

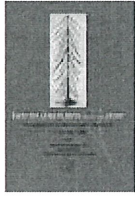


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Pest Plants and their Control

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The Early Years

Since the first European settlements in New Zealand there has been a continuing influx of alien plants. From 1789 when the first adventive plant was recorded to today an estimated 25000 plant species have by various methods found their way into this country. Most were and continue to be intentional introductions brought in for a range of reasons with the most common economic. Over 80% are plants of urban gardens but over time many have escaped to become weeds of natural habitats and agricultural land. Today an estimated 2000 intentional and accidental introductions are considered weeds.

Where Europeans in particular have colonised new lands throughout the world the translocation of species for economic, aesthetic or cultural reasons always occurs. This was never more so than during the early years of New Zealand settlement where as a country of agricultural potential, introductions mainly involved species then considered important to that industry. European grasses and cropping seed were the earliest imports, unfortunately often contaminated with a range of already recognised pasture weeds such as thistles and ragwort.

Settlers desire to brighten up areas cleared of what was to them the drab New Zealand bush introduced more colourful flowering shrubs which included soon to become weeds such as gorse, broom, hawthorn and brier. Often these species were planted as a reminder of the Old Country, as live fences, for stock shelter or fodder.

Gorse is one of the most recognised agricultural weeds in New Zealand. Introduced from Western Europe in the very early stages of European settlement it was recorded by Charles Darwin during his voyage through New Zealand waters in 1835 as growing in hedges in the Bay of Islands. It's spread and development as a weed in this country's temperate climate was rapid but settlers failed to recognise the threat, and gorse seed continued to be imported and plantings deliberately established into the 1900's.

The Start of Legal Control

In 1859 in what was one of the earliest legal enactment's requiring the control of a plant species, the provincial Governments of Taranaki and Nelson passed laws

compelling farmers to keep gorse hedges trimmed and banned the planting of new hedges. However, in 1860 a gorse nursery established at Wanganui was reported to be selling gorse plants for one shilling each. A similar enterprise is recorded as operating at Featherston in the Southern Wairarapa. This latter venture is the probable source of what was to become major infestations through the Rimutaka road and rail routes and further south into the Wellington area.

Let me use my home area of the Wairarapa as an example of how humans intentionally spread what was to become New Zealand's most costly weed to control. At Stronvar north east of Masterton in the 1880's on what was then a very large sheep station, gorse was sown with the seedling material used to fatten lambs. At Mangapakeha at about the same time, gorse established as a result of an English settlers desire to have a reminder of home, namely a gorse hedge around his cottage. Gorse was also sown to stabilise embankments formed during railway construction through the Mauriceville area north of Masterton. From each of these sites large spreading infestations over hundreds of hectares resulted, peaking in the late 1940's and costing past, present and future generations a great deal to clear and control. I would suggest this example is typical of a range of weeds currently affecting agriculture in many parts of New Zealand, as are the methods of introduction.

Other Provincial legislation was being enacted at about the end of the 1880's, for example the Otago Provincial Councils' requirement to clear Californian Thistle. This species had spread through much of the Province and there was a fear that it would over take all pastureland. One can only wonder at what control methods were attempted in those days considering the difficulty to clear this species even with today's technology.

National Legislation for Weeds

The first national legislation requiring the control of problem weeds was the 1900 Noxious Weeds Act, followed by the 1928 Act which continued through with some amendments until 1950. Both were administered by the Department of Agriculture. Following the 1928 Act a local authority could if it so decided, take over this responsibility, but generally few did.

These were years prior to the advent of true herbicides and periods of major world upheavals such as the World Wars and the Great Depression so the spread of the mainly agricultural noxious weeds continued fairly much unabated even with the best efforts of man.

Major Changes

Following the introduction of the 1950 Noxious Weeds Act, real control progress began. This Act gave administrative responsibility to County Councils and although not compulsory, government subsidies made it attractive enough for most to become involved. This coincided with a period of extraordinarily high returns for New Zealand farmers which when coupled with the introduction into New Zealand of the first selective herbicides namely 2,4-D and 2,4,5-T saw the beginning of real progress in sustainable noxious weed control.

The 1950 Act had two major deficiencies; one it was not compulsory for local bodies including town and city councils to assume administrative responsibilities, and two the Crown was not bound and could and often did ignore requests by administering authorities to clear its own land.

These situations often caused heated debate particularly by neighbouring landowners who were required to clear noxious weeds only to look over the boundary into a rail or other government reserve or drive into a town area and note the unabated spread of the same species.

The Subsidy Years

In the late 1960's Britain joined the EEC beginning a decline in the export value of many of our agricultural products. To boost production the New Zealand Government introduced a range of agricultural subsidies with one giving a 47% rebate on the purchase of herbicides. Use and type was not specified and a proportion of this subsidy helped to control weeds on sports grounds, home gardens and on a range of other non-productive areas.

In 1973 the Kirk Labour Government in its first budget announced a new subsidy covering 50% of the total cost of clearing specific noxious weeds.

This subsidy allowed payments through MAF of 50% of the cost of chemical and application for initial clearance and ongoing control of up to three inputs on any site when approved by the local weed authority. Approved mechanical clearance such as root-raking was also subject to subsidy.

The eligible species were the then main noxious pasture weeds in New Zealand and with slight variation between the MAF regions included gorse, blackberry, broom, ragwort, nodding thistle and variegated thistle.

The Land Development Encouragement Loan Scheme opened up large areas of scrub for pasture production. Under the scheme, loans for approved work were arranged by the Rural Bank and so long as the farmer cleared and maintained the area involved for a determined period of time, the loan was written off.

While in most instances sustained production was achieved, in others the total exercise was a disaster with large areas of steep native scrubland cleared only to erode or revert to weeds such as broom, gorse or tauhinu.

Other production incentives were introduced by Governments over following years, all with the aim of clearing more land or gaining increased productivity off existing pasture.

The 1978 Noxious Plants Act

During this subsidy period weed legislation was again reviewed and in 1978 the Noxious Plants Act became law. This required the establishment of a Noxious Plants Council with responsibility to approve the formation of District Noxious Plants Authorities (DNPA's), oversee a range of subsidy issues determined by the Minister of Agriculture, review and approve the classification of noxious plants, and determine and implement a training programme for noxious plants officers.

The Crown was at last bound and like any other land occupier was required under threat of prosecution to comply with the act.

DNPA's were a significant innovation over the 1950 Act in terms of local administration. All local authorities including urban either singularly or in groupings were required to form an independent authority with the sole purpose of noxious plants administration.

Each authority employed one or more officers, approved subsidised noxious plant control programmes and recommended to the NPC the classification of plants in their district. Membership of the 80 DNPA's spread throughout the country covered a range of land use interests and in some instances an environmental influence was becoming evident.

The plants control subsidy period ended in 1985 when with most other agricultural assistance schemes it was discontinued in the early days of Rogernomics. This resulted in what could be considered an intense initial period of reversion when with

low commodity prices and no financial assistance many farmers were forced to close the gate on many of their marginal blocks.

With a degree of hindsight a high proportion of the areas developed under subsidy, particularly the Land Development Encouragement Scheme, should never have been cleared in the first place.

However in my experience most farmers made every effort to maintain their better land under what were very difficult conditions during the late 1980's and have generally continued to do so to the present time.

Regional Councils

Local Government reform and the establishment of regional councils in late 1989 saw the demise of DNPA's. Their responsibility for noxious plant control was taken over and became one of the many functions of the 13 regional councils and one unitary authority covering New Zealand.

Regional Councils by their nature and their involvement as the major administrators of the RMA are very much concerned with environmental matters and this began to be reflected particularly in the northern regions with greater attention being given to species affecting the environment rather than agriculture.

Declining emphasis on certain pastoral noxious plants also reflected the continuing poor returns many in that industry continued to experience.

Biosecurity Act

In October 1993 the Biosecurity Act came into force. This legislation introduced as an Act to restate and reform the law relating to the exclusion, eradication and effective management of pests and unwanted organisms would eventually replace some 28 enactments including the Noxious Plants Act and the Agricultural Pests Destruction Act, both administered by regional councils.

Under this new legislation a five-year strategy for pest plants was developed by each participating regional council through a public consultative process. Following approval and implementation of a pest plant strategy the requirements of the Noxious Plants Act ceased to apply in that region.

Under the Biosecurity Act a regional council is not required to develop a strategy. However with the exception of the West Coast all have.

Like a number of other councils, Wellington Regional Council commenced its Pest Plant Management Strategy in July 1996 with a five-year life to July 2001. In keeping with the tenor of the Act the species listed and control requirements in the WRC Strategy are more focused on invasive environmental plants with the aim of protecting a range of environmentally sensitive risk areas.

Plants listed are mainly garden escapes and as such are prevalent in urban situations. The eight plants officers employed by the WRC would spend roughly 80% of their time on inspections and other related activities in urban and reserve areas with Wellington City receiving the most attention.

The Current Situation

The responsibility to clear and control pest plants lies with the landowner or occupier. This has been the case under all the previous legislation.

Plants officers must therefore by whatever means coerce people into clearing plants that many will consider not to be causing a problem. Often some pest plant species

are considered attractive or a garden feature but more often co-operation is difficult to gain because of the effort required to clear an infestation or the cost.

WRC has an annual budget of \$37,000 as expenditure on Pest Plant promotions. In an effort to get the message on pest plant control out to the general public a range of activities are implemented including:

- Involvement with displays at major garden, horticulture, and A&P shows.
- Small, unattended displays at various venues including, shopping malls and libraries.
- Talks and plant displays at schools.
- Regular articles in community newspapers.
- Publishing and updating of pamphlets and diagrammatic control information sheets.
- Talks to a wide range of interest groups.

Wellington City Eradication Programme

In 1989 when the WRC was established, Old Mans Beard (OMB) was not classified as a noxious plant in Wellington City. At that time the infestation levels were considered to be at a level where control was impractical.

As much of the infestation was on Wellington City Council (WCC) reserve a co-operative control programme was negotiated between the two councils whereby WCC would commence a progressive clearance scheme on its land particularly road reserve and WRC would ensure control on private land. A case was presented to the Noxious Plants Council and in 1991 the species was classified.

Both parties started control work soon after in the northern suburbs and a total clearance programme has continued south. WRC now employs 3.5 full time staff on the Wellington programme whose main function is to systematically inspect every property in the survey area and ensure all infestations are cleared. Since the implementation of the Regional Pest Plant Management Strategy other species have been included in the control programme. These are Wild Ginger and Cathedral Bells with both proving to be common through the City.

Enforcement

To obtain total control a firm line is taken. Where a site of one or more of the species is located, ownership of the property is established and the owner notified in writing and requested to clear the infestation. Generally 28 days is given for this to be completed. Where the site is small, with the written agreement of the owner that herbicide may be applied, a plants officer will clear the infestation as a customer service. After 28 days the site is re-inspected and if the work is not completed a Notice Of Direction is issued. Generally another 28 days is given and if on inspection a satisfactory level of control has not been achieved the owner is advised that a contractor will be directed to enter the property and carry out the work at the owners expense. Following normal invoicing procedures if payment is not received the cost of the exercise is placed as a Statutory Land Charge.

Pest Plants are not often the problem. As I have stated earlier, it is people who first of all introduce problem species either into New Zealand or into an area. Then by various ways they will spread them further. Over the last 18 months we have found garden shops selling Old Mans Beard plants, dried Wild Ginger flowers and noted in the August edition of a well known gardening magazine an advertisement seeking to purchase seed or plants of Cathedral Bells.

People in this country have an amazing interest in plants and their environment. Most recognise the damage some species pose to that environment yet often these same people carry on unaware of the possible damage their actions can cause. We have found on a number of occasions dumps of garden refuse on roadsides,

riverbanks and in reserve areas containing a variety of plant species including invasive pest plants such as Old Mans Beard, Wild Ginger and Banana Passionfruit.

On a recent inspection of a large DOC bush reserve adjacent to an urban centre, a little over half an hours drive north of here, I noted along the boundary with a number of rather expensive homes (each with manicured gardens) piles of plant material dumped over the fence into the reserve. A casual observation revealed Tradescantia and Japanese Honeysuckle plus a host of other but less invasive species.

Along the coastal sand dunes of this same centre a recent inspection revealed that almost every beachfront property had a dump of garden refuse over the fence or further out in the dunes.

The Future

As enforcement agencies, regional councils can only handle a limited number of plant species if reasonable control levels are to be achieved. Some councils have introduced service delivery where the work is carried out on behalf and at no cost to the land occupier. This generally involves only a few key species of limited distribution and with the potential to have major deleterious impacts.

Service delivery on pest plants of limited distribution can be cost effective as control is achieved at inspection, the work is carried out by an experienced person and limited re-inspections are required.

WRC offers a limited service delivery on minor sites of Wild Ginger and Old Mans Beard. This offer is determined by the inspecting officer and work can only proceed with the agreement of the occupier. However we do arrange and fund clearance programmes on a few potentially hazardous species of very limited distribution even though in some cases the sites involved may be of a reasonable size.

Sweet Pea Shrub, Moth Plant and Manchurian Wild Rice are recent examples.

Under the current WRC Pest Plant Management Strategy control requirements are the responsibility of the occupier and are species driven. It is possible that in the next Strategy this may be modified to include full service delivery on a few key species. A decision on which species and to what degree, will be influenced by our current Surveillance Plant monitoring programme. Zoning for service delivery will also be considered.

The other possibility is plant control on a site basis. This could be in co-operation with the Animal Pest programme where KNE (Key Native Ecosystem) sites would be evaluated to include not only animal pests but also pest plant damage. Where appropriate, key invasive plants would be controlled both within a site and along a buffer zone on its periphery.


As pest plant control on any site to the point of complete eradication is a continuous process over a long time, a KNE programme for weeds will on many sites be more costly and prolonged than animal control. This would limit the number sites that could be targeted if such a scheme is implemented.

In well-established bush reserves, only a few weed species are tolerant of low light conditions and therefore invasive, however with more open regenerating areas the range is far greater.

KNE sites also include some wetland and dune areas. Both have their own particular weed problems which in many case will be more difficult to deal with than bush reserve.

In the end it is public demand that decides everything. More and more of that demand is growing for the protection and restoration of our natural areas.

Pest plant control is just one facet in this restorative process and regional councils are increasingly recognising their responsibility in this regard.

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