

Weed Management Plan – Guidelines



1. Eradicate weeds that have a limited distribution before tackling those that are widespread.
2. Only treat areas you have the capacity to follow-up and maintain.

Weed Definition	A weed is a plant that is growing in the wrong place, be it agricultural land, bushland, roadside or backyard. A weed is recognised as having an impact; either economically in productive land or outcompeting natives in bushland or outcompeting desirable plants in a garden.
How Weeds Spread	Weeds need space and light to grow, often appearing after soil disturbance. They can spread via seed, stem fragments, root fragments, bulbs and tubers. They are spread on tools, clothes, shoes, machinery, vehicles as well as via wind, water, birds, ants and other animals.
Weed Legislation	Is it a declared weed under the <i>Weed Management Act 1999</i> ? If yes, Zone A (required to eradicate) or Zone B (required to contain) Is it an Environmental Weed? Is it a priority under the local strategy (eg, local Council Weed Management Strategy)?
Weed Identification	What are the distinguishing features of the weed? Flower shape, colour and arrangement. Leaf shape, size and arrangement. Type of plant; grass, sedge, fern, herb, shrub or tree. For ID take photos that show leaves, stem and flowers or seed. Alternatively collect a specimen and keep in snaplock bag in fridge. Email photos or take specimens into the local Council NRM Officer, DPIPWE Invasive Species Unit, or Tasmanian Herbarium to identify.
Treatment Methods	Prevention: keep your visitors and workers' tools, clothes, shoes, vehicles and machinery clean. Check garden soil and mulch for weediness. Manual: hand pulling, using weeding tool. Mechanical: mulching, slashing, excavator, etc. Chemical: cut-and-paste, spraying (USE ACCORDING TO LABEL). Biological: using insects or other biocontrol agents (eg, Cape broom psyllid for canary broom). Other: grazing, fire, solarization (plastic to trap heat from sun), mulching, sowing competitive crops. Disposal: leave plants in place with roots in air, cut and double bag flowerheads (eg, ragwort, boneseed), hot compost or burn.
Location & Distribution	Map each priority weed location. The LIST can be used to produce a map of your property (see map example). http://maps.thelist.tas.gov.au Density for each weed species: single plant, patch, scattered, dense patch. Define zones: weed free, eradication, containment lines, core infestation.

Management Considerations

Your Resources: your time, knowledge, tools, skills and experience in weed and property management.

Your Property: productive/pasture/bushland areas, waterways/dams, other sensitive areas, tracks, organic/no chemical areas, neighbours, slope, prevailing wind, access to weeds, fauna habitat, future plans for the weedy areas.

Your Management Philosophy: biodynamic, organic, minimal chemical, no-till, minimal soil disturbance, dozer.

Prioritising

List weeds in order of priority in your plan based on:

1. Distribution and Density on the Site: eradicate weeds that have limited distribution on your property before tackling those that are widespread.
2. Legal Status: Declared (Zone A or B). Environmental weed. Local priority.
3. Impacts and Ability to Spread: potential to quickly spread and invade agricultural land and bushland, potential damage to natural resources, toxicity to stock (eg, ragwort) etc.
4. Property Values Under Threat.
5. Areas Adjacent to Property Boundaries: maintain a 50m weed free zone from your boundary and all waterways.

Follow-up & Monitoring

Monitor annually the areas where you have treated, as many seeds remain viable for more than five years. Aim to remove weed seedlings before they flower and produce seed. Use your map and photographs to record activities, progress and observations.

Photo monitoring: <http://www.nrmsouth.org.au/wp-content/uploads/2014/08/Photo-Monitoring-Fact-Sheet-NRM-South.pdf>

Weed Action Plan

In the Weed Action Plan list which weeds you plan to treat, when and what method/s. Be realistic.

Primary treatment: initial weed treatment of an area.

Follow-up: annual monitoring and treatment of an area that has already been treated.

Capacity to maintain: carry out primary treatment only on areas you have the capacity to follow-up and maintain long-term.

Strategic Approach: work from the areas of best vegetation condition to the areas of worst infestation. The vegetation in good condition can decline, whereas the vegetation in poor condition can't get much worse.

1. As a priority remove scattered plants within healthy bushland/pasture areas.
2. Slowly remove dense infestations working from healthy areas in, facilitating native plants/pasture to regenerate.
3. Look at changing management practices across your property to out-compete weeds and prevent reinfestation, examples include reseeding pasture and improving pasture vigour through good livestock management and replacing removed weeds with native plants.

More Information

DPIPWE provides a wealth of information on weeds including management options and plans: <http://dpiipwe.tas.gov.au/invasive-species/weeds/weeds-index/weeds-index-declared-weeds>

Area and Coverage of Weeds: measure area covered by weeds and record weed density (% cover in a given area). Use a method that works for you, as assessing percentage cover is a subjective exercise. The link below shows a percentage cover method commonly used (page 8,9): http://www.southgippslandweeds.com.au/files/file/Weed_management_manual.pdf

Identification: online key: <http://www.utas.edu.au/dicotkey/>

Destruction: avoid transporting weed material (it is an offence under the *Weed Management Act 1999* to move, sell or store anything contaminated with a declared weed – including plant fragments, roots and seed material). Move any weed material carefully to avoid regeneration and seed spread. Double bag weed material that contains seeds or burn if possible. Solarisation and liquid composting are good methods for destroying viable seed in some species, particularly those where seeds remain viable for many years. <http://www.environment.gov.au/biodiversity/invasive/weeds/help/gardeners.html>

Grazing: light, heavy, seasonal, domestic livestock, wildlife. Overgrazing of pastures may encourage the establishment of pasture weeds such as thistles, likewise undergrazing may encourage woody weeds such as blackberry.

Habitat: consider the habitat that weeds may provide to animals. Weed treatment may require a staged approach to replace weedy habitats with native vegetation.

Herbicide use: always follow the instructions on the herbicide label for application rate, approved use and safety requirements. The herbicide selected should be appropriate for the weed species and site (suitable herbicide guides for each declared weed species can be found under DPIPWE's Weed Index for declared weeds). Herbicide use near waterways: Roundup Biactive® or Weedmaster Duo® are the only herbicides approved for use near waterways. DPIPWE Guidelines for Safe and Effective Herbicide Use Near Waterways: <http://dpiipwe.tas.gov.au/Documents/HerbicideGuidelines.pdf>

Hygiene: wash-down procedures for machinery use, other equipment used, footwear and vehicles pre and post treatment, stock movement in weedy areas, source and location of feed brought in (hay), other off-farm weed sources – service provider vehicles and machinery, aggregates and other materials brought in. When treating weeds start working upstream and upslope, and work down. Work/walk/drive from weed free areas to weedy areas. DPIPWE Washdown Guidelines for Weed and Disease Control downloadable from: <http://dpiipwe.tas.gov.au/Documents/Washdown-Guidelines-Edition-1.pdf>

Sensitive Management: may be required in erosion prone areas – sodic soils, steep slopes, dam walls, etc.

Weed Management Zones:

- Weed free zones – areas already free of weeds (prevent future infestations).
- Eradication zones – where eradication is feasible and may include areas where small isolated populations (outliers) exist.
- Containment lines – prevent weeds from crossing these lines (eg, 50m from boundaries and waterways, 5m from access tracks).
- Core infestations – large dense infestations where eradication may not be feasible.

WEED ACTION PLAN – Example

<p>1. Management action – consider how the site will be treated and when, including weather conditions, etc.</p> <p>2. Map treatment site/s, photograph and write a description of the area. Marking the area with survey pins with pink tape tags is useful for ongoing monitoring and locating previously treated weeds.</p>		<p>3. Follow up treatment – Year 1: timing, method, etc, Year 2: Follow up as required, Year 3: Follow up as required.</p> <p>4. Look at changing management practices across the property to out-compete weeds and prevent reinfestation.</p> <p>5. Note resources and budget required.</p>				
Year	Action	Management Action Task and Method	Timing (Season)	Herbicide type (Include volume and dilution rates used)	Resources needed (Time, equipment, chemicals, estimate cost, budget, personnel)	Results (Was it effective? What worked? What was achieved? Observe your target weeds during their main growing season eg, spring. Also note any follow-up required, including if new weed species have established in area.)
2016	Paddock 1 (see map): previously mulched areas in dense gorse patch.	Task 1: spot spray scattered gorse with Garlon in previously mulched areas.	Autumn	Garlon 2ml/L (1 litre) Surfactant BS1000 (1ml/L) Red herbicide (2ml/L)	8 hours labour Garlon 1 litre \$30; Surfactant BS1000 1 litre \$15; Red herbicide 1 litre \$35 Water and containers Chemi gloves 1 pair \$10 Spray pack; respirator; cotton overalls Excavator – 1 day hire and fuel, trailer	Task 1: all previously (2015) mulched pathways sprayed and treatment area mapped and fixed point photos taken. Task 2: inspect two months after treatment to record effectiveness of treatment and work out follow-up actions for 2017. NB: Plan to re-seed mulched pathways with suitable pasture mix.
2016	Paddock 2 (see map): scattered gorse in pasture and dense gorse on dam wall.	Task 1: spot spray scattered gorse with Garlon in paddock 2. Task 2: use small excavator to remove dense gorse from dam wall.	Autumn	As above	As above	Task 1 and 2: all scattered gorse sprayed and dense gorse on dam wall removed with some roots remaining. Treatment area mapped and fixed point photos taken. Inspect two months after treatment to record effectiveness of treatment and work out follow up actions for 2017.
2017	Paddock 1 (see map): previously mulched areas in dense gorse patch.	Task 1: spot spray scattered gorse with Garlon in previously mulched areas. Task 2: Re-seed mulched areas with pasture grasses.	Autumn Spring	As above	As above 6 hours labour Tractor, disk plough, pasture mix, lime	Task 1: some re-growth of gorse on mulched areas (30%) – spot sprayed with Garlon. Treat any re-growth and/or new seedlings in previously treated areas above in 2018 and start primary treatment of remaining 25% of gorse in northern section depending on success of all previous treatment. Task 2: disk ploughed mulched areas and re-seeded with suitable pasture mix. All treatment areas mapped and fixed point photos taken.
2017	Paddock 2 (see map): scattered gorse in pasture and dense gorse on dam wall.	Task 1: follow up spot spray scattered gorse with Garlon in paddock 2. Task 2: spot spray gorse regrowth on cleared area of dam wall with Round Up Biactive® (frog friendly round up).	Autumn	As above Round up Biactive® (360 g/L) 10ml/L Contains built in water safe surfactant.	As above Roundup Biactive® or Weedmaster Duo® 1 litre \$35 Red herbicide (as above) Protective clothing & spray equipment (as above).	Task 1: observation – 70% of last year’s scattered gorse killed, and 30% not killed post spraying in 2016, 20+ new seedlings germinated in paddock. Spot sprayed 30% not killed in 2016 and new seedlings with Garlon. Task 2: some regrowth from plants not fully removed by excavator in 2016 and 100 new seedlings appeared over 50% of dam wall. Spot sprayed with Roundup Biactive® or Weedmaster Duo® as only suitable herbicide to use near waterways. All treatment areas mapped and fixed point photos taken.

WEED TREATMENT MAP EXAMPLE

