Summary  The National Gorse Strategic Plan has five desired outcomes including best practice management of established infestations, prevention of spread, protecting clean areas and eradication of isolated infestations. Within Tasmania gorse (*Ulex europaeus* L.) is a declared plant under the Tasmanian *Weed Management Act* 1999. In addition, the Tasmanian Gorse Strategy guides the implementation of the National Gorse Strategic Plan at the state level. The Cradle Coast Regional Weed Management Strategy has identified gorse as a high priority weed and seeks to significantly reduce the impact of gorse within this NRM region. To assist with the implementation of these objectives at the municipal level the Cradle Coast NRM committee is currently funding a full time Project Officer to assist the West Coast Weed and Fire Management Group (WCWFMG) with the implementation of the West Coast Weed and Fire Management Strategy (WCWFS).

Gorse is one of the major weed problems on the West Coast of Tasmania. The WCWFMG provides an excellent case study in best practice gorse management. Seed funding was gained for on-ground works during 2002 that enabled targeting of gorse in the area and value added to existing (and sometimes fragmented) stakeholder control programs. Since then the WCWFMG group has expanded stakeholder representation, received additional Australian Government funding, gained community commitment and assistance with management programs, undertaken mapping (ground and aerial), developed a system to deliver funds to priority areas regardless of land tenure, set containment lines, developed a yearly monitoring and maintenance program, promoted and improved hygiene through provision of wash-down equipment and explored innovative control techniques.

Keywords  Gorse, *Ulex europaeus*, Weeds of National Significance, national coordination, West Coast Tasmania.

INTRODUCTION

On the West Coast of Tasmania (Figure 1) significant advances in the long-term control and eradication of gorse, a Weed of National Significance (WoNS), are occurring under the guidance of the West Coast Weed and Fire Management Group (WCWFMG). The impetus and drive for better weed management programs began, and continues to come, from within the West Coast community. However, the growth of WCWFMG over the last decade into an effective management body did not occur in isolation. Concurrent changes throughout Australia in the cultural perception of weeds, the development of national and state weed policies and legislation, the evolution of corporate accounting procedures (driving greater interaction between corporations and the broader community) and a continuing shift to an holistic approach to natural resource management (based on Natural Resource Management regions) provided the foundations for cultural and behavioural changes within the municipality.

WCWFMG is an interagency coordinating body with representatives from Tasmanian State Government Departments (Department of Primary Industries and Water; Department of Infrastructure, Energy and Resources; Department of Tourism, Arts and Environment), Government Business Enterprises (Forestry Tasmania, Hydro Tasmania, Aurora Energy, Transend Networks), Local Government (West Coast Council), Cradle Coast Natural Resouce Management, Industry (Bluestone Mines Tasmania, Copper Mines Tasmania, Zinifex Rosebery Mine, Henty Gold) and the community (Zeehan Landcare Group, King River Action Group, Friends of the Wild West Coast). The ability to attract and maintain such a broad representation of stakeholders is, in part, due to a greater willingness of corporations to build cooperative links with, and invest in, the community as a component of their core business.

The primary role of WCWFMG is to implement the West Coast Weed and Fire Management Strategy (WCWFS) (Lyell 2000). The success of WCWFMG is attributed to a range of structural and philosophical attributes. These include a clear strategic direction, agreed methods of prioritisation, improved and ongoing access to funding, collective allocation of resources to priority projects, increased coordination and interagency cooperation, a participatory,
outcome-orientated and non-adversarial ethos of committee representatives, partnership and network building with other weed management bodies and innovative programs throughout the West Coast to engage, consult and assist all parties interested and involved in weed management. The groups’ successful efforts to implement the WCWFS and, in particular, their efforts to control and eradicate gorse throughout the municipality, provides a model for others seeking to improve the efficacy of their weed management programs at the municipal level throughout Australia.

Gorse infestations in the West Coast were originally introduced through ballast used on the Tasmanian government railway between Zeehan and Strahan in the 1950s. Mining exploration and housing developments, in particular at Renison Bell township, also contributed to the spread of gorse throughout the 1960s and 1970s. Gorse was also distributed widely around Zeehan during mopping-up operations after bushfires in 1981. As a result of these factors between 3500–3800 ha of the West Coast are currently infested with gorse and 350 ha are under active management by the WCWFMG.

LINKAGES BETWEEN NATIONAL, STATE, REGIONAL AND LOCAL WEED MANAGEMENT OBJECTIVES

The cultural perception of weeds throughout Australia changed as weeds expanded in range and the costs of control, eradication and losses to production and biodiversity increased. The development of legislation, policies and strategic frameworks at all levels of government is the current day response to these changed perceptions. Policy and legislative development has been a critical step in changing the approach to, and outcomes of, weed management. These documents legitimise the importance of weed management and formalise the community commitment to address the problem in a more strategic manner. The WCWFS was developed to support and reinforce State and National weed strategy objectives whilst detailing municipal weed management priorities and local management actions. The development of a municipal strategy is a necessary process for those wishing to emulate WCWFMG.

The National Gorse Strategic Plan (ARMCANZ et al. 2003) has five desired outcomes, including best practice management of established infestations, prevention of spread, protecting clean areas and eradication of isolated infestations. In addition, the National Gorse Taskforce (NGT), who oversee the delivery of the National Gorse Strategic Plan, has developed a National Gorse Priority Action Framework (NGT 2006). This framework synthesises and enables the implementation of the National Gorse Strategic Plan objectives and actions at the local level. In addition, the NGT has determined National Gorse Eradication Areas (NGT 2006) and proposed National Gorse Containment Lines. Further refinement of these lines for the West Coast has been negotiated with the WCWFMG. The NGT is currently in the process of developing a ‘Defeating the Weed Menace’ proposal for potential funding to determine national priority sites including threatened species, priority vegetation types and conservation areas. These too will be adopted at the local level by the WCWFMG.

Within Tasmania gorse is a declared plant under the Weed Management Act 1999 and Tasmania Together, which is a long term social, economic and environmental plan for Tasmania, includes benchmarks with targets set for gorse (Tasmania Together Progress Board 2001). In addition, the Tasmanian Gorse Strategy (DPIW 2006) guides the implementation of the National Gorse Strategic Plan at the state level. A Tasmanian Gorse Management Group was formed during 2006, lead by DPIW, to oversee the implementation of the Tasmanian Gorse Strategy.

At an NRM region level, the Cradle Coast Regional Weed Management Strategy (GAT & CCRWMSC 2005) has identified gorse as a high priority weed and seeks to significantly reduce the impact of gorse within the region – ‘the area infested by declared weeds (including WoNS) reduced by at least 50% by 2025’. WCWFMG maintains close partnerships with Cradle Coast NRM and will continue to support the implementation of the regional strategy. At the municipal level WCWFS provides a clear direction for WCWFMG and the actions necessary to achieve

Figure 1. West Coast Weed and Fire Management Group area.
the above target for gorse. The strategy has increased the efficacy of the management group and formally links the municipal weed management programs to the national effort.

A key incentive to develop a municipal strategy supporting broader objectives concerns funding opportunities. The shift to a strategic direction in weed management has greatly influenced access to Australian Government sources of funding. Access to these resources will be restricted, or improved, based upon the ability to demonstrate consistency between the strategic objectives of both parties. Linking a municipal program to the objectives of regional, state and national strategies is important not only for national cohesion in the approach to weed management but crucially to enable the municipal body to access national funds.

**LOCAL ACTIONS TO SUPPORT NATIONAL, STATE AND REGIONAL STRATEGIC PLANS**

WCWFMG is committed to a coordinated program, based on strategic priorities to systematically reduce the area of gorse throughout the municipality. Such an approach clearly supports weed strategies at the regional, state and national level.

**Best practice management of infestations** Best practice, as it relates to gorse eradication and control, is not yet clearly defined. Operationally, best practice should involve reduction of above-ground mass, kill/manage re-growth from roots, annual follow-up of seedbank recruitment, prevent spread, prevent/ suppress flowering or seed set in large core infestations and/or difficult to access areas (i.e. biocontrol), and manage germination (either encouraging or discouraging it).

For WCWFMG best practice has become an integrated series of actions that begins at the prioritisation and planning phase, continues through collective funding and on-ground operations and finishes with ongoing yearly monitoring, mapping updates and follow-up.

During planning there are many criteria that determine the priority of gorse sites for control. In essence, sites are prioritised based on the objectives of WCWFS and to compliment regional, state and national objectives, however the highest priority sites are where follow-up treatment is required. WCWFMG practices a strict adherence to follow-up of all gorse control projects that are initiated. No new sites may be incorporated into the control program until follow-up of all previously treated areas has been completed. Community support of WCWFMG has grown as long-term management of control sites reduces the areas infested with gorse. It is worth noting that land tenure is only one criteria considered when prioritising and funding gorse control sites. Whilst the primary responsibility for the control of weeds rests with the land manager ( Weed Management Act 1999) cooperative funding of priority projects is recommended, and advantageous, when the capacity to manage the environmental weed in question is beyond the ability of any one land manager.

Management techniques are tailored to individual sites to reflect site-specific constraints and to provide cost-effective removal. Resources are allocated from the global budget with stakeholders’ cash contributions made at the beginning of each financial year. Allocations to priority projects are determined at stakeholder meetings. WCWFMG also practices a constant improvement management philosophy to improve the efficiency of on-ground gorse control programs.

Mapping, using national core attributes (Thackway et al. 2004), is a necessary component of best practice weed management. Mapping is undertaken as weed control works occur and annually updated maps provide evidence of the progress of the WCWFS, indicate priority areas for coming seasons and clearly identify areas for follow-up.

**Prevention of spread/protecting clean areas**

WCWFS aims to protect areas within the municipality that are weed-free and to prevent the further spread of weeds. Maintaining vehicle and machinery hygiene has been identified as vital to achieve these aims. The majority of WCWFMG stakeholders adhere to the state wash-down guidelines produced by DPIW and Forestry Tasmania. Mining companies also have strict hygiene protocols.

A review of wash-down facilities available to contractors and members of the public throughout the West Coast was undertaken in 2005. From this review the need for mobile wash-down technology was identified and a mobile wash-down unit constructed. This unit can be readily transported and facilitates vehicle and machinery wash-down at the work site. This practice will greatly assist in maintaining weed-free areas and preventing spread.

Another element that will prevent weed spread and maintain areas in a weed-free condition is a robust understanding amongst the community of the processes and practices that contribute to weed movement and the ability to identify priority weed species. WCWFMG has established programs and projects with all schools throughout the municipality to raise awareness of weeds and the need for weed management. It also maintains links with Care organisations and other community associations.
Eradication of isolated infestations  WCWMG supports the application of the ‘Bradley Method’ where outliers and isolated infestations have the highest priority for eradication. Eradication of isolated infestations is facilitated through a comprehensive base map that clearly identifies outliers. Community reporting and rapid response to community reports of isolated patches are also features of gorse control on the West Coast. With a wide level of community knowledge and support of WCWFS, frequent reporting of isolated gorse patches occurs to the WCWMG.

Development of containment lines  Containment Lines within the municipality have been developed by the WCWMG and are used to highlight and protect gorse-free areas. Any gorse plant found beyond a municipal containment line must be treated within two weeks of being reported.

Protection of priority sites  The West Coast of Tasmania is home to some of the most valuable conservation assets in Australia. The Gordon-Franklin World Heritage Area (WHA) is one such asset and the implementation of WCWFS by WCWMG ensures that any movement of gorse (and other environmental weeds) into the WHA is monitored and controlled. WCWMG also works closely with Parks and Wildlife Service staff to support current weed management programs in the WHA and is exploring avenues to improve weed management in the WHA.

CONCLUSION
A range of changes in cultural perception and community behaviour towards weeds assisted the development and move towards effective operations of WCWMG. Successful local implementation of WCWFS through shared responsibility and combined resources has maintained stakeholder enthusiasm, trust, and commitment to the process and continues to draw new partners including the West Coast community. The Project Officer is also a vital link in the on-going enthusiasm and achievements of the group.

This group now delivers the stated objectives of a range of policy documents concerning gorse management at the local, regional, state and national level and provides a model for other municipalities wishing to strategically improve their weed management programs. A further indication of the progressive success and cooperation being built by the WCWMG is from cooperative stakeholder investment in strategic gorse management – $35,000 during 2004/05, $50,000 during 2005/06 and $70,000+ expected for 2006/07. The group also recently won the Community Award in the Tasmanian Awards for Environmental Excellence and has been nominated as a finalist in the Banksia Awards, the National Awards for Environmental Excellence.

REFERENCES


GAT (Greening Australia Tasmania) and CCRWMSC (Cradle Coast Regional Weed Management Steering Committee) (2005). Cradle coast regional weed management strategy. Greening Australia (Tasmania) and the Cradle Coast Regional Weed Management Steering Committee, Burnie.


