



COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

SENATE

ENVIRONMENT, COMMUNICATIONS, INFORMATION
TECHNOLOGY AND THE ARTS REFERENCES COMMITTEE

Reference: Invasive species

WEDNESDAY, 26 NOVEMBER 2003

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SENATE
ENVIRONMENT, COMMUNICATIONS, INFORMATION TECHNOLOGY
AND THE ARTS REFERENCES COMMITTEE

Wednesday, 26 November 2003

Members: Senator Cherry (*Chair*), Senator Tierney (*Deputy Chair*), Senators Lundy, Mackay, Tchen and Wong

Participating members: Senators Abetz, Allison, Bolkus, Boswell, Brown, Buckland, George Campbell, Carr, Chapman, Conroy, Coonan, Eggleston, Chris Evans, Faulkner, Ferguson, Ferris, Harradine, Harris, Humphries, Knowles, Lees, Mason, McGauran, Murphy, Nettle, Payne and Watson

Senators in attendance: Senators Cherry, Tchen and Wong

Terms of reference for the inquiry:

To inquire into and report on:

1. The regulation, control and management of invasive species, being non-native flora and fauna that may threaten biodiversity, with particular reference to:
 - (a) the nature and extent of the threat that invasive species pose to the Australian environment and economy;
 - (b) the estimated cost of different responses to the environmental issues and associated with invasive species, including early eradication, containment, damage mitigation and inaction, with particular focus on:
 - (i) the following pests:
 - (A) European fox (*Vulpes vulpes*)
 - (B) yellow crazy ant (*Anoplolepis gracilipes*)
 - (C) fire ant (*Solenopsis invicta*)
 - (D) cane toad (*Bufo marinus*) and
 - (E) feral cat (*Felis catus*) and pig (*Sus scrofa*), and
 - (ii) the following weeds:
 - (A) mimosa (*Mimosa pigra*)
 - (B) serrated tussock (*nassella trichotoma*)
 - (C) willow (*Salix spp*)
 - (D) lantana (*Lantana camara*)
 - (E) blackberry (*Rubus fruticosus agg.*) and
 - (F) parkinsonia (*Parkinsonia aculeata*)
 - (c) the adequacy and effectiveness of the current Commonwealth, state and territory statutory and administrative arrangements for the regulation and control of invasive species;
 - (d) the effectiveness of Commonwealth-funded measures to control invasive species; and
 - (e) whether the Environment Protection and Biodiversity Conservation Amendment (Invasive Species) Bill 2002 could assist in improving the current statutory and administrative arrangements for the regulation, control and management of invasive species.
2. That the order of the Senate adopting Report No. 4 of 2003 of the Selection of Bills Committee be varied to provide that the Environment Protection and Biodiversity Conservation Amendment (Invasive Species) Bill 2002 be referred to the Environment, Communications, Information Technology and the Arts References Committee instead of the Environment, Communications, Information Technology and the Arts Legislation Committee.

WITNESSES

GLANZNIG, Mr Andreas Kurt, Biodiversity Policy Manager, WWF Australia 1

**LONSDALE, Dr William Mark, Assistant Chief, Commonwealth Scientific and Industrial
Research Organisation..... 1**

**McFADYEN, Dr Rachel, Chief Executive Officer, Cooperative Research Centre for Australian
Weed Management..... 1**

**MILLER, Mr Jonathan, Director, Threats and Threatened Section, Department of the
Environment and Heritage..... 1**

**PEACOCK, Dr Tony, Chief Executive Officer, Pest Animal Control Cooperative Research
Centre..... 1**

**WILLCOCKS, Mr Charles, General Manager, Landcare and Sustainable Industries, Natural
Resource Management Business Unit, Department of Agriculture, Fisheries and Forestry..... 1**

Committee met at 11.36 a.m.

GLANZNIG, Mr Andreas Kurt, Biodiversity Policy Manager, WWF Australia

LONSDALE, Dr William Mark, Assistant Chief, Commonwealth Scientific and Industrial Research Organisation

McFADYEN, Dr Rachel, Chief Executive Officer, Cooperative Research Centre for Australian Weed Management

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PEACOCK, Dr Tony, Chief Executive Officer, Pest Animal Control Cooperative Research Centre

WILLCOCKS, Mr Charles, General Manager, Landcare and Sustainable Industries, Natural Resource Management Business Unit, Department of Agriculture, Fisheries and Forestry

CHAIR—I declare open this public hearing of the Senate Environment, Communications, Information Technology and the Arts References Committee and welcome everybody here today. I note that the hearing is being broadcast over the Internet and wish to acknowledge those who are following the proceedings online. Today is the first hearing in relation to the committee's two inquiries into the Environmental Protection and Biodiversity Conservation Amendment (Invasive Species) Bill 2002 and the regulation, control and management of invasive species, which it has combined into a joint inquiry. We have received already over 61 interesting and challenging submissions, with more promised in the mail.

The purpose of today's hearings is to provide the committee with a general overview of the key issues in this inquiry, the detail of which we will follow up on in hearings next year. To this end, we have invited six experts in various aspects of the management of invasive species to participate in this morning's discussion. At this point, I would like to formally welcome the members of the panel. I send a particular welcome to Dr McFadyen and Mr Glanznig, who have travelled from interstate to be with us this morning.

I must run through the usual procedural advices before we can commence. The committee prefers all evidence to be given in public. However, should you at any stage wish to give your evidence, part of your evidence or answers to any specific questions in private, you may ask to do so and we will consider your request. You are reminded that evidence given to the committee is protected by parliamentary privilege. We also inform you that the giving of false or misleading evidence to the committee may constitute a contempt of the Senate. Finally, for those of you who are departmental officers, I point out that you will not be expected to answer questions which invite you to express an opinion on matters of policy and that you will be given a reasonable opportunity to refer questions to superior officers or to a minister.

Our intention today is to invite each of you in turn to give a pithy opening presentation before we move into the discussion phase. While senators will initiate much of the discussion by asking

questions, please do not feel that a question has to be personally addressed to you before making a contribution. We are anxious to hear a range of views. If you wish to comment on or add another perspective to a contribution from another member of the panel, please wave your hand and we will certainly give you the call.

We have a deal on who leads off, and we will go through it from that point of view. From my point of view, I am hopeful to get some advice on how this inquiry proceeds from here: in particular, what areas we should look at if we do inspections and what issues we should be prioritising. The area of invasive species, as you can see from our terms of reference, is absolutely enormous. It is probably beyond the capacity of this committee to deal with all aspects of it, so prioritisation of the task ahead of us is quite important. We certainly invite any suggestions from you on ways in which this inquiry should proceed. As I said, this is a briefing to allow the committee just to start this process and to work out its own work program into next year.

Senator TCHEN—Before we start, I draw your attention to the attendance today of the Hon. John Kerin.

CHAIR—I am delighted to have the Hon. John Kerin here with us today. I thank him for attending. According to my notes here, the Department of the Environment and Heritage will go first, followed by AFFA, then the CRC, CSIRO and WWF in that order, I think. Mr Miller?

Mr Miller—Thank you. I thought it might be useful to put before the committee the role of the Department of the Environment and Heritage in invasive species matters. We have provided a submission to the committee. I will outline our role. I think there are five or six key areas we are involved in. The first, which gives a framework for our work, is the Environment Protection and Biodiversity Conservation Act 1999. The two key elements there relevant to invasives are that the legislation allows for the identification and listing of key threatening processes and, should the minister consider it appropriate, the development of a threat abatement plan. The second part of the legislation's most relevant provisions in relation to invasives concerns import controls, which allow for the assessment of plants or animals to be imported into Australia and placed on two schedules.

Clearly we have interests in relation to border control because of that legislation. We work closely with AQIS and Customs in particular and Biosecurity Australia in the Department of Agriculture, Fisheries and Forestry in terms of assessments and in terms of border control. We also, of course, have some reserves and national parks, such as Kakadu, Christmas Island and the Cocos (Keeling) Islands where we have on-ground management responsibilities which are relevant to invasive species management. Importantly, we have the Natural Heritage Trust, which funds a range of projects. Again, we work with the Department of Agriculture, Fisheries and Forestry to determine how that money is best spent for that purpose. Probably the most relevant thing to say here is that the sort of work we principally focus on is in two areas. One is through the regional plans. That is on-ground management and involves the regional natural resource management plans. At the national level, we are focused on providing strategic tools for states and other stakeholders to address invasive species. So that may mean the development of a threat abatement plan or it may mean a biological control method or something similar.

The final area I was going to allude to is that we consider that involvement in national fora, such as the Vertebrate Pest Committee and the Australian Weeds Committee, is critical to effective government involvement in invasive species management. We participate in them as key fora.

CHAIR—Thank you, Mr Miller. Mr Willcocks.

Mr Willcocks—Thank you. The Department of Agriculture, Fisheries and Forestry has made a submission to the committee. We would like to make a few comments to highlight what is in that submission. We believe it is important that the committee have an appreciation of the scope and depth of the arrangements currently in place for managing invasive species. These arrangements have been assembled over many years. They represent a significant component of the Australian government's response to the needs of industry and the community's growing recognition of the risks posed by invasive species.

We can only provide a brief overview of these arrangements today. We acknowledge that these submissions contain considerable amounts of information for which the committee may seek clarification. We will seek to answer as many questions as we can from the committee, but we would be pleased to take other questions on notice or to appear again before the committee if that is needed.

The Department of Agriculture, Fisheries and Forestry has significant responsibilities regarding invasive species. Under current administrative orders, the department has three major areas of responsibility—agriculture, pastoral, fishing, food and forest industries; water, soils and other natural resources; and quarantine. Invasive species can have significant implications in each of these areas. Consequently, the management of Australia's pest and disease status represents a significant activity for the department.

The arrangements in place today have been built around two key principles: taking a whole of government approach to the issues of invasive species; and applying risk management principles in order to get the best outcomes with the available resources. These two principles are addressed in the two submissions from the department.

There is a departmental submission covering governmental and organisational issues and institutional arrangements implemented to coordinate action between jurisdictions—that is, between the Commonwealth, the states and territories and with industry. The accompanying submission from the Bureau of Rural Sciences focuses on the principles and scientific aspects of pest control, identifying the risk management principles that can be applied to any invasive species. Specifically, they are addressing terms of reference 1(a) and 1(b).

I will give some more information about the current arrangements which I think would be useful. Invasive species has been and will continue to be an issue demanding the attention of government. Comprehensive arrangements have been developed over the years. We believe that the current arrangements are well established, operationally tested and subject to a process of continuous improvement. This approach involves a significant amount of consultation, liaison and joint decision making across jurisdictions. The diagrams attached to the departmental submission show these arrangements. One of these is on the screen for you to look at. This particular diagram shows the arrangements for animal pest management and the roles and

responsibilities. You will see there are three columns—international, national and state and territory—and three rows, if you like, one dealing with policy, one dealing with operational and another dealing with research issues. The same general approach can be taken to other invasive species issues, such as marine pests and plants.

I will outline some of the elements in a bit more detail. Australia has participated in the development of international standards through the World Trade Organisation, the UN Food and Agriculture Organisation, the Office of International Epizootics, or OIE, which is the world organisation for animal health, and the International Marine Organisation. So domestic arrangements are solidly embedded in international agreements.

Our national arrangements conform to these standards, with the Quarantine Act 1908 providing the basis for pre border and border management of invasive species. Import risk analysis is carried out through well-documented processes. The input of environmental information into the import risk assessment process is facilitated by a memorandum of understanding between Biosecurity Australia, one of the business units of the Department of Agriculture, Fisheries and Forestry, and the department of the environment. Where an incursion is detected, strategic management arrangements between the Commonwealth, states and territories and, in some sectors, industry stakeholders come into operation to provide a rapid response. The department of agriculture involvement in incursion management is coordinated through an AFFA emergency response plan which is maintained by a dedicated unit, the emergency response management unit.

Where pests have become established, their management is fundamentally the responsibility of states, territories, local government and land-holders. The Australian government has nevertheless taken a leadership role in setting strategic frameworks, such as through the national weed strategy. In summary, the arrangements to address the threats posed by invasive species have functioned, we believe, effectively. Nevertheless, these threats are evolving and we look forward to the committee's insights and recommendations. Thank you, Mr Chairman.

CHAIR—We will move to Dr McFadyen.

Dr McFadyen—With your permission, I want to show some pictures to give you an idea of the impacts.

Slides were then shown—

Dr McFadyen—I want to start by showing you this video. This is mimosa pigra being shown from a helicopter in the Northern Territory. There is 80,000 hectares of that stuff up there. Mark tells me it is more than 80,000. It is mimosa bush. It just shows what it is like inside it.

This shows the scale of the kind of problem. I do not know if you can see this properly, but this is a map of northern Australia showing Darwin and Kakadu. That little red dot is where the first infestation of mimosa occurred. The issue here is that that could have been stopped in the 1960s if the money had been spent, but it was cut as part of a funding thing. That is now the current extent of mimosa in the Northern Territory. They are spending about half a million dollars a year simply to keep it out of Kakadu.

The latest outbreak was near Proserpine, where the other dot is shown. The Queensland government is now spending money to try to eradicate it. This is the anticipated potential threat or spread of mimosa. So the issue there relates to the dangers of leaving the control of small infestations in the hands of state governments, who respond to short-term financial issues too often.

I am speaking for the weeds CRC. You all know what cooperative research centres are. This is a truly national CRC; we have scientists all over the country at these locations. It is the second life of a CRC that was southern and is now truly national. We are, of course, a research body, but we are in a position to give advice on national issues. One thing our research very consistently demonstrates is the value of early intervention. This shows its net benefit on the left and the size of the invasion. If you intervene early, you can do the red line, which is eradicate it. If you intervene later, all you can do is contain it. All the research shows very clearly the benefits of keeping things out in the first place, eradicating them and, secondly, containing them.

Quite a lot of cost-benefit studies have been done. We can, of course, provide senators with copies of these ad infinitum—more, I would guess, than you have time to read. Take my word that the economic studies show the benefit of early intervention and the intelligent management of all of these things. This is serrated tussock, or Chilean needle grass. It is now costing New South Wales \$42 million to \$52 million a year to control and manage. CRC advice to policy makers enabled Mexican feathergrass, which is another in the same group, to be kept out of the country. So for virtually no cost we were able to save this major problem.

We have about 20 new naturalisations of plants every year. Only a few of them will become weeds. As I said, one of our highest returns is through early detection, but one of the problems is how you tell which ones are going to become weeds and which are the ones to jump on top of. We have a program looking at that. We try to do research to see which ones are most likely to become weeds and which are the risky ones. Roughly, 10 per cent of what is naturalised will become weeds and perhaps only 10 per cent of them will become serious weeds.

Unfortunately, some families are far weedier than others. The family asteraceae are weedy. The grasses are weedy. Far more of them become naturalised. Far more of them become weedy. As to the issue of sleeper weeds on this slide, these are plants that appear to lie around doing nothing very much and then something happens. The something may be massive floods, as happened in 1974. There may be a change in our agricultural system. It may simply be that the weed finally reaches somewhere where it does well. So one of our research programs is to try to look at whether we can predict the things that are more likely to become important weeds. Grasses seem to be a problem, and scrambler vines seem to have a particularly significant impact because they overtop vegetation. Unfortunately, in a sense, legumes and grasses are a problem.

As has already been mentioned, I think, Australia has this Weed Risk Assessment method. Any plant that people wish to import into the country has to be assessed for potential weediness. But obviously the problem is people wanting to bring in a plant that is potentially useful. In particular, a lot of legumes have been proposed for salinity mitigation or as pasture plants. The assessment system has been criticised as being not very accurate. In other words, it says that too many of them will become weeds. So we are doing research to improve that predictive capacity. As you will all be aware, if we are going to impose restrictions on people bringing things into the country, we have to have the science to back it up, and that is what we are trying to do. The

catalogues they are referring to are sale catalogues. So 30 per cent of the legumes that appear in the sale catalogues are now naturalised and six per cent of them have been classed as major environmental weeds, so we have an issue there. But obviously legumes are also some of our most valuable plants. We are collaborating with the salinity CRC. We are developing guidelines and protocols. We are trying to put in the research that underpins that.

Obviously, the issue there is balancing costs versus benefits. This is something that we feel strongly has to be done on a national basis. It cannot be done on a state by state or organisation by organisation basis. Bird dispersed weeds are another issue. The thicket on the left is pond apple in the swampy country of the wet tropics. You have lost all your biodiversity values there. All the biodiversity is gone and everything else is gone when you have a thicket of that. People plant things in their gardens that have pretty little berries on them and the birds spread them around.

In essence, again, it is the research behind it. We have existing knowledge about the birds. We try to look at the functional groups of the birds—the size of the birds, the way they fly and where they go. Through that, we are trying to understand what issues will make some weeds a particularly serious problem and others less. We use this at the end to inform policy, to inform weed risk assessment and to identify how we can manage things.

Basically, what I am saying is that weeds are a major biodiversity issue; you know that, I think. This is rubbervine in North Queensland. When you have something that is growing like this, the impacts are absolutely obvious; they are very wide-ranging. With camphor laurels, willows and similar trees along rivers, the impacts are not so obvious. People see trees and they are green. This is a study done comparing river gum with tamarisk in Central Australia. There are changes. These are bird numbers. In every category of bird there is a reduction. I am sorry that the colours have not come through. The left column shows the river gum and the right column is the tamarisk. In each case, when you replace your native trees with invasives, you get a reduction in the numbers of birds. Lantana is another example. This is lantana in coastal Queensland completely replacing the shrub layer. Again, the colours have not come through. The left side shows it without the weed and the right shows it with the weed. In this case, they are looking at insects. You are losing biodiversity each time.

The first point I was making was that all the evidence shows that keeping things out, eradicating them if they have come in and containing them when they are small is the way to go. If you have lost that battle—this is broom in the Barrington Tops National Park, but I could show you umpteen others; mimosa is one—then biological control is essentially the only answer. This is biological control done by bringing in agents from overseas. It is the only affordable and sustainable answer. All the biocontrol units in Australia are now within our CRC, so we are in a position to speak for them and we are in a position to give some useful national coordination.

Mimosa has been the target for a biocontrol program for some years and the results are finally beginning to pay off. Hopefully, in terms of that video I started with, we will not be able to tape something like it in another 10 years. We have already got reasonably successful control of rubbervine and a whole series of other weeds. It is cost-effective, it is sustainable, it is long term, but it needs long-term resources. The successful control of mimosa started at least 20 years ago and the results are coming through now. It is still cost-effective because the savings are so great, but we need funding to be put into that kind of long-term effort. Madeira vine and bellyache

bush are other things that should be biocontrol targets but they are not because no-one is putting the money in.

This is just to show you something about it. This is water hyacinth. You may or may not be familiar with it. This is what the Bremer River in Brisbane looked like in 1928 and this is what the Brisbane River looked like in 1910. Senator Cherry can assure me that you never see the Brisbane River looking like that now. The reason you do not is not because they have cleaned the river up; it is because these weevils were brought in. You see, that does not grow in the Brisbane River. It comes downstream from the Oxley Creek and the Blunder Creek and all those other creeks with a bit of a flood. But these weevils were introduced in 1975 and 1985 and they are eating the water hyacinth in the areas where it grows, so you just do not see that kind of stuff any more.

The problem with biocontrol is that it needs long-term resources and national support and that is what it is not getting. Again, I think there needs to be some national support for biocontrol. To re-emphasise this, we are saying that coordinated weed control, if it comes in early, can make a real difference. It is important that we do something. We have made good progress on some issues but we do need long-term national resources for those points. Essentially, we are saying that it is a saving of national money. Had they spent the money in 1970, which was the equivalent of, I think, one salary—the equivalent of probably about \$50,000 now—they would be saving themselves millions of dollars in controlling mimosa. We would like to see that we are not saying the same thing 20 years from now. That is all, thank you.

CHAIR—Thank you. Dr Peacock.

Dr Peacock—I thank the committee for the opportunity to make a few remarks. Pest animals are every Australian's problem. We have the highest animal extinction rate of any country on earth and we have by far the highest number of threatened animal species in the world. Up to 90 per cent of the fish biomass in our largest river system is made up of an introduced pest fish. Of the 14 threatening processes currently listed under the Environment Protection and Biodiversity Conservation Act, five are feral animals—goats, rabbits, cats, foxes and pigs.

Pest animals cost agriculture hundreds of millions of dollars annually through direct predation, competition for resources, damage to crops and fences and in the cost of control. Animals like foxes, wild dogs, goats, deer, camels and feral pigs pose significant threats of spreading major exotic diseases like rabies or foot and mouth disease. But putting aside major outbreaks, feral animals are involved in existing disease cycles. For example, dogs and foxes are definitive hosts of the parasite neospora caninum, which causes abortion in cattle. That parasite alone costs Australian cattle producers \$30 million annually.

There is also a real effect on Australia's social fabric from feral animals. People who have experienced a mouse or rabbit plague never forget it. It becomes one of those sentinel experiences in their lives that they always remember. Many farmers will be up two or three times a night during the lambing season to go after foxes. There is no doubt that when you have experienced lambs torn to pieces it affects you out of proportion to the economic cost.

Shooting and poisoning animals to control them polarises our society. You only have to look at the publicity following the Guy Fawkes River National Park horse shootings or the difficulty of

using 1080 poison to control Tasmanian foxes last year because of the effect of that poison on Bennetts wallabies down there. So pest animals have a triple bottom-line effect. They affect our environment, our economy and our society. Often it is very difficult to quantify that cost. How do you value a threatened species or cost in another factor that makes life in the bush even harder than it should be? How do you measure the frustration of recreational anglers who cannot catch anything but carp? It is hard to measure, but it is a big cost nevertheless.

The second point I would like to make strongly is that science has and will make the biggest impact on Australia's feral animal problem. Myxoma virus still kills half the rabbits born in Australia every year at zero cost to the community. Calici virus has provided a benefit to Australia of over \$4 billion, and the western shield program in Western Australia is underpinned by science and has actually resulted in formal improvement of the conservation status of the woylie, the Tamar wallaby and the quenda. How often do we hear of a formal improvement in the conservation status of an animal?

In most areas of research and development, Australia produces about two per cent of the world's output. But we can use the other 98 per cent. In feral animal R&D, we do not have that much in common with the rest of the world. While the CSIRO is trying to make calici virus more effective, the Spanish are developing a field vaccine against it. Japan is desperately worried about the Koi herpes virus—that it could be a new lethal disease of carp—but to us it could be a godsend. The point is that if we do not research and develop solutions to our feral animal problems, no-one else is going to do it for us. Even where a common problem exists, like wild horses here and in the United States, the approach is sufficiently different that we are unlikely to get any solutions to our problems without doing a lot of work ourselves.

We also need to face up to some big science issues. Our cooperative research centre uses genetic modification techniques for some of our work. We already face a lot of controversy. We know we will face a lot more if we take them through to delivery. Animal welfare is a constant source of concern, obviously.

The control of feral animals is the responsibility of individual landowners and local or state authorities. The Commonwealth generally does not have a role. I am not sure that Commonwealth legislation will make a big difference. As I have said, five feral animals are already listed as threatening processes under the act. I think the Commonwealth could play a greater role in leadership and coordination. There is no agreed list of priority issues similar to the weeds of national significance when it comes to pest animals.

There is no nationally agreed research and development plan. I have worked in the area for less than three years and came from one of the agricultural R&D corporations. In those industries, there is just no way that a state government research worker would be able to get permission from his or her department to work in an area that did not fit the five-year R&D plan of the relevant R&D corporation. Pest animals seem to slip the net. It is quite common for individual researchers to be working to their own agenda, so they are a bit below the radar in many areas. I understand the Vertebrate Pest Committee is contemplating the development of a national feral animal strategy. It does not have to be long or prescriptive but if it just tied together those triple bottom-line effects, it would be very helpful. It could guide investment from the Natural Heritage Trust and in R&D.

By funding projects in one-year stints only, the Department of the Environment and Heritage effectively sidelines itself from any leadership role. The threat abatement plans do not give sufficient recognition to the overall impacts of feral animals. If they are to be used more as a way of partnering across jurisdictions and across varying interests, I think they would be a lot more effective.

Feral animal issues are hard issues. The issues range across jurisdictions and people's attitudes toward the animals vary enormously. We have to be careful that we do not end up putting them in the too-hard basket because they are too hard to deal with. The Australian colonies got together on feral animals before they came together as a federation by offering a £20,000 prize for anyone to come up with a solution to the rabbit problem in 1890. The colonies attracted Louis Pasteur to establish a Pasteur institute in Sydney and contemplate the issue. Pasteur proposed the first biological control. It did not work very well, but it got the ball rolling on biological control. When the myoma virus was discovered in 1896, it was actually proposed less than a decade later for rabbit control.

It was not until 1950 that it was used. It took 42 years of discussion and debate before it was used. I agree with Rachel's point on the long-term nature of these things. In 2002, the Prime Minister's prize for science was awarded to Frank Fenner, the main virologist who worked on that project. We have had an incredible value of return. The measure to Australia would be approaching hundreds of billions of dollars from that one bit of science alone.

I guess my overall message to the committee in opening your deliberations is that the major steps for feral animal control lie in leadership, perhaps akin to the water debate, to effect real change. Legislative change could be a tool, but it will not be enough by itself. We need to change the way we look at these problems. The Commonwealth can probably effect the greatest change through that sort of mechanism. Thank you.

CHAIR—Thank you, Dr Peacock. Dr Lonsdale.

Dr Lonsdale—Thank you very much for the opportunity to speak. I will not try to duplicate what my colleagues have said or what we have said in the CSIRO submission. I guess the issue for us is what sort of environment we wish to hand to our grandchildren. There is a view amongst ecologists now that invasive species globally are second only to habitat destruction as a threat to global biodiversity. It is an arguable ranking, but it is one that I think indicates that we should at least be taking them more seriously than we currently do. The question is: if we do not do anything, will we end up with a sort of global Mac ecosystem in which, wherever you go, you see the same species—the same rats, the same weeds, the same insect pests and so on? So there really is a sense in which the stable door is open and the horse is bolting and we should be trying to do more.

The CSIRO's research in the area of invasive species covers weed management and vertebrate pest management, which we do in partnership with the CRCs, by and large. We also work on insect pest management, plant diseases, animal diseases and areas such as ecological risk assessment, which I think is an emerging scientific discipline that will be very critical to how we decide where to put our scarce management dollars in terms of managing invasive species.

One of the issues where I think there is a role for government is in the handling of intersectoral conflict. An example is the issue of introduced pasture species which are intended to help one sector of the economy but of which some proportion become weeds of the environment or, indeed, of cropping. So there really is a sense in which my useful plant is someone else's weed. That is an area where I think there is a gap for policy to get more engaged. At the moment, the weed risk assessment system does a pretty good job of handling those kinds of conflicts, but there is probably still a greater role potentially for regulation.

One of the issues that has been emerging in recent years is the fact that we put a fair amount of effort into the management of our borders in terms of invasive species and then in terms of managing the major invasive pests that have already harmed our economy or environment. There are the species in between, which I think Rachel was alluding to, which are the ones which are still emerging. We could probably make a better effort in managing them. When you are dealing with species at the border, you are often dealing with tens of thousands of species and you are looking for a needle in a haystack. When you are dealing with the major impacting invasive species, quite often it is just too late to do anything.

The federal department of agriculture has recently been seeding an area of work within the weed CRC which is to try to detect the species that have already got in which are out there and are perhaps in the environment, supposedly benign, but which are making a run for greatness. Can we detect them fairly early and do something about them? It is much less of a needle in a haystack than border control because you have already filtered out thousands of species at the border. Most species arriving in Australia do not do any harm. The emerging pests and weeds are where we can possibly make a better effort.

One area which no-one here will cover if I do not is the area of marine pests. We have a section in our report on marine pests. If the committee is able to visit Hobart to see the CSIRO marine science division there, they will see they have a centre for research into marine pests and some world experts in the area. It is not widely recognised that there are 250 species of marine pests established in Australia and the rate of introduction is increasing.

In conclusion, I will echo what some of my colleagues have been saying. I think the strategic approach to invasive control that was pioneered in the national weed strategy, which is internationally admired, could be considered for wider application—for application to all invasive pests. I will finish there. Thank you.

CHAIR—Thank you. That brings us to the WWF and Mr Glanznig.

Mr Glanznig—Thank you for the opportunity to present to this committee today. I would like to kick off by again iterating that we are talking about a very large issue. You have invasive species costing agriculture in the order of \$4.4 billion per year. It is arguably the second biggest threat to biodiversity. What you are seeing is a large threat, a large risk, but it is not matched by an appropriate response. I think the second point is that, due to increasing global trade and movement, the risk of invasive species is increasing. Again, that really underscores the urgency on this issue.

What I would like to talk about is the need to shift from backward looking, reactive approaches to these forward looking, preventive measures to tackle invasive species at a very

early stage. In the schema that I have just had handed out, I want to focus on two dimensions. The first one is between reactive and preventive, and the second is looking at the opportunities to close down the legal introductions of invasive species so that you are only really dealing with accidental introductions. Governments have made significant reforms over the last decade but it is really unfinished business; it really is a job half done. Consequently, the Commonwealth and the states very much sit still in box A. What we would really like to see happen over the next five or so years is efforts to take us from box A to a more preventive approach.

To expand on that point, I would like to dispel four myths that echo around the traps quite often. The first is that the current quarantine laws prevent the import of invasive plants. The reality is actually quite different. There is a significant loophole in the current quarantine laws. Schedule 5 of the Quarantine Proclamation 1988 is a permitted list that enables the legal import of over 4,500 new invasive weeds not yet present in Australia. That is a staggering figure—over 4,500 agricultural and environmental weeds. That presents a very significant and unnecessary risk to both agriculture and the environment.

The second myth I would like to dispel is that we actually have an effective and coordinated national framework. I would like to dispel that by highlighting a couple of examples. The first is that you have a world-leading risk assessment procedure in place, but that is being significantly undermined by the schedule 5 loophole. Secondly, you have the Commonwealth setting up an alert list of 28 species of environmental weeds that have been targeted for eradication in the medium term and yet nine of the 12 horsetail species that sit on that alert list—the whole genus has been listed—are still able to be legally imported into Australia. Again, that is another contradiction.

You then have contradictions between Commonwealth efforts and state efforts. An example is that, again, you have an alert list with 28 species and you have efforts being made to educate and eradicate. On the other hand, five of those species are still able to be sold legally in the states. Again, you have the Commonwealth on the left hand doing good work, but you have the states still contributing to the problem on the other.

Local governments are making good efforts to try to control invasive species but, again, they are hampered by the continued sale of hundreds of invasive garden and other ornamental plants, which hamper those efforts. They are just some examples of inconsistencies and contradictions that exist within the current national framework.

The third myth is that we have an effective information system in place to enable efficient control and management. What I find quite interesting is that we do not have a national master list of invasive species. There is no national master list of invasive species. The Commonwealth has recently done good work to come up with a national list of naturalised invasive species, but it is unfinished business. It is a job half done. We need to go to that next stage.

What does that mean in practice? In practice, a good example is the northern Australia quarantine strategy. It identified the Ceylon hill cherry as a target species for eradication, working on the assumption that it was not yet in Australia. They were going off looking here, there and everywhere for this species, but unbeknownst to them, it was for sale at various nurseries throughout the eastern seaboard. Again, because there was not an effective information

system in place, Commonwealth initiatives were being undermined by the continued sale of an invasive plant by the states.

The final myth I would like to dispel is that increased funding for invasive species is a black hole. Nothing could be further from the truth. An authoritative report presented to the Prime Minister's Science, Engineering and Innovation Council highlighted that increased investment in invasive species is one of the most cost-effective interventions that governments and other sectors can make to conserve biodiversity.

To conclude, we are at a stage now where it is a job half done. We really need to make a transformation to pool the good work that has happened over the last decade into a more coherent and robust national framework. In our submission, we actually present a case for the establishment of a national framework. Thank you.

CHAIR—Thank you. Does anybody feel the need to respond to anything anybody else has said?

Senator WONG—I would be interested in the department's response to the WWF points, particularly on the argued lack of national coordination.

Mr Miller—I suppose Andreas has a more comprehensive submission and possibly we will need to respond to that later in another hearing. I guess we do give faith to the role of the ministerial council, certainly the natural resource management ministerial council in our case—Charles may respond in terms of others—and their subcommittees in providing an effective forum. The Vertebrate Pest Committee, which deals with vertebrate pests, and the Australian Weeds Committee, which considers weeds, will provide a forum for discussion and response on issues and, I suppose, the coordination of issues at the national level. In terms of broader points, we would probably need to make a more detailed examination of the points that Andreas is putting forward.

CHAIR—I will follow up on that question. The AFFA representatives were talking about the quarantine system and schedule 5 that Andreas is referring to. Do you have any view about whether there are approvals in place now for weeds with the potential to become invasive to continue to be imported into Australia?

Mr Willcocks—We do not have anyone from the quarantine service here to answer specific questions. There is a permitted list of imports. That list is currently under review. But there is a process, and that involves consultations with the stakeholders. That process is being gone through at the moment. If you require additional information, we would have to take that on notice or provide the relevant expert to advise the committee.

CHAIR—I would probably appreciate that process being taken on notice. We will obviously have to call upon the quarantine service at an appropriate time. It might be appropriate for them to give some thought to it and let us know so that we have some informed questions to ask them.

Senator WONG—Mr Miller, do I anticipate from your answer that EA will put in something further to deal with some of the issues raised?

Mr Miller—We can if you have specific questions you would like us to respond to. Alternatively, if there are further hearings in the new year, we could address particular queries. I guess we have not had a chance to look through WWF's submission comprehensively to be able to respond.

Senator WONG—It might be useful for us if you could.

CHAIR—I would also be interested in your response, Mr Miller, to the point raised by Dr Peacock about the disruptive effect of year-by-year funding as opposed to a more sustained funding process. Has the department considered those sorts of issues as well?

Mr Miller—So far, Natural Heritage Trust funding has been approved on a year-by-year basis. I guess it is an issue for the Natural Heritage Trust board of ministers to decide on.

CHAIR—We might call them too, then.

Senator WONG—Can I clarify something. Is all the funding to which Dr Peacock referred NHT funding?

Mr Miller—I suspect not. I am not quite sure what the scope of his discussion was. In terms of the funding we have for such processes, that does come from Natural Heritage Trust funding. I suppose it may be useful to say that with long-term projects, such as the cane toad work and the fox work, our view has been that it is a useful review annually to consider how the projects are going and to see whether the work, which is projected to go possibly as long as 10 years, is still showing merit. Certainly it has been the case so far, particularly with the cane toad and the fox work.

I guess I can understand the concerns Tony has raised. To the extent that we are able to give a commitment long term, certainly the minister has indicated his commitment that the projects, as long as they are showing merit, will continue to be funded. So far, we are keen that there be annual reviews to ensure that the project is going in the right direction.

Dr McFadyen—The funding for the weeds of national significance is funding which comes through the same NHT system, and suffers exactly the same problem. It is year-by-year funding. Sometimes it is for 18 months. This makes it completely—this is the phrase used—effectively sidelined. It is completely ineffective for any strategic work whatsoever. Take, for example, the issue I mentioned of the mimosa pigra outbreak in Queensland. If that is to be effectively managed, money has to be put into it now and kept going for the next five years and possibly 10 years. The WONS system, with year-by-year funding, simply does not allow that. It is not about a year-by-year review; no-one would have a problem with that. It is about committing the funds for five years, even if they are reviewed every year.

CHAIR—I was reading the AFFA submission. I might have misread this. Where there is an outbreak like that, as I understand it—perhaps I have read it wrong because I do not have my glasses with me—the state and the Commonwealth jump in on joint action with a guaranteed fifty-fifty basis apportioned.

Dr McFadyen—Unfortunately, that is only true if national eradication is possible. When you cannot eradicate something nationally because there is so much present in the Northern Territory, that does not apply to eradicating an outbreak in another state. That is one of the major weaknesses in our system. Once national eradication is no longer feasible, there is no mechanism for Commonwealth-state funding for what you would then call containment.

CHAIR—What do we need to get to that stage where that fifty-fifty funding cuts in? What has to happen? To prevent it happening, what must not happen?

Dr McFadyen—Somebody has to say national eradication is feasible. For example—

CHAIR—A ministerial council or an officer of the department?

Mr Willcocks—There is a process under the ministerial council arrangements for making decisions about addressing outbreaks of weeds that are considered to be eradicable. The Natural Heritage Trust funding is funding for the control and management of weeds that are already established. That applies to the 20 weeds of national significance that governments have agreed are important weeds and need addressing at a national level. So there are processes in place for making decisions between the Commonwealth and the states, and indeed with the department of finance, to fund eradication and the early eradication of particular weeds. There are a couple of programs currently under way to do that.

Senator WONG—Dr Peacock and Dr McFadyen, the way in which Mr Miller seems to describe the annual funding is more as a review to make sure the projects are on track as opposed to you actually having to go back cap in hand. Is that your experience of the NHT aspects of your funding? Can I clarify that you receive funding, I presume, from sources other than the NHT.

Dr McFadyen—We do not receive directly from NHT at all, but a lot of the people we are working with would be applying for NHT funds. In general terms, from our point of view, they are useless because you cannot do any research on a one-year project. We are a research body.

Dr Peacock—We get funding, I suppose, from about 20 organisations. It is not our experience that it is definitely one-year to one-year funding. You only have to look at the staff turnover I have in my fox program compared with my other programs to see that it has an effect.

Senator WONG—What do you mean by that?

Dr Peacock—You are talking about long-term research. In other departments, there is a quite well-understood program. I do not want to say it is the department's fault; it may well be because of the way they get their money—I am not sure. It is almost a study in worst practice research funding. I have done 10 years of research management. No-one funds for one year on long-term projects except EA. I do not have any other clients that do that. If that could be fixed, that would be a major step forward in terms of saying, 'These are the important projects. We are going to go. Foxes are not going to go away next year. We need to do some national research.' Then you get buy-in from the states to join the effort. At the moment, yes, it is treated as very problematic money. In fact, our experience is that it has got considerably worse in the last 12 months. For example, two tenders were let on Christmas Eve last year for a mid-January date for feral goat

research. You read that and think, ‘What are they thinking?’ Sorry, Jonathan, but it really is a bit of a problem in this area.

CHAIR—I want to get a quick idea of some case studies that the inquiry could get its teeth into. Dr McFadyen, you mentioned how biological controls, such as myxoma, are having some impact on rabbit control. What are the impediments to that biological control being successful at this stage, do you think? Are there any legislative, governmental or policy impediments that are impacting on that at the moment?

Dr McFadyen—Do you mean if we were to start a new biocontrol program today for a weed that is a problem now?

CHAIR—You said there were some good results coming through in terms of mimosa and rubbervine. How do we accelerate those results from a policy point of view?

Dr McFadyen—Both those good results came from long-term research units with career scientists in tenured positions—one from the CSIRO unit working largely out of Brisbane and with people in Darwin, and the other from the Queensland government unit working out of Brisbane. So your first requirement is that you must have a viable unit, which means at least four or five scientists of different ages, not all within five years of retirement. I am not joking. This is what has been happening. CSIRO have lost two scientists and are about to lose another one. The CSIRO biocontrol unit here in Canberra will be down to one scientist. The one in Brisbane will be down to three scientists, one of whom is not in a permanent position. So that is the first thing.

The second thing is they were funded for five or 10 years, not necessarily on 10-year guaranteed funding but on at least five-year funding. In both cases, research stations were set up overseas to look for the agents. That requires three-year guaranteed funding for somebody to be hired, go over there and set up.

The main obstacle is that neither CSIRO nor some of the state governments are prepared to give that kind of commitment. The other obstacle is a risk averse sort of culture in our governments. Accepting the import of a biocontrol agent, be it rabbit calici virus or a rust for rubbervine, is a permanent thing; you cannot reverse it once you have let it go. If anything goes wrong, it is too late. Therefore, it is quite obvious that we have to look very seriously at the risks. Equally, in the end, someone has to take a decision that, yes, we will go ahead. There seems to be a risk averse culture. The bureaucrats at the highest level as well as the governments are reluctant to say, ‘Yes, this is worth doing.’ As this happens at every level, a process that 20 years ago would have taken only six months can now take six years.

CHAIR—It was 42 years before they released the rabbit control.

Dr McFadyen—Well, that was exceptional. To be fair to them, it was the first deliberate introduction worldwide. The calici virus was, as you are probably aware, going through the system of being endlessly tested when it got out. New Zealand said, ‘No, the risk is not acceptable,’ so someone brought it in illegally. They are the problems. If the legal and properly run system is made too difficult, people do take the other one.

This is my personal view, but we can manage the bureaucratic red tape barriers better than we can manage the problems of not having the funding in the first place. Part of the problem is there is not a big pool of scientists skilled in this kind of work. If we are not training them, nobody else is. You cannot decide that you have a major problem and then hire them. I see that as the major problem or the major restriction.

CHAIR—In terms of the two areas, the research has been done and the rust has been identified for rubbervine. I am not sure what the biological control agent for mimosa is that you identified. What are the governments in the Northern Territory and Queensland now doing? Are they physically releasing the biological control agents? Are they still worrying about it? Are they doing small areas, or what?

Dr McFadyen—Those ones have been cleared for release. They are being released and are having good effects. We are now measuring the effects and taking the credit, if I could put it that way. Obviously, a government will take the credit for what is actually the result of what another government did 10 years before. The problem we have now is with the new biocontrol projects. Bellyache bush is an example. The funding has just been cut, so the work is not going to be done. It is largely because of a decision within the Northern Territory government, I believe.

Dr Lonsdale—It is research with a very high overhead. You have to maintain the overseas laboratories for the exploration of the natural enemies and you have to maintain the containment facilities in Australia to ensure you do a proper risk assessment. All of that is quite a high-cost set of items for research organisations to bear.

In CSIRO terms, we have lost staff over the last two or three years as a consequence of some restructuring, but it is not quite as black as Rachel has painted. We are about to advertise four or five positions in the area of invasive species management within our division, entomology, over the next six months. But there is no question that R&D organisations across Australia—quite rightly in my opinion, having worked overseas—are forced to seek external funding. That forces relevance and it forces a sense of ‘What is the end point of this research?’ into the researcher’s mind.

A lot of CSIRO’s priorities are externally driven or have a strategic direction set by availability of external partners. The availability of external funds does attract researchers. There is no question that invasive species, in contrast to some other environmental problems, have not got quite the profile. To some extent, that is our fault. We probably have not done enough singing from the hilltops. I think the brochure the weed CRC came up with is excellent. It will attempt to bring this issue up much higher in the public consciousness. Farmers actually realise it. About 47 per cent of farmers in the ABS survey of a couple of years ago rated weeds as their No.1 environmental issue. Salinity actually came quite low down in percentage terms. Attracting the attention of the urban population is probably the issue. It is not real to them unless they see pictures like the ones you saw earlier.

Dr McFadyen—We are trying to get across to them that camphor laurels and willows are pretty trees and look lovely but they will not provide a nesting hole for a kookaburra, they will not feed a single glider and they will not feed a single parrot. So you will have a lovely tree-lined river system and not a flying bird or a furry animal. But people do not realise this; this is the issue.

Dr Peacock—Indian mynas are quite happy in them.

Dr McFadyen—Probably.

CHAIR—I will hand back to Senator Wong in a moment. I return to the issue of ornamental plants and pretty plants. How do we get the nursery industry much more involved and engaged in the whole issue of not introducing invasives or encouraging their spread? Does anybody have any thoughts?

Dr Lonsdale—We can try and win hearts and minds, but in the end it is possible that the only solution will be regulation. I have just come back from a meeting in the US. It was an invasive plants conference, at which I was a speaker. One of the sessions there was on the ornamental plant industry. The US have made some good progress in working with the ornamentals industry to self-regulate, and the industry is very nervous about regulation, but the reality is, as some of the stats you heard earlier show, it is just not sufficient. In the end, it is a very disorganised industry with a lot of small players. It is very hard to actually get them all to sign up to some sort of self-regulatory mechanism. To be honest, in the US, there is a tendency at the most extreme end to regard any attempt to interfere in this area as a form of eco-fascism.

CHAIR—A breach of some constitutional right, I am sure.

Dr Lonsdale—Yes. Some of my colleagues over there appear on web sites as archenemies of the industry. It is very personalised.

Mr Glanznig—I would like to reinforce what Mark was saying. Again, look at the impact of invasive ornamental plants. About one-third of declared noxious weeds actually originated as garden plants.

CHAIR—I think the figure I saw is 74 per cent.

Mr Glanznig—It is about one-third. Virtually all water weeds had their origin as ornamental plants. So you have a huge risk. Again, it comes down to what Mark was saying. New Zealand took a voluntary approach, but it did not work. That is simply because it is not a highly structured industry—unlike, for example, the mining industry. It is very dispersed and there are a lot of family operations and so on. From a policy point of view, that really leads you down an education and regulation approach. In Australia, I know the previous CRC worked up a draft strategy to undertake a voluntary approach, but from what I can see, it has had very little impact on restricting or reducing the sale of invasive garden plants. Again, that gives you the opportunity for the EPBC act and state legislation.

CHAIR—So if I walked into a nursery down the road with any of you, you would be able to point out at least half a dozen plants you think should be banned or burnt at the stake?

Dr McFadyen—No trouble at all. We can go after lunch, if you like.

CHAIR—I shall take my fire hydrant with me!

Senator WONG—I know we are not specifically dealing with marine pests, but Dr Lonsdale was talking about there having been 250 species of marine pests established and that that was increasing. How do they get into our water, primarily?

Dr Lonsdale—My colleagues in marine science tell me that at any one time there are about 10,000 different species of marine organisms in transit in ballast water, in oil rigs and in recreational yachts.

Senator WONG—In ballast?

Dr Lonsdale—In ballast in commercial shipping. There have been policies and regulations brought to bear in Australia. I think we have fairly exemplary policies around this issue. Nevertheless, there is still apparently an increasing rate of introductions.

Senator WONG—Mainly from foreign ships, I presume?

Dr Lonsdale—I do not know. Maybe returning ships. I am not sure.

Dr McFadyen—Ships filled at a foreign port. It does not matter who owns the ships.

Senator WONG—That is true.

Dr Lonsdale—I would encourage you, if you get the chance, to speak to these guys. They are internationally renowned experts. There are not that many of them.

Senator WONG—This is in Tasmania?

Dr Lonsdale—In Hobart, yes.

Senator WONG—It would be nice to not just be totally focused on Queensland, wouldn't it? There is a certain Queensland bent to this!

Dr McFadyen—There are weeds in the southern states, too.

CHAIR—I was impressed by the list of weeds. I will move on briefly to sleeper weeds. I am fascinated about how, from a government point of view, you start the process of identifying a sleeper weed and how you persuade anybody to do anything about it. This is probably the challenge we have after 200 years of not identifying them to date. What are the steps from a policy point of view that we should be looking at, or who should we be talking to about that?

Dr Lonsdale—I will talk while Rachel gets her thoughts together. You can take a risk assessment approach to this or you can take a risk management approach. A risk management approach might involve targeting areas of particular conservation concern, regions of Australia that are perhaps close to biodiversity hot spots, and saying, 'Let's not try to double guess which of the species are going to be a problem here.' You might find several hundred species lurking by roadsides and in campgrounds and things like that, and you may just decide not to try to assess but simply to remove those species. In doing so, you reduce a lot of potential risk.

The other approach, the risk assessment one, is to try to go through the species list we have and attempt to assess which of the species presents the greatest possible risk. The CRC is working on that particular area through work by Richard Groves, I think.

Dr McFadyen—Yes.

Dr Lonsdale—So there are those two possible ways. In terms of actually linking into policy, there is a third possible approach. This is the research work that we have been doing within the CRC. It is a bit out there, because we are not sure if it is going to deliver or not. It attempts to sensitise people on the ground to species that are changing in abundance but still are in low numbers. Clearly, to make a system of detection and eradication work, you need to be able to detect changes in abundance of species at very low numbers. It is actually a research problem. In the end, to be on the safe side, you might actually set up a system of working with community groups and with conservation departments to prioritise areas from which species that pose a potential risk could be removed. Andreas alluded to the PM's report. That talks about trying to hit problems before they become an issue.

Dr McFadyen—We started—the CRC has produced this—with a list of all the species that are naturalised in the country. We did not have that before. In other words, if it grows in your garden, nobody cares. If it is beginning to grow over the hedge or down the road, it is naturalised. That is the first thing. We have that list. We do have a program trying to look at which ones are most likely to become a bad weed. It is partly that you are tarred by your bad family. If your relatives are weeds, you are in strife.

There are certain things that would give you an indication. One is if the young plants are turning up at quite a distance from the parent plant, they are being dispersed by some mechanism, be it birds or humans. It is a bit like the pattern with humans. Look at the age pattern. Are there lots and lots of young plants, which indicates a rapid rate of growth? There are various things that would trigger your warning signals, if you like.

One of the things we have trouble getting a handle on is where you have had a plant for 50 years and it has done nothing and then suddenly, 'Bang!' Some of the time we suspect that is because a new strain came into the country. So it is not the same plant. Some of our weeds have a lot of different strains present, some of which are more weedy than others. That is an issue, too. The fact that we have something here does not mean that a new one that is technically the same thing will not be worse. But the answer is it is not easy, and never will be.

Senator WONG—Can you remind us again of the number of naturalised weeds identified.

Dr McFadyen—This is part of the confusion. Andreas said a third of the noxious weeds. They are the ones that have been declared noxious in a state. The figure you have there is two-thirds of all weedy species. We have around 2,800 to 3,000 plants that are naturalised in Australia, but they are not all weedy. The number that is currently regarded as a weed is probably around 300, but that depends—

Mr Glanznig—There are other studies that show that—

Dr McFadyen—I do not think there are as many as 3,000 declared weeds. But I must say that neither of us has the figures here.

Mr Glanznig—In the position paper I just outlined, for example, a study of environmental weeds puts the figure at about 2,100 and the number of declared noxious weeds at around 330. So it highlights that there are—

Senator WONG—That declaration is state government based?

Mr Glanznig—Yes.

Senator WONG—Sorry, I interrupted. Mr Glanznig, did you want to finish?

Mr Glanznig—I was going to make my point. I think it is important to note that the 2001 national state of the environment report highlighted the risk of sleeper weeds and made the point that more needed to be done. Secondly, in 2002, there was a national weeds experts meeting which highlighted again that there was no clear responsibility for sleeper weeds in relation to the national funding of research into weeds with purely an environmental or social impact. Again, it highlighted that this is an issue that is coming onto the agenda but we have not really tweaked the current institutional and administrative arrangements to really be able to tackle the sleepers in a concerted way.

Mr Willcocks—I draw your attention to the Bureau of Rural Sciences submission. Attachment 2 provides a list of sleeper weeds and some estimates of costs associated with agricultural impacts. The BRS have been doing some of the research on sleeper weeds. This list comes from some modelling work they did on the potential for certain species to be distributed around the country.

CHAIR—I want to get a lot of gratuitous advice on where this inquiry should really go. This is really a roundtable discussion to get an idea of some of the issues. You have been extremely helpful about that. It is about trying to get an idea of where we go from here. I think the role of a Senate committee in terms of an education raising profile can obviously be very important. I am interested in any gratuitous advice on areas you think the committee should look at, people we should call and issues we should explore. Basically, what good can the committee do in terms of trying to take on this enormously big issue over the next 12 months?

Dr Peacock—If you are going to Tasmania, the marine group at CSIRO run our carp program. They have two lakes with a few carp in them down there. That is an interesting group. To point out the difference in these types of funding arrangements, that is funded by the Murray-Darling Basin Commission, who have a 50-year native fish strategy and a 10-year slice of that. You get your funding in three-year slices and it is reviewed annually. It enables people to know exactly where they fit in the scheme of things. It draws a lot of CSIRO research investment, because they know that there will be work in this area.

If you are going to tackle something like carp, that have just taken over the Murray River, you cannot think about that in terms of one- and two-year slices of work. You have to really think in those terms. They are the ideal type of group. It is also far-ranging stuff. It is high-risk research.

It is part of a native fish strategy which has lots of engineering in it—fish ladders and things like that—that will certainly have some effect. But the research is aimed at a really big reward.

CHAIR—We might have to add carp to our terms of reference.

Senator WONG—But then we anticipate that there will be a whole range of other submissions.

Dr Peacock—The ones I call the three Cs—cats, cane toads and carp—are the three the public always raise with me. Carp and cane toad, of course, are not a threatening process under the act yet.

Senator WONG—Under the EPBC act?

Dr Peacock—Yes.

Senator WONG—Why is that? Why are carp and cane toad not identified as a threatening process?

Mr Miller—The process is that the threatened species scientific committee considers nominations for listings. Currently, to the best of my knowledge, we have not received nominations for either of them, but I could get back to you if that is the case.

Senator WONG—I do not know much about this area, but that seems odd.

Mr Miller—Yes.

Senator WONG—In terms of the public perception of threats to biodiversity.

Mr Miller—Well, I guess we do have a range of species—we have nine invasive species—listed as key threatening processes. Those two are currently not there. It is not a comprehensive list at this stage.

Senator WONG—Do you have any views about that, Dr Peacock?

Dr Peacock—My understanding is that cane toads were nominated and a certain official or two in the Northern Territory argued at the time that they were not a threat. So there is a bounce-back effect as the cane toads come through. They have not been. I am not sure about carp. I think it is probably because the Murray-Darling Basin Commission have just said they are a problem and got on with things. They do not rely on that act of parliament for any guidance, I guess.

Mr Glanznig—I want to inform the committee that WWF Australia is intending to nominate cane toads as a key threatening process under the EPBC act next week. We have been wanting to do it for a while. The problem was that there has been inadequate data to enable us to meet the legal tests required under the EPBC act. Recent quantitative research on the impact of cane toads on northern quolls has enabled us to develop a case that we think will satisfy the requirements under the EPBC act.

The other point, though, is that a key threatening process listing and a threat abatement plan are indirect mechanisms to control invasive species. Look at some of the emerging second generation state laws, such as the proposed biodiversity conservation act in Western Australia. They are proposing to shift from this indirect control to the direct control of invasive species. That is very much in line with and along the lines of what the Democrats' bill is intending to do as well.

Senator WONG—There are cross-jurisdictional issues here. Do you have any concerns about how the bill that Senator Bartlett has proposed might interact with relevant state legislation?

Mr Glanznig—I will comment on that. I think a good analogy is threatened species legislation. What is interesting there is that the Commonwealth put in place pretty much the first Commonwealth legislation for endangered species. As such, it was able to foster a standardised approach. As state governments came on stream, they were able to nest under that. That is the real opportunity with this bill or with any regulation or a form of the EPBC act. You are able to put in place a national statutory framework under which second generation state laws, such as those being developed in WA and the ACT, can nest. Once those second generation state laws are put in place, again, we will have missed the opportunity to foster a very strong and tightly coordinated national statutory framework.

Mr Miller—I will add some comments. We do not require, obviously, a key threatening process to be listed for the Commonwealth to act on these issues. In the case of cane toads, we have been providing significant funding to CSIRO for ongoing long-term research into a cutting-edge biocontrol method, which Dr Peacock could talk further about. We have put considerable funds into that. So it is not a requirement, obviously, to have a key threatening process or a threat abatement plan to take significant action in that regard.

Dr McFadyen—With regard to where you should go, we have actually given a handout. Essentially, we can show you some good weeds from any city if you are prepared to take—

CHAIR—All over Queensland. Excellent!

Dr McFadyen—Also over the rest of Australia. If you are prepared to take a half day or a full day, we can show you significant weeds in every major place. Unfortunately, that is true; every major place has lots of weeds. There are certain timing things. I was told you were likely to be doing this in March or April. They are not good months for Western Australia or Adelaide. If you delay it until they have had their rain in wintertime, these are much better months.

I would also like to suggest, because we have had a lot of talk about NHT funds for WONS, that you talk to some of the groups that are using those funds and ask them what their experience is. Our experience is that it is very negative, and it is not just the EA ones but the whole NHT funds for WONS, or weeds of national significance. The way they are given out does not allow the funds to be used for proper strategic management. They are being given out in a much too short-term way. I suggest you talk to some of the people who are currently employed on NHT funds and ask them what the issues are.

Senator WONG—Do you have any views that you would like to share with us about the proposed bill?

Dr McFadyen—No. I support the concept. I am not a sufficiently good constitutional lawyer to say whether it is feasible. At present, you can grow a hedge of something where the seeds and berries are going to be dropped into your neighbour's land or into the next door environmental park and you can do so with impunity. If you tipped paint or toxic substances down the drain, you could be prosecuted. I feel that this kind of thing cannot be left to the states because they are not currently operating it adequately. But I am not a constitutional lawyer so I cannot say whether this bill is the way to go or whether improved regulations under the existing bill is the way to go.

CHAIR—I want to return to Mr Glanznig. Where do you think the inquiry should go? This is a wonderful tourist guide to the best weeds in Australia. It is magnificent. It is a pity there are not any in Broome, but I am sure if I asked, you could get some good weeds in Broome as well!

Dr McFadyen—If you wish to go to Broome, we can find you a weed.

CHAIR—Excellent. Where would you like to see this inquiry going from here?

Mr Glanznig—It is about elaborating on the points I made earlier. I think the committee should very much frame its focus to look at the barriers and impediments that are stopping Australia moving towards a truly preventive approach to tackling invasive species. Part of that is really drilling down on the legal loopholes and current areas of law that are still allowing the import, trade or distribution of invasive species. I have flagged that there is that loophole in the Quarantine Proclamation that enables over 4,500 new weeds to come in.

In terms of the role of the Commonwealth, one big issue that has not really been raised here is movements of invasive species between the states. There is a whole array of instances where invasive plants are being grown for trade in one state but then they are being moved to another. Again, that is currently a shortcoming in the arrangements.

The third point is in relation to the national information systems. I highlighted one glaring example. Again, when you look at what is in place in the chemicals area, you see they have an Australian inventory for chemical substances. They have actually applied the principle that information is a strategic resource and the first step forward to control is to have a robust information system in place. That does not currently exist in terms of a comprehensive master list of invasive species for Australia. That can be further developed.

The other aspect is looking at ways forward to really tackle sleeper weeds and consolidate Australia's performance in the early detection and eradication of serious weeds. Picking up the other points, we need to look at what national research funding is required. That is not only in the WONS context but also the funding required to actually eradicate a whole range of species on the alert list and other serious sleeper weeds.

Fundamentally, I would like to make the point that the EPBC legislation does really enable the Commonwealth to put in place a national statutory framework analogous to what was put in place through the original Commonwealth Endangered Species Protection Act. That is a way to increase harmonisation between the Commonwealth and the states. I gave various examples of how that coordination does not work as efficiently as it could. You get a whole range of

measures operating in tension or in conflict. These are all areas that I would encourage the committee to focus on.

Dr Peacock—I am not from Tasmania but I will plug it again. There has been a fox incursion into Tasmania. They have been fox free. There have been introductions over two centuries down there. In the last few years, people have made a concerted attempt to establish the fox in Tasmania. That is an interesting case study of animals in terms of how that was handled at state and federal government level. You see a lot of the jurisdictional problems. While these things take a lot of time, foxes are breeding or getting out of hand. The most cost-effective way to jump on these things is very early intervention. Of course, if you do go down there, go out at night and go spotlighting. You will see all the small animals that used to be on the mainland. There are dozens. That is why people go to Tasmania. I think 60 per cent of them go for some sort of ecotourism thing. So the effect is far beyond agriculture. There is a real tourist effect down there if that animal gets out of control. There are 77 species that it can affect. For example, there used to be 12 penguin colonies on Phillip Island. There is only one now. It is worth \$80 million a year to the Victorian economy. The other 11 disappeared because of foxes. That will happen in Tasmania if that animal becomes established there. A lot of people go to towns like Penguin to look at penguins.

Senator TCHEN—I have it on good authority that there are no foxes in Tasmania. I can quote from the *Hansard*.

Dr Peacock—The Senate has been very quiet since somebody hit one with a car three months ago. There is no doubt there are foxes in Tasmania.

Dr Lonsdale—If senators were interested in seeing a quarantine containment facility in operation used for testing biological control agents, we have one here in Canberra, one in Brisbane and one still under commission in Perth. You are most welcome to visit any of them. Another angle you may want to explore is to see an area that is pretty well pristine. I am thinking of perhaps Kakadu National Park as an area that has managed pretty well to keep out invasive species. It has some incipient problems and it is now trying to deal with cane toads. So there is the whole question of keeping areas pristine and focusing our efforts on them versus the areas outside that are largely inundated with exotics.

CHAIR—Do the two departments have any recommendations to make about what we should look at in terms of government best practice or worst practice, if you want to expose it at this point?

Senator TCHEN—Just best practice.

Mr Willcocks—It is always best practice.

CHAIR—Excellent.

Mr Willcocks—To provide any further information that the committee needs, I would draw your attention to the Bureau of Rural Sciences submission and their capacity for weed work. I also suggest that you talk to the national weed coordinator, John Thorpe, who is located in Tasmania. There are coordinators in place for each of the weeds of national significance, so there

are people on the ground who are implementing the strategy, whether or not it is funded at the level some would like.

Our submission sets out the current arrangements. If you need further details, it would be helpful if the committee could really identify the specific areas. Obviously the work is very pervasive through the Department of Agriculture, Fisheries and Forestry and we would really need to identify the right people to talk to you.

CHAIR—Any questions or comments?

Senator TCHEN—So far, the government has come out very well. I have no questions.

CHAIR—That is because you have not been here.

Senator WONG—You said that with remarkably little information.

CHAIR—We will close there. Thank you for the information provided today. It has been enormously helpful in terms of getting an idea of where we go now. When we initiated this inquiry, certainly some members of the committee were a tad concerned about how huge the task is of trying to fix the invasive species problem in Australia. But I think we have some good guidance as to where this inquiry could go over the course of the next year. If you have any further feedback on where we should go or who we should ask, I encourage you to contact the secretariat. I declare this meeting closed. I thank all the people who have been here today for their excellent presentations. We look forward to seeing you again, when we will ask you all the hard questions that we have deliberately avoided asking you today.

Committee adjourned at 1.16 p.m.