



Final Report

2016 BACKYARD HABITAT REVIEW

Review of backyard native flora and fauna programs in the Sydney Coastal Councils Group area

Created for Sydney Coastal Councils Group

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Australian Government



Table of contents

1.	Executive summary.....	3
1.1.	Aims.....	3
1.2.	Method.....	3
1.3.	Overall findings and Recommendations.....	3
1.4.	Summary List of Recommendations.....	5
2.	Method of review.....	7
2.1.	Participants.....	7
2.2.	Materials and Procedure.....	7
3.	Review Criteria.....	8
4.	Case studies.....	9
4.1.	Ashfield Council.....	9
4.2.	City of Sydney Council.....	11
4.3.	Ku-ring-gai Municipal Council.....	12
4.4.	Lane Cove Council.....	14
4.5.	Leichhardt Municipal Council.....	16
4.6.	Mosman Council.....	17
4.7.	North Sydney Council.....	19
4.8.	Pittwater Council.....	22
4.9.	Rockdale City Council.....	24
4.10.	Sutherland Shire Council.....	26
4.11.	Warringah Council.....	29
4.12.	Waverley Council.....	31
4.13.	External program: Backyard Buddies (BB).....	33
4.14.	External Program: Birds in Backyards (BIBY).....	35
4.15.	External Program: Habitat Stepping Stones (HSS).....	37
5.	The Backyard Habitat Participant Review Tool.....	40
5.1.	The Backyard Habitat Participant Review - Questionnaire.....	42
6.	Table of Online Resources for Habitat Creation.....	45

1. EXECUTIVE SUMMARY

1.1. AIMS

The aim of this review is to examine what a comprehensive backyard native flora and fauna habitat program may include, and to provide a summary, via a series of case studies, of the various programs available for councils and others to implement. The provision by councils and external groups of such habitat programs has an innate unquantifiable value regardless of what may be quantifiable outcomes or process. In writing this report the authors endeavour to honour each program reviewed. To that end, the aim of this report is not to quantify or create an objective scale of value that would then apply across all programs. Rather, the authors intend that the reader may choose the criteria that best suit their own needs and use the case studies as a guide to implementation. In addition, the authors provide a survey tool to help councils better evaluate resident participation and program effectiveness.

1.2. METHOD

Participants in the review were all councils in the Sydney Coastal Council Group's Sydney's Salty Communities program and known neighbouring programs interested in completing a questionnaire about their backyard habitat programs: 18 completed the questionnaire and 12 councils participated in the interviews. Three external programs also contributed material.

The method the review followed to reach these aims included: incorporating the advice of an expert reference group, a comprehensive literature review to generate materials for a critical incident analysis of potential criteria, testing the criteria with the expert group, then devising questions that were sufficiently broad to allow programs to be described alongside the developed criteria. A survey and interviews were conducted with council and external program officers who administer these programs to collect the data, and these were then collated in this report.

1.3. OVERALL FINDINGS AND RECOMMENDATIONS

Page 6 of this report shows a summary table that describes each of the programs in relation to the criteria used for the review. Although some programs were too new to provide all requested information, most program officers could respond to most criteria. Measured habitat improvement was only collected by two programs so unfortunately this important outcome could not contribute to a general understanding of these programs overall.

In fact, 66% of programs reported having collected baseline data of some kind. However, the baseline was collected using different methods in each program and often referred to aspects of programs. This ranged from aerial surveys of vegetation to an assumption of zero existing participation before the program and then collection of workshop interest. To properly understand the effectiveness of these programs, comparability of change against a common baseline is the first hurdle that must be overcome.

Recommendation 1: All programs should aim to measure native fauna habitat improvement rather than fauna numbers. Whilst the direct measurement of native fauna numbers against baseline would be ideal it is very costly, requires a baseline that is usually not available, and certainly appears to be highly problematic at this stage. Habitat measurement can be done by either using a topographical technique such as aerial photography or by using an assumed zero and measuring added habitat elements as residents join the habitat program. The use of an assumed zero is less accurate but more useful than doing neither of these things, as programs are then able to accurately quantify impact.

Recommendation 2: All programs should have an accurate and up to date database of participants that includes contact details, notes on conversations, demographics and related participant goals, interests and needs. Related to recommendation 1, this will allow programs to track impact much more accurately while also improving marketing targeting (this also supports recommendation 5).

A review of the summary data demonstrates a relationship between the number of residents engaged and the length of the program, with older programs showing greater number of engaged residents. This was not due to stronger leadership support as some of the older programs reported less supportive leadership. Instead it is likely due to increased numbers of people on contact databases, and increased word of mouth as time goes by. Further, as the number of engaged residents increases,

the costs decrease, creating an upward spiral of impact per dollar for the program. Even in well-established programs with rich data, this was not always efficiently organised. Councils could well find value in arranging a working group or at least a workshop that discussed opportunities to better input, store and report on their participants' data.

Recommendation 3: *There should be a long-term commitment to these programs for them to be effective and cost effective for councils. In this review, short-term commitments tended to show little impact and higher costs, and longer programs more impact, so programs should initially be determined to run, and be appropriately funded, for at least 4 – 8 years.*

The summary table also indicates that while 40% of programs (5 council and 1 external) had a formal design with a structured project design, the rest were ad hoc. In addition, objectives, when they existed, were largely intuitively determined by the council officer and not community negotiated. However, almost all officers agreed that these programs significantly boosted the positive perception of council, and none appeared to regularly collect a council perception measure.

Recommendation 4: *All programs should have a formal design with clear and stated objectives and rationales that are appropriate to and negotiated with the community. At least one of these objectives should relate to building a positive perception of council, and this should be measured by both the number and breadth of contacts with diverse community, and by measuring council perception pre- and post-program intervention and workshops.*

Most programs (73%) used only officer intuition to develop community engagement plans. Although officers could state that some methods e.g. letter box drops were effective, no single community engagement method appeared to work for all councils. Instead, the old marketing adage of communicating much and often appeared to be borne out. The review indicated that some community members e.g. generation X, Y and Millennials preferred internet based communication such as social media, older generations preferred letterbox drops and personal engagement at related workshops. However, by far the most effective method was word of mouth, as longer-tenured programs had substantially more engagement than younger programs simply due to reputation.

In addition, the council nursery appeared to be, on average, the first port of call for residents interested in engaging with the environment, largely to avail themselves of free plants. Engagement around “cute” animals has long been central to environmental messaging. However, it was instructive to see that stingless bees appear to be engaging for residents of all ages: by providing ownership, residents appear to gain not only a talking point, but also become engaged in local native flora diversity, in ecological processes like pollination or the threat of increased hot days to their hive, and in the use and threat of pesticides in their area, all without the risks associated with European stinging bees.

Recommendation 5: *Marketing for these programs should use multiple methods and channels to generate recognition, focusing on face to face presentation and direct marketing. Although most programs used social media of some kind, marketing methods that proved the most effective were those that involved direct contact such as: cross promotion in related workshops, festival and other market stalls, and direct database marketing. Marketing effort should be where most time and money is placed for the programs, including at least two hours per week of officer time spent on direct marketing and cross promotion. As per recommendation 2 above, a highly accurate participant database should be used to target market to demographic and interest-based groups to improve marketing results.*

Recommendation 6: *Links to external programs should be made to leverage their existing social media progress, rather than councils endeavouring to create their own. All the external programs in this review have substantial social media followings, and some have advanced this to include more sophisticated peer to peer engagement mechanisms. It is costly and less efficient for councils to mimic the advancements these programs have made; hence external programs should be ‘linked’ to as much as possible (see the table of online resources at the end of this document for links) to expand reach and maximise efforts.*

Recommendation 7: *Marketing for habitat creation programs should use aspects of flora and fauna that are ‘easy’ for community to engage with, or currently of interest. For example, stingless bees currently demonstrate a sense of novelty in the community that should be embraced and used as the ‘thin edge of the wedge’ to broader engagement. Another of these aspects appears to be the council nursery and free plant giveaways. Residents, when drawn in to the*

nursery or workshops on stingless bees should be encouraged with further 'freebies' such as hints and tips that then encourage them to provide contact details. Officers should then stay in regular contact with participants to generate deep and personal connection to the program and local environment.

When asked about the kinds of skills required to run habitat creation programs, officers mentioned a wide variety of things, but clearly focused on technical environmental skills. However, this review indicates that most officers are largely recruited on technical skills and hence skill gaps appear to be around communications and marketing skills, particularly: marketing and persuasion, including managing upwards. Almost all programs are expected to continue, and most (73%) plan to modify their current program, hence there is much opportunity to improve these programs and develop a deeper level of support from council. A deeper level of support from council is needed and appropriate as programs have an intuitive positive impact on the perception of council in the community, require long-term commitment to be cost effective and, in the review, it seems only half report strong senior management support (53%).

Recommendation 8: That officers of habitat-creation programs are provided with substantial training in skills that may be a gap for them, i.e. Marketing, Persuasion, Making your Case to Management. *In particular, it is advised that councils in the group work together to engage officers in a course that is specifically built for advancing leadership skills in relation to backyard habitat development in local government areas. There are existing environmental leadership programs that focus on the skills demonstrated as needed in this review e.g. the Advancing Sustainability Leaders program delivered by ARIES.*

Recommendation 9: Specific connections on objectives should made between backyard habitat programs and the Connected Corridors project. *Although some programs had objectives that linked to green and wildlife corridors, many did not, and connecting these programs together would improve their overall strategic impact. Hence, objectives of these programs should collaborate to maximise effectiveness and build connected corridors more rapidly.*

Suggestions for additional forms of impact measurement: *Although no council officer collected health data around these programs, it would be beneficial to do so to build the important evidence base in this area. In particular, officers could partner with research organisations such as universities to collect psychological health data substantiating the value of restorative environments for reducing negative stress. Universities could also assist in fauna surveys to demonstrate recovery of endangered species. Heat analysis research could also demonstrate how these programs can mitigate the health risks of climate change e.g. extreme heat: heat waves in Australia are currently estimated to kill approximately 200 people each time they occur, so habitat programs are likely to save lives; university research could model the specific heat-reduction impact for councils to begin to develop evidence that will become increasingly important as population density and temperature increase.*

1.4. SUMMARY LIST OF RECOMMENDATIONS

- 1: *All programs should aim to measure native fauna habitat improvement.*
- 2: *All programs should have an accurate and up to date database of participants.*
- 3: *There should be a long-term commitment to these programs.*
- 4: *All programs should have a formal design with clear and stated objectives and rationales that are appropriate to and negotiated with the community.*
- 5: *Marketing for these programs should use multiple methods and channels to generate recognition, focusing on face to face presentation and direct marketing.*
- 6: *Links to external programs should be made to leverage their existing social media progress, rather than councils endeavouring to create their own.*
- 7: *Marketing for habitat creation programs should use aspects of flora and fauna that are 'easy' for community to engage with, or currently of interest.*
- 8: *That officers of habitat-creation programs are provided with substantial training in skills that may be a gap for them, i.e. Marketing, Persuasion, Making your Case to Management.*
- 9: *Specific connections on objectives should made between backyard habitat programs and the Connected Corridors project.*

	Program Start Year	Program Design			Community Engagement		Senior Leadership Support		Continuous Improvement		Cost effectiveness							
		Formally designed	Ad hoc	Baseline Collected	Designed based on a measure	Designed based on intuition	Strong	Medium	Expected to continue	Modifications Planned	Officer estimates it cost effective	Annual Budget	Time cost (approx.) ‡	Number of residents engaged	Number of people in LGA	% of LGA engaged	Approx. cost per resident engaged*	Measured Habitat Increase
Ashfield Council	2011		✓			✓		✓		✓	50,000	26,000	Cannot Estimate	44,540		-		
City of Sydney Council	2016	✓				✓			✓				Cannot Estimate	205,339		-		
Ku-ring-gai Municipal Council		✓		✓		✓		✓		✓	5,000	73,000	40 (more in related programs)	109,297	.04	\$1,950		
Lane Cove Council	2007	✓		✓		✓		✓		✓	35,000	21,000	400	31,510	1.27	\$140		
Leichardt Municipal Council	2016		✓		✓			✓	✓	✓	8,000	3,714	Cannot Estimate	58,756		-		
Mosman Council	2016		✓	✓		✓		✓	✓	✓	3,000	7,428	4	30,496	.01	\$2,607		
North Sydney Council	2001	✓		✓		✓		✓	✓	✓	7,000	63,000	400	62,289	.64	\$175		
Pittwater Council			✓	✓	✓			✓	✓	✓	15,000	33,571	120	57,154	.21	\$405	25%	
Rockdale City Council	2016		✓			✓		✓	✓	✓	30,000	24,285		97,340		-		
Sutherland Shire Council	2001	✓		✓	✓			✓		✓	55,000	40,428	600	210,863	0.28	\$160	75%	
Warringah Council	2016		✓			✓		✓	✓	✓	2,000	2,285	10	156,693	0.01	\$429		
Waverley Council	2016		✓	✓		✓		✓	✓	✓		4,571		72,699		-		
External Programs																		
Backyard Buddies	2002		✓	✓		✓			✓	✓	0		Cannot Estimate			-		
Birds in Backyards	1998		✓	✓		✓		✓	✓	✓	0		Cannot Estimate			-		
Habitat Stepping Stones	2014	✓		✓	✓			✓	✓	✓	3,820 (+ 4,500 printing)	3,714 (2 hr/ wk)	160	100,000 +	0.16	\$75	3700 elements pledged	

‡ approximate costs of staff time are based on administration time at \$40,000/year, and non-administration time charged at \$65,000/year as per payscale.com estimates appropriate to the sector.

* calculated as simply as possible, this is cost/ number of residents engaged

+external programs were asked to provide the number of residents that would (on average) be engaged in an LGA of approximately 100,000 people, only Habitat Stepping Stones could respond to this question with accurate data and used a case study to do so.

2. METHOD OF REVIEW

The method used to derive this report is as follows:

2.1. PARTICIPANTS

Council officers from Sydney Coastal Councils Group's Sydney's Salty Communities working group and known neighbouring programs participated in this review. All 18 completed the online questionnaire, 13 completed the phone interviews. The five councils who did not complete the phone interviews chose to opt out of these as they determined their programs did not warrant further discussion.

One council then participated in a pilot study of the backyard habitat program participant evaluation tool. This was also an online questionnaire with 44 people invited to complete the form. 27 responded and completed the whole form. One participant was confused about the invitation to participate and provided a clear indication of this in their responses, this person was removed from the analysis. This meant that the evaluation tool had a response rate of approximately 60%.

2.2. MATERIALS AND PROCEDURE

1. An expert reference group was convened. This group was staffed with interested council and external group members who manage and deliver backyard habitat programs.

2. A literature review was then completed to create case studies of deidentified, pre-determined failed or successful backyard habitat programs. The expert panel were then asked to reflect on the cases and respond to questions created using the critical incident technique¹. These responses were used to create criteria of importance for backyard habitat programs.

3. Council officers and external programs were then invited to respond to the criteria through an online questionnaire and a semi-structured interview was delivered by a backyard habitat expert to refine the responses.

4. The data and criteria developed in the above steps were then combined with a further literature review to create a participant review questionnaire that could be used by any council wanting to improve their backyard habitat programs. This questionnaire was then pilot tested online through email invitation, data was analysed and the questionnaire was refined.

¹ Flanagan, J. C. (1954). The critical incident technique. *Psychological bulletin*, 51(4), 327.

3. REVIEW CRITERIA

The following criteria were developed as per steps 1 and 2 in the method of the review on page 6 of this report.

Criteria: Formal program design and management	
Whether a program was determined to have a formal program design and management depended on whether it fulfilled most of the following criteria:	
	Has a formal project design
	Uses a measured baseline of flora and fauna
	Uses an evaluation of participation
	Evaluates wildlife outcomes
	Has specific objectives and/or quantifiable targets
	Has activities linked to objectives
	Applies a best practice model
Criteria: Supportive and skilled leadership	
This criterion had 2 levels: strong and mid. Whether a program was determined to have strong supportive and skilled leadership depended on whether it fulfilled most of the following criteria, mid was determined by whether it fulfilled at least 2 of the aspects:	
	Supportive senior management
	Conscious of the types of leadership skills and motivation required
	Has an inherent and expected ongoing environmental stewardship
	Uses learning and reflection for continuous improvement
Criteria: Measured community engagement	
Whether a program was determined to have measured community engagement depended on whether it fulfilled most of the following criteria:	
	Collected a baseline of community values
	Measured evidence of current community values
Criteria: Community engagement development	
Whether a program was determined to have community engagement development depended on whether it fulfilled most of the following criteria:	
	Has activities that engage the community
	Gathers community feedback about the activities
	Targets community segments
	Endeavors to broaden engagement
	Endeavors to broaden environmental values
Criteria: Cost effective program design	
The authors asked council officers whether they felt (through intuition) the project was cost effective. This is recorded in the case studies, however whether a program was determined to be cost effective depended on whether it fulfilled the following:	
	The program demonstrated a wide reach and impact when compared to the cost

4. CASE STUDIES

Note: All case studies have been lightly edited for clarity and consistency.

4.1. ASHFIELD COUNCIL

Description of program

Ashfield council has a very restricted program due to a significant alteration made to council's strategy. There was a biodiversity strategy designed for an area of land called the Greenway with the objective of creating a light rail and biodiversity corridor. The strategy also targeted a web of streets to supplement what was happening in the corridor. The council was awarded \$30 million for the Greenway Strategy in 2011-2012 however this funding was then pulled.

The Biodiversity Plan is still current and has been adopted by council. It contains guidelines on habitat biodiversity and organisation of workshops however there is no funding available to run it, only the program officer's time, and it competes with other priorities.

The strategy helps the council apply for grants, such as through the Environmental Trust but implementation is fairly minimal due to the lack of funds. The program offers free plants at the Carnival of Culture, and despite a lack of funding runs due to community support and involvement. It has been able to harness people power to assist in delivering biodiversity outcomes.

Aspects the program includes:

- 1 annual habitat-creation-themed workshop
- A local native plant list
- Occasional general biodiversity themed talks
- 2 annual personalised visits by council officers to assist if needed
- Free plants are given at some council events and from parks and gardens
- Bush-care site tours are run periodically and have a turnout of 30-40 people.
- High school engagement activities that occur once a fortnight
- Primary school engagement activities for teaching about planting in the school holidays

Program design

The program has an ad hoc design and has objectives that are outlined in the Biodiversity Plan, Greenway Bush-care and Re-vegetation plan – on council Bushcare sites it is basic clearing of weeds to preserve habitat.

Community Engagement

The intuition of the council officer, based on a solid knowledge of Bushcare and conservation, was used to determine what the community might want for this program. Although community engagement is not measured, the council endeavours to expand the influence of the program by targeting different types of communities. Specifically, the council officer visits residents whose sites border on Bushcare sites where there are encroaching weeds. These residents receive education about the weeds and a brochure entitled 'Stop the spread', to encourage them to remove weeds. The education program appears well received, as reported by the officer from intuition and direct report from participants.

Leadership

Senior management have a mid-level of support for the program which tends to translate into verbal support, but no additional funding, as stated by the officer. The council officer oversees the program and primarily uses the skills of coordinating, educating, public relations and contract management.

The motivation and leadership of the council officer is the major driving force. The officer is passionate about completing the main objective of a connected biodiversity corridor. In addition, the area under management has grown since the program started: it now includes land originally contracted to a state government environment organisation, but no extra funding has been provided to accommodate for this.

Continuous Improvement

The program is expected to continue due to community demand. The community are still passionate about the biodiversity corridor despite the lack of funding, and are driving the creation of further Bushcare sites (the program currently has approximately 13 active sites).

In addition, a recent announcement from state government that bike paths would be installed from Lane Cove to Cooks River has provided added interest in habitat improvement in the area, fuelling its continuation. Bike paths are expected to generate further interest in habitat as more residents use bush sites.

Program Outcomes and Cost Effectiveness

Although the program has not been evaluated for improving wildlife habitat, it is intuitively cost effective due to the impact of volunteers (approximately 30 people). Although there is no estimate of the number of general community members engaged, both primary and high schools are actively engaged.

The cash budget is \$50,000/yr, and is expected to be ongoing. The staffing cost of the program is 14 hours/wk of non-administrative time.

4.2. CITY OF SYDNEY COUNCIL

Description of program

City of Sydney Council uses an external provider for most of its backyard program, however there are some aspects that are delivered internally. The internal program focuses on urban ecology which involves various facets such as how to improve bushland restoration sites, community workshops and reviewing of development applications.

Aspects the internal program includes:

- Drafted habitat creation guidelines
- 4 habitat-creation-themed workshops per year, 5 further workshops on urban ecology
- 4 general biodiversity-themed talks per year.
- 1 grant scheme per year for community organisations
- Free plant giveaways at workshops, approximately 300 plants given away per year.

Program design

The officer stated that the program was generally designed, due to the workshops having some design to them.

Community Engagement

Workshop participants are asked to evaluate the workshops with the use of a survey monkey questionnaire. The council officer designing the workshops used intuition to determine what the community wanted and used council website, letter drop, promotion at workshops, social media (twitter), and an email list to promote the program to residents. It was thought that the letter drop in particular would engage diverse people who might not normally attend these programs.

Program Outcomes

None provided.

Leadership

The program has mid-level support from senior management. The council officer started this program due to their passion for biodiversity. The skills needed to run this program include a strong connection to community and participants. It is difficult to engage residents in this council area in biodiversity conservation/ habitat creation due to the constraints of people's private property, lifestyle and availability.

Continuous Improvement

The program is not expected to continue as there is a need to further tailor it to the city experience. In addition, more human resources need to be allocated to the urban ecology team. The external provider program also suffered due to lack of human resource support from the council and needed more tailoring to the city experience. However, there is support from councillors and as the Urban Ecology Scheme is part of a 10-year strategy that articulates there is a habitat program there is also funding.

Cost Effectiveness

None provided.

4.3. KU-RING-GAI MUNICIPAL COUNCIL

Description of program

KMC has an officer with bush regeneration qualifications who visits private property and gives advice regarding weed removal and habitat. The program, called Backyard Bushcare, provides a one-off property visit to residents with a native and wildlife agenda to cross promote different council initiatives. The program is promoted through soft advertising such as through festivals and word of mouth, as there is only funding for an officer to run it for one day a week with funds provided through the environmental levee.

Aspects the internal program includes:

- 8-10 habitat-creation-themed workshops per year
- 100 native beehive giveaways per year
- 10 biodiversity-themed talks per year
- 30-40 personalised visits to properties to assist (1 visit per property)
- Assisting community groups in applying for habitat development grants
- Member of Habitat Stepping Stones program
- Member of Birds in Backyards program
- Member of Backyard Buddies program

Program Design

The KMC program has a formal design. A baseline of flora and fauna extent and condition was collected using vegetation maps, Biobase for flora and fauna sightings, fire maps, and annual weed measurements taken by the officer. There are no official objectives.

Community Engagement

Community participation was evaluated using surveys conducted at workshops. The surveys usually get a positive response as attendees already have enough interest to be attending the workshops. The officer used intuition to determine what the community wanted and the intuition was based on extensive local knowledge (25 years of experience within the LGA). Extensive amounts of activities are used to engage people in the program, including: targeted emails, presence at festivals, cross promotion by council officers, cross promotion through parallel programs such as 'Pool to Pond', 'Wildthings', the 'Citizen Science Eastern Pygmy Possums' project, internal council social media, and the 'Wildthings NSW' Facebook page.

The community was asked about the promotion through targeted emails: 'they love them'; 'Ku-ring-gai residents are famous for supporting the environment'. The officer also targeted different communities including those from Asian cultures and gained interest from these groups towards the 'Pool to Pond' program and the tree planting day. There is also a CALD ('culturally and linguistically diverse') program running to target new migrants in the area.

The officer also strives to increase environmental values in a wider sense. The provision of beehives has had interesting and unexpected spin-offs and is changing people's perceptions of the environment. When originally started it was primarily concerned with bushland pollination but has also now reduced residents' pesticide use, and is increasing knowledge both of stingless bees and of flora in general. It is also making participants more aware of extreme weather events associated with climate change as they are concerned with the effect these events will have on their beehives.

Program Outcomes

None provided.

Leadership

Senior management and councillors are very supportive of the program because the residents like it. The program requires good technical skills and ability to get on with residents. The officer started the program as part of their passion for biodiversity. The officer was worried about the concentration on vegetation, where outcomes can be measured very easily, but leaving little or no focus on fauna. The officer wanted to work specifically with urban fauna, with the recognition that this spills out into Bushcare too, e.g. removal of lantana and its importance as habitat. The officer saw that private property could assist with biodiversity outcomes: a lot of people want to help but needed assistance to do so.

Continuous Improvement

The program is expected to continue as there is ongoing funding. No modifications are planned.

Cost Effectiveness

The program is cost effective. The officer is only paid for visits and administration time, and the program budget is \$310-320,000 annually for entire program, with \$5000 for Backyard Bushcare. One full-time

position for administration each week is funded (but is shared across a couple of programs) and one full-time operational position to run the entire program each week.

The program has been funded for 1 year and currently engages 625 active bushcare volunteers, 600 Wildthings participants, as well as a big database of interested people and 40 people involved in Backyard Bushcare. There is also a known environmental value of improving biodiversity and a community engagement value of cross promoting all of the council's biodiversity and sustainability programs. It echoes what the community wants. The council supports the environment because the community does. It is responding to a need that is already there, as a result of an affluent, educated community living among a wealth of natural features. It reflects/follows the community, it does not lead them.

4.4. LANE COVE COUNCIL

Description of program

Lane Cove's Backyard Habitat Program is a key initiative to protect and expand biodiversity in the Lane Cove area. It consists of community seminars, publications, workshops and one-on-one backyard habitat consultations and written reports. The program has been running for 8 – 9 years with funding approved in 2007 and the first consultations beginning in April 2008. Lane Cove was one of the first councils to start doing this and they attribute their success to a supportive and responsive community.

The project is designed to help residents create native habitat gardens, leading to enhanced wildlife corridors and bushland protection throughout the municipality. The council has been focussing on targeting new and longer-term residents that adjoin bushland reserves to educate them on issues such as techniques in controlling environmental weeds escaping gardens and encouraging remnant bushland on their properties using best-practice bush regeneration methods. This is integrated with the Bush Friends Program, Bushcare and the council's bush regeneration contractors. Residents are offered free local native tubestock from the council nursery as well as continual support and follow up consultations. Garden progress photos and notes are also catalogued for media use to further encourage the continuation and support of the program.

The program is an essential part of Lane Cove Council's bushland management plan. It checks properties that adjoin bushland reserves to reduce weed encroachment into local reserves through demonstration, education, and continued support. Council's initiatives with bush regeneration in bushland reserves (paid contractors and volunteers) are continually under threat by weed invasion from adjoining residences. Some landowners are not aware or feel overwhelmed by the need to assist council by removing weeds from their properties to prevent this encroachment. This border management is important to create stability in the quality of the bushland reserves and to minimise future degradation.

Residents have shown high levels of satisfaction with this program from data collected from initial and follow-up surveys, where 100% of those surveyed said they would recommend the program to their friends, family and neighbours. In addition 100% said that they were very or extremely satisfied with the knowledge and professionalism of the BYH Officer, while 96% of the participants said they have incorporated the strategies that were recommended in the report for their individual property. Other residents are also encouraged to participate and those submitting DAs are invited to participate too.

Aspects the internal program includes:

- 3-5 habitat-creation guidelines
- 3 habitat-creation-themed workshops per year
- 2 locally native plant lists
- 1 council native plant nursery
- Nest box building workshops
- Native bee workshops
- 1-4 general biodiversity-themed talks
- 50 personalised visits by council officers per year to assist residents (400 since 2008)
- Grants for schools for habitat development and maintenance
- Member of Birds in Backyards program
- 1 book for the community on habitat creation in Lane Cove, and events on attracting wildlife into your garden

Program Design

The program was officially designed by a previous council officer in the role, and uses best practice guidelines from AABR, Nat Trust, and OEH. It has a baseline of flora and weed extent and condition which was constructed using a bushland reserve contractor and Bushcare weed density maps. The program also used backyard habitat participant area maps, Bush Friend participant area maps and vegetation maps to obtain baseline data.

The program also has written objectives, and the activities in the program are linked to these. They are:

Goal 1: Enhance and Value our Open Space, Waterways and Bushland (1.4. Encourage engagement with, and care for, local bushland through on-ground programs including Backyard Habitat, 1.8. Develop and implement a local noxious weed strategy: include education for residents on ways to remove and dispose of weeds, 1.9. Manage pets and control feral animals to reduce negative impacts on open space and bushland, 1.10. Support education about the value of natural heritage in Lane Cove e.g. raise awareness about local species through community education, and continue developing links with schools to encourage and promote local school programs, 1.11. Plan wildlife corridors and reserve linkages strategically on a regional basis)

Goal 4: A Climate Resilient Community (4.4 Prioritise works to protect creeks from erosion associated with increased intensity of rainfall and storm flows, 4.5 Reduce urban heat impacts e.g. plant trees to provide shade)

Community Engagement

Community participation was evaluated through an online survey similar to SurveyMonkey a few months after the initial consultation and two years after the program started to determine what each participant had implemented and the percentage of weeds which had been controlled in a Bushcare area.

The program officer used intuition to work out what the community wanted in the program, based on experience in bushland management. The program was promoted extensively through Bushcare supervisors and volunteers, bush regeneration contractors, general letterbox drops, targeted information packs sent to new residents adjoining bushland, as well as letters and information sent to residents adjoining bushland that have weed encroachment issues. Also, leaflets profiling residents near bushland reserves also include a 'call to action' to be involved in backyard conservation by joining the backyard habitat program. Advertisements in various media outlets are used, including the local newspaper, council newsletters, Bushcare newsletters, posters, flyers and posters on community noticeboards, websites and Facebook. The community are asked about the promotion on their Bushcare registration form, however no analysis of the most effective promotion has been conducted. Those residents whose properties adjoin bushland reserves or are in potential wildlife corridor areas are targeted for the program.

The program tries to increase environmental values in a wider sense. Every bit of backyard conservation helps. However, the officer has a system that prioritises sites that have the highest conservation value. If residents make contact, the officer gives preference to those who adjoin bushland or areas the officer knows to be wildlife corridors.

Program Outcomes

The program has been evaluated for wildlife outcomes. The council has a fauna database and supplies a survey to residents to enable them to report what they see. The survey also asks whether they have noticed any difference in fauna visiting their backyard. The results have indicated increased sightings of small birds on properties that adjoin bushland. The program endeavours to quantify outcomes using: a 2 year post-consultation survey, follow up consultations, the number of batches of tubestock plantings given over the years, as well as plant success / failure data.

Leadership

The program has some support from senior management. The skills behind this program are technical expertise (BSc Ecology), 10 years supervising bush regeneration contracts, 10 years director of native landscape design business as well as team leadership and team development skills.

The officer got involved after noticing that something needed to be done to help minimise the ongoing threat of weed invasion into public bushland from private property.

Continuous Improvement

The program will continue as it provides a really positive interface with the community. No modifications are planned.

Cost Effectiveness

It is cost effective. The budget includes program coordination as described earlier, biodiversity officer duties, DA bushland conditioning and Backyard Habitat book production (including production outsourcing). The budget is \$35,000 annually, which includes 7 hours of administration time each week and 7 hours of operational time each week. It is funded for 12 months and currently engages 400 residents.

Other benefits include good community outreach and environmental education connection to support other council programs.

4.5. LEICHHARDT MUNICIPAL COUNCIL

Description of program

Leichhardt Municipal Council participates in the Habitat Stepping Stones program. The council has also been creating habitat in parks and runs a community nursery which was started about 20 years ago, on 7ha of public land. The council supplies plants and gives away plants at various events. It runs a successful Bushcare program which involves creating and maintaining a wetland area. It also conducts tours for schools around the wetland. The program deliberately avoids dictating exactly which plants residents should have.

Aspects the internal program includes:

- 5 habitat-creation-themed workshops per year, focusing on native bees
- 4 edited lists of local native plants, so that residents can tailor what they want
- 2 council native plant nurseries, and local-provenance plants procured from other nurseries
- Membership of Habitat Stepping Stones program
- Membership of Birds in Backyards program, and BirdLife Australia
- Plant giveaways
- School group tours to wetlands

Program Design

The program has an ad hoc design, and did not use a baseline, however it has a strategic plan on the basis of fauna species and it endeavours to connect native habitat corridors planned on public land.

Community Engagement

Community participation is evaluated through feedback forms and surveys. The officer used a measure of community engagement for the environmental sustainability plan to determine what the community wanted in the program. Council website, social media and eNews are used to engage people in the program; the community reported these promotion techniques are enjoyable and informative. The program did try to reach people who were not the usual contributors through online channels but could not determine how effective this was. The program did try to increase wider environmental values by educating the community about the possibilities and practicalities of backyard habitat creation.

Program Outcomes

There are no reported outcome measures, however it is also too early to tell, as the programs only commenced this year.

Leadership

Senior leadership and councillors are supportive of the program. The skills needed to run the program are: good people skills and a knowledge of urban biodiversity conservation. The officer started the program as part of their passion for biodiversity and in response to a strategic objective. There are currently 6 people directly involved but there are a lot of other people indirectly involved, e.g. planners and a landscape assessment officer.

Continuous Improvement

The program will continue as management and community are supportive. Modifications are planned too, including: a greater diversity of topics relating to backyard habitat, to be covered in workshops which diversify into other areas such as biodiversity and other forms of wildlife. The council plans to get people involved in nest boxes, which is a yet unexplored area for them. Due to recent council amalgamations, there is a greater diversity of views expected and the council will start doing more in this area. If the new initiatives are popular, they will continue. It is not something that council controls; the council officer endeavours to create programs that are community-led and supported (i.e. responsive leadership).

Cost Effectiveness

It seems the program is cost effective, but it is difficult to factor in the impact of the external program. The external program (Habitat Stepping Stones) covered what the council wanted in a fairly simple way and did not take up a lot of time. It also allows the council to become more proactive in terms of providing more involved habitat and biodiversity programs depending on community uptake.

The budget is \$8,000 annually, which covers 1 hour/week for administration, and 1 hour/week for operational time. It is funded for 12 months. It is unclear how many residents are involved. However, it is considered by the officer to provide great community education.

4.6. MOSMAN COUNCIL

Description of program

Mosman Council's Native Havens Program is a backyard habitat program that encourages local residents to participate in supporting local wildlife. The program is available to all local residents, however council targets areas adjacent to bushland reserves or areas identified as habitat corridors with relative connectivity.

The program aims to support participants by building partnerships through relationship building, education and limited resources support. Council offers ongoing advice and encouragement to all participants of the program and in turn receives beneficial 'word-of-mouth' advertising to help promote the program.

The pilot program was funded by the Salty Community Grants Scheme to gauge what interest the community had to improve habitat quality in the area. The program was launched by Angus Stewart in February. In March an event was organised about managing habitat in your garden. Another event occurred in June concerning Pools to Ponds. It is anticipated that the council will do more events / workshops depending on community interest and will look at collaborating with other councils such as Lane Cove in running events, depending on council amalgamations. When the grant funding ceases, it is expected that the project will be absorbed into the bushcare program and will then access funds allocated to that.

Aspects the internal program includes:

- 1 habitat-creation guideline
- 3 habitat-creation-themed workshops (so far)
- 1 local native plant list
- 6 personalised visits to a resident's backyards by council officers (so far)
- 1 grant for habitat development and maintenance per year
- 3 wholesale nurseries in the area that plants of local provenance are sourced from

Program Design

The program has an ad hoc design, but does have some baseline data. This was created using photo point monitoring. We use an app called Solo Locator that enables embedding of GPS in photos that we use for bushland restoration works. We took photos prior to works beginning. Participants also wrote down what species they had, what they would like to remove and what they would like to have in their gardens. The officer then ordered the plants and returned after they completed the work (one of the volunteers had contractors come in to do the work) and took more photos then (as part of fulfilling the grant requirements). The council intends to continue photo point monitoring after the grant has ceased as it is a useful mechanism that is helpful for participants and a valuable method of recording what has occurred.

Originally the objective of the program was to target residential properties bordering bushland areas – creating a green corridor around Beauty Point. However, as this target area was not successful – having only one response for involvement in the Pool to Pond scheme (which they were not quite ready to commence with) we opened up the scheme to everyone. One of the participants is on a particularly valuable site adjacent to a Bush Care site, backing onto a creek, and they needed riparian species as well as stabilizing ground cover species. Providing extensions of green corridors onto native bushland, other less specific objectives were providing education and support for community to assist native wildlife. Each participant had their own objectives as well, which were incorporated. For instance, many wanted bird habitat, others wanted to support insects mainly for birds, one objective was to turn their pool into a pond.

The activities in the program are linked to the program outcomes, i.e. creating areas of native habitat for wildlife, environmental education and linking green corridors.

Community Engagement

Community participation was evaluated, through verbal discussions via phone or in person. The officer used intuition to determine what the community wanted. The design of the program was based on onsite meetings, conversations and relationship-building with residents. The officer expects to add a questionnaire which will add further value to the growth and development of the program from the initial stages.

Workshops with identifiable industry experts, the council website, the local paper and word of mouth within local gardening groups were used to generate engagement. The community responded positively and many were interested in the program. The best received engagement activities were the ones with general native habitat information presented by identifiable industry experts. The least successful engagement activity was the concept of turning pools into ponds: this generated huge enthusiasm from those who responded, yet resulted in the lowest workshop participation rate.

The program tried to reach people who were not the usual contributors through conversations with targeted local residents of identified properties, using letterbox drops, and achieved some success. The reach rate of the program eventuated in approximately 50% 'usual' contributors and 50% new contributors. These people attended the workshop conducted in the initial stages of the program implementation, which was presented by an identifiable industry professional. The officer tried to engage people in wider environmental values including creating smaller habitat spaces such as grass fields for insect gardens for smaller areas and as a result of this tailoring of the program felt a greater audience was reached.

The program also incorporated guidelines from Birdlife Australia, using different layers and planting a lot of grasses in an 'outer skirt' of layering around other plantings, to attract butterflies and insects. This also included incorporation of native plants into existing gardens to create appropriate diversity.

Program Outcomes

The program was not formally evaluated, however there were impacts known to the officer. The impacts of the program were seen in the positive response of the participants through verbal feedback. The visual impact of the program is immediate through revegetation works shown in pre and post photos of the Native Haven Sites.

Leadership

Senior management are supportive of the program, and there has been a lot of support from councillors and the mayor. The program has been viewed as a very positive thing for the council to do. Skills required to run the program well included the following: facilitation, time management, technical skills, communication.

The program has been in the 'pipeline' for many years prior to its implementation. In 2011 WaSIP funding was received to support sustainability including waste reduction in multiple urban dwellings (MUDS), in which the creation of a native habitat garden was trialled in a selected multiple urban dwelling with support from the strata members. Its success triggered ideas to search for further funding to launch a backyard habitat / Native Havens program. It was allocated to the officer by workload planning for the council.

Continuous Improvement

The program is expected to continue. The Native Havens program is continuing as an incorporation of council's Bushcare program. It has support from management and has been positively received within the community. Further development of the program is being planned in a strategy to implement as part of the Bushcare program strategy. It also meets an identified gap in the council's overarching strategic plan that identifies connecting biodiversity corridors on private land.

There are modifications planned. The program will develop in the future with greater knowledge sharing, monitoring and results from existing gardens promoted. The program is in its infancy stages of growth and implementation.

The council is going to look particularly at improving promotion, now that there is a Native Haven logo developed by the council's in-house graphic designers. The council is going to market the program through commercial local papers and internal newsletters, Facebook, our Living Mosman Program for sustainability and will hopefully add details in council rates notices. The officer found peak periods of interest to be from February through to April and from August through to October so the program will endeavour to take advantage of this.

Cost Effectiveness

The program is cost effective. The main cost was labour/time (council staff), plants and workshop costs. On an ongoing basis, these costs can be absorbed with the recurring Bushcare budget. Costs were minimal in comparison to biodiversity outcomes, as stated by the officer.

The budget is \$3,000 which is part grant /part council funding. The officer has set aside \$5,000 for next year but this is flexible depending on how many residents sign up for the backyard habitat program. The program will be heavily marketed, particularly through word of mouth, to generate increased interest.

The program uses 2 hours administration time per week and 2 hours operational time and is funded for 1 year. There are currently 4 residents engaged.

4.7. NORTH SYDNEY COUNCIL

Description of program

North Sydney Council has been offering free native plants for the past 15 years to local residents under the banner of Backyard Bushcare and later on through the Native Havens program. Planting native plants helps the natural environment by providing food and habitat for native fauna. These native gardens are ideally designed to be sustainable gardens with no need to be irrigated or fertilised. These gardens generally speaking don't need application of any pesticide/herbicide. Group planting of shrubs is promoted to create better habitat. Council also facilitates the sale of nest boxes to be used in these gardens. That is, council purchases these boxes directly from producers in bulk (cheaper than individual) and sells them at cost price.

North Sydney has only 45 ha of bushland. Every backyard going native would have a positive impact on the environment and increase habitat and food for wildlife. The program has effectively increased the size of the local areas of bushland, thus reducing pressure on native fauna. Council officers inspect these gardens on a reactive basis – i.e. inspections are not mandatory: when people contact us we can organise a visit. We have found that it is seasonal, with more people showing interest in spring as opposed to the winter months. We also give advice on removal of the undesirable plants and noxious weeds in the process. As a result, every year fewer exotic seeds are there to escape from urban gardens. Some keen gardeners have been encouraged to grow locally rare plants in their backyards. This has created ex-situ populations in private land. At times of possible natural disasters such as too many frequent fires, these ex-situ populations can preserve and insure the gene pool.

Many people join the program solely because they want free plants (habitat is not the main thing in their mind). The officer tries to educate them further, e.g. to incorporate native plants to soften an ugly fence in the landscape. The officer starts with what works for the participant (e.g. free plants, hiding a fence) and gradually gets them more involved into other programs e.g. volunteering on council land or becoming part of the noxious weed program, thereby killing several birds with one stone.

The officer aims to create a bond of trust, mutual understanding and common ground. For instance in terms of the Noxious Weeds Program the officer shows them what weeds they have that are a problem rather than throwing the book at them. The officer tries to explain the importance of working in stages e.g. weeds can provide valuable habitat until natives take their place. This process of facilitation is to make realistic long-term plans that fit the participant and their resources, e.g. develop a five-year plan and in the first year target one garden bed.

Aspects the internal program includes:

- 20 habitat-creation guidelines
- 15 habitat-creation-themed workshops, per year
- 2 locally native plant lists, approximately 4000 distributed
- 1 community nursery
- 200 nest box giveaways, per year
- 20 native beehive giveaways, per year
- 100 general biodiversity themed talks per year
- 500 personalised visits by council officers per year
- 3 grants for habitat development and maintenance per year
- Membership of Habitat Stepping Stones program
- Membership of Birds in Backyards program
- Membership of Backyard Buddies program
- When residents remove noxious weeds they are rewarded with free plants
- Native garden tour of resident gardens, which has been running for 10-12 years and helps to showcase the program as resident driven.

Program Design

The program has been designed, fine-tuned and expanded through time. There was a baseline, created by taking photos of the existing gardens/garden beds, and using aerial photos extensively to see the linkage as well as taking note of species present, both the natives to keep and any exotics to phase out. Planning was undertaken to break the job into different phases. Site meetings are held with landholder/s, owner/s, or their gardeners and landscapers.

The program has set targets for number of native plants planted. This was one of the first programs created. The program did not start with best practice but is constantly being refined to reach it.

Community Engagement

Community participation was evaluated. The officer has a file for every resident who participates in the program. So, if 'Larry' calls, the officer can see that he sent an email in 2014 and the officer can look through the photos collected of his garden as they talk on the phone. After the conversation, the officer then adds to Larry's file and saves it. The officer can then review which participants are the most active, based on the date the file is modified.

The officer used intuition to work out what the community wanted in the program. This was based on daily contact with people who volunteered to look after bushlands. This program has always been an offshoot of the Bushcare program, promoted by Bushcare volunteers and, through their networking, to the wider community. The officer wanted the area as close to pristine as possible and, knowing the elements of the original plant community, worked to reintroduce them back to those areas through skilled and educated guesswork.

Promotion of the program occurs through the Bushcare newsletter, council web site, Facebook page, nursery open days, market days (plants give away), engaging with local schools, word of mouth by volunteers and organising Open Garden Tours. The community are highly supportive of these approaches. They love site visits particularly, as this gives them the chance to communicate with the officer and ask their questions and be reassured.

Both young people and elders were deliberately targeted. Young people because they take the message home and they are the future. Elders have plenty of time and the program could use their persistence and channel their energies to get there.

The program also tried to reach people who were not the usual contributors. It has given away native plants to people who attend citizenship ceremonies every month for over 15 years now. The officer made laminated sheets to go with the plants gifted to the new citizens on the day, so they can receive more information on what these plants are. This is a means of investing in new Australians. The officer also noticed that some residents had reservations about planting native species therefore ideas were given (in the form of photos) of how they could use native plants in different situations.

The program also tried to widen acceptance of a variety of environmental values whenever contact was made with residents, e.g. through emails, meetings and, in recent years, through the Sustainability Centre at the Coal Loader.

Program Outcomes

The program has been evaluated but this has proved a difficult task. The council have had a program called Wildlife Watch which is a database system containing 20 years of recorded wildlife that is shared with National Parks. One element of the program is training people to participate in Wildlife Watch. As a result, the program has created more sampling and more recording, but while the data indicates that certain species occur, it doesn't include the condition of those animals, for instance whether they are reproductive juveniles.

The officer cannot determine whether the wildlife condition in the LGA has improved. Instead it may be that the accuracy and advertising has increased, with more citizen science, e.g. Atlas of Living Australia. More people are watching out for wildlife and this is becoming easier with smart phones so we have more sightings, but this may not necessarily correlate with more wildlife just more 'eyes on the ground'.

Leadership

Senior management are extremely supportive; they championed the program. The skills needed to run the program are: bush regeneration as well as a natural resource background. The program was allocated by workload to the officer.

It is a local solution to a local problem. North Sydney had small areas of bush and they were not linked. The concept started through Backyard Bushcare and evolved over time. It started with the idea of reducing the impact of weeds on native bushland but officers realised that native wildlife does not care where its habitat is, so officers looked at targeting private gardens. The program has been successful in part because council has had the same director of the program for 20 years, with the same vision. The program has also been assisted through funds from the State Government and volunteer efforts.

Continuous Improvement

The program will continue as people are beginning to understand the benefits of native gardens. Moreover North Sydney LGA is very old, so a lot of gardens were just a group of mixed native and exotic plants which were planted at random. Some of the original plants are aging and people want to plant the right trees/shrubs to replace them. Added to this the council now has a community nursery, run with volunteers and one paid staff member, and the Bushcare team collect seeds for propagation in the nursery. The team are opportunistic in their collection techniques, for instance collecting after storms, and also when trimming the bush along bush tracks they collect cuttings and seeds. Combining collection with track maintenance means

nothing is wasted; officers are now also training track workers to distinguish between different species so seed-stock collection can be maximised.

Modifications are planned and in particular it is intended that habitat friendly landscaping will surface out of this program in the future.

Cost Effectiveness

Highly cost effective. We were collecting our own seed and producing our own plants. The budget is \$7,000 annually; it takes 21 hours of administration time and 21 hours of operational time to run each week. It is funded for 12 months. 400 residents are participating, however this is a conservative estimate, as we have 400 properties participating, as well as others engaged through community events. Every year thousands of trees and shrubs are planted through this program.

4.8. PITTWATER COUNCIL

Description of program

Pittwater Council's "Backyard Bushcare" program provides residents with technical advice related to bushland management on private property. Residents are supported throughout the program with up to three visits per year by council bushland staff, free native tubestock, provision of weed bags and collection and removal of weeds on a monthly basis.

Council also participates in the Habitat Stepping Stones project, with 53 households pledging to install habitat elements in their gardens within a six month period.

Regular native plant giveaway stalls are held throughout the year to promote habitat plantings on private property.

Aspects the internal program includes:

- 1 habitat-creation guideline
- 3 habitat-creation-themed workshops per year, 12 other activities such as plant giveaways
- 12 locally native plant lists to cover 12 main vegetation communities
- 2 council native plant nurseries
- 1 nest box giveaway event per year
- 1 native beehive giveaway event per year
- 30+ biodiversity-themed workshops per year, although some from other programs
- 50+ personalized visits by council officers to assist, per year
- 6 grants for habitat development provided to council, more for community
- 1 promotion of funding opportunities such as BioBanking, biodiversity offsetting
- Membership of Habitat Stepping Stones program
- Free native plants and weed removal

Program Design

The program is ad hoc, however there was a baseline created by photopoints and condition maps. The program has objectives. Originally the guidelines for Backyard Bushcare were misunderstood and the program was focusing on people working individually adjacent to their property in the reserves. Now the objectives have been reworked to focus on residents working in their own backyards in part due to public liability concerns, while council gets contractors in to work on adjacent public land. The program was designed using Bushcare guidelines and polices. In particular, if council has a plan of management for a reserve nearby we try to follow that.

Community Engagement

Community participation was evaluated relatively informally, through annual surveys (email or phone), site visits and photo monitoring.

The officer used a measure to determine what the community wanted. The measures were partially based on responses received during a community survey run by council in 2014 for council's Strategic Plan, regarding the importance of retaining native vegetation on private and public land. Anecdotal information provided by residents during environmental events has also shaped the programs.

Council website, the council environmental newsletter (Cooee Environment News), flyers, Facebook, Twitter, Bushcare Alert emails were all used to promote the program. Flyers/brochures were determined as the most effective means of outreach, followed by information provided at native plant giveaway stalls. Facebook and other social media forums were the least effective.

Retirement villages and aged care facilities were targeted, partly by request from these institutions but also they are surrounded by native vegetation, supplying plenty of opportunities for habitat restoration.

The program also advanced environmental values. Becoming involved in the Habitat Stepping Stones program enabled the program to connect with a target audience that council were not normally able to engage with, enabling the program to reach out to larger areas. The team of officers running the program are based at the Coastal Environmental Centre, an educational centre for school kids. They are able to use the audience of the Coastal Environmental Centre to get the information out to a wider and different pool of people, for instance more families are connecting and we have access to people in the Warringah area as well. The centre functions as more of a drop-in centre and includes a native garden where we can take people out to educate them and supply them with free native plants. Every second Friday, officers hold an informal talk and demonstration in the native garden, where they also supply free native plants.

Program Outcomes

The program was evaluated for wildlife impact by recording residents' observations, e.g. increase in fauna activity/abundance. An impact was observed: participants' input describes an increase of approximately 25% over the last four years.

Leadership

The program had mid-level support from senior management, with no direct involvement from senior management. The skills needed to run the program are: excellent plant identification skills; knowledge of local vegetation and soil types; knowledge of wildlife habitat preferences; mapping skills (e.g. MapInfo); great negotiation skills! Good leadership is demonstrated by regular contact with participants and annual monitoring and feedback. The program was delegated to the officer as part of their workload.

Council's Backyard Bushcare program has been running for approximately fifteen years, and hasn't altered very much in scope over this time. Backyard Bushcare was, and is, perceived to mainly assist residents with large bushland blocks, or residents who are interested in restoring bushland on larger parcels of land, although the program aims to support all residents interested in native planting. The only management directive that has been given involved the shift of the program focus from reserves into private backyards because of public liability concerns. Now the program does not go outside the back gate.

The Habitat Stepping Stone program commenced in mid-2015 and has filled a niche, allowing residents of smaller blocks and apartments who want to contribute but are unable to provide the space to plant a mix of shrubs and trees to participate in a biodiversity program. This program is supported by social media updates and surveys which keep participants interested and informed, and increases the support factor.

Continuous Improvement

The program is expected to continue as the Backyard Bushcare and Habitat Stepping Stones programs are very important elements in the Bushcare program. In this region approximately 60% of native vegetation is held on private land and these programs are vital for ensuring that wildlife corridors remain intact and that habitat values are preserved.

Modifications are expected. The future of these programs, particularly Backyard Bushcare, will include more effective design and monitoring, and (hopefully) a dedicated natural resource officer, which now appears to be required, e.g. to assist with site visits, participant contact and administration. One of the main problems with the program is that human resources are too tight for getting the objectives met.

Cost Effectiveness

The program was marginally cost effective. Longer term benefits of habitat programs on private property have become apparent in nearby local reserves, e.g. reduced weed impacts, increased shelter and protection. The budget was \$15,000 per year, with 5 hours of administration time needed to run it each week, and 15 hours of operational time each week. It is funded for 12 months.

Approximately 120 residents engaged in both Habitat Stepping Stones and Backyard Bushcare. It is highly valued for: community engagement; assisting with noxious weed control; and monitoring of fauna.

4.9. ROCKDALE CITY COUNCIL

Description of program

Rockdale City Council's Wild Things program started in February 2016 and is all about helping our native wildlife to survive in the city by creating habitat for frogs, birds, microbats, reptiles and native bees in the backyards of Rockdale LGA. Rockdale Council residents will be invited to attend workshops where they will learn about either birds, bats, frogs or bees and then build habitat such as nest boxes for birds and microbats, bee hotels for native solitary bees or frog ponds, which they will take home for their backyard. Council will also be giving away hives of native colonial bees to interested residents.

To ensure we are making a difference and providing long term homes for our wildlife, residents will also be asked to monitor their nest box, bee hotel or frog pond for signs of wildlife and report back to council. The program started in February this year and will run for three years.

Aspects the internal program includes:

- 4 habitat-creation guidelines
- 10 habitat-creation-themed workshops per year (planned)
- 1 locally native plant list (planned)
- 15 nest box giveaways per year
- 20 native beehive giveaways per year
- 10 general biodiversity themed talks per year
- 20 personalised visits by council officers to assist (planned)
- Membership of Habitat Stepping Stones program
- Membership of Birds in Backyards program
- Council runs a corporatized business unit as a nursery
- Prizes of habitat elements for program participants e.g. bird baths, books.
- Native seed collection/ propagation

Program Design

The program had an ad hoc design. Council already ran sustainability workshops monthly, however, when they applied for the OEH environmental education grant they needed to create a more formal program plan. The officers incorporated the budget for the sustainability activities with the OEH grant with the focus being on improving urban wildlife. The grant contains a commitment of running 10 workshops per year for three years.

There is a baseline planned. It is intended that the program will use a citizen science Birds in Backyards survey and will construct a survey to distribute to participants following attendance at workshops which would include questions such as: Did you already have habitat in your backyard? Have you added any habitat since the workshop? Have you changed any behaviours since attending the workshop?

The program has objectives, which are to increase the amount of habitat, abundance and diversity of urban wildlife. It also has quantifiable targets on number of nest-boxes and number of habitat niches.

The activities in the program are linked to the outcomes of the program, and have incentives attached to them for participants. Officers have offered prizes such as bird baths to people who conducted the surveys to help achieve outcomes.

The designing officer was influenced by similar programs such as that being run by Peter Clarke in Ku-ring-gai. However, best practice guidelines were not formally used, instead the officer sourced existing information such as Birds in Backyards and cobbled together resources from what was already available for various habitat improvement activities, e.g. how to build a frog pond or the top ten things you can do to improve backyard habitat. Where resources exist officers took advantage of them by distributing information at workshops (handouts) adding resources and useful links to the council website and distributing information through a monthly newsletter.

Community Engagement

Community participation was evaluated with a survey at the end of each workshop. The officer used intuition to decide what the community wanted for the program, which was based on observations of the success of similar programs and experience; the educated assumption was that most people, and especially kids, are curious about wildlife and happy to support urban wildlife.

Activities used to engage people included: a resident email list of 600 people previously collected by the officer over the last 6 years. Facebook, council website, local newspaper, Library, Eventbrite, word of mouth, Instagram, Nabo.

Different communities were targeted too: the officer offered specific environmental events to primary-school-aged children through the library program of events, and runs one event for children with autism. The officer plans to run more targeted talks as the program progresses.

The program tried to reach more than the usual contributors. It was very difficult to reach out to the 'unconverted' as they don't usually respond to the usual marketing. The most effective tool used was a Wild Things display at the gala opening of the new main library at Rockdale. There was a wide variety of people attending the opening who interacted with the Wild Things display, took home free native plants and saw the native beehive on display. The native beehive is now on permanent display at the library and has attracted a lot of attention to the Wild Things from a wide variety of people.

The program tried to increase wider environmental values. The message is always about how your backyard and what you do connects to the wider environment: backyard to neighbourhood to suburb to city and the bioregion.

Program Outcomes

The program is planning to evaluate habitat through the installation of wildlife cameras and conducting of surveys. The intention is to do this as part of the program and through the Aussie Backyard Bird Count and other backyard surveys. But as the program only began in Feb 2016 none has been conducted yet.

It is anticipated that there will be an improvement in habitat due to more nest boxes being installed and more native plant giveaways. The decision is to conduct backyard surveys every year for at least three years with the expectation of seeing some change in that period.

Leadership

Not all senior management were supportive at the suggestion of the program. Which is to say that they were not driving or leading it, but once it was operational they were supportive. The skills needed to run the program include: organisational, external marketing, networking, design and research. The officer started it as part of their passion for biodiversity. The officer has a personal interest in wildlife and the environment and loves to share these passions with the community. They also worked with Peter Clarke from Ku-ring-gai Council and saw the success of his urban wildlife program.

Continuous Improvement

The program is expected to continue. The officer has already run talks/workshops funded by the council, hence they plan to incorporate the program into this existing work. Also things like the native beehive program are now self-perpetuating due to an increasing stock of hives in the community that can be split each year. Volunteers are collecting and propagating native seed so the native plant giveaways should also continue at minimal cost. Modifications are planned however: these are to improve biodiversity evaluation techniques.

Cost Effectiveness

The program is expected to be cost effective. The officer is predicting that they will be impacting directly on 600 residents/year (based on previous year's attendance) and spending about \$30,000/year equalling \$50/resident. This budget includes all program expenses such as materials (nest boxes, nursery materials), native beehives, printing and other marketing, cost of presenters, venue hire, catering and nest box installation. The officer is predicting that indirectly the program will impact on three times that many people each year due to word of mouth. In addition there is a plan to leverage support from various institutions that will also help to deliver a cost effective program.

It is currently funded for 3 years and includes 5 hours of administration time each week, and 10 hours of operational time. The program has been receiving some local media attention and a very positive response from residents. This along with reporting back on attendance, letters of support from residents and survey results has proven the program to the council executive as a valuable program.

4.10. SUTHERLAND SHIRE COUNCIL

Description of program

Sutherland Shire Council has the Greenweb Program which is designed to generate habitat for native wildlife on private property. There are three main features to Greenweb: (i) voluntary private participation; (ii) council works; and (iii) a regulatory component.

The voluntary facet encourages and assists private property owners to undertake 'bushland restoration works' on their land. The council works component comprises regeneration and rehabilitation of bushland through programs such as Bushcare, Pest Species control and tree planting, particularly through the Green Streets program. The regulatory component has been included in council's Sutherland Shire Development Control Plan 2006 and the Draft Sutherland Shire Development Control Plan 2015 and assists council officers in their assessment of development applications.

Although Greenweb incorporates both public and private lands, its main target is private properties, particularly those within the Greenweb network. In a complementary program, council's Bushcare Unit undertakes bushland regeneration activities on public land.

Greenweb's focus is on voluntary participation, with incentives to encourage people to undertake 'bushland restoration' works on their land. This involves council's Greenweb Officer inspecting the resident's property and providing a free Garden Consultation. These visits may involve identifying appropriate native plant species for the area, appropriate landscaping to encourage native fauna, identifying invasive weed species, preparing bushland restoration plans and answering any other environmental or horticultural questions that they may have.

Appropriate information regarding the above is forwarded to the resident and regular advice and assistance for bushland restoration works is given. Greenweb participants are also entitled to several free native tube stock plants from council's nursery and in some instances a second greenwaste bin and/or bush regeneration bags for additional weed collection.

Aspects the internal program includes:

- Numerous habitat-creation guidelines (site specific)
- Numerous locally native plant lists
- 1 council native plant nursery
- Numerous biodiversity-themed talks per year
- Numerous personalized visits by council officers to assist
- 10 grants for habitat development and maintenance per year
- Member of Birds in Backyards program for at least 5 years
- Nest boxes sold to the community

Program Design

The program has been formally designed, it has a baseline generated through vegetation mapping, by identifying core bushland habitat and existing corridors as well as potential wildlife corridors.

The program has objectives, which stem from the council adopted Greenweb Strategy. The overall aim of this Strategy was to identify and manage significant vegetation and vegetated links throughout the Shire, so as to ensure the long-term conservation of the biodiversity of the Shire and surrounds, while providing for recreational opportunities and improvements in water and air quality. This is to be achieved via a greenweb network of habitat nodes and corridors. It identified the need to incorporate the entire landscape including private property and it identified a range of options to encourage voluntary participation. However, this Strategy was created in 2001 and during the implementation of the Greenweb program over the years the strategy has evolved and needs updating.

The program has quantifiable targets. Although there were some targets or aims within the Strategy, as the implementation of the program progressed the natural or best evolution of the project was allowed to occur. The activities of the program were linked to outcomes. Bush regeneration practices were used to design the program.

Community Engagement

Community participation is evaluated indirectly. The officer has a database of which properties have joined the program, and how active they are. A newsletter is sent out entitling members to 5 free plants, and the officer can see who has approached the nursery for these plants and therefore indirectly see how active they are. The officer can also determine participation through phone and email contact. The officer has found that people are particularly active at the outset, as they try to get a handle on their property and learn the best way

to deal with weeds and hence this is a good time to engage them.

The officer used a measure to work out what the community might want in the program. Council undertook an in-depth community engagement survey/questionnaire about the future of the Shire. This document called 'Our Shire Our Future' was developed and the environment came up as one of the major areas of concern or interest for the community. This document helped introduce many environmental programs and projects.

Activities used to engage people in the program were: the promotion of Greenweb to the community was through letter box drops, media releases, displays and presentations with the aid of brochures, videos, posters, power point presentations and social media including council's website. Presentations to various groups including wildflower groups, garden clubs and precinct committees. Media releases including the promotion of grants and asking for assistance in conducting wildlife surveys. Providing an inspection of a resident's property and providing a free garden consultation is a very big positive in promoting Greenweb. Voluntary participation in Greenweb continues to grow and has developed its own momentum where awareness of the program is now occurring through word of mouth.

The Greenweb Officer continues to undertake follow-up inspections, particularly in the more degraded areas, and will continue to target some of the critical links in the Greenweb network. Regular updating and the provision of information as well as assistance, support and face-to-face contact are essential to encourage further participation and to maintain commitment and enthusiasm.

The activities and engagement activities have not been formally assessed for community perception of them, but the environment keeps coming up as an important issue when council conducts surveys and the officer receives positive feedback through emails and phone calls from people participating in the program.

Program Outcomes

The program is evaluated for impact on wildlife. Every five years council asks residents to conduct a backyard fauna survey, as advertised in the local paper. So far council has conducted 3 surveys, one in April 2006, 1 in November 2011 and 1 in April 2016. Also in July council launched a fauna site on council's website which allows people to report on fauna sightings. We have already had 32 sightings including everything from powerful owls to brush turkeys and koalas.

There has been an impact. The results of the third survey have not been studied but figures that will be interesting will be the results of a deer culling, as numbers had reduced. In addition, the officer noticed (in 2011) there has been a decline in small birds.

The change can be quantified: the more surveys conducted, the more accurate this change is expected to be observed and to some extent quantified. In addition, the officer can measure weed material removed in tonnage and number of native plant species planted. Regular inspections of properties are also undertaken and observations made to record change. There are many successes but some failures, so overall it is difficult to accurately give an estimate of change. All sites vary and the degree of degradation is different. Plants need to establish and grow to recreate a 'natural habitat', however possibly there has been a 75% change.

Leadership

Senior management are supportive of the program. The officer's manager and supervisor were (and still are) very proactive and supportive of the program. The skills needed to run the program include: bush regeneration certificate, and good people skills. Council adopted the Greenweb Strategy and councillors approved the Greenweb Position in 2002.

The officer has an interest in environmental issues, and likes working with people on such a positive program. It is a feel-good program where people are encouraged and incentives provided to achieve environmental outcomes, rather than a regulatory 'stick' approach. It was new and needed to be built from nothing and now it is well established but the officer still enjoys running the program.

The officer was hired as biodiversity officer specifically to run this program. Ian Drinnan, who did his PhD in wildlife corridors and wrote council's biodiversity plan, initiated the program. Ian identified that these corridors were needed for long-term sustainability and he identified the need for establishing the program and designating an officer to run it. When the program was initiated in the late 1990s there was a lot of support from councillors. There continues to be support and collaboration within the office in ensuring the success of the program.

Continuous Improvement

The program is expected to continue as council has continued to support Greenweb since the endorsement of the Greenweb Strategy in February 2001 and its inclusion as a specific program in council's Delivery

Program. The Greenweb program assists in the protection of biodiversity and supports the long-term sustainability of the natural environment and appears successful in achieving these outcomes.

The total operating budget for Greenweb last financial year was about \$55,000. For the little outlay to operate Greenweb it not only achieves the on-ground results, but an enormous amount of 'good will' in the community is also generated.

Cost Effectiveness

The program is cost effective, the total operating budget for Greenweb last financial year was about \$55,000. This includes all the sub-components (grants, plant 'give away', all other materials, weed bags, supporting Bush Regeneration activities in Schools including contractors' wages).

It takes 11 hours of administration time each week to run, and 15 hours of non-administration time. It is funded on a permanent basis. Approx 600 residents are engaged, but some are 'dormant' and most are participating at different levels of involvement, depending on bushland condition.

Council is aware of the value many residents put on the natural environment and this can be seen through the popularity of Greenweb and Bushcare. Council also recognizes that for the little outlay needed to operate these programs, they produce an enormous amount of good will in the community.

4.11. WARRINGAH COUNCIL

Description of program

We don't currently have one of these programs, but have tried to implement it as part of a grant program through Sydney Coastal Councils Group, with council providing in-kind support. However this was not successful.

The program involved offering free native plants and advice including mock-up designs about how residents could create habitat. It was initiated at the start of the year and involved a letterbox drop to 4,000 residents, yet it only received 10 responses. Officers also ran a bird-watching workshop and a citizen science activity to monitor habitat. The bird-watching workshop had a massive response.

Aspects the internal program includes:

- 1 habitat-creation guideline
- 1 habitat-creation-themed workshop
- 1 locally native plant list
- 1 council plant nursery
- 3 general biodiversity-themed talks
- 1 personalised visit by council officer
- Member of Birds in Backyards program
- Native plant giveaway
- Bird survey workshop

Program Design

The program was ad hoc, but had objectives, which were: to try and get people to create stepping stones of habitat; getting the community to realize the importance of habitat and getting people to take ownership of gardens backing on to Dee Why lagoon.

There was a quantifiable target of getting a significant amount of community involved. There were rewards for the participants: free plants, design plans and officers to go around and implement them. The activities in the program were linked to program outcomes and the officer knew that similar backyard programs existed and loosely followed them as well as activities done in the past. Best practice guidelines on how to build frog ponds and control backyard weeds were also used.

Community Engagement

Community participation was evaluated through number of participants. The officer used intuition to work out what the community wanted, based on other programs. The program was promoted to participants through a letter to property owners, and through the council website. Letters were sent to all property owners, however the very poor response indicates that this approach was not effective.

Program Outcomes

The program has not yet been evaluated for improving wildlife habitat.

Leadership

There is a mid-level support from senior management. The skills required to run the program are: planning with management support. The motivation was to create habitat corridors that link local reserves through private property. The officer started it as part of their passion for biodiversity.

Continuous Improvement

The program is expected to continue, tentatively, but will need continued support and approval at a senior management level to be better implemented.

Modifications are planned. Officers are now focusing on workshops to raise awareness, for instance as part of the SCCG supported 'Hollows as Homes' program, where the plan is to invite residents to monitor hollows as part of a wider citizen science initiative. Officers are stepping back from backyard programs at the moment, looking at other ways of addressing this and engaging people perhaps through different marketing tools and a broader range of techniques.

The recent Fauna Fair held at Dee Why Lagoon was a great success but it was suggested that council use the term wildlife instead of fauna as some residents are not familiar with this term. Next time the intention is to call it a 'wildlife expo', focusing on providing homes for native animals, with easy, friendly terms to increase engagement. Similarly, officers propose to move away from the term 'habitat' for the backyard habitat program. There will also be a focus on marketing, as officers determine what is needed to attract people, i.e. is it easier to sell an interest in birds, or an interest in bringing back blue-tongue lizards? Using small insectivorous birds as a pull could have more success as they can also help remove ticks which are a big issue

in this area. Ryde council has a similar demographic and found more success when they went door-knocking as it helped spark an interest amongst residents not already interested in backyard habitat.

Cost Effectiveness

The program was cost effective as it didn't cost a great deal to set up and plant giveaway was through council's Community Nursery. The program budget was \$2,000, the program takes 2 hours of administration time to run each week, and no operational time to run each week. It is funded for 6 weeks; 10 residents are currently engaged.

4.12. WAVERLEY COUNCIL

Description of program

Council has recently signed up to be part of the Habitat Stepping Stones program and does not run any other programs. Joining Habitat Stepping Stones is the first entry. Encouraging habitat friendly gardens is particularly relevant to this part of Sydney because it is densely populated and public open space is limited so community and environment are reliant on private land to promote connectivity.

Joining Habitat Stepping Stones comes under a larger community engagement initiative called 'Second Nature' which contains five main elements encouraging people to create new behaviours and a biodiversity element. Council is promoting the Second Nature initiative by going out to the community, and asking people to pledge to do something, e.g. not using plastic bags any more, or joining the Habitat Stepping Stones project. We are also promoting the initiative through our normal Bushcare channels.

Aspects the internal program includes:

- 1 locally native plant list
- Member of Habitat Stepping Stones program
- Occasional plant giveaways
- Second Nature activities

Program Design

In the past activities were relatively adhoc, initiatives were driven by a councillor saying there was a need to have a workshop to fulfil a quota of a certain amount per year. This would then generate some interest but there was no overarching strategy until recently.

The LGA defined two biodiversity corridors, one following the coastline and one in an east-west direction. These were defined by determining the canopy cover from aerial photographs. This was used as the basis for planning development. So far this has been the most effective tool to improve wildlife habitat, as a landscape plan needs to be submitted with a DA, which includes 50% of plants being locally indigenous species.

Occasional workshops have been delivered and there have been native plant giveaways (although these were not very well known about as no marketing was involved, and also the plants, while native, were not necessarily locally indigenous).

Community Engagement

Community participation is rarely evaluated. The officer used intuition to determine what people wanted in the program, based on observation and expertise. Social media was used to engage people, i.e. the Second Nature initiative has a very active profile on instagram.

The program also targets different communities, including school children and indirectly through another program called 'Green Sparks' addresses a broader objective around sustainability. The program has a \$500 prize given away annually. Last year it was won by the local Montessori school which started an initiative to encourage habitat for birds. The 'Green-Sparks' sustainability community officer also gives away tubestock valued at \$100-\$200 to the schools that are engaged — this generally ends up being the local public schools and the Montessori school.

Program Outcomes

The program is yet to be evaluated; the officer expects it would need monitoring over at least 10 years for this.

Leadership

There was mid-level support from senior management. Support appears to change depending on who the elected councillors are. Support tends to happen when good outcomes are reached, as there is a preference to be involved with positive programs. The skills needed to run the program are: marketing skills, due to the stage of this work.

The officer started it as part of their passion for biodiversity. It was an easy way to raise awareness for backyard biodiversity with little input from staff.

Continuous Improvement

The program is expected to continue. There has been a large investment time in developing the Second Nature initiative and a large impetus to get it out to the community but it is difficult to see what the future holds because of the planned council amalgamations over the next 12 months.

Modifications are planned. One of the councils this council is most likely to amalgamate with is Randwick and they already run the Native Havens Program and there are people who would like to build on that program.

Cost Effectiveness

It is too early to tell if the program is cost effective. No information on budget. It takes 4 hours a week to run the administration of the program, very little time for operational activities.

4.13. EXTERNAL PROGRAM: BACKYARD BUDDIES (BB)

Client Group

The main clients are private landholders. We engage with them through our monthly newsletter. They often come to us from their first engagement with the call-centre employees calling on behalf of the BYB toy sales.

Description of program

The Backyard Buddies program was originally developed by the NSW National Parks & Wildlife Service (NPWS) in response to social research by Ian Woolcott et al, called 'Urban Wildlife Renewal – Growing Conservation in Urban Communities' (November 2002).

This research revealed that only a fifth of urban respondents would be interested in being involved in initiatives to conserve native plants and animals. According to the research, however, conservation behaviours that are simple to incorporate into daily life are the most likely to be adopted. This is why Backyard Buddies was started – to provide simple tips for people to 'help your buddies'.

In 2007, the Foundation for National Parks & Wildlife (FNPW) took over the program. Today, Backyard Buddies operates as a national environmental education and engagement program. Backyard Buddies enjoys the support of many schools, councils, Catchment Management Authorities, and community members.

Backyard Buddies provides positive environmental information and advice to support individuals to become as involved and active as they wish in backyard and local conservation measures. Backyard Buddies is the only national backyard wildlife appreciation program in Australia.

Each month, FNPW creates and emails out B-mail - a completely free e-newsletter that raises awareness about native plants and animals that people are likely to see in their backyard that month.

B-mail promotes awareness of and involvement in biodiversity conservation at a local level. It encourages readers to enjoy native species in the urban environment, and make their backyards and local areas safe and inviting for urban wildlife. B-mail is a positive, easy to understand community education tool. It speaks to individual readers and provides them with simple ways to be a part of a larger environmental solution.

Backyard Buddies also has a toy program, managed by a partner company as a separate business to FNPW, and it is based in a separate office to FNPW. The Backyard Buddies toy program is run at no cost to FNPW, yet it provides over \$150,000 per year to FNPW to fund threatened species conservation programs across Australia. To date, funds from the Backyard Buddy toy program have supported conservation programs for Little Penguins, Koalas, wombats, wallabies, numerous native birds, and many more.

Aspects the program includes:

- Habitat creation guidelines, downloadable from the website
- 3 general biodiversity-themed talks per year, usually done for councils or other environmental/community organisations.
- Personalized visits to people who live in the Sydney region (but not advertised).
- We offer to identify plants and animals in people's backyards either in-house or we source expert advice if required.

Program Design

The program has an ad hoc design, and no baseline measurement. The program does collect the name and location of subscribers.

Leadership

Only leadership within the program is needed, there are no participating organisations to work with in relation to leadership.

Community Engagement

Community engagement is measured, mainly through social media and responses from our monthly B-mail newsletter. We track comments, shares and likes on our social media posts to see what people are engaging with the most. When we send the newsletter, we can see the rates of opening and unsubscribes.

The activities the program uses to engage residents in the program include: Facebook, media releases, word of mouth, monthly e-newsletters (B-mails), and council and other organisations' websites to reach our audience. The media releases usually cover most states, not just NSW or Sydney. Last year we had 452 articles printed and reached a circulation of over 7.6 million. We can help put media releases together for local governments or contact local media to organize media release publication.

Program Outcomes

The program is free to councils to both access and use the resources, however a small fee is charged if councils want to attach their logo to the material, to cover staff time. Additional costs include printing costs and the cost depends on the quantity.

There are around 26,000 subscribers to the Backyard Buddies information, and this can be broken down in to council area. The social media platform has 7,500 followers. Engagement in a particular LGA would depend on engagement of the council and residents through events and media releases.

4.14. EXTERNAL PROGRAM: BIRDS IN BACKYARDS (BIBY)

Client Group

Our clients are a mix of both general public, schools and councils. The public engages with the program through an open free-access website. When people sign up they can submit online surveys and receive our e-newsletter. In conjunction with councils the program also delivers talks/workshops and hard-copy resources, including tailored resources for local areas.

Description of Program

Birds in Backyards (BIBY) is a research, education and conservation program that is part of BirdLife Australia. It has a long history, dating back to 1998 when it was developed by a group whose members included representatives of the Australian Museum, Sydney and Wollongong Universities and SNAG (Southern NSW and ACT branch of Birds Australia) and which initially functioned as a stand-alone project of SNAG.

BIBY still has the same Advisory Committee providing us with knowledge and support. In terms of staff, it is currently (and usually) only the program manager, though other staff such as Project Officers come on board when funding is available (i.e. grants) for specific projects. In 2016, BIBY formed a Technical Research Advisory Committee composed of academics, ecologists and social scientists, which included some BirdLife staff members. The purpose is to provide advice on the re-invigoration of the monitoring and research arm of the program and to assist with partnering on projects with local councils that engage residents and monitor change. We have just completed a first-pass analysis of over 10 years of backyard bird surveys to look at trends in urban birds and habitat. Results are being published with each newsletter and on the website.

BIBY has maintained a focus on engaging people with birds in urban spaces using citizen science with the aim of improving local biodiversity and thus attracting back to the urban environment many of the species which have been forced out of urban environments over the last 30-40 years. We provide advice for managing habitat for birds in urban areas, education materials, and ways for people to get involved through citizen science.

It is a national program now, though is rather ad hoc (a new plan will be implemented in 2017). We work directly with the public through our website and also through talks and events. We also work with councils and community groups on talks and events. BIBY runs its own projects (like the Powerful Owl Project), works in partnership with others (such as Bathing Birds) and also provides resources (and workshops) to local councils.

Following a new strategy and 5-year plan, our vision is a diversity of native birds occurring in urban and regional landscapes and to achieve this we will aim to create/maintain urban habitat that will sustain this diversity.

Aspects the program includes:

- Backyard Bird and Schoolyard Surveys (online, including recording of bird species and garden/school ground characteristics)
- Habitat creation guidelines for councils and private landholders
- Habitat-creation-themed workshops, created for councils and community groups
- Locally native plant lists for much of Sydney
- Native plant giveaways (planned)
- General biodiversity themed talks for councils and private landholders
- Bird identification talks on specific species
- 40 talks or events per year, largely in Sydney
- Adhoc media, and a regular spot on radio in Sydney
- Curriculum-linked school programs including action plans for birds and habitat
- Targeted projects (e.g. Powerful Owls, Engaging CALD Communities in Biodiversity, etc)

Program Design

BIBY began as a formally designed program, with structured bird/garden surveys, participant feedback (both of data to users and users to leadership), and targeted education. As the program grew over the years and continued to be managed by a single staff member, the overall program became largely ad hoc. However, there are projects that have been formally designed and run by BIBY (e.g. Powerful Owl) or with other NGOs and universities (e.g. Bathing Birds). BIBY has recently completed a review and restructure and is currently in the first stages of implementing a 5-year plan. To achieve our core vision, BIBY is now moving towards a more structured monitoring design in partnership with local councils.

The program works with councils to create baseline data, it provides them with data on breeding territories (collected by volunteers) and then works with the council as required to provide advice on habitat management (not usually on private land though).

Leadership

BIBY is a very small team, so it requires a driving force within the council for council projects. BIBY is run on a day-to-day basis by a Program Manager, supported by occasional Project Officers (generally grant funded), and works with strong partnerships with other organisations.

Community Engagement

Community participation is usually evaluated by the council after specific talks and workshops. BIBY also collects numbers on the amount of talks, workshops, media and website usage. BIBY has also extensively evaluated BIBY participants and the general public interaction with BIBY in a 2011 / 2012 project called "Does biodiversity education work", which included surveys of members, workshops, and formal interviews. It broadly looked at where and how members use the website, changes to gardens and attitudes to birds and environmental issues.

To engage people in the program BIBY uses Facebook (Powerful Owl and Bird Life pages), local papers, council websites, word of mouth amongst existing programs, the BIBY website, local council advertising, community group promotion and the BIBY newsletter.

Cost Effectiveness

There is no fee to be a supporter of BIBY however there are charges for talks and workshops (rate set per hour) and if we are developing resources with them such as posters (covers printing, design and delivery). This is expected to be modified in the future.

It is difficult to quantify impact since the program and participants are diverse and as it is national it is hard to break the analysis out to a small area, however this is something the new databases will improve. The program averages 75,000 user sessions per month on the website and this comes from all over Australia, though largely from the NSW and East Coast. There are 21,000 registered participants on the website.

4.15. EXTERNAL PROGRAM: HABITAT STEPPING STONES (HSS)

Client Group

Our clients are both local councils and their residents. We initially invite councils to subscribe to the program and then we provide them with branded promotional material to help them promote the program to their residents. We also independently initially engage with residents through the website's presence and the program's social media.

Program Description

Habitat Stepping Stones is an innovative program that uses simplicity, technology, public recognition and a supportive online community to encourage urban residents to create effective habitat stepping stones in their own backyards to provide wildlife-friendly stopovers.

The project partners with local councils to encourage their residents to add native plants and other habitat elements (such as bird baths and nest boxes) to their backyards and balconies to create effective habitat stepping stones between existing wildlife corridors.

The website is simple and friendly, and aimed at those who may not have considered using native plants before. What makes good habitat is explained in a colourful visual equation. Common plant names are used and there's an easy 1-2-3 process: Discover-Pledge-Share.

Residents who pledge to add three or more elements to their place can choose to have a colourful bird added to their property on the online map. The more elements they pledge, the more colourful the bird. There are now hundreds of birds across New South Wales, and a few popping up in three other states too!

Pledgers also receive a long-lasting, printed aluminium plaque for their property's front fence as an additional motivator and to increase awareness among their neighbours, plus they receive discounts from suppliers – and often free plants from their council nursery as well. They can also join the project's supportive online community to share their pictures and stories, and get local wildlife news and tips.

The website includes details of hundreds of fabulous native plant species that are individually selected as suitable for each local council area. There are attractive images and detailed descriptions of each one, including some of the native animals helped by each plant, with links to more information. Short videos also show some of the local birds, mammals and insects in action.

The program's research team ensures that all the recommended plants are:

- Characteristic of the local vegetation
- Easy to find and grow
- Sufficiently attractive
- Particularly beneficial to wildlife by providing nectar, seeds, shelter or nesting materials
- Covering a sufficient range of flowering/fruitleting/seeding times to maximise biodiversity outcomes
- Approved by the council's biodiversity staff.

Website visitors are directed to choose their particular council before they can access the main part of the website, which means they are presented with only those plant species appropriate for their local area.

Aspects the program includes:

- Habitat-creation guidelines for both councils and landholders, through the website and materials sent to pledgers
- Locally native plant lists, specific to each government area
- Supplier details for plants, water features and nest boxes
- Continuing environmental education to both councils and land holders via the program's lively social media.
- Motivation to land holders via appealing photos and videos on both the website and social media.
- A mechanism for creating a social norm for urban habitat (the online map, the fence plaque)

Program Design

The Habitat Stepping Stones program has a formal design. Specific aspects of the program were deliberately included to overcome four common barriers to environmental action:

1. **Lack of awareness**

- The program is promoted through many different council activities.

- It is also promoted by the program's active social media.
- The website was also created to be immediately appealing so that word-of-mouth also becomes a strong promotional aspect.

2. **Lack of knowledge**

- The website presents a great deal of information about the plant species most appropriate to each local government area, including some of the local wildlife they benefit.
- Web visitors also learn about water and other shelter options for creating effective habitat.
- The program's social media continues the environmental education into the future.
- An online map shows the location of nearby habitat stepping stones and existing wildlife corridors.

3. **Bewilderment**

- We keep it simple! The concept of effective habitat is clearly explained via the colourful visual equation (Habitat = Food + Water + Shelter).
- We make sure there are not too many plants recommended for an area, so that people are not overwhelmed
- We use common plant names and keep the website user friendly.
- We designed an easy 1-2-3 process to participate (Discover-Pledge-Share), which also offers an aspect of gamification.

4. **Apathy**

- The pledge itself provides an emotional commitment to increase the likelihood of taking action.
- People can easily share their experiences on the program's Facebook page, upload photos, and be kept in touch with what's happening in the natural world.
- We included public recognition as an additional motivator. Pledgers receive a plaque for their front fence and can also choose to have their property highlighted with a colourful bird on the online map.

The baseline measure is that generally no residents of a particular council area have pledged to add habitat options to their property to create a habitat stepping stone before the council joins the program. So we can measure the program's progress by both the number of pledges that are made and also by the number of habitat options pledged (e.g. plants, birdbaths, nest boxes, rock piles,) – 3,700 so far.

Leadership

Council leadership is very important to ensuring the success of the Habitat Stepping Stones program within that particular council area.

For example, one council with only 20,000 households but an engaged and enthusiastic biodiversity officer received 56 pledges, while another council with 60,000 households received only 19 pledges over the same time period.

Community Engagement

Community engagement is measured in the program in the following ways:

- Number of pledges made
- Number of habitat elements pledged
- Number of Facebook followers
- Number of visitors to the program's website
- Number of website visitors who return to learn more
- Number of pledgers who tick to have their council contact them about other local environmental activities – currently 66%
- Occasional follow-up surveys (e.g. 49% say they have been inspired to take part in other local wildlife and habitat projects; 83% either had added or intended to add more habitat elements in addition to the ones they pledged; 98% are 'likely to continue to add habitat elements' to their garden or balcony).

The program uses the following activities to engage residents in the program:

- Program's website
- Program's Facebook

- Word of mouth
- Occasional media coverage (e.g. ABC TV's Gardening Australia)

Participating councils use additional activities to engage their residents in the program: council newsletters (both printed and emailed), letterbox drops of promotional leaflets, leaflets included with rates notices, posters & leaflets in libraries and other community areas, free plant give-aways, promotion by Bushcare staff, digital banners on council websites, links from relevant council webpages, council Facebook & Twitter posts, direct council emails to environmental volunteers (e.g. Bushcare, community gardens), council workshops, targeted letters to residents along bushland corridors, bus shelter posters, local newspaper articles, presentations to communities and street-side banners.

Cost Effectiveness

Councils pay an initial subscription of \$3,820 for the first 12 months, which includes having a new section of the program's website created with plants specific for that council's local area. The ongoing annual subscription is \$2,220.

The \$3,820 initial subscription, includes:

- a new section added to the program's website specific to that council area
- a researched selection of optimal flora species, specific to the council area, approved by the council's biodiversity staff
- appealing images, detailed descriptions (including benefits for local wildlife), and sometimes inspiring videos for each selected plant
- PDF designs of a promotional leaflet, poster and pull-up banner including the council's name
- a selection of promotional images
- pledge packs, including a thank-you letter and a colourful, high quality, aluminium plaque mailed to all participating residents
- continuation of the engagement and environmental education of participating residents through the program's social media
- promotion of the council and some of its environmental activities through the program's social media
- contact details of consenting pledgers provided to each council so they can invite them to other environmental activities
- discounts from some suppliers to participating residents
- management of all enquiries from residents through the program's phone, email and website.

Councils can also then choose to print leaflets and do a letterbox drop (estimated to be an additional \$4,500 – a population of 100,000 probably equals about 60,000 households).

The number of engaged residents varies widely between councils and increases over time. A major influence appears to be the enthusiasm of the relevant council officer, the support they receive from the council, and the promotional activities they undertake.

An existing Habitat Stepping Stones council with a population of just over 100,000 has received 160 pledges.

5. THE BACKYARD HABITAT PARTICIPANT REVIEW TOOL

Participants:

Participants were all part of a backyard habitat review program run by North Sydney Council in 2016. 44 were invited by email to participate in the survey, 27 completed the questionnaire, one person's data was removed due to responses that indicated confusion about being invited to complete the questionnaire. All participants could opt out of the questionnaire at any time.

Materials:

The questionnaire was designed by an Organisational Psychologist with extensive experience in measurement creation, in close consultation with a backyard habitat program expert panel, which also included local council experts.

Procedure:

The questionnaire was developed and then piloted with appropriate questionnaire evaluation questions at the end.

The evaluation questions were:

- a) Please tell us about your experience of this questionnaire. Did this questionnaire cover everything you wanted to say? (Response options were: Covered everything, covered most things, covered little, covered nothing)
- b) If you feel it needed any alteration, please provide us with thoughts on how to improve it (Open text responses)

Analysis:

92% of respondents indicated the questionnaire had covered everything or most things.

1 person indicated it had covered little, and 1 indicated that it covered nothing.

In answer to the second evaluation question, 6 people offered ideas for improvement. These ideas were then addressed in improving the questionnaire.

The comments and related changes were:

Comment	Resultant change to questionnaire
<p>“Only that there is no 'does not apply' alternative. I took the middle ground when a question did not apply to me.”</p>	<p>“Does not apply” response option added to all possible questions</p>
<p>“I thought it would address use of plants for garden, and environmental aspects such as use of water, use of fertilizers/soil conditioning, soil erosion.”</p>	<p>First page of questionnaire altered to specifically state “This questionnaire asks ONLY about your experiences in the program, there will be no questions about environmental needs”</p>
<p>“Difficult to suggest improvements as the aims of the questionnaire are unclear”</p>	<p>First page of the questionnaire altered to specifically state “The aim of this questionnaire is to understand what motivates involvement in these programs, and their impact so that they can be continuously improved for residents.”</p>
<p>Keep up the good work.</p>	<p>Comment to be passed on to North Sydney Council</p>
<p>“More than one response option is needed to most questions. I haven't noticed improved biodiversity yet because the plants are still young.”</p>	<p>Response option of “too early to tell” added to questions that relate to biodiversity outcomes.</p>

5.1. THE BACKYARD HABITAT PARTICIPANT REVIEW - QUESTIONNAIRE

Welcome to the [Council Name] backyard habitat program survey. This questionnaire is designed to collect your thoughts and feedback on the backyard habitat program you have just participated in. The questionnaire is anonymous, so your name will not be associated with your answers.

The aim of this questionnaire is to understand what motivates involvement in these programs, and their impact so that they can be continuously improved for residents. This questionnaire asks ONLY about your experiences in the program, there will be no questions about environmental needs.

You have till [date] to complete the questionnaire. It will take you less than 5 minutes to complete.

1. I initially engaged with the backyard habitat program because:
 - I wanted to support local wildlife
 - I was made aware of the free plants give away
 - I was required to by a Development Application process
 - I wanted to educate children about habitat
 - A friend recommended it to me
 - I want to see more birds/animals in my backyard
 - Other

2. Before I engaged with the program, I considered my relationship with Australian plants & wildlife to be:
 - Enthusiastic and knowledgeable
 - Enthusiastic but with limited knowledge
 - Unenthusiastic, with limited knowledge
 - Unenthusiastic but knowledgeable

3. The backyard habitat program improved my understanding of the importance of habitat for local wildlife.

Strongly disagree Disagree Mixed feelings/Undecided Agree Strongly agree Does Not Apply

4. The habitat advice I received was useful to me.

Strongly disagree Disagree Mixed feelings/Undecided Agree Strongly agree Does Not Apply

5. I have added at least some of the habitat elements I learned about, to my place.
 - Yes (skip to question 6)
 - None yet, but I will later (skip to question 6)
 - None yet, and I don't intend to (skip to question 8)
 - Does not apply (skip to question 8)

6. I have added (or will add) the following number of plants/elements (i.e. pond, rock habitat)
 - 1-2 plants/elements
 - 3-6 plants/elements
 - 6-9 plants/elements
 - More than 9 plants/elements

7. I have added (or will add) these elements because I wanted to:

- Support local wildlife
- See more wildlife in the garden
- Lead by example in the neighbourhood
- Educate children about habitat
- Improve my neighbourhood
- Other (skip to question 9)

8. I have *not* added anything because:

- It's too expensive
- I don't have the time
- The plants were difficult to find
- No one else I knew was doing it
- I was sick or otherwise physically prevented
- Other (skip to question 12)

9. I have noticed more wildlife in my garden since I joined this program:

Strongly disagree, Disagree, Mixed feelings/Undecided, Agree, Strongly agree, Does not apply, Too Early to tell

10. I am likely to continue to add habitat elements to my garden or balcony.

Strongly disagree Disagree Mixed feelings/Undecided Agree Strongly agree Does Not Apply

11. My experience in this program has inspired me to take part in other local wildlife and habitat projects.

Strongly disagree, Disagree, Mixed feelings/Undecided, Agree, Strongly agree, Does not apply, Too Early to tell

12. I would like to occasionally hear from my council about other local environment programs.

- Yes
- No

13. How likely are you to encourage others to get involved in habitat programs?

- Extremely likely
- Likely
- Not very likely
- Definitely not

14 What is the one message you would pass on to others about backyard habitat?

.....

15. Any ideas on how the program could be improved?

.....

16. Do you have any other feedback you want to give us?

.....

17. Please tell us your age so we can learn more about your age group

- Under 13
- 13 to 18
- 19 to 25
- 26 to 40
- 41 to 55
- Over 55

6. TABLE OF ONLINE RESOURCES FOR HABITAT CREATION

Program	Links
Ashfield Council	http://www.ashfield.nsw.gov.au/page/biodiversity_and_bushcare.html
City of Sydney Council	http://www.cityofsydney.nsw.gov.au/live/animals/wildlife/home-is-where-the-habitat-is
Ku-ring-gai Municipal Council	http://www.kmc.nsw.gov.au/Current_projects_priorities/Key_priorities/Environment_sustainability/Bushland_and_wildlife/What_you_can_do
Lane Cove Council	http://www.lanecove.nsw.gov.au/Environment/NaturalEnvironment/Pages/BackyardHabitatProgram.aspx
Leichhardt Municipal Council	http://www.leichhardt.nsw.gov.au/Environment---Sustainability/Biodiversity-and-Bushcare
Mosman Council	http://www.mosman.nsw.gov.au/residents/property/gardening/
North Sydney Council	https://www.northsydney.nsw.gov.au/Waste_Environment/Bushland_Wildlife/Wildlife/Wildlife_Watch
Pittwater Council	http://www.pittwater.nsw.gov.au/environment/native_animals/wildlife_corridors
Rockdale Council	https://www.rockdale.nsw.gov.au/environment/Pages/EnvWildThings.aspx
Sutherland Shire Council	http://www.sutherlandshire.nsw.gov.au/Outdoors/Environment/Plants-and-Bushland/Greenweb
Warringah Council	http://www.warringah.nsw.gov.au/environment/your-backyard
Waverley Council	http://www.waverley.nsw.gov.au/environment/bushland_and_wildlife
Backyard Buddies	Facebook page: https://www.facebook.com/backyardbuddies/ Website: http://www.backyardbuddies.org.au/
Birds in Backyards	Facebook page (Bird Life Australia): https://www.facebook.com/BirdLifeAustralia/ Website: http://www.birdsinbackyards.net/
Habitat Stepping Stones	Facebook page: https://www.facebook.com/habitatsteppingstones/ Website: http://www.habitatsteppingstones.org.au/
Message Groups	

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