

responsible Sunshine Coast council officers. Volunteers run guided walks and a Bird Observers Walk. The Group has an education trailer for regional community events and school holiday activities like the Eco-Hunt with Questa Game (MWSSG 2017). The volunteers partner with their urban neighbours at the Halcyon Landing residential estate for the Annual ‘Clean Up Australia’ Day event in March (see Figures 16.26 and 16.27) and Council provides the gateway for volunteering at the Sanctuary.⁵³ The group has a social media presence with a modest following; the highlight is volunteer Robyn Howard’s video posts of crabs and other sanctuary wildlife.⁵⁴ Sanctuary events and stories about the wetlands also feature in the SCC ‘Bush Hands’ newsletter.⁵⁵

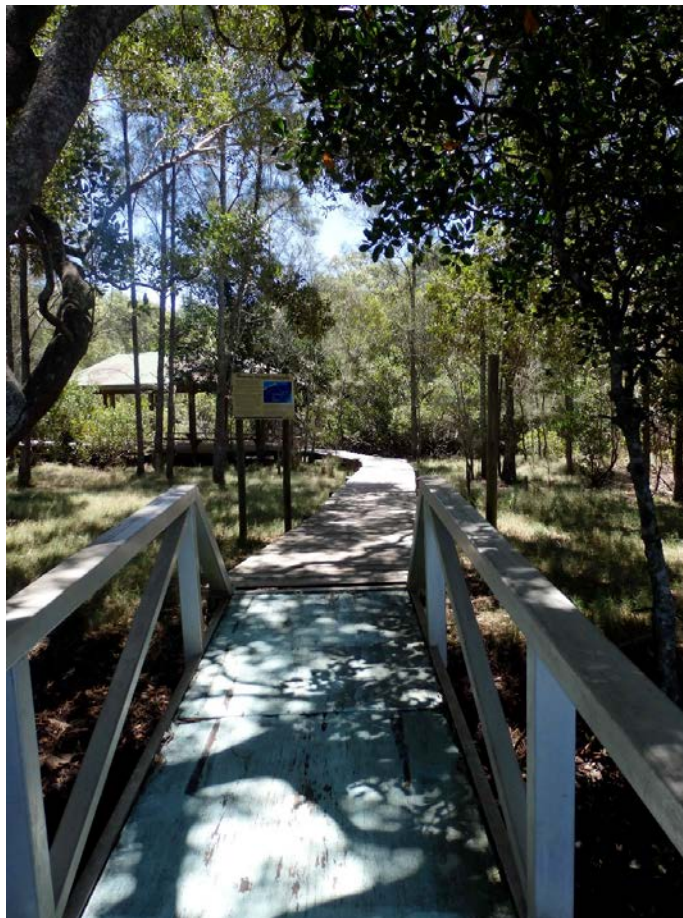


Figure 16.25 Sanctuary Boardwalk to the River

⁵³ <https://www.sunshinecoast.qld.gov.au/Environment/Get-Involved-in-Conservation/Environmental-Education-Centres/Maroochy-Wetlands-Sanctuary>.

⁵⁴ <https://www.facebook.com/MaroochyWetlandsSanctuary/>.

⁵⁵ <https://www.sunshinecoast.qld.gov.au/Environment/Education-Resources-and-Events/Bush-hands-eNews>.



Figures 16.26 and 16.27 Clean-up Day with Halcyon Landing residents

Source: MWSSG

16.7 Research Methods—Maroochy Wetlands Sanctuary

Through an introductory letter, an email conversation was initiated with the president of the MWSSG to gauge the group’s interest in participating in this research (see Appendix 17). A focus group involving up to 12 volunteers was proposed as the preferred research method using the ‘focused conversation’ method.

The 'focused conversation' uses four elements to structure interaction within the group:

- 1) Facts—gather information
- 2) Reflect—consider experience (what went well or not so)
- 3) Analyse—interpret data (what have we learnt/still to do)
- 4) Action—plan, if necessary (what next but only if they want to explore)

This method would enable me to meet with the group in one location, guide the discussion and engage in a relaxed conversation with the volunteers (ICA 2011). Another important benefit of this method is the participation of both the researcher and the interviewees in a shared conversation. This unites their collective insights and respects the diversity of experience (see Appendix 17 for Focus Group Plan).

The MWSSG agreed to participate in a focused conversation which was held at the Sanctuary on 5 December 2013. The focus group involved eight participants, capturing a mix of long-term members (n = 5) and some newer recruits (n = 3); the group comprised three females and five males, all older than 60 years. Another volunteer joined the conversation later (see Figure 16.28).



Figure 16.28 Focus group with sanctuary volunteers, December 2013

Common to the other elements of this research, a warm-up question was used for participants to introduce themselves and their interests, covering their: previous professional lives, time with MWSSG (1990 inception) and favourite volunteer activity (see Table 16.1).

Table 16.1 Participants' Time in the Support Group and Favourite Activity

Male/ Female	Profession (if given)	Time in MWSSG	Focus or favourite activity
M	Retired surveyor	Newer member; used own agency to find about group after seeing weeds growing along walking path between reserve and new housing estate.	Part of weeding group; not much on native plant identity but knows his weeds.
F		Original member; 23 years with husband passionate about sanctuary. Been involved since first meeting in pouring rain.	Husband pulled all the lantana out; she stayed around not so active now but does centre on Sundays and talks to people.
M		Original	After those that had to carry the locks, makes the roundabout and does the tracks Weeding for all that time looking after the place.
M	Former teacher (marine education)	Original	Hung around the place when scrub—social and natural justice—being part of strategic and change processes.
F		Original; she and her mother came to the opening and were asked if they were going to join.	Volunteered once a month and now into the fungi then birds. Been Secretary and runs the bird group. Found 48 fungi in survey including rare species.
F		Joined one week after opening	Had various roles now into photography. 'Leader in crabs'. <i>'we've all been guides but yeah, whatever's needed sort of thing I'll have a go at'.</i>
M	Retired engineer	Joined with wife in 2012 after wife won photographic competition.	Current Secretary

16.8 Results

The focus group data was categorised thematically to present the volunteer's experiences in the Sanctuary, with a focus on the common threads that emerged about the social relations and dimensions, both within the group and the community beyond and relating to the place history and time.

16.8.1 Theme 1: Volunteer motivations

Volunteers expressed diverse motivations, including the desire to give back to the environment, the outdoors setting, spare time and the ability to volunteer in their own time, a personal volunteering ethos, social justice and being able to contribute strategically to change, motivation to learn and discover, enjoyment of the place and its nature and sharing the Sanctuary with visitors (see Table 16.2). As the conversation proceeded, these multiple and shared motivations were an obvious strength of the group and translated beautifully to the volunteering roles (e.g., guiding) and both individual and group learning (see Section 16.8.2). There was also a sense of belonging to the group but also capable individuals who could do certain tasks on their own.

Table 16.2 Motivations for Volunteering

<i>'I come off a rural property so had a background in conservation, I wanted to give back and I'm not quite sure how I came across the wetlands'. Another in the group recalled: 'and you came up and asked was there any volunteering needed. And I said "Yes, go and see Anne". We never let you go, we tied your leg to the table'.</i>
<i>'My husband was passionate about this place. He used to love coming up here and pulling weeds out, he cleaned nearly all the lantana out and I've just sort of stayed with it because I like it. You come out Sunday afternoons you never know what you're likely to see. There's a lot I can't do now physically but I can still sit there and talk to people'.</i>
<i>'I think it's a combination of two things; I really like the strategic process where I can work to save something—to be involved in change. And I also like taking groups of people for walks and it's said I've never let the truth stand in the way of a good yarn'</i>
<i>'Fulfils a need for me, I see my role as servicing the people that come here and try and facilitate their enjoyment, promoting it to other people'.</i>
<i>'And I thought "I'm not working so much, I should be doing something else to give back to fill my time" I haven't got birds and bees--specific experience but I've got broad scale [and with project management] I have some organisational skills of value'.</i>

16.8.2 Theme 2: The learning process and roles in the Sanctuary

Self-education and fascination were key in how volunteers approached their own learning and related their skills and interests to work in the sanctuary's roles and tasks (e.g., guiding) and represented various aspects of the sanctuary (see Table 16.3 and Figure 16.29). With members prepared to learn new skills (e.g., filming videos), the group is able to present the sanctuary to a wider audience using social media.

Table 16.3 Volunteer Learning and Roles

<p><i>'We educated ourselves yep and this year it is the first time council have offered to train us as guides. Well, you can always be taught something though, different aspect from a different teacher and you learn something new. Because, no amount of teaching with guiding will help unless you're interested in what you're walking through'.</i></p>
<p><i>'Early in the piece, I started asking about crabs. No-one really knew anything about them and could identify them and I sat on the edge of the boardwalk for about two-and-a-half hours one day just looking at the crabs and worked out I could identify maybe three or four by the descriptions and... There was photographs around the place and I was showing Derek and the council guys some movies I took some recently showing how they feed and... sometimes I do talks at Noosa Parks. I've learned all about different birds and trees and crabs and I think that's wonderful, yeah'.</i></p>
<p><i>'One of the things I like most about... this place is the opportunity to learn. I've never really had an opportunity to learn like out here, you know; I just love the learning'.</i></p>
<p><i>'I mean that's where everyone is a valued member. You know, like, Terry and Alsa and I—we just love opening up the place and talking to people but where the technology is needed, there must be other volunteers that have that gift, that can be their little contribution to the place, you know'.</i></p>
<p><i>'We have individuals from the group representing us. Alsa would talk about the history; Deb talks at the Bli Bli community group and writes articles. We're not necessarily doing it all of us as a group. Judy does birdo connections for us and... the fauna watch stuff'.</i></p>
<p><i>'Robyn comes out and she doesn't have to tell anyone and she goes down there and talks for half an hour to people that are walking along studying things and, you know, so it's true, isn't it, you know we can all do our little thing out here'.</i></p>



Figure 16.29 Sanctuary volunteers in their ranger uniforms

Source: MWSSG

16.8.3 Theme 3: Evolving partnership—continuity and change

The group has two core partners in the Sunshine Coast Council and with the Education Centre based at the sanctuary. The volunteers were asked about partnerships and displayed a high level of pragmatism concerning the trials of working with government—but also awareness of the value of these partnerships to the Sanctuary (see Table 16.4). Like many volunteer organisations, this group comprises retired professionals, former researchers, bureaucrats or similar, who are highly skilful at managing these relationships. While at the Sanctuary, I encountered two officers from Council who had just met with the group and were effusive about it. Their language, discussing the partnership as a ‘symbiotic relationship’, was most affirmative. The group’s partnerships also extend to other conservation, historical and research organisations, including the Queensland Museum. Another challenge for the partnerships is the changing local political environment and the amalgamation and de-amalgamation that recently affected local government on the Sunshine Coast. Volunteer groups not only maintain their own organisations but must also manage changes in their government research and education partners and conservation funding programs, as well as shifting policy and legal requirements around their work (e.g., occupational health and safety, OHS).

Table 16.4 Volunteer Perspectives of Partnerships

<p><i>'I think the power of partnership has seen it [the Sanctuary] survive. So, I think at different times like the place has been threatened with concrete and we've fought hard to stop that. Next door has been threatened with closure [Education centre] and we've supported them'.</i></p>
<p><i>'It's council-owned land and I think we're fortunate with Eric and Peter [from Council] because they're both committed. They don't do it for their pay at the end of the fortnight'.</i></p>
<p><i>'And that's where I hope our partnership will provide strength to protect— like if they do try and—they did— remember about 18 months ago, they tried to shut Bilai [Education centre] down and we all jumped up and down and—so if that does happen...Because you've safety and security around here if there's no one here through the week'.</i></p>
<p><i>'So our Advisory committee is extremely important because of the three groups who work here, the council, the Education Department and us. Once every three months...we liaise with them: We see the needs and problems and council can resolve and what is needed to improve the sanctuary and, part of it is all legalities and what's acceptable at the council'.</i></p>
<p><i>'Our role is now—we are an autonomous group but we're—because council, is wanting us to comply with council stuff and that's a general shift in their work over the 20 years. When we first started, we were equal partners whereas these days, council comes in and listens to us but we are advisory. Now it all goes via council. By the time it comes back, you've lost interest or can't remember'.</i></p>
<p><i>'I think it is a lot of strength in individuals and their liaisons with different groups we've been making a concerted effort to go to the local community meetings—and through that we say: we're a valuable member of this community and to sell the virtues of this place. And, because there's a lot of business people there, a place where people go to rub shoulders; we're on the agenda'.</i></p>
<p><i>'I believe that we have a good relationship; that our knowledge is valued and given the credence with the Queensland Museum and Fauna Watch and the Mycological society. The curator of crustaceans at the museum helped when I couldn't identify crabs and we'd talk for an hour on the phone and then I'd apologise for taking up his time and he'd say "Oh no, it's wonderful someone who wants to talk about crabs". I've spent an afternoon in the museum with him and so forth'.</i></p>
<p><i>'Of course, with councils. They come and go. Some of them are a bit greener than the others; And, in Bli Bli there's a different councillor every election. There's no continuity'.</i></p>
<p><i>'But, you know, it's ironic that our last councillor, she came with strong environmental credentials and for the entire term, we never saw her ...And she didn't want our newsletter. But this time, we got this guy a builder and he's actually proved to be fabulous; like he really supports us and...has been to our meetings'.</i></p>

16.8.4 Theme 4: Planning and management challenges

The conversation turned to the management regime that provides the framework for the group and how their annual planning dovetails with Council’s plans and infrastructure funding. Council also has three key environmental sites: Mary Cairncross Park, the Botanic Gardens and the Sanctuary (Sunshine Coast Council 2017), which form the basis for environmental education and volunteering.

The perception among the volunteers (see Table 16.5) was that with higher visitation and less volunteers, Mary Cairncross Park receives more staff management attention and program support. To some extent, the autonomy the group enjoys is a ‘vote of faith’ in their management of the Sanctuary; however, it is simultaneously frustrating that the Sanctuary does not receive equal recognition and comparable resources. Reliance on Council for major Sanctuary works (e.g., boardwalk maintenance) and the limitations of only being able to work in the Sanctuary during the dry season also creates tension if work does not progress as promised.

Table 16.5 Volunteer Perspectives of Planning and Management Challenges

Challenge	Description
Policy and planning	<i>‘What we’ve found in the last 18 months is the new council has got their “three areas of conservation significance” and looking to present a biodiversity framework so they’ve got Mary Cairncross Park up the top for rainforest, the Botanic Gardens for the sclerophyll and identified us as the wetlands component. And that is the framework to allocate resources and so we’re protected as part of a strong policy within council which gives us a place’.</i>
	<i>‘We, at the beginning of the year, do a plan for the things that we’re going to do. You know, the major things that we’re going to attempt for the year. At the AGM the officers are elected—you know, president, vice-president, secretary, treasurer, volunteer co-ordinator and...and a strategic plan every January’.</i>
	<i>‘I think boardwalks save you a lot [of environmental damage]. Yes, and the mosquitoes give it a regeneration in time anyway. And they’re building it now because technology as you know is much better. They’re building it with stuff that we’ve never even heard of what—30 years ago and it’ll be there to stay’.</i>
Changing times	<i>‘Council are far more aware of legal aspects than they used to be —workplace health and safety, but a lot of it is the legal stuff. You know, because we’ve been chugging along in our own we think we are our own bosses, and so they like us</i>

	<p><i>to wear something to indicate that we—we are involved with the council so we kindly agreed that if they care to make up something we will wear it. And with Robyn her self-guided walk, they would like her to put [that] it's in conjunction with the council. They do give us monetary support for our operational costs. And I think it's inevitable with policy of the three areas that they will gradually exert more control. I think it's inevitable'.</i></p>
<p>Differing priorities</p>	<p><i>'We do have a problem with that [planning in January] as we can only really work here between June and October, maybe November if it doesn't rain, but in between, we can't do anything because mosquitoes are too bad so we do a plan in January So, we might plan to have a couple of boat trips and then the council say "Well, we're going to close that—the walkway—because we need to repair it" so we do nothing'. " wait until just about August" and then they say "September" and then "Oh geez, we need money now, we're not doing it". And we've cancelled our boat trips'. 'Last year, we were told the boardwalk was going to be closed for most of the...dry season so we said "Well, we can't have any boat trips" and later, the council said "We're not going to be able to start at least until October", so we got in and organised a boat trip'</i></p> <p><i>'The walkway into the information centre over there was rotten and we would have liked them to finish off the boardwalk, you know, and so we all have to just sit and be patient because without them finishing that boardwalk, it will eventually fall to bits. So, they won't take their workers down there when the mosquitoes are bad. And on the other hand, it's sort of nice to be left alone'.</i></p> <p><i>'But their [Council's] main concern is Mary Cairncross Park its bringing in millions. And the Botanic Gardens. It's a big thing too. We're on the end of the run.. There were two people doing it [liaison job] but in the amalgamation, one of those people have gone. We had great difficulty getting her out here. Tuesdays and Fridays or the Thursdays or Wednesdays she's got to be at the Mary Cairncross as they haven't got enough volunteers, and then they think about the Botanic Gardens, but here doesn't even get a mention'.</i></p> <p><i>'Well, I have spoken to them and I got a little bit of a serve about it. About equity between the three sites. How the others have been supported by Council to run programs and I've been whinging that we don't get that support, you know.'</i></p>

16.8.5 Theme 5: Neighbour engagement

The group is mindful of the land use change happening around Bli Bli and want local people to enjoy the Sanctuary and view it as their special place (see Table 16.6). Thus, they have been creative in engaging the local community and renovated a trailer for community education. This allows the Sanctuary message to be transported to festivals and other community events (see Figure 16.30). Perhaps the most innovative strategy has been a partnership with a charter boat on the Maroochy River and the adjacent strawberry farm. The river cruise stops at the Sanctuary and visitors disembark, are guided along the boardwalk through the wetlands and visit the strawberry farm for afternoon tea (see Figures 16.31 and 16.32). This offers visitors an entirely different perspective, arriving from the river and observing the estuarine wetland system—often a totally new experience for locals. Guiding and talking to visitors is a key strategy to present the Sanctuary and educate more users. The Sanctuary is currently staffed by the volunteers only on Sundays. A key opportunity has been identified to expand the community education if the Sanctuary could be staffed all week in the dry season.

Table 16.6 Participants’ view of Current and Future Community Engagement

Elements	Descriptions
<p><i>New ideas: the boat trip</i></p>	<p><i>‘The boat trip is attracting more local people. The aim was to promote the place But we had such a short space of time and most of the publicity...was done around here. You had to be local to know about...it. We’ve always got the carrot, you see, and that’s called strawberries and cream. We say, “you can catch this boat and go up the river and be guided through and then go next door to the farm and have a lovely barbeque and they’d say “Oh, strawberries and cream”... that’s the carrot’</i></p>
	<p><i>‘You know, a purely conservation group is not going to get you the same leads as a group which has a conservation facility, which enhances eco-tourism, promotes our partner’s farm and...So again it’s about language and how you present yourself to the wider community’.</i></p>
	<p><i>‘Even the locals from the Botanic Gardens went on it [the boat trip] One said “I didn’t realise just how nice it is down there” and they were so happy with their guide. I think her name was Robin. With the boat trips, we try to get people that wouldn’t normally come out to the sanctuary, maybe older and not having environmental interest and they’re amazed what they learn’.</i></p>

New residential neighbours	<i>'And we're trying to promote an interest within Halycon Landing [neighbouring residential estate]. I mean, there's potentially 340-odd people down there...but we're right on their door step,. Well, heaps of them will be using the boardwalk and we should have a sign up saying "How about joining Maroochy Wetlands?"'</i>
	<i>'So, the relevance of this place both environmentally and culturally, we need to show that really clearly so every person in Halycon Landing and Carters Ridge, knew that it was here. At least that this was their place. And we're developing our displays so especially the social side and Indigenous aspects'</i>
Information tools	<i>'Modern technology—we're still struggling with this but we moved into the web page, email, (D) got us into Facebook. So we all went yeah, and now we realise we need a webmaster to keep it up to date and it's a—it's a thorn in our side now. We've got a really lovely looking web page but no-one to keep it up to date and—but hopefully we'll find somebody locally to do it'.</i>
	<i>'We had a little publicity in our Bli Bli Bulletin, and Deborah, our publicity officer, she goes to the radio stations, the local paper; we've even got it in the Seniors paper. Well, Michael, he's—he developed a little flyer and what we'd like to do next year is get that into as many letterboxes as we can'.</i>
Guiding	<i>'I'd like to see this place opened all school holidays and long weekends but ...we're still pushing for it. Because there's so many people out; in the winter and there's no-one to talk to [except Sundays when staffed by volunteers]'.</i>
	<i>'You've got to just show them things that they will remember and talk to them. Like if you pick a mangrove leaf off and say "Now look, just run your finger on it. Now taste it. That's the way that the plant gets rid of the salt out of the – out of its leaves", they will remember that down the track'.</i>
	<i>'We're all guides and our job is to guide people through and show them the value of the wetlands. I've noticed a lot of the overseas visitors who have contacts here. The locals quite often bring them here to show'.</i>
Future opportunities: education	<i>'Community attitudes have changed since we started. There's a big thing with education and information going to the community, which there wasn't in our early days so we really need to keep up with the education but also with visitor facilities and getting more visitors through and educating them'.</i>
	<i>'The national curriculum just locks teachers up. Like when I was teaching, it would be like right, book the bus, we're going, but these days teachers can't do it. We've now got a role to pick up that slack. It's up to us to start thinking about it, [environmental education]'.</i>



Figure 16.30 The education trailer

Source: MWSSG



Figures 16.31 and 16.32 The boat trip and strawberries and cream at the farm

Source: MWSSG

16.8.6 Theme 6: Place history

Like many conservation sites, there are stories about how the place was protected and the local people involved. The conversation turned to this important history and the critical role of the volunteers in advocating for protection of the wetlands. The locals were innovative, promoting its social and economic value and ecological significance to the community. This deflected counter claims about them ‘being a pack of radical greenies’ that were common at that time (see Table 16.7). The group was important for liaison with the council (‘because the council in those days...didn’t have too much understanding of these places’) and proceeded to restore the place and develop management, guiding expertise and skills to care for and promote the Sanctuary.

Table 16.7 Stories of the History of the Wetlands and People

<i>‘I guess what I represented [in those early days] was a multi-use facility which was far more sensitive to social and economic stuff—so underpinning it, you know, I’m not telling anyone but inside my coat, I’m a radical greenie. And I had to quote the value per hectare of [protecting] this place for the fishing industry as well.. and we ploughed on from there’.</i>
<i>‘I suppose the story for this place began mid-80s when we first started looking out for it. I used to come through here and there was nothing, you know. There was a guy growing marijuana just up the road here.. And I remember finding it and going “Oh, look at that. Someone’s growing dope there.”. And then thinking “shit, hope he’s not here with a gun” ’.</i>
<i>‘And I think back then, greenies were viewed as a bit queer. So that was a bigger fight. Of course, everyone now is more inclined to think green, but yeah, when X was fighting for it, you were quite strange, if you wanted a piece of land. Left to the birds, the frogs and toads’.</i>
<i>‘You know, it was in that period of time when there were greenies and non-greenies. You know, like the greenies were these bastards who didn’t want anything to happen’.</i>
<i>‘And even the council didn’t have knowledge of wetlands like this. If we wanted to guide people through, we were on our own. Robyn would—because she’s learning all the time shows us, the things down there and we between us all we become two-bit guides’.</i>
<i>‘In those early days, Bob and Alsa would come down. The lantana here was right at the top of the canopy. I mean, it was huge and these two in particular manually removed it all. It was amazing, breaking into bits like this, you know, and put it in deep piles. And I think that in itself provided a role model for council and council staff [about restoration]’.</i>
<i>‘The funny thing about council though is when Bob and I used to come up here weekends cleaning out the lantana, you’ve no idea how many times Fred Murray [the Mayor] called in. He’d come out, “Oh, you’re making progress” ’.</i>

16.8.7 Theme 7: Acknowledgement of legacy, place and people

The stories of the Sanctuary’s history demonstrate how important it is and how that wonderful legacy is recognised, both in what is physically manifest in the place but also in the relationships between people and their need to gently reiterate and tell the story. Volunteers shared their thoughts on the legacy of the group’s work, contributing a range of meaningful insights surrounding the collective contributions of the many individuals and skills of the group—and the very personal legacy for families of the volunteers who loved the experience and passed it on to a new generation (see Table 16.8). Importantly, the original intention of the group to present the place as having multiple values for the region has been realised through the partnerships with local businesses (e.g., to run the boat trip and catered lunch), which has allowed both businesses to diversify. Volunteers viewed the survival and restoration of the place as the main physical legacy and the individuals, their commitment, families and long-term social associations as the glue that made it happen.

Table 16.8 Thoughts on the Legacies of the Sanctuary Group

<i>‘The real legacy is this place. It’s for those that come along later to maintain that but there’s a real legacy for those who have the vision to begin and to pursue and to defend’.</i>
<i>‘I’ve learned that we can make a difference. So, I can’t come here without a sense of pride that something I thought about in 1983 is actually still here and that doesn’t mean I take credit for everything that’s here. I guess I can look back and go “well, I busted my arse, and there is something there” and when I look back through people in the group, each and every one of them as an individual has done something, achieved something really fantastic. And the synergy of all those individuals is greater than the sum of the individual’.</i>
<i>‘Because if you come to one of our meetings, even though there’s such a diversity of interests in the members in the meeting, if you chipped away at all that and then got down to bedrock, we all are thinking the same thing; we’ve all got the same sort of set of values at the bottom, which is a bit hard to articulate, I guess, but it’s something about just appreciating that out there and wanting to have it here for our kids in the future. And I guess in terms of legacy for me, probably the most powerful legacy is my family—the values that being part of this whole process has instilled in them because when we started they were little knee-high sort of tuckers and now they’ve got their own families and their own families, you know. There’s another generation there that’s getting infected.</i>
<i>‘To me, over the last few years so far as the group is concerned is that we have become far more professional. We’ve got better documentation and better training’.</i>

'Surviving and keeping the place is a pretty big achievement because there'd be a lot of people that would like to get rid of it'.

'And so, we were actually able to show this place has an economic value. And the other thing is it's an emerging thing but the social value of the place has become more apparent.. And the educational side must be fairly important too. This place runs all the time and they're teaching the (urban) kids and... they get to come out here, you know, it's really important'.

'But I think that's one of the things that we've been able to show. You know, like the boat trips, is that we have a relevance in terms of the economy here. So, I think to shift the thinking about this place from "it's a locked-up conservation area" to "it's an eco-tourism asset" to Bli Bli and the Sunshine Coast due to our efforts and by doing the boat trips you can actually say—I think we calculated what, \$2,000 in benefit in one day to these businesses'.

'But nowadays—this is good because they've got this—these three places in there. They [Council] pump them up a bit and they're their green credentials and so they can't race over here and build high-rises with nobody noticing.. So, I think—from here on—you've pretty well protected that. No matter what sort of council they've got to keep that stuff'.

16.9 Insights and learnings—Interstate Case Studies

These two relatively different urban nature reserve settings offer interesting insights about community partnerships that evolved with local municipalities and also the multiple roles that urban remnants can play in generating interest in conservation (Kendal et al. 2017).

The community organisations evolved from grassroots action by local people to protect the sites. These long-term social associations were key to establishing the flexible and inclusive governance models that now operate and maintain relationships with neighbouring communities. Most importantly, both sites demonstrate the capacity of community groups to effectively manage urban conservation sites, hold and develop site knowledge and maintain positive neighbour relations, all of which are more challenging for local government managers with professional staff turnover and organisational change.

Involvement of the MCMC in management of Ngarri-Djarrang provides continuity for both neighbours and Friends volunteers whose occasional on-ground work complements and supports the professional restoration team. This arrangement would not be possible under other contracting arrangements. The regular burn regime for this

grassland (totally surrounded by housing) is also an exemplar about how to manage fire treatments and ecological restoration in an urbanised setting. It also suggests that Council and other key agencies (like Fire) have confidence in MCMC managing this intervention. Management of neighbour relationships is focused on respectful communications around the burn regime.

The new housing development at the northern section of the reserve provided the impetus for a series of community engagement events, the most successful of which involved snake-handling demonstrations, which responded to local people's concerns. The other aspect that engages local people with the grasslands is the presence of a small mob of grey kangaroos that live in the reserve.

At MWSSG, the volunteers are the primary and professional face of the Wetlands Sanctuary, staffing the interpretation centre on weekends, leading walks, documenting and presenting biodiversity, and managing relationships with the existing rural and newer urban neighbours. The Sanctuary volunteers demonstrated a refreshing openness to changes occurring around the Sanctuary, being both proactive and realistic about future land use around Bli Bli and recognising the potential opportunity to engage with new residents. They have initiated innovative activities to take advantage of the site context and to support the local economic base, partnering with their farming neighbour (strawberry farm) and a local tourism operator (river cruises) to introduce and educate people about the Sanctuary. Most recently, the group worked with a local solar-powered self-guided eco-canoe hire business on the Maroochy River to encourage visitors to travel to the Sanctuary.⁵⁶

One volunteer's citizen science has increased the knowledge of certain crab species and forged valuable relationships with the Queensland Museum. A key enduring legacy of this group has been situating the place as one with multiple values for the regional community. This was realised through collaborations like the boat cruise and its educational value as a study site and nature walk. Successful partnerships with the Council and education staff have fostered mutual respect that has endured major organisational and personnel changes particularly at Council. Some of the frustration expressed is typical of community organisations, tempering expectations and

⁵⁶ <http://thegreatdayout.com.au/fun/eco-river-rides>.

accepting the administration. Volunteers recognised a shift towards professionalising the volunteers because of new rules around OHS. For most of the volunteers, their legacy is apparent in the resilience of the place and the people and social associations that have ensued and that will maintain the place in the future. Uniting the past and present was a powerful thing to witness in the conversation with this group—as were their seamless roles and relationships with newer members, which can sometimes be difficult in long-established groups.

These case studies demonstrate the capacity of community-based organisations to successfully deliver a variety of land management and outreach activities, propose creative and innovative ideas for engaging local people and partnerships, and establish trust through neighbour relationships. The long-term social associations with these reserves facilitated management continuity, capacity and collective learning. These are critical in urban settings and demonstrate the potential for jurisdictions like the ACT to expand the scope of community partnerships for management of urban nature reserves.

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Appendix 17: Interstate case study invitations, MCMC Interview questions and MWSSG Focus Group Plan

Merri Creek Management Committee
2 Lee St,
East Brunswick, Vic, 3057

Dear

My name is Kathy Eyles, I am a PhD student at the Fenner School of Environment and Society, Australian National University (ANU) investigating the relationship between urban communities and nature reserves.

Canberra provides a unique setting to explore the many views about ways of living within a sensitive bush landscape. Part of my research project involves interviewing people who live near reserves and people who have an interest in the planning and development of new urban areas adjoining nature reserves and in managing our urban green spaces and nature reserves in existing suburbs.

While Canberra is the primary location for this case study research, I am also interested in learning about the experiences of other local communities involved in managing important conservation reserves in urban settings. Exploring models of collaboration used in a variety of social and ecological settings will yield insights about the possibilities for local people to co-exist and care for nature in urban environments, in collaboration with public land managers.

I would like to talk to your organisation about your experiences and this may be done in a few ways, either using one on one interviews with people in your organisation or a focus group session involving your group or perhaps a wider group that could allow for participation by other people that have an interest, including council and state agency staff as appropriate.

I envisage that one on one interviews would take no more than an hour of each individual's time, and the focus group around 2 hours. The purpose of the questions is to uncover the perspectives of local volunteers, and other community groups who assist in management of nature reserves in urban settings. The intent is to understand how the community get involved in management, the challenges and opportunities, what knowledge is used in decision-making, and the scope of the collaborative relationship between the community and managing agency. It is anticipated that data collected will also be useful for your group's evaluation purposes.

I have attached a consent form and information statement for you to read to help you to decide whether your group would like to participate. However I will draw your attention to some important information.

1. The interviews/focus groups would be conducted at a suitable meeting place convenient to the individuals or your group such as a community room at your local council or library.
2. Participation is voluntary and you may withdraw at any time during the process.
3. Information will not be used to reveal any individual's identity in written or recorded form.

Your group's participation will help me to understand the many perspectives of the people and organisations with an interest in how we plan and manage the residential interface with nature reserves. I believe this project is an important study that can inform how new suburbs are planned into the future and how our nature reserves can be restored and managed in collaboration with urban communities.

Results from the research will contribute to my PhD thesis and may be used for conference papers and presentations, community forums and articles in journals. If you have any questions or you would like to be involved, please contact me by email kathy.eyles@anu.edu.au or phone on 0407 899 698.

I look forward to your participation in this important research.

Yours sincerely

Kathy Eyles

Indicative Interview Questions: Merri Creek Management Committee

Social perspectives of nature reserves and developing urban areas

A. Background Briefing for Interviewees

1. Thank you for participation.
2. Ethics:
 - a) Give participant a research information sheet and refer to contact people.
 - b) Ask the participant to read and sign consent form.
 - c) Remind the participant they can withdraw from the project at any time.
3. Explain process of interview:
 - a) Explain that the interview will take around 60 minutes or more.
 - b) Confirm that the participant is willing to be recorded (audio).
 - c) Remind the participant they may ask to terminate the interview at any time.
 - d) Remind the participant that they do not have to answer all questions.

Overview

1. The purpose of this project is to generate data on: how people view, value and manage nature
2. I will ask questions about:
 - a) issues around developing near urban nature reserves;
 - b) planning approaches
 - c) ecological information and knowledge;
 - d) effectiveness of current management approaches and processes

B. Interview

Introduction:

I am interested in talking to you about management of the Central Creek Grasslands and neighbour relations.

Background

I will begin with a few introductory questions about you and your work history. This data will allow me to develop a general social profile of participants

- i. What age group are you?
 - a) *Under 20; 20-29; 30-39; 40-49; 50-59; 60-69; 70-79, 80+*
- ii. What is your occupation? *Full-time, part-time, casual?*
- iii. Length of time living/working in the ACT
- iv. How long have you worked for XXX?
- v. Have you worked on similar projects in ACT? Elsewhere?

Macro condition and management issues

1. What do you think are the key management issues for urban nature reserves in the Merri catchment and specifically Central Creek?
2. From your observation and on-ground experience, in what sort of condition are nature reserves within Merri Creek – what sort of things would you look for as an indicator of condition?
3. What factors do you think affect conservation management of the Melbourne's urban reserves and regional conservation assets more generally?
4. How do agencies involve/consult your community about key planning and management decisions relating to management of Merri Creek

- Macro – EPBC Strategic assessment (Future Melbourne)
 - Micro (e.g. fire management weeds and feral pests].
 - What are your expectations about being consulted for example?
5. Reflecting ... how do you think the groups views/local knowledge/input is/might be treated?
- What weight is local community knowledge given in decisions – In your view whose knowledge prevails?

Governance and Funding

6. From your experience, what sort of governance does/might work well in urban interface settings- *Probe views about NGO/govt partnership or advisory committee, expert board.*
- Reflecting ... on MCMC and durability of model
7. Can you describe some of the group's most successful partnerships and collaborations over the years? What worked about these partnerships - any things that haven't worked?
8. Tell me about your relationship with State and local government agencies:
- has it changed since the group started?
 - how regularly are you in contact (and vice versa)?
 - what level of freedom to act and autonomy?
 - Have you been able to get access to all the information training resources you need?
 - What sort of things do you feel are basic to building trust in this relationship?

9. How does your group manage (ad-hoc - changing) funding arrangements that can affect the ability to plan ahead, retain staff etc.?

Probe contingency - new funding sources

10. What plans do you use to guide on-ground activities? *Discuss Catchment management and/or restoration plan?*

Communication with Neighbours and roles of Volunteers

11. How does MCMC manage communications and relations with the Grassland neighbours? *Probe strategies/ learnings about education and awareness particularly liaison about ecological burns and NESB residents*

12. How do the Friends volunteers and NGO groups contribute to restoration and management of the nature reserve? How does MCMC measure this contribution social and ecological terms?

13. What do you think motivates local people to get involved in the Friends? How do you succession plan and recruit new members?

14. From your experience, what sort of governance does/might work well in urban interface settings- *Probe views about NGO/govt partnership or advisory committee, expert board.*

- Are there differing motivations (Friends vs Committee)? Pulling weeds vs strategic advocacy.

15. Thinking about your role in the Central Grasslands reserve, do you have some ideas of how things could be done differently and have you tried out any of these ideas here or elsewhere? Is there anywhere you could see these ideas in action?

16. What sort of research might assist future suburban planning in interface settings (*Probe fire regimes for threatened species buffers setback for particular landscapes riparian grassland*)

17. What ideas do you have about the ongoing education to ensure sympathetic behaviours of people living in estates near reserves?

Reflect on:

- MCMC project: Reinforcing Grassland values

- About community engagement project (CMA funding) two community planting days (tubestock)
- Virtual tour of grasslands (how many hits – other feedback)

Closing

Key people for me to talk to about Central Creek Grasslands (Darebin Council)

C. Thanks

1. Thank you for participation.
2. Project:
 - a) Remind the participant to contact me regarding how the project is going.
 - b) Remind the participant again that they can withdraw at any time.
 - c) Remind the participant that a copy of any publications etc. will be made available

Focus Group Maroochy Wetlands Sanctuary - 5 December 2013

Focus question: *How has the MWSSG contributed to the protection and enhancement of the ecological and social values of the Sanctuary?*

Objective What (2-3) Facts and details	Reflective Then What (2)	Interpretative So What? (1-2)	Decisional How What? (1)
<p>Practical Result: Document participant experience of MEWSSG and explore ideas about its legacy</p> <ul style="list-style-type: none"> • What is the role of MWSSG • What sort of skills and interests are involved in MWSSG (plants birds etc.) • How do new people get involved? • Is the MWSSG different to other community groups - in what way? • How do you organise yourselves and build capacity (Induction? Succession? Planning?) • Who does what? Group vs Council • What are some of the key achievements of MWSSG (i.e. site management & education infrastructure) 	<p>Rational Aim: Understanding what MWSSG is and its contribution to Sanctuary governance</p> <ul style="list-style-type: none"> • When you look at the way the Sanctuary is managed • What gives you pride/pleasing • What has been frustrating/ not worked so well? • Which activities do you think have been the most effective (or not so)? • Where do you think more work or traction needed? • Building relationships • Knowledge transfer • Comms and interps • Relationships with Council • ? changed over time and with different personnel - How • Maroochy to Sunshine Coast RC and back again • Relationships -Dept. of Ed • Sanctuary neighbours (farmers urban residents) • Conversations with visitors & feedback how link that back into your activities? • Boardwalk sponsors 	<p>Experiential Aim: Participant understanding about how they experience and contribute to MWSSG.</p> <ul style="list-style-type: none"> • What has been learned through these management experiences? • Think about legacy and learnings • ? Think about factors for successful collaborative governance <p>Probe (after 20 years)</p> <ul style="list-style-type: none"> • Learning @ 2 levels • personally (volunteers members) • institutionally (across govt & orgs) • What's still to do? • (i.e. learning/ knowledge transfer) • How important is it for you to leave a positive legacy as part of your involvement in MWSSG? • History is important • Learning is all your experiences to date. 	<ul style="list-style-type: none"> • What would it take to maximise this legacy and learnings? <p><i>What do you as a group need to do?</i></p> <p>Probe</p> <ul style="list-style-type: none"> • In the next 12 months what are some of the things you could put place to make it happen <p>Next steps (Kathy)</p> <ul style="list-style-type: none"> • What I will do with this • Others I need to talk to

**Background: About the
'Focused conversation'**

1. Facts - gather information
2. Reflect - on experience
(what went well or not so)
3. Analyse - interpretative part
(what have we learnt/still to do)
4. Action – future (what next for group) (*only if group wants to explore this*)

The method allows us to see whole not just parts – wisdom of all diversity of group and experience.

Opening activity

Introductions

1. Name
 2. Where born
 3. How long part of MWSSG
 4. Motivation to volunteer
 5. Favourite volunteer activity
-

ANU COLLEGE OF MEDICINE, BIOLOGY & ENVIRONMENT

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Derek Foster
Maroochy Wetlands Sanctuary Support Group Inc.
bliblifosters@aapt.net.au

Dear Derek

Thank you for returning my call and our insightful conversation last week. As discussed, I am a PhD student at the Fenner School of Environment and Society, Australian National University (ANU) investigating the relationship between urban communities and nature reserves. Canberra provides a unique setting to explore the many views about ways of living within a sensitive bush landscape. Part of my research project involves interviewing people who live near nature reserves and people who have an interest in the management of nature reserves.

While Canberra is the primary location for this case study research, I am also interested in learning about the experiences of other local communities involved in managing important conservation reserves near urban areas. Exploring models of collaboration used in a variety of social and ecological settings will yield insights about the possibilities for local people to and care for nature near urban areas in collaboration with public land managers.

I would like to talk to your group about your experiences and this may be done in a few ways. I can conduct one-on-one interviews with volunteers or run a focus group session involving a number of members of your group or even a wider group that allows for participation of other people that have an interest, including council and state agency staff as appropriate.

I envisage that one-on-one interviews would take no more than an hour of each individual's time, and the focus group around 2 hours. The purpose of the questions is to uncover the perspectives of local volunteers and community groups who assist in management and interpretation of nature reserves. The intent is to understand how local people get involved in education and management activities, how local knowledge is used in management decisions and the factors that underpin successful collaborative relationships between the volunteers and managing agency. It is anticipated that the qualitative data collected will also be useful for your group's future planning and evaluation purposes.

I have attached a consent form and information statement for you to read to help you to decide whether your group would like to participate. However I will draw your attention to some important information.

1. The interviews/focus groups would be conducted at a suitable meeting place convenient to your group such as a venue at the Sanctuary or a community room at your local council or library.
2. Participation is voluntary and you may withdraw at any time during the process.
3. Information will not be used to reveal any individual's identity in written or recorded form.

Your group's participation will help me to understand the perspectives of the people and organisations with an interest in how we manage nature reserves near urban centres. I believe this project is an important study that can inform how our nature reserves can be restored and managed in collaboration with urban communities.

Results from the research will contribute to my PhD thesis and may be used for conference papers and presentations, community forums and articles in journals. If you have any questions or you would like to be involved, please contact me by email kathy.eyles@anu.edu.au or phone on 0407 899 698.

I look forward to your group's participation in this important research.

Yours sincerely



Kathy Eyles

Appendix 18: World Parks Congress 2014 Fact Sheet

IUCN World Parks Congress Sydney 2014 Stream 8 Inspiring a new generation The Urban Gateway

The 'urban' century - new approaches to managing protected areas in cities

Global social changes mean more people now live in cities. By 2050, over 70% of the world's population will be urban dwellers (Nature 2010).¹ This will place pressure on protected areas within our city regions and the important ecological services they provide. It also creates significant opportunities to present parks as places for nature connection and learning.

¹Cities: The century of the city, *Nature* 467, 900-901, 20 October 2010



Management of parks in urban regions must recognise the 'peopled' landscape and the social values that attach to parks alongside their conservation values. The idea of writing people 'into' not 'out of' parks represents a fundamental shift in the way we plan for protected areas. Park managers who engage local communities in authentic partnerships will reap the benefits of local stewardship, knowledge sharing, new ideas, social networks and management capacity.

Case Study - Park Care a 25-year community and agency partnership, Canberra, Australia

City within a Nature Park

Canberra Nature Park is a network of more than 30 reserves woven through the suburbs of Australia's national capital, Canberra. Almost all suburbs are bounded by, or are within walking distance of a nature reserve.

Canberra Nature Park evolved from the open space network of hills, ridges, buffers, river and creek corridors that was created to provide a foci landscape setting for development of the national capital.

These reserves now protect endangered and critically endangered lowland woodland and grassland vegetation communities, their constituent flora and dependent wildlife. Canberra Nature Park contains the most extensive and intact examples of endangered Yellow Box - Red Gum grassy woodlands in public ownership in Australia.

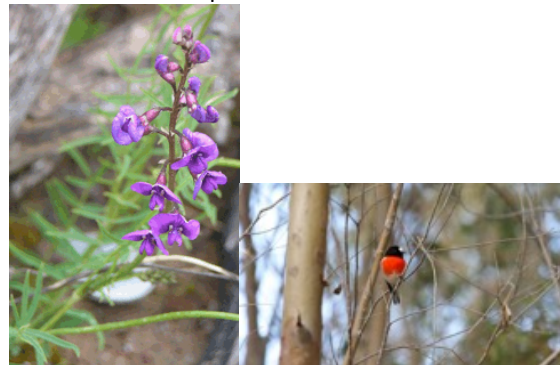


People within a Nature Park

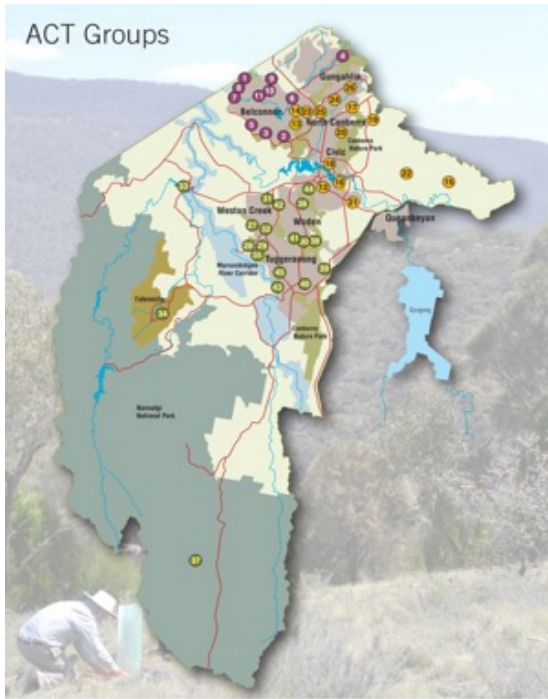
Canberra's Park Care program commenced in 1989 with one group and 13 volunteers working in Canberra Nature Park. By 1992, Park Care had grown to 13 groups and 400 volunteers.



Over 25 years, this innovative partnership has transformed a network of degraded open spaces into a system of nationally important nature reserves protecting endangered ecosystems, plants and wildlife. Volunteers have also been instrumental in campaigns to protect park boundaries and expand reserves.



Volunteer groups now operate in over 30 ACT nature and open space reserves, contributing over 20,000 hours a year, equivalent in-kind to 6 full-time rangers. Weeding, rehabilitation and hosting community events are core activities.



Park Care provides opportunities for local people to learn and play an active role in management tailored to their needs and interests. This grass roots engagement has created a strong sense of belonging and connection with nature reserves and a rich store of local knowledge and capacity. An active process of knowledge transfer is enabled within local groups and settings, particularly plant identification, survey and mapping, blending citizen-led science and learning.

Watch the Park Care story

<https://www.youtube.com/watch?v=tKgEOV3ZhW4&feature=youtu.be>

Further Information:

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 Park Care and Volunteer Coordinator
 ACT Parks and Conservation Service
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Evolving partnership for new generations

As part of celebrating 25 years of Park Care in the ACT, the Parks Service and local volunteers are exploring the opportunities to inspire new generations of Park Care volunteers. Ideas include: Enhanced social networking and new interactive platforms to engage the ‘digital natives’



Sharing stories about ‘caring for country’ and traditional knowledge to reimagine the landscape and enliven park interpretative activities.



Focus on junior and youth programs to ‘plant the seed early’ and engagement with schools and other local youth and recreational organisations.



