

SELLING THE STORY

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Abstract

Pest problems cannot be solved without community support, but communities first need educating. Ignorance is pervasive and a paradigm shift is needed. In today's Information Age, pest managers should draw upon the expertise of the communications industry to help sell their message. Alien invasions, fortunately, are very newsworthy. In Australia and New Zealand, many innovative programs are underway. They include pest strategies, weed awareness weeks, brochures, posters, reports, technical papers, books, media items, computer services, community groups, pest identification days, garden plant replacements, courses, nursery campaigns and children's activities. Even so, exotic pests have not received the publicity they deserve. We need to sell the big picture: that each weed is part of a vast alien invasion problem. Governments should be doing much more. There should be major media campaigns. Public perceptions about plants should be changed. Garden plants are not innocent products, but organisms programmed to thrive in the wild. Gardening entails ethical responsibility. Some useful rules for pest managers are: sell the big picture, learn from the media, be positive, always offer solutions, deliver a simple message, use words well, develop partnerships, be innovative and evaluate.

Introduction

In today's Information Age, competing interests wage battles in the public arena, wielding information to sway opinion. To win the war against weeds we must first win the war of words. Information, or lack of it, underscores most pest problems. The shrubs and trees draining Cape Town's water supply are an obvious example. Like many major pests they were spread about deliberately by well-meaning people acting on inadequate information. We pay a hideous price for past ignorance. We should avoid making mistakes, move quickly to close the ignorance gaps, convincing or controlling those sectors of society still engaged in the spread of pests.

Everyone needs educating. Anyone can spread pests – travellers, traders, farmers, gardeners, soldiers, sailors. The problems are so vast and the ignorance so pervasive that a paradigm shift is needed. We want pest-aware societies that act responsibly and work in partnership with government to control and detect pests. Every sector has a role to play. We should identify all the target groups and tailor the education, reaching out to 'early adopters' early.

Alien species lend themselves well to media treatment in the Information Age. 'Alien' is an evocative word, and invasions are dramatic events. Many journalists find ecological war intriguing. Because the problems are worse than people think, surprise and shock are easily delivered. Bio-invasion is thus very newsworthy.

Often, communication offers more hope than legislation. Laws about pests are often impossible to police and enforce, and very easy to violate – by pocketing a few seeds, for instance. In rural areas especially, laws need community support to work, and education thus plays a central role. Often legislation works best by promoting education - it plays the subordinate role. We want pest-aware communities that regulate themselves. Fortunately, we live in an age where communication has never been easier.

Pest managers should do more communicating. The large information gap wants closing fast: The unaware need educating, and those who act to promote alien invasions should be challenged. Managers should communicate well, drawing upon the skills of communication experts. The message is very important, and we should sell it well. Ideally, conservationists should be helping to sell the message, when in reality they are a key audience to be educated.

Australia and New Zealand have a long history of pest problems, and they are more pest-aware than most nations, although the level of knowledge is still inadequate. There is no integrated approach to education, although many innovative programs have been tested. What follows is a brief survey of mainly Australian and New Zealand examples of education, awareness and outreach. Few have been evaluated for effectiveness although most appear to be useful and cost-effective. Many examples feature invasive garden plants, for these are recognised by governments (though not yet the public) as the main source of new weeds.

INTEGRATED STRATEGIES

Quarantine strategies

The Northern Australia Quarantine Strategy (NAQS) has education as a key component (see <http://www.aqis.gov.au>). The 'Top Watch' campaign reaches into communities in northern Australia, especially islanders living near New Guinea. Pest awareness calendars and posters are given to households, and Top Watch pencils, rulers, balloons, stickers and baseball caps are popular in schools. Pest awareness advertisements appear in local newspapers and one radio station runs a weekly NAQS program. Some education takes place outside Australia, on the New Guinea-Indonesia border, where veterinarians are trained to identify livestock disease and villagers to recognise banana diseases.

NAQS has proved its worth. Australia's first ever incursion by Asian honeybees (*Apis cerana*, Fabricius) was reported in 1999 by a beekeeper previously taught to recognise them. An independent review of NAQS found plenty of awareness among islanders, including schoolchildren, thanks partly to employment of local officers speaking island languages. Of 400 people telephoned, 90 per cent thought pest interception very important. The program is strongly funded. During 1998/99, US\$234,000 was spent on education, including \$39,000 on free calendars and the same on extension work in remote communities. In a schools poster competition, two winning schools each received \$650 prizes.

Pest Strategies

Government pest strategies, such as the Australian government's National Weed Strategy (Commonwealth of Australia 1997, www.weeds.org.au), and Tasmania's Weedplan, include education among their goals. They integrate many of the activities listed in this paper. A valuable initiative of the National Weed Strategy is the Weeds of National Significance list, an agreed list of Australia's worst weeds.

Awareness Weeks

Awareness weeks help spread the message. Australia's Weedbuster Week is gaining momentum fast (see www.weedbusterweek.info.au, see Fig 1). In 1999 it embraced 620 events involving 400 different groups, a 40 per cent increase in a year. More than 140 schools participated, along with 71 local governments, 45 bushcare and conservation groups, 27 scout and guide groups and 400 businesses. Two hundred media segments were generated including five hours of television and radio. As Vitelli *et al.* (1999) note: 'The concept revolves around fun activities whilst reducing the effects of weeds on the environment, primary industries and society'. It follows the marketing plan outlined by Kotler and Roberto (1989). There are weeding and planting days, fairs, garden plant giveaways, competitions, weed displays, fridge magnets, talks, even a weed fashion parade, weedbuster song, and appearances by 'Woody Weed', a colourful costumed character. The National Event Sponsors prize is provided by a leading pesticide producer and existing products and activities gain a higher profile by appearing as part of the week. It may one day grow into a cohesive strategy reaching all sectors of society.



Figure 1. A catchy logo used during Weedbuster Week.

Australia also has Quarantine Week, promoting awareness largely through media events. It deserves a much higher profile. Most Australians have yet to hear about Weedbuster or Quarantine Week.

PUBLICATIONS

Posters and Brochures

Weed posters, brochures and booklets play an important role in informing home gardeners and farmers. Those produced for gardeners ask them not to grow plants such as privet (*Ligustrum lucidum*, Aiton) that spread as weeds and each plant is illustrated by a colour photo. Advice on control may be provided, and non-weedy garden alternatives suggested. Gardeners are asked not to dump garden waste in parks and gullies. The posters and brochures are distributed free of charge at fairs, displays and at government and community offices. Because weeds vary between regions, these publications target specific areas. They persuade many gardeners to remove problem plants, and discourage nurseries from selling them, although their message is not heeded by all. Community groups display the posters in their offices and posters are occasionally even seen displayed in restaurants.

New Zealand's The Good Plant Guide (Craw, 1996) offers a positive approach. Instead of showing weeds it lists garden plants that are safe to grow.

Leaflets for farmers target new or very serious weeds. Because identification is critical they may feature several photographs of one weed – close-ups, whole weed, the weed in context – and a detailed description in simple language. These leaflets help enormously when new weeds appear. The leaflets are provided free from government offices and at rural events. In one region, the government council joined with a local business to produce a “WeedOut” information pack, containing weed information, control methods, and a checklist of actions, posted free to all rural landholders

Distributing Weed “decks” is another approach. A series of cards, each devoted to a single weed species, with photos on one side and text on the other, are bound at one corner into a set. Although slightly unwieldy, they can be tailored for different regions and audiences by varying the cards.

Reports & Technical Papers

Reports can achieve dramatic results. In Australia, the greatest achievement in weed education, I believe, was a major government report, Plant Invasions: the Incidence of Environmental Weeds in Australia, by three government scientists (Humphries, Groves and Mitchell, 1991). This large (188 page) report did three things: it shocked readers by showing that Australia's weed problems were far worse than suspected, it gave a valuable overview of weed ecology and impacts, and it provided a list of Australia's 18 worst weeds.

Though written by scientists, the language was blunt. African buffel grass (*Cenchrus ciliaris* L.) was described as “an aggressive coloniser of moist habitats such as run-ons, river levees

and alluvial pans where it forms dense monocultures, displacing native grasses and sedges and altering the fire regime". As a federal government report (sold in government bookshops), "Plant Invasions" had instant credibility. It was read by very few members of the public but was quoted in articles that were read by the public. Its list of worst weeds was reprinted in magazines and newsletters, and played a central role in my book "Feral Future" (Low, 1999).

This report damaged the credibility of the pasture industry. Six of the 18 worst weeds were grasses or legumes promoted by government agencies to cattle farmers. The image of agronomy was further tarnished in 1995 when a government scientist, Mark Lonsdale, published a damning paper in the Australian Journal of Ecology, called Inviting trouble: Introduced pasture species in northern Australia (1994). He showed that of 463 exotic pasture plants tested, only 21 proved useful but 60 became weeds. These statistics were reprinted in many books and articles. They appeared in Australia's State of Environment Report in 1996, and when this was released to the media, the statistics were reprinted in Australia's most influential newspaper.

Many of the pasture 'weeds' had been introduced by the Commonwealth Scientific and Industrial Research Organisation, a prestigious government body, and it was put on the defensive. It now has a policy of not releasing exotic pasture plants.

A very different kind of report, designed to help weed-workers communicate, is The Weed Navigator (Blood, Nugent and Timmins, 1998). It lists 1020 weed professionals with addresses, email, phone, fax, web sites and newsletters (Taylor *et al.*, 1999). It also lists and describes over 1980 weed-related publications including books, journals, magazines, brochures, web sites, CD-ROMS, legislation, posters and training opportunities. Updates are posted over email discussion groups. When my book was published I used the Navigator to draw up an address list for press releases and review copies.

Books

I believe populist books can play a powerful role. Three have appeared recently: Life Out of Bounds: Bio-invasion in a Borderless World (Bright 1998), Alien Invasion: America's Battle with Non-Native Animals and Plants (Devine, 1998), and my own Feral Future: The Untold Story of Australia's Exotic Invaders (Low, 1999). The first two are American and the third Australian.

Penguin publishers were enthusiastic and promoted my book strongly: On the media tour I was interviewed many times by radio, newspapers and television. Penguin's press release began: 'Gardening has done more harm to Australia's environment than mining'. Because mining is controversial, this statement (new but obviously true) caught media interest. Other key themes were homogenisation of world ecology, free trade and pests, and the failure of conservationists to address this issue.

Like Bright and Devine, I tried to write an exciting book of interest to anyone and I paid nearly as much attention to style as content: writing should entertain. Angry or depressing tones were avoided and quirky chapter names were used to lighten the mood, e.g. Ballast Blues, Wet Pets. I quoted the Bible, Alice in Wonderland, and Isaac Asimov. The third paragraph of the book reads:

"World ecology is now locked onto the same trajectory as popular culture. Just as American pop music and blue jeans and burgers and Coke have displaced indigenous cultures and foods in every land, so too are vigorous exotic invaders overwhelming native species and natural habitats. Some biologists warn of a McDonaldisation of world ecology. The earth is hurtling towards one world culture and (maybe) one world ecosystem."

To make the story more surprising, I focused on serious but poorly known pests. The earthworm *Pontoscolex corethrurus* (Muller) has no common name so I coined 'Amazonian earthworm' and created news by warning about Amazonian earthworms invading rainforests. Books are the ideal way to achieve a paradigm shift because the author has the opportunity to drench the reader in the topic, feeding them enough examples to thoroughly convince. The book sold out in three months and more were printed. The environmental manager of

Australia's largest local council told all her staff to read it. A botanic garden that I criticised in the book for growing a high-risk tree removed it. A Japanese man, new to Australia, wrote and told the author he had torn out all his weedy garden plants. The book was accepted as credible, partly because of the detailed source notes and 480 references.

As for other books, weed guides can shape attitudes about what constitutes a weed, by including colourful photos of garden escapees such as arum lily and morning glory.

Media Items

Many publications are willing to report on pests, ranging from small community newsletters to major newspapers. They provide endless opportunities for publicity. Pest managers often find it easy to get articles into newsletters and magazines devoted to farming, conservation, wildlife, gardening, pets and aquaculture. Articles need to be tailored accordingly. Local newspapers and regular columns often accept articles written by pest managers. Major newspapers seldom accept articles unless they are very well written, and a better approach is to phone journalists, especially those specialising in science, agriculture or the environment, seeking interviews when something newsworthy has happened. Relationships with interested journalists can be cultivated. A story is more likely to be run if there is a strong visual angle, for example a spiny new weed. Journalists like to hear strong evocative language, for example "This weed is like an invader from Mars". It helps to provide names of other people who can be interviewed, for example affected farmers, or conservationists, especially if these are more inclined to speak flamboyantly. Most pest managers are daunted by the media and underutilise it.

Radio can provide plenty of opportunities provided the pest manager is fluent. In terms of television, the best opportunities are provided by programs devoted to science, conservation, farming and gardening. Here, strong visual content is essential. The journalist should be led straight to a spectacular clump of weeds.

Advertising is expensive but powerful. Ads warning about old man's beard (*Clematis vitalba* L.) featuring the famous botanist, David Bellamy, were run on New Zealand television (Timmins 1995).

Some weed experts monitor garden programs and magazines and write letters of complaint when invasive garden plants are promoted. One Australian television program now takes great care to avoid such plants because many complaints are received.

Computer Services and Products

Web pages can be valuable sources of information, especially for lists of weedy garden plants, banned plants, herbicide doses, and weed photos. A good example is Weeds on the Web by The Nature Conservancy of California (at www.nps.gov/plants/alien/index.htm). The range of weed photos is vast, including for example the photo herbarium of the Weed Science Society of America (ext.agn.uiuc.edu/wssa/subpages/weed/herbarium0).

Email discussion groups now play a key role in helping pest experts communicate. They are ideal when new pests appear. A fieldworker finding a strange weed can photograph the plant and post a message to a discussion group inviting experts to visit their URL to identify the plant. A foreign plant unknown to local botanists can thus be quickly identified. CD-Roms can also help, either as tools for identifying pests or as schoolroom aids. In future, CD-ROMS may become popular for identifying difficult groups, such as grasses.

COMMUNITY OUTREACH

Fostering Community Groups

In many parts of Australia, local and state governments encourage the formation of community groups to help manage forest remnants by removing weeds (AACM International 1997). Brisbane City Council supports more than a hundred such groups with memberships ranging from one to thirty. The Council offers free gardening tools, fencing, mulch, and replacement of native plants. Successes are documented in a free quarterly newsletter. Community groups play the lead role in weed removal in urban forests. Members soon learn

which garden plants become weeds, and spread awareness throughout the community. A survey of volunteer groups (Masters, 1996; AACM International, 1997) found they worked best when top-down management was avoided; groups were team-oriented, flexible, realistic about their goals, skills, time commitments and limitations; and jargon and red tape were avoided.

Brisbane City Council also paid a conservation group to educate residents about garden plants invading a reserve. A message can be more credible when delivered by local enthusiasts.

In New Zealand, volunteers removed young invasive pines from Tongariro National Park (Timmins, 1995). Hiking clubs were paid a transport subsidy to reach the area, where they combed hillsides. In one weekend, 60 volunteers killed 170 000 trees and their enthusiasm boosted staff morale.

Community Weed Management Groups are an initiative in the Australian state of Tasmania (see www.dpiwe.tas.gov.au). Landholders (usually farmers) group together to tackle weed issues, and receive funding to employ a part-time officer who provides technical advice and co-ordination. Moreover, each group has legal power to force a landholder to control a weed.

In Zimbabwe, The Campfire Movement helps traditional landholders start new enterprises, such as game hunting tours, as alternatives to overgrazing and subsequent weed invasion.

Pest Identification Days

Weed identification days provide an opportunity for landholders and nature-lovers to learn how to identify and control weeds, using live or pressed samples and books or keys. Pressed weed samples can be given away. These can be laminated in a laminating machine or pasted to card with clear contact adhesive. Participants can be tested at the end of the day. In Tasmania, the government has trained 40 key people across the state (government experts and naturalists) how to recognise a target list of likely new weeds.

Courses

Courses that teach pest identification and management are run in colleges and universities. Australia's National Weeds Strategy is working towards national standards for weed professionals (see www.weeds.org.au/ncwc.htm)

Garden Plant Replacement

Near one New Zealand reserve where garden plants are invading, government officers visited residents, explaining that some of their garden plants were weeds, and offering to remove them on the spot and provide free non-weedy replacements.

Targeting Nurseries

Of almost 300 new weeds recorded in Australia since 1971, two thirds were garden escapees (Groves 1998). Government authorities are working with the Nursery Industry Association of Australia (NIAA) to develop a strategy in response. The government has supplied a list of 100 serious weeds and NIAA members are selecting the 52 they are most willing to stop selling. Nurseries are co-operating to pre-empt future restrictions, and because they earn bad publicity when weed problems are highlighted.

Under Logan City's Bushland Friendly Nurseries project, local nurseries are invited to stop selling invasive plants. The 10 participating nurseries now display a special logo and receive free listing in council publicity. The main benefit is public education because the nurseries give away free weed brochures. Most invasive species are plants no longer traded but commonly present in gardens. The nurseries are keen participants and regulate themselves. Other cities are now also adopting the scheme. A similar program in New Zealand, the Forest Friendly Award, failed when one large nursery chain refused to join, undermining the resolve of others.

Educating Children

Children are a key audience. Australia's Quarantine and Inspection Service has a CD-Rom for schools, "Quarantine Matters"! (available at <http://www.agis.gov.au/docs/schools/teachers.htm>), containing fact sheets, four games, a library, glossary, and answers to common questions. One computer game, Shall I declare?, explores the consequences of not declaring to quarantine a wooden giraffe brought back from Kenya. New Zealand's Department of Conservation used children to help control a rampant weed, old man's beard (*Clematis vitalba* L.) (Timmins, 1995). On Arbor Day in 1988, 2,095 school students cut the vine in forests to save trees. There were science fair projects and a television money-raising stunt to find the longest vine.

At one New Zealand school, children mapped out 10 invasive garden plants in suburban gardens, then mapped their distribution as weeds in nearby forest, drawing conclusions about cause and effect. In another project, using the Alien Invaders Teacher Resource Kit, students surveyed rural properties for any of nine serious weeds, then wrote letters to landowners inviting them to remove the weeds. The survey data were used in mathematics classes to teach the value of statistics and graphs.

In some parts of Australia, school students help by releasing biocontrol agents. They learn about weed problems and insect lifestyles, and the government saves money on distribution.

An Australian reserve runs a Junior Ranger Program, a very popular, two hour holiday workshop for young children (Cvelbar, 1998). They plant trees into prepared holes, thereby gaining a sense of ownership of the forest, then pull out weeds at a second site. This activity is stopped after 15 minutes to preserve its novelty and prevent children becoming over-excited. Native seed is then broadcast over a third site. The children discuss their activities and receive a certificate.

At an environmental centre, a puppet show for children shows how garden plants can wash into waterways and become weeds. Essay competitions are another possibility, and some government departments have developed education kits with weed components.

Discussion

Exotic pests do not receive the attention they deserve. The problems are much worse than is realised. Communication thus has a central role to play. Pest experts should be heard more often. They should sell the big picture, the idea that every weed, exotic animal and foreign disease is part of a vast alien invasion problem.

Since the 1970s, awareness has grown around the environmental costs of using high-energy, wasteful products, and many consumers now practise some ecological care, choosing small cars, low-energy appliances, and avoiding excess packaging. We need a similar leap in awareness about bio-invasion. People who travel, garden, farm, buy pets, export or import, should take into account the risks of spreading pests.

Pest education is still a new field. We need multi-skilled experts who understand both pests and communication. Governments should be doing much more. There should be major media campaigns, endorsed by top politicians and directed by advertising agencies, using television, radio and newspaper interviews and advertisements, endorsement by famous personalities, publicity stunts, fairs, displays, competitions, leaflets in letterboxes, and so on. A campaign would work best if tied to an important government report outlining the problem, identifying problem-causing groups, and proposing practical answers. A campaign could also be tied to training programmes for government staff.

As a priority, we need to change perceptions about plants. Plants sold in nurseries are not only colourful products invented to brighten people's lives, they are highly evolved organisms programmed to thrive in the wild. Just because they are immobile and unthinking does not make them benign. Botanic gardens, viewed properly, are collections of potential pests, zoos for plants but without cages. Gardening, especially near natural habitats, entails ethical responsibilities. Like driving a car it can be fun, but rules should be followed.

From the above examples of education and outreach, I suggest that the following principles contribute to successful programs:

- **Sell the big Picture**

One person's garden plant is another person's weed. The connections need to be made between 'innocent' actions and the problems they cause. Farmers fighting a certain weed should be told it was originally grown in gardens, that hundreds of other garden plants pose similar problems, that these are part of a much larger weed problem, and indeed a global bio-invasion problem. By painting the larger picture, pest management can make a stronger impression, involve more people and organisations, attract more funding, gain more publicity, and generate more concern about future invasions. Money is often wasted trying to oust one weed while others are allowed to establish. Gardening is a major source of weed invasion everywhere, but nowhere is there public acceptance of this fact. Rather than convince gardeners not to grow one errant plant, they should accept ethical responsibility for all their actions.

- **Learn from the Media**

Competition to sell products is so intense that market research is a burgeoning field. Much can be learnt from journalists, advertisers, publicists and media consultants. Ideas for promoting pest awareness can be gained from watching television commercials and reading cereal packets.

- **Be Positive**

Pests are inherently negative but people recoil from too much criticism or bad news. The community should be stirred into action, not numbed into immobility. Put a positive spin on your message – pests are terrible, but your aim is to help farmers and save forests. Use humour. Entertain. Many of the best examples of weed communication have used humour and gimmicks.

- **Always Offer Solutions**

Offer hope. Present the problems brutally then immediately offer practical solutions. Though damnation may lie around the corner, salvation is near at hand.

- **Deliver a Simple Message**

Distil the message down to a simple idea and present that first, dramatically and colourfully, with the supporting detail following. Slogans and logos add strength to campaigns, which is why advertisers and weed campaigns now use them. Journalists were intrigued by my simple statement "Gardening is harming Australia's environment more than mining".

- **Use Words Well**

Use words effectively. Does your audience realise that 'weeds' include colourful vines, shrubs and trees invading wilderness, not just small plants infesting farms and gardens? Use common language. "Spines as long as pencils" speaks louder than "spines 10-16 cm long". Use strong verbs (chokes, invades, marches, advances, entrenches, besieges), strong nouns (rogues, fence-jumpers, sleepers, villains) and occasional adjectives (mischievous, deplorable, abominable, scurrilous, baleful, truculent). Be direct. "You can help solve this problem" is stronger than "Community support is needed to diminish the impact of weed invasions".

- **Develop partnerships**

Community involvement works best when the community is empowered. Invite input. Develop community ownership of projects. Develop strategies by consultation. Avoid hierarchies. Work with businesses.

- **Be innovative**

Pest education is an emerging field, and the best techniques still lie in the future. All of the best Australian and New Zealand examples have been new and innovative. Ideas and technology will keep changing and strategies need constant upgrading.

- **Evaluate**

Evaluation is necessary to know if a campaign has worked. Timmins (1998) takes an honest and optimistic look at some New Zealand campaigns. Weedbuster Week saves costs on evaluation by encouraging group leaders to weave it into their sessions, at the end, by passing around forms seeking feedback. This feedback helps both leaders and Weedbuster organisers.

References

- AACM International (1997) Community involvement in off-reserve management of environmental weeds, p. 64. Environment Australia, Canberra.
- Blood, K., Taylor, U. Nugent, T., & Timmins, S. (1998) Weed Navigator Resource Guide, p. 96. Co-operative Research Centre for Weed Management Systems, Adelaide
- Bright, C. (1998) Life out of Bounds: Bio-invasion in a borderless world, p. 287. W.W. Norton & Company, New York.
- Commonwealth of Australia. (1997) The National Weeds Strategy, p. 52. Commonwealth of Australia, Canberra.
- Craw, C.J. (1996) The Good Plant Guide, p. 28. Northland Regional Council, Whangarei.
- Cvelbar, K. (1998) Learning is fun in the Junior Ranger Program. The Growing Idea (Greening Australia Queensland) Summer 1998, 19.
- Devine, B. (1998) Alien Invasion: America's Battle with Non-Native Animals and Plants, p. 288. National Geographic Society, Washington DC.
- Groves, R. H. (1988) Recent incursions of weeds to Australia 1971-1995, p. 68. CRC for Weed Management Systems, Adelaide.
- Humphries, S.E., Groves, R.H., & Mitchell, D.S. (1991) Plant Invasions of Australian Ecosystems: A status review and management directions, p. 188. Kowari 2, Australian National parks and Wildlife Service, Canberra.
- Kotler, P. & Roberto, E.L. (1989) Social Marketing – Strategies for changing public behaviour. Macmillan Inc, pp. 401. Free Press, New York.
- Lonsdale, W.M. (1994) Inviting trouble: introduced pasture species in northern Australia. *Australian Journal of Ecology* 19, 345.
- Low, T. (1999) Feral Future: The Untold Story of Australia's Exotic Invaders, p. 380. Penguin, Melbourne.
- Masters, B.K. (1996) Why community networks fails: The role of public servants and the community. *Nature Conservation 4: The role of networks.* (ed. by D.A. Saunders, J.L. Craig and E.M. Mattiske), pp. 443-450. Surrey Beatty & Sons, Sydney.
- Taylor, U., Blood, K., Nugent, T. & Timmins, S. (1999) The Weed Navigator: A contact directory and resource guide for weeds in Australia and New Zealand. 12th Australian Weeds Conference: Papers and proceedings. (ed. by A.C. Bishop, M. Boersma and C.D. Barnes), pp 123-124.
- Timmins, S.M. (1995) Community groups and weed control for conservation in New Zealand. *Nature Conservation 4: The role of networks.* (ed. by D.A. Saunders, J.L. Craig and E.M. Mattiske), pp. 443-450. Surrey Beatty & Sons, Sydney.
- Vitelli, S., Nugent, T., Blood, K., Taylor, U., Parkes, L., Boersma, M., Trounce, R., Britton, R., Lloyd, S., Munckton, C., Hills, L., Villis, K., Corey, S., & Peade, H. (1999) National Weedbuster Week: The past, present and future. 12th Australian Weeds Conference: Papers and proceedings. (ed. by A.C. Bishop, M. Boersma and C.D. Barnes), pp 125-129.