



Bushland and Biodiversity team

Annual Report

2011/2012

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1.0 Introduction and Context

Hornsby Shire covers 50,874 hectares of which approximately 69% is bushland. The Bushland and Biodiversity Team manages 278 natural areas that are owned by Council and Crown land as Trustee or where management is devolved to Council. The natural areas are primarily bushland with some natural wetlands. Together with National Parks and Wildlife Service Council shares management of 3,596 ha Berowra Valley Regional Park. The Team manages 4,968 ha of public bushland and provides biodiversity incentives, assessment and

advice for large areas of private bushland. The team undertakes on ground bush restoration and regeneration and a large volunteer Bushcare Program. It manages the bushfire risk in its reserves and has a larger role in bushfire management in the Shire. Appropriate bushland recreation is provided in the local bushland. These roles are guided through legislation, adopted Biodiversity Conservation Strategy and Plans of Management. In June 2012 the Bushland and Biodiversity Team became part of the Natural Resources Branch of Council.

The more significant bushland reserves are:

Arcadia: Arcadia Park, Calabash Road Bushland, Calabash Point Bushland, Halls Creek Bushland

Asquith: Michigan Avenue Bushland, Mills Avenue Bushland

Beecroft: Beecroft Reserve, Byles Creek, Chilworth Reserve, Castle Howard Bushland, Edwards and Lamorna Bushland, Fearnley Park, Orchard Road Park

Berowra: Berowra Community Centre Bushland, Combora Circuit Bushland, Evanda Street Bushland

Berowra Creek: Bar Island, Neverfail Bay Bushland

Berowra Heights: Berowra Park, Cunio Point Bushland, Turner Road Bushland

Berowra Waters: Furber Park

Berrilee: Bay Road Bushland, Woolwash

Brooklyn: Brooklyn Park, Brooklyn Railway Bushland, McKell Park, Seymours Creek Bushland

Canoelands: Pumpkin Point Creek Bushland

Carlingford: Ray Park

Castle Hill: Upper Pyes Creek Bushland

Cheltenham: Cheltenham Bushland

Cherrybrook: Kanangra Crescent Bushland, Lakes of Cherrybrook, Pyes Creek Bushland

Dangar Island: Kiparra Park

Dural: Muraban Road Bushland, Pyes Creek Bushland

Epping: Dence Park, Midson & Plympton Road Bushland, Terrys Creek Bushland, Vimiera Park

Fiddletown: Bloodwood Road Aboriginal Area, Calabash Point Bushland, Collingridge Bushland Sunnyridge Road Bushland

Galston: Fagan Park (including Carrs Bush), Galston Park, Galston Recreation Reserve and Hayes Park, Knights Road Bushland

Glenorie: Campbell Crescent Bushland, Glenorie Park

Hornsby: Florence Cotton Reserve, Hornsby Park, Manor Road Bushland, Reddy Park, Rosemead Road Bushland, Waitara Creek Bushland

Hornsby Heights: Crosslands, Ginger Meggs Park, Rofe Park Bushland, Somerville Road Bushland

Laughtondale: One Tree Reach Wetland

Maroota: Molesworth Reserve, Wisemans Ferry Lookout Bushland, Wisemans Ferry Tip (decommissioned – bushland parcel)

Middle Dural: Forsters Reserve

Mount Colah: Berry Park Bushland, Bimbil Avenue, Excelsior Bushland, Judith Ave Bushland, Murralong Road Bushland, Oxley Drive Park, Sue Place

Mount Ku-ring-gai: Mount Ku-ring-gai Park

Pennant Hills: Azalea Grove Bushland, Britannia Street Bushland, Observatory Park, Tristania Way Bushland

Normanhurst: Begonia Road South Bushland, Kenley Park, Normanhurst Park, Pine Street Bushland, Waitara Creek Bushland

North Epping: North Epping Oval, Woods Street Oval

Thornleigh: Dog Pound Creek Bushland, Larool Crescent Childrens Centre (bushland parcel), Larool Creek Bushland

Westleigh: Dog Pound Creek Bushland, Quarter Sessions Road Bushland, Western Crescent Playground (bushland parcel)

West Pennant Hills: New Farm Road Bushland

Wisemans Ferry: Singleton Mill Road Bushland and Wisemans Ferry Cemetery (bushland parcel)

2.0 Biodiversity Planning and Management

2.1 Biodiversity Conservation Strategy

The Hornsby Shire Biodiversity Conservation Strategy (2004, updated 2006) guides Council's priorities for undertaking conservation actions. Its objectives are:

- To conserve species, populations and communities of native plants and animals, and allow for their continued evolution and survival in the Hornsby Shire in context of the region.
- To achieve an improvement in the quality and extent of existing indigenous vegetation in Hornsby Shire.
- To collect and update biodiversity conservation information.
- To develop key community incentive and partnership programs to maintain biodiversity on private properties in the Hornsby Shire.
- To ensure Council activities integrate with other agencies to achieve biodiversity conservation outcomes.

- To ensure environmental planning instruments and processes provide a strategic approach to achieving biodiversity conservation outcomes.
- To maintain and improve the management of biodiversity on publicly owned land in Hornsby.
- To effectively mitigate threats to conserving biodiversity in Hornsby.
- To conserve and recreate connectivity across fragmented landscapes.
- To develop and implement effective systems to fund and manage biodiversity conservation actions.

In Hornsby Shire there are over 1,000 native plants and 388 terrestrial vertebrate animals. Of these, there are 26 threatened plants and 42 threatened fauna known or likely to occur.

Red-fingered marsh crab Sesarma erythroactyla at One Tree Reach (Photo: Mark Hood)



Annually ten high priority actions are implemented from the Biodiversity Conservation Strategy. Following the review of achievements from 2004-2009 and 5 year action plan for 2010-15, an action plan for 2011-12 was prepared. Major achievements for 2011-12 included:

- Bushland restoration of 187 ha equating to 13.2% of Council managed bushland compared to Council's 12% target:
 - contractors restored approximately 119 ha in 62 Bushland Reserves through Council and grant funds, and
 - 766 Bushcare volunteers restored 68 ha at 101 sites.
- Community nursery achieved-
 - propagation of 52,106 plants representing 35% increase from last year and the most ever for a financial year
 - plant production by 37 volunteers contributing 2,138 hours
 - strong demand for plants from the Catchment Remediation Rate program, National Tree Day, Council bushland and Bushcare sites, advanced street trees and landscape projects, schools and Still Creek Landcare projects
 - a large order of 10,000 plants for the Wisemans Tip remediation project
 - provided 6,256 free native plants to 1,337 residents promoting biodiversity in local gardens representing an increase of over 16% plants from last year, with particular interest shown in native trees.
 - despatched a total of 32,257 plants for the year
- Sustainability and education
 - Prepared a high quality online Native Tree database to facilitate tree identification to enhance implementation of the new Tree Preservation Order
 - Continued sustainability improvements to the Earthwise Cottage as a demonstration venue
 - Held 36 events with 602 residents
- 3 studies to assist in adapting to Climate Change-
 - Estuarine Wetland and Migratory Bird Survey and Priority Habitat Mapping – completed
 - Native Flora and Fauna Conservation Study and Management Plan – ongoing
 - Waterbird Survey of Hornsby Shire – commenced
- Facilitated partnerships in year three (final year) of Habitat Connectivity grant project:
 - Regenerated 6.8 ha in 2011-12 of private and public bushland and 19.3 ha over the life of the project
 - Restored 4.4 ha of endangered and critically endangered Turpentine Ironbark and Blue Gum High Forest in 11-12 and 10.8 ha since 2009
 - Revegetated 0.4 ha creating and strengthening vegetation linkages with 1.8 ha revegetation since 2009 using 6,000 indigenous plants
 - 281 residents and land managers participated in the project this year
 - Restoration works at Cherrybrook Technical High School, Benedictine Monastery Arcadia, Marymount Mercy Centre Castle Hill, Hornsby South Public School, road reserves at Galston, Arcadia and Normanhurst with endangered vegetation and eight private landowners as part of the Rural Lands Incentive Program
 - Six workshops have been delivered on various environmental topics related to vegetation restoration and sustainability

2.0 Biodiversity Planning and Management

- Minimised environmental impacts on native flora and fauna through:
 - Continued a best practice response to Myrtle Rust pathogen utilising expert contractors to treat a significant infection, conducting treatment and plant rescue of *Rhodamnia rubescens* at M2 upgrade site, treating outbreaks at Council's community nursery and assisting residents
 - Assessed 82 Development Applications, 108 Tree Applications and 30 breaches of illegal clearing
 - Responded to 324 private property Noxious Weed enquiries and requests inspecting 175 properties; undertook grant works for public land Noxious Weeds including Tussock Paspalum, vines and Boneseed
 - Inspections of high risk weed sites and other strategic inspections to manage noxious weeds totalling over 1,200 inspections and over 200 noxious weed notices
 - Revegetated 9,000 sqm compared to 3,300 sqm lost to development
- Bushland recreation:
 - 33 guided bushwalks for 428 residents representing an 18% increase in participation in the program
 - Completed Stage 1 of the Hornsby Heritage Step Restoration
 - 12 tracks over 49 km in length with interpretive signs
 - Commenced construction of the Hornsby Mountain Bike Track
 - Commenced the Pyes Creek walking track
 - Won 3 Keep Australia Beautiful Awards for new Bar Island jetty.
- Completed bushfire mitigation measures in a sustainable manner in Bushland Reserves:
 - Maintained 55 Asset Protection Zones and Works Access Lines affording protection to 220 properties along an interface length of 6,180m immediately adjoining Council bushland
 - Prepared the Fire Trail Works Schedule and undertook maintenance on 92km of Council managed fire trails, upgraded Section 1 of the Woodcourt Fire Trail and updated the Hornsby Ku-ring-gai Fire Trail Register on behalf of the Bush Fire Management Committee.
 - Completed 4 Hazard Reduction burns on Council land despite wet weather, 13 environmental assessments and on-ground works for burn preparation
 - issued 835 permits to burn on private land and investigated 6 breaches
 - mapped Bush Fire Prone Land in the Shire.
- Reviewed the draft Hornsby LEP and DCP regarding Biodiversity and Protection of 'Native Vegetation and Trees, reviewed the Green Offsets Code to allow consideration of trees, prepared the online Native Tree Database to allow tree identification as the new TPO only protects trees indigenous to Hornsby Shire.
- Achieving additional income of \$1,148,140 to achieve bushland management, restoration and enhanced recreational experience of Hornsby Shire's bushland:
 - 25 grants and sponsorship commitments of \$1,308,173 being a 7% decrease from last year's record high
 - received 1 offset of \$20,000 showing a significant slowdown in offsetting compared to last year's \$133,255
 - 25 grants were implemented through funds of \$722,941 representing a 12% increase from last year as the team implemented and delivered grant projects



One Tree Reach Wetland (Photo: Mark Hood)

2.2 Plans of Management for Natural Areas

In the 2011-12 year, actions identified in Plans of Management for natural areas covering 276 Bushland Reserves were implemented.

Wisemans Ferry Cemetery Bushland key actions for the Plan of Management includes bushfire mitigation,

noxious weed control and heritage protection of cemetery monuments. Grants were received from the Heritage Office for APZ implementation, monument restoration and weed management. Works were done in preparation for a larger HR burn planned by Rural Fire Service for the whole bushland reserve.



Noxious weed removal, bushfire protection and HR burn preparation undertaken around the Wiseman's Ferry Cemetery (Photo: Mark Hood)

2.0 Biodiversity Planning and Management

One Tree Reach Wetland was restored through grants from NSW Recreational Fishing Trust and Hawkesbury Nepean Catchment Management Authority where Council undertook weed control and did studies to improve aquatic habitat. A weir was proposed to contain exposed acid sulphate soils and improve water quality with Southern Cross University designing water quality monitoring to measure acid sulphate remediation. Grant works included seed collection, propagation by Council's Community Nursery and revegetation with over 1000 Swamp Mahogany Forest vegetation community plants

with fencing placed around the site to restrict grazing by wallabies. A community planting day was held. Andy Burton undertook a bird survey recording Southern emu-wren and Mangrove Gerygone, species at high risk of local extinction. He recorded waterbirds Black cormorant and White-faced heron, adding to previously recorded woodland birds such as nomadic honeyeaters and robins (Fraser, A and Rapmund, R., 2008). Interpretive signs and brochures were prepared and a grant for a boardwalk and weeding on adjoining private land.



Community planting day at One Tree Reach Wetland, Laughtondale (Photo: Robyn Cox)



*Dwarf Tree Frog *Litoria fallax* at One Tree Reach Wetland (Photo: Mark Hood)*

2.3 Development Applications and Environmental Assessments

82 development applications were assessed for their impacts on biodiversity during the year, up from the 78 applications over the previous year. 108 tree applications have been assessed being a significant increase from under 50 received the year before to assist the Tree Management Team with ecological advice. This is in response to the NSW Office of Environment and Heritage's direction to consider the impacts to the local population via an Assessment of Significance ('seven part test') in the case of individual EEC trees. Environmental assessments reviewed included Review of Environmental Factors, Environmental Impact Statements, Assessment of Significance and ecological reports. 15 assessments were undertaken by the team for Council projects.

The most significant issue facing biodiversity and DA assessment is the increasingly limited amount of land available for providing a complying building envelope in minimum sized lots constrained by the presence of large remnant isolated EEC trees. Therefore, a majority of the subdivision and dwelling house applications request the removal of singular isolated trees in addition to having cumulative impacts on remaining trees. These impacts are often poorly addressed in consultant reports which

fail to recognise the cumulative impacts of each DA removing singular trees from isolated patches of BGHF, and are overall having a significant impact upon the local population of BGHF.

Subdivisions: an increasing trend was observed in the number of subdivision application referrals received for existing single dwelling private properties with large backyards constrained by steep topography and presence of bushland particularly in Beecroft and West Pennant Hills. These areas contain significant wildlife corridors, endangered ecological communities and important urban habitat refugia for fauna including the threatened Powerful Owl (*Ninox strenua*) and the Endangered Population of Gang Gang Cockatoo (*Callocephalon fimbriatum*). The major ecological impact of these particular development applications are incremental loss of remnant native trees, tree hollows, impacts from excessive Asset Protection Zones requirements, hard surface stormwater and nutrient runoff which increases creek sedimentation and promotes weed growth.

Breaches: an example of a major breach was an unauthorised sandstone quarry mining operation in the Maroota area which is undergoing investigation. The significantly large area of bushland impacted by these illegal activities has known records of threatened Eastern



Development adjacent to Council-owned bushland in Beecroft area (Photo: Alex Fraser)

2.0 Biodiversity Planning and Management

Pygmy Possum, *Tetratheca glandulosa* and *Pimelea curviflora* var. *curviflora*. Restoration orders have been served requesting that a majority of the site be restored under guidance of a bushland restoration plan and that a retrospective development application be assessed to ensure that appropriate conditions of consent can be implemented within for permissible extraction activities within previously disturbed areas.

Asset Protection Zones: APZs prescribed by Rural Fire Service is creating conflicting impacts between bushland retention and bushfire protection measures. The majority of the Shire is mapped as 'Bushfire Prone Land' which places potentially significant implications for management of bushland including Endangered Ecological Communities and other native vegetation in the vegetated buffers between residential and other

development and remnant bushland. Staff attended training held by UTS to improve understanding of 'Planning for Bushfire Protection 2006'. This allowed staff to be better informed to advise planners and applicants on how APZs can be managed in an ecologically sensitive manner whilst meeting bushfire protection objectives.

Conditions of development consent have been used to achieve positive biodiversity outcomes on land zoned for development. In particular development applications affecting Sydney Turpentine Ironbark Forest, Blue Gum High Forest, Blackbutt Gully Forest, *Persoonia mollis* ssp. *maxima* and *Darwinia biflora* have been party to extensive negotiations and review.



Unapproved vegetation clearing works for Asset Protection Zone not done in accordance with Planning for Bushfire Protection 2006 in Wisemans Ferry area (Photo: Alex Fraser)

A working group between the biodiversity planning officers of Warringah, Hills, Kuring-gai, Manly and Pittwater Councils was initiated by Hornsby staff last year to exchange planning tools and share experiences with development assessment and biodiversity conservation. This process has been ongoing and particularly effective for all those involved.

Significant infrastructure and other projects environmental assessments were reviewed for:

- M2 widening
- North West Rail Link
- Epping to Thornleigh Third Rail Track
- Epping Road Bus Lane
- *Darwinia biflora* Offset Agreement between

Involvement with these projects has required review of the environmental assessment reports and consultation with state government authorities, utilities and contractors. Negotiations have sought to limit potential impacts upon local biodiversity on private and Council land tenure.

2.4 Illegal Land Clearing and Tree Loss

The Bushland and Biodiversity Branch responded to over 30 illegal clearing breaches that had significant impacts on native vegetation throughout the year. In addition to these the Bushland and Biodiversity Team assist Council's Tree Management Officers to assess the impacts of tree removal on threatened biota, especially in the case of individual and relatively small group of trees that form part of Critically Endangered Communities (CEECs) or Endangered Ecological Communities (EECs), such as Blue Gum High Forest or Turpentine-Ironbark Forest. Some of the key issues for conservation is that CEECs and EECs occur primarily on private land, are often heavily impacted and their condition severely compromised by urban development, are poorly represented in Council's parks and reserves and National Parks estate and there is little suitable area for replanting to offset their loss. Unfortunately there are regular occurrences of trees being illegally removed in urban and rural areas of the Shire, with particular difficulties in seeking to monitor and address compliance matters in the rural districts.

Significant large-scale illegal clearing issues observed in

the rural areas have often involved the illegal dumping of soil and rock on sloping lands at the rear of dwellings. The impacts of this fill, associated works and compaction result in indirect tree loss, increase in weed growth and other potential environmental pollution problems (see Photograph below). The team has assisted the Compliance Team with technical restoration advice for clean up and prevention orders administered under Protection of the Environment Operations Act 1997.



Remnant trees and bushland affected by illegal access and activities on private land in the rural areas (Photo: Alex Fraser)



Unapproved landform modification including significant amounts of imported fill (Photo: Alex Fraser)

2.0 Biodiversity Planning and Management

2.5 Flora and Fauna

The NPWS Wildlife Atlas indicates that 24 threatened fauna species (seven bats, four other terrestrial mammals, ten birds, two frogs and one reptile) listed under the NSW Threatened Species Conservation Act 1995 reside within the bushland of Hornsby Shire and a further ten threatened species occasionally visit. Council's Manager of Bushland and Biodiversity was actively involved as a member of the Australian Government's Recovery Teams for the Critically Endangered Blue Gum High Forest and Turpentine-Ironbark Forest. To better understand, manage and conserve the Shire's flora and fauna, three studies were undertaken this year.

Waterbird survey of Hornsby Shire: following a grant funded study of estuarine and migratory wetland birds and priority habitat mapping (Stage 1) by University of New South Wales, a subsequent grant was obtained through to undertake Stage 2 of the Study. This was

undertaken during the year and focussed on the upstream river flat habitats and farm dam habitats. The initial findings indicated four threatened species listed under the TSC Act 1995, 13 species listed as migratory under the EPBC Act 1999 and two regionally significant species.

Native Flora and Fauna Conservation Study and Management Plan: a Shire wide study was commissioned to survey, conserve and monitor terrestrial native flora and fauna in the Shire providing updated information on species diversity and current range to assist the Hornsby Shire Climate Change Adaptation Strategy (2010) which requires the assessment of potential impacts of climate change on flora and fauna in the Shire. The survey commenced in 2010 and is expected to be completed later in 2012. Initial results indicate the presence of Australasian Bittern, Masked Owl, Sooty Owl, Barking Owl and Heath Monitor.



Trollope Reach had the highest numbers and diversity of waterbirds of all 76 sites (Photo: P & J Smith)

Council staff contributed to the collation of data with DA assessments providing information on the location of endangered flora and fauna. The presence and status of small cryptic marsupial mammals including Sugar Glider, Feathertail Glider and Eastern Pygmy Possum are hard to detect due to their shy and often cryptic nocturnal behaviour. This group of mammals also have specific food and habitat resources that are critical to their survival so they are extremely to habitat modification and removal practices.

Feathertail Glider: recorded previously at Maroota, this species was observed during 2011-12 at Arcadia and Glenorie with a report from a Sydney Wildlife volunteer that a family of feather tailed gliders lost their home due to tree felling in an area of north of Glenorie.

Eastern Pygmy Possum: staff commenced a long term monitoring study using the threatened Eastern Pygmy-possum as a baseline indicator. A total of 25 specially made nest boxes (made from salvaged hollow timber) were installed across five sites in the Shire in consultation with Brad Law (Senior Ecologist, Forests

NSW) and Paul Burcher (Aquila Ecological). The trial was successful in detecting the targeted threatened species at each of the sites including areas where the possum had not been previously recorded. The survey will expand to other locations and incorporate remote camera traps to learn more about their behaviour. It is envisaged that the presence of this threatened species will be a good ecological indicator and assist with the way Council manages its bushland resources including implementing appropriate fire regimes.

Pimelea curviflora var. curviflora: a new population of threatened species was discovered by Council staff at Maroota on Council managed bushland near the Maroota Historic site on the escarpment above Singleton Road and Wisemans Ferry Cemetery, with identification confirmed by the Royal Botanic Gardens Herbarium. As a precautionary measure, an exclusion zone around known locations of this plant were implemented as part of the proposed Wisemans Ferry hazard reduction burn along Singleton Road.



Eastern Pygmy Possum recorded in Cowan as part of the long-term monitoring study (Photo: Paul Burcher - Aquila Ecological Services)

2.0 Biodiversity Planning and Management

2.6 Biodiversity and Native Trees & Vegetation Preservation in draft Hornsby LEP & DCP

Council exhibited the draft Hornsby Local Environment Plan (LEP) and through the new comprehensive Development Control Plan (DCP) from 5 June to 7 August 2012. The draft LEP and draft DCP largely addressed issues previously raised, through the LEP zonings and Biodiversity Map and DCP elements on Biodiversity and Preservation of Native Trees and Vegetation.

During the year Council's amended Tree Preservation Order (TPO) came into force providing for protection of indigenous trees of Hornsby Shire and trees in Heritage Conservation areas, whilst enabling the removal of non-indigenous trees without consent. Bushland and Biodiversity prepared a high quality on line Native Tree Database to facilitate accurate tree identification. The Team also assisted in developing monitoring of the impacts of the amended TPO.

2.7 Offsets

In the 'Bushland Shire' there are significant areas of bush on private land and it is inevitable that development of these lands will have cumulative losses of native vegetation. Council has a Green Offsets Code that assists in providing an offset where there is no possibility of a development avoiding an impact on native vegetation. This policy has been reviewed on a regular basis as its implementation proceeds over time.

The Code has originally included offset measures for bushland or vegetation communities. A recent amendment to the Code has allowed for the consideration of provision of an offset where a development is unable to avoid the removal of healthy trees. The additional offset measures specifically related to individual trees provides greater certainty for offset actions on Council managed land. The updated policy was approved by Council in June 2012.

The principles of this policy are:

Table 1: Offset Principles

The Principle of Avoid, Minimise and Mitigate. Offsetting should only be considered once all efforts to avoid, minimise and mitigate any negative impacts have been exhausted.
The Precautionary Principle - In conducting an offsetting action the precautionary principle should be applied so that a cautious and conservative approach is taken towards risk where there is uncertainty or lack of scientific confidence in an action.
The Principle of Net Gain - This code should lead to a net gain and improve the condition of the environment. The primary objective of an offset activity should be to create, enhance, or protect in perpetuity ecologically viable habitat for locally endemic species.
The Principle of Avoiding the Effects of Cumulative Impacts- Offsetting should not be used as a justification for granting approval to developments, where the cumulative environmental impacts of that development are greater than the benefit to be obtained from the offset action.

The key principle is the need to 'Avoid, Minimise and Mitigate' - this must be demonstrated that the development has exhausted all these options before examining the option to seek an offset. Some development proposals submitted to Council suggest that this key principle is often ignored, with proposals seeking an offset without any discussion of avoidance or alternative options as is required under this policy.

Throughout 2011-12 over 190 applications for development that impact on native vegetation were referred to the Bushland and Biodiversity Branch. In the majority of cases vegetation impacts were minimal and offsetting could occur on site through appropriate landscaping. A minority of developments had a larger impact on native vegetation and these impacts were able to be mitigated on site through approved Vegetation and Restoration Management Plans. There were three developments where the impacts on native vegetation were of a significant nature and Council sought to implement the Green Offsets Policy to offset vegetation losses.

One of the offsetting options within this policy is the use of Voluntary Planning Agreements (VPA). VPAs enable the land owner to offset the loss by providing practical, managerial and financial offsets through a legally binding agreement.

There is one offset still in negotiation for *Darwinia biflora* Ron Payne Reserve (North Epping) and Berry Park (Mount Colah), one offset of \$20,000 received for Hull Road and three offsets being implemented during the year at Fullers Avenue, Kenley Park and Netherby Reserve for the restoration of Blue Gum High Forest.



Darwinia biflora (Photo: Robyn Cox)

3.0 Bushfire Management

The Bushland and Biodiversity Team has a significant responsibility for bush fire management in Hornsby Shire with 22,000 properties in the Shire being mapped as bushfire prone. A large proportion of Hornsby Shire has been rated as having extreme or very high bushfire risk and a 47 km interface occurs between public land and developed areas in the Hornsby LGA, with 27 km being Council managed bushland. Council is the local authority under the Rural Fires Act and is responsible for the prevention, mitigation and suppression of bush fires in the LGA, which is delegated to the RFS through a service agreement. Council is also a member of the Bush Fire Management Committee (BFMC) responsible for identification, planning and treatment of bush fire risk management through the Bush Fire Risk Management Plan and the Annual Fuel Management Program.

The Bushland and Biodiversity Team is primarily responsible for addressing the bush fire risk on land managed by Council and for controlling burning on private land through the issue of permits.

3.1 Bush Fire Risk Management Plan

Council implements the Hornsby Ku-ring-gai Bush Fire Risk Management Plan on its land by preparing for hazard reduction burns, manual fuel reduction, education and other works. The following activities undertaken in the Hornsby LGA during the year.

Manual hazard reduction

Works identified in the Hornsby Shire Council Bushfire Risk Mitigation Manual Works Program 2010-2015 were carried out by Council contractors.

Manual works were scheduled and undertaken with assistance of grant funding from the Bushfire Mitigation Fund:

- Treatment of 43 Asset Protection Zones representing an interface length of 6,204m and affording protection to 219 properties immediately adjoining Council bushland; and
- 10 Permanent Access Lines were maintained.

Hazard reduction burns

During the year Council undertook preparation for all burns scheduled for completion under the Hornsby Ku-ring-gai Bush Fire Management Committee Works Program (Prescribed Burns) 2011-12 including:

- Thirteen (13) environmental assessments were complete in preparation for hazard reduction burns identified; and
- On-ground site preparation for the majority of the scheduled burns.

Due to wet weather only 4 burns were completed:

- One (1) hazard reduction burn completed in Fire and Rescue NSW district
 - Oxley Drive Mount Colah
- Three (3) hazard reduction burns completed in NSW RFS district
 - Fallon Drive Dural
 - Westleigh Drive Westleigh
 - Ulolo Drive Hornsby Heights

Unavoidable delays to three burns were encountered and alternate strategies developed. Gloucester Road was postponed due to regional air quality, Stokes Avenue was rescheduled for the burn to occur after the breeding period of the threatened Square Tailed Kite and Currawong was replanned as manual works due to constraints from cable infrastructure.



Post fire regeneration at Castle Howard Bushland (Photo: Robyn Cox)

During the period the Prescribed Burn Program for 2012-2013 was developed and endorsed.

Education Subcommittee – Council contributed to the development of the Community Fire Education Strategy 2012-2014. The committee prepared a community education CD for distribution at Bushfire awareness events, through grant funding obtained by Fire and Rescue NSW.

Education Event – Council participated in a resident education event run by the Nature Conservation Council with the Cowan Rural Fire Brigade in March 2012.

Education Trailer - Council worked closely with Ku-ring-gai Council to have a shared Community Education Trailer specified and manufactured. The trailer will be used by both Councils at community education events.

3.2 Burning on Private Land – Clean Air Regulation

Permits to Burn: Council issued 835 'Approval to pile burn' permits issued under the Protection of Environment Operations (Clean Air) Regulation 2010.

Breaches of Protection of the Environment Operations Act, (Clean Air) Regulations 2010

Six (6) inspections resulting from complaints regarding illegal burning were undertaken by Council's Planning and Compliance Team in the 2011-2012 financial year.

3.0 Bushfire Management

3.3 Council Fire Trails

Fire trail works schedules

Council adopted the schedules for Bushfire Risk Mitigation Fire Trail Works Program 2010-2015 on Council land.

Slashing and maintenance works of fire trails:

- Forester
- Kentia
- Boundary
- Dog Pound
- Keighran
- Turner/Woodcourt
- Larool
- Fallon Drive
- Ginger Meggs
- Parkhill
- Thomas Wilkinson
- Cumbora

Fire Trail Upgrades

Woodcourt Fire Trail Berowra Heights – a major upgrade of Section 1 of the Woodcourt Fire Trail was completed with Council funding of \$90,000. The Bushland and Biodiversity Team facilitated the project, obtained consultant survey and engineering design and contractor selection following quotes. Works Team's Jetties and Pavements Officer project managed the construction on behalf of Bushland and Biodiversity.



Stage 1 of the Woodcourt Fire Trail upgrade at Berowra completed in 2011-2012 (Photo: Phil Murdoch)

3.4 Bush Fire Hazard Complaints regarding Council Bushland

Council received 9 bushfire hazard complaints under the Rural Fires Act 1997. Manual works or burns have been planned and prepared at all sites with 5 completed during the year.

3.5 Council GIS support of the Bush Fire Management Committee

The Bushland and Biodiversity Team worked closely with the BFMC in particular the NSW Rural Fire Service (RFS) and Fire and Rescue NSW in all aspects of bushfire management to ensure optimum bushfire mitigation outcomes for the communities of the shire.

Hornsby Ku-ring-gai Fire Trail Register update was completed by Council's GIS Officer during the year to provide a fully functioning GIS layer with correct land tenure details and land manager responsibility along complex, multi tenure lengths of trail.

Fire Unit Database – as part of a continuing project Council contributed to the development of a GIS management tool that will allow the efficient examination of relevant data to examining strategic locations and priorities for hazard reduction burning.

The tool is being developed by NPWS as lead agency with major contributions from Council and other relevant land management agencies on the fuel management subcommittee.

3.6 Grants

Fire Mitigation Works: Council obtained \$94,500 and \$135 550 to fund works associated with Hazard reduction burns and within Asset Protection Zones.

Natural Disaster Resilience Programme – Bushfire Risk Management Scheme Hornsby and Ku-ring-gai Councils were successful in obtaining \$14,500 each for the manufacture and fit out of the shared community education trailer.

3.7 Bush Fire Prone Land Mapping

Council completed bushfire prone land mapping and addressed issues raised in feedback from RFS Head Office.

4.0 Bushland Operations

4.1 Contract and Staff Bush Regeneration Program

Council's bushland regeneration program treated 62 sites on Council owned land and Crown land where Council is trustee or where management devolved to Council. Some sites were on Office of Environment & Heritage land that is co-managed with Hornsby Shire Council in Berowra Valley Regional Park under an agreement. One grant funded bushland restoration site was on private* land in conjunction with an adjacent public bushland reserve. Approximately 90% of the sites were contracted to 11 bush regeneration companies under year 3 of a 3 year tender with contracts renewed in August 2011. Works covered approximately 119 ha restoring small degraded urban bushland remnants to the mitigation of weed sources that threatened larger and more pristine bushland reserves.

BUSHLAND REGENERATION SITES

1. Appletree Bushland, Cherrybrook
2. Arcadia Park, Arcadia
3. Arcadia Rd, Fagans Rd Arcadia - Roadside
4. Bar Island
5. Beecroft Reserve
6. Begonia Reserve, Normanhurst
7. Benedictine Monastery, Arcadia*
8. Berowra Park Bushland and Turner Rd Bushland
9. Cheltenham Oval, Cheltenham
10. Cherrybrook Tech High School Bushland
11. Chilworth Recreation Reserve, Devlins Creek Reserve and Beecroft Reserve
12. Dog Pound Creek Bushland and Ginger Meggs Park - Bluegum Forest
13. Brickpit Park, Thornleigh
14. Byles Creek - Britannia St Bushland and Azalea Grove Bushland
15. McKinley Place and Lambe Place - Callicoma Walk, Cherrybrook
16. Murralong Rd - Calna Creek - Hornsby Heights
17. Carrs Bush, Arcadia – Fagan Park
18. Carrs Rd, Arcadia – Roadside
19. Carters Rd, Dural – Roadside
20. The Lakes of Cherrybrook Bushland
21. Cherrybrook Road Bushland
22. Crosslands Reserve
23. Dog Pound Creek Bushland, Westleigh
24. Epping Road Bushland, Epping
25. Fearnley Reserve, Beecroft
26. Fishburn Road and unmade Bevans Rd Bushland, Galston
27. Flame Tree Close Bushland, Cherrybrook
28. Florence Cotton Bushland Reserve, Hornsby
29. Galston Recreation Reserve, Galston
30. Greenway Park Bushland, Cherrybrook
31. Hornsby Park, Quarry Rd, Hornsby
32. Old Mans Valley and Rosemead Road Bushland
33. Kenley Park, Normanhurst
34. Kent Street Reserve, Epping
35. Kirkham Road, Beecroft Reserve
36. Malsbury Rd and Milsons Pde, Normanhurst – Roadside
37. Marymount Mercy College, Castle Hill*
38. McKell Park, Brooklyn
39. Mills Park Bushland, Asquith
40. Mountside Reserve, Mount Colah
41. Mt Ku-ring-gai Hard Fill, Mt Ku-ring-gai
42. Netherby Street Bushland, Wahroonga
43. One Tree Reach Wetland, Laughtondale
44. Osborn Rd, Normanhurst – Roadside
45. Erlestoke Park, Upper Pyes Creek Bushland and Pyes Creek Bushland, Dural
46. Ray Park & Plympton Road Bushland, Epping
47. Reddy Park, Hornsby
48. Rofe Park Bushland , Hornsby Heights
49. Arcadia Crescent , Berowra
50. Singleton Rd, Wisemans Ferry
51. Stewart Ave Hornsby
52. Sunnyridge Rd, Arcadia – Roadside
53. Upper Berowra Creek, Pennant Hills
54. Upper and Middle Terrys Creek Bushland, Dence Park, Stanley Road Bushland, Epping

55. Vimiera Park, Epping
56. Waitara Creek Bushland and Normanhurst Park, Normanhurst
57. Westleigh Drive Bushland and Duneba Drive Bushland South, Westleigh
58. Wisemans Ferry Recreation Reserve- Riparian zone
59. Wongala Crescent, Pennant Hills
60. Zig Zag Creek, Pennant Hills



Bushland restoration Carrs Road (Photo: Robyn Cox)

4.0 Bushland Operations

In addition to bushland regeneration works, maintenance of the native vegetation landscaped zones at 12 Catchment Remediation Rate (CRR) sites was carried out on behalf of the Water Catchments Team.

Funding included Section 94 contributions for capital upgrade of 18 sites at the cost of \$187,000. Council funds of \$40,000 were expended on ongoing bushland maintenance sites, grant and green offset funds totalling \$70,000 and CRR funds of \$65,000 for Catchment Remediation sites.

4.2 Tree Management in Bushland Reserves

Council's Bushland Operations Team responded to approx 120 Customer Service Requests from residents for tree assessment in Bushland reserves across the Shire from Epping to Wisemans Ferry. Contract tree works were undertaken subject to assessment.

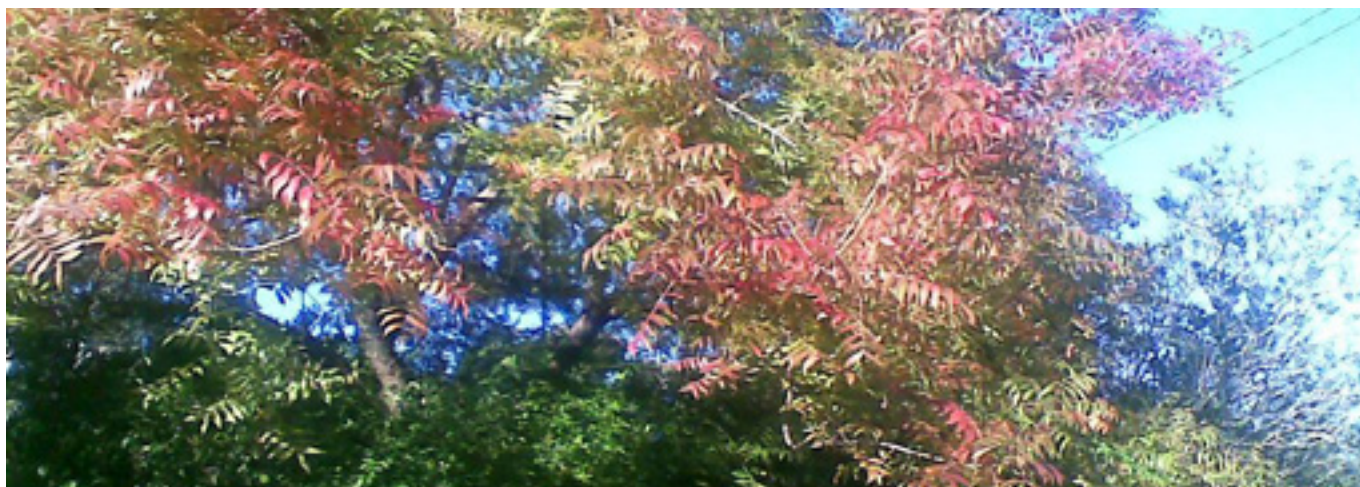
Extensive works were undertaken on bushland trees adjacent to Edward Rd, Beecroft, McKell Park, Brooklyn and Fallon Drive, Dural.

4.3 Myrtle Rust

Myrtle Rust treatment continued implementing the Action Plan in Hornsby Shire following its first detection in late December 2010. During the year actions included hiring a contractor to undertake a treatment regime of a large scale infection at Tim Brownscombe Reserve, treatment of Nursery stock before and after an open days, targeted inspections of bushland sites where plants of extreme risk occurred, treatment of specific sites, hygiene protocols and communication to stakeholders and Council's web page information at hornsby.nsw.gov.au/environment-and-waste/bushland-and-biodiversity



Myrtle Rust at Fishburns Road (Photo: Robyn Cox)



Rhus Tree (Photo: Mark Hood)

4.4 Berowra Valley Regional Park (BVRP) Working Group

Gazetted as a regional park on 27 March 1998, the park is owned and primarily managed by the National Parks and Wildlife Service (NPWS) and Council undertakes specific roles in the park. A working group of NPWS (now part of Office of Environment and Heritage) and Council's Bushland and Biodiversity Team met regularly during the year to ensure the smooth running of the park by the two agencies for which Council prepared its annual service plan. Crosslands Reserve and its access road is managed by Council as the road and 50% of the reserve is under Council's direct ownership. Council conducted Park interface activities where Council land adjoins BVRP, including maintenance of existing and installation of four new catchment remediation devices that treat stormwater draining into the Park, training and coordination of 44 Bushcare groups with sites covering 5 ha, management of two strategic walking tracks and 10 contract bush regeneration sites over 36 ha. In May 2012 a bill was introduced to state Parliament proposing the establishment of the Berowra Valley National Park in recognition of its significant natural and cultural values.

4.5 Noxious Weed Control

Grant funding was received for year 2 of the regional Weed Action Grant Program which enabled proactive noxious weed inspections and control.

Target Regional Noxious Weed species included Tussock Paspalum in several suburbs where small infestations are controlled and monitored. Follow up noxious vine control was carried out at Hull Road, Pennant Hills;

Boundary Road, Cherrybrook; Pyes Creek, Cherrybrook and Malsbury Rd, Normanhurst. Boneseed control with other project partners including NPWS was again a priority. Grant funds assisted implementation of these projects and the strategic noxious weed inspection program for over 1200 private properties adjacent to bushland reserves.

Responsive noxious weed visits and education:

Bushland and Biodiversity received 93 service requests for noxious weeds on private property. An additional 190 property inspections were also undertaken related to general enquiries, DAs and TAs. An additional 231 phone and email enquiries were received. The majority of weeds observed on private property were Large-leaf and Small-leaf privet (*Ligustrum lucidum* and *Ligustrum sinense*), Morning glory (*Ipomea indica*), Lantana (*Lantana camara*), Camphor laurel (*Cinnamomum camphora*) and Trad (*Tradescantia fluminensis*). Changes to the Noxious Weeds Act have removed reference to Council's Weed Management Plans. These plans will be updated and developed as Best Practice Guidelines to be used as part of the ongoing education process.

Two committee meetings of the Sydney North Regional Noxious Weeds Committee were attended to keep aware of new grant and regional weed priorities and initiatives.

4.0 Bushland Operations

LISTED NOXIOUS WEEDS FOR HORNSBY SHIRE COUNCIL - June 2011

Weed	Class
African feathergrass [<i>Pennisetum macrourum</i>]	5
African turnipweed [<i>Sisymbrium runcinatum</i>]	5
African turnipweed [<i>Sisymbrium thellungii</i>]	5
Alligator weed [<i>Alternanthera philoxeroides</i>]	3
Anchored water hyacinth [<i>Eichhornia azurea</i>]	1
Annual ragweed [<i>Ambrosia artemisiifolia</i>]	5
Arrowhead [<i>Sagittaria montevidensis</i>]	4
Artichoke thistle [<i>Cynara cardunculus</i>]	5
Asparagus fern [<i>Asparagus aethiopicus</i>]	4
Athel pine [<i>Tamarix aphylla</i>]	5
Balloon vine [<i>Cardiospermum grandiflorum</i>]	4
Bear-skin fescue [<i>Festuca gautieri</i>]	5
Bitou bush [<i>Chrysanthemoides monilifera</i> subspecies <i>rotundata</i>]	3
Black knapweed [<i>Centaurea nigra</i>]	1
Blackberry [<i>Rubus fruticosus</i> aggregate species]	4
Boneseed [<i>Chrysanthemoides monilifera</i> subspecies <i>monilifera</i>]	3
Bridal creeper [<i>Asparagus asparagoides</i>]	4
Broomrapes [<i>Orobancha</i> species]	1
Burr ragweed [<i>Ambrosia confertiflora</i>]	5
Cabomba [All Cabomba species except <i>C. furcata</i>]	5
Camphor laurel [<i>Cinnamomum camphora</i>]	4
Cape broom [<i>Genista monspessulana</i>]	3
Cape ivy [<i>Delairea odorata</i>]	4
Castor oil plant [<i>Ricinus communis</i>]	4
Cat's claw creeper [<i>Macfadyena unguis-cati</i>]	4
Cayenne snakeweed [<i>Stachytarpheta cayennensis</i>]	5
Chilean needle grass [<i>Nassella neesiana</i>]	4

Weed	Class
Chinese violet [<i>Asystasia gangetica</i> subspecies <i>micrantha</i>]	1
Climbing asparagus fern [<i>Asparagus plumosus</i>]	4
Clockweed [<i>Gaura parviflora</i>]	5
Corn sowthistle [<i>Sonchus arvensis</i>]	5
Dodder [<i>Cuscuta</i> species]	5
East Indian hygrophila [<i>Hygrophila polysperma</i>]	1
Elephant grass [<i>Arundo donax</i>]	4
English broom [<i>Cytisus scoparius</i>]	4
Espartillo [<i>Amelichloa brachychaeta</i> , <i>Amelichloa caudata</i>]	5
Eurasian water milfoil [<i>Myriophyllum spicatum</i>]	1
Fine-bristled burr grass [<i>Cenchrus brownii</i>]	5
Fountain grass [<i>Pennisetum setaceum</i>]	5
Gallon's curse [<i>Cenchrus biflorus</i>]	5
Giant reed [<i>Arundo donax</i>]	4
Glaucous starthistle [<i>Carthamus glaucus</i>]	5
Golden thistle [<i>Scolymus hispanicus</i>]	5
Green cestrum [<i>Cestrum parqui</i>]	3
Harrisia cactus [<i>Harrisia</i> species]	4
Hawkweed [<i>Hieracium</i> species]	1
Horsetail [<i>Equisetum</i> species]	1
Hygrophila [<i>Hygrophila costata</i>]	2
Hymenachne [<i>Hymenachne amplexicaulis</i>]	1
Karoo thorn [<i>Acacia karroo</i>]	1
Kochia [<i>Bassia scoparia</i>]	1
Lagarosiphon [<i>Lagarosiphon major</i>]	1
Lantana [<i>Lantana</i> species]	4
Leafy elodea [<i>Egeria densa</i>]	4

Weed	Class
Lippia [<i>Phyla canescens</i>]	4
Long-leaf willow primrose [<i>Ludwigia longifolia</i>]	3
Ludwigia [<i>Ludwigia peruviana</i>]	3
Madeira vine [<i>Anredera cordifolia</i>]	4
Mexican feather grass [<i>Nassella tenuissima</i>]	1
Mexican poppy [<i>Argemone mexicana</i>]	5
Miconia [<i>Miconia</i> species]	1
Mimosa [<i>Mimosa pigra</i>]	1
Morning glory (coastal) [<i>Ipomoea cairica</i>]	4
Morning glory (purple) [<i>Ipomoea indica</i>]	4
Mossman River grass [<i>Cenchrus echinatus</i>]	5
Ochna [<i>Ochna serrulata</i>]	4
Pampas grass [<i>Cortaderia</i> species]	3
Parthenium weed [<i>Parthenium hysterophorus</i>]	1
Pellitory [<i>Parietaria judaica</i>]	4
Pond apple [<i>Annona glabra</i>]	1
Prickly acacia [<i>Acacia nilotica</i>]	1
Prickly pear [<i>Cylindropuntia</i> species]	4
Prickly pear [<i>Opuntia</i> species except <i>O. ficus-indica</i>]	4
Privet (Broad-leaf) [<i>Ligustrum lucidum</i>]	4
Privet (Narrow-leaf/Chinese) [<i>Ligustrum sinense</i>]	4
Red rice [<i>Oryza rufipogon</i>]	5
Rhizomatous bamboo [<i>Phyllostachys</i> species]	4
Rhus tree [<i>Toxicodendron succedaneum</i>]	4
Rubbervine [<i>Cryptostegia grandiflora</i>]	1
Sagittaria [<i>Sagittaria platyphylla</i>]	5
Salvinia [<i>Salvinia molesta</i>]	2
Scotch broom [<i>Cytisus scoparius</i>]	4
Senegal tea plant [<i>Gymnocoronis spilanthoides</i>]	1

Weed	Class
Serrated tussock [<i>Nassella trichotoma</i>]	4
Siam weed [<i>Chromolaena odorata</i>]	1
Smooth-stemmed turnip [<i>Brassica barrelieri</i> subspecies <i>oxyrrhina</i>]	5
Soldier thistle [<i>Picnomon acarna</i>]	5
Spotted knapweed [<i>Centaurea stoebe</i> subspecies <i>micranthos</i>]	1
St. John's wort [<i>Hypericum perforatum</i>]	4
Texas blueweed [<i>Helianthus ciliaris</i>]	5
Trad [<i>Tradescantia fluminensis</i>]	4
Tropical soda apple [<i>Solanum viarum</i>]	2
Turkey rhubarb [<i>Acetosa sagittata</i>]	4
Tussock paspalum [<i>Paspalum quadrifarium</i>]	3
Wandering Jew [<i>Tradescantia fluminensis</i>]	
Water caltrop [<i>Trapa</i> species]	1
Water hyacinth [<i>Eichhornia crassipes</i>]	2
Water lettuce [<i>Pistia stratiotes</i>]	1
Water soldier [<i>Stratiotes aloides</i>]	1
Willows [<i>Salix</i> species]	5
Witchweed [<i>Striga</i> species]	1
Yellow burrhead [<i>Limnocharis flava</i>]	1
Yellow nutgrass [<i>Cyperus esculentus</i>]	5

4.0 Bushland Operations

4.6 Feral Animal Control

Council hosted a workshop on rabbit control strategies and techniques led by Steve Parker from the Livestock Health and Pest Authority that was attended by 19 staff and rural land holders. Council participated in the annual regional Rabbit Calici-virus program.

4.7 Walking Tracks and Bushland Access

Council has over 49 km of formal and informal bushwalking tracks. Formal tracks include:

- Beecroft-Cheltenham Link Track, Beecroft-Cheltenham
- Historic Pioneers' Track, Epping
- Bluegum walk, Hornsby
- Mangrove walk, Brooklyn
- Callicoma walk, Cherrybrook
- Carrs Bush walk, Galston
- Crosslands salt marsh walk, Crosslands
- Mambara walk, Pennant Hills
- McKell Park walk, Brooklyn
- Terrys Creek walk, Epping
- Bar Island, Berowra Creek
- Links to the Great North Walk



Environmental monitoring at Bar Island (Photo: Robyn Cox)

Council won 3 Keep Australia Beautiful Awards for the new Bar Island jetty and programs.

Audits: bi-monthly inspections and annual track audits were undertaken on all of Council's formal tracks.

Hornsby Heritage Steps – restoration of the Depression Era steps between Quarry Road and Rosemead Road was made possible by a Federal Grant, two State Grants;

Metropolitan Greenspace and Community Building Partnership, and Council funds. Areas surveyed as high to medium-high priority were upgraded by a skilled stone mason. Two helicopter operations delivered materials to remote locations along the track. Works concentrated on stone repair, restoring eroded edges and water management. All works have been well received by residents and there has been a noticeable increase in public usage upon the completion of this stage of restoration work.



Hornsby Heritage Steps - Photo: Robyn Cox

Upper Pyes Creek received a State funded Community Building Partnership Grant for improving the connection between the riparian bushland areas and the surrounding land use, through increased public access and awareness. Stone steps have been installed to connect residents to public facilities through the bushland. Revegetation has been undertaken by local school volunteers. Two reports have been prepared by a Heritage Engineer and a Historian and Heritage Consultant to ascertain the origins of the remains of a stone abutment across the creek. Evidence strongly suggests that the stonework forms part of the original New Line Road. Following recommendations, vegetation on the stonework was carefully removed to prevent further damage.

Grant received for Pioneers' Track enabled the installation of 11 interpretive and 12 directional signs, landscaping, trail upgrade and production of a brochure. All photographs for the signs and brochure were provided by the Ray Park Heritage Group and community members. The grant of \$16,500 was sourced from the Community Building Partnership Grant and Council matched funds.



Terrys Creek Walking Track Brochure was translated into Korean and Chinese.

Habitat Havens: the Ray Park Heritage Group was successful in applying for a \$20,000 grant through Caring for our Country in 2010. The grant provided 6 new interpretative signs, track upgrades, bushland restoration and rehabilitation with a focus on habitat creation and education. The project is a valuable resource for local schools that frequent the area to learn about environmental studies and the importance of protecting and creating habitat for local fauna.

Minor works and maintenance occurred on the Brooklyn Boardwalk, Terrys Creek track, and Callicoma Walk.

4.8 Mountain Bike Trails

Planning was completed and construction of the Hornsby Mountain Bike Trail commenced.



Hornsby Mountain Bike Track being tested by builders – Synergy Trails

5.0 Bushcare and Community programs

5.1 Bushcare

Bushcare volunteers restored and enhanced native vegetation and habitat in Council's bushland reserves across the Shire. 36 new Bushcare volunteers signed up during this period in 2011-2012. Bushcare volunteers contributed over 10,822 hours of work during 2011 - 2012, which can be valued at \$324, 660 making this one of the largest Bushcare programs of any Council in the Sydney Metropolitan Area. Unfortunately due to a very wet and cold stretch from the end of spring to mid autumn this year, the total volunteer hours were reduced this year from 15,700 in the previous year, due in part to a prolonged and unforeseen illness of one of the Bushcare trainers that meant a large number of groups were unable to work. A new trainer commenced in June and now 80% groups have a permanent and regular trainer.

Bushcare celebrated its 22nd year in Hornsby Shire at the Annual Workshop in November 2011. Two perpetual awards were presented, 'The Golden Trowel' went to the Community Nursery volunteers for achieving exceptional results and the Nursery Award for exceptional work was won by Guy Fredricks.

Bushcare held 25 training and community events during the year and there were 280 attendances. Bushcode training is compulsory for volunteers to receive and retain their accreditation and must be refreshed every 5 years. Other training supports ongoing learning and special and related interested and is provided across Hornsby and Ku-ring-gai Councils. Training included six Bushcode Workshops, two Bushcode Refresher Workshops, an introductory pilot course trialled with Hornsby council volunteers known as the Bush Boosters, four ID workshops, five walks and talks, two site tours and the Bushcare Annual Christmas Party. Community events included National Tree Day and a number of stalls at community events.

New Bushcare project signs were installed at over 100 Bushcare sites identifying each group's presence working to restore local bushland.

The Bushcare Annual Christmas gathering was held at Baden Powell Scout Hall this year with over 120 people attending. The Bushcare photo competition received over 28 entries and were showcased at the celebrations. This year the photo competition took a road show and the best photos as judged by the

Hornsby Shire Bushcare PROJECT SITE

A group of volunteers from your community are working to restore and improve this bushland reserve.



Help support the wonderful work of your local Bushcare volunteers:

- Help reduce erosion and damage to plants by staying on designated tracks
- Help reduce the spread of weeds by avoiding dumping garden waste and grass clippings on the site
- Please avoid damaging plants, logs, rocks and other natural features which provide homes for native wildlife
- Please report incidents of illegal dumping to Council's Waste Hotline on 9647 4856

**Do you want to get involved and find out more?
Join Hornsby Shire Bushcare**

Visit: www.bushcare.hornsby.nsw.gov.au
 Email: bushcare@hornsby.nsw.gov.au
 Phone: 9847 6666





Project managed by
 Hornsby Shire Council
 Bushland and Biodiversity Team

volunteers were displayed at all 4 Hornsby Council libraries through out the year. Highlights included John Martyn as guest speaker.

Bushcare Month in October gave all groups the opportunity to promote their achievements and hold an open day. Council supported the groups through advertising open days in the local media, website, banners on site and assisting with a trainer and a barbeque or morning tea. This campaign was not only an attempt for volunteer recruitment but to improve appreciation and awareness by adjoining neighbours and the general community of what the Bushcare program achieves in their local bushland.

Earthwise cottage activities and projects

The Earthwise cottage is used as a venue to host plant giveaways, staff meetings and workshops. The site has undergone significant refurbishment to enhance it as a sustainable demonstration house and improve it as

a facility for volunteers and staff activities. Retrofitting included ceiling insulation, green low VOC kitchen, inverter microwave, water based floor polish, conversion from continuous electric to instant gas hot water, installation of energy efficient sensor lights and new meeting room chairs of low VOC and entirely recyclable material. This year it was the venue for 21 meetings, 12 Bushcare training events, 5 external training workshops, three nursery open days, 73 nursery volunteer days, and four Ryde TAFE student tours.

Transurban project concluded during the year with a Corporate Weeding Day in December. We returned to the Cheltenham Oval site that we have been attending there for our corporate days with Transurban making it our 5 meeting on site with over 18 participating from 3 companies.



'The Mighty Blue Gum' (Photo: Bushcare volunteer Eric Anderson) and 'Mirrors' (Photo: Bushcare volunteer Frances Scarano)

5.0 Bushcare and Community programs



Nursery open day (Photo: Robyn Cox)

5.2 Community Nursery

The nursery despatched 32,297 high quality native plants over the year. Distributing 6,256 plants to 1267 residents this year, all residents of the shire have opportunity to receive free provenance plants for specific suburbs at 4 open days per annum. This year the nursery expanded into advanced tree production for street plantings.

The nursery showcased best practice through its water recycling capturing on-site runoff rainfall, solar power, minimal waste production, recycling of materials and a low chemical reliance. Treatment for Myrtle Rust kept the nursery free of the disease again this year.

This financial year saw the nursery produced 52,106 plants being the highest numbers ever. This was an exceptional year due to a large project that required 10,000 plants to rehabilitate the Wisemans Ferry tip. Seed for the site was collected over 5 years ago and had a great strike rate due to good seed storage. Commitment of 2,138 volunteer hours by 37 volunteers achieved the high volume of plants required. Volunteer work was valued at \$64 410 over 72 days.

The nursery maintained relationships with other councils and industry professionals including Fairfield Council with an exchange program, an ongoing educational partnership with Northern Sydney Institute of

TAFE Ryde College and technical assistance to a variety of customers across the community within the Hornsby Shire.

The nursery maintained its membership with the Nursery Garden Industry of Australia and its accreditation through the Nursery Industry Accreditation Scheme of Australia. Annual assessment ensures the nursery operations meet high standards. As one of the best community nurseries in Sydney, 5 other Sydney councils visited this year with their volunteers for a tour.



Mary a Wednesday volunteer at the community Nursery

5.3 Guided Bushwalks

Council's free Guided Bushwalks program continued strongly this year. 32 activities were undertaken and 403 residents took part. The program provided the popular 'Nature Photography' at the Kurrajong Track and spotlighting at Crosslands Reserve. 8 new activities included 'Art in the Bush' and the Djarra Ridge in Muogamarra Reserve for more serious bushwalkers. A wide variety of bushwalks of varying lengths and grades of difficulty were offered in order to promote bushland education and enjoyment to the broader community.



Riparian restoration on private property in Glenorie to stabilise and revegetate creek (Photo: Donna Fitton)

5.4 Habitat Connectivity

The Habitat Connectivity Grant funded by Environmental Trust has progressed and works consolidated in the final year of the grant funded Project. The works undertaken as part of the program in 2011-12 allowed Council to reinforce the partnerships made with rural landholders, monitor and consolidate previous works strengthening vegetation connectivity on private and public land.

Overall a total of 6.8ha of public and private land has undergone on-ground restoration works in 2011-12. With 65% of this work occurring within endangered and critically endangered communities of Sydney Turpentine Ironbark Forest and Blue Gum High Forest. A total of 0.4 ha has been revegetated to further increase canopy and riparian vegetation connectivity. On-ground restoration works on private and public property continued at Cherrybrook Technical High School, Arcadia (Benedictine Monastery), Castle Hill (Marymount Centre), road reserves at Galston, Arcadia and Normanhurst, Hornsby South Public School and 8 private landowners as part of the Rural Lands Incentive Program.

Six workshops were delivered on environmental topics related to vegetation restoration and sustainable land management. A total of 281 residents and land managers participated in the program.

5.0 Bushcare and Community programs



Planting a corridor at Benedictine Monastery Arcadia (Photo: Donna Fitton)

5.5 National Tree Day

The nursery provided 973 trees for National Tree Day on 31 July 2011 and Schools National Tree Day on 29 July. Community planting was held at 5 sites including Roselea, Wallumeda Wetland, Berowra Girl Guides and Asquith Boys High School.



National Tree Day at Wallumeda Wetland (Photo: Robyn Cox)

6.0 Budget and Strategic Issues



6.0 Budget and Strategic Issues

6.1 Grants, Income and Expenditure

A high number of grants were received during 2011-12 to fund environmental works required by the adopted Council strategies and plans such as Biodiversity Conservation Strategy, the Bushfire Risk Management Plan, the Plans of Management for Community and Crown Land and the Unstructured Recreation Strategy. Grant income was lower than in the previous year and other income was similar to the previous year. This was reflected in less expenditure on casuals to assist with

grant projects, with expenditure on permanent salaries remaining at \$1.1m, works of \$1.4m and lesser volunteer contributions of over \$324,660 (due to trainer illness) reflects team functions of biodiversity assessment and planning, project managing specialised bushland and bushfire contracts and co-ordination of Bushcare and nursery volunteers.

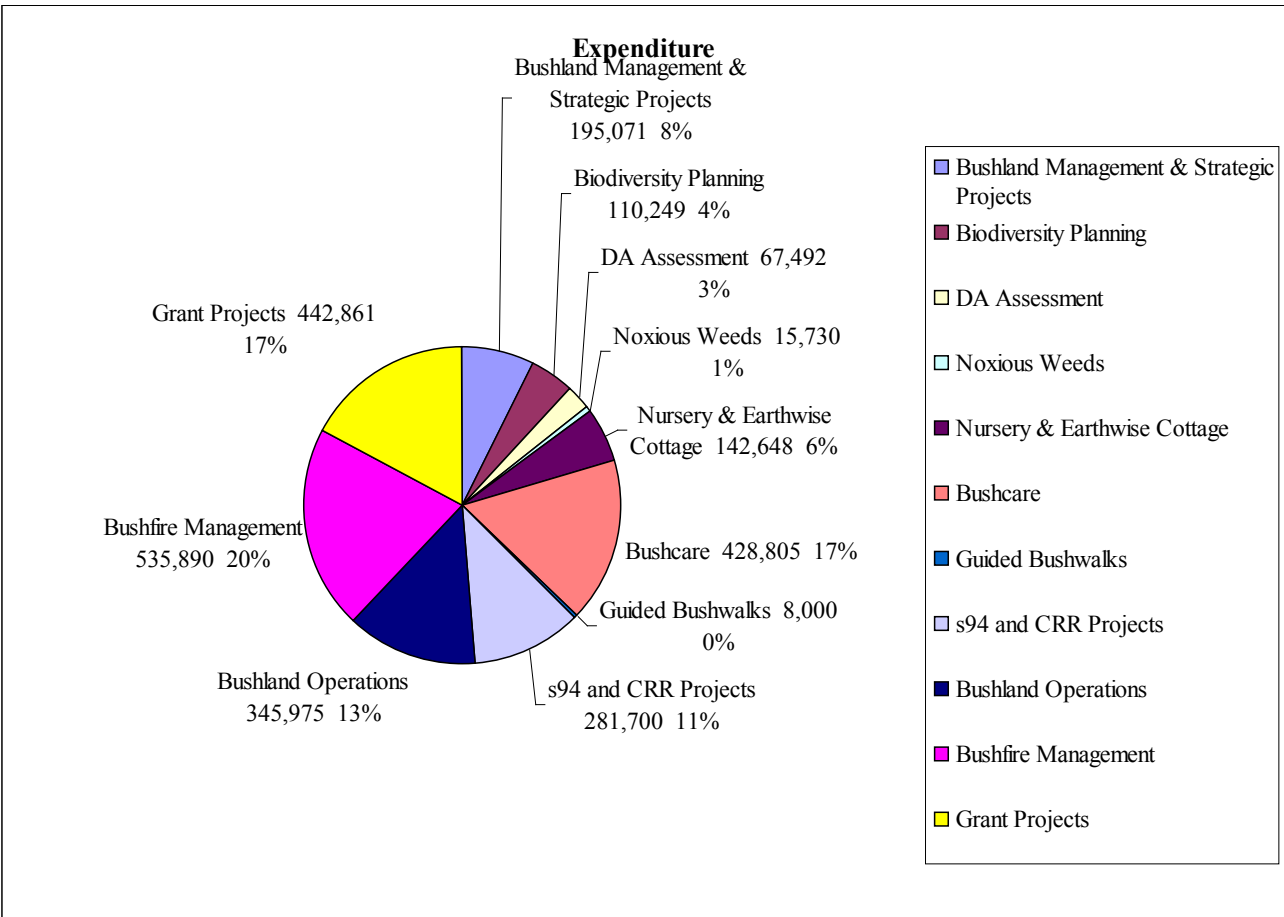
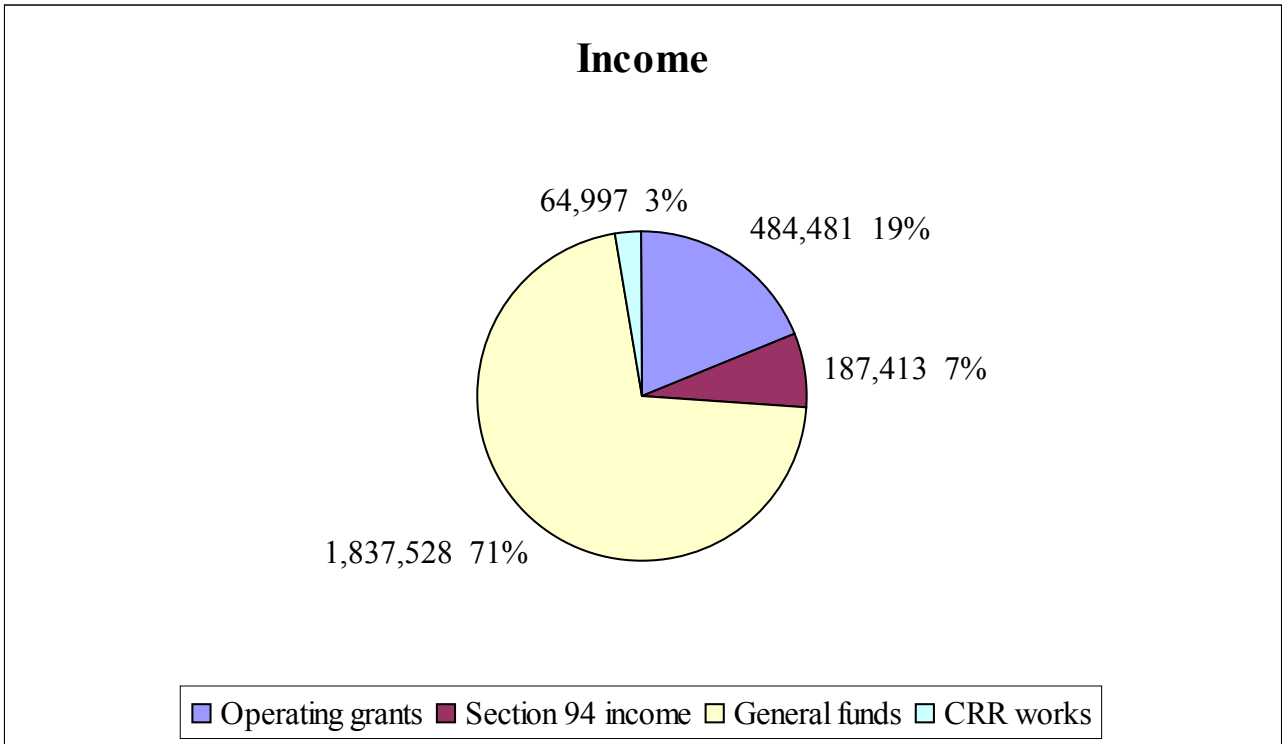
Grants and offset income and commitments received include:

Mountain Bike Grant 1	\$50,000
Bushfire Asset Grant	\$47,710
Bushland Grant Projects	\$9,450
Noxious Weed Inspect-	\$35,558
HNCMA Caring For Our Country Grants	\$26,364
Bushland - Boneseed Control	\$18,850
Hornsby Heritage Steps Rest	\$129,801
Bush Offsets - Hannah St	\$20,000
Landcare Grant - Ware/Brown	\$1,818.00
Roadside Vegetation	\$24,750 (total commitment \$49,140)
M2 Public Benefit Fund	\$30,000 (total commitment \$400,000)
One Tree Stage 4	\$35,000
Wisemans Community Connections	\$4,973
Wiseman's Ferry Cemetery	\$24,507 (total commitment \$30,000)
SMCMA EEC Restoration	\$29,500 (total commitment \$50,000)
HNCMA - Upper Berowra Creek	\$69,091
Habitat Connectivity	\$31,000
Wetland Bird Survey	\$22,946
Bar Island Restoration - Woodland & Saltmarsh Grant	\$7,545
WASIP Grant	\$221,234
HNCMA Estuarine Vegetation	\$30,000 (income not yet received)
Hornsby Mountain Bike Track Grant 2	\$102,000 (income not yet received)
Fire Mitigation Works Fund	\$135,550 (income not yet received)
NDRP – Bushfire Education Trailer fitout	\$14,500 (income not yet received)
TOTAL	\$1,148,140

Grant and offset works undertaken during the year:

Project	Expenditure	Income 11/12 and prior
Wetland Bird Survey	22,946	-22,946
Bushland - Pests and Diseases	3,600	-6,925
Bushfire Assets and Trails	138,878	-138,878
Noxious Weed Inspectorial	36,243	-35,558
Bush Green Offsets	11,807	-22,773
Bushcare Community Grant	1,616	-1,616
Bush - Transurban Sponsorship	15,823	-15,823
One Tree Reach Stages 2 and 3	18,659	- 70,155
Kenley Park Offset	1,907	-16,537
Fuller Road Offset	5,000	-34,140
Netherby Reserve Offset	10,000	-10,000
Boneseed Control	12,008	-24,355
Habitat Connectivity	21,681	-55,539
HNCMA Caring For Our Country Grants	5,904	-26,364
Hornsby Heritage Steps	214,234	-185,933
Upper Pyes Creek Track	21,008	-51,243
Pioneers' Track	14,851	-16,500
Bar Island Restoration	4,001	- 7,545
Floating Landcare	318	-9,091
Landcare Grant - Ware/Brown	1,818	-1,818
Roadside Vegetation	250	-24,750
M2 Public Benefit Fund	2,997	-30,000
Wiseman's Ferry Cemetery	11,120	-24,206
WASIP Roadside Biodiversity, EEC restore and monitor, Bushcare enhancement	145,822	-145,822
Total	722,941	-839,639

6.0 Budget and Strategic Issues



6.2 Offset Income

During the 2011-12 year Bushland and Biodiversity Team received a lower level of offset funds of \$20,000 as opposed to \$133,255 during 2010-11. Negotiations were undertaken during the year and are ongoing with proponents of larger developments during the year that may result in offsets.

6.3 Broader Community Consultation

Bushland Management Advisory Committee

continued in its role to advise Council on strategic direction and projects. During the year the Committee commented on the review of the Biodiversity Action Plan 2011-12, inspected and commented on the proposed Hornsby Mountain Bike Track, the new Tree Preservation Order and the inclusion of trees within the Green Offsets Code. BMAC also undertook site inspections to advise on strategic projects including: Hornsby Heritage Steps, One Tree Reach Wetland and Upper Pyes Creek Walking Track.

Environmental Weeds - Current Policies and

Practices: a presentation was given by the Manager of Bushland and Biodiversity at the NSW Weed Society's Annual Seminar on 'Implementing Weed Management Plans'.

7.0 References

Hornsby Shire Council (2012). Green Offsets Code.

Hornsby Shire Council, Hornsby – accessed at

<http://hsconline.hornsby.nsw.gov.au/appenquiry/user/policy/default.aspx?page=found&2=offset&4=33&4a=ALLPC&5=&6=>

NSW Office of Environment and Heritage - Bionet the website for the Atlas of NSW Wildlife – accessed at

http://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx

Appendices



Appendices

Appendix 1: Map of Hornsby Shire



Appendices

Appendix 2: Hornsby Shire Council Community Nursery Annual Report 2011-12

HORNSBY SHIRE COUNCIL COMMUNITY NURSERY YEARLY REPORT FOR 2011-2012



Appendices

EXECUTIVE SUMMARY

Hornsby Shire Council's Community Nursery is an integral part of the Hornsby Bushcare Program, operating within the Bushland and Biodiversity Team. Since June 2012 it has been incorporated into the Natural Resources Branch, (Environment and Human Services Division).

The nursery aims to showcase best practice operations across the wider community. This is achieved through many initiatives including full water recycling system capturing on site runoff rainfall, solar power, minimal waste production, recycling of materials and a low chemical reliance whilst operating under the Nursery Industry Accreditation Scheme Australia through the Nursery and Garden Industry NSW.

This financial year saw an increase of 35% in the volume of plants produced at the nursery compared to the previous year. Total production has been very strong with over 52,000 plants being produced, the most ever for a financial year.

Above average rainfall events across the year once again have allowed pre ordered stock to be planted into near ideal conditions for establishment in the field. Demand for indigenous plants continued to be very strong for the Catchments Remediation Rates associated works, National Tree Day 2011, local schools, Still Creek Landcare projects and Nursery Plant Give Away Days.

The nursery also continues to foster and maintain relationships with other councils and industry professionals including Fairfield Council of which there is a strong exchange program continuing, an ongoing educational partnership with Northern Sydney Institute of TAFE Ryde College and technical assistance to a variety of customers across the community within the Hornsby Shire.

Appendices

OVERVIEW

The Hornsby Community Nursery aims to provide native plants to the Hornsby Shire through Community programs such as the Bushcare Volunteer Program, Community resident Giveaway days, Citizenship Ceremonies, Schools, community groups and a variety of environmental workshops, events and activities across the Shire including National Tree Day.

The nursery also provides provenance locally collected stock to bushland restoration projects including Bushland Operations' works, CRR Water Catchment devices, Parks Department projects and other projects that are run within Council's core business.

The nursery aims to encourage the community to learn about the values of native plants, for biodiversity conservation goals, and to support Councils projects with the provision of sound environmental restoration techniques and technical advice to Council and associated project staff.

The nursery operates under the main outcomes of the Hornsby Biodiversity Conservation Strategy, the Environmental Education Strategy and Bushland Education Strategy and the Natural Resource Branch Action Plans.

The nursery operates on a recurring budget of 1.6K (operational) per annum and aims to achieve an income of 1.5K per year to support the ongoing maintenance of the site and required resources. The nursery operates within the Bushland Community Programs Team, with one full time Nursery Co-ordinator, and approximately 37 dedicated volunteers.

The nursery achieved accreditation with the NIASA (Nursery Industry Accreditation Scheme Australia) complying with strict standards of environmental best practice nursery management. It has maintained accreditation since 2005, and aims to continue accreditation as a showcase of best practice to other nurseries across NSW. The Hornsby Community Nursery was the first local government run nursery to achieve this accreditation.

The information recorded in this report is for the financial year 2011-2012 and illustrates the various areas that the nursery operates.

VOLUNTEER AND PLANT PRODUCTION STATISTICS

NURSERY VOLUNTEER PROGRAM:

VOLUNTEER HOURS	VOLUNTEER HOURS WITHIN THE NURSERY
Wednesday Volunteers (578 total individual participant visits by 21 people)	1677.5
Saturday volunteers (199 total individual participant visits by 18 people)	625.5
Other Hours	27
TOTAL HOURS	2138
NO. VOLUNTEERS	
Active volunteers for the year: (19 on Wed: 16 on Sat)	37
New Volunteers joined Program:	5

PLANT PRODUCTION

Production

Seed lots collected:	43
Number of seed lots propagated:	173
[Provided 90% of total production]	
Number of cuttings propagated (& no. of spp.):	4958 (40)
[Provided 10% of total production based on an average 93% cutting strike rate]	
Total Number of tubestock produced July 2011- June 2012-	52106

Plants Supplied

Total Plants Dispatched for Year: Grand Total: 32257

Total Number of residential properties that received plants through Nursery Open Days

Grand total: 1210 (5370 plants)

Projected square metres Revegetated

[An average of 1 plant per square metre]

Grand Total: 3.2 hectares

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PLANT DISTRIBUTION

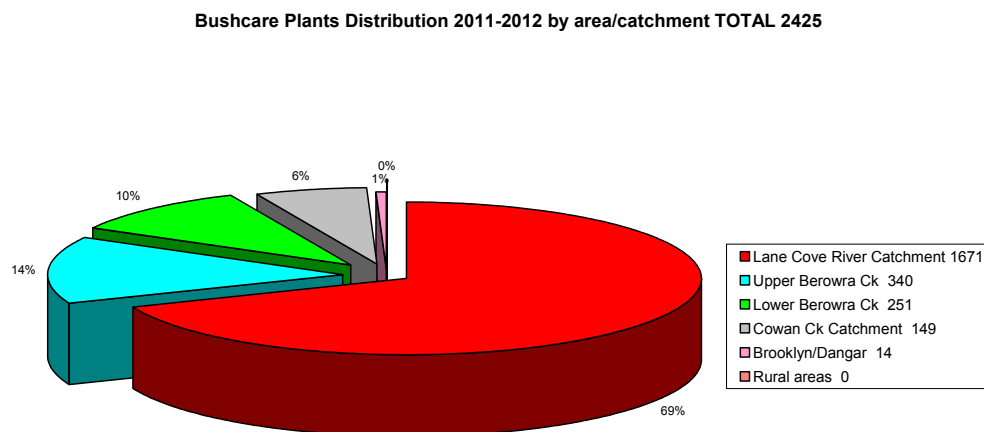


Fig. 1. Plants utilised by Hornsby Bushcare Program 2011-2012

OTHER COUNCIL PROGRAMS AND PLANT RECIPIENTS

Table 1. Plant sales to internal Council projects and associated environmental programs

Customer	No. of Plants	\$
Catchment Remediation Rate	11042	\$13197.60
Open Days- Plants to Residents	6256	
Greenstyle , Landcare & Other	3829	\$ 930 .00
Bushland & Biodiversity	3377	\$3726.00
Bushcare	2425	
Parks Department	2205	\$3110.00
Schools	1338	
National Tree Day 2011	1063	
Donations	430	
Citizenship Ceremonies	332	
Forward payment Wisemans Ferry Tip		\$5000.00
TOTALS	32297	\$ 25963.00

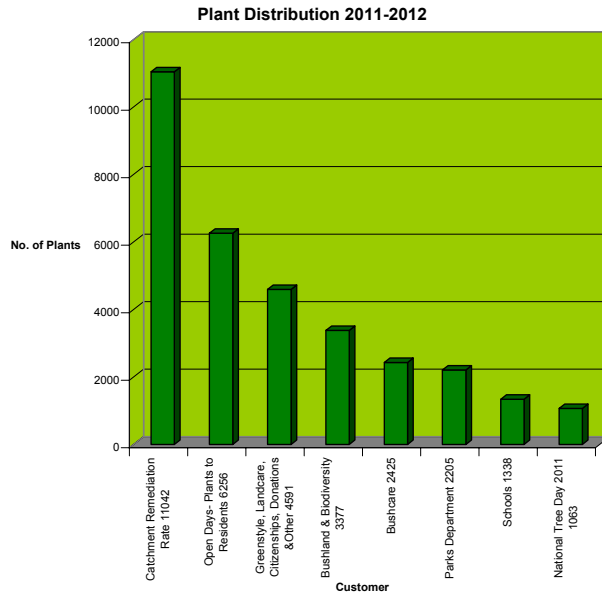


Fig. 2. Total distribution of plants by customer area

Total Plant Distribution of plants across the Hornsby Shire by catchment or area 2011-2012

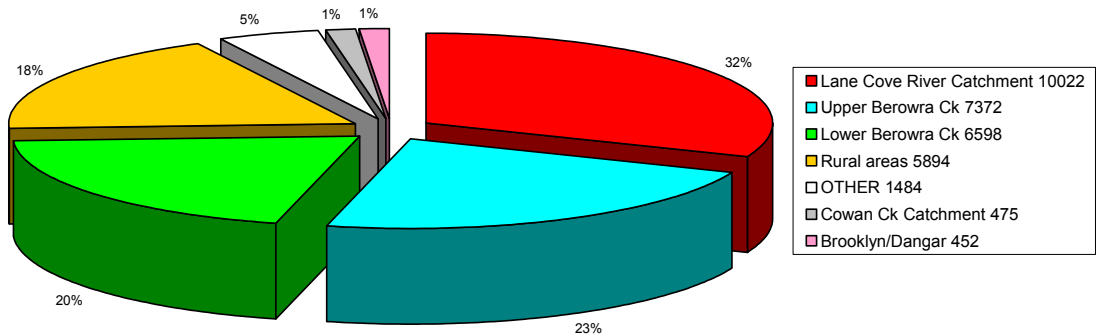


Fig. 3. Distribution of plants across the Hornsby Shire.

Appendices

Table 2. Breakdown of plants by customer and area distributed to.

Catchment Remediation Rate 11042		Open Days- Plants to Residents 6256	
Lane Cove River Catchment	4897	Lane Cove Catchment 1610	1610
Upper Berowra Ck	1600	Upper Berowra Ck 1523	1523
Lower Berowra Ck	4245	Lower Berowra Ck 1539	1539
Cowan Ck Catchment		Cowan Ck Catchment	
Brooklyn/Dangar	300	Brooklyn/Dangar	
Rural areas		Rural areas 1344	1344
		Other 240	240

Greenstyle, Landcare, Citizenships, Donations & Other 4591		Bushland & Biodiversity 3377	
Lane Cove River Catchment	296	Lane Cove River Catchment	953
Upper Berowra Ck	980	Upper Berowra Ck	977
Lower Berowra Ck		Lower Berowra Ck	40
Cowan Ck Catchment	80	Cowan Ck Catchment	40
Brooklyn/Dangar	68	Brooklyn/Dangar	70
Rural areas	1953	Rural areas 245	1297
OTHER	1214		

Bushcare 2425		Parks Department 2205	
Lane Cove River Catchment 1671	1671	Lane Cove River Catchment	65
Upper Berowra Ck 340	340	Upper Berowra Ck	540
Lower Berowra Ck 251	251	Lower Berowra Ck	300
Cowan Ck Catchment 149	149	Cowan Ck Catchment	
Brooklyn/Dangar 14	14	Brooklyn/Dangar	
Rural areas 0		Rural areas	1300

Schools 1338		National Tree Day 2011 1063	
Lane Cove River Catchment	30	Lane Cove River Catchment	500
Upper Berowra Ck	942	Upper Berowra Ck	470
Lower Berowra Ck	160	Lower Berowra Ck	63
Cowan Ck Catchment	176	Cowan Ck Catchment	30
Brooklyn/Dangar		Brooklyn/Dangar	
Rural areas		Rural areas	
Other	30		

ACCOMPLISHMENTS

- July 2011 Completed 4WD training course
- July 2011 National Tree Day successful with good rainfall prior
- August 2011 Hills Council tour of the nursery
- August 2011 Nursery tour for Team Leader of Construction- Works Division
- September 2011 21st TAFE tour of nursery facility
- September 2011 Open Day on 24th 100 canopy trees given out. 166 properties received plants
- October 2011 Site visits to Magnolia Grant site 5/10 & 26/10
- October 2011 Oxley Drive Mt Colah for TSC spp check prior to hazard reduction works
- October 2011 Extra bushwalk for Community Services Branch to celebrate Mental Health Month- Terrys Ck walk
- October 2011 CRR site visits for 2011-2012 plant requirements- southern suburbs
- October 2011 Waitara Public School natural area advice and tree delivery (10 Turpentine Ironbark Forest Vegetation Community trees)
- October 2011 CRR site visits for 2011-2012 plant requirements- northern suburbs
- October 2011 Pennant Hills High School site visit for upcoming natural area restoration works by students
- November 2011 TAFE Tour 3/11/2011
- November 2011 Nursery Plant Give Away Day 5/11/2011 1523 plants given out
- November 2011 Fairfield visited HSC tour of Crosslands Reserve
- November 2011 TAFE Tour 9/11/2011
- November 2011 Asquith Girls High School inspection for planting discussion 10/11/2011
- November 2011 Estuarine Bird Survey assistance
- November 2011 Xmas party for Bushcare and Nursery vols
- November 2011 Volunteer morning tea at Magnolia CFC grant site
- November 2011 Seed collection undertaken much of the month. Good seed set on most species.
- December 2011 Seed collection was steadily undertaken this month in between persistent rain
- December 2011 Planting day at Pennant Hills High School undertaken
- December 2011 Guided walk for Transurban Work day undertaken
- January 2011 Species List undertaken for Montside ecological burn area Mt Colah 13/01/2012
- January 2011 Cottage Open Day for staff 240 plants given out to staff
- February 2011 Eucalypt walk and talk held for Bushcare Seminar Series
- February 2011 Site visit to Wisemans Ferry tip undertaken to address revegetation works proposed for next two financial years
- March 2012 Fairfield Council excursion to look at new no mow zones and subsequent native plant regeneration
- March 2012 Undertook Vegetable Propagation Workshop for Waste Education for their Ready Set Grow project
- March 2012 Native Plant Giveaway 1610 plants distributed
- March 2012 CRR site visits for upcoming plant requirements
- March 2012 Bushcare Seminar Series- Birds at Wisemans Ferry
- April 2012 Nursery Give Away conducted 21/4/2012 19 volunteers present on day
- April 2012 Wisemans Ferry Tip revegetation project taken up most time of production work this month

Appendices

- April 2012 Good volumes of plant orders have been despatched due to ongoing favourable rainfall
- April 2012 Planting day with Pacific Hill Christian School at Pyes Creek
- April 2012 Over 5000 plants potted on Wednesday 11/4/2012 alone
- May 2012 Attended Mock Trial for WHS legislation
- May 2012 Nursery sprayed for Myrtle Rust which was on Tea Trees
- May 2012 Assisted at Volunteer expo Westfield
- May 2012 Site visit to Our Lady of the Rosary for BGHF restoration
- May 2012 Beyond Risk training attended for WHS legislation
- May 2012 WHS meeting held for nursery volunteers
- May 2012 TAFE Tour of Nursery Facility
- June 2012 CRR site visits for upcoming works and review of recently planted sites
- June 2012 Site visit to Hornsby South Primary School
- June 2012 NGIA Nursery Accreditation audit undertaken

NURSERY FACILITY IMPROVEMENTS

- September 2011 Site meeting for improved water recapture during parks depot reconfiguration
- December 2011 First weed spray on nursery grounds since 2008
- May 2012 Nursery shadehouse curtains serviced and repaired where necessary
- February 2011 Irrigation meeting held at nursery with CRR team and contractor to discuss current set up issues
- February 2011 Easycare shadehouse roof completed –thanks to Parks Department Staff for assistance

