

**IN THE MATTER of the Hazardous  
Substances and Organisms Act 1996**

**AND**

**IN THE MATTER** of an application for  
modified reassessment of substances  
containing metsulfuron-methyl, haloxyfop-  
R-methyl, imazapyr isopropylamine or  
triclopyr triethylamine.

**STATEMENT OF EVIDENCE OF KEITH WILLIAM BRIDEN ON BEHALF OF**

**AGRICHEMICAL REASSESSMENT GROUP**

Date 24 October 2012

---

## **INTRODUCTION**

- 1) My name is Keith William Briden. I am a Senior Technical Advisor at The Department of Conservation's National Office based in Christchurch. I have been the Department's key contact for invasive environmental weeds for 14 years.
- 2) I hold the following qualifications relevant to this application:
  - A Bachelor of Forestry Science (Canterbury).
- 3) I am a full member of the New Zealand Biosecurity Institute, New Zealand Plant Protection Society, and New Zealand Ecological Society.
- 4) I have been providing a wide range of weed advice at a national level for 14 years. This has included funding applications and funding allocations for aquatic ecosystems, establishing a quality management system for weed control, development of weeds training material, and the development of community involvement in weed work through the Weedbusters education and awareness programme.
- 5) I am therefore familiar with the management approaches for aquatic pest plants within a New Zealand context, as well as the methodology and techniques proposed in this application and their context under the HSNO.
- 6) My involvement in the modified reassessment application commenced in September 2012 when I was asked to prepare evidence for the Department of Conservation as a member of the applicant group.

## **SCOPE OF EVIDENCE**

- 7) This evidence, along with the evidence presented from Mrs Herrera, Mr Simmons, Mr McKenzie and Mr Champion, will address the principal matters to be resolved by this hearing which are detailed in the opening statement of Mr McKenzie.
- 8) This statement of evidence will focus on following matters pertinent to a decision on this application:
  - The strategic need for the modifications from DOC's perspective, including a summary of DOC statutory responsibilities for pest plant control.
  - The relevance of pest plant control to New Zealand's international agreements.
  - The impacts of aquatic weeds and the benefits of their control.
  - The programmes undertaken by DOC to manage aquatic pest plants.
  - The effectiveness of alternative methods in controlling aquatic pest plants.

## DEPARTMENT OF CONSERVATION'S STATUTORY RESPONSIBILITIES

- 9) The Department of Conservation (DOC) is the leading central government agency responsible for the conservation of New Zealand's natural and historic heritage. It was established by the Conservation Act 1987, and is charged with promoting conservation of the natural and historic heritage of New Zealand on behalf of, and for the benefit of, present and future generations.
- 10) Its legislative mandate is the Conservation Act 1987, other key statutes include the National Parks Act 1980 and Reserves Act 1977. It is also required to meet requirements for weed control under the Biosecurity Act 1993.
- 11) DOC manages around 8.5 million hectares of land which is almost 1/3 of New Zealand's land area. DOC manages areas of land, water, and sea. The land managed by DOC on behalf of New Zealanders includes a wide range of freshwater wetlands, lakes, rivers and streams.
- 12) DOC's aims in natural heritage include contributing to the Government's freshwater priority that *"New Zealand's fresh water is well governed and sustainably managed to realise the maximum benefit possible for present and future environmental, cultural, social and economic values."* This draws on DOC's legislative mandate under Part II of the Conservation Act 1987 to *'preserve so far as practicable all indigenous freshwater fisheries and protect recreational freshwater fisheries and freshwater fish habitats'*. In keeping with this mandate, DOC works to retain and improve the environmental values associated with fresh water, and to deliver the ecosystem services provided by freshwater ecosystems. The latter includes regulating water quality and quantity, flood control, and delivering recreational and cultural values. The protection of waterways includes the management of invasive and introduced aquatic pest plants.
- 13) The Department's key functions as set out in the Conservation Act are:
  - to manage land and other natural and historic resources;
  - to preserve as far as practicable all indigenous freshwater fisheries, protect recreational fisheries and freshwater habitats;
  - to advocate conservation of natural and historic resources;
  - to promote the benefits of conservation (including Antarctica and internationally);
  - to provide conservation information; and
  - to foster recreation and allow tourism, to the extent that use is not inconsistent with the conservation of any natural or historic resource.

- 14) The Department has a particular responsibility under section 4 of the Conservation Act so to interpret and administer the Act as to give effect to the principles of the Treaty of Waitangi. This involves building and supporting effective conservation partnerships with tangata whenua at the local level.
- 15) The Department also contributes to the conservation and sustainable management of natural and historic heritage in areas for which it is not directly responsible. It does this through its roles under other statutes including the Resource Management Act 1991, the Fisheries Acts 1983 and 1996, the Biosecurity Act 1993.
- 16) The Department's key functions as set out in the National Parks Act are The New Zealand national parks system aims to preserve in perpetuity for their intrinsic worth and for the benefit use and enjoyment of the public those parts of the country that "contain scenery of such distinctive quality, ecological systems, or natural features so beautiful, unique, or scientifically important that their preservation is in the national interest".
- 17) In recognition of the value to New Zealanders of national parks, the National Parks Act affords these areas greater protection than the other Acts. National park status can only be revoked by an Act of Parliament.
- 18) Within national parks the Act requires a balance to be struck between the dual requirements of "preservation in perpetuity" and "public access and enjoyment". However, greater emphasis is given by the Act to preservation aspects. Protected areas can be established that allow partial or complete exclusion of the public from sensitive areas.
- 19) Part I deals with the principles to be applied in national parks. These include: preservation in their natural state; preservation of native plants and animals and removal of introduced ones, as far as possible. This includes the removal of introduced aquatic weeds in wetlands, rivers, and estuaries.
- 20) The Department's three key functions as set out in the Reserves Act are:
  - To provide for the preservation and management, for the benefit and enjoyment of the public, areas possessing some special feature or values such as recreational use, wildlife, landscape amenity or scenic value. For example, the reserve may have value for recreation, education, as wildlife habitat or as an interesting landscape;
  - To ensure, as far as practicable, the preservation of representative natural ecosystems or landscapes and the survival of indigenous species of flora and fauna, both rare and commonplace;

- To ensure, as far as practicable, the preservation of access for the public to the coastline, islands, lakeshore and riverbanks and to encourage the protection and preservation of the natural character of these areas.

## RESPONSIBILITIES AND POLICY

- 21) DOC's mandate and context is also set by a statutory planning framework that supports the legislation; the Conservation General Policy, the General Policy for National Parks, and the strategies and plans that flow from these policies. A series of Conservation Management Strategies (CMSs) identify the places that DOC manages on behalf of New Zealanders, and establish 'outcomes at places' and high-level objectives that provide guidance for the management of public conservation lands and waters.
- 22) DOC delivers a number of ongoing freshwater core programmes, including:
- Threat assessments and recovery actions for threatened species.
  - Supporting the Government's international obligations under the Convention on Wetlands of International Importance, especially waterfowl habitat (the Ramsar Convention).
  - Managing the whitebait fishery and enhancing streamside whitebait habitat.
  - Enforcing regulations on barriers to fish passage.
  - Continuing to coordinate the national wetland restoration programme known as Arawai Kākāriki ('Green Waterway'), centred on three of New Zealand's most significant wetland/ freshwater sites—Whangamarino (Waikato), Ō Tū Wharekai (mid-Canterbury) and Awarua Wetlands (Southland).
- 23) The Department of Conservation's Annual Report for the year ended 30 June 2011 shows that 475,439 hectares of land received treatment for weeds using a site-led approach. The total area receiving weed control over a number of years is called "land under sustained weed control" and is reported to be 1,748,522 hectares.
- 24) 114 weed control work plans were completed using a weed-led approach. A weed-led approach is used when a weed is new to New Zealand or a geographical area is at an early stage of invasion. Objectives of a weed-led project are usually eradication or containment.
- 25) DOC's total weed expenditure the year ended 30 June 2011 was \$19,086,000.
- 26) The Department does not track how much of this work is carried out in aquatic, estuarine, and riparian ecosystems. While some work is directly related to a freshwater or estuary site other ecosystem work often has a freshwater component.

For example the mountain land contorta ( *Pinus contorta* ) control work in the Kaweka range also protects several bogs from wilding conifer infestation. Marram work at Mason Bay sand-dune ecosystems also protects lakes at the back of the dune systems.

- 27) 21 of the 114 weed-led projects are directly related to aquatic, estuarine or riparian weed species. 21% of weed sites funded via DOC biodiversity strategy funding was directly related to weed work related to aquatic, wetland, estuarine, or, riparian sites.
- 28) Overall therefore, aquatic pest plant control is significance part of DOCs core functions in protecting and enhancing the Conservation Estate.

## **RELEVANCE OF INTERNATIONAL AGREEMENTS**

- 29) New Zealand has an international responsibility to meet commitments of the Convention on Biological Diversity. This was ratified by New Zealand in 1993. Ratification required the New Zealand government to prepare a national strategy to set national goals to conserve and sustainably use biodiversity. After public consultation the New Zealand Biodiversity Strategy was published in February 2000. One of the ten strategic priorities adopted was "*halting the decline of indigenous biodiversity*". The strategy recognises invasive introduced weeds as a serious threat to ecosystem functioning and survival of indigenous species in many natural areas.
- 30) Part three of the strategy deals with action plans for New Zealand's biodiversity. One of the 10 themes, theme 2, relates to freshwater biodiversity. The desired outcome for stated as "The extent and condition of remaining natural freshwater ecosystems and habitats are maintained. Some degraded or scarce habitats, such as lowland river systems, important wetlands and riparian areas, are restored or increased in area. Intact natural freshwater areas are protected and their natural character is maintained". The strategy notes that "wetlands represent some of New Zealand's most diverse ecosystems "and that 90% have been lost. Of the remaining 10% many of these are degraded by a number of impacts including introduced invasive weed species".
- 31) Implementation actions in the strategy relate to controlling existing introduced invasive weeds as well as weed species already present in New Zealand but not yet widespread.
- 32) The Convention on Wetlands (Ramsar, Iran, 1971) -- called the "Ramsar Convention" is an intergovernmental treaty that embodies the commitments of its member countries to maintain the ecological character of their Wetlands of International Importance and to plan for the "wise use", or sustainable use, of all of the wetlands in their territories.

- 33) The Convention on wetlands came into force for New Zealand on 13 December 1976. New Zealand presently has 6 sites designated as wetlands of international importance, with a surface area of 55,512 hectares.
- 34) New Zealand sites are:
- Awarua Wetland
  - Farewell Spit
  - Firth of Thames
  - Kopuatai Peat Dome
  - Manawatu river mouth and estuary
  - Whangamarino
- 35) Introduced invasive weeds are controlled by the Department at all RAMSAR sites. Weeds that are not yet widespread, such as purple loosestrife, yellow flag iris, and, spartina, are controlled at locations that prevent spread to RAMSAR sites.
- 36) Given the above, the importance of the approval of this application on both a nation and international scale cannot be understated.

## **IMPACTS OF WEEDS**

- 37) Introduced invasive weeds are a serious threat to aquatic ecosystems and indigenous species that live in aquatic ecosystems. Weeds are an underestimated threat to conservation values. Weed problems are increasing and on average DOC has two new introduced invasive weeds to deal with every year. Existing untreated weed work continues to expand, sometimes at exponential rates. Three examples of weed species relevant to this application that are controlled by the Department of Conservation are:

### ***Spartina. (Spartina anglica, S. alterniflora and S. x townsendii).***

- 38) *S. alterniflora* is native of eastern North America. Other species of hybrid origin are from England. *S. anglica* is the most common spartina species in NZ and is naturalised from North Auckland to Invercargill and Stewart Island. *Spartina* was introduced to many countries for the purpose of estuarine reclamation. It has become weedy in many countries including the western seaboard of the USA, the Mediterranean, Australia and New Zealand.
- 39) *Spartina* is rated in the top 100 alien invasive species worldwide. (Global Invasive Species Database, IUCN)
- 40) Legal status in New Zealand under the Biosecurity Act is: Unwanted Organism.

- 41) In New Zealand there is no equivalent native grass species that establishes on extensive intertidal estuary zones. The result is that spartina can form dense stands completely replacing bare mud flats used by wading birds and flounders. (See images of infestation at Havelock estuary before and after herbicide control using haloxyfop).
- 42) Once spartina is established as the dominant vegetation it traps sediments, altering water courses and can eventually replace estuaries with grassland. In the Bay of Plenty farmers have fenced areas and have introduced cattle to graze the spartina. Increased sedimentation in the New River Estuary near Invercargill was cited as a contributing cause if the Invercargill flooding event that occurred in 1988. The spartina infestation was in the order of 800 hectares at that time. Spartina infestation can completely eliminate wading bird habitat, whitebait fisheries, eel habitat, and flounder habitat. It affects recreational activities such as bird watching, kayaking white baiting and floundering, and, kai moana gathering by Iwi.

Image. New River Estuary before spartina control.



Image. New River Estuary spartina control with haloxyfop.



### **Purple Loosestrife (*Lythrum salicaria*)**

- 43) The native range of this species is Eurasia; throughout Great Britain, and across central and southern Europe to central Russia, Japan, Manchuria China, southeast Asia, Australia, and northern India.
- 44) Purple Loosestrife is rated in the top 100 alien invasive species worldwide. (Global Invasive Species Database, IUCN).
- 45) Legal status in New Zealand under the Biosecurity Act is: Unwanted Organism.
- 46) Where it has invaded other countries such as Canada and the USA it has become a serious environmental weed. It is one of the worst agricultural and environmental weeds in North America, invading large areas and displacing other plants. This plant rapidly invades damp ground, wetlands and shallow water. It overtops native species with dense bushy growth, is long-lived and produces millions of long lived highly viable seeds from an early age. It tolerates hot or cold conditions and low to high nutrient levels in the water, but is intolerant of salt water.
- 47) Fortunately there are very few places in New Zealand so far where purple loosestrife is growing in the wild. However, if no action is taken, this species may spread out of control. Seeds are dispersed by water, but may also be spread by wind and birds and on machinery. Because it has so many seeds, once established, purple loosestrife can quickly form a dense stand that excludes most other vegetation. A single plant can produce over a million seeds a year.

Image of purple loosestrife infestation in Minnesota USA *Courtesy of spinner.cofc.org*



- 48) The Department of Conservation (DOC), Ngai Tahu, Environment Canterbury and the Christchurch City Council are working together to try to eradicate purple loosestrife from Canterbury. Purple loosestrife thrives in damp places, particularly river or lake margins, and can clog drains and irrigation ditches. It also crowds out native plants, and changes habitat for wetland birds and fish.

### **Yellow Flag Iris. (*Iris pseudacorus*)**

- 49) This invasive weed originates from Europe, Asia, and North Africa. It was introduced to New Zealand as an ornamental plant. It can spread extensively along river margins. This is an aquatic perennial growing in leafy clumps up to 2m tall, and arising from dense rhizomes (up to 3cm in diameter). Sword-like leaves emerge in fans from a reddish base. From October to December it produces pale-yellow to golden –orange flowers (up to 12 cm in diameter), followed by seed capsules containing many seeds. Yellow flag iris is poisonous to humans and animals. Rhizomes form dense floating mats, and the plant overtops native species that grow on margins of water bodies, including estuarine areas. It can also invade flood-prone pasture.
- 50) Legal status in New Zealand under the Biosecurity Act is: Unwanted Organism.

### **DEPARTMENT OF CONSERVATION STRATEGIC APPROACH TO WEED MANAGEMENT**

- 51) DOC has developed a number of world leading procedures for ecological weed management. These procedures have been adopted by other agencies in New Zealand and by some agencies some other countries such as USA and Australia.
- 52) Weed Policy titled “Strategic Plan for Managing Invasive Weeds”. This is a higher level document which sets out how DOC goes about its weed control. This document describes the weed-led and site-led approaches to weed control. Weed-led is used when a weed is new to New Zealand or a geographic region. The aim of weed-led control is to eradicate a weed or contain it from spreading to other areas. A site-led approach is used when weeds are widespread and there is insufficient funding to control all weeds at all sites. Sites are ranked for their ecological values and the most important sites are protected from weeds and other threats.
- 53) Surveillance Standard Operating Procedure. As there is a very short time to find new weed incursions and apply a weed-led approach, searching for weeds and finding them in time is essential. Surveillance procedures include searching areas where new weeds are likely to be found e.g. 1 areas surrounding boat ramps where fragments of weed may have dropped off a boat trailer e.g. 2 Searching garden shops for imported “wild flower” seeds can prevent seed from plants, such as purple loosestrife, from being planted in gardens or scattered to the wild by the public.
- 54) The Weed-led approach is used to prevent aquatic weed establishment, eradicate new weed incursions at an early stage, or, contain an aquatic weed from spreading to new waterways. It is very difficult to eradicate aquatic weeds once they have established in aquatic ecosystems. Public awareness is used to raise awareness that many aquatic weeds are transferred by human activity including boat trailers, eel nets, diggers, and, people releasing unwanted goldfish along with weed fragments. Many of our aquatic weeds can infest a new waterway from a single fragment. If aquatic weeds do enter

new water bodies or riparian areas there is a very short period of time to eradicate or contain a weed infestation. An effective control method is essential. In most cases an effective herbicide is required for immediate use. Methods that can be used for widespread aquatic weeds such as mechanical control and digging are not often suitable for an eradication attempt as the risk of creating fragments only exacerbates the spread of the weed. A translocating herbicide is able to penetrate all parts of the plant and ensuring 100% kill. For an eradication attempt 100% of all plants must be killed. A recent successful eradication was carried out on hornwort from two localised infestations in the South Island. There are now no known infestations of hornwort in the South Island. Without an effective herbicide, in this case endothall proved effective, this serious aquatic weed would have established and spread throughout many South Island waterways. A small quantity of an effective herbicide used early to eradicate a new weed can eliminate the need to use large quantities of herbicide later to manage the ongoing impacts of widespread weeds.

- 55) A site –led approach is used when weeds are widespread and funding is limited. Control of many aquatic and riparian weeds can only be effectively or practically controlled by the use of an effective herbicide. Manual and mechanical methods can be expensive with weeds recovering quickly. New weed infestations can be caused by movement of weed fragments. Disturbance can promote reproduction. Apart from being ineffective, manual weeding can damage sensitive sites and be an order of magnitude more expensive compared to effective herbicide use. If more expensive manual weeding is carried out the Department’s operational funding runs out earlier and fewer sites can be treated. This means more weeds in more places. In reality if control costs become too high weed funding is directed to ecosystems where weed control is more cost effective such as terrestrial ecosystems. This is to the detriment of aquatic and riparian ecosystems.
- 56) Monitoring Weed Work Standard Operating Procedure. Pest plants behave differently in different parts of New Zealand. This may be due to climatic or other environmental factors. This can result in some herbicides not being as effective at some sites. To counter this a range of herbicide tools is required. Herbicide effectiveness can be monitored to provide a % kill using a particular herbicide. The Department of Conservation also has a standard operating procedure for conducting herbicide trials to provide statistical results and compare a range of herbicides or herbicide rates.
- 57) Often the most cost effective weed control giving the best outcomes is a knock down phase followed by a maintenance phase. A good example of this approach is spartina control in the South Island using the herbicide haloxyfop. In both the Havelock estuary and estuaries around Invercargill aerial and ground spraying of dense infestations resulted in initial kills of 95% to 99% control. See images of the Havelock estuary and New River Estuary at Invercargill Less than 1% of the herbicide used in the knockdown phase is now required for maintenance. The 50ha patch of spartina at Havelock estuary was the final remaining large infestation of spartina in the South

Island. In the two years it took to knockdown spartina in Havelock estuary 2003-2005 it required 498 litres of gallant herbicide per year. In the 2011/12 year it only required 390 mls of gallant to further reduce the remaining spartina that was missed or had recovered following the initial spraying.

- 58) A proposal is currently being developed to totally eradicate spartina from the whole of the South Island. Spartina infestations are now single plants, small patches around 2 square metres, and a few larger patches around 25 square metres. In order to achieve eradication the herbicide haloxyfop must be available to control remaining patches. The alternative herbicide approved for use is Glyphosate. This herbicide does kill spartina but does not give consistent kills required to completely eradicate this weed. Eradicating this weed has the benefit of no longer needing to apply herbicide on an ongoing and often annual basis. This will be a benefit to marine farmers and eel fishers concerned with the ongoing use of this herbicide.
- 59) Parrots feather ( *Myriophyllum aquaticum* ) has established in the South Island in North Westland, Marlborough, Christchurch, and Southland. This weed invades drainage ditches and is spread by diggers and eel nets. The most effective herbicide from trials on the West Coast was found to be Garlon 360 (Triclopyr triethylamine). Environment Southland has also found Garlon 360 to an effective herbicide and that eradication is possible if this herbicide can be used over water.

#### **IMPACTS OF AQUATIC AND RIPARIAN WEEDS.**

- 60) Aquatic and riparian weeds negatively impact on native ecosystems. Native plants and animals are displaced. Estuary weeds such as spartina can completely transform estuary habitat into farmland grazed by cattle. Cattle have an additional impact by adding nutrient to surrounding wetlands. As stated earlier DOC's main role is to protect native biodiversity. The other main role is to promote public use and allow tourism. Weeds impact recreation and tourism by preventing access, causing unsightly rotting weed masses, reduction in bird watching activity, restrictions on boat access, loss of fishing opportunities, swimming, and, some weeds are known to increase the risk of drowning by entanglement. Increasingly, DOC is recognised as supplying ecosystem services to communities and Iwi. These include intact and unique landscapes and ecosystems to attract tourists, weed free waterways that do not impede irrigation or power generation, removal of weeds from riparian sites that invade valuable pasture land, and, habitat for juvenile fish such as flounders and eels. In order to discharge its functions DOC must carry out a level of weed control. This often requires the use of effective herbicides.
- 61) Aquatic and riparian weeds have direct impacts on trout habitat as well as making angler access difficult. Anglers are also a pathway for weed spread. This can be from contaminated fishing equipment or the transfer of weed seeds between popular fishing spots on 4wd vehicles. Didymo (*Didymosphenia geminata*) spread throughout the South Island is a recent example. The spread of false tamarisk (*Myricaria*

*germanica*) in Canterbury braided riverbeds was almost certainly linked to salmon fishing and 4wd access to popular salmon holes.

## ALTERNATIVE METHODS

- 62) Hand weeding or mechanical weed removal can be used for small patches of weeds before they become widespread but extreme care must be taken to remove all weed fragments. Such an approach has recently been used to attempt eradication of *Largarosiphon major* from Lake Waikaremoana using scuba divers. Where aquatic weeds have completely invaded a waterway or navigation channel, mechanical cutting is an alternative control method. Weeds generally recover within a few months. Care must be taken to prevent weed fragments being removed from weed cutters to new waterways.
- 63) Black plastic can be used to smother aquatic weeds. This can be done at lake sites. It can be used for a small localised infestation e.g. near a boat launching ramp where an aquatic weed has recently established. Plastic needs usually needs to be installed by divers, and requires weighing down or pegging, and small holes to allow gases to escape. Regular maintenance checks are necessary.
- 64) Containment procedures for aquatic weeds of limited distribution can mean banning of activities such as recreational boating and commercial eel fishing. This has been used as a management approach in Hawke's Bay Lakes containing Hydrilla (*Hydrilla verticillata*)
- 65) Biological control. This method is often promoted by those opposed to herbicide use. Biological control can have spectacular impacts on some weeds. More often biocontrol agents either do not establish or do not give a required level of control. Delaying control with herbicides while waiting for biocontrol agents to work can be a flawed strategy. Weeds spread out of control and when it becomes apparent that biocontrol has failed, weed infestations are widespread and then require large mechanical and/or herbicide control. Biological control only works for weed that are generally widespread. This method is not applicable to the weed-led approach as there are too few weeds to establish biocontrol agents. Biocontrol agents tend to give a level of control rather than eradicate a weed species.
- 66) Volunteer efforts of Community and Iwi. DOC promotes communities and Iwi to become more involved in restoration of local ecosystems and carry out weed control. DOC has established a successful weed awareness and education programme called Weedbusters. Many volunteer groups that have experienced first hand the difficulties of manual weed work now appreciate the benefits of herbicide use. Some volunteers still prefer manual methods and choose less effective methods to achieve gains over smaller areas. Although many weedbusters would prefer not to use herbicides they do so because they appreciate that this is often the only practical and effective method for many weed species.

- 67) Some people and Iwi do not like to see herbicides used in waterways under any circumstances and promote less effective and more expensive methods. My personal observation is that few of these people have the enthusiasm to volunteer their time to join a weedbuster group and carry out the manual weed work they promote others do.

## **SUMMARY AND CONCLUSIONS**

- 68) The Department of Conservation manages around 8.5 million hectares of land which is almost 1/3 of New Zealand's land area. Its primary role is to protect New Zealand's native biodiversity. The biggest threats causing biodiversity decline are invasive weeds and introduced animals.
- 69) New Zealand is a signatory to the Convention on Biological Diversity and the Convention on Wetlands (Ramsar, Iran, 1971) -- called the "Ramsar Convention"
- 70) In order to discharge its responsibilities the Department of Conservation must carry out weed control in wetlands estuaries and riparian sites
- 71) Herbicides are a cost effective tool and in some instances the only practical tool available. This is especially so for new emergent weeds. Two weeds described in this application are classed within the worlds top 100 invasive species. If left to spread they will spread and cause serious impacts. The small risks, associated with the herbicides relevant to this application, are far outweighed by the benefits of control they will deliver.
- 72) Thank you for the opportunity to present this evidence, if you have any matters that require clarification, I am happy to answer your questions.