



Connected Corridors for Biodiversity: Guide to regulatory tools, financial incentives and other mechanisms for promoting biodiversity conservation on private property

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Southern Sydney Regional Organisation of Councils Incorporated
(SSROC)

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**SYDNEY COASTAL
COUNCILS GROUP**

Table of Contents

EXECUTIVE SUMMARY	4
1 INTRODUCTION	6
1.1 Background to the project	6
1.2 Why urban biodiversity is important	6
1.3 Sydney's biodiversity 2016	8
1.4 Why habitat connectivity is important	11
1.5 Connected Corridors for Biodiversity Map	14
1.6 Connected Corridors for Biodiversity Guide	14
2 REGULATORY TOOLS	16
2.1 Planning controls	16
2.1.1 Local Environmental Plans	16
2.1.2 Development Control Plans	18
2.1.3 Development Contributions Plans	20
2.1.4 Recommendations	21
2.2 Development assessment	23
2.2.1 Biodiversity assessments	23
2.2.2 Conditions of consent	24
2.2.3 Covenants	25
2.2.4 Compliance monitoring	25
2.2.5 Recommendations	26
3 FINANCIAL INCENTIVES	26
3.1 Incentives Councils can offer	26
3.1.1 Grant programs	27
3.1.2 Competitions	27
3.1.3 Rates rebates	28
3.2 Incentives Councils can promote	28
3.2.1 Biobanking	29
3.2.2 Voluntary Conservation Agreements	29
3.3 Recommendations	30
4 OTHER MECHANISMS	31
4.1 Cross-Council partnerships	31
4.2 Partnerships with other land managers	31
4.3 Use of funds from sale of Council land	32
4.4 Recommendations	33
5 REFERENCES	34

EXECUTIVE SUMMARY

The Connected Corridors for Biodiversity project (CCB), funded by the Australian Government through the Sydney Coastal Councils Group (SCCG) Sydney's Salty Communities program, has been implemented by the Southern Sydney Regional Organisation of Councils (SSROC) in collaboration with Greater Sydney Local Land Services (GS LLS). The project encompasses a total of 23 pre-amalgamation Council areas, comprising those within the SSROC and SCCG areas, plus Strathfield Council.

The aim of the project was to produce tools that can be used by Councils to facilitate increased habitat connectivity across the highly urbanised project area, to thereby increase resilience of biodiversity to climate change and other threats.

Urban biodiversity is increasingly being recognised as important around the world, partly because urbanisation is considered the greatest threat to biodiversity globally, but also because there is a growing body of research demonstrating that urban biodiversity contributes significantly to the health and well-being of urban residents. It also enhances the liveability of urban areas by providing vital ecosystem services and improving visual and recreational amenity, and has additionally been shown to enhance property values. Further, as it comprises the plants, animals and other organisms that most people encounter in their day-to-day lives, it can help to build appreciation, awareness and an ethic of care for biodiversity amongst city residents.

Habitat connectivity is essential for the long-term conservation of biodiversity in all environments, but in urban areas like the CCB project area, habitats are significantly limited, fragmented and isolated. Improved habitat connectivity is therefore required.

The tools produced through the CCB project consequently comprised a habitat corridor map (available on the GS LLS website at greatersydney.lls.nsw.gov.au/resource-hub/web-tools), and a guide to the regulatory tools, financial incentives, and other mechanisms that Councils can use to promote biodiversity conservation on private property (this document), since habitats on private property will be vital to improving habitat connectivity across the project area.

This document was based largely on the results of a survey of staff from Councils in the project area. Councils are referred to by their pre-amalgamation names, given that the project was scoped on this basis and that planning instruments of these Councils will remain in force until new versions are prepared for the new Councils.

It is intended that Council staff will share this document with their respective management and Councils, and seek to implement the recommendations provided, either on an individual Council basis or in partnership with others.

The recommendations relate to:

- planning controls such as biodiversity provisions within Local Environmental Plans (LEPs) and Development Control Plans (DCPs), and Development Contributions Plans;
- the development assessment process, including biodiversity assessments, conditions of development consent, covenants and compliance monitoring;
- financial incentives that Councils can offer, including grants, competitions and rates rebates;

Connected Corridors for Biodiversity: Guide to Tools

- financial incentives available through biobanking and Voluntary Conservation Agreements, that Councils can promote;
- cross-Council partnerships and partnerships with other land managers; and
- use of funds from the sale of Council land.

Some recommendations may be difficult to implement, and the establishment of cross-Council working groups or similar, potentially under the leadership of the SSROC, SCCG, Local Government NSW (LG NSW), GS LLS or similar organisation, may be required to facilitate this. However, most recommendations relate to actions that have already been successfully implemented by one or more Councils in the project area or elsewhere in Australia, and this illustrates the potential for others to do so. For example:

- 10 Councils in the project area have incorporated terrestrial biodiversity provisions with accompanying maps into their LEPs;
- Sutherland Shire Council have tailored the above provisions to their local area, rather than using the provisions of the standard LEP template;
- Pittwater Council has incorporated habitat corridor mapping as the terrestrial biodiversity map in their LEP (as has Ku-ring-gai Council outside of the CCB project area);
- Five other Councils have incorporated habitat corridor mapping into their DCPs;
- Sutherland Shire Council offers grants for on-ground works to promote biodiversity conservation on private property, as do Councils in other states;
- Rates rebates are offered for similar on-ground works by Councils in other states, including Queensland, Victoria, and Western Australia; and
- Council-run Voluntary Conservation Agreements are available for private properties in Queensland.

1 INTRODUCTION

1.1 Background to the project

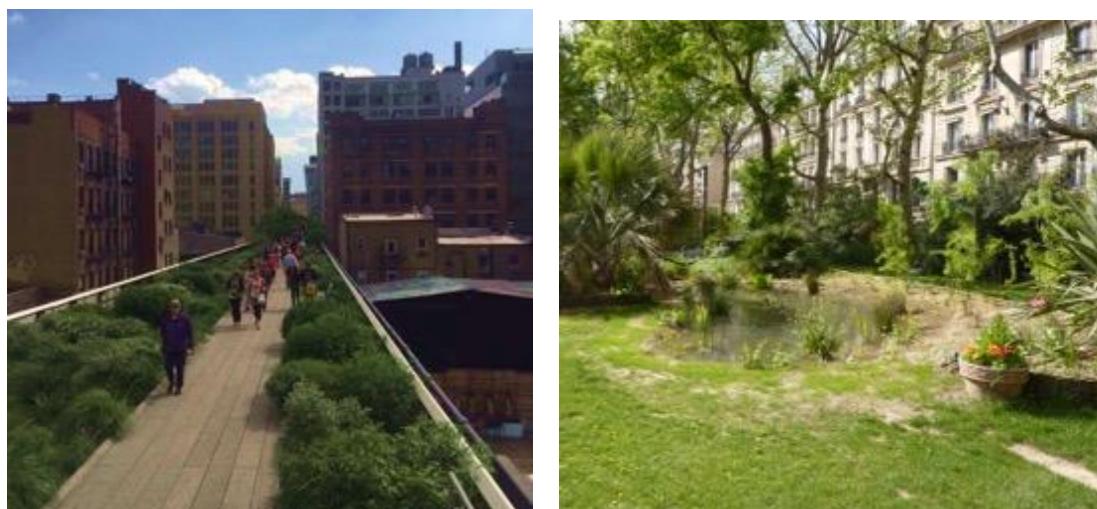
The Connected Corridors for Biodiversity project (CCB), funded by the Australian Government through the Sydney Coastal Council Group (SCCG) Sydney's Salty Communities program, has been implemented by the Southern Sydney Regional Organisation of Councils (SSROC) in collaboration with Greater Sydney Local Land Services (GS LLS). The project encompasses a total of 23 pre-amalgamation local government areas (LGAs), comprising those within the SSROC and SCCG areas, plus Strathfield Council).

The aim of the project was to produce the following tools that could be used by Councils to facilitate increased habitat connectivity across the very urbanised project area, and to thereby increase resilience of biodiversity to climate change and other threats:

- A habitat corridor map; and
- A guide to the regulatory tools, financial incentives, and other policies and programs that can be used by Councils to promote biodiversity conservation on private property

1.2 Why urban biodiversity is important

The value of urban biodiversity is being increasingly recognised in Australia and globally. Urban biodiversity conservation initiatives are being implemented in many cities, with Paris, New York, London and Singapore being notable examples.



The High Line in New York City (left) – a disused, elevated rail line that was converted into public open space vegetated with native species, and a pond constructed to provide frog habitat in an inner city park in Paris (photos: K. Oxenham)

This is partly because urbanisation has been recognised as the greatest threat to biodiversity globally (West *et al.* 2016), but also because urban biodiversity contributes significantly to the health and well-being of urban residents. There is a growing body of research that demonstrates this, and that presents a compelling case from a public health perspective for the conservation and enhancement of

habitats in urban environments. For example, urban biodiversity has been found to contribute to:

- reduced incidence of cancer (Shanahan *et al.* 2016), heart disease (Donovan *et al.* 2013), diabetes (Astell-Burt *et al.* 2014), and poor mental health (Mitchell 2013);
- reduced incidence amongst children of ADHD (Faber Taylor *et al.* 2011), asthma (Lovasi *et al.* 2008) and allergies (Hanski *et al.* 2012);
- improved cognitive development of school children (Dadvand *et al.* 2015);
- improved sleep (Morita *et al.* 2011);
- stress reduction (van den Berg & Custers 2011); and
- improved recovery/rehabilitation from illness and injury (Ulrich 1984).

Urban biodiversity can also enhance the liveability of urban areas by improving visual and recreational amenity (CSIRO 2014) – remnant bushland, planted native vegetation, wetlands, waterways, foreshores, coastal zones, and other habitat features can be very attractive elements in the urban landscape that both improve its appearance and enhance recreational opportunities. Such features can also enhance property values, given the desirability of access/proximity to them (Polyakov *et al.* 2016).



Bushland and waterways such as foreshore areas in the Willoughby Council area enhance visual and recreational amenity (photo: K. Oxenham)

As in all environments, biodiversity in urban areas also delivers vital ecosystem services, including:

- improving the air that we breathe by absorbing pollutants from and maintaining oxygen in it;
- regulating climate, for example by providing shade that cools streets and neighbourhoods (Doick & Hutchings 2013; Coutts *et al.* 2007);
- providing shelter from extreme weather events (Abdollahi & Ning 2000);
- reducing stormwater runoff (Xiao & McPherson 2002);

- sequestering greenhouse gases (Churkina *et al.* 2010);
- enriching soil and pollinating plants, both of which are vital to food production;
- controlling pests;
- decomposing organic waste; and
- controlling erosion.

Finally, urban biodiversity comprises the plants, animals and other organisms that most people encounter in their day-to-day lives, given that most of Australia's (and the world's) population now lives in urban areas. It can thereby build appreciation, awareness and an ethic of care for biodiversity amongst city residents (Lunney & Burgin 2004; CSIRO 2014), which has significant potential to lead to action being taken to address patterns of biodiversity decline not just at the local scale but more widely (Miller 2005; McKinney 2002).



Tawny Frogmouths at Edwards Park in the Strathfield Council area (photo: A. MacKenzie), and a Superb Fairy Wren in the Randwick Council area (photo: K. Oxenham) – charismatic species that can help to build city residents' appreciation of biodiversity

1.3 Sydney's biodiversity 2016

The CCB project area, which includes the centre of Sydney, has been subject to high levels of urban development. This has led to extensive habitat loss – for example, it has been estimated that 41% of the native vegetation of the Warringah Council LGA has been lost since 1750 (Smith & Smith 2009), and this percentage is much higher in many other Council areas; in the City of Sydney LGA, for example, virtually all of the original vegetation has been cleared. This habitat loss has led to significant declines in Sydney's biodiversity.

There are nevertheless many species and ecological communities that persist in the CCB project area and elsewhere in Sydney, even in some of the most urbanised areas. These include numerous species, both native and introduced, that have adapted well to urbanisation and have consequently flourished, but also many

species that are listed as threatened. In fact, Sydney and other Australian cities have been found to be 'hotspots' for threatened species (Ives *et al.* 2016), and there are numerous threatened species and endangered ecological communities that only occur in Sydney, including:

- Plants such as *Grevillea caleyi*, *Allocasuarina portuensis*, and *Acacia terminalis* subsp. *terminalis*;
- Animals such as the Cumberland Land Snail; and
- Endangered ecological communities such as Eastern Suburbs Banksia Scrub, Cooks River/Castlereagh Ironbark Forest, Pittwater Spotted Gum Forest, Kurnell Dune Forest, Blue Gum High Forest, Sydney Turpentine Ironbark Forest, and Sydney Freshwater Wetlands.

Many other threatened species, including the Green and Golden Bell Frog, Powerful Owl, Eastern Bent-wing Bat, Koala, Squirrel Glider, Red-crowned Toadlet, Dusky Woodswallow, Glossy Black Cockatoo, Curlew Sandpiper, Grey-headed Flying-fox, and Eastern Osprey also occur in Sydney.

There are also many other species that persist in Sydney that are considered locally significant because, although once common, their populations have drastically declined in the area. These include many species of frogs, reptiles, small woodland birds, freshwater wetland birds, microbats, and presumably many invertebrates.

Similarly, remnant vegetation in Sydney is often considered locally significant even when not representative of an endangered ecological community, given the limited extent that remains in many LGAs.



Examples of the types of species that have declined, but still persist in Sydney, clockwise from top left: Green and Golden Bell Frog, a threatened species (photo: K. Oxenham); Spotted Pardalote (photo: N. Lazarus); Bar-sided Skink (photo: K. Oxenham); Jacky Lizard (photo: K. Oxenham); Yellow Thornbill (photo: N. Lazarus); grasshopper at a revegetation site in the Strathfield Council area (photo: A. MacKenzie)

1.4 Why habitat connectivity is important

Habitat connectivity is essential for the long-term conservation of a diverse range of species and ecological communities. In isolated habitats, the potential for many fauna species to move between different areas to feed and reproduce is limited, and isolation also presents barriers for plant pollination, germination and dispersal. Over time this leads to dwindling population sizes, reduced genetic diversity, and adverse impacts on ecosystem function and health, with consequent increases in the susceptibility of populations to threats such as disease, competition, predation, and weed invasion – as well as to climate change, which is likely to exacerbate these other threats.

With ongoing urban development in Sydney, the habitats for many of the species and ecological communities that have declined, as discussed in Section 1.3, are becoming increasingly fragmented and isolated. Improvement of functional habitat connectivity is therefore required to promote their conservation.

Improving habitat connectivity in the CCB project area requires conservation and enhancement of existing habitats, combined with creation of new habitats on land subject to varying uses, including public land and private property. Regardless of tenure, there are substantial opportunities to do this without compromising other land uses. For example, habitat features can be incorporated into backyards instead of/in addition to traditional-style gardens, whilst adding to their amenity. There is also substantial potential to incorporate habitat features into landscaping associated with new developments, particularly those that are large scale. In doing so, it is important to recognise that vegetation alone is not sufficient to support all fauna species – many of those that have declined in Sydney are dependent on other habitat features. Many reptiles for example require rock outcrops, fallen logs or other ground-level features, frogs require freshwater ponds, microbats require hollows or other roost sites, migratory shorebirds are dependent on intertidal beaches, mudflats and sandbanks, and many intertidal species require rock pools and crevices that receive tidal inundation. An increase in such habitat features, in addition to native vegetation, is therefore required to improve functional habitat connectivity across the landscape, and there are many examples of species using constructed habitats of these types.



A backyard swimming pool in Rosebery that supported a population of the endangered Green and Golden Bell Frog for many years (photo: FATS), and weeds that provide good habitat for small birds along the Coast Walk in the Waverley Council area



The steps of the Sydney Opera House have been used as a haul out site on a semi-regular basis by a New Zealand Fur Seal in recent years, and concrete pots attached to a sea wall in the City of Sydney area were readily colonised by a range of intertidal species (photo: City of Sydney)

While it is unlikely that 'continuous' corridors of functional habitat will be achievable in most parts of the CCB project area, there is substantial potential at least for 'stepping stone' patches of habitat to be created, that can assist species to move across the landscape to and from larger habitat areas. In some cases, small habitat patches may even be sufficient to support populations of various species, such as plants and invertebrates.



Improving habitat connectivity in the project area: continuous corridors of native vegetation are achievable in some areas, as illustrated by bushland at Avalon in the Pittwater Council area (left), while 'stepping stone' habitat patches are the most that can be achieved in others, such as this bioretention swale at Bondi Junction in the Waverley Council area (right) (photos: K. Oxenham)



A male Superb Fairy Wren photographed recently at Darling Park, in the central business district of the City of Sydney area, illustrates the potential for 'stepping stone' habitat patches to assist species to move around the landscape. This site is in arguably the most urbanised part of Sydney, and is more than a kilometre away from the nearest known population of this species, which is a weak flier (photo: S. Golding)

1.5 Connected Corridors for Biodiversity Map

The CCB habitat corridor map was produced to identify land that should be prioritised for on-ground works etc to improve habitat connectivity across the project area. It was largely based on existing habitat and corridor mapping obtained from Council staff and other sources, including Terrestrial Biodiversity and Wetlands mapping from Local Environmental Plans (LEPs) and habitat/wildlife corridor mapping from Development Control Plans (DCPs), where available. This mapping was combined into a single spatial layer, and then refined in close consultation with Council biodiversity/bushland management staff, who provided detailed comments on draft versions of the map.

The map has been finalised; an interactive version is available on the GS LLS website (greaterSydney.lls.nsw.gov.au/resource-hub/web-tools), and the associated spatial data has been provided to each of the Councils for use with their internal mapping software. The map will be reviewed and updated annually until 2020.



1.6 Connected Corridors for Biodiversity Guide

The scope of the CCB project also included development of a guide to the regulatory tools, financial incentives and other mechanisms Councils can use to promote biodiversity conservation on private property (this document), since habitats on private property will be vital to improving habitat connectivity across the project area.

To aid in its preparation, staff from each of the 23 pre-amalgamation Councils within the project area were asked to complete a survey about such mechanisms, with 25 responses received from staff of 19 of the Councils. The survey results were used to identify the main issues to be highlighted in this guide, and have been integrated into

Connected Corridors for Biodiversity: Guide to Tools

the following sections, along with some discussion and examples to illustrate different possibilities. A number of other mechanisms/issues related to promoting biodiversity conservation on private property that became apparent during the course of the project have also been included.

It should be noted that Councils are referred to in this document by their pre-amalgamation names, given that the project was scoped on this basis and that planning instruments of these Councils will remain in force until new versions are prepared for the new Councils.

It is intended that Council staff will share this document with their respective management and Councils, and seek to implement the recommendations provided, either on an individual Council basis or in partnership with others.

In reading this document, it should be noted that it:

- Uses the names of Councils prior to the recent amalgamations, as the project was scoped on this basis, and moreover because planning instruments of these Councils will remain in force until new versions are prepared for the new Councils
- Focuses on private property, rather than public land
- Focuses on biodiversity conservation generally, i.e. not just in relation to habitat corridors, although the intention is that the focus of the tools, incentives etc discussed would be the private properties within the mapped CCB habitat corridors, and that through implementation of the recommendations provided, increased habitat connectivity would be achieved over time
- Generally excludes community education and engagement programs because these are the focus of a concurrent project being implemented by the Australian Research Institute for Environment and Sustainability, the report from which will complement this document
- Is not meant to be comprehensive or exhaustive, but focuses on issues raised through the CCB survey – there are undoubtedly other tools and mechanisms that could be effective in promoting biodiversity conservation on private property, and new approaches should always be considered
- Does not take into account the content of the draft District Plans prepared by the Greater Sydney Commission as these were only released towards end of the CCB project, but it is noted these plans may have implications for some of the recommendations provided
- Does not take into account the new NSW State biodiversity legislation, as it was passed towards the end of the CCB project and the associated State Environmental Planning Policies (SEPPs) that will apply to Sydney are yet to be released, even in draft format. Again though it should be noted this legislation may have implications for some of the recommendations provided.
- May include recommendations that are inconsistent with other current NSW State Government policies etc, but that have been included in recognition of the need and potential for such policies to change, and as a step towards making such change happen.

2 REGULATORY TOOLS

2.1 Planning controls

After community support/values, biodiversity clauses in LEPs and DCPs were considered by the highest number of CCB survey respondents to be the most important factors in contributing to effective biodiversity conservation outcomes on private property.

Some CCB survey respondents mentioned that although their Councils have a Biodiversity Strategy and/or dedicated bushland management program or similar, these were not strong enough alone to ensure good outcomes, particularly in relation to development. It was noted by numerous respondents that stronger State legislation is ultimately required, but it is instead being weakened, and economic considerations appear to be increasingly outweighing ecological concerns.

In the face of this, strong local planning controls may be the best means of achieving good biodiversity conservation outcomes.

2.1.1 Local Environmental Plans

LEPs in NSW, which outline zoning and development controls which guide Councils' planning decisions, must be prepared in accordance with a 'standard' LEP template. Mandatory clauses relating to biodiversity in the standard LEP are limited, as discussed in the following sections.

a. Zoning

A number of zoning categories related to biodiversity are permitted by the standard LEP. The main categories applicable to private property are 'E3 Environmental Management' and 'E4 Environmental Living', which can be applied to private property identified as having special environmental or scenic values. Both E3 and E4 zoning permit a limited range of development provided it gives priority to and/or is otherwise compatible with these special values.

Seven Councils in the CCB project area have E3 and/or E4 zoning. Most of these (Sutherland, Pittwater, Warringah, Manly, and Willoughby) are Councils that have large areas of remnant bushland, with this zoning applying to land adjoining bushland areas. However, exceptions are Kogarah Council and North Sydney Council, plus Fairfield Council outside of the project area, which indicates the potential for this zoning to be applied more widely.

b. Other provisions

There is one mandatory provision in the standard LEP relating to the preservation of 'trees or vegetation', for which the objective is to preserve amenity as well as biodiversity values, and which applies to trees and other vegetation prescribed in a DCP. Being mandatory, all respondents to the CCB survey said this is included in their Council's LEP. There is also a mandatory provision excluding 'environmentally sensitive lands' from exempt and complying development, with important biodiversity values included in the definition of such land.

There is also a provision related to coastal zone protection, and another that applies to development below mean high water mark in tidal zones; these are mandatory for Councils whose LGAs feature coastal and/or tidal areas respectively, and some of the associated objectives relate to biodiversity conservation.

In addition to these mandatory provisions, Councils are also able to include 'Additional Local Provisions', based on standard clauses that can be tailored to a limited extent to suit individual LGAs. These can include specific terrestrial biodiversity and wetlands provisions with accompanying maps, which although generally relating to public land such as Council-managed reserves, can also extend to private property. They can also include 'riparian land and watercourses', and 'foreshore scenic protection area' provisions that are relevant to biodiversity conservation, though not to all Councils.

Only 10 Councils (out of the 23 Councils in the project area) have included terrestrial biodiversity and/or wetlands provisions with accompanying maps in their LEP. For nine of these (Bankstown, Botany Bay, Canada Bay, Manly, Marrickville, Pittwater, Randwick, Rockdale, and Waverley), the standard provisions have been used; only Sutherland Shire Council has tailored these provisions to their local area.

Where it has been included in LEPs, terrestrial biodiversity or wetlands mapping has been limited to discrete habitat areas in all but one case. The exception was Pittwater Council, who incorporated biodiversity corridors into the mapping; no other Councils in the CCB project area have done this, although Ku-ring-gai Council is another example of a Council in Sydney that has.

The variation between Councils in relation to terrestrial biodiversity and wetlands provisions and accompanying maps in their LEPs indicates an inconsistent approach to the management and protection of habitats by Councils across the CCB project area.

Of course, threatened species and ecological communities are protected under specific NSW and Commonwealth legislation, the requirements of which must be addressed in Development Applications (DAs) assessed by Councils or other consent authorities. While this may have been a reason for excluding terrestrial biodiversity and wetlands provisions from LEPs, it is important to note their inclusion can provide additional controls that are specific to the local context, and which may be particularly important for the conservation of the local occurrence of such species and communities. Inclusion of terrestrial biodiversity and wetlands provisions can also provide controls in relation to non-threatened species and communities that are considered significant in the local context, for example species such as small woodland birds and others that have declined in Sydney, as discussed in Section 1.3.

Finally, including biodiversity corridor mapping as the terrestrial biodiversity map in LEPs gives Councils greater regulatory control over developments that will impact or have potential to impact on the habitat values of land within the mapped corridors. It is therefore more likely to facilitate the maintenance and enhancement of habitat connectivity compared to limiting such mapping to DCPs (refer Section 2.1.2)

2.1.2 Development Control Plans

Councils are required to prepare a Development Control Plan (DCP) to complement the LEP. The DCP provides detailed planning and design guidelines to support the planning controls in the LEP. There are no mandatory provisions for DCPs, and they can therefore be quite prescriptive. Unlike LEPs, however, DCP provisions are not statutory requirements, but must nevertheless be taken into account by Councils when assessing DAs.

Just over half (12) of the Councils in the project area have incorporated specific biodiversity provisions into their DCPs, and the content of these is quite varied. Some are very detailed, with those of Pittwater, Sutherland, and Warringah of particular note. While this reflects the relatively large extent of bushland and associated biodiversity values of these particular LGAs, DCP biodiversity provisions for some of the other Councils in the project area, such as Marrickville, North Sydney, and Woollahra, are also detailed.

Five of these Councils (Marrickville, Pittwater, Sutherland, Warringah, and Waverley) have also incorporated biodiversity corridor maps into their DCPs, while survey responses from several other Councils indicated that the biodiversity provisions in their DCPs reference maps in a Biodiversity Strategy or similar. Some mentioned they have been working towards incorporating biodiversity corridor maps into their DCPs for several years, but this had not yet been achieved because the Councils were fearful of community opposition. The fact that it has been achieved by some Councils in the project area and elsewhere in Sydney indicates that such issues can be overcome.

For the Councils in the project area that do not have specific biodiversity provisions, there are landscaping provisions that generally include some biodiversity controls; for example, the landscaping section of Leichhardt Council's DCP requires a minimum of 85% of plantings for new residential areas to be indigenous.

However, for most Councils within the CCB project area, DCP provisions do not include any mention of habitat features other than native vegetation. It is important to note that, as mentioned in Section 1.4, native vegetation alone is not sufficient to provide for the habitat requirements of many of the species that have declined in the project area – other habitat features, including freshwater ponds and ground-level features such as rocks and logs are also required. An increase in habitats of these types, in addition to native vegetation, will be critical for improving habitat connectivity in the project area given the limited natural habitats that remain, and there are often opportunities for them to be incorporated into landscaping associated with new developments. It is therefore important for DCP landscaping provisions to incorporate requirements in relation to them.



Habitat features that can be incorporated into landscaping on private properties: sandstone retaining walls (left) that provide suitable habitat for reptiles and invertebrates (left); frog pond and a mix of native shrubs, grasses and groundcovers that provide habitat for small woodland birds (right) (photos: K. Oxenham)



Green roof vegetated with a mix of mainly native shrubs provides habitat on an apartment complex in Woolloomooloo

In summary, similar to LEPs, it can be seen that the level of detail regarding biodiversity in DCPs varies between Councils, further indicating an inconsistent approach to management and protection of habitats, as well as to the potential for creation of new habitats, by Councils across the CCB project area. To maximise the potential for good biodiversity outcomes, it will be important for this to be addressed. Several survey respondents also suggested the need to strengthen DCPs by including biodiversity provisions relating to building accreditation, i.e. requiring developments above a certain area and/or occupancy rate to provide a certain level

of biodiversity benefit, such as a minimum area of the site to be landscaped with a mix of locally native species including shrubs, grasses and groundcovers.



Native shrubs, grasses, and sedges plus with rock features and bioretention swales incorporated into landscaping for a residential development in the Willoughby Council area (photo: K. Oxenham)

2.1.3 Development Contributions Plans

Development Contributions Plans, prepared by Councils in accordance with Section 94 of the *Environmental Planning and Assessment Act 1979*, outline the contributions that proponents of development must make towards the provision, extension or augmentation of local infrastructure, including open space and community facilities, as a consequence of development.

As such, Development Contributions Plans focus on public land and facilities, and are therefore strictly speaking outside the scope of this document. However, some discussion is warranted because, subject to establishment of a planning agreement with Council, they can allow development proponents to dedicate some of their land as open space in lieu of paying some of the required financial contribution – that is, there is potential for private property to be converted to open space as a result of development.

Such new areas of open space can result in increased opportunities for habitat creation and/or enhancement – a number of responses to the CCB survey indicated that significant bushland areas have been dedicated to Councils through this mechanism, for example in the Warringah Council area in relation to new subdivisions. While this would be a best case scenario in the project area, where land to be dedicated would usually be cleared, and the open space created would usually be required for a number of uses, habitat creation/enhancement opportunities can nevertheless often be realised without compromising other uses – for example, while sportsfields may be the primary use of new open space, there would generally be scope to incorporate native vegetation or other habitat features beyond the sportsfield edges. In addition to providing habitat this may in some cases also meet other functional requirements (for example trees and shrubs could assist with

Connected Corridors for Biodiversity: Guide to Tools

screening of sportsfield lights, raingardens could improve the quality of stormwater runoff, and large ponds/wetlands could be a source of water for sportsfield irrigation). Habitat created on such sites will be important in contributing to improved habitat connectivity within the CCB project area.

A recent example that illustrates this potential is in the City of Sydney LGA, where Mirvac dedicated 3.8 ha of open space through a Section 94 contribution as part of their apartment development on the former Harold Park Paceway site in Forest Lodge. In addition to sportsfields and other recreational facilities, a continuous 'corridor' of habitat is being created in this open space.

Another example is from the North Sydney Council area, where a relatively large area was planted with locally native vegetation in open space dedicated as part of a large apartment development at Wollstonecraft Bay. This vegetation has established well and expands upon the habitat provided by remnant vegetation at the adjoining Berry Island Reserve.



Native vegetation planted as part of a large apartment development at Wollstonecraft Bay has established well and provides habitat for a range of small woodland birds and other species (photo: K. Oxenham)

2.1.4 Recommendations

Given the huge amount of redevelopment taking place in Sydney, and perceived weakening of state biodiversity legislation, it is important that local planning controls are as strong as they can be in relation to biodiversity, and that they are reasonably consistent across LGAs. The following recommendations are made in this regard:

- The potential for E3 and E4 zoning should be investigated, where it does not already exist; consideration should be given to applying it to mapped biodiversity corridors, or the highest priority areas within these
- Mandatory biodiversity provisions should be incorporated into the standard LEP; Councils should seek to develop these with the NSW Department of Planning &

Environment (DPE), to ensure they are sufficiently comprehensive. This could potentially be achieved through a working group of representatives from the SSROC Environmental Management and Planners Groups, or through the SCCG, Local Government NSW (LG NSW), GS LLS or similar organisation.

- Whether or not the above is achieved, terrestrial biodiversity and (where applicable) wetlands provisions with accompanying maps should be a component of all LEPs, and should be tailored to the local context, i.e. based on local studies, with reference to local strategies, the local occurrence of species and ecological communities of conservation significance etc
- Accompanying maps should incorporate the mapped biodiversity corridors from the CCB project, including private property, rather than be limited to discrete habitat areas
- Councils should work collaboratively to develop standard biodiversity provisions for DCPs should be developed, that can be tailored/expanded upon as needed to suit individual LGAs. This could potentially be achieved through a working group of representatives from the SSROC's Environmental Management and Planners Groups, or through the SCCG, LG NSW, GS LLS or similar organisation.
- Whether or not the above is achieved, DCPs should include detailed biodiversity provisions, with an accompanying biodiversity corridor map (if the latter is not included in LEPs)
- DCP biodiversity provisions should specify:
 - requirements for a biodiversity assessment to be undertaken and for a biodiversity management plan to be prepared, in accordance with guidelines as discussed in Section 2.2.1
 - requirements for creation of new habitat features such as freshwater ponds, rock features etc in addition to requirements for planting with native species
 - appropriate offsetting requirements in relation to habitat features removed, with the area/number of habitat features removed to be offset at an equivalent or greater rate (for example, requiring three trees to be planted for every one removed)
- Councils should investigate and lobby for the addition of strong biodiversity provisions relating to building accreditation, for example through amendments to State Environmental Planning Policy (SEPP) (Building Sustainability Index: BASIX) 2004, in collaboration with the DPE
- The potential for habitat creation and/or enhancement for new areas of open space resulting from dedication of private property (as well as in relation to open space generally) should be recognised in Development Contributions Plans, so that such opportunities are identified in advance, and subsequently realised. While Development Contributions Plans do not typically go into a great deal of detail, this potential could be highlighted for specific areas so that such opportunities are not overlooked, but are on the agenda from the outset of the proposed land dedication.

While there is a lengthy process involved in making amendments to LEPs and DCPs, and there may be restrictions regarding the type of amendments that can be made, Councils do periodically revise or prepare new versions of these instruments. New LEPs and DCPs will also be required for the Councils that have recently amalgamated, and those that are due to do so in the near future. There will therefore be potential for the above recommendations to be considered during preparation of the new LEPs and DCPs, if not before. The introductory text in this document can be used as the basis of a business case to justify the inclusion of biodiversity corridors in LEPs or DCPs, if required.

2.2 Development assessment

2.2.1 Biodiversity assessments

The standard LEP provisions relating to terrestrial biodiversity and wetlands imply that a biodiversity assessment is required in relation to DAs on land covered by the associated terrestrial biodiversity and wetlands maps, but as mentioned in Section 2.1.1, only 12 Councils in the CCB project area have included these provisions in their LEPs. Some, such as Warringah Council, have specifically mentioned the requirement for biodiversity assessments in their DCPs, but relatively few (8) of the CCB survey respondents stated that guidelines for biodiversity assessments have been prepared for their LGA (i.e. that specify/clarify when such an assessment is required in relation to DAs, and the required scope). For example, in the Warringah Council area there is an automatic requirement for a biodiversity assessment and preparation of a biodiversity management plan in relation to developments that will modify a specific area of native vegetation and/or wildlife corridor.

There would obviously be many developments in the highly urbanised CCB project area (such as alterations or additions to many small inner city houses, and developments taking place in intensively developed settings such as many parts of the central business district) for which biodiversity assessments would generally not be applicable or appropriate. However, there are many other developments for which such assessments could assist to ensure biodiversity is conserved or enhanced.

Guidelines that outline the circumstances in which biodiversity assessments are required, i.e. when the proposed development has potential to impact on habitat features, as well as their required scope, would assist to ensure they are undertaken where appropriate, and this in turn should assist to ensure better outcomes for biodiversity.

In this respect, it is important to note that while natural habitats in the project area are limited and there are generally few greenfield sites, many of the constructed or highly modified habitat features that remain are likely to be important for the survival of local populations of a range of species – for example, the endangered inner west population of the Long-nosed Bandicoot population is dependent on old buildings, rail corridors, and parks; many old industrial buildings have potential as microbat roosts; small woodland bird populations are dependent on dense weed infestations in many areas; and piles of materials on industrial sites can provide important shelter sites for numerous reptiles. Biodiversity assessment guidelines can assist to ensure these types of features are considered.

While the focus of biodiversity assessments is usually on threatened species and ecological communities, in accordance with NSW and Commonwealth legislative requirements, this often leads to species and communities that are not threatened, but that are nevertheless significant in the local context, being overlooked or not considered meaningfully. Biodiversity assessment guidelines tailored to the local context can also assist in preventing this.

There is often a perception from developers, and even Council staff, that biodiversity assessments are onerous. Clear guidelines would assist in ensuring they are undertaken only where appropriate, and that they focus on the species and/or communities of concern in the local context. In many, if not most, cases in the project

area, such assessments could be both very brief and inexpensive, but invaluable in terms of contributing to good biodiversity outcomes.

Finally, only around half of the CCB survey respondents indicated that biodiversity assessments with accompanying biodiversity management plans and/or landscape plans, where prepared in relation to DAs, are reviewed by Council biodiversity staff. Comments from a number of respondents indicated this is often due to lack of staff resources, and/or a lack of awareness amongst development assessment staff about biodiversity considerations, so that they are consequently unaware of the need to consult biodiversity staff. It is therefore likely that biodiversity is often not considered appropriately, if at all, during the development assessment process.



Weeds, rocks and debris, and old buildings on disused industrial sites such as this one, which is scheduled for redevelopment, may provide habitat for threatened and/or locally significant species. Appropriate biodiversity assessment would assist to ensure better outcomes for such species.

2.2.2 Conditions of consent

Conditions of consent issued by Councils can be quite prescriptive in relation to some aspects of development; for example, they can specify requirements for buildings to be limited to a certain height, to have a minimum set-back from the street, to be a particular colour etc. However, in relation to biodiversity the details are often much less specific. There is a need for Councils to be more prescriptive in relation to biodiversity, for example by including development consent conditions that require a higher number of trees to be planted for every one removed, and for other specific habitat features to be incorporated into developments.

2.2.3 Covenants

A potential way for Councils to ensure good biodiversity outcomes on land subject to a DA is to include as a condition of development consent the requirement for a covenant to be placed over the native vegetation/other habitat on that land, in accordance with Section 88B of the NSW *Conveyancing Act 1919*. The particular requirements of the covenant are specified in the condition of consent; for example, the requirements can include the retention, conservation, rehabilitation and management in perpetuity of all native vegetation/other habitat, plus monitoring and reporting, in accordance with an environmental management plan or similar approved by the relevant Council biodiversity/bushland management staff. The covenant is registered on the title of the land and can only be released, varied or modified by the Council.

Covenants of this type can be tricky to achieve as the requirement for them may be challenged by development proponents. Based on the CCB survey results, only Warringah Council and Sutherland Shire Council have established these types of covenant in the CCB project area; Hornsby Shire Council is another example in the wider Sydney area. In Warringah, these covenants were established in relation to subdivisions on land featuring endangered ecological communities and/or threatened species and their habitat. While there may also be potential to require them to be placed over land that does not feature threatened species or ecological communities, but that nonetheless supports species or ecological communities of local conservation significance, this may be less likely to withstand any court challenge.

2.2.4 Compliance monitoring

Most (18) of the CCB survey respondents stated that compliance monitoring in relation to conditions of development consent concerning biodiversity, where undertaken, was limited to a one-off occurrence, usually in relation to requirements for the proponent to achieve compliance certification.

No respondents said that long-term monitoring was undertaken; most indicated staff resources were not available for this. There were numerous comments that, while native vegetation may have been incorporated in site landscaping as per development consent conditions, the one-off compliance check meant there was no way of ensuring this vegetation successfully established and was appropriately maintained. Many also indicated that compliance monitoring was not undertaken by biodiversity/bushland management staff, but by staff from another department who would generally not have expertise/specialist knowledge in relation to biodiversity. A number of respondents noted that private certifiers were often used as well, who are similarly unlikely to have expertise/specialist knowledge. There were comments that this sometimes led to inconsistent determinations in relation to biodiversity/habitat requirements, with conditions of consent relating to biodiversity at times being overlooked or not strictly or consistently enforced. One exception to this is Sutherland Shire Council, who have a procedure in which landscape and tree assessment officers complete a 'landscaping compliance checklist' that is forwarded to the final certifiers.

A number of respondents commented that instances of non-compliance, for example in relation to tree removal or damage, were only identified and investigated if reported by residents, and that positive biodiversity outcomes from instances of non-compliance were hardly ever achieved, i.e. that non-compliances were generally not rectified.

2.2.5 Recommendations

The following recommendations are made in relation to achieving better biodiversity conservation outcomes through the development assessment process:

- Clear guidelines should be developed in relation to the requirement for and scope of biodiversity assessments, including:
 - a requirement for them to be prepared by a suitably qualified ecologist
 - requirements to address species and communities of local conservation significance, as identified by Council (i.e. in biodiversity strategies etc), rather than just listed threatened species and ecological communities
 - requirements for recommendations to be incorporated into biodiversity management plans and/or landscape plans, wherever relevant (for example, regarding habitat features to be retained, species to be planted, other habitat features to be created)
 - requirements for ongoing monitoring
- A process should be established for biodiversity assessments, biodiversity management plans and landscape plans to be reviewed by biodiversity staff, with additional staff resources allocated to enable this
- If the above is not feasible, steps should be taken to ensure development assessment and compliance monitoring teams have appropriate expertise (for example through appointment of an ecologist to these teams, or provision of training to development assessment and compliance monitoring staff)
- Councils should collaborate to develop standard, detailed conditions of development consent in relation to biodiversity, that can be tailored to different contexts. This could potentially be achieved through a working group of representatives from the SSROC's Environmental Management and Planners Groups, or through the SCCG, LG NSW, GS LLS or similar organisation.
- Whether or not the above is achieved, conditions of development consent in relation to biodiversity should be detailed, and should include:
 - requirement for the recommendations of the biodiversity assessment, actions outlined in the biodiversity management plan, and/or habitat features incorporated into the landscaping plan to be implemented under the supervision of a suitably qualified ecologist
 - requirement for offsetting to be implemented in relation to trees and other habitat removed
 - requirements for ongoing compliance monitoring in relation to biodiversity (for example regarding appropriate maintenance of vegetation and other habitat features) to be undertaken by a suitably qualified ecologist, in accordance with a landscaping compliance checklist or similar
- Consideration should be given to incorporating establishment of covenants over habitat features into the conditions of consent, for applicable developments

3 FINANCIAL INCENTIVES

3.1 Incentives Councils can offer

Many CCB survey respondents mentioned that their Council provides incentives such as free native plants, free workshops, and free property-specific advice to encourage land owners to promote biodiversity conservation through creation and/or enhancement of habitat features on their properties. However, only one Council

within the CCB project area currently offers financial incentives to land owners for this purpose, while one other has done so in the past (refer Section 3.1.1 below).

This is despite the fact that Section 356 of the *Local Government Act 1993* (LGA Act) permits Councils to contribute money or otherwise grant financial assistance to residents for the purpose of exercising its functions. Such financial assistance can be funded from Council's general revenue, or potentially through an environmental levy.

Financial incentives may be a very effective way of motivating a wider range of land owners to undertake habitat creation/enhancement works, and various possibilities are discussed in the following sections.

3.1.1 Grant programs

Although around half of the respondents to the CCB survey indicated their Councils run grant programs for habitat creation/enhancement works on public land such as school grounds, the CCB survey results indicated that, within the project area, only Sutherland Shire Council currently runs a grants program focused on private property, with Woollahra Council being the only other Council to have done so in the past, over a three year period.

There is substantial potential for Sutherland's grants program, which has been successfully implemented since the 2003/04 financial year, to be replicated in other Councils in the project area. The program provides 10 grants of up to \$2,000 each per year for on-ground works including weed removal, bush regeneration, habitat creation and/or protection, and slope stabilisation on private properties located within Sutherland's mapped Greenweb corridors (refer <http://www.sutherlandshire.nsw.gov.au/Community/Grants/Greenweb-Grants>).

It should also be noted that grant programs of this type are being offered in other Australian states. For example, in Queensland, the City of Gold Coast offers grants through its Nature Conservation Assistance Program for on-ground works such as bush regeneration, establishment of vegetation corridors and wildlife-friendly fencing on private property (refer <http://www.goldcoast.qld.gov.au/ncap-fact-sheet-31877.html>). Grants of \$5,000-\$8,000 are offered annually, and applicants are eligible to receive funding up to three times, up to a total of \$20,000. These grants are funded from an 'open space preservation' levy.

3.1.2 Competitions

Similar to grants programs, competitions offering prize money are another suggested means for Councils to provide financial incentives for biodiversity conservation on private property. Competitions could, for example, be held in relation to the best native garden, the best fauna habitat garden etc. There could be numerous categories, to reflect different types of properties (such as large backyards, small backyards, apartment balconies, common areas of apartment complexes, green roofs etc).

A number of Councils in the CCB project area run competitions of this type; for example, Randwick City Council runs an annual garden competition that features a 'best native garden' category (gardens must feature at least 75% native species to be eligible), as did Marrickville Council.

However, prizes for these competitions tend to comprise gardening equipment and plants, along with trophies or certificates, rather than money. In contrast, annual Council-run art competitions often offer substantial prize money – the Mosman Art Prize and Kogarah Art Prize are just two of many examples. There should therefore be potential for Councils to offer prize money instead of, or in addition to, other prizes for garden competitions as well.



Examples of backyard habitats that could be eligible for Council-run garden competitions (photos: K. Oxenham)

3.1.3 Rates rebates

There are specific provisions of the LG Act that relate to the purposes for which Councils can offer rates rebates in NSW, but these do not mention works to conserve and enhance biodiversity on private properties. Section 356 of the LG Act may nevertheless allow Councils to offer rates rebates in relation to such works. According to the CCB survey responses, no Councils in the project area are offering rates rebates of this type, and it does not appear that they are offered by any other Councils in NSW either.

In contrast, these types of rebates are being offered by Councils such as Buloke Shire Council in Victoria <http://www.buloke.vic.gov.au/forms> and the Shire of Serpentine-Jarrahdale in Western Australia <http://www.sjshire.wa.gov.au/what-we-do/rates/farmland-concession/>. Such rebates in NSW could apply to standard Council rates, but rebates on the environmental levy, where one applies, would seem to be more appropriate.

It should be noted that under Section 555 of the LG Act, owners of land subject to a Voluntary Conservation Agreement (VCA) in NSW are entitled to Council rates exemptions, or at least rebates. VCAs are discussed separately in Section 3.2.2.

3.2 Incentives Councils can promote

In addition to financial incentives Councils can offer directly, there are other funding opportunities Councils are in a good position to promote. Only two of the CCB survey respondents indicated they actively promote these kinds of opportunities.

3.2.1 Biobanking

Biobanking enables property owners to register biodiversity 'credits', that they can sell to the proponents of developments who require biodiversity offsets under the NSW State biodiversity legislation and/or Commonwealth *Environment Protection & Biodiversity Conservation Act 1999*. Funds from the sale of credits are required to be put towards the conservation and enhancement of the biodiversity values of the property, in perpetuity, i.e. they provide an ongoing source of funding for this work.

There are a small number of registered biobanking sites in the CCB project area (for example Lansdowne Park in the Bankstown LGA), but these are all on public land. The small size of most private properties in the project area would limit the number of biobanking credits they could generate, and this would limit their feasibility as biobanking sites, given the number of credits required for offsetting developments is usually quite large. Existing biobanking sites are generally around a minimum of 10 ha and the average size in the greater Sydney region is 45 ha.

However, biobanking could be feasible for larger parcels of private land, such as golf courses – many of which in the CCB project area provide habitat for threatened species and/or feature endangered ecological communities; for example, the Kogarah Golf Course in the Rockdale LGA provides habitat for the endangered Green and Golden Bell Frog, and the endangered Eastern Suburbs Banksia Scrub occurs on a number of golf courses in both the Randwick City Council and Botany Bay Council areas. Biobanking may even be an option for those golf courses that are on Crown Land rather than private property.

There could also be potential for two or more neighbouring owners of relatively large parcels of private property to register their land collectively for biobanking, thereby increasing the number of credits available and making it a more viable option for those seeking sufficient credits to offset their developments.

While biobanking is administered by the NSW Office of Environment and Heritage (OEH), there is substantial potential for Councils to promote it using their local knowledge and relationships with land managers in their respective areas.

3.2.2 Voluntary Conservation Agreements

As mentioned in Section 3.1.3, Section 555 of the LG Act states that land subject to a VCA established under Section 69 of the NSW *National Parks & Wildlife Act 1974* is exempt from all Council rates, or a reduction in rates if only part of the land is covered by the agreement.

In addition, landholders with a VCA are entitled to land tax concessions under Section 10 of the *Land Tax Management Act 1956*, and to income tax concessions under Section 31 of the *Income Tax Assessment Act 1997*.

A VCA is a joint agreement between landowners and the NSW Minister for the Environment, and administered by the OEH. It provides permanent protection for the special features of the land to which it applies – the VCA is registered on the title of the land so that if it is sold, the VCA and management requirements remain in place.

VCAs can be entered into for:

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- Areas containing scenery, natural environments or natural phenomena worthy of preservation
- Areas of special scientific interest
- Areas that are the sites of buildings, objects, monuments or events of national significance
- Areas in which Aboriginal objects, or Aboriginal places, of special significance are situated
- The study, preservation, protection, care or propagation of fauna or native plants or other flora
- The study, preservation, protection, care of karst environments
- The conservation of critical habitat or the conservation of threatened species, populations or ecological communities, or their habitats

It is worth noting that, in addition to owners of freehold land, lessees of Crown land and local Councils are also eligible to enter into VCAs.

No VCAs have been established in the CCB project area to date. There are 12 on private properties in the greater Sydney region, but most of these apply to larger properties in bushland or rural areas. The OEH has advised that properties should generally be at least 5 ha and preferably greater than 10 ha to be eligible for a VCA. There are exceptions though, depending on the biodiversity or other special values of the land. The smallest property subject to a VCA in the greater Sydney region is 1.2 ha, and there are two others that are under 5 ha. Therefore, similar to biobanking, there may be potential for VCAs to be established in relation to larger parcels of private property in the project area, and possibly even smaller properties that feature threatened species, ecological communities or their habitats.

The NSW State government has announced that increased incentives for biodiversity conservation on private property will be created through or as an accompaniment to the new NSW biodiversity legislation. While the intended focus of these is likely to be larger properties in bushland or rural areas, there may be potential for new types of VCAs or similar types of conservation agreements to be established that apply specifically to urban backyards or other private properties in highly urbanised environments.

Failing the above, or in addition to it, Councils may be able to establish their own VCA scheme. While no Councils in NSW have done this to date, and there may be impediments to it under the LG Act or other legislation, a number of Councils in Queensland have done so, including the City of Gold Coast – landholders who enter into a VCA under their scheme are entitled to annual reimbursement of up to \$5,000 for works to conserve native vegetation and wildlife habitat, in addition to rates rebates; refer to <http://www.goldcoast.qld.gov.au/environment/voluntary-conservation-agreements-4196.html> .

3.3 Recommendations

The following recommendations are made in relation to financial incentives that Council could offer or promote to encourage biodiversity conservation on private property:

- The potential for offering financial incentives through biodiversity-focused grants programs, competitions and/or rates rebates should be investigated, and implemented where feasible

- The potential for registering land for biobanking, and the benefits of doing this, should be promoted to all relevant land owners/managers
- The potential for registering a VCA should also be promoted to relevant land owners
- The State government, via OEH, should be asked to explore the potential for new types of VCAs/other conservation agreements that apply specifically to urban backyards and other private properties in highly urbanised areas, in collaboration with Councils. This could potentially be achieved through a working group of representatives from the SSROC's Environmental Management and Planners Groups, or through the SCCG, LG NSW, GS LLS or similar organisation.
- The potential for Council-run VCA schemes or similar should be investigated, and implemented if/where feasible

4 OTHER MECHANISMS

4.1 Cross-Council partnerships

Staff and financial resourcing constraints were identified by the highest number of CCB survey respondents as barriers to implementing tools and incentives etc to encourage biodiversity conservation on private property.

Establishment of partnerships with other Councils may be a means of addressing this; for example, two or more Councils could 'share' staff dedicated to programs along the lines of Sutherland Shire Council's Greenweb program or North Sydney Council's Native Havens program, and their roles could potentially extend to overseeing grants programs specific to private property, and even compliance monitoring in relation to conditions of development consent. There may even be potential for one or more dedicated staff to be based at a regional organisation such as the SSROC, SCCG or GS LLS, with Councils each making an annual contribution to cover the cost, i.e. similar to the regional weeds officers formerly based at GS LLS or its predecessors.

4.2 Partnerships with other land managers

Survey respondents from only three Councils in the CCB project area stated that they have established partnerships with golf course managers, or managers of other large parcels of land in their LGAs.

Such partnerships – which can of course extend to managers of public land such as universities, hospitals, schools and public utilities – can be an efficient way of achieving good biodiversity conservation outcomes on a relatively large scale, and can be mutually beneficial – contributing to a Council's biodiversity targets whilst, from the land manager perspective, contributing to the improved appearance of their land, minimising maintenance requirements, and/or meeting corporate responsibility requirements or similar. Partnerships can also enable costs to be shared, and increase potential to obtain grant funding, as collaborations are often looked upon favourably by donor organisations.

Partnerships with golf course managers are likely to be particularly beneficial from a biodiversity conservation perspective given that, in addition to their large size, they usually feature native vegetation and numerous waterbodies, and that, in the CCB

project area, there are many located in riparian zones and along or near the coast, which contributes to their existing and potential habitat values.

Examples of partnerships established between Councils and golf course managers in the CCB project area include a partnership between Willoughby Council and Chatswood Golf Club, which has included invasive weed removal, natural regeneration of native species and supplementary planting to improve connectivity and expand on existing patches of the endangered Coastal Saltmarsh community, and a collaboration between Woollahra Council and Royal Sydney Golf Club, which has resulted in inclusion of biodiversity considerations in the master plan for the golf course, and habitat planting now being undertaken in accordance with Woollahra's Biodiversity Strategy.



Native species planted at Chatswood Golf Course, through a partnership between Willoughby Council and Chatswood Golf Club (photo: K. Oxenham)

The Teeing Off Carbon Connections project implemented by GS LLS in collaboration with Golf NSW involved partnerships with numerous Councils and golf courses in relation to biodiversity, and generated some useful resources in this regard, currently accessible at <https://fieldcapture.ala.org.au/project/index/bbdcae06-80bc-4fa3-81c2-8e8c956831c1#plan> and http://ecodata.ala.org.au/uploads/2015-08/book_Understory%20plants%20for%20Sydney%20golf%20courses%20and%20parks.pdf. This project should provide a good basis from which new, ongoing partnerships can be developed.

4.3 Use of funds from sale of Council land

Councils are sometimes in a position to sell land, resulting in public land being converted to private property. Some or all of the vegetation on such land is subsequently likely to be cleared as a result of development. A suggestion from one CCB survey respondent was that, in such instances, Councils should offset all of the vegetation on the land by planting an equivalent or greater amount and type

elsewhere on Council-managed land. Some of the funds from the sale of the land could be set aside for this.

4.4 Recommendations

The following recommendations are made in relation to establishment of partnerships:

- The potential for cross-Council partnerships, including shared staff resources, should be explored, and implemented where feasible
- Owners/managers of large parcels of land should be identified and prioritised in each Council area (with highest priority given to those within the mapped CCB corridors), relationships established and the potential for partnerships to promote biodiversity conservation explored and implemented where feasible
- Councils should establish a policy requiring funds from the sale of Council land to be set aside for offsetting the vegetation on that land



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