WEEDS IN THE VICTORIAN COLONIAL GARDEN 1800-1860

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Introduction

Exotic plants[ii] were an integral part of the ecological invasion of the Port Phillip District by Europeans. They included weeds[iii] imported by accident and by design. Some were introduced because they were considered useful. Others were introduced so that settlers could establish "English" gardens. Some exotic plants were, however to become naturalised weeds and out-compete the indigenous vegetation.

By 1860 many plants known to be weeds of farmland in Britain had become naturalized in the new colony of Victoria. Almost two thirds of the 139 plants listed by Sir Joseph Hooker as 'Naturalised Plants of Australia'[iv] ('introduced species which have run wild') were said by him to be weeds in Britain. The weed status of these plants is in general confirmed by contemporary sources, such as Professor Buckman's 1855 essay "On Agricultural Weeds"[v], and Bentham and Hooker's *British Flora*.[vi] Not all of the alien plants Hooker listed were British weeds; some other sources such as Europe, the United States and California were given, as well as places on the colonial lines of communication via South America and the Cape of Good Hope. Many remain troublesome weeds today, making an understanding of how they came to Victoria of continuing relevance. Were these known weeds deliberately introduced into the colony at the Port Phillip District without regard to their potential to run wild? Or was their importation an unintended consequence of the colonisation?

This paper considers the early history of the establishment of weeds in the colony of Victoria, and describes some attempts to control them. As the colonial attitudes, from which weed problems in Victoria resulted, were set in place from the founding settlement at Botany Bay, it is appropriate to begin the discussion there. But the focus is on Victoria, beginning with the casual planting of exotics by explorers and others, and the more systematic work of early settlers.

A thistle problem began to be noticed just as the Port Phillip District was separated to become Victoria. But other plants which were to become weeds were introduced to make hedges, then widely seen as desirable. Popular works, such as Cobbett's *The English Gardener* (1829), advocated both hedges and the use of plants many of which later became weeds.

Early perceptions of the weed problem focussed on thistles. But there were more weeds in the colonial garden than those included in the 1856 *Thistle Prevention Act*. Some of our worst weeds had barely arrived.

Exotic plants, weeds and the ecological invasion

Sir Joseph Banks, the 'Father of Australia' as the botanist Joseph Henry Maiden called him almost 100 years ago[vii], described his business as 'an encourager of the transport of plants from one country to another;'[viii] as such he embodied the spirit of the age. Plant transfers were an integral part of the colonial enterprise he encouraged. Banks' evidence to a Parliamentary Committee in 1779, which advocated a settlement at Botany Bay, was that, if the settlers were furnished at landing with a year's supply of food, together with 'Black Cattle, Sheep, Hogs, and Poultry; with Seeds of all Kinds of EUROPEAN Corn and Pulse; with Garden Seeds … with a moderate Portion of Industry, they might, undoubtedly, maintain themselves without any Assistance from *England*.' (emphasis as in Clark[ix]) . Banks' authority was based on his short stay in New Holland in 1770 during Cook's epic voyage of discovery. He also spoke as President of the Royal Society, an office to which he had been elected in 1778.[x] And further, he was a practising farmer with a large estate at Revesby Abbey in which he took a lively interest. In farming matters he was the confidant of King George III.[xi]

It was almost inevitable that weeds would be introduced together with the domesticated plants and animals on which the settlement was to rely. The first record of a recognised weed at the Sydney settlement was what David Collins , in his *An Account of the English Colony in New South Wales* (1798), called 'Drake', which he said invaded the wheat crop in 1796.[xii] The most likely source would have been contaminated seed. Drake is a synonym for darnel (*Lolium temulentum* L.), a ryegrass which has been a weed of cultivation for millennia. It was the tares of the Bible.[xiii]

The Irish lawyer and writer, William Kelly wrote of Drake as troublesome in Victoria in 1853, asserting Van Diemen's Land as the source:

> In oats there is often a small weed-seed called drake, of which special care should be taken, for it not only deteriorates the value of the grain, but if once it gets into the soil it is impossible to eradicate it. It grows like rye-grass , and is a black grain about the size of a small oat. It is not indigenous to Victoria, but abounds in Van Diemen's Land, whence it is supposed to be imported in hay

> and corn-feed, and propagated by means of the stable manure, for in the interior, where Tasmanian feed is not used, drake is unknown.[xiv]

Darnel is one of the weeds which Stearn referred to as 'anthropophytes, the ancient weeds of broken soil which have followed man, the cultivator, so long and so widely and have become so dependant on his activities that their original home is obscure.'[xv] *Lolium temulentum* was a serious contaminant of wheat because its seeds were prone to becoming ergotized and poisonous. Michael quotes references from the 1840's in several States to the problem of drake and the measures taken to clean it out of wheat, but notes that it is of much less importance today.[xvi]

In southern Australia the importation of exotics began with the First Fleet. In addition to the seeds brought from England, further plant materials were taken on board at Rio de Janeiro in August 1787 and the Cape of Good Hope in October-November. The plants from Rio included 'a prickly pear (with the cochineal on it)'[xvii]; Banks had suggested the establishment of a cochineal industry with a view to breaking the monopoly held by Spain and Portugal on the supply of carmine, the dye used for dying the uniforms of the red-coated military.[xviii] This importation may be the origin of the Drooping Prickly Pear (*Opuntia vulgaris Mill.*) now the most widespread of all the *Opuntia* species in Australia.[xix] *O. vulgaris* should, however, be distinguished from Common or Erect Prickly Pear, (*O. stricta* Haw.), which occupied millions of hectares in Queensland and northern New South Wales until substantially controlled by the cactoblastis beetle in the 1920s and 30s. Both *Opuntia* species were proclaimed noxious weeds in Victoria, *O. vulgaris*, under the name *O. monacantha*, from 1907.[xx]

Opuntia plants were not recognised to be weeds for many years, and appear regularly in nursery catalogues throughout Australia in the 1840s, according to Parsons and Cuthbertson.[xxi] By the 1880s the prickly pear was described as a 'terrible evil' in the New South Wales Legislative Council, and the *Prickly-pear Destruction Act* 1886 was passed in an attempt to deal with it.[xxii] However, Mueller in his *Select Extra-tropical Plants* was still recommending a number of *Opuntia* species in 1885, including *O. vulgaris* as 'Very hardy. Adapted for big hedges, and like the rest not inflammable, hence particularly valuable along railway-lines….Numerous other species are industrially eligible for hedging purposes, but sometimes spreading beyond control.'[xxiii] The weedy potential of most *Opuntia* species seems not to have been recognised for nearly 100 years after 1788.

Early planting of exotics in Victoria

Even fleeting contact by explorers was often accompanied by the planting of exotics, demonstrating an assumption that this newly found region should be treated as an English domain to be stocked with whatever plants the explorers chose. The first 'garden' in the Port Phillip District was that planted on Churchill Island in Western Port in April 1801 by Lieutenant Grant of the *Lady Nelson*. Prevented by bad weather from completing his assigned task, an accurate survey of the recently discovered Bass Strait, Grant sheltered in Western Port for five weeks. He had brought out from England 'a variety of seeds of useful vegetables, together with the stones of peaches, nectarines, and the pepins or kernels of several sorts of apples.' The seeds had two sources, 'a generous and public-spirited gentleman', John Churchill of Devon after whom Grant named the island; and Captain Schank (sic), the designer of the *Lady Nelson.* Churchill's injunction had been 'to plant them for the future benefit of our fellow-men, be they countrymen, Europeans, or savages.' Grant had also been furnished 'with many seeds for the like liberal purpose by my friend Captain Schank.' When the ground was prepared Grant sowed his 'several sorts of seeds, together with wheat, Indian corn and peas, some grains of rice, and some coffee-berries; and… potatoes.' Grant did not remain in Australia long enough to harvest the crop he had sown. But when the *Lady Nelson* returned to Western Port in December 1801 under the command of Lieutenant Murray, he found the wheat and corn 'in full vigour, six feet high, and almost ripe.' He sent the second mate to harvest the wheat. 'They returned on board with the wheat, in the whole, perhaps a bushel in quantity, a good deal mixed with oats and barley, all fine of their kind ; some potatoes also were found and two onions.'[xxiv]The point of this exercise remains obscure, but the demonstration of the colonising approach is clear.

Just over a year later, in February 1803, the Surveyor General, Charles Grimes, surveyed Port Phillip in the schooner *Cumberland*, under the command of Lieutenant Charles Robbins. Grimes took exploring parties up the Saltwater River and the Yarra. The journal kept by James Fleming, Grimes' assistant, records that after camping overnight near Dight's Falls, on 8 February 1803 he 'sowed some seeds by the natives' huts.[xxv] What the seeds were was not recorded. Could they, if corn was planted, have included the cornfield weed, Corn Spurrey (*Spergula arvensis* L.) which Hannaford recorded in 1856 as naturalised in 'Sandy soil near Dight's Mill, on the Yarra'?[xxvi] It seems likely that Fleming's planting was the second recorded sowing of exotics in Victoria. It again shows an assumption that any plant introduction would be beneficial

There are further examples of the casual sowing of exotic plants in the Victorian landscape. The formidable Lady Franklin, wife of Sir John Franklin, the Governor of Van Diemen's Land, journeyed overland from Melbourne to Sydney in 1839[xxvii]. It appears from Lady Franklin's letter to Sir John dated 20th April 1839, written from an encampment on the Murray near what later became the town of Albury, that she had brought a packet of clover seed on her journey 'for the express purpose of …disseminating pasture along the travellers track.' She sowed White Clover seed (*Trifolium repens* L.) in the trench dug round their tent at this encampment to carry off the rain:

> which if it succeeds as I expect on this rich alluvial soil, just freshly prepared, by the moisture and for the first time turned up by the spade, will not only leave the flowery outline of our principal encampment thus imprinted on the soil as an enigma for the inquisitive traveller next spring, but will in all probability spread itself from this point all along the banks of the Murray.

Lady Franklin had forgotten to use the packet before then, but gave a mounted police corporal, who was returning to the Broken river after bringing the party on, some of the seed, 'which seemed highly to delight him'; no doubt he was instructed to fulfil her purpose.[xxviii] Howitt reported in 1854 that Lady Franklin was 'said to have sown trefoil at every station where they stopped'; and that she had succeeded only too well, as 'all across this plain it appears universal.'[xxix] By 1860, *Trifolium repens* had 'spread most luxuriantly wherever there is moisture, often destroying all other vegetation', according to Hooker.[xxx] White Clover is today regarded as an environmental weed,[xxxi]as is the related Subterranean Clover (*Trifolium subterraneum* L.) the latter is, however, an important plant in agriculture.[xxxii]

Watercress (*Rorippa nasturtiumaquaticum* (L.) Hayek Syn *Nasturtium officinale* R. Br.) provides another example. Patrick Costello, in a memoir published in 1896, wrote of his employment as a gardener on the Pohlman station at Glenhope, north of Kyneton, in the 1840s:

> Water-cresses (sic) grew in a spring near the garden, and one day I took several of these plants and set them in a spring three miles distant, at a place called 'Paddy's Flat,' and as time wore on the stream of water carried the seeds of these down towards the Coliban River, about fourteen miles distant; and at the present

> time, for the whole distance on either bank, watercess grows in abundance.[xxxiii]

By 1930 Professor Ewart described Watercress as 'widely spread in shallow streams, irrigation channels, and recorded as naturalized in Victoria in 1863.'[xxxiv] It is now regarded as an environmental weed.[xxxv]

These examples are given to show that exotic plants were deliberately, but quite casually, introduced into the Victorian landscape, in the hope, perhaps, that in some way this was to improve it; It was done with the knowledge and intent that the plants were likely to become naturalized.

Early settlers

More permanent European settlement, as a matter of course, included the growing of crops and vegetables. Passing over the plantings which accompanied the half-hearted, and soon abandoned attempt by Collins to establish a settlement at Sullivan's Bay near Sorrento in 1803, and the failure to pursue a proposal for a settlement at Western Port in the 1820s, we may turn to the Hentys' arrival at Portland in 1834. By the time Major Mitchell, in the course of his expedition into Australia Felix, arrived at Portland in late August 1836, the Hentys were well established, with wooden houses and what Mitchell described as 'a considerable farming establishment,' which included 'A good garden stocked with abundance of vegetables.' Mitchell's party was supplied with 'as many vegetables as the men could carry on their horses.' [xxxvi]

The history of the more elaborate efforts by Batman and Fawkner to found a settlement on the Yarra in 1835 is well known.[xxxvii] By 1836 Fawkner had sown 26 acres of wheat, 2 of oats, 2 of barley and 3 of potatoes.[xxxviii] Fawkner ceded possession of Batman's Hill to Batman, who claimed by March 1839 to have one thousand fruit trees of every description flourishing on the land.[xxxix]

Victoria in the 1850s

By the time of the separation of the Port Phillip District from New South Wales in 1850, the new colony of Victoria, with an immigrant population of 77,000 was prospering. That prosperity was carried on the sheep's back. Most of Victoria was carved up into about 1000 sheep stations, carrying about 6 million sheep in total. By 1850 Melbourne was ' one of the three busiest wool ports the world had known' [xl]Agriculture was much less developed. The 80 square miles under crop around Melbourne, near Geelong, Warrnambool, Port Fairy, Portland and other places did not

produce enough wheat to feed the population. The predominance of urban and suburban life was already established. Melbourne together with thriving suburbs, such as Fitzroy, Richmond, Collingwood, Heidelberg, South Yarra and Brighton, had some 23,000 residents, almost 30 % of the population of the colony. Geelong, the second town, had 8000 residents.[xli]

The discovery of gold in 1851 and the ensuing rush to the diggings brought many profound changes to the young colony. An immediate result was that by the end of 1851 about half of the men of Victoria and thousands from Tasmania and New South Wales were working at the diggings.[xlii] The depopulation of Melbourne was described by La Trobe in a despatch to Earl Grey of October 1851 which has often been quoted:

> Cottages are deserted, houses to let, business is at a standstill, and even schools are closed. In some of the suburbs not a man is left, and the women are known, for self protection, …to group together to keep house. [xliii]

An immediate result was a shortage of workers, including gardeners. As Howitt wrote in 1852:

> When you advance into the country a few miles too, you find the want of labour stamped on the face of everything. The gardens and pleasure-grounds of gentlemen, as well as the gardens of an humbler description, are regular wildernesses for the most part. They have literally nobody to cultivate them.[xliv]

This passage confirms that gardens were an established feature of the colony.

Many examples can be given of substantial gardens in the colony by the 1850s. Governor La Trobe had developed an extensive garden at his residence, 'Jolimont'. In addition to La Trobe's own drawings showing aspects of his garden,[xlv]it can be seen in Liardet's water-colour,[xlvi] in more detail in the painting 'View of Jolimont, Melbourne, Port Phillip, 1843-4[xlvii]'; and in Bateman's series of pencil drawings executed in 1853[xlviii]. Andrew and Georgiana McCrae's house at Abbotsford, 'Mayfield', had a considerable garden. Georgiana's *Journal* demonstrates her activities as a gardener. For example, the entry for 12 July 1843 lists the many plants growing in her garden[xlix]. Later, at Arthur's Seat she established another garden. Dendy's two storey mansion 'Brighton Park', on 160 acres of garden and farmland with a beach frontage, was constructed in the 1840s[l]. The mansion 'Banyule', built at Heidelberg by

the overlander Joseph Hawdon in 1846, was depicted in its landscaped grounds by Prout the same year[li] Gardening was not confined to grand houses, as may be seen in Gill's 'Spring' 1847; and Bateman's 'Cape Schanck Homestead' c1855.[lii] Although some Australian plants may be seen in the artistic depictions of the time, exotic plants predominate.

Most farms and many of the suburban dwellings had gardens, and gardening was a popular pastime at all levels of society, as evidenced by the formation of the Victoria Horticultural Society in 1848. The founding of the Society came only five years after proposals to establish Botanic Gardens on Batman's Hill and only two years after the site south of the Yarra was officially approved.[liii] The then Superintendent La Trobe, who became Patron of the new Society, had been the proposer of the site chosen for the Botanic Gardens. The founding committee members of the Victoria Horticultural Society included Redmond Barry, John Pascoe Fawkner, Henry McArthur, Henry Ginn and William Hull. Most of them are significant historical figures.

The thistle problem

It was not until the 1840s that weeds were recognised to be a serious problem. The weeds which first aroused concern seem to have been thistles, often referred to as Scotch Thistles. An article in the *Geelong Advertiser* of 12 July 1849 warning of the rapid propagation of the Scotch Thistle suggested a Vandiemonian origin, and said that the thistle ' made its appearance first in the neighbourhood of the flag-staff hill, Melbourne, from whence it soon spread to Keilor, but may now be found so far up as the Wardy Yallock.'[liv]

There are many reports of Scotch Thistles being deliberately cultivated by immigrants as a memento of their homeland. Georgiana McCrae provides an example. Her garden at Mayfield included a 'Thistle from Fyvie Castle', no doubt a memento of her Gordon connections[lv]. The evidence taken by the Select Committee of the New South Wales Legislative Council on the Scotch Thistle and Bathurst Burr in 1852 included several claims that the Scotch Thistle had been introduced into districts (including Queanbeyan, Springfield, Berrima, Albury and Bathurst) by Scots who cultivated it as the national emblem[lvi]. Michael quotes a letter of 1861 attributing the Scotch Thistle in Bathurst to a patriotic Scotch lady who planted it in her garden.[lvii] There is a further recorded example of the deliberate cultivation of thistles by an early settler in Victoria. The *Australian Dictionary of Biography* entry for Samuel Anderson says of his brother Hugh, who arrived at Western Port

in 1837, that 'he successfully acclimatized plants from Scotland and the Cape of Good Hope, but his treasured thistles from the Burns monument at Dumfries were to prove noxious.'[lviii]

The name 'Scotch Thistle' has long been a source of confusion, not least because it has been applied indiscriminately to various different thistles. The New South Wales Select Committee in 1852 concluded that the thistle then troublesome in many Districts was 'the *Carduus benedictus* now *Silybum marianum*,'[lix] rather than the Scotch thistle. Two different thistles were there referred to: *Silybum marianum* (L.) Gaert. also known as *Carduus marianus* L. (the botanical name refers to a supposed association with the Virgin Mary) has many common names, including variegated thistle and milk thistle; *Carduus benedictus* Steud., also known as *Cnicus benedictus* L. has been called the holy, blessed or sacred thistle. The heraldic Scotch thistle (*Onopordon acanthium* L.) has been the national emblem of Scotland since the 15th century.[lx] It is a handsome plant, grown in gardens in England. *Carduus benedictus* was included in a list of plants, of which Governor King requested Sir Joseph Banks to send seeds, in a letter of 1798.[lxi] Both *Carduus benedictus*, the Blessed Thistle, and *Silybum Marianum,* the Milk Thistle or Variegated Thistle*,* have long been recognised as herbal remedies, and continue to this day to be used for medicinal purposes.[lxii] They were traditionally grown in many gardens in England, and it is likely that both were deliberately imported into colonial Victoria for medicinal use.

The thistle problem was seen as sufficiently serious for Superintendent LaTrobe to issue a Government Notice dated 21 October 1850, seeking that measures be taken to control the spread of the large "Milk Thistle":

> THISTLES
>
> The attention of the public generally and of the occupants of purchased sections in the vicinity of Melbourne more especially, is drawn to the urgent necessity of timely measures being taken to check the growth and spread of the large "Milk Thistle", of which various patches are at this time to be found scattered over the country, more particularly in the vicinity of Melbourne, and along the course of some of the confluents of the Yarra Yarra River; both within the precincts of purchased land and of unsold Crown Lands. On the part of the local Government it is considered imperative at the present time to make every practicable effort to clear and destroy the larger beds, from the unchecked growth of which, the rapid spread of the Thistle over the country may be justly apprehended; but it will be manifest that unless these efforts are

> seconded by the holders of private property, and by lessees of the Crown, as far as practicable, and that , before the plants of the present season arrive at maturity, the hope of readily checking, and perhaps eradicating what must assuredly otherwise proved (sic) a serious evil, may be almost abandoned." (The Notice went on to spell out the measures required to be taken.)[lxiii]

At about the same time there was a troublesome invasion of the newly established Botanic Gardens by what was described as 'Scotch Milk Thistle.' Despite cutting and clearing they were 'nearly all in a growing state' at the time of the Report of September 1851.[lxiv] Thistles were to prove to be an enduring weed problem, one that is with us still 150 years later.

There were other weeds. The Victorian pioneer John Robertson of Wando Vale contributed a letter dated 26 September 1853 to what was eventually published as *Letters from Victorian Pioneers.* In his letter Robertson referred several times to 'silk –grass' as a troublesome weed in the Wannon country and described the spread of 'silk-grass', which had earlier been destroying their Van Diemen's Land pastures, with serious environmental consequences.[lxv] As so often happens with common names, there is some doubt as to what plant is referred to by the name. 'silk-grass', but it was probably *Vulpia bromoides* (L.) Gray or *V. myuros* (L.) J.Gmelin, which are today 'widespread in southern and eastern Australia as a weed of sheep grazing areas'.[lxvi] These plants were formerly known as *Festuca bromoides* L. or *F. myurus* L. , the names under which fescues were listed in Ewart and Tovey's *The Weeds, Poison Plants, and Naturalized Aliens Of Victoria* (1909), but neither was there given the common name ' silk-grass'. *Festuca bromides* was included by Bacchus in his 'A Description of some Victorian and other Australian grasses'[lxvii] where he gave it the common name 'Silver grass' and said it 'becomes a troublesome weed' in cultivated land. Dowling's 2003 paper, 'A strategy for silvergrass' confirms that silky grass and silvergrass are common names for *Vulpia* species, 'now probably present in every pasture paddock of temperate Australia'; and suggests that the name vulpia should be used as the common name to avoid confusion.[lxviii] *Festuca myurus* L. was included in the list of 139 Naturalized Plants of Australia in Hooker's *Flora Tasmaniae* (1860) where it was described as 'Ubiquitous.' It was one of the many British weeds of cultivation listed.[lxix]

Sorrel (*Rumex acetosella* L.) was said to be a 'a most troublesome weed' in Victoria by 1853[lxx] Sorrel had been on sale in Hobart in 1836, listed in

Daniel Bunce's *Catalogue of Seeds and Plants, indigenous and exotic, cultivated and on sale at Denmark Hill Nursery, New town Road, Hobart town*.[lxxi] It may have been introduced into Victoria for use as a herbal remedy.[lxxii] Both Hannaford (1856)[lxxiii] and Hooker (1860) listed it as naturalised, the latter reporting Adamson's observation that, 'This often monopolises the pastures about Melbourne, to the entire exclusion of the Grasses.'[lxxiv] Sorrel has remained a troublesome weed ever since, extending beyond pastures into native forests.[lxxv]

Following the European settlement of Victoria, there were severe environmental disturbances. The first large scale disturbance was the pastoral occupation itself, during the 1830s and 40s as sheep spread out over most of Victoria.[lxxvi] The gold rushes of the 1850s also involved massive disturbance of the environment in the goldfields. The 1851 bushfires, immortalised in the William Strutt painting*, Black Thursday*, devastated much of Victoria.[lxxvii] Such massive disturbances were likely to have been followed by the spread of weeds. Peel has drawn attention to another factor in the spread of weeds - repeated cropping on soils with a low potassium content -writing that, 'weeds such as sorrel *Rumex acetosella*, plantain *Plantago lanceolata*, and dandelion *Taraxacum officinale* commonly invaded the area.'[lxxviii] Peel also associated the growth of thistles with repeated cropping.[lxxix]

Exotic weeds in hedges, gardens and farms

Van Diemen's Land appears to have been the source of many exotic weeds in Victoria. The botanist William Harvey noted in the 1850s that no-one seemed to trouble himself about the many naturalized English weeds about Georgetown such as horehound, chamomile, thistles, sweet-briar and furze.[lxxx] William Howitt described a botanical ramble with Ronald Gunn in July 1854, where he saw 'enormous thickets of sweetbriar covering in places whole acres of land.'[lxxxi] Thistles, sweetbriar and furze were, he said, beginning to be regarded as real nuisances.

Sweetbriar or Elegantine (*Rosa rubiginosa* L.) and Furze, Whin or Gorse (*Ulex europaeus* L.) were deliberately introduced into Van Diemen's Land and Victoria as hedging plants.[lxxxii] Other exotic plants widely used as hedges by early settlers include Cape Broom (*Genista monspessulana* L.,also known as *Cytisus canariensis* Steud.), Spiny Broom, (*Calicotome spinosa* Link.), Flax-leaved Broom (*Genista linifolia* L.) and African

Boxthorn (*Lycium ferocissimum* Miers, formerly *L. horridum*). These plants have all been declared as noxious weeds in Victoria, although existing hedges of Furze, Boxthorn, and Cape Broom not exceeding 2 metres in height and 1 metre in width were exempted from 1924 (Furze and Boxthorn) and 1939 (Cape Broom) on the ground that total destruction was unwarranted and would cause hardship.[lxxxiii] Boxthorn was first proclaimed in 1904 for the shires of Bacchus Marsh and Maldon, and for the whole State in 1907. Cape broom was first proclaimed for the shire of Kyneton in 1896, and for an additional 13 municipalities by 1920. Furze was first proclaimed for the shire of Eltham in 1894, for an additional 53 districts and finally for the whole State in 1908.[lxxxiv]

Furze, or Whin, was not only used for hedges. It was used in colonists' gardens for its association with 'Home'. For example, Georgiana McRae's garden at Mayfield contained 'whins from Hill of Gourden'.[lxxxv] She also established a Whin hedge across the allotment behind the house, which by 1844 " had become a thick hedge some five feet high."[lxxxvi]

Furze was also accepted as a stock feed in 19th century. Professor Johnston's popular *Elements of Agricultural Chemistry and Geology* (1st ed 1842), noting that it resisted drought 'in a remarkable manner', said that 'The plant should be cut young. Horses like it, cattle do not refuse it, but it is said that sheep and pigs do not seem to relish it much.'[lxxxvii] A note in the *Victorian Agricultural and Horticultural Gazette* in 1857 advocated Furze plantations to improve stiff clays and spoke of the 'large quantities of wholesome food for horses, cows or goats' which could be produced from a limited space of ground by Furze culture.[lxxxviii]

Hedges were regarded as an essential component of a good garden in influential works such as William Cobbett's 1829 classic *The English Gardener*[lxxxix] which is likely to have been used by early settlers. Cobbett (1763 – 1835) was a pamphleteer, propagandist and politician, best known today for his *Rural Rides*.[xc] His *Weekly Political Register* sold at its height in 1817, 60,000 copies each week.[xci] Cobbett had practical farming experience, and wrote with persuasive vigour; but was no scientist. Cobbett wrote the preface to one edition of Jethro Tull's *The Horse-Hoeing Husbandry* (First published1733) and called him "the father of the drill-husbandry".[xcii] Tull's great innovation was the sowing of seed by drilling into raised rows rather than by scattering it broadcast over ploughed ground. He also emphasised the importance of roots in plant growth. Cobbett referred to him as an authority, advocating what he called 'the Tullian principle of causing growth by tillage.' Cobbett's

discussion of suitable plants for an English garden included Furze which was described as ‘a very handsome shrub’ which ‘should be had in every shrubbery.’[xciii]

It appears from Howitt’s account of gardens near Melbourne in 1852, that hedges replaced post and rail fences ‘as cultivation and wealth advance.’[xciv] He wrote also of the beauty of the villages near Hobart in 1854, ‘All around these villages, which consist of substantial and even elegant houses, extend the richest fields all enclosed with hedges generally of sweet briar, or furze, or broom, but also a good many of honest English hawthorn….It is England all over.’[xcv] Many of the plants both native and exotic which have been used for hedges have proved to be troublesome weeds.

Hedges were however, far from universal. An article in the *Victorian Agricultural and Horticultural Gazette* in 1861, ‘Hedges versus Fences’, bemoaned the lack of hedges and the almost universal use of stone walls and post and rail fences to enclose cultivated ground.[xcvi] The article urged the greater use of hedges, in particular Acacia hedges. As will be seen, Acacia hedges have proved as troublesome as Hawthorn and Furze hedges. There are many surviving hedges to be seen in rural Victoria.

Cobbett recommended that a garden be walled and then surrounded by a hedge, but considered that a suitable hedge could provide effectual protection on its own. For hedges he recommended Hawthorn, Black-thorn or ‘better still’ Honey Locust, ‘the thorns of the latter being just so many needles of about an inch and a half, or two inches long, only stouter than a needle and less brittle.’[xcvii] Each of these plants have since been regarded as weeds in Australia. The Honey Locust (*Gleditsia triacanthos* L.) does not seem to have been a serious weed in Victoria, but it has been declared a noxious weed in Queensland, and is included in Weber’s *Invasive Plant Species of the World.*[xcviii]

Hawthorn (*Crataegus monogyna* N.J.Jacq.) is also included.[xcix] Hawthorn has been a popular hedge plant in Victoria and Tasmania from the earliest European settlement. Cobbett praised it highly, ‘…besides being a most useful plant for the purpose of making hedges, it is also exceedingly ornamental, having foliage, flower, and fragrance, to delight our senses…’[c] Hawthorn was declared in Victoria in 1965 with an exception for existing hedges not exceeding two metres in height and one metre in width.[ci]

The 'blackthorn', referred to by Cobbett, seems to be (*Prunus spinosa* L.)[cii] *Botanica's Trees and Shrubs* says that Blackthorn or Sloe 'has been recorded in hedgerows from ancient times.'[ciii] Mueller thought that *Prunus spinosa* 'might with advantage be naturalized on forest-streams'[civ]; but it does not seem to feature in Victorian weed lists before 1992[cv], and has never been proclaimed as a noxious weed.

Native plants used for hedges were also to prove troublesome. For example, Acacia hedge or Kangaroo-thorn (*Acacia armata* R.Br. syn *A. paradoxa* DC or *Racosperma paradoxum* (DC)C.), was the subject of early proclamation as a noxious weed in Victoria.[cvi] Mueller noted it as 'Much grown for hedges, though less manageable than various other hedge-plants, and not so fire-proof.'[cvii] Ewart and Tovey were more cautious, 'This native plant has frequently been used for hedges, but the readiness with which it spreads, and its highly objectionable character, make it a dangerous plant to use for this purpose.'[cviii] When they wrote this in 1909, Acacia hedge had been proclaimed for the shires of Dundas, Frankston and Hastings, Hamilton, Maldon, Mornington, and Portland.[cix]. By 1930, Ewart's *Flora of Victoria* noted several additional shires for which it had been proclaimed, but continued, 'There is no evidence that the proclamation of this native plant has served any useful purpose.' [cx]

Several plants which Cobbett recommended in addition to hedge plants have become noxious weeds in Victoria. They include 'Viper's Bugloss (*Echium violaceum*)': 'Tall, handsome, hardy, annual, growing four feet high, and blowing, in July and August, abundance of brilliant flowers, of a rich blue and red blended together. Propagate (sic) by seeds sown early in spring' [cxi]; 'Caltrops (*Tribulus terrestris*)': 'A hardy annual plant from the south of Europe, and blows a yellow flower in June and July. Propagated by sowing seed in a hot-bed, and, when they are fit, transplanting them where they are to remain'[cxii] ; 'St John's Wort (*Hypericum calycinum*)': 'A hardy plant common in Europe, growing three feet high, and blowing a yellow flower in July and August. Propagates itself. Pretty for the front of shrubberies'[cxiii] , and 'Genista, or Broom (*Genista tinctorial*)': 'The common yellow broom every one knows; and the effect of it in a shrubbery need scarcely be described.'[cxiv]

Viper's Bugloss is one of the common names for (*Echium plantagineum* L., also known as *E. violaceum* L.), better known today as Paterson's Curse.[cxv] Piggin and Sheppard wrote that *E. plantagineum* was 'almost certainly introduced into Australia intentionally as a garden species around the 1850's. It was listed under the name *E. violaceum* in…catalogues of plants growing in the Macarthur garden Camden, New

South Wales' in 1843 and in the Melbourne, Sydney and Adelaide Botanic gardens in the 1850s.[cxvi] Hooker reported it as naturalized in New South Wales in 1860.[cxvii] Paterson's Curse was proclaimed for the shires of Maldon (1908) and Toowong (1904) and for the whole State of Victoria in 1911.[cxviii] Viper's Bugloss has also been used as the common name for the related *E. vulgare* L.*,* which is a controlled weed in four regions of Victoria.[cxix]

Caltrop (*Tribulus terrestris* L.) was first proclaimed in 1925 for the shire of Numurkah, and for the whole State in 1944.[cxx] It was not included by Ewart and Tovey in the 1909 publication *The Weeds, Poison Plants, and Naturalized Aliens of Victoria*; although it was listed in Ewart's *Flora of Victoria*[cxxi]. Caltrop is a less serious weed in Victoria than some other plants recommended by Cobbett. His recommendation is surprising, however. The plant is not showy, and is not included in the 10,000 garden plants in *Botanica*[cxxii] nor the 15,000 plants in the Royal Horticultural society's *A-Z Encyclopedia of Garden Plants*[cxxiii]. It is apparently used as a herbal remedy in India under the common name Burra gookeroo.[cxxiv]

St John's Wort (*Hypericum perforatum* L.) has been a declared noxious weed for more than 100 years. A garden escape, first proclaimed for the shire of Bright in 1893, it was proclaimed for the whole of Victoria in 1903.[cxxv] The related Tutsan (*H. androsaemum* L.) was proclaimed for the whole State in 1917.[cxxvi] Both are listed in Weber's *Invasive Plant Species of the World*. But Cobbett gave the botanical name *H. calycinum*, now commonly called "rose of Sharon", which is not always regarded as weedy. Parsons, for example, described it as a useful ornamental plant.[cxxvii] It too is listed in Weber, however; and as an environmental weed in Carr et al (1992) [cxxviii]. St John's Wort is sometimes used for the *Hypericum* family generally. The *Royal Horticultural Society's Dictionary of Gardening* describes some 126 species and varieties of *Hypericum*. St John's Wort has been used medicinally for centuries. Gerard's Herbal contains a recipe for a healing balm.[cxxix] Its introduction to Victoria does not seem surprising, as the English have had a sentimental attachment to St John's Wort for many years.[cxxx] *Hypericum perforatum* was listed as growing in the Melbourne Botanic Gardens in 1857, and was offered for sale in a Victorian nursery catalogue in 1877. It is said to have been taken to Bright for medicinal use in the 1860s, and to have escaped there to the nearby racecourse. It now infests nearly 400,000 hectares in New South Wales and Victoria.[cxxxi] .

It seems that Cobbett may have used the wrong Latin name for Common Yellow Broom, or Genista. *Genista tinctoria* L. is the botanical name, not

of English Broom, but of Dyer's Broom, otherwise known as Dyer's Weed, used since ancient times as a source of yellow dye.[cxxxii] English Broom (*Cytisus scoparius* L.), has at times been known as *Genista scoparius,* Lam.

Governor King's request in 1798 included 'the best kind of broom seed as a substitute for hops.' Michael wrote that *Cytisus scoparius* was probably intended.[cxxxiii] Confirmation may be derived from Grieve who wrote, 'Before the introduction of hops, the tender green tops of *Cytisus scoparius* were often used to communicate a bitter flavour to beer.'[cxxxiv] Broom has also had a medicinal use for centuries.[cxxxv] Mueller confirmed its medicinal use.[cxxxvi] English Broom was included in the List of Plants growing in New South Wales 'principally furnished by Sir Joseph Banks' which Governor King sent to Lord Hobart dated May 9th, 1803. It was said to have been 'raised from seed in 1801, and to grow luxuriantly.'[cxxxvii] Broom was much favoured in colonial Australia. Meston, for example spoke approvingly at a meeting of the Australian Horticultural and Agricultural Society in 1857 of the sowing of this species on the hills and ridges in the Darling Downs, New England, and the Clarence district, noting that few plants will rate superior to it as a shrub.[cxxxviii] English Broom was first proclaimed in Victoria for the shire of Glenlyon in 1902. By 1925 it was also proclaimed for Maldon, Newham and Woodend,[cxxxix] It was declared for the whole state in 1961.

The related Cape Broom (*Genista monspessulana* L. syn *Cytisus canariensis* Steud.) has been even more troublesome in Victoria. It was growing in the Melbourne Botanic Gardens in 1857, where it was listed as *Genista canariensis*; and was frequently used as a hedge plant in Victoria in the 19th century.[cxl] First proclaimed for the shire of Kyneton in 1896, by 1920 it had been proclaimed for a further 13 municipalities. An existing hedge exemption was introduced in 1939. Subject to that exemption, Cape Broom was proclaimed for the whole state in 1961.[cxli]

The extent to which the settlers had imposed exotic plants including hedges on the Victorian environment can be seen in the following passage where Howitt described in somewhat triumphalist language the English character of all the settlements:

> in spite of foreign vegetation, the English stamp and the English character are on all their settlements. They are English houses, English enclosures that you see; English farms, English gardens, English cattle and horses, English fowls about the yards, English flowers and plants carefully cultivated. You see great bushes of furze, even by the rudest settlers' cottages. There are hedges of

> sweet- briar around their gardens, bushes of holly…There are hawthorns and young oaks in the shrubberies.[cxlii]

He wrote also of the gardens neglected due to the shortage of labour following the gold rushes, 'choked by a mass of weeds up to your waist.'[cxliii]

An Act to make provision for the eradication of certain Thistle Plants and the Bathurst Burr

Beginning with the Thistle Plant Petition of 1856 and the resulting Act**,** Victorian authorities brought down measure after measure aimed at controlling the weeds of the colony; but largely to no avail. Before the 19th century was out the proclaimed noxious weeds in Victoria included Furze or Gorse, (*Ulex europaeus,* L.), Sweet-briar (*Rosa rubiginosa*,L.), Blackberry (*Rubus fruticosus* L. agg), and nine species of thistle.[cxliv]

In January 1856, a petition with 336 signatures was presented to Mr Peter Snodgrass of the Legislative Council. The men who signed gave addresses, most of which are able to be located in an arc around Melbourne from the Werribee River in the west to Kangaroo Ground in the north east, within the land claimed by the Port Phillip Association on the basis of Batman's Treaty with representatives of the aboriginal people.[cxlv] Most gave as their occupation, 'Freeholder' or 'Leaseholder'. The Petition expressed 'great apprehension (at) the spread of the Thistle plant throughout the colony' and prayed that the House would 'adopt such measures, or steps, as you may consider best to arrest the evil complained of…'[cxlvi]

Snodgrass had been a member of the Legislative Council since 1851; his 'main activity in parliament was the advancement of the squatters' interests.'[cxlvii] Parsons says that Snodgrass responded to the petition by promptly introducing into the Legislative Council a 'Thistle Bill' modelled on existing legislation in New South Wales and South Australia..[cxlviii] The South Australian legislation appears to be the 1851 *Thistle Act*[cxlix]. Parson's reference to New South Wales legislation is more puzzling. As has been noted, a Select Committee of the New South Wales Legislative Council reported on the Scotch Thistle and Bathurst Burr in 1852. But it does not appear that legislation resulted in that State.

Snodgrass introduced the Thistle Bill on 8th February 1856.[cl] The second reading was on 19th February, reported in *The Argus* on the 20th. Mr Fawkner is reported as pointing out at some length the importance of at once eradicating the thistle, which was already becoming an evil, the

extent of which could scarcely at present be seen. Most speakers agreed that the thistle needed to be destroyed, but said that the bill in its present form was unsatisfactory. Mr a'Beckett denounced the bill as too tyrannous and arbitrary. Mr Wills said that the sooner the destruction of the thistle was set about the better, for if left much longer it would be useless, or next to useless, to attempt the task. The measure might be arbitrary, but it was necessary to be despotic in such a case. Mr Goodman was of the opinion that the less that Council had to do with such measures the better, for by doing so they gradually lessened the price of property, as no person going to England would hold property in this colony when subject to such measures as that now before the House, and the proposed mining on private lands bill.[cli]

The Bill was considered in committee on 22nd February, and again on 14th March. The debates were fully reported in *The Argus*, but need not be further considered here. The debates show the extent of community concern about the thistle problem.

While the Bill was before the Legislative Council, *The Argus* on March 5th published a letter signed 'DISGUST' drawing the attention of members to the 'millions of seeds spreading through and over the Botanical Gardens, and for miles and miles around conveyed by the strong westerly wind, as thick as flakes of snow, from a nursery of about half an acre of thistles in the Richmond Paddock' and suggesting that a fire-stick made use of by the nearby mounted police troopers or by any of the garden people opposite 'would have been of more benefit to the Botanical (sic) Garden and the entire colony, than all the acts of Council which hon. members can pass, or the *Government Gazette* proclaim.'[clii]

On the 17th March the Bill was read for the third time and passed[cliii] This was just in time, as the Legislative Council sat for the last time on 20 March 1856.[cliv] The Bill was one of 19 introduced by private members which passed in the final session.[clv] As it was not a Government measure it seems likely that no funds were provided to enforce the provisions of the Act.

An Act to make provision for the eradication of certain Thistle Plants and the Bathurst Burr, otherwise known as the *Thistle Prevention Act*, was assented to on 19th March 1856.[clvi]

The form of the Act was to provide for a penalty for not destroying 'any of the plants commonly known as the thistle' within 14 days after service of a notice on the owner lessee or occupier of land. Perhaps in

recognition of the possible difficulty in destroying all of the thistles growing on the land, a proviso made it lawful for the justices dealing with the matter to 'suspend any conviction upon its being proved to their satisfaction that the person so receiving such notice has used and is using reasonable exertions to destroy such plants.' [clvii] If thistles were not destroyed within seven days after such a notice, justices could authorize parties to enter upon lands for the purpose of destroying and eradicating them, with the expense recoverable from the owner lessee or occupier.[clviii]

Thistle was defined for the purposes of the Act: 'in the construction of this Act … the word 'thistle' shall be held to mean and include the plants known by the botanical names of 'Carduus Marianus' 'Carduus Benedictus' 'Carduus Lanceolatus' 'Onopordum Acanthium' and 'Xanthium Spinosum' or 'Bathurst Burr'.[clix]

The basis on which these plants were included was not discussed in the Legislative Council debates, and is not known. The Victorian Government Botanist Ferdinand Mueller was away in northern Australia with the Gregory Expedition from July 1855 until May 1857, and thus unavailable to advise on the plants to be proscribed.[clx] It cannot be assumed that all of the plants named were then troublesome in Victoria. Plants known to be a pest elsewhere may have been named to avoid their becoming naturalized. But the Petition and the prompt carriage of the legislation in the face of some opposition do demonstrate serious community concern about thistles. As has been shown, some colonists were troubled by other weeds. Tantalising questions remain for further investigation; what was the extent of community awareness about weeds other than thistles; what understanding was there that many plants which had been cultivated in the gardens of colonists were becoming weeds; were other plants chosen to replace the weedy plants?

The list in Hooker's 'On some of the Naturalized Plants of Australia' (1860) included all of the plants named in the Act except *Carduus benedictus*. It noted that *Cnicus lanceolatus* L. had been found at Melbourne, but had not spread much although a pest in Tasmania[clxi]. *Cnicus,* as a name for thistles, was derived from the Greek, knekos. [clxii] It has replaced *Carduus*.

According to Hooker, Carduus *Marianus* L. had spread amazingly along 'the great road up-country, and at Melbourne, preferring the richest soils', and was also a pest in Tasmania.[clxiii] Mueller had recorded the presence of *Silybum Marianum* Gaert. (another name for *Carduus Marianus*), *Onopordon Acanthum* L.,and *Centaurea solistitialis* L. in his *First*

General Report as Government Botanist on the Vegetation of the Colony in 1853.[clxiv]

There may have been no better reason for including *Carduus benedictus* in the Act than its mention in the South Australian *Thistle Act* 1851 and the New South Wales report of 1852. As *Cnicus benedictus*, the plant was proclaimed under the *Vermin and Noxious Weeds Act* 1922, and the 1958 Act until 1974.[clxv]It is not listed under the *Catchment and Land Protection Act* 1994, nor in *Environmental Weed Invasions in Victoria*.[clxvi]

The inclusion in the *Thistle Prevention Act* of Bathurst Burr (*Xanthium spinosum* L.), which is not a thistle, may have been based on the 1852 *Report of the Select Committee of the New South Wales Legislative Council.* There was a considerable amount of evidence before the Committee as to the great extent of injury occasioned by the Bathurst Burr, which had been introduced into New South Wales accidentally in the tails and manes of horses imported from South America.[clxvii] Howitt wrote of the Bathurst bur (sic),which was "ruinous to the wool of the sheep", growing near Albury in March 1853.[clxviii] But he made no mention of it growing in Victoria. Although present in Victoria, as it was included in Mueller's *First General Report*, Bathurst Burr may not yet have been very troublesome in 1856, as appears from Hooker who recorded it as first observed in April 1857, in isolated patches near Melbourne.[clxix] A short article in the *Victorian Agricultural and Horticultural Gazette* reported 'a fine plant of the Xanthium' growing in Kew, and a solitary plant at Geelong, in 1857. Although the article described the plant as a 'pestilent weed', no reference was made to the *Thistle Prevention Act* 1856.[clxx]This suggests that the Act was not well known in the farming community.

Conclusion

It seems that the *Thistle Prevention Act* 1856 was not effective in managing thistles and the Bathurst Burr. There is a great deal of evidence to show that thistles continued to be a serious problem throughout the 19th century. A consideration of the reasons for this would require a separate paper. However, it seems clear enough that there were more weeds in the colonial garden than those subject to the Act.

In addition, as the importation and spread of exotic plants continued the weed problem grew. Some of Victoria's worst weeds had scarcely arrived by 1856. Blackberry (*Rubus fruticosus* L.agg.), for example, was being grown in the Melbourne Botanic Gardens in 1851,[clxxi]but does not seem

to have been in wider use. Howitt bemoaned its absence in 1853[clxxii]. Mueller's spreading of the plant, which he wrote deserved 'to be naturalized on the rivulets of any ranges', lay in the future.[clxxiii] Mueller was a dedicated acclimatiser. The spread of weeds due to Mueller and the acclimatisation movement in the second half of the 19th century requires careful consideration.[clxxiv] A survey of these developments would require a separate paper. The aim of this paper has been to show the early historical context in which Victoria's significant weed problems developed, and some of the factors which lead to the weed invasions.

References

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[i] QC , MA, LLB (Melb), Cert Hort (Burnley). I am indebted to Dr Gregory Moore and Dr Janet Schapper, and two anonymous referees for reading and commenting on earlier drafts of this paper.

[ii] By 'exotic' I mean 'introduced' or 'alien', see Michael, P. 'Alien Plants' in R. H. Groves, ed *Australian Vegetation*, (2nd ed, Cambridge 2001). Not all exotic plants are weeds.

[iii]I have argued elsewhere that there is no satisfactory definition of 'weed'; see Dwyer,J. 'What is a weed? Should we continue to say that 'a plant is a weed in the eye of the beholder'?' *Proceedings Second Victorian Weeds Conference,* R. G. Richardson ed (Melbourne 2005). The discussion in this paper is conducted by reference to plants commonly accepted to be weeds, including plants which have been declared as noxious weeds under Victorian statutes. Such plants were weeds by stipulation.

[iv]Hooker,J. W 'On some of the Naturalized Plants of Australia' in Introductory Essay to *Flora Tasmaniae* (1860),pp cv-cix. The list was 'almost confined to data procured from the vicinity of Melbourne.'

[v] Buckman 'On Agricultural Weeds' *Journal Royal Agricultural Society*. Vol XVI p359-381 (1855)

[vi] Bentham,G. and Hooker,J. *Handbook of The British Flora* 8th ed (London 1904)

[vii] Maiden,J. *Sir Joseph Banks, the Father of Australia* (Sydney 1909)

[viii] quoted in Gilbert,L. *Australian Dictionary of Biography*, Shaw,A. ed (Carlton 1996)

[ix] Clark,C. ed *Select Documents in Australian History* 1788-1850, p27 (Sydney 1950)

[x] Banks was President of the Royal Society for 42 years until his death in 1820.

[xi] see generally O'Brian,P. *Joseph Banks: A Life* (London 1988)

[xii] Collins,D. *An Account of the English Colony of New South Wales,* [First published London 1798] Facsimile ed (Adelaide 1971) p 467

[xiii] Grieve,M. *A Modern Herbal* (Twickenham 1998) p372
[xiv] Kelly,W *Life in Victoria* Vol. 1 p374,first published London 1859, (Kilmore 1977); The book was attacked by one reviewer as 'an egregiously silly book' (p9) but the quoted observation may be reliable.
[xv]Stearn,W. Review of *Weeds* by W. C. Muenscher, *Journal of The Royal Horticultural Society* (1956) vol.81 p286-7
[xvi] Michael, P. 'The weeds themselves – early history and identification' *Proceedings of The Weed Society of New South Wales* Vol 5 pp 3-18 (1972)
[xvii] Collins,D. supra p xxviii.
[xviii] Parsons,W. and Cuthbertson,E. *Noxious Weeds of Australia*, 2nd ed (Collingwood 2001) p 368.
[xix] Parsons,W. 'The history of introduced weeds' in *Plants and Man in Australia*, D. J. and S. G. M. Carr eds (Sydney 1981)p180
[xx] Parsons,W. *Noxious Weeds of Victoria* (Melbourne 1981) p42; Parsons and Cuthbertson supra pp 359-368. The system of declaring or proclaiming noxious weeds in Victoria under the *Vermin and Noxious Weeds Acts* from 1922 to 1958 was substantially altered by the *Catchment and Land Protection Act* 1994, under which, region by region, plants are designated as "prohibited", "controlled" or "restricted". The expression 'noxious weed' should perhaps be restricted to plants proclaimed as such; but is often applied to plants in any of the categories established under the 1994 Act.
[xxi] Parsons and Cuthbertson supra p368
[xxii] *Hansard* 27 May 1886
[xxiii] Mueller,F. *Select Extra-Tropical Plants* (Melbourne 1885),p 240
[xxiv] quoted in Labilliere,F. *Early History of Victoria* Vol 1 (London1878) p58-61
[xxv] quoted in Flannery,T. ed *The Birth of Melbourne* (Melbourne 2002) p39
[xxvi] Hannaford,S. *Jottings in Australia: Notes on the Flora and Fauna of Victoria* (Melbourne 1856). Bentham and Hooker, supra p75
[xxvii] Rawnsley,W. *Life, Diaries and Correspondence of Lady Jane Franklin,1792-1875* pp78-82 (
[xxviii] Havard,O. 'Lady Franklin's Visit to New South Wales, 1839' *Journal of the Royal Australian Historical Society* Vol XXIX p305 (1943)
[xxix] Howitt,W. Land, Labour and Gold. First published 1855 Reprinted (Kilmore 1972) p282
[xxx] Hooker,J. 'On some of the Naturalized Plants of Australia' in Introduction to *Flora Tasmaniae* (London 1860) cvii
[xxxi] Carr,G.,Yugovic,J. and Robinson,K. *Environmental Weed Invasions in Victoria* (Melbourne 1992)
[xxxii] See Smith,D. *Natural gain: in the grazing lands of southern Australia* (Sydney 2000)
[xxxiii] *Ballarat Courier*, 29 August 1896, p4; quoted in Holmes,K., Martin,S. and Mirmohamadi,K. *green pens : A collection of garden writing* (Melbourne 2004)
[xxxiv] Ewart,A. *Flora of Victoria* (Melbourne 1930) p531; see also Auld, B. and Medd,R. *Weeds* (Melbourne 1997)p136. Under the name *Nasturtium officinale*,L., Hooker listed it as naturalized by 1860, see note 3 supra.
[xxxv] Carr,G., Yugovic,J. and Robinson,K. *Environmental Weed Invasions in Victoria* (Melbourne1992)
[xxxvi] Mitchell,T. *Three Expeditions into the interior of Eastern Australia*. First published London 1838. Facsimile edition (Adelaide 1965) Vol II, p241-2

[xxxvii] see generally, Harcourt,R. *Southern Invasion Northern Conquest: The Story of the Founding of Melbourne*, (Blackburn South 2001); Shaw,A, *A History of the Port Phillip District: Victoria Before Separation*, (Melbourne 2003) Within a week of disembarkation from the *Enterprise*, Fawkner's party had cleared some five acres, which were ploughed and sown to wheat, and had established a vegetable garden. Fawkner claimed to have landed 3000 fruit trees.
[xxxviii] Fawkner to Sir Richard Bourke 7 October 1836, in Cannon, M. ed *Historical Records of Victoria* Vol 3 "The Early Development of Melbourne" (Melbourne 1984) p4
[xxxix] ibid p17.
[xl] Blainey,G.*A Land Half Won,(*Melbourne 1980) 1980 p53
[xli] See generally Searle, G *The Golden Age: A History of the Colony of Victoria, 1851-1861(*Melbourne 1977) Ch 1
[xlii] Blainey,G. *Our Side of The Country*, (Melbourne 1984) p39
[xliii] Quoted in Gross,A. *Charles Joseph La Trobe*, (Melbourne 1956) p104
[xliv] Howitt,W. *Land,Labour and Gold* [First published 1855] Reprinted (Kilmore 1972) p10
[xlv] Reilly,D. ed *Charles Joseph La Trobe*, (Melbourne 1999)
[xlvi] Bate,W. ed *Liardet's water-colours of early Melbourne*,(Melbourne 1972) p20
[xlvii] Reproduced as the dust jacket to Blake,L. *Letters of Charles Joseph La Trobe* (Melbourne1975)
[xlviii] Aitkin,R. and Looker,M. eds *The Oxford Companion to Australian Gardens*, (Melbourne 2002) p76
[xlix] McCrae,H. ed *Georgiana's Journal : Melbourne 1841-1865*,(Melbourne 1978) p131
[l] Cannon,M. *Old Melbourne Town Before the Gold Rush*,(Melbourne 1991) p398
[li] ibid p405
[lii] Anon *An Australian Gardener's Anthology*, (Melbourne 1982) pp20, 24
[liii] Pescott,R.*The Royal Botanic Gardens Melbourne*, (Melbourne 1982) Ch 1
[liv] The reference is probably to the Woady Yallock River which rises south west of Ballarat near Linton and flows into the series of lakes above Colac. Howitt referred to the turn off from Buninyong to the Wardy-Yallock diggings in 1855; supra p389
[lv] McCrae ed supra p131
[lvi] *Report from the Select Committee on the Scotch Thistle and Bathurst Burr*, Legislative Council New South Wales (Sydney 1852)
[lvii] Michael op cit p9
[lviii] Shaw,A. ed *Australian Dictionary of Biography* Vol 1 (Melbourne 1996) p14
[lix] *Report from the Select Committee on the Scotch Thistle and Bathurst Burr* (Sydney 1852) p1381
[lx] Grieve op cit p798
[lxi] King to Sir Joseph Banks, (1798) *Historical Records of New South Wales*, Vol 3 p497, quoted in Michael supra p7
[lxii] See Grieve op cit pp794-7
[lxiii] *Port Phillip Government Gazette*, Wednesday November 6, 1850, p945
[lxiv] *Report on the Progress and Present State of the Botanic Gardens, Melbourne, from the 30th September, 1850, to the 30th September 1851 inclusive* by Henry Ginn, Honorary Secretary and Member of Committee
[lxv] Sayers,C. ed *Letters from Victorian Pioneers*, First published 1898, Republished (Melbourne 1983) pp 167-169

[lxvi] Auld,B. and Medd, R. *Weeds* (Melbourne1997) p62-3
[lxvii] *Second Annual Report of the Secretary for Agriculture* (Melbourne 1874) p137
[lxviii] http://www.grdc.com.au/growers/res-upd/hirain/03/tas-dowling.htm]. I am indebted to Mr Stewart McArthur,MA, MHR for this reference. See also on *Vulpia,* Wallace, A. in Panetta et al *The Biology of Australian Weeds* Vol 2 (Melbourne 1998)
[lxix] Hooker (1860), supra.
[lxx] Kelly,W. *Life in Victoria* Vol 1 p376 (London 1859)
[lxxi] Bunce,D. *Catalogue of Seeds and Plants, indigenous and exotic, cultivated and on sale at Denmark Hill Nursery,New town Road, Hobart town*. Facsimile ed (Canberra 1994)
[lxxii] Barton,B. and Castle,T. *The British Flora Medica*. First published London 1837, New edition Jackson,J. ed (London 1877) p360
[lxxiii] Hannaford,S. supra p79
[lxxiv] Hooker,J. supra p cix
[lxxv] see eg Amor,R and Stevens,P 'Spread of weeds from a roadside into sclerophyll forests at Dartmouth, Australia.' *Weed Research* 16,111-8 (1975)
[lxxvi] Parsons has given a succinct account; see 'The history of introduced weeds' in *Plants and Man in Australia* (1981) supra p179
[lxxvii] see eg Hancock ed *Glimpses of Life in Victoria* (Melbourne 1996) Chapter VIII
[lxxviii] Peel,L. *Rural Industry in the Port Phillip Region 1835 – 1880* (Melbourne 1974) p7
Kelly was amused to see dandelion potted out as if it was 'a plant of great value and rarity' (*Life in Victoria* supra p376); it may have been introduced for its medicinal use, but, in any event, was soon naturalized. See Hannaford (1856) supra p63
[lxxix] ibid p106
[lxxx] Ducker,S. *The Contented Botanist : Letters of W. H. Harvey about Australia and the Pacific,* (Melbourne 1988) p206
[lxxxi] Howitt op cit p445; it is difficult for Australian readers today to appreciate the emotional appeal of sweet-briar to English settlers in the 19th century. William Morris, for example, in writing about old-fashioned roses extolled 'the sweetness of the eglantine'. See Baker,D. *The Flowers of William Morris* (London 1996) p62
[lxxxii] Both plants were well established in New South Wales in 1803 according to Governor King's letter to Lord Hobart. *Historical Records of Australia* Series 1 Vol IV p233
[lxxxiii] This exemption represents a political compromise rather than a rational outcome.
[lxxxiv] Parsons op cit pp196, 200,258. Peel has pointed out that the spread of hedges beyond fence lines was caused by the failure to maintain them when 'using farm labour to trim hedges (became) a luxury.' Peel (1974) op sit p108
[lxxxv] McCrae op cit p131. The bright yellow flowers of furze combined with a long flowering season have attracted many admirers, including Linnaeus. See Grieve op cit p366-8.
[lxxxvi] McCrae op cit p126
[lxxxvii] Johnston,J. and Cameron,C. *Elements of Agricultural Chemistry and Geology* (Edinburgh and London 1889) p407
[lxxxviii] *Victorian Agricultural and Horticultural Gazette* (1857) Vol 1 p33
[lxxxix] Cobbett,W. *The English Gardener* (First ed 1829) P. King ed (London 1996); see also Peel (1974) op cit p108.
[xc] Jones,B. *Dictionary of World Biography,* (Melbourne 1998) p170

[xci] Schama,S *A History of Britain* Vol 3 *The Fate of Empire 1776-2000* (London 2002) p129
[xcii] Cobbett supra p59
[xciii] Cobbett supra p247
[xciv] Howitt supra p30
[xcv] Howitt op. cit. p437
[xcvi] *Victorian Agricultural and Horticultural Gazette*, 1861 Vol 5 p60
[xcvii] Cobbett op cit p20
[xcviii] Weber, E. *Invasive Plant Species of the World* (Wallingford,Oxon 2003) p 181
[xcix] ibid p127
[c] Cobbett op cit p 250. The considerable hold which hawthorn had on the hearts and minds of Europeans is confirmed by Proust. See Elliott,C. 'Proust's Remembrance of Things Past' *Hortus* No 73 2005, p75
[ci] Parsons supra p234
[cii] Bailey,L. and Bailey,E. *Hortus Second* (New York 1946*)* p108; Bentham,G. and Hooker,J. *Handbook of The British Flora* (London 1904) p128
[ciii] *Botanica's Trees and Shrubs*(2001) p574
[civ] Mueller op cit p303
[cv] Carr,G., Yugovic,J. and Robinson,K. *Environmental Weed Invasions in Victoria*, (Melbourne 1992)
[cvi] Acacia hedge was proclaimed for 6 municipalities by 1909, Ewart,A and Tovey,J. *The Weeds, Poison Plants, and Naturalized Aliens of Victoria*, (Melbourne 1909) p100; for 12 by 1923 *Victoria Gazette* September 5, 1923 p2371; and for 22 by 1956 *Victoria Gazette* August 8 1956 p4308. In 1974 it was proclaimed for Victoria, subject to the hedge exemption, *Victoria Gazette* January 23 1974.
[cvii] Mueller op cit p2
[cviii] Ewart,A. and Tovey,J. supra p21
[cix] ibid p 100
[cx] Ewart,A. *Flora of Victoria* (Melbourne 1930) p586. It has ceased to be proclaimed. See Parsons and Cuthbertson op cit p439.
[cxi] Cobbett op cit p275
[cxii] ibid
[cxiii] ibid p262
[cxiv] ibid p247
[cxv] Ewart (1930) supra p971. According to Piggin, the three species of *Echium*, *E. italicum*, *E. plantagineum* and *E. vulgare*, naturalised in Australia have often been confused; see 'The Herbaceous Species of Echium (Boraginaceae) Naturalized in Australia' *Muelleria* vol3 p215-244
[cxvi] Piggin,C. and Sheppard,A. in *The Biology of Australian Weeds* Vol 1 Groves,R.,Shepherd,R. and Richardson,R. eds (Melbourne1995) p90. This date should be preferred to Parson's date of introduction "in the 1890's". op cit (1981) p184.
[cxvii] Hooker op cit p cix
[cxviii] Parsons op cit p34
[cxix] Parsons and Cuthbertson (2001) supra p331
[cxx] Parsons (1981) supra p283; Parsons and Cuthbertson (2001) supra p640
[cxxi] Ewart, *Flora of Victoria* (Melbourne 1930) p692
[cxxii] Page,S. and Olds,M.eds *Botanica*, (Sydney 1997)

[cxxiii] Brickell,C.ed *The Royal Horticultural Society A-Z Encyclopedia of Garden Plants* (London 1996). Nor was it listed in Bentham and Hooker (1904) supra.
[cxxiv] Grieve op cit p147
[cxxv] Parsons op cit p 162
[cxxvi] ibid p158
[cxxvii] ibid
[cxxviii] Carr et al op cit
[cxxix] Woodward,M. ed *Gerard's Herbal*(London 1994) p124
[cxxx] see egPowell,A. 'Our Garden Then…and Now' *Hortus* (2004) No 72 p55
[cxxxi] Parsons and Cuthbertson op cit p388
[cxxxii] Grieve op cit p129
[cxxxiii] Michael op cit p8
[cxxxiv] Grieve op cit p126
[cxxxv] Grieve op cit p124-7
[cxxxvi] Mueller op cit p114
[cxxxvii] *Historical Records of Australia* Series 1 Vol 1V, p233
[cxxxviii] Michael op cit p8 ; Parsons and Cuthbertson op cit p470
[cxxxix] Audas,J. and Morris,P. *Supplement to Professor Ewart's Weeds, Poison Plants and Naturalized aliens of Victoria*,(Melbourne 1925) p18; see also Hosking,J., Smith,J.,and Sheppard,A. "Cytisus scoparius (L.) Link ssp scoparius" in *The Biology of Australian Weeds* Panetta et al. eds (Melbourne 1998)
[cxl] Parsons and Cuthbertson op cit p479
[cxli] Parsons op cit p196
[cxlii] Howitt op cit p32
[cxliii] ibid p11
[cxliv] Ewart and Tovey op cit p99; Parsons op cit pp200,235, 240, 49-74
[cxlv] Harcourt,R. *Southern Invasion Northern Conquest* (Melbourne 2001) p68. Many were located on the cracking clays between the Plenty and Saltwater Rivers to the north of Melbourne where initial cultivation took place as the permanent settlement was established. Peel,L.*Rural Industry in the Port Phillip Region 1835-1880* (Melbourne 1974)p3
[cxlvi] VPRSZ 259/PO UNIT 531 FILE NO Petition re Thistles
[cxlvii] Shaw,A.ed *Australian Dictionary of Biography*, Vol 2, (Melbourne 1989) p455
[cxlviii] Parsons op cit p14
[cxlix] South Australia Act No 15 of 15 Victoria, *An Act for preventing the further spread of the Scotch Thistle*, assented to on 2nd January 1852; usually referred to as the 1851 *Thistle Act*
[cl] *Votes and Proceedings of the Legislative Council* No 37 p172
[cli] *The Argus* 20 January 1856
[clii] The Argus 5 March 1856. The description of the wind as a westerly seems wrong; perhaps the author meant a wind blowing to the west.
[cliii] *Votes and Proceedings of the Legislative Council* No 37 p261
[cliv] The Legislative Council was established under the British legislation of 1850 separating Victoria from New South Wales. It was a 'blended house', part elected and part nominated. It sat between 1851 and 1856. The Victorian Constitution Act 1855 provided for a parliament consisting of elected upper and lower houses. The new upper house was also called the Legislative Council. See generally, Wright,R. *A Blended House: The Legislative Council of Victoria 1851-1856* (Melbourne 2001)
[clv] Wright,R. p126

[clvi] The Act did not have a short title. When the law relating to the eradication of thistles was consolidated by *The Thistle Prevention Statute* 1865, the Act was referred to by its full title. It is here referred to as the '1856 Act'.
[clvii] Section 1, 1856 Act
[clviii] Section 111, 1856 Act
[clix] by Section X11, 1856 Act. The convention of italicising botanical names was not followed in the statute.
[clx] Mueller was granted the personal 'von' in 1867, and became 'Baron von Mueller' in 1871. See Home,R., Lucas,A., Maroske,S., Sinkora,D. and Voigt,J. *Regardfully Yours* Vol 1 (Berne 1998) p8
[clxi] Hooker op cit p cviii
[clxii] Stearn,W. *Stearn's Dictionary of Plant Names For Gardeners*, (London 1997)
[clxiii] Hooker op cit p cviii
[clxiv] Mueller,F. First General Report (1853)
[clxv] *Victoria Government Gazette* (1974) No 7 Wednesday January 23
[clxvi] Carr et al, supra (1992)
[clxvii] *Report of the Select Committee of the New South Wales Legislative Council* (1852)
[clxviii] Howitt op cit p144
[clxix] Hooker op cit p cviii
[clxx] *Victorian Agricultural and Horticultural Gazette* (1857) Vol 1 p8
[clxxi] Parsons and Cuthbertson op cit p579
[clxxii] Howitt op cit p113
[clxxiii] Mueller op cit p333
[clxxiv] On the Acclimatisation Societies see Lever,C. *They Dined on Eland* (London 1992) and Gillbank,L. 'The Origins of the acclimatisation society of Victoria; Practical Science in the Wake of the Gold Rush' *Historical Records of Australian Science* (1986) Vol 6 pp359-374