Summary Hornsby Shire Council has developed innovative programs for biodiversity conservation on private lands encompassing both rural and urban properties. The Hornsby Shire Biodiversity Conservation Strategy 2004 identified the spread of weeds as one of the major threats to biodiversity. Council’s response includes a comprehensive annual action plan with many initiatives, one being a major Bushland Weed Control program on Council land. On private land, incentive programs have been developed to complement Council’s Noxious Weeds enforcement role. These programs encourage landholders to conserve and restore weed-infested native vegetation, enhance fauna habitat and improve water quality through a combination of incentives. Incentives cover individual property visits, educational workshops, subsidies for on-ground works linked to property management plans and annual ‘biodiversity credit’ payments based on size, condition (related to weed cover) and conservation value of bushland and landholder commitment on such lands. The ‘Rural Lands Incentives Program’ has built on a similar program developed by the Surf Coast Shire in Victoria. Based on this concept, Hornsby Council developed an entirely new program that complements the local community, its bushland weed control and other issues, and that fits within local and state planning policies and legislative framework. The property planning component developed by Hornsby Council is now being promoted by the NSW Department of Environment and Conservation (DEC), for environmental property planning. ‘Gardens for Wildlife’ is also an innovative program developed by the Hornsby Council for urban and urban-rural fringe residents. These programs have enabled Council staff to develop strong relationships with significant numbers of landholders that have led to free flowing exchange of information, access to Council facilities and staff expertise, improved environmental outcomes in reducing bushland weeds, improved the capacity of landholders and provided financial incentives to support them.

Keywords Community, incentives, biodiversity conservation, bushland weed control, property management plans.

INTRODUCTION
Hornsby Shire is situated in the urban to rural northern suburbs of Sydney, with an area of 510 km² and a population of 145,000. Hornsby is called ‘the bushland shire’ because of its scenic bushland amenity and the high community value placed the natural environment. In the most recent Customer Satisfaction Survey, 94% of respondents were aware of Council’s role in restoring and protecting bushland (Owl Research and Marketing 2006). As suburban sprawl and urban development pressures increase, the need to conserve biodiversity and protect primary industry in conjunction with the community has led the Council to develop a number of innovative programs. Hornsby Council has adopted a Biodiversity Conservation Strategy for Hornsby Shire as an overall strategic response to address biodiversity loss on a local level (Hornsby Shire Council 2004). The strategy takes a ‘grass roots’ approach to biodiversity conservation that relies not only on regulation, but also on community partnerships, incentive programs and internal and external environmental education and training. The hope is that a ‘carrot’ and ‘stick’ approach will result in greater community acceptance and participation in on-ground actions that conserve and enhance the Shire’s natural assets.
of small bushland remnants is often high (Lewis 2001).

**Weeds in Hornsby Shire** Council is an active partner on the Sydney North Regional Weeds Committee where the main weed issues are focused on bushland protection rather than targeting individual weeds. The need for universal weed risk assessment and working with the nursery industry is also recognised. The weeds of Regional Significance in the Hawkesbury Nepean with the nursery industry is also recognised. The weeds need for universal weed risk assessment and working protection rather than targeting individual weeds. The main weed issues are focused on bushland where the main weed issues are focused on bushland protection rather than targeting individual weeds. The need for universal weed risk assessment and working with the nursery industry is also recognised. The weeds of Regional Significance in the Hawkesbury Nepean Catchment relevant to the Hornsby Shire fall into 3 main categories:


2. **New weed incursions.**

3. **Environmental weeds:** golden wreathe wattle (*Acacia saligna* (Labill.) H.L.Wendl.), invasive vines such as balloon vine (*Cardiospermum grandiflorum* Sw.), honeysuckle (*Lonicera japonica* (Harms) W.W.Sm.), morning glory (*Ipomoea cairica* (L.) Sweet, *I. indica* (Burm.) Merr.), asparagus weeds (*Asparagus asparagoides* (L.) Druce, *Protrasparagus aethiopicus* (L.) Oberm.), tussock paspalum (*Paspalum quadrifarium* Lam.), coolatai grass (*Hyparrhenia hirta* (L.) Stapf), pampas grass (*Cortaderia selloana* (Schult. & Schult.f.) Asch. & Graebn., *C. jubata* (Lemoine) Stapf) and boneseed (*Chrysanthemoides monilifera* subsp. *monilifera* (L.) Norl.).

**Partnerships** ‘Conserving the biodiversity of NSW is a major challenge. It can’t just be done by setting aside land in national parks and reserves. It needs the people of New South Wales to be involved in community conservation across the landscape.’ (NSW Department of Environment and Conservation 2006). A major component in making on-ground actions happen is to form partnerships. Council has a strong commitment to working with the community and other agencies to conserve and enhance the remaining biodiversity. This is a key theme of the Biodiversity Strategy as highlighted by the objectives:

- To develop key community incentive and partnership programs to maintain biodiversity on private properties in the Hornsby Shire; and
- To ensure Council’s activities integrate with other agencies to achieve biodiversity conservation outcome.

Whilst people enjoy living in the ‘bushland shire’ and strongly favour having wildlife in their gardens, the majority of people do not realise the responsibility they have for conserving native flora and fauna on private property.

**Current partnership programs** The Hornsby Shire Council has five partnership programs: 1) Rural Lands Incentives; 2) Gardens for Wildlife; 3) Hornsby Bushcare; 4) Community Nursery; and 5) Land for Wildlife. But how do these programs work in the conservation of biodiversity on private lands?

**Rural Lands Incentive Program** This was developed with funding from Council and the (former) Hawkesbury-Lower Nepean Catchment Trust. Key features of this program include site visits, environmental workshops (on native flora and fauna, bushland weed identification, weed control techniques and fire management etc.) and property planning courses. Financial incentives include subsidies for on-ground works/materials and cash incentives for managing land for biodiversity and bushland protection. Since 2003, over 400 residents have actively participated in the program, with a total of 205 businesses participating in an environmental review on their property and 140 rural residential properties received an environmental educational inspection.

People from 63 properties attended Property Management Planning Courses, which focus on biodiversity conservation, weed control, stormwater and wastewater management and property planning. Subsequently, 40 Property Management Plans have now been submitted and approved by Council.

A further 21 property owners applied for funding to implement their property plans. The major environmental issue for 90% of the properties is noxious and environmental weed invasion by lantana (*Lantana camara* L.), privets (*Ligustrum sinense*, *L. lucidum*) Mickey mouse bush (*Ochna serrulata* (Hochst.) Walp.), trad (*Tradescantia fluminensis* Vell.) and crofton weed (*Ageratina adenophora*). Funding continues to be awarded for biodiversity credits plus on-ground credits. The majority of funding for on-ground works is for bushland weed control ($500 – $1,000 per property per annum) where the landowner is required to work alongside a professional bush regeneration contractor to develop an achievable weed control plan, to learn native plant and weed identification and to learn weed control techniques. Smaller amounts have been awarded for: upgrade of septic systems (one off payment of $300) to reduce conditions that support weed plumes into bushland; subsidised or free native plants for revegetation; fencing of weeded revegetation...
areas to exclude stock; glyphosate; jute mat and mulch for weed suppression; tree guards; and rocks for creek line stabilisation. Green Corps volunteers also assisted five property owners with bushland weed control in 2003. One property of the original 90 to join the program in 2003 has obtained a voluntary conservation agreement with the NSW DEC.

Rural residents have spent about $75,000 on in-kind labour and the provision of materials over three years. All participants improved either stormwater management or biodiversity conservation through weed control on their properties. Of the landholders involved in the program, 82% had not been involved in any other program previously and some have taken the opportunity to form a local Landcare group. This has generated a more involved community contributing to improved catchment and bushland health.

Council is continuing on-ground improvements for stormwater and bushland health by undertaking ongoing monitoring. Staff regularly contact landowners about upcoming workshops, offers of funding, inspection of progress of works and carry out reviews. As the program has developed, it has focused on improving the quality of weed control undertaken so that areas of bushland following weed control works are sufficiently resilient to be maintained in a good condition. A key part of this is addressing the cause of the weed infestation, such as septic pollution or large amounts of weed propagules. Another benefit of the program has been to identify and rapidly treat emerging aquatic noxious weeds such as water hyacinth (Eichhornia crassipes (Mart.) Solms) and salvinia (Salvinia molesta D.Mitch.). This has also resulted in the discovery of the only infestation of Senegal tea (Gymnocoronis spilanthoides DC.) in the Hornsby Shire and one of only a few in the greater Sydney region.

Gardens for Wildlife Program This program was initiated through a grant of $95,000 from the Environmental Trust (NSW) combined with Council funds to:

- Increase awareness of Hornsby’s threatened forests including Blue Gum High and Sydney Turpentine Ironbark forests;
- Carry out on-ground restoration of weed infested reserves not previously managed through bushland weed control contracts with Council;
- Ensure residents plant more locally sourced native plants in their gardens; and
- Encourage them to participate in environmental activities.

Residents and members of community groups in the target suburbs were offered educational resources and opportunities for participation in workshops and demonstrations about native vegetation, wildlife, gardening practices and weed management and control. ‘Garden Guides’ were published featuring wildlife attracting garden plant species that are compatible with Sydney Turpentine-Ironbark Forest and Blue Gum High Forest. The booklets include descriptions and photos of the plants and their various uses in the garden for habitat and landscaping purposes.

The project has achieved the following milestones:

- Over 9400 native plants suitable for associated EECs have been given to residents via nursery open days and nine Gardens for Wildlife workshops;
- Four bushland reserves are receiving initial bushland weed control work to restore weed infested EECs;
- Additional support has been given to the bushcare program through increased training for 18 bushcare groups in restoring weed infested reserves with EECs, formation of 10 new bushcare sites, community open days have been held, as well as assistance to some schools with remnant significant vegetation. An additional 37 new bushcare volunteers joined the program through Gardens for Wildlife;
- Over 250 properties have joined the program and received information packages about EECs, native fauna and associated environmental material;
- Garden guides have been printed and launched at the Garden Design workshop. Local nurseries will receive these in 2006 to display so the nurseries can stock local native plants in the books for residents to purchase;
- Garden audits and property inspections are currently being undertaken upon request as part of the program. At this stage detailed advice is given to the resident about weed species present, control techniques and suitable alternative plant species; and
- Pre- and post-evaluations demonstrate that residents increased their knowledge in altering gardens to match the natural environment (including knowledge of native plants, animals and habitats, and garden and bushland weed identification and control).

Hornsby Bushcare Program The Hornsby Bushcare Program involves community volunteers working with Council to conserve and rehabilitate weed infested publicly owned bushland. Commencing in 1989 with only 30 volunteers, the Bushcare Program has developed into a major local activity with over 800 volunteers making this one of the largest Council
run Bushcare Programs. The program is funded by recurrent Council funds (> $100,000 p.a.), as well as attracting numerous external grants.

**Community Nursery** The Community Nursery grows 25,000 local native plants per annum for the Bushcare Program, contract bush regeneration, community groups, schools and open days for residents. A Nursery coordinator works with 30 community volunteers. The nursery has received NGIA (Nursery and Garden Industry) accreditation.

**Land for Wildlife Program** A major outcome of the pilot Rural Lands Incentives Program was to link Council’s program with the NSW DEC’s state-wide ‘Land for Wildlife’ program. Land for Wildlife is a voluntary program that aims to encourage and assist private landholders to provide habitats for wildlife on their property, even though the property may be managed primarily for other purposes. It aims to promote continuity of habitat across landscapes, community participation in nature conservation and to contribute to the ecologically sustainable long-term viability of agricultural systems. Hornsby Shire Council signed up as the first full partner in 2003 to the ‘Land for Wildlife’ program.

Council implements, coordinates and manages the Land for Wildlife program in the Hornsby Shire while DEC provides overall coordination and management of the program at a state-wide level. In addition, DEC provides promotion, education and extension materials and Council promotes the program and runs community workshops and information sessions to assist local land owners.

To date Council has 23 landowners fully signed up to Land for Wildlife, three more are in the process of signing up and one landowner’s property has a Voluntary Conservation Agreement (VCA) covering a total of 109.65 ha. They range in size, being: 16 properties of 2.025 ha, five properties of 10.13 ha, one property of 7.675 ha and one of 16.9 ha.

**CONCLUSION** Hornsby Shire Council is one of a few local government organisations in NSW implementing incentive based partnerships with large numbers of residents to protect bushland from weed invasion across the Shire. Council has cross-promoted these community based environmental programs developed within Council’s Bushland and Biodiversity Team. They have expanded largely through word of mouth and local promotion resulting in a multiplying effect. This has resulted in increased awareness of weed issues amongst neighbours that may not have been aware or interested in weeds. Whilst it is quite early to evaluate the success of the programs, residents are confident that they are learning about weed identification and control through the workshops and on-ground experiences. Once residents have joined one program they often join other environmental programs. It is the commitment and enthusiasm of the individual residents and Council that help to create success within the programs and synergies between the programs. These programs also have complementary on-ground outcomes, whereby improved bushland condition through Bushcare activities within a catchment, results in adjoining property owners have improved success with reducing impacts of weeds on private bushland and vice versa. The broad, but practical emphasis of the programs has afforded opportunities for increased funding within the local government area and with partner Councils to increase the level of weed management and assistance for biodiversity conservation on both public and private land.

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**REFERENCES**