

## ***4.0 Project Summary***

### ***4.1 Overview***

The Greenlink project components have involved a range of rehabilitation, restoration and revegetation activities throughout the Northern Beaches area. Almost all of these activities have been conducted by volunteers, with the support of the local Councils. The Natural Heritage Trust funding has enabled these groups to continue, expand and consolidate their work by providing for contractors, tubestock, fencing and other essential items.

The following pages demonstrate the scope of this work and illustrate the range of activities that these volunteers have participated in. The contributions of the respective contributors are acknowledged and the achievements of the groups highlighted.

The pages are grouped according to the local Council area in which the work occurred, commencing with Warringah, followed by Pittwater then Manly.

Project Group	Project Location
<b>Reefcare</b>	<b>Long Reef Point and Headland</b>
Aims	Method
To conserve and enhance the remnant <i>Themeda triandra</i> (kangaroo grass) grassland and associated faunal habitats.	<ul style="list-style-type: none"> <li>• Eradicate (using the cut and paint technique) bitou bush that has invaded the grassland.</li> <li>• Replant <i>Themeda</i> tubestock grown from seed collected on the site.</li> <li>• Replant native coastal heath shrubs in strategic locations to act as windbreaks and habitat.</li> <li>• Fence off strategic areas to prevent access and shortcuts</li> </ul>
Inputs	
Contributor	Detail
<ul style="list-style-type: none"> <li>• Volunteer</li> </ul>	<ul style="list-style-type: none"> <li>• Cut and paint bitou, plant tubestock, maintenance weeding, watering, fencing, installation of irrigation system</li> </ul>
<ul style="list-style-type: none"> <li>• Council</li> </ul>	<ul style="list-style-type: none"> <li>• Supervision, tools, equipment, publicity, herbicide, bags and stakes, erosion control material.</li> </ul>
<ul style="list-style-type: none"> <li>• NHT</li> </ul>	<ul style="list-style-type: none"> <li>• Tubestock, travel expenses for Conservation Volunteers, tools, herbicide, irrigation system, fencing.</li> </ul>
<ul style="list-style-type: none"> <li>• Long Reef Golf Club</li> </ul>	<ul style="list-style-type: none"> <li>• Irrigation equipment, herbicide.</li> </ul>
Achievements	
<ul style="list-style-type: none"> <li>• 2,500m<sup>2</sup> of bitou bush cleared.</li> <li>• 5,000 <i>Themeda</i> tubestock planted.</li> <li>• Over 90% success rate of planted tubestock.</li> <li>• Runner up award for National Parks and Wildlife's Metro Urban Pride Awards 2000.</li> <li>• Largest membership of all Warringah's <u>Friends of the Bush</u> groups.</li> <li>• Extensive irrigation system installed by volunteers to cover entire project area.</li> <li>• Successful integration with several other associated projects</li> </ul>	

Project Group	Project Location
<b>Friends of Dee Why Lagoon</b>	<b>South side of Dee Why Lagoon Wildlife Refuge</b>
Aims	Method
To conserve and enhance the vegetation communities and fauna habitat within the wildlife refuge, particularly the endangered 'Sydney Coastal Estuary Swamp Forest Complex' ecological community.	<ul style="list-style-type: none"> <li>• Bush regeneration throughout the Refuge.</li> <li>• Fencing of selected areas.</li> <li>• Excavation of 550m<sup>3</sup> of fill from the wetland area to allow for the expansion of an Endangered Ecological Community.</li> <li>• Recontouring of lagoon edge to allow brackish water to enter the area and control invasive weeds.</li> <li>• Stabilisation of recontoured bank with sandstone and erosion control material.</li> </ul>
Inputs	
Contributor	Detail
<ul style="list-style-type: none"> <li>• Volunteer</li> </ul>	<ul style="list-style-type: none"> <li>• Bush regeneration, surveys.</li> </ul>
<ul style="list-style-type: none"> <li>• Council</li> </ul>	<ul style="list-style-type: none"> <li>• Contractors (bush regeneration), drainage works, fencing, surveys, turf, tools, supervision, herbicide.</li> </ul>
<ul style="list-style-type: none"> <li>• NHT</li> </ul>	<ul style="list-style-type: none"> <li>• Contractors (excavation), erosion control materials, tubestock</li> </ul>
Achievements	
<ul style="list-style-type: none"> <li>• Almost the entire 36 Ha of bushland has had primary and secondary bush regeneration work.</li> <li>• Most of the Southern side of the refuge is now being maintained by volunteers and contractors.</li> <li>• The volunteer area has recently been fenced by Warringah Council to prevent incursions by mowers and pedestrians</li> <li>• Surveys for the excavation work completed in February, 2001.</li> <li>• Development Application for excavation work submitted.</li> </ul>	

Project Group	Project Location
<b>Heron Place Bushcare &amp; Warringah Council</b>	<b>Dee Why Creek</b>
Aims	Method
To revegetate the riparian zone of Dee Why Creek in order to create habitat links between Dee Why Wetlands and Dee Why Lagoon.	<ul style="list-style-type: none"> <li>• Revegetation of the area with tubestock grown from locally sourced seed.</li> <li>• Creation of no mow zone along creek edge.</li> </ul>
Inputs	
Contributor	Detail
<ul style="list-style-type: none"> <li>• Volunteer</li> </ul>	<ul style="list-style-type: none"> <li>• Revegetation work.</li> </ul>
<ul style="list-style-type: none"> <li>• Council</li> </ul>	<ul style="list-style-type: none"> <li>• Site preparation, mulch, watering, plant guards and stakes, labour.</li> </ul>
<ul style="list-style-type: none"> <li>• NHT</li> </ul>	<ul style="list-style-type: none"> <li>• Tubestock.</li> </ul>
Achievements	
<ul style="list-style-type: none"> <li>• 100m2 revegetated.</li> <li>• 1,400 tubestock planted.</li> <li>• Council's parks maintenance unit have agreed to maintain these areas.</li> <li>• 60 community members involved in the revegetation work.</li> <li>• This site will now be Warringah's official 'National Tree Planting Day' site into the future.</li> </ul>	

Project Group	Project Location
<b>OzGREEN</b>	<b>Dee Why Creek and Dee Why Wetlands</b>
Aims	Method
To rehabilitate the riparian zone of the creek and conserve and enhance the endangered ecological community (Sydney Freshwater Wetlands).	<ul style="list-style-type: none"> <li>• Revegetation of the area with tubestock grown from locally sourced seed.</li> <li>• Mulching and weed control in the revegetated area.</li> <li>• Bush regeneration in the wetlands.</li> <li>• Weed control in the wetlands</li> </ul>
Inputs	
Contributor	Detail
• Volunteer	• Revegetation work, mulching, weeding, watering and site maintenance
• Council	• Mulch, bush regeneration contractors
• NHT	• Tubestock, bush regeneration contractors.
• Cromer Primary School	• Labour for revegetation work and weeding
Achievements	
<ul style="list-style-type: none"> <li>• 974 tubestock planted with approx 80% survival. These plantings supplemented earlier work done by the group.</li> <li>• 500m2 weeded, mulched and revegetated.</li> <li>• 550m2 of primary work completed in wetlands area.</li> <li>• Successful involvement of local schools (Cromer Primary School) in revegetation work.</li> <li>• School work day featured on children's television channel Nickelodeon on Oct 31, 2001.</li> </ul>	

Project Group	Project Location
<b>Friends of South Creek</b>	<b>South Creek corridor, Beacon Hill.</b>
Aims	Method
To protect and rehabilitate the upper catchment and riparian zone of South Creek.	<ul style="list-style-type: none"> <li>• Weed control.</li> <li>• Weed tree removal.</li> <li>• Bush regeneration.</li> <li>• Revegetation.</li> <li>• Creekline stabilisation</li> <li>• Track construction</li> </ul>
Inputs	
Contributor	Detail
<ul style="list-style-type: none"> <li>• Volunteer</li> </ul>	<ul style="list-style-type: none"> <li>• Bush regeneration.</li> </ul>
<ul style="list-style-type: none"> <li>• Council</li> </ul>	<ul style="list-style-type: none"> <li>• Revegetation, creek stabilisation, track and bridge construction, supervision, tools.</li> </ul>
<ul style="list-style-type: none"> <li>• NHT</li> </ul>	<ul style="list-style-type: none"> <li>• Contractors (bush regeneration, tree felling).</li> </ul>
Achievements	
<ul style="list-style-type: none"> <li>• 1000m<sup>2</sup> of primary bush regeneration completed.</li> <li>• 6 mature <i>Salix babylonica</i> (weeping willow) and 1 <i>Ficus indica</i> (rubber tree) removed in October 01.</li> <li>• 60m<sup>2</sup> revegetated with tubestock grown from locally sourced seed.</li> <li>• 120m of track constructed, including a bridge to Beacon Hill High School.</li> <li>• 20m of creekline stabilised with sandstone boulders.</li> <li>• No mow zone created in Brooker Reserve at the top of the catchment to allow remnant natives to germinate.</li> </ul>	

Project Group	Project Location
<b>Thursday Gardeners</b>	<b>South Creek Cromer, adjacent to Cromer Golf Course.</b>
Aims	Method
To control the spread of invasive weed <i>Ludwigia peruviana</i> and rehabilitate riparian vegetation zone.	<ul style="list-style-type: none"> <li>• Revegetation of the area with tubestock grown from locally sourced seed.</li> <li>• Creation of no mow zone along creek edge.</li> </ul>
Inputs	
Contributor	Detail
<ul style="list-style-type: none"> <li>• Volunteer</li> </ul>	<ul style="list-style-type: none"> <li>• Revegetation, weed control, mulching, watering, maintenance of revegetated area.</li> </ul>
<ul style="list-style-type: none"> <li>• Council</li> </ul>	<ul style="list-style-type: none"> <li>• Supervision, tubestock supply, tools, herbicide.</li> </ul>
<ul style="list-style-type: none"> <li>• NHT</li> </ul>	<ul style="list-style-type: none"> <li>• Tubestock.</li> </ul>
<ul style="list-style-type: none"> <li>• Cromer Golf Club</li> </ul>	<ul style="list-style-type: none"> <li>• Irrigation, storage, equipment, tools, site maintenance.</li> </ul>
Achievements	
<ul style="list-style-type: none"> <li>• 250m of creekline revegetated.</li> <li>• 250 tubestock planted.</li> <li>• <i>Ludwigia peruviana</i> controlled on west bank of South Creek. The group has found through years of experience that the best way to control this weed is to shade it out.</li> </ul>	

Project Group	Project Location
<b>Friends of Anzac Avenue Reserve</b>	<b>Anzac Avenue Bushland Reserve Collaroy</b>
Aims	Method
To conserve and rehabilitate the vegetation communities and habitats in the reserve.	<ul style="list-style-type: none"> <li>• Bush regeneration.</li> <li>• Track construction.</li> <li>• Drainage improvements.</li> </ul>
Inputs	
Contributor	Detail
• Volunteer	• Bush regeneration.
• Council	• Supervision, track construction, tools.
• NHT	• Tubestock, supervision
Achievements	
<ul style="list-style-type: none"> <li>• Successful control of major invasive weeds in approx 10% of the reserve.</li> <li>• Installation of track in lower part of reserve.</li> </ul>	



Project Group	Project Location
<b>Friends of Deep Creek</b>	<b>Deep Creek Reserve</b>
Aims	Method
To conserve and enhance the existing vegetation communities and associated habitat in the reserve, and to minimise the impact of recreational users of the reserve	<ul style="list-style-type: none"> <li>• Prevent access to the area by recreational four wheel drive vehicles by installing solid gate.</li> <li>• Allow areas affected by these activities to regenerate naturally.</li> <li>• Control spread of weeds through bush regeneration work.</li> <li>• Develop and implement strategies to limit the impact of recreational users such as mountain cyclists.</li> </ul>
Inputs	
Contributor	Detail
• Volunteer	• Bush regeneration work
• Council	• Supply and installation of gate, contractors
• NHT	• Volunteer support, technical advice.
• Coastcare	• Contractors for bush regeneration
Achievements	
<ul style="list-style-type: none"> <li>• Gate installed in September 2000 effectively prevented access of four wheel drive vehicles. This has allowed for the natural regeneration of the area affected by the vehicles.</li> <li>• Primary bush regeneration work completed in main entrance area.</li> </ul>	

Project Group	Project Location
<b>McKillop Reserve</b>	<b>McKillop Reserve Harbord</b>
Aims	Method
To conserve and enhance the existing coastal heath vegetation community.	<ul style="list-style-type: none"> <li>• Revegetate buffer areas to the east and west of the main area of vegetation to expand the extent of the coastal heath area.</li> <li>• Eradicate large stand of <i>Coprosma repens</i> (mirror bush) using drill and poison. This method effectively kills the weed but leaves the plants to die on the spot. This provides habitat and shelter for fauna and also reduces erosion risk</li> <li>• Control new weed infestations that come up as a result of increased light levels.</li> </ul>
Inputs	
Contributor	Detail
• Volunteer	• Bush regeneration, revegetation
• Council	• Contractors, revegetation, erosion control material, supervision, tools, herbicide.
• NHT	• Bush regeneration contractors, tubestock
• TAFE students	• Erosion control, revegetation
Achievements	
<ul style="list-style-type: none"> <li>• 600m<sup>2</sup> of land adjacent to the main area of coastal heath has been revegetated with tubestock grown from seed sourced from the site. This has increased the potential area of bushland by over 10%</li> <li>• 2,700m<sup>2</sup> of the main area of coastal heath has been primary weeded.</li> <li>• 400m<sup>2</sup> of <i>Coprosma</i> has been poisoned and left to die.</li> <li>• 200m<sup>2</sup> of adjacent slope has been stabilised with jute matting and then revegetated.</li> </ul>	

Project Group	Project Location
<b>Warringah Council</b>	<b>Jamieson Park</b>
Aims	Method
Minimise impact of recreational users of the reserve.	<ul style="list-style-type: none"> <li>• Upgrade tracks and install bridge crossing.</li> </ul>
Inputs	
Contributor	Detail
<ul style="list-style-type: none"> <li>• Volunteer</li> </ul>	<ul style="list-style-type: none"> <li>• Bush regeneration</li> </ul>
<ul style="list-style-type: none"> <li>• Council</li> </ul>	<ul style="list-style-type: none"> <li>• Track construction, installation of bridges, bush regeneration works</li> </ul>
<ul style="list-style-type: none"> <li>• NHT</li> </ul>	<ul style="list-style-type: none"> <li>• Technical support</li> </ul>
Achievements	
<ul style="list-style-type: none"> <li>• Reduction in amount of bush affected by tracks and associated recreational impacts.</li> <li>• Proposed leash free dog exercise area has been relocated to a less environmentally sensitive area.</li> <li>• Stabilisation of creek banks affected by erosion.</li> </ul>	

Project Group	Project Location
<b>Warringah Council</b>	<b>Various reserves in the South Creek catchment</b>
Aims	Method
To improve the quality of South Creek catchment and enhance the connection of fragmented and degraded bushland remnants	<ul style="list-style-type: none"> <li>• Bush regeneration</li> <li>• Weed control</li> <li>• Revegetation</li> <li>• Sediment control</li> </ul>
Inputs	
Contributor	Detail
<ul style="list-style-type: none"> <li>• Volunteer</li> </ul>	<ul style="list-style-type: none"> <li>• Bush regeneration</li> </ul>
<ul style="list-style-type: none"> <li>• Council</li> </ul>	<ul style="list-style-type: none"> <li>• Contractors, tubestock</li> </ul>
<ul style="list-style-type: none"> <li>• NHT</li> </ul>	<ul style="list-style-type: none"> <li>• Technical support</li> </ul>
Achievements	
<ul style="list-style-type: none"> <li>• Primary bush regeneration completed in 11 reserves in South Creek catchment.</li> <li>• Maintenance programs in place in these reserves.</li> <li>• 1,610 tubestock planted in these reserves.</li> </ul>	

Project Group	Project Location
<b>Pittwater Council</b>	<b>Bilarong Reserve (north shore of Narrabeen Lagoon adjacent to Wakehurst Parkway)</b>
Aims	Method
To protect the vegetation in the foreshore area of Narrabeen Lagoon and improve public access to the area.	<ul style="list-style-type: none"> <li>• Bush regeneration.</li> <li>• Track construction.</li> <li>• Fencing.</li> </ul>
Inputs	
Contributor	Detail
• Volunteer	• Bush regeneration.
• Council	• Contractors (track construction, bush regeneration), fencing, signage.
• NHT	• Contractors (track construction, bush regeneration), tubestock.
Achievements	
<ul style="list-style-type: none"> <li>• Primary bush regeneration completed September 2000. Maintenance work is ongoing in the area.</li> <li>• Greenlink track opened October 2000. This included interpretive signage and seating.</li> <li>• Fencing installed and Bilarong Sanctuary opened in November 2000 to prevent dog and feral animal access into the area, thereby protecting the habitat of local water birds.</li> </ul>	

Project Group	Project Location
<b>Warriewood Wetlands Bushcare</b>	<b>Warriewood Wetlands near Katoa Close entrance</b>
Aims	Method
To increase the area of bushland and create a sustainable vegetated buffer zone.	<ul style="list-style-type: none"> <li>• Bush regeneration</li> <li>• Revegetation with tubestock grown from locally sourced seed</li> <li>• Creation of no mow zones</li> </ul>
Inputs	
Contributor	Detail
• Volunteer	• Bush regeneration, revegetation.
• Council	• Bush regeneration, tubestock, herbicide, tools, volunteer support.
• NHT	• Contractors (bush regeneration), tubestock
Achievements	
<ul style="list-style-type: none"> <li>• 80m2 primary bush regeneration completed.</li> <li>• 150 tubestock planted.</li> <li>• Successful establishment of no mow zones.</li> <li>• Riparian vegetation zone extended by 2m</li> </ul>	

Project Group	Project Location
<b>Pittwater Council</b>	<b>Warriewood Wetlands</b>
Aims	Method
To conserve the wetland vegetation communities throughout Warriewood Wetlands	<ul style="list-style-type: none"> <li>• Bush regeneration</li> <li>• Revegetation</li> </ul>
Inputs	
Contributor	Detail
<ul style="list-style-type: none"> <li>• Volunteer</li> </ul>	<ul style="list-style-type: none"> <li>• Bush regeneration</li> </ul>
<ul style="list-style-type: none"> <li>• Council</li> </ul>	<ul style="list-style-type: none"> <li>• Bush regeneration contractors for maintenance, joint funding for boardwalk</li> </ul>
<ul style="list-style-type: none"> <li>• NHT</li> </ul>	<ul style="list-style-type: none"> <li>• Bush regeneration contractors, tubestock</li> </ul>
<ul style="list-style-type: none"> <li>• State Government</li> </ul>	<ul style="list-style-type: none"> <li>• Joint funding for boardwalk (not part of Greenlink funding)</li> </ul>
Achievements	
<ul style="list-style-type: none"> <li>• Approx 20,000m<sup>2</sup> of primary bush regeneration completed by contractors in areas too swampy for volunteers to work safely.</li> <li>• Maintenance program for work in place.</li> <li>• 9,000 tubestock planted in strategic locations in the wetlands (eg old spoil piles, exposed edges).</li> </ul>	

Project Group	Project Location
<b>Manly Council</b>	<b>Seaforth Oval</b>
Aims	Method
To create a buffer of vegetation in an area affected by wildfire in November 2000.	<ul style="list-style-type: none"> <li>Revegetation with tubestock grown from locally sourced seed.</li> </ul>
Inputs	
Contributor	Detail
<ul style="list-style-type: none"> <li>Volunteer</li> </ul>	<ul style="list-style-type: none"> <li>Revegetation work, maintenance of site, mulching, watering.</li> </ul>
<ul style="list-style-type: none"> <li>Council</li> </ul>	<ul style="list-style-type: none"> <li>Site preparation, mulch, timber edge, irrigation, supervision, tools</li> </ul>
<ul style="list-style-type: none"> <li>NHT</li> </ul>	<ul style="list-style-type: none"> <li>Tubestock.</li> </ul>
<ul style="list-style-type: none"> <li>Balgowlah Boys High School</li> </ul>	<ul style="list-style-type: none"> <li>Extension of Greenlink work.</li> </ul>
Achievements	
<ul style="list-style-type: none"> <li>1000m<sup>2</sup> revegetated.</li> <li>500 tubestock planted.</li> <li>Highly successful involvement of local high school students in a valuable environmental project.</li> </ul>	