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# **The Costs and Benefits of a Proposed Mandatory Invasive Species Labelling Scheme**

Discussion Paper

**A Paper prepared for WWF-Australia by the  
Australian Centre for Agriculture and Law,  
University of New England**

**September 2005**

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## Executive Summary

In Australia, the economic impact of weeds and 11 key vertebrate pest animals has been calculated at \$4 billion and \$720 million per annum respectively. These figures primarily represent production losses and control costs, as the cost of weeds to the environment and biodiversity is largely incalculable.

The major invasion pathway for invasive plants and feral fish is through the garden industry and the pet fish industry respectively.

The 2005 CSIRO report, *Jumping the Garden Fence*<sup>1</sup>, documented that the source of 70% of Australia's agricultural and environmental weeds were escaped invasive garden plants. They are also set to dominate the new weeds that will naturalise in the future. Recent Weeds CRC analysis estimated that of the 4,600 referenced weed species yet to naturalise in Australia, 3,700 (80%) are introduced garden plants.

Invasive aquarium fish are by far the biggest source of emerging and new feral freshwater fish. The number of exotic fish in Australian waters jumped from 22 in 1990 to 34 today. All but one of the newcomers originated from the aquarium trade.

The essentially irreversible nature of many new invasions, combined with their cost to the Australian economy and the environment, warrants the implementation of an effective policy response to mitigate the risk associated with these major invasion pathways.

In December 2004, a Federal Senate References Committee handed down the report of its enquiry on invasive species. Titled *Turning back the tide - the invasive species challenge*, the report provided a comprehensive evaluation of the many aspects of this challenge. Among its findings were recommendations that a process be established under the National Weeds Strategy to examine the merits of a mandatory labelling scheme on invasive garden plants; the nursery and garden industry give consideration to labelling of all plants which may have invasive characteristics and should be managed responsibly; and, that gardening and lifestyle programs be encouraged to include health warnings about the appropriateness of plants on their shows.

This report aims to provide an impetus to these proposals. It is focused upon the potential contribution of such a mandatory labelling scheme to reduce the costs and impacts of invasive garden plants and ornamental fish to the environment, government and primary industry. The report involves an in-principle evaluation of the mandatory labelling option relative to a simple ban and voluntary strategies. It does not pretend to provide a definitive answer to the questions that it raises, nor to present empirical data in support of one position or another. The report presents the issues associated with labelling strategies to support invasives control regulation, the case for point-of-sale information, discusses the requirements for a behaviourally effective mandatory labelling scheme, and suggests why a mandatory rather than a voluntary program is likely to be most effective.

In an attempt to ensure a balanced view, an early draft of this report was circulated to a small group of experts who reflect different perspectives. They included experts from Nursery and Garden Industry Australia, Weeds CRC, government agencies and WWF-Australia. We have attempted to reflect the

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<sup>1</sup> Groves, R.H., Boden, R. & Lonsdale, W.M. *Jumping the Garden Fence: Invasive Garden Plants in Australia and their environmental and agricultural impacts*. CSIRO report prepared for WWF-Australia. WWF-Australia, Sydney. 2005.

issues and questions that they raised in this report, but of course do not assert that this report or any of its content is endorsed by them. A number of other people were provided with copies of the draft report but were unable to comment.

The report highlights the need to manage the risks associated with these invasion pathways through a nuanced suite of policy instruments: together these need to target strategic intervention points to control threats and behaviours that result in the intentional or accidental spread of invasive species around Australia. The Department of Treasury *Intergenerational Report* finding that future government budgets will be increasingly constrained reinforces the case that interventions need to focus on those that prevent weed problems in the first place, rather than reactive policy options based on high cost control interventions that will become increasingly too expensive to implement.

As the main pathway for invasive plants and freshwater fish is based on discretionary consumer or distributor choice, where low risk species are usually available that achieve near-equivalent consumer benefits, labelling at point of sale can serve as an important prompt for consumer behaviour as part of a comprehensive policy mix.

Purchase transactions are an important potential intervention point since they can be used to:

- Encourage consumer purchasing preferences toward plants and fish that are benign or positive in their impacts;
- Stimulate action to reduce the risk of future invasions, such as retro-fitting gardens or replacing high-risk fish species in ornamental ponds;
- Provide information to enable purchasers to implement actions that prevent the spread of any invasive species they have purchased.

The report concludes that a mandatory labelling scheme has the potential to be a valuable component in a least cost strategy for the control of traded invasive plants and fish.

It highlights that whilst a basic species labelling approach will be of some value, a more comprehensive approach to changing consumer behaviour will be required if the industry and government wish to reduce reliance on traditional bans and policing approaches. Labelling works best when part of an overall program of information and incentives directed towards the desired behaviour, and when precisely targeted and executed.

The study shows that whilst achieving a behaviourally effective approach will not be easy, such an achievement could deliver substantial benefits to both industry and the government, whilst reducing the costs of invasive species on the environment and on primary industry.

## Introduction

In December 2004, the Federal Senate Environment, Communications, Information Technology and the Arts References Committee handed down the report of its enquiry on invasive species. Titled *Turning back the tide - the invasive species challenge*, the report provided a comprehensive evaluation of the many aspects of this challenge. Among its findings were the following

*Recommendation 25*

*The Committee recommends that the Commonwealth, States and Territories, the Nursery and Garden Industry Association and other stakeholders, including conservation NGOs, establish a process under the proposed National Weeds Action Plan [National Weed Strategy] to examine the merits of a mandatory labelling scheme on invasive garden plants.*

*Recommendation 26*

*The Committee recommends that the nursery and gardening industry give consideration to labelling of all invasive plants which, while able to be sold legally, may have invasive characteristics and should be managed responsibly.*

*Recommendation 27*

*The Committee recommends that gardening and lifestyle programs should be encouraged to include warnings about the appropriateness of the plants suggested on their shows. Such warnings could require an indication of the country of origin of the plant, the areas it is indigenous to, and whether it has proven invasive elsewhere.*

This report is focused upon the potential contribution of such a mandatory labelling scheme for nursery-distributed plants, and also ornamental fish to the reduction of the costs of invasiveness upon the environment, upon government and upon primary industry. The report is an in-principle evaluation of the mandatory labelling option relative to either a simple ban and totally voluntary approaches. This is a conceptual examination intended as a precursor to a more empirical evaluation and dialogue leading to an agreed and effective strategy.

We ask the question ‘which of these alternatives is likely to be optimal, and under what circumstances?’ and we put forward some suggestions for the use of information strategy to complement regulatory strategy.

The report indicates that:

- a) Whilst species bans and barrier strategies are necessary to the control of invasives, they alone are not sufficient to the task. Invasives legislation in Australia suffers from many limitations, as noted by the Senate enquiry. Among these is the delay between the emergence of a hazard and regulatory response, inadequate resource to implement legislation, and a lack of uniformity of controls. Species bans in themselves require that those trading know what is being sold and those who enforce the legislation know what they are assessing, which is not always the case. At this basic level, species identification labels can contribute to effective enforcement of bans.
- b) Bans suffer from the additional limitation; that they do nothing to assist with the rectification of already established problems. A more comprehensive strategy would provide an impetus for consumers and others to take action to remove ‘invasive risk’ species, and to support actions by agencies and consumer groups to rectify current problems.

- c) The engagement of the community in the task of invasives control, and the securing of sufficient resources and technological innovation to meet the challenge of plants and fish which have or will bypass the barriers is essential. A comprehensive policy would combine barrier, regulatory and information strategies to achieve this engagement.
- d) Purchase transactions are an important potential point of intervention to achieve a number of strategic aims, moving beyond merely preventing the entry of new invasive species into Australia and into the States and Territories. These include
  - a. redirection of consumer purchasing preferences to plants and fish that are benign or positive in their impacts;
  - b. stimulating action to redress past invasions, such as retro-fitting gardens or replacing undesirable fish species in ornamental ponds, or moving toward positive action to report and control outbreaks.
  - c. providing information enables purchasers to implement actions to prevent the spread of invasive species.
- e) Whilst banning of a number of species will not necessarily have a major economic impact on the total retail nursery or ornamental fish retailers (due to switching possibilities), the net cost to industry is likely to be minimised by an information strategy rather than a blanket ban. This is particularly because such a strategy will allow the garden sector to ameliorate costs by
  - a. Graduated transitions, perhaps aided by some compensation to industry participants with long lead time inventories;
  - b. Lower transaction costs from an information rather than a simple banning/policing approach;
  - c. helping the industry to avoid future civil liability potential; and
  - d. providing the opportunity for the industry to profit from species switching, retrofitting of gardens and sale of invasive species control products.
- f) For industry (and depending on industry's attitude), increased involvement in consumer education and harm minimisation may be a mechanism to increase consumer reliance on their perceived expertise, and result in strengthened market positioning as a source of environmental and lifestyle expertise.
- g) For government, an industry-led strategy is probably lower cost than a regulatory strategy, as the costs of continuous regulatory amendment, policing and enforcement will be better controlled than under a regime where all control costs fall on government.

A mandatory rather than a voluntary program will be more effective, due to:

- a. The high fixed cost nature of an informational strategy, and the economic inequality of load-sharing that arises with a voluntary program;
- b. The risk that the program will fail to achieve its aims unless there is wide industry coverage.
- c. The potential for ongoing political debate, with resultant costs to government and the industry if the labelling scheme is not seen as an effective equivalent to a compulsory ban.

Overall it can be expected that a mandatory labelling scheme will be a cost-effective complement to regulated barriers to invasives import and sale, PROVIDED THAT:

- a. a behaviourally effective design for the informational program can be designed and deployed, either prior to, or in tandem with a mandatory labelling scheme;
- b. the fundamental regulatory and administrative system is able to efficiently underpin the scheme; and
- c. the industry and government commits sufficient resource and effort into the scheme to overcome the weight of inertia that such a scheme will have to overcome.

Implicit in this is both an opportunity and a challenge for the retail nursery and aquarium industries. To make the least cost model economically viable will require that the industry reposition themselves towards becoming a more knowledge intense professional supplier of both product and data with higher than traditional levels of professional intervention and ethical responsibility. There are examples of this repositioning being in the interests of an industry<sup>2</sup>, but the challenge is substantial.

Should the conditions for success for a 'soft' alternative to increased regulation not be met, a comprehensive banning approach is likely to be more cost-effective for the total community (including primary industries that suffer the costs of invasiveness) than a behaviourally ineffective information strategy. However, the costs to government and industry of a more comprehensive and aggressively policed suite of bans are likely to be so high that it is clearly in their interest to make a softer and more flexible approach work.

This requires a nuanced suite of policy instruments that together target a number of strategic intervention points, to control threats and behaviours that result in the intentional or accidental spread of invasive species around Australia. Labelling at the point of sale would serve as a prompt for consumer behaviour as part of such a strategy.

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<sup>2</sup> Notably the Pharmacy profession, which has strategically positioned itself as a responsible retailer which delivers cognitive services as well as product.

## The issue

*The economic impact of invasive species is also high. The economic impact of weeds and 11 key vertebrate pest animals has been calculated at \$4 billion and \$720 million per annum respectively. These figures primarily represent production losses and control costs, as the cost of weeds to the environment and biodiversity is largely incalculable. This compares to an estimated combined annual cost of salinity, sodicity and soil acidity of \$2.4 billion.*<sup>3</sup>

The 2005 CSIRO report, *Jumping the Garden Fence*<sup>4</sup>, details the environmental and agricultural impacts of invasive garden plants and the number of naturalised invasive garden plants still for sale. Invasive garden plants make up 70% of agricultural and environmental weeds, and cost farmers \$100m's each year in control costs and lost production. Recent Weeds CRC analysis found that of the 28,000 introduced plant species, 5,587 are referenced weeds intentionally introduced and cultivated for horticultural purposes of which, over 3,700 have been cultivated but are yet to naturalise.<sup>5</sup>

For primary industry and government, the spread of weeds represents a major cost, both for control and in lost production. For the community generally, the economic cost is compounded by the harm to the environment caused by weeds. Weed control is economically and environmentally of major importance to Australia<sup>6</sup>. Once invasive species are widely established, their removal is almost impossible – an irreversible change has occurred.

Invasive aquarium fish are by far the biggest source of emerging and new feral freshwater fish. The number of exotic fish in Australian waters jumped from 22 in 1990 to 34 today.<sup>7</sup> All but one of the newcomers originated from the aquarium trade. Any serious attempts at overall control of invasive fish are likely to be costly due to the widespread and fugitive nature of the problem.

Regulatory strategies are a necessary part of the armoury of invasives control, particularly barrier controls over introduction of potentially harmful species. However regulatory strategies also impose costs on the agencies and on the enterprises that implement them. Industries may also suffer side effects of additional transaction costs or loss of competitive freedom that can go with regulation.

There is ample data to suggest that the current regulatory approach is not stemming the tide of invasives. The Senate enquiry discussed many aspects of this failure.

A failure of limited and uncoordinated regulation creates a vicious circle, leading to demands for more, and more constrictive, regulation which will impose even higher cost to industry and government. It is for this reason (even if for no other) important to all stakeholders that weed regulation works, in a least-cost manner. Regulatory approach may be enhanced by informational strategies as part of a systemic and comprehensive policy. Such a program should be based on

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<sup>3</sup> Para 1.3, *Turning Back the Tide*, Australian Senate, 2004

<sup>4</sup> Groves, R.H., Boden, R. & Lonsdale, W.M. *Jumping the Garden Fence: Invasive Garden Plants in Australia and their environmental and agricultural impacts*. CSIRO report prepared for WWF-Australia. WWF-Australia, Sydney. 2005

<sup>5</sup> Randall, R. Plants Database, WA Agriculture (2005, unpublished data)

<sup>6</sup> The Senate enquiry noted that even the \$4B pa cost ascribed to weed cost is a substantial understatement, failing to account for impacts on biodiversity, landscape, tourism, water, labour costs of volunteers; and other asset and industry costs that could not be quantified. No indication was provided for invasive ornamental fish.

<sup>7</sup> Lintermans, M. Human-assisted dispersal of alien freshwater fish in Australia. *New Zealand Journal of Marine and Freshwater Research*. 2004. 38, pp.481-501.

## Costs and Benefits of a Proposed Mandatory Invasive Species Labelling Scheme

- a. addressing all stages of the invasives cycle, from the buyer's initial search, through purchase, import, propagation, sale and distribution, early acclimatisation and naturalisation, through invasion to removal or recovery action; and
- b. using a comprehensive suite of instruments at all stages, including barrier regulation, market instruments, incentives, improved information, civil and policed controls, and voluntarism.

This document addresses only part of the required integrated approach.

## Strategies to support regulation

In the pursuit of sustainability, the choice of strategy partly depends upon the conceptualisation of the challenge. Invasive species can be characterised as diffuse source bio-pollutants of ecosystems, and like all diffuse sources they are difficult to regulate. The main pathway for initial establishment of invasives is discretionary consumer or distributor choice, where usually there are lower risk species available to achieve near-equivalent consumer benefits. Once the contaminant is established, both impacts and control costs can be very high, and the transaction costs of regulation can be very high (if the regulations are actively implemented and enforced). These characteristics suggest the importance of using market strategies as an alternative to, or to supplement, traditional barrier regulation.

Sustainability strategies ultimately depend on the manipulation of only two things. The first is the flow of resources and the second is the flow of information. The means to manipulate these flows include regulation, incentives, market instruments, education and communication. Ideally, all the elements are used in a coherent fashion together to achieve an optimal result<sup>8</sup>.

Market strategies include:

- economic incentives for desired behaviour, including the use of taxation to create positive or negative incentives;
- improved consumer information to guide their purchasing preference, or their use behaviours; and
- private (often tradeable) rights in resources, often associated with
- private litigation to defend private rights or to ameliorate harmful actions upon the environment which create private costs.

Many of these strategies create a form of ‘partnership’ between industry and government to achieve an important shared objective. In many cases the underlying motivation is to avoid the need to rely on ever-increasing regulation and policing. The international experience shows that there are many possible combinations of regulation, private action, incentives, and information strategies that are used to control diffuse source contaminants and to shape consumer or industry behaviour. The examples set out on the following pages are intended to demonstrate the range of options available to the garden and ornamental fish industries and government, from which a more comprehensive program could be generated.

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<sup>8</sup> Paul Martin & Miriam Verbeek *50,000,000 Australians: Is Sustainability Possible* LWA Project TPF2 September 2002.

**Table: Diversity of market-based interventions**

<b>Region</b>	<b>Description</b>
<b>Australia</b>	The Ozone Protection Act (1989) banned import and manufacture of ozone depleting substances with some exceptions together with a "used substances licence" for the import and export of used or recycled CFCs. Quotas were to be introduced if voluntary efforts by industry do not reach the targets. Fees were levied to cover administrative costs.
<b>Victoria</b>	The Accredited Licensee Scheme came into existence in 1994 to provide good environmental performers with increased flexibility to manage their own environmental performance within the context of the legislation. Benefits included reduced licence fees, freedom to determine their own environmental works, and reduced approval requirements for certain new works. The scheme was voluntary.
<b>Columbia</b>	Columbian law requires that water charges to incorporate the cost of service and environmental damages.
<b>USA</b>	An Oil Spill Liability Trust Fund was set up using taxes on all petroleum products, regardless of how they are transported. The fund can be used to meet unrecovered claims from oil spills.
<b>Sweden</b>	Since 1989, Sweden has had a compulsory insurance system to compensate for damages when polluters cannot be identified, managed by private insurance companies and financed by 10,000 "operators of dangerous facilities".
<b>USA</b>	The EPA and the US Department of Energy developed the Energy Star program, in which energy efficient products can display an EnergyStar label. The label does not provide specific information on the product, but signals to consumers that the product is, in general, "energy efficient".
<b>USA</b>	Through a "Performance Track" approach, firms receive a standard package of incentives such as public recognition for meeting environmental criteria. Firms that routinely do much more than meet established requirements can be placed on a smaller second track and receive a higher level of recognition and incentives more closely tailored to their individual needs.
<b>USA</b>	The Surface Mining Control and Reclamation Act (SCMCR) of 1977 requires the purchase of performance bonds before surface coal mining and reclamation permits can be obtained. The fee depends of reclamation requirements, anticipated difficulty of reclamation, and revegetation potential.
<b>USA</b>	A coalition of government and private interests developed a plan to reduce phosphorus releases into the Dillon Reservoir supplying Denver. Regulations require developers show a 50% reduction of phosphorus from pre-1984 norms. New non-point sources must offset all of their discharges by using a trading ratio of 1:1 with existing non-point sources. For point sources that are above their allocation must obtain credits from point or non-point sources for twice the amount of the excess from sources that are below their allocation.

- USA** Louisiana's environmental scorecard program links tax exemptions for companies to their environmental performance. The scoring system determines that companies receive a base exemption of 50% and then rates their environmental behaviour to determine how much of the remaining 50% they could obtain.
- USA** New Jersey citizens who report illegal dumping to environmental authorities receive 10% of any civil penalty or \$250, whichever amount is the larger. Information leading to criminal convictions is rewarded by 50% of the collected penalty. The identity of those seeking rewards is protected.
- USA** The Coal-bed Methane Outreach Program provides information to address obstacles to mine methane recovery and development, including recovery technology, obtaining financing, the lack of markets for recovered methane, and the uncertainty concerning ownership of mine methane. US EPA developed guides for state, local, and federal assistance programs to pinpoint sources of loans, grants, and technical assistance for profitable coal mine methane projects as well as a comprehensive guide for private-sector financing of coal mine methane projects.
- USA** On October 17, 2000, EPA and several leading US employers launched the Commuter Choice Leadership Initiative. Under a Commuter choice leadership agreement, employers commit to working with EPA to develop new commuting benefits and services for their employees. Commuting options include: parking cashout (allowing employees to trade their free parking space for cash), transit fare subsidies, telecommuting, compressed work schedules, flexible work schedules, carpools, vanpools, bicycling to work, walking to work, environmentally-friendly vehicles. US EPA has committed itself to helping Commuter Choice leaders and their employees by providing public recognition for initiatives, technical assistance, analytical tools identifying benefits and a forum for exchanging ideas and experiences.
- USA** Responsible Care is a 190-member industry trade association in the US which has grown to be international in scope. It includes firms in at least 40 nations, firms that represent more than 85% of the global chemicals industry. It provides members with general guidance documents that explain how companies may adopt management codes in: community awareness and emergency response, pollution prevention, process safety, distribution, employee health and safety, product stewardship.
- USA** In Adopt-a-Highway Programs, volunteers agree to periodically clean up selected stretches of roadside. The programs vary from state to state. They typically involve agreements by organisations to clean up a stretch of roadside that is approximately two miles long and to do so two to seven times a year, for 1 to 3 years. The state usually offers trash bags, safety vests, and other gear, and at least one sign to be placed on the adopted roadside that indicates the name of the adopting organisation.

- France** In 1966 France passed legislation that enabled charges to be levied on public or private groups or individuals if they: Contribute to the deterioration of water quality; Alter a river basin's aquatic environment; Extract water for use from natural sources; or Extract water for use from natural sources. Subsidies for measures aimed at improving or safeguarding water quality may also be granted to private or public concerns. A compensation system, known as the subsidy for waste-water treatment, was introduced to offset the water pollution charge for those persons or bodies who treat waste water before discharging it. This measure was intended to act as an economic incentive for polluters to take steps to avoid the deterioration of water quality.
- Sweden** The municipalities of the County of Vasternorrland, together with the country's Association of Local Authorities, have compiled material for environmentally adapted procurement. This has been put into a file together with criteria for 21 different product areas, such as chemicals, packaging, transport, office supplies and foodstuffs. The file also contains information on national environmental targets and legislation as well as various eco-labelling systems.
- Germany** Under the German Ordinance for the Avoidance of Packaging Waste, manufacturers must reuse outer merchandise packaging or pay to recycle it. The program divides packaging into transport use (pallets, crates), secondary packaging (outer boxes and cellophane wrapping) and primary packaging (bags, boxes, tubs, tubes). Consumers are able to leave with retailers any secondary packaging they do not want, after paying for the product it held. Retailers must pay for the removal and recycling of the discarded materials. The suppliers then return the packaging to the manufacturers, who are required to use it or recycle it privately, outside the municipal waste stream. The law also allows manufacturers to pool resources to form a large collection and recycling system.
- EU** The EU Flower is an ecolabelling scheme which uses a life cycle assessment methodology to study the environmental impacts of products. The cradle to grave assessment is undertaken voluntarily by companies, and is performed by a competent body within each member state. Proposals for the definition of product groups comes from the EU Commission, however, the preparatory work often comes from an EU member nation.
- Singapore** Green and Clean Week is an annual campaign held every November. This annual environmental campaign directed at educating the public involves the joint participation of national leaders and the community. Activities during Clean and Green Week are broad-ranging and highly targeted. They include strong media campaigns to bring home the environmental message, exhibitions, seminars and workshops, beach cleaning and the planting of trees. Green Leaf Awards, in recognition of the achievements of individuals and organisations in protecting and preserving the environment, are given out during the week.

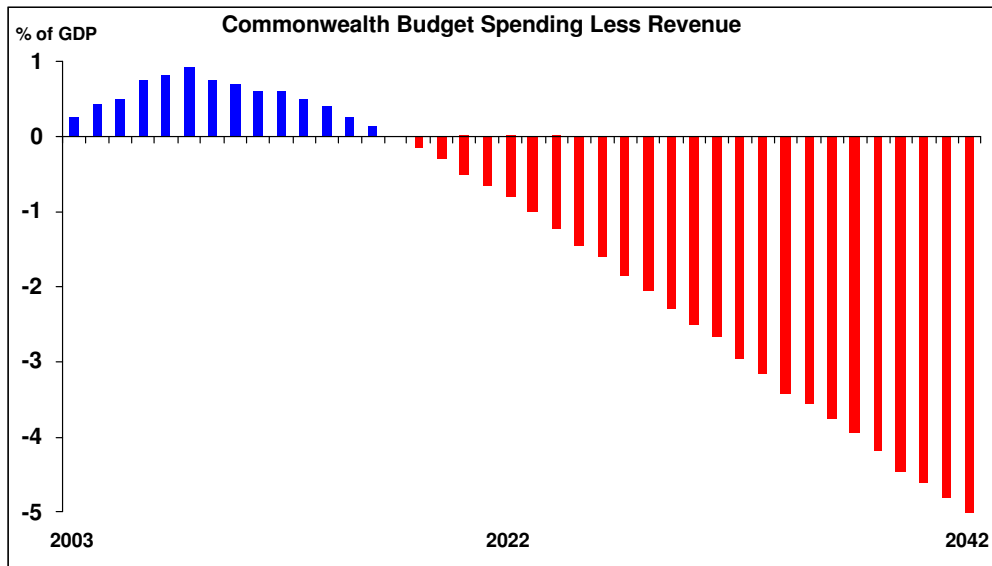
The variety of examples suggests that many different market strategies could be designed which would supplement barrier regulation. These might (for example) range from relatively shallow interventions such as availability of information at point of sale, to 'deep-intervention' mechanisms to ensure full-cycle responsibility for introduced species.

Fiscal considerations suggest that moving from essentially sole reliance on traditional regulation may be advisable. Actions by government rely upon taxation to fund the human and other resources. Even with current demands, the gap between what is expected of regulators and what they are able to

deliver is substantial. The indications are that this problem will be exacerbated by a combination of growing demands on taxation funds with ageing, and increasing pressures on environmental protection.

This is no more clearly indicated than by the federal Intergenerational Report<sup>9</sup> (IGR). In 2004 the Australian Treasurer highlighted the projected balance of government income and expenditure. The graphic below shows that forecast. At first blush it highlights the fact that government budgets will be under growing pressure.

### National fiscal projections



Going deeper into the IGR shows that even this worrying projection is based on an assumption of zero Commonwealth expenditure on environmental protection.

For those concerned with limiting the spread of invasives or remediation, this data suggests that environmental strategies based on increased government expenditure are likely to encounter significant fiscal challenges, or come at the cost of expenditures on other equally important requirements. It also suggests that political contests over government funds will intensify, and environmental investment funding become even more volatile. Strategies which rely on private sector resources would complement and may potentially have to substantially replace programs reliant on government funds. This observation is not an ideological argument about markets versus regulation, but a pragmatic realisation that the advantage of markets may be that they allow resources to be accessed that are otherwise not going to be available.

Should a deeper, non-regulatory intervention be needed, it is possible to envisage market arrangements such as:

- a. A program equivalent to the oil industry disaster recovery fund, under which businesses which benefit economically from taking the risk of introducing new species also provide an insurance scheme against at least the initial costs of the crystallisation of these risks;
- b. Facilitation of civil action in the event of introductions, by evidentiary or right to stand rules or by tracing requirements.
- c. An industry/government licensing arrangement, under which a distributor of potentially

<sup>9</sup> 2002-03 Budget Paper No. 5 Intergenerational Report 14 May 2002, Commonwealth of Australia

invasive plants would have to have in place a positive control program against invasives in their region.

Until very recent times, the use of integrated strategies to control invasive species has not been common, but the first signs of the application of market-based approaches are emerging<sup>10</sup>. In Canada, the Canadian Nursery Landscape Association has launched a nursery quality assurance program for the grower industry aimed at ensuring continued competitiveness with, particularly, the US market, and timely response to Government induced changes to nursery management practices and Pest Management certification<sup>11</sup>. In this paper, we primarily consider the use of labelling at the consumer point of purchase. However, the prospect of private litigation may also be an important incentive for industry to wholeheartedly embrace such a scheme.

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<sup>10</sup> Richard D. Horan and Frank Lupi "Tradeable risk permits to prevent future introductions of invasive alien species into the Great Lakes" *Ecological economics* 52 (3, 2005) : 289-304 and Jason F. Shogren and John Tschirhart "Integrating ecology and economics to address bioinvasions" *Ecological economics* 52 (3, 2005) : 267-271

<sup>11</sup> <http://www.canadanursery.com/canadanursery/cnla/nqa.lasso>

## The case for point-of-sale information

The arguments for a more comprehensive and stronger regulatory barrier approach include the gross economics of the potential impact of species released into the environment relative to the costs to the garden and aquarium sectors of not having particular invasive species for sale. The data reviewed suggests that in a measurable economic sense the case for bans in most cases would be relatively easy to make. This is particularly because of the availability of alternative ornamental plants and fish to meet the needs of consumers, and because regulatory transaction costs are likely to be small relative to the demonstrated adverse impacts of already invasive species.

The Senate enquiry however, illustrated many problems with Australia's invasives barrier strategies. These include the resource limitations of policing and response strategies, lack of uniformity, slow response to new introductions, and high transaction costs to government and industry. Deficiencies in the legal and policing mechanisms make barriers permeable.

Whilst it may be possible to legislatively restrict potential invasions through the formalised nursery and aquarium trades, invasive pathways will still remain open. These pathways include direct import, informal trading (such as the widespread practice of taking cuttings, or through plant or fish interest group exchange), conscious avoidance of controls (particularly in the case of high value exotic species), and inadvertent spread (for example, by seeds of invasives attached to clothing). A risk with increased reliance on barrier strategies is that supply will simply switch to more diffuse sources, making intervention more difficult (and reducing trade for the legitimate industry).

It is such observations that form the case for complementary market interventions such as improved consumer information (including point of sale labelling). The obvious arguments are related to the documented inefficiencies and resourcing problems which will continue to dog traditional regulatory mechanisms. The less obvious, but more important argument is that an informational strategy with a strong point of sale (POS) approach may provide a means to restrict invasive species, and also provide some momentum for remediation of already established problems. If a point of sale approach can deliver this advantage, it may be superior to a blanket ban.

The point-of-sale is an important moment in any transaction. It is when the consumer makes their decision, and interacts with the seller. It is at this point when the seller has the greatest opportunity to influence consumer choice. In the case of potentially invasive species, this is when the consumer may be educated to:

1. Voluntarily select species that are likely to be less harmful;
2. Adopt a management approach that reduces the harms if they do select a potentially invasive species;
3. Consider replacement of their existing species with less harmful species; and
4. Take an active role in ameliorating existing problems, such as by participating in collective efforts like Landcare or Bushcare, controlling problems under their direct control, or by reporting outbreaks to authorities for early intervention.

POS labelling has intuitive appeal<sup>12</sup>. It is relatively cheap, minimally disruptive, and easy to implement. However, unless it delivers material behaviour change along the lines noted above, it will not be cost-effective. It is the issue of effectiveness, that is the greatest challenge for advocates of a labelling scheme as an alternative to stronger and more comprehensive barrier strategies.

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<sup>12</sup> State Forests SA have some ten years experience in labelling weedy species, which may provide useful insights into design and effectiveness issues .

Despite its intuitive appeal, POS labelling may be quite complex. One aspect of this is the complexity of the distribution channels, another is behavioural complexity (addressed later in this report).

There are diverse distribution channels for both fish and plants (eg direct from growers, markets, retailers, landscapers, mail order). The changing nature of distribution channels also needs to be considered. Research indicates that the proportion of economic activity in the garden market undertaken by landscapers is growing whilst that of the garden centre and hardware retail sectors is contracting. In the ornamental fish sector, private trade seems to be a major consideration.

It is also important to consider how different channels operate, as illustrated with plants. Whilst every potted plant sold in a retail establishment may carry a label, landscapers often purchase plants direct from growers or from a 'cash and carry' multi-nursery business. Typically only a small percentage of the stock will carry labels so the grower can save on the cost of supplying and attaching labels and the landscapers avoid removing labels attached to plants after they have been installed. For a mandatory labelling scheme to be effective, provision needs to be made to ensure the labels of invasive plants supplied by landscapers reach the final owner of the plant. Similar variations apply with ornamental fish distributed through different channels. POS labelling strategies would need to be tailored to each distribution channel if 100% coverage is the aim.

## Liability potential from failures to inform or control

In recent years, many industries have had an unpleasant awakening to civil liabilities that had long remained dormant. The tobacco industry was perhaps the first and most dramatic, but this has been followed by actual or portended civil actions against suppliers of children's playground equipment, 'fast-food' outlets, obstetricians and anaesthetists, liquor companies, asbestos suppliers, local governments, schools, and many other suppliers of goods and services. The common feature in all such claims is the argument that the industry was aware of the harm-causing potential of its product, and chose not to take the responsibility for either warning of the risks and required controls, or to directly control that risk. In recommendation 8 from the Senate enquiry on invasive species, the first tolling of this bell for the nursery and exotic fish retailers may have been sounded.

*The Committee recommends that the Commonwealth Government investigate the imposition of a 'polluter pays' principle where importers pay for the cost of control and repair should a plant become a weed.*

This civil liability risk exists today. Some of the principles which could lead to successful civil suits are outlined below. Adopting a preventative approach may be in the best interests of the suppliers of potentially invasive species which can cause actionable economic loss, regardless of any action by government.

Lord MacMillan said in Donoghue v Stevenson [1932] AC 562. *that the categories of negligence are never closed*. The history of civil actions demonstrates that merely because a legal liability has not been crystallised in a similar case does not mean that the liability does not exist. The fact that there has not been an action for introduction or spread of invasive species does not have any real bearing on whether such an action is possible.

The cases demonstrate that the introduction of a harmful biological agent into an environment, where it is foreseeable that economic harm is possible, does create a sufficient relationship to found a negligence claim. The most relevant case is Perre v Apand Pty Ltd (1999) 198 CLR 180, which involved introduction of contaminated seed.

There are ample cases to establish the principle of a duty to disclose when a danger of harm is known. Whether this would extend to a duty to disclose invasiveness potential is a matter for the courts when faced with an action. This is not, however, a difficult extension of past principle.

There are also other legal principles which could found civil action. Possible approaches include:

- a. Under S52 of the Trade Practices Act, a failure to disclose a relevant fact of which a supplier is aware can be misleading. It is not necessary to prove that this led to economic loss to be successful under this approach.
- b. Section 71, or Section 74A of the Trade Practices Act, require that the supplier provide products that are reasonably fit for the intended purpose, or specifically fit for a particular disclosed purpose. As invasive potential is a relevant consideration for some purchasers, this is a possible basis for action.
- c. There is a long history of cases concerned with adverse impact on neighbours. Rylands v Fletcher (1868) LR 3 HL 330 deals with an isolated instance of escape while nuisance is concerned with a continuing wrong. Prima facie you are responsible for all the damage from the escape of something harmful from your land. Civil liability for a supplier of an invasive species is most likely to arise as a secondary impact of a purchaser themselves being held liable to a neighbour, and then seeking recompense from the supplier of the original species.

- d. Perhaps the most relevant example of tort liability is City of Richmond v Scantelbury [1991] 2 VR 38. A council was not strictly liable for damage caused by roots of trees planted 100 years ago but was held liable for failing to take reasonable steps to prevent it once they knew or ought to have known of spread of roots. The analogy with invasiveness seems reasonably clear.
- e. Finally, there is a host of state and federal statutory possibilities for liability, particularly if invasive species can be conceptualised by the courts, as we have conceptualised it in this report, as a form of escaped contaminant of the environment.

The barriers to civil liability are the issues of standing to sue, and evidentiary barriers to proving that a particular introduction led to the harm. Whilst there is no ‘as of right’ plaintiff for the environment, economic costs of attempts to control invasives spread or loss of productivity with invasives contamination are easy to demonstrate. Claims to recover such costs would not be barred, nor would invasive damage to economically valuable land or waters. Causation, whilst potentially difficult is not impossible to deal with either using traditional probabilistic approaches, or modern genetic tracing.

Industries adopt a range of strategic postures in relation to potential future civil liability for harms of which they are aware. Two postures that have historically proven to be unsuccessful are to ignore the risk, or to take minimalist stances in engaging with its control. It is informative to see the way in which modern ‘fast food’ companies have responded to the threat of anti-obesity actions by making fundamental changes to their product offerings, to disclosure, and to consumer education. This perhaps points the way to the nursery and aquarium industries.

The observation has been made that the purpose of a mandatory labelling scheme may be ambiguous. As with health warnings on cigarette packets is the primary purpose of the label to influence demand (stop people smoking), or is it to avoid liability (of the tobacco industry)? In reality, regardless of purpose the important question is ‘will it work?’ Once a risk is known, any failure to make an attempt at meaningful control and warning increases legal liability potential. The most effective defense is to reduce the root cause of the risk itself. An informing strategy that both reduces the risk and informs those who take it is a sensible strategy for an industry facing liability potentials.

## Behavioural effectiveness

In its most basic form (notice of species name, to support identification) POS labelling is likely to deliver some benefits. Common names of plants are easy to confuse and can lead to misidentification of plants, making it harder for consumers to benefit fully from complementary information about likelihood of invasiveness of a plant in question and alternatives<sup>13</sup>.

Examples were cited of mis-labelling which could contribute to consumer confusion and the possible aggravation of the invasives challenge (even when the consumer is positively motivated to prevent this spread). Such mislabeling could arguably be characterized as 'misleading or deceptive conduct' under the Trade Practices Act, giving rise to the risk of penalties for the vendor or labeller even when the breaches are inadvertent. One instance (of a number provided) is illustrative of the challenge.

Arum lily, *Zantedeschia aethiopica*, is a declared noxious weed in Western Australia - in certain regions south of Perth. Reportedly a dwarf form is available for sale at outlets as *Zantedeschia childiana* - dwarf white calla lily instead of it being correctly labeled as *Zantedeschia aethiopica* cv. 'Childiana'. This has the same weed potential as ordinary arum lilies as well as another cultivar of *Zantedeschia aethiopica* cv. 'Green Goddess' which has already escaped from gardens in Western Australia<sup>14</sup>.

Accurate naming is likely to allow those who have sufficient knowledge and interest to differentiate in making their selection, and potentially allow better tracking of species distribution. A requirement that all plants be accurately labelled with full name may also ensure that plants with invasive potential, even where invasiveness has been discovered after introduction, can be more easily tracked. Compulsory botanical name labelling of all plants combined with a registry of labels may help discover synonym names of invasive plants that might otherwise be missed<sup>15</sup>.

Over time, accurate naming will improve consumer education at least among the segment with an interest in being educated. Behavioural effectiveness beyond such limited goals will require a sophisticated approach, and the more ambitious the aims the more complex are the communications issues. This section is intended to highlight some of the considerations that ought inform design of a more ambitious strategy.

In consumer marketing it is not abnormal to find well-funded advertising programs supported by substantial market research, devised by experienced marketing organisations, failing. Empirical studies create the impression that around 50% of such launches fail. Behaviour is complex, and the triggers that change behaviour are often subtle and depend greatly on context. There is a body of case studies that indicates social marketing is equally fraught.

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<sup>13</sup> The invasive species spread models show that the vast majority of weeds spread very slowly, and it is not the cultivation of the plants that caused the rapid spread, it is introduction to suitable habitats. The desirable traits of plants - for pasture, lawns, drought tolerance, resist grazing, pest etc are also the same traits that make plants populate for domestic, amenity and agricultural uses. Warnings that an attractive plant may carry environmental risks would provide the consumer with a more balanced understanding prior to purchase.

<sup>14</sup> Rod Randall, WA Agriculture (2005) per Andreas Glanznig

<sup>15</sup> In the United Kingdom, The Department for Environment, Food and Rural Affairs *Horticultural code of practice* requires that where potentially invasive non-native plants are sold, they must be clearly and correctly labelled with an indication of growth rate provided.

In spite of the availability of information suggesting a need for behaviour change, people will not adjust their decision-making unless certain conditions are in place. Change is more likely to occur the more that certain change conditions are in place:

- The change must be relevant– change for the sake of change is not sufficient motivation. A person must be able to see gain or the avoidance of loss. Change will be particularly attractive if there is a valued reward.
- The person must be confident that change will deliver the desired outcome. When a person has no control of the outcome, there will be no incentive to change. Behaviour change will be resisted if there is a history of failure attached to the required change.
- The desired outcome must be delivered in a timely way. A threat of loss – or a promise of reward – at some future, uncertain time is not sufficient incentive to cause behaviour change.
- It must be clear what the change should be. The person must have clear information to support the change and, importantly, it must be reasonably possible for him to make the change. Change is more likely if the person has the skills to make the change and it does not disrupt other parts of his lifestyle. Change is also more likely if it is easy and free of risk.

The evidence suggests that in social marketing, as with consumer marketing, a label is not in itself a powerful impetus to behaviour unless the consumer is already motivated. Typically, the label serves only as a prompt to aid differentiation between available choices. Labelling works best when part of an overall program of information and incentives towards the desired behaviour, and when precisely targeted and elegantly executed.

A couple of illustrations of the variable effectiveness of prompts will serve. In one instance, two behavioral strategies (signs, instructions plus demonstration of the behaviour) were intended to increase dog owners picking up their pet's faeces. Signs had little impact; however, providing instructions and modeling of the behaviour led to over 80% of the dog owners adopting the desired behaviour<sup>16</sup>. Another study<sup>17</sup> was concerned with the effectiveness of signage. Two signs were posted in 2 departments of a university. One prompted recycling and the other sign prompted proper disposal of trash. Whilst signage had an impact, signage coupled with making compliance easy was far more effective. Sign prompts over waste containers 4 m apart resulted in a 17% improvement, whereas positioning the signs and receptacles in close proximity resulted in a 29% improvement.

Understanding of behavioural segments and their subtleties should underpin the design of prompts. One study<sup>18</sup> looked at the difference of impact of recycling signage approaches, with the most effective being shaped to fit the target's pre-existing knowledge and attitudes ('schema'). With schema-sensitive signs, recycled material weight increased by 87% and cleanliness improved by 43%.

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<sup>16</sup> Jason, L. A., Zolik, E. S., & Matese, F. J. (1979). Prompting dog owners to pick up dog droppings. *American Journal of Community Psychology*, 7, 3, 339-351.

<sup>17</sup> Austin, J., Hatfield, D. B., Grindle, A. C., & Bailey, J. S. (1993). Increasing recycling in office environments: The effects of specific, informative cues. *Journal of Applied Behavior Analysis*, 26, 2, 247-253.

<sup>18</sup> Werner, C. M., Rhodes, M.U. & Partain, K. K. (1998). Designing effective instructional signs with schema theory: Case studies of polystyrene recycling. *Environment and Behavior*, 30, 5, 709-735.

It would seem that POS labelling is most likely to be effective where

1. the trigger message is clear and powerful enough to cut through the background noise and possible confusion associated with choices. This means that it has to be precisely targeted to the pre-existing ideas and motivations of the target.
2. the trigger stimulates recall and understanding sufficient to allow the consumer to act upon it. The more complex the issues, the less likely it is that the POS labelling will be effective in itself. Alternatively, the message has to stimulate the target to obtain information upon which to act (and the more barriers there are to this, the less likely that the trigger will be effective).
3. the message has to be consistent with the values, beliefs, knowledge and motivations of the target. In particular, a message that evokes self-interest rather than public interest is more likely to be effective. This ideally requires that there be some contingent cost or benefit arising from the target's response to the message.

POS labels on appliances which show their energy or water consumption are often effective, for the information is delivered at the time when action is being taken, they provide information that is being sought, the decisions made on the basis of that information will impact on the costs and benefits achieved by the choice, and the decision is sufficiently important to justify taking some care. It matters little whether the buyer is 'green' or not, the information is relevant. Invasiveness issues labelling can be differentiated from whitegoods purchases on five key dimensions.

1. The consumers are not necessarily looking to purchase on invasiveness criteria. Their interests are typically aesthetics; hardiness, and style, with invasiveness issues being little understood and of concern to few.
2. the messages that consumers need to take away are more complex than informing the immediate purchase, but some (such as advice about eventual disposal, or management) must remain stable and effective over a long period;
3. the underlying informational issues are in themselves complex and perhaps difficult to communicate. This is particularly where the invasiveness potential varies with climate or management approach;
4. the person who buys is often not the person whose behaviour is targeted. This may be because the buyer is an agent (such as a landscaper), or because ownership of the invasive species will change over time before action is required to prevent the harm; and
5. the personal costs and benefits from taking the desired action are not tangible to many buyers.

Survey data<sup>19</sup> suggest that few urban purchasers of plants and fish are sensitive to potential invasiveness and do not see these issues as relevant to their decisions. It is not clear that passive labelling or availability of better management information alone will be markedly effective in changing purchase or post-purchase behaviour whilst this remains the case. A more powerful behaviour management approach will be needed to address the ignorant or indifferent, with point of sale labelling serving as a prompt to choice based on better-informed attitudes.

The communications challenge is increased by the complexity of the messages that may need to be conveyed. It has been suggested that a national mandatory invasive species scheme might inform buyer's purchase preferences relative to invasiveness potential, provide information about the means of spread and invasion, and communicate management requirements over the lifecycle of the species.

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<sup>19</sup> Unpublished *Outcomes of Focus Group Discussions and National Telephone Surveys in Metropolitan and Regional Cities to Identify Australian Community Awareness of and Attitudes towards Weeds as a Significant National Problem in Australia* Mr David Collins Market Attitude Research Services Pty Ltd Sydney, Australia for the CRC for Weed Management.

It is also suggested that many of the issues may be regional or species use specific. These are complex messages.

Regional variations of impact and a fragmented species distribution system are further complications. Most plants arrive pre-labelled, possibly making regional variation in instructions more complex. Nurseries account for only 23% of plant sales. Supermarkets and hardware stores account for a further 18%<sup>20</sup>. The ornamental fish sector is even more dispersed than the nursery industry with many hobbyists. The Pet Industry Association of Australia (PIAA) is the overarching industry body, however the extent of coverage of this association is not known to the authors.

The implications of these observations are that a POS labelling scheme which is not supported by a substantial and well targeted information program run prior to, or in conjunction with such a scheme may not be sufficiently effective to justify reduced reliance on comprehensive bans. This places a substantial pressure on the garden industry and the agencies charged with invasives control to implement a highly refined and well-supported program to divert consumers from harmful to positive choices.

In summary, the extent of possible achievements from a POS labelling scheme can be seen as directly correlated with the amount of investment (financial and intellectual) that is made in its development and deployment. A species-identification labelling scheme will have positive effects with a limited segment of the market. Extending the coverage of the scheme to all plants or fish (regardless of distribution channel) will extend these benefits. Targeting the uninformed or unmotivated purchaser will require a well developed strategy that uses POS labelling as a component in a comprehensive marketing program, ideally supported by selective use of incentives.

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<sup>20</sup> [www.ngia.com.au](http://www.ngia.com.au) see NP2001-09

## Mandatory or voluntary?

Voluntary programs allow industry freedom to innovate and time to defray costs. They are typically light on the public purse because industry largely carries the cost of implementation. Unfortunately, voluntary programs can be ignored. Mandatory programs can be rigid and costly for both industry and government. They do, however, have the advantage of forcing compliance by all industry players<sup>21</sup>.

The delineation between mandatory and voluntary is not always absolute. One successful voluntary labelling program is the Green Dot Program in Germany. This environmental package labelling program was voluntarily introduced by the packaging industry motivated by threatened mandatory regulations. The efforts by the packaging industry in Australia to reduce the use of plastic bags and support greater recycling efforts are similarly motivated by challenges to the industry of recycling and, particularly to the threat of Container Deposit Legislation<sup>22</sup>.

The OECD<sup>23</sup> indicates that voluntarism alone is rarely effective in delivering long term outcomes. They have outlined some fundamentals for an effective voluntary program, based on an examination of a number of programs:

- *Clearly-defined targets*: the OECD suggests that quantifiable and measured goals, and measurement of progress, are essential.
- *Credible regulatory threats*: as with the “Green Dot” example, a threat of regulation by public authorities provides companies with incentives to go beyond the business-as-usual trend.
- *Credible and reliable monitoring*: monitoring and reporting of performance relative to aims are essential for keeping track of performance improvements (and also to make the discipline of a regulatory trigger realistic.
- *Third party participation*: environmental performance should be made public and transparent to ensure that industry has strong incentives to meet their commitments.
- *Penalties for non-compliance*: sanctions for non-complying firms must be substantial and credible; and
- *Information-oriented provisions*: sufficient information and other supports should be available to aid implementation.

The conclusion can be drawn that voluntary programs must have a backbone of external discipline, objective review, and clear performance control. Given this conclusion, the reasonable question is whether in this instance it is more sensible to move directly to a mandatory code, as suggested by the Senate enquiry.

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<sup>21</sup> However, if a mandatory program is too onerous on an industry, continued opposition can escalate costs for the implementing authority to such an extent that eventually the program is abandoned. Such was the case for Louisiana’s environmental scorecard program, which linked tax exemption for companies to their environmental performance. The program achieved significant environmental improvements but industry’s continued opposition saw it terminated after only eighteen months of operation.

<sup>22</sup> See details of National Packaging Covenant on [www.packcoun.com.au](http://www.packcoun.com.au)

<sup>23</sup> *Voluntary approaches for Environmental Policy- Effectiveness, Efficiency and usage in Policy Mixes* OECD 2003

## Is mandatory labelling justified?

The evidence in Australia is that non-mandatory schemes make an important contribution to sustainability however, they have a history of variable effectiveness. Two examples will serve to make the point.

In the case of water efficiency labelling<sup>24</sup>, on 2 October 2003, the Environment and Heritage Ministers of the Commonwealth, State and Territory governments and of New Zealand agreed to implement a national mandatory labelling scheme covering showerheads, washing machines, dishwashers and toilets. Once a product is registered under the scheme, compliance with the relevant standard (including labelling requirements) will be obligatory. In addition a mandatory minimum water efficiency requirement will apply to toilet equipment. Further products are expected to be added to the scheme over time.

A voluntary water efficiency labelling scheme had been in existence since 1988. The reasons for moving from a voluntary to a mandatory scheme are illustrative of the situations where voluntarism is seen as insufficient to make a labelling scheme effective.

The first reason was ‘patchy’ adoption by suppliers. Few suppliers chose to label, and those that did only labelled their better performing products. The main incentive for participation had been the support of the water utilities (the members of WSAA), many of whom publicised the scheme, or offered cash rebates to their customers for the purchase of labelled appliances.

The second reason was coverage. The water industry does not have a single industry association — the WSAA represents the large urban water utilities, but not the manufacturers or importers of water-using products. Coverage is divided between the Australian Industry Group (AIG), the Australian Tapware & Plumbing Manufacturers Association (AUSTAP), the Queensland Brass Manufacturers Association, and – for clothes washers and dishwashers – the Australian Electrical and Electronics Manufacturers Association (AEEMA) and the Consumer Electronics Suppliers Association (CESA). There are also many smaller suppliers unaffiliated to any of these associations. This fragmentation increases the difficulty of making and maintaining an agreement on labelling between Governments and industry.

The third reason was the weakness of price signals, and resistance to increasing the price of water. It was also felt that as the main problem was information failure, rather than the relative costs of water using products (which are affected by many factors other than water-efficiency), economic instruments bearing on the relative price of products according to their water efficiency would not be effective.

For these reasons, voluntary water efficiency labelling was not considered a realistic alternative to the proposed regulation.

In the case of the retail grocery industry, a voluntary Industry Code of Conduct is now being replaced by a Mandatory Code under the Trade Practices Act. This is after numerous attempts to define a workable voluntary approach<sup>25</sup>. The reasons include the failure of the industry to honour the code, and the lack of enforcement strength relative to the economic strength of some of the industry participants.

The justification to move to mandatory labelling for invasiveness can be summarised under four headings.

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<sup>24</sup> A mandatory Water Efficiency Labelling Scheme for Australia - final report. George Wilkenfeld and Associates Pty. Ltd. for Environment Australia, June 2003

<sup>25</sup> See for example National Farmer’ Federation *Review of the Retail Grocery Industry Code* September 2003, and *Report of the Review of the Retail Grocery Industry Code of Conduct* December 2003 by Neil Buck and Associates for the Australian Government.

### Engaging the less-cooperative

*Experience with the franchising sector suggests that those who will comply will comply with either a voluntary or a mandatory code. Those who will not comply ... will not comply unless compelled to do so by the risk of litigation and prosecution by a regulator such as the ACCC.*<sup>26</sup>

It seems no less likely that a labelling approach will suffer from the same characteristics, that unless it is mandatory it is not likely to be universally adopted. The indications<sup>27</sup> are that in the control of invasive garden plants, past attempts at voluntary programs have failed to overcome this barrier.

### Coverage of the sector

Distribution channels for fish and plants are highly fragmented, and include nurseries, pet stores, hardware stores, landscape suppliers, and large retail chains.

The Nursery and Garden Industry Australia (NGIA) coverage is roughly one third of the sector, and that in turn this sector accounts for around a third of the total of retail plant distribution. The equivalent industry association coverage for the ornamental fish sector is not known. Achieving coverage across a range of organisations and distribution channels will be slow and possibly impossible without a mandated requirement.

Reportedly backyard growers are a significant problem for regulators and the nursery industry. The perceived lack of action by regulators to control back-yarders has irritated the established nursery industry associations and operators. Requiring backyard operators to have invasive plants correctly labelled may provide a compliance mechanism as well as encouraging such operators to consider joining industry bodies to obtain assistance with compliance.

### Cost-sharing

The costs of an effective labelling scheme will not be small. A range of costs are involved, and a voluntary approach will result in an unfair load being borne by the most responsible members of the industry, and 'free-riding' by the less concerned.

1. Data cost. Good labelling schemes must be underpinned by good information, both technical and behavioural. There will be costs to collate technical data with respect to invasive weeds and ornamental fish into a usable form given the complexity of the environment serviced by the industries. The costs of market research, instrument development, testing and refinement (before an effective instrument exists) are also likely to be significant for some time.
2. Standards development. The development of a label should include discussion with major players and be widely tested. Initially this means development of agreed standards. There have been attempts in the past to develop such standards without success<sup>28</sup> but, with increased information about the problems of invasive weeds, there are more positive discussions being carried out with

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<sup>26</sup> Buck Report *ibid* at p15

<sup>27</sup> Moss, W. and Walmsley, R. *Controlling the Sale of Invasive Garden Plants: Why voluntary measures alone fail*. Discussion Paper. WWF-Australia, Sydney. 2005.

<sup>28</sup> The Weeds CRC website ([www.weeds.crc.edu.au](http://www.weeds.crc.edu.au)) contains a 1999 copy of a "not to be quoted" draft document "Garden Plants Under the Spotlight" which resulted from a consultative process between a wide range of stakeholders in the industry. In spite of initial agreement, the recommendations in the document were never acted upon reportedly because it was not possible to obtain final agreement.

the nursery industry<sup>29</sup>. In addition, there are examples of development of standards in other countries which could provide useful background.

3. Production cost to the industry or government. Nursery plants already carry labels and changes to such labels should cause only marginal, if any, increased costs. Inclusion of information on invasiveness on the existing label may be the least cost option. However least cost may not be the paramount concern when compared to cost-effectiveness (which should be the focus of the scheme design). Labelling for ornamental fish, however, could be more difficult. Generally there is little more than a fish species name and price on the fish tank as information regarding ornamental fish. One possible labelling option is to attach a sticker to the plastic bag in which fish are sold. The cost of this would be marginal however, monitoring compliance would be difficult. Extension into distribution channels which do not currently label will add costs for these segments.
4. Promotion and education: This is likely to be a substantial initial cost. It will be necessary to educate nursery operators and sellers of ornamental fish. It will also be necessary to promote the program to those retailers and to the public. Educating the various bodies involved could be prioritised (for example, for garden plants, label manufacturers and growers would be initially targeted). To create an effective program it will probably be necessary that the labelling instrument link into more substantive educational and other supports.
5. Ongoing information costs: As knowledge in the area develops and as new species are introduced or certified sterile cultivars developed (as alternatives or as new developments), technical and consumer information underpinning labels will need to be updated.
6. Policing costs: Effective programs require ongoing monitoring to ensure that they are being adhered to.

#### Credibility for the industry

If one benefit from a mandatory POS and associated education approach is for the industry to use the opportunity provided by the introduction of improved information to strategically position itself as the responsible source of advice as well as product, partial coverage will undermine that positioning<sup>30</sup>.

A mandatory scheme also creates the opportunity for industry to substantially influence the disclosure standards that may become relevant in the event of future civil litigation for failures to disclose.

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<sup>29</sup> Peter Martin, Weeds CRC, personal communication, 21 July 2005.

<sup>30</sup> It has been suggested that a mandatory labelling scheme for invasive ornamental fish might create an incentive for Australian garden centres to stock fish (as is the case in other parts of the world). This would provide some stability to the retail market for fish and help garden centres promote themselves as sources of advice and expertise on environmental matters. This is a role they increasingly see themselves occupying, most recently in some states with an accreditation scheme related to advising on water use.

## Implementation

The purpose of this document is to indicate some ways forward on the disclosure recommendations of the Australian Senate report *Turning back the tide - the invasive species challenge*, and to highlight some of the issues that require consideration before these recommendations can be effectively implemented.

Best practice economic evaluation of alternative environmental management strategy is Kaldor-Hicks<sup>31</sup>. The starting point is to determine the costs and benefits of both the underlying environmental problem and the alternative strategies. There is insufficient specification at this stage of the proposed information and POS labelling strategy, the costs, and the likely benefits, to provide other than a qualitative discussion of the possible impacts.

To achieve this specification is the next step towards implementation. In turn, to do this will require that a strategy be developed, which requires that the objectives and approach be clarified. Moving beyond the most basic model, development of a strategy will involve substantial work and research. However, this is not a barrier to progressing today, as it is possible to stage implementation moving from a basic to an increasingly sophisticated approach.

The Australian Consumer and Competition Commission provide useful guidance on the process steps, and the content requirements, for an industry code of conduct<sup>32</sup>.

The question which will then remain is ‘what is the best legal mechanism to achieve implementation?’ There is a range of options to be considered:

1. Amendment to the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999*. This would require new legislation, as the Act does not currently include such a mechanism. If this step were being taken, consideration should be given to ensuring that the Act makes clear the civil liability for the introduction or distribution of invasive species, and paves the way for an industry insurance scheme against liability.
2. Creation of a mandatory code of conduct for disclosure under S51AE of the *Trade Practices Act*. Such a code exists for the Franchising industry and is being developed for the Retail Grocery Industry. This is likely to be a relatively straight-forward approach as the various stakeholders are supportive.
3. Creation of a non-mandatory but endorsed Code of Conduct under the same section. This provides no legal sanction, but could provide a transitional approach towards a mandatory code. For the reasons outlined above, this seems unlikely to be in the industry interest.
4. Using contractual or other civil arrangements to approximate a mandatory code. This is likely to be cumbersome and difficult to achieve.

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<sup>31</sup> a comparative estimation of the Net Present Value of the costs and benefits of the alternative strategies, with a defined discount over a defined period, with a defined discount rate. The strategy with the greatest NPV is the preferred. For a complete discussion see *Environmental Economics* The New Palgrave Dictionary of Economics, 2nd Edition London: Palgrave Macmillan Ltd. December 23, 2004 Robert Stavins John F. Kennedy School of Government, Harvard University and Resources for the Future

<sup>32</sup> Guidelines for developing and endorsing effective voluntary industry codes, available from <http://www.accc.gov.au/content/index.phtml/itemId/387016>

## Appendix: Additional suggestions

Whilst we have attempted to integrate the comments from consultation into the document, some additional comments which may not be otherwise adequately reflected are included:

1. It more extensive evaluation is to take place, it will be necessary to define what is meant by 'effectiveness' of and the specific aims of any proposed labelling scheme. Costs and benefits framed against these can then be assessed.
2. It will be necessary to explore specific mechanics and protocols relating to:
  - a. classification of invasiveness
  - b. type and quantity of information to be included on plant labels
  - c. use of existing labels versus additional labelling mechanism
3. In progressing the proposal it will be necessary to quantify the marginal cost to the industry of the labelling scheme. As a minimum, the evaluation of total additional cost per plant can be estimated.
4. It is important to segment consumers and recognise that they vary considerably in their motivations for purchasing ornamental plants. This issue has the potential to dramatically impact on the approach and effectiveness of any labelling scheme
5. It will be necessary to include the cost of enforcement and training required, as well as the real impact of trade in species already in Australia being accessed.
6. To address the 480-odd illegal fish in Australia will require revision of the Import Risk Assessment process by Biosecurity Australia, amendment to the policies and procedures by DEH under the EPBC Act 1999, changes to State/territory legislation, Codes of Practice implemented by the PIAA, community education and awareness strategies, cost recovery strategies (where applicable, i.e. beneficiaries identified or polluters) and policies on how to address noxious fish currently in circulation . A realistic timeframe is around 6-10 years<sup>33</sup>.
7. Hazards such as toxicity to humans and animals, extreme thorns or prickles, allergenic potential and physical aspects such as extreme size, invasive root systems and brittle limbs prone to falling also are important.

During consultation, some specific proposals for the operation of a labelling scheme, either stand alone or in the context of a broader behavioural and/or regulatory strategy were raised. We have not included these as the substance of the approach is a matter that now should be addressed, in pursuit of the overall objective of an effective but least cost approach to control invasiveness.

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<sup>33</sup> A consultation document on *A strategic approach to the management of ornamental fish in Australia* is currently being reviewed by the Natural Resource Management Standing Committee approval process to release for public consultation.