Murrumbateman Landcare Meeting
17 July 2025

Question and Answer Expert Panel Session




Murrumbateman Landcare Group

MLG is part of the

Yass Area Network of Landcare Groups

Questions from Landcare members July 2025

Question 1 from Fiona – Can you provide an overview of the 3 habitat types – grassy woodland, dry sclerophyll forest and damp sites. What's significant for each? Percentage of trees, shrubs, flowers, grasses etc. How are they are distributed in our area?

Question 2 from Ron – What are considered to be weeds, noxious or otherwise in the Murrumbateman area? My recently purchased property on West Street in Murrumbateman appears to have a multitude!

Question 3 from Sally – A question I have is what is recommended for windbreaks, especially a hedge type close to buildings etc.

Question 4 from Ron – What native plants are suitable for shaded gardens? I have lots of hedging and trees

Question 5 from Gillian – My primary question is how to transition areas of thick serrated tussock infestation back to native pasture in a low-cost manageable way. I've worked out killing is only the first step and I suspect I need several intermediate steps that give other things a chance to out compete new tussock seedlings…

Question 6 from Sarah – What are some ways to support/ maintain the diversity of forbs and small ground layer plants around remnant woodland and native grassland particularly with native wildlife grazing pressure

Question 7 from Sonya and Gill – What can we do to prepare for projected climate change in terms of where and what we plant?

Question 8 from Kellie: I have heard about "scalping" soil to make it more amenable to native plants and grasses; less so to exotics. Is this a useful practice, and if so could you please explain the process?

Question 1 - Fiona asks:

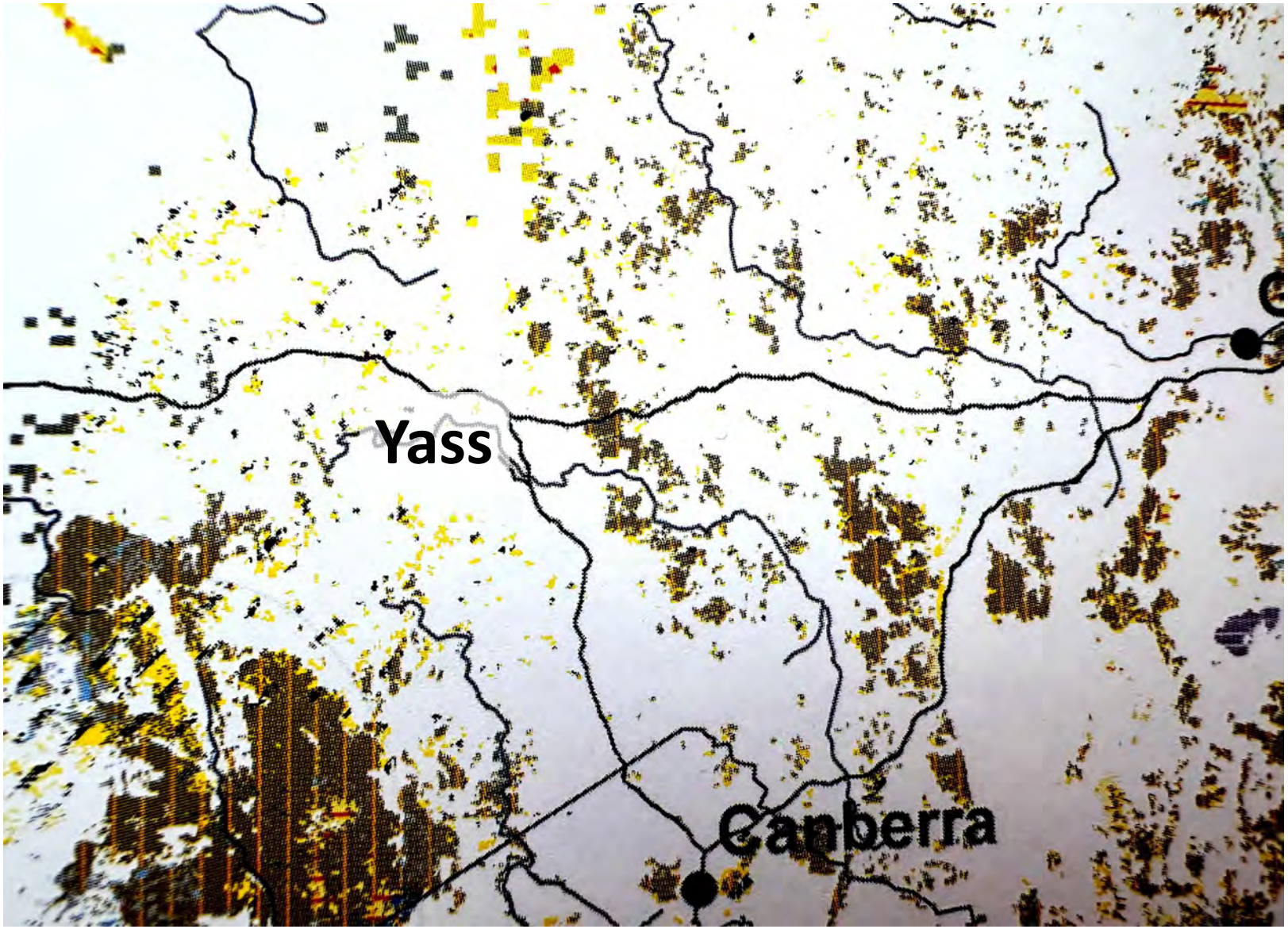
Can you provide an overview of the 3 habitat types – grassy woodland, dry sclerophyll forest and damp sites.

How are they are distributed in our area?

What's significant for each?

Percentage of trees, shrubs, flowers, grasses etc.

Original tree cover –
Yellow (hatched) = Grassy woodland; Brown = Dry sclerophyll forest



Current tree cover - Less than 30% woodland remaining and ~50% of sclerophyll forest cleared

Box Gum Grassy Woodland – Yellow Box woodland with a native grasses, herbs and sedges dominating the ground layer with some shrubs.

Dry sclerophyll forest – Brittle Gum and Red Stringybarks with shrubs (wattles and bush peas) and coarse tussocks (Red-anther Wallaby Grass) dominating the ground.

An unusually sharp boundary between dry sclerophyll forest and grassy woodland associated with a sharp boundary between thin rocky soil and more fertile soil.

In our district woodlands and dry forest can be ‘ecotonal’ – that is integrated plant communities with over-lapping boundary areas and many similar groundlayer species

Drainage line in native grassland with significant soil erosion. Many areas of local soils are vulnerable to gully erosion and easily eroded due to their ‘highly dispersible’ subsoils

However eroded drainage lines can be rehabilitated – starting with careful earthworks and bare areas that can be reseeded

The bare graded areas were not treated, enabling the adjacent native species to recolonized. The only addition was seed of *Kunzea ericoides* (white flowering shrub).

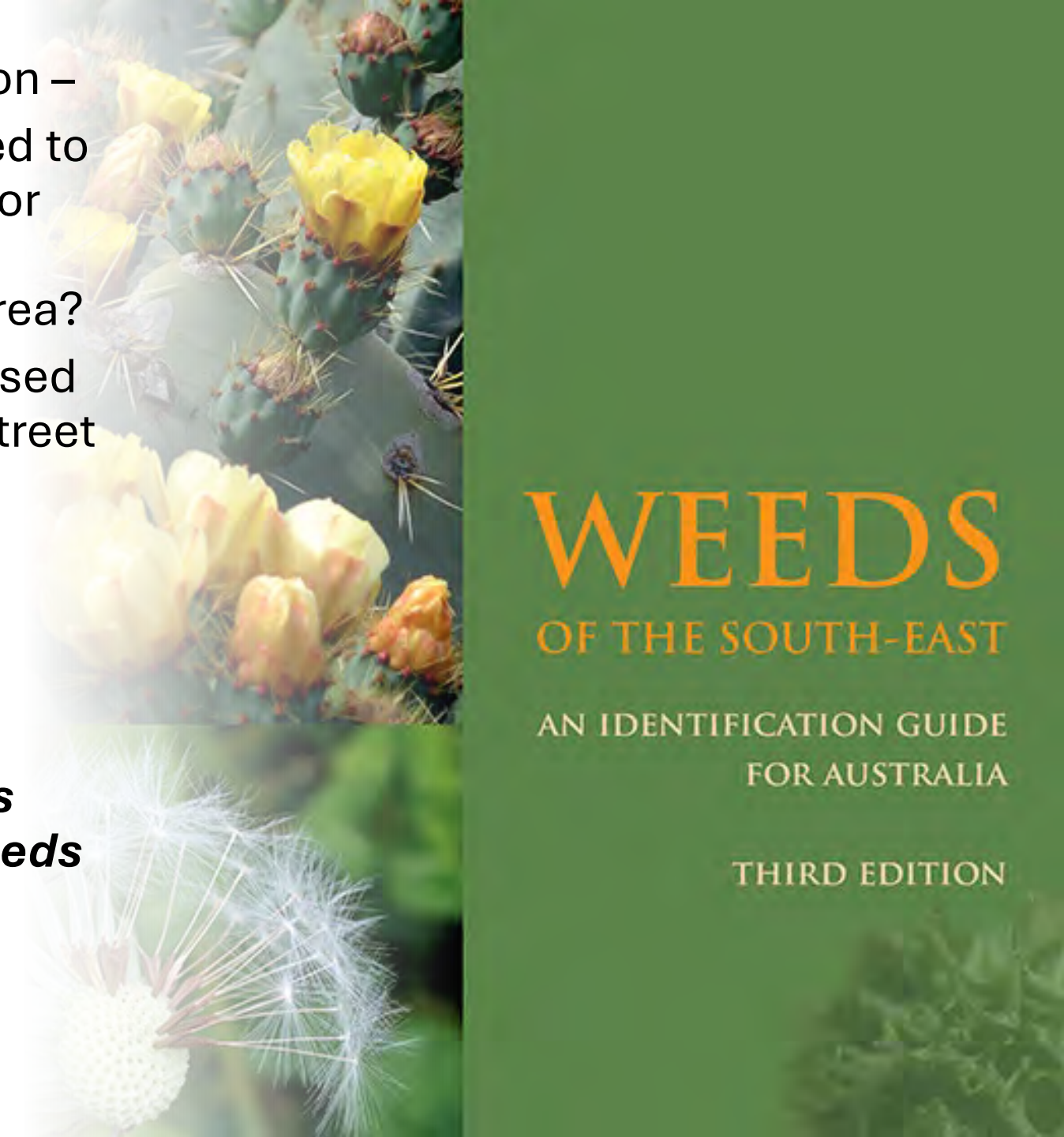
Functional diversity is important. Here perennial grasses, lichens, sub-shrubs, coarse herbs and small trees provide a range of microhabitats that support a diversity of plants and animals.

Question 2 from Ron –

What are considered to be weeds, noxious or otherwise in the Murrumbateman area?

My recently purchased property on West Street in Murrumbateman appears to have a multitude!

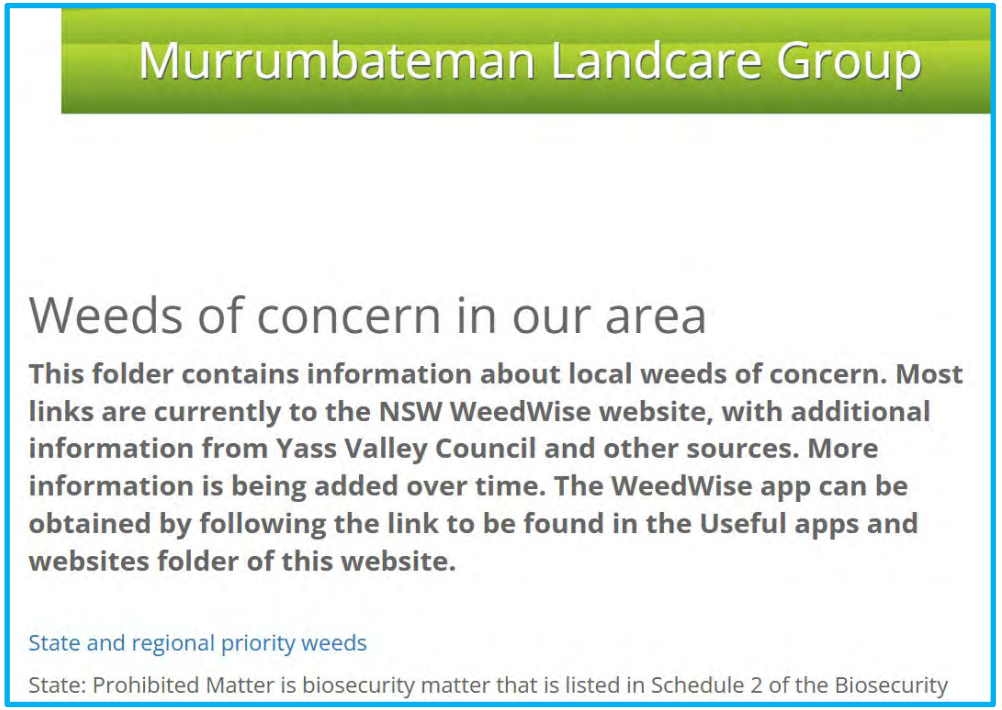
- Dave Jarratt, Yass Valley Council Weeds Officer



Go to our Murrumbateman Landcare and Yass Valley Council website for more information

https://landcare.nsw.gov.au/groups/murrumbateman-landcare-group/weeds-of-our-area/

https://www.yassvalley.nsw.gov.au/Our-Services/Environment-Sustainability-Biosecurity/Biosecurity-and-Weeds-Management



Did you know that you can contact Yass Vally Council Weeds officers to arrange a site visit to assist you in how to identify and manage your weeds ?

Get the free weeds app

NSW WeedWise is provided as a free smartphone app through the app stores.

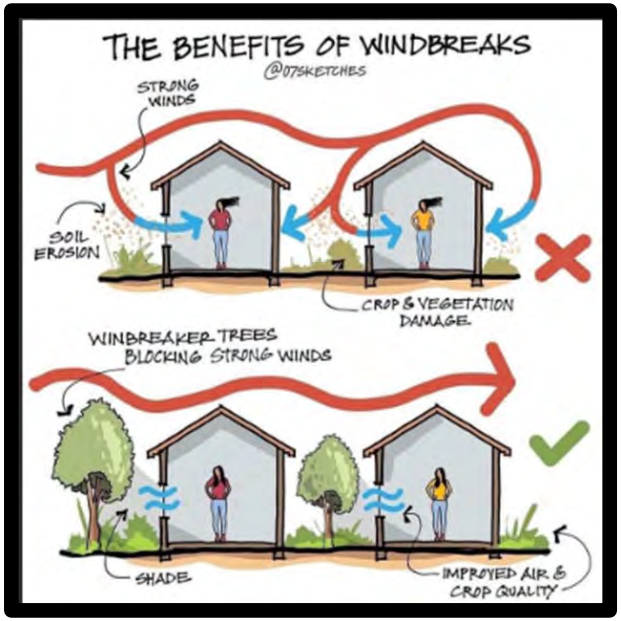
Like the web version, the smartphone app provides key information to help users reduce the impact of over 325 weeds in New South Wales.

Users, ranging from home gardeners and residents to farmers, land managers and weeds professionals, can search or browse weed names (common or scientific); recognise a weed by its physical description and image gallery; and find out about its impacts, where it occurs, how it spreads and its preferred habitat.

Control options are described for each weed and the herbicides registered for control by the Australian Pesticide and Veterinary Medicines Authority are listed, including application rates and techniques, and any minor-use permits that must be complied with.

General, state or regional biosecurity duties under the *Biosecurity Act 2015* are displayed for each weed.

Question 3 from Sally – A question I have is what is recommended for windbreaks, especially a hedge type close to buildings etc.

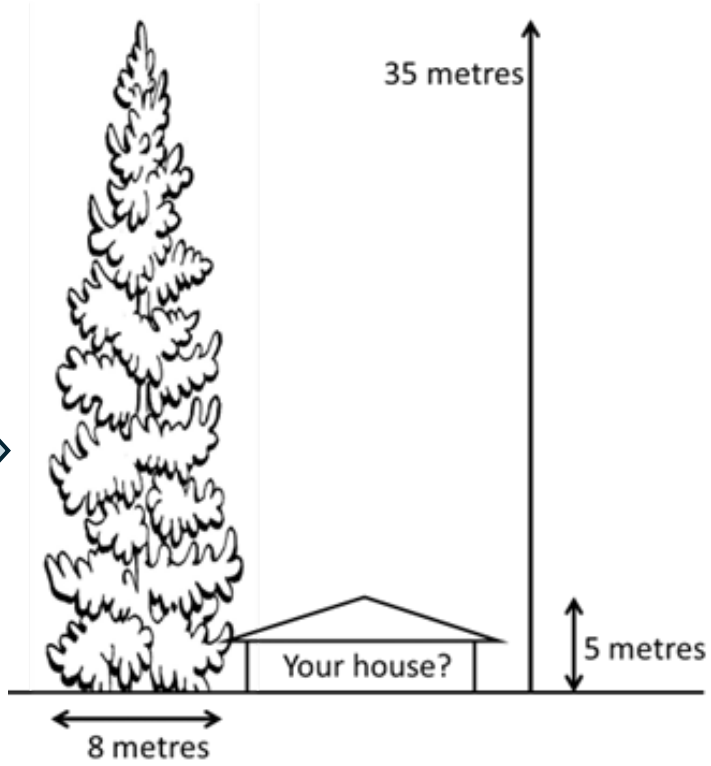


Shelterbelts can provide effective protection from wind for a horizontal distance of at least 12, and up to 20, times the shelterbelt's height. They can reduce windspeeds by up to 70%, and moderate cold winter and hot summer temperatures.

Source: Sustainable farms ANU https://www.sustainablefarms.org.au/on-the-farm/shelterbelts/

Windbreak / Shelterbelt Recommendations

DON'T PLANT CYPRESS PINES!!



Although often planted as a windbreak, cypress is too dense for this purpose and create turbulence on the lee side. Effective windbreaks are semi-permeable and slow the wind moving through it, rather than pushing it over the top.

The most widely planted cypress is known as Leyland Cypress or simply Leylandii. It is planted all over the planet. Its dense habit and fast growth are the reasons it is both liked and hated. This hybrid cypress can grow up to a metre a year when young and 40 m tall. It is commonly used for hedging, but is frequently allowed to grow to its full height on boundaries, adversely affecting neighbour relations.

VISIT THE MURRUMBATEMAN LANDCARE WEBSITE FOR A COMPREHENSIVE LIST OF LOCAL AND APPROPRIATE SHRUB AND TREE SPECIES

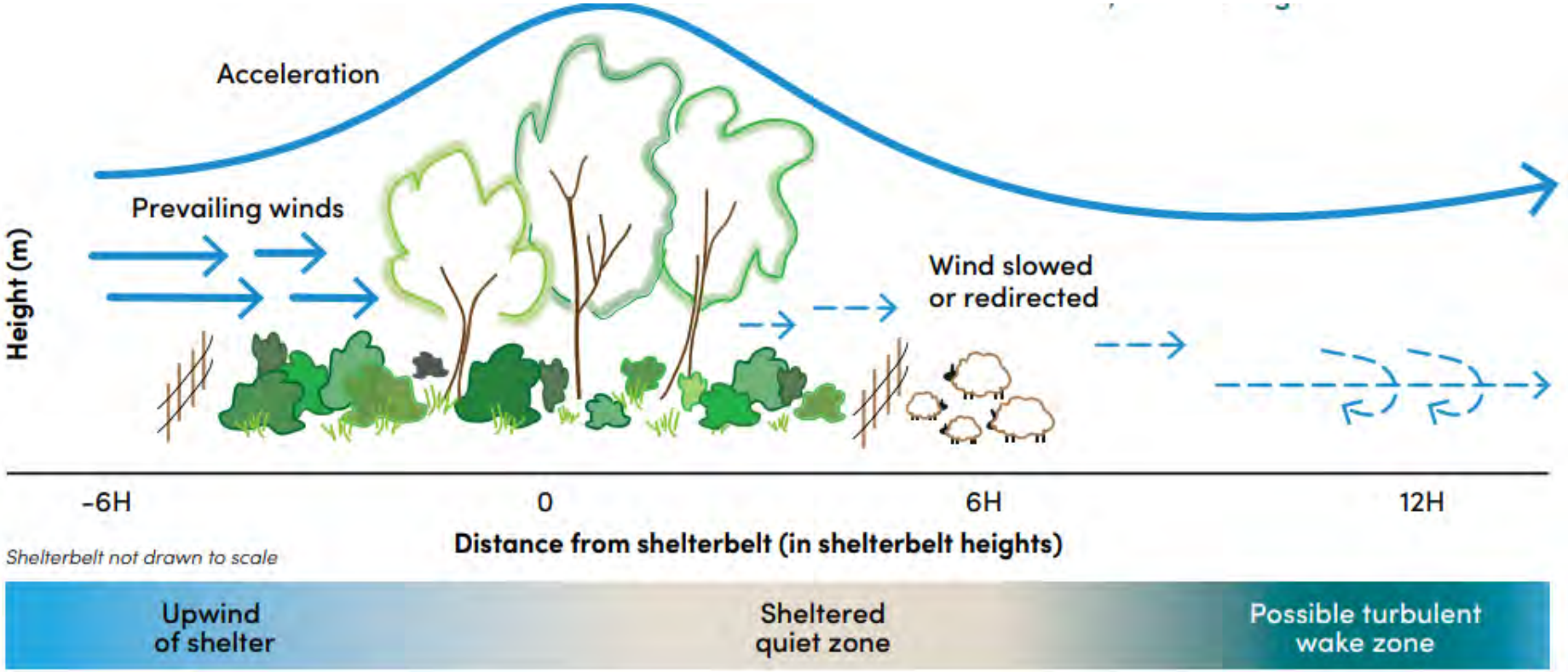


FIGURE 1. The effect of a shelterbelt on wind.[5] Planting dense shrubs and grasses helps maximise wind protection, while tall trees closer to the eastern and southern edges of a shelterbelt help maximise shade.

Shelterbelts need to be permeable (porous) to the wind. Porosity can be judged visually, and should ideally be between 20-35%. The goal is to filter and redirect wind, rather than to block it completely, which can cause turbulence and erosion

How do windbreaks / shelterbelts support biodiversity

- Shelterbelts provide food and habitat for animals like superb parrots, flame robins, speckled warblers and squirrel gliders – all of which are threatened by extinction.
- In a farming landscape, patches of native vegetation are often disconnected from other patches. Shelterbelts provide habitat and can help connect other areas of vegetation, helping support native wildlife.
- Shelterbelts also provide a different kind of habitat compared to old growth and natural regrowth woodland.
- A farm with both shelterbelts and remnant woodland is likely to support more species than a farm with just one of these vegetation types.
- By supporting more wildlife and increasing biodiversity on a farm, shelterbelts help provide ecosystem services like pollination and natural pest control.

MORE BENEFITS: Livestock productivity and welfare - Shelterbelts create microclimates reducing windspeed and windchill and creating shade

- Boost pasture production for livestock by up to 8%; Reduce mortality of lambs by 10%; Increase wool production by more than 30% and weight gain in livestock by more than 20%
- Reduce populations of pest invertebrates like the red-legged earth mite
- Shelterbelts can also enhance soil fertility, mitigate the effects of soil erosion and secondary salinity, increase water infiltration and store large amounts of carbon.
- If shelterbelts are planted along farm boundaries, they reduce direct contact with neighbouring livestock, providing biosecurity benefits.

Recommendations for windbreaks / shelterbelts near houses and in paddocks

Don't plant too close to homesteads and other built infrastructure. Studies of house loss show that property damage is reduced where vegetation is more than 30 metres from a house (Gibbons et al. 2012)

Incorporate MLG Bushfire landscaping: designing gardens for bushfire-prone areas
https://landcare.nsw.gov.au/groups/murrumbateman-landcare-group/designing-gardens-for-bushfire-prone-areas/

Research by leading fire scientists (Collins et al. 2014; Jenkins et al. 2019) shows that adding plantings to a farm landscape very rarely elevates fire intensity above suppressible levels

Make plantings as large as possible

Large plantings support more bird species than small plantings (30m wide is ideal!). But small plantings are still better than no plantings! Wide plantings and plantings with an understory provide greater wind control. This is good for stock, crop and pasture production, and can also reduce the speed at which grassfires travel.

Plant as big as you can from the beginning. Expanding the width of shelterbelts to increase their effectiveness and value for wildlife does not usually increase fencing costs by a significant amount. A useful target width is 30m. If this is not possible, narrower plantings can still be valuable especially if linked to other areas of vegetation.

Plant in gullies and around watercourses

ANU Sustainable Farms research shows clearly that plantings in gullies or flat areas tend to support more species of birds than those on slopes or ridges.
Plantings that incorporate water bodies are great for bird breeding.

Connect plantings to other areas of vegetation

Connected plantings support more species of birds than isolated plantings. This effect is most obvious where plantings are narrow and linear.

Incorporate established trees in your windbreak / shelterbelt plantings

Including large old trees in a planting creates a 150-year head start. Suddenly, birds that rely on large old trees (such as for hollows, fallen timber or copious amounts of nectar) can utilise that planted area immediately, rather than waiting for the trees to mature.

Plant an shrubby understory and native groundcover

Including an understory and native groundcovers creates more layers of vegetation. This means there is more habitat for different species of birds.

Plantings with an understory are less likely to support large numbers of noisy miners. Noisy miners are a native honeyeater, but are very aggressive to other birds and, given the chance, will drive other birds away.

Planting an understory will help ensure the shelterbelt doesn't support noisy miners, enabling many small native birds to thrive.

Question 4 from Ron – What native plants are suitable for shaded gardens? I have lots of hedging and trees

Notes

- Our local vegetation is woodland (~30% shade) and open forest (~50% shade), so the ground layer is adapted to these light levels (as is the nursery stock).

- If shade is heavier, the native plants that might do okay are those from the wetter, denser forests e.g. *Correa reflexa* or native cultivars that are bred for these conditions that can be found at local native plant nurseries such as Cool Country Natives at Piallago in Canberra




Question 5 from Gillian – My primary question is how to transition areas of thick serrated tussock infestation back to native pasture in a low-cost manageable way. I've worked out killing is only the first step and I suspect I need several intermediate steps that give other things a chance to out compete new tussock seedlings.....

Serrated tussock (*Nassella trichotoma*)

Serrated tussock is a drought tolerant grass with low feed value that can take over pastures and native vegetation

The following websites have the most relevant, accurate and comprehensive information

https://weeds.dpi.nsw.gov.au/Weeds/SerratedTussock

And see the following website for a series of excellent booklets that can be downloaded

http://serratedtussock.com/management/fact-sheets

e.g. Best Practice Management Guide – Serrated Tussock
A comprehensive source of information on identification and management of serrated tussock. Useful for land managers, weeds officers, extension services and others involved in the management of serrated tussock. Divided into six sections: serrated tussock profile, integrated weed management, control programs, control methods and management practices, case studies and further information

Question 6 from Sarah – What are some ways to support & maintain the diversity of forbs (wildflowers) and small groundlayer plants around remnant woodland and native grassland particularly with native wildlife grazing pressure

Australian Government
Department of Climate Change, Energy, the Environment and Water

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Home / Environment / Land / Environmental Stewardship Program (ESP)

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- Land publications and resources

Environmental Stewardship Program (ESP)

As a continuing commitment under the National Landcare Program, the Environmental Stewardship Program provides long-term support for private landholders to maintain and improve the condition of matters of national environmental significance under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999.

Funding applications for this program is now closed.

The market-based, competitive funding rounds of the program targeted the following EPBC-listed ecological communities in New South Wales, Queensland, and South Australia:

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland
- Weeping Myall Woodlands
- Natural Grasslands on Basalt and Fine-textured Alluvial Plains of Northern New South Wales and Southern Queensland
- Peppermint Box Grassy Woodland of South Australia
- Iron-grass Natural Temperate Grassland of South Australia.

Participating land managers are contracted for up to 15 years to conduct management activities to protect and enhance the condition of the threatened ecological community(s) on their land. Activities may include grazing management, weed and pest animal control, and maintenance of buffer zones.

Ecological monitoring

CSIRO is monitoring the condition of 90 ESP temperate woodland sites. The main objective is to develop a large-scale, long-term dataset which can demonstrate the program's influence on the current and future condition of the critically endangered Box Gum Grassy Woodlands ecological community and its associated flora and fauna.

A good set of guidelines to start with and use over time are the following set of land manager management actions developed as part of the Australian Government Environmental Stewardship Program - green = actions specific to groundlayer plants

Required action	Definition	Aims
Retention of all mature standing trees (living and dead)	A commitment to retain all mature standing trees	Provides habitat for fauna (in particular large hollow-bearing trees for roosting and nesting) Provide propagules for natural regeneration
No fertiliser application	A commitment not to fertilise the site and provide a buffer from fertiliser spray around the patch's edge	Reduced cover of exotic species Increase native plant species cover and richness
No cultivation	A commitment not to cultivate the site	Maintenance of understorey composition and structure Reduced soil disturbance Reduced weed infestations
Retention of bush rock	A commitment to retain all bush rocks on site	Maintenance of habitat structure and high-quality habitat for reptiles Maintenance of habitat structure grazing-sensitive plants Reduced soil disturbance
Strategic livestock grazing	Strategic grazing while exotic plants are actively growing, prior to setting seed or after native plant seed falls, between long periods of no grazing. Grazing is replaced with other forms of biomass control if required (e.g. burning, slashing, native herbivore grazing) once target state is reached	Reduce competition in groundlayer to facilitate natural regeneration of preferred species Control biomass of dominant understorey native species Increase diversity of native plant species life forms Reduce browsing impact on palatable native plants Reduce nutrient inputs (e.g. livestock camps) Improve litter and soil condition Facilitate natural regeneration
Monitor and manage exotic plants	The regular assessment of weed cover and, where appropriate, the use of herbicides and/or manual or mechanical control that aims to reduce the cover of exotic plants.	Reduce exotic plant cover, thereby reducing competition for native plants Reduce exotic plant biomass Create more gaps in the groundlayer sward to facilitate natural regeneration
Monitor and manage tree regeneration	The recording of regeneration of overstorey species and management to restore/maintain a woodland structure	Greater structural diversity for woodland wildlife Continual self-sustaining overstorey with tree hollows, logs, leaves and sticks
Monitor and manage total grazing pressure	Actions that involve periodic assessment for the presence of exotic and feral herbivores (e.g. rabbits, hares, goats, deer, pigs) and native herbivores (e.g. kangaroos)	Reduce browsing impact on palatable native plants by native and feral herbivores Maintain native species diversity Reduce overgrazing thereby reducing weed infestations Improve litter and soil condition Facilitate natural regeneration

Optional action	Definition	Aims
Retention of all fallen timber	A commitment to retain all fallen timber	Provide habitat for fauna Provide protected area for plants to regenerate Improve soil condition
Biomass control	Small-scale ecological burns or slashing	Reduction in biomass of dominant species Reduced exotic plant cover Enhance native plant life form richness Improved soil health Prevention of regeneration or fallen timber loss from fire Reduction of potential fire hazard
Nutrient management	Discouraging stock from congregating in camps within the site. Can include innovative actions to reduce the level of existing nutrients in the soil such as the application of carbohydrate or shallow soil scalping to remove the high weed seed and nutrient layer	Reduce exotic plant cover Increase diversity of native plant species life forms Facilitate natural regeneration
Thinning	Strategic, manual removal of proportion of prolific regenerating species	Reduce dense regrowth of prolific regeneration to natural density only Increase plant species richness
Planting / direct seeding	Planting or direct seeding with species known to occur on the site using seed preferably sourced from large patches of existing native vegetation. Treatment to remove exotic plants and soil disturbance prior to planting or direct seeding	Enhance plant life form diversity Enhance vegetation structure

Grazing as a tool for biodiversity conservation in temperate grassy ecosystems

Native grassland/ Pasture type

	Summer (Dec Jan Feb)	Autumn (Mar Apr May)	Winter (Jun Jul Aug)	Spring (Sep Oct Nov)
1a) High Conservation Value (HCV) grassland/grassy woodland Very diverse range of native species (60-110) including many grazing sensitive orchids, lilies, wildflowers, sub-shrubs and grasses. Main grasses include Kangaroo, Snow, Weeping and Native Sorghum. Avoid grazing when native forbs and grasses establishing, growing and seeding **1b) High Diversity Native Pasture** Diverse range of native species (40-60) including native wildflowers and legumes. Grasses - Kangaroo, Weeping, Red-leg and Wallaby Grasses. Graze as per 1a) HCV	⊘	SHORT DURATION pulse grazing to reduce bulk, only if native perennial grass sward very dense. Grasses generally more palatable to stock earlier rather than later in this phase or consider burning, slashing/ mowing.	⊘	
	Native grasses seeding and establishing		Native forbs germinating and establishing,/seeding	
2 Moderate Diversity Native Pasture Range of more grazing tolerant native species (20-40) including some wildflowers and legumes. Grasses - Red-leg, Wallaby, Spear, Wire. Some exotic annuals	⊘	Pulse graze or rest to maintain high perennial pasture cover and to restrict annual exotics growth and seeding	⊘	Pulse graze or burn every 1-3 years as needed to reduce exotic annuals ⊘
		Exotic annuals germinating		Exotic annuals seeding
3a) Low Diversity Native Pasture Mostly grazing tolerant native plants (1-20) primarily grasses - Spear, Redleg, Wire. Main grazing in late winter and early spring to reduce exotic annual grasses - Brome, Annual Ryegrass, Silver Grass, Barley Grass, Wild Oats. **3b) Fertilised Native Pasture** Mostly annual exotics (Annual Ryegrass, Silver Grass, Brome, Barley Grass, clover/medics) with some phosphorus and grazing tolerant native grass species such as Wallaby, Weeping and Red-leg. Graze as per low diversity pasture	⊘	Preferably rest to build up perennial native grasses, ground cover and seed reserves. Higher native grass cover will in turn help suppress exotic annuals	Pulse graze or burn annually to reduce exotic annuals	⊘

⊘ = REST: In most years avoid grazing during this period as native forbs are germinating (June/July); establishing and growing (into mid-Spring); with native grasses / forbs flowering and seeding (mid Spring – mid Summer); and native grasses potentially establishing early/mid Autumn.

1a HCV high forbs (grazing sensitive) / low annuals

1b Highly Diverse high forbs / low annuals

2 Moderately Diverse Mod forbs /mod annuals

3a Low Diversity Low forbs /high annuals

3b Fertilised Low forbs/ high annuals

Grazing as a tool for biodiversity conservation in temperate grassy ecosystems

This diagram should be used as a guide only – there is no single 'recipe'. The underlying assumptions are:

- Each site will differ depending on its history; the season, rainfall and temperatures will vary annually therefore the best guide to the management needed *will be the life cycle stage of the target species (is it germinating, growing, flowering or seeding?), the abundance of exotic annuals and the bulk of native grasses*
- Grazing is based on rotational grazing principles:- high intensity & short duration with long rests between to maintain and build-up desirable species, their seedbank persistence and perennial native groundcover; ensure annual grasses are grazed before seedheads emerge
- No fertiliser is being applied and native pasture is low in phosphorus; fertiliser can increase annual and exotic weeds and decrease native species
- Pasture is not stressed by below average rainfall, fire, flood, frost
- Grazing is targeting the herbaceous layer only (although there is more potential for increased tree and shrub regeneration)
- Grazing is only one tool – consider in conjunction, or alternatively using other management techniques eg. fire, nutrient and weed management, slashing, re-seeding and pasture cropping (fertilised pasture only) and/or mowing esp. when grasses less palatable
- For commercial grazed pastures for ongoing production, preferably aim for low stocking rates < 4 DSE (Dry Sheep Equivalent) especially in dry conditions or moderate (4 - 6 DSE) in good seasons, maintain biomass/ dry matter (+1500kg /ha), keep groundcover between 70 - 100% and no fertiliser application
- the native grass and forb germination/establishment periods indicated here reflect ideal germination combinations of temperature and moisture – germinations can also frequently occur at other suitable times of year

This is a simplified diagram - we recommend it is used in conjunction with more detailed management information such as Dorrough, Stol and McIntyre (2008) "Biodiversity in the Paddock: A Land Managers Guide'; Rawlings, K. et al (2010) 'A Guide to Managing Box Gum Grassy Woodlands'; Langford et al (2004) 'Managing Native Pastures for Agriculture and Conservation' NSW DPI; Grassy Box Woodlands Conservation Management Network **www.gbwcmn.net.au**; Communities in Landscapes **www.cil.landcarensw.org.au**; Florabank **www.florabank.org.au**;

Plant common names with (*genus and species*):- Kangaroo Grass (*Themeda australis*), Snow Grass (*Poa sieberiana*), Weeping Grass (*Microlaena stipoides*), Native Sorghum (*Sorghum leiocladum*) Red-leg Grass (*Bothriochloa macra*), Wallaby or White top (*Austrodanthonia* spp.), Spear Grass (*Austrostipa* spp.), Wire Grass (*Aristida* spp.), Brome (*Bromus* spp.), Annual Ryegrass (*Lolium* spp.), Silver Grass or Rat's tail Fescue (*Vulpia* spp.), Barley Grass (*Hordeum* spp.), Wild Oats (*Avena* spp.) Clover/Medics (*Trifolium* and *Medicago* spp.)

Note; 'Pulse' grazing = refers to a high intensity and short duration graze. 'Forbs' = native herbaceous plants (not grasses) such as wildflowers, orchids, lilies, etc

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Question 7 - Sonya and Gill ask:

What can we do to prepare for projected climate change in terms of where and what we plant?

The nursery is producing climate-ready plants for two reasons:

– to assist in conserving and restoring local ecosystems;

– to allow ecosystem adaptation to current and projected future climatic conditions.

If the species planted are to survive in the long-term they need:

– the opportunity to produce offspring;

– time for natural selection and adaptation.

Site selection for planting is critical for biodiversity – both plants and animals.

Continued - What can we do to prepare for projected climate change in terms of where and what we plant?

And incorporating Question 8 from Kellie: I have heard about "scalping" soil to make it more amenable to native plants and grasses; less so to exotics. Is this a useful practice, and if so could you please explain the process?

Unsuitable planting sites for climate-ready plants:

- x Recently or heavily fertilized land
- x *Phalaris*-dominated sites

Suitable:

- ✓ Scalped or graded (erosion works, building sites)
- ✓ Scalds
- ✓ Salinity
- ✓ Long-unfertilized pastures
- ✓ Grazing-depleted vegetation
- ✓ High quality, diverse native vegetation;
- ✓ Exotic-dominated sites subject to intensive management.

Scalded soil from past grazing provides good opportunities for native plant re-establishment after removal of livestock as shown in next three slides.

Thinned saplings laid across the slope slow down water flows and capture local native seed that would otherwise wash away.

Native ground cover starts to establish as laid down branches break down. Now is the time for planting or seeding of additional species (e.g. climate-ready material).

The flowering *Acacia buxifolia* was seeded, but the native peas and grasses colonized themselves, indicating functional vegetation that is able to persist and adapt over future cycles of flowering, seeding and regeneration.

Degraded sites can be good opportunities for re-introduction of otherwise rare plants. This waterlogged, salt-affected site has been ideal for the establishment of hundreds of Lemon Beauty-Heads simply by means of broadcasting seed.

Thank you and any further questions?

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Jacqui Stol and Sue McIntyre (MLG) and Dave Jarratt – Weeds Officer Yass Valley Council




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