

Giant Gippsland Earthworm



Fact Sheet No. 2
- Updated July 2023

PROTECTING GIANT GIPPSLAND EARTHWORM HABITAT - guidelines for revegetation and plantation projects

Threats to GGE habitat from revegetation

The threatened Giant Gippsland Earthworm (GGE) (*Megascolides australis*) (Photo 1) is restricted to south and west Gippsland and includes the Gippsland Plains and the western Strzelecki Ranges. The majority of its habitat has been cleared for agriculture. GGE can survive well under pasture but needs protection from threats such as changes in the soil moisture and pugging by cattle. In south and west Gippsland, revegetation often occurs on steep slopes and along stream banks, exactly where GGE are most often found. We know that soil moisture is an important part of the GGE's habitat. As trees absorb large amounts of water, particularly in their first 10 years of life, planting of



Photo 1
Giant Gippsland Earthworm (GGE)

trees in or close to GGE colonies may result in a reduction in soil moisture and consequently a loss in suitable habitat. Therefore, careful thought and planning must be given when revegetating areas known or suspected to be habitat.

The aim of these revegetation guidelines is to inform the design of revegetation projects around GGE colonies to protect soil moisture. We recommend a modified planting design with a buffer around each colony to absorb any negative impacts that may occur from revegetation works. The modified planting design includes the creation of three zones, each of which requires different planting regimes (plant composition and density) chosen from the appropriate Ecological Vegetation Class (EVC). An EVC consists of one or a number of plant communities that tend to occur in certain positions in the landscape with a recognisable environmental niche. EVCs are a basis for classifying vegetation in Victoria and used as a basis for plant selection for revegetation projects. To assist in

determining the appropriate EVC on your property within GGE habitat, a diagram of site-specific landforms and associated EVCs can be found at:

www.giantearthworm.org.au/gge-habitat-landform.htm

What can I do?

1. Locate and Map GGE colonies

The first step is to identify whether there are any colonies within the area proposed for revegetation. Information on how to identify GGE habitat on your property and detect the presence of colonies is available in [Fact Sheet 1 - Recognising GGE habitat on your farm](#). One method that can be easily used is to walk over areas of possible habitat and listen for the gurgling sound that worms sometimes make when moving through their moist burrows.

As well as its location, the extent of each colony needs to be determined. The area occupied by colonies is typically small, the smallest being a few square metres with the largest known up to 2500 m². You may encounter one colony or many small, isolated colonies separated by areas of unsuitable habitat (e.g. dry, silty or rocky soils).

Further information can be found at:

www.giantearthworm.org.au/gge-habitat-landform.htm

2. Planting Design

The following guidelines are recommended when designing revegetation works around GGE colonies. Figures 1 & 2 provide a diagrammatic representation of zoned planting. Planting recommendations for each zone are based on the Department of Energy, Environment and Climate Action (DEECA)'s EVC benchmarks with modifications to density and life forms.

Life form categories are:

- Trees
- Understorey trees/large shrubs
- Medium/small shrubs
- Graminoids (grasses/sedges/rushes)



Bass Coast
Landcare
Network



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Revegetation species lists for each of the most common EVCs for GGE habitat have been developed and can be found at: www.giantearthworm.org.au. These can be printed and taken to a local nursery.

Zone 1 - GGE habitat – No planting zone

This is the area occupied by GGEs with an additional 10 m buffer added. No planting is undertaken within GGE habitat and original cover (e.g. pasture) remains. Any remnant vegetation occurring within GGE habitat should be retained.

On occasion, you may choose to do limited planting in Zone 1 for the following reasons:

- To prevent soil erosion
- If you are worried about weed issues in the future or the need to maintain the site
- If the colonies are close together (less than 30 m apart)

If planting in Zone 1, only plant from the graminoid life form found in the revegetation lists (tussock grasses/sedges/rushes) (Photos 2 & 3).



Photos 2 & 3 For example, GGE were found to be widespread along the northern bank of this small creek in Poowong North. Tussock Grasses and other graminoids were planted adjacent to the creek to help control weeds and manage soil erosion.

Zone 2 - Modified planting zone

This zone includes a 30 m area surrounding the boundary of Zone 1. Standard EVC planting is modified to predominantly plants with minimally invasive root systems and low water usage from the graminoids (grasses/sedges/rushes) and shrubs (small) categories.

Select plants predominantly from these categories. Large shrubs are to be planted toward the outer edges of Zone 2.

Zone 3 - Standard EVC planting

Zone 3 includes the area from the Zone 2 boundary to the outer edge of the revegetation site. These areas should be planted with reference to Standard EVC appropriate species and planting densities.

Modified planting for creekside colonies (Figure 1)

GGE habitat is generally found on the terraces along creek banks above the flood plain. They rarely occur more than 10 m from the top of the bank. Most people confine revegetation of creeks to a narrow band along the creek banks. Therefore, the width of the area to be fenced out for revegetation may be considerably less than the 30 m in Zone 2. It is therefore recommended that this area above the GGE colony (upslope from the creek bank) is either left as pasture or planted as per Zone 2 (medium/small shrubs and graminoids). This will depend on the size of the area occupied by the colony.

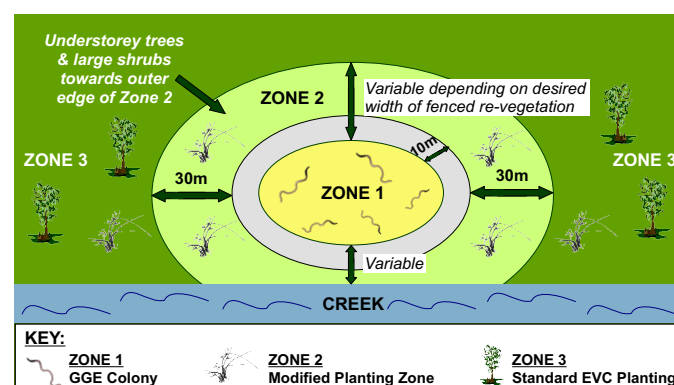


Figure 1 Modified planting for creekside colonies



Photo 4 GGE habitat on well defined banks

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Photo 5 GGE colony on south facing slope with obvious soak and soil slumping

Modified planting for hillside colonies (Figure 2)

Many colonies found on hillsides are associated with underground springs or soaks and the slopes are usually south facing. These areas may be obvious as greener patches often with areas of soil slumping (Photo 5). The buffer area above GGE colonies on hillslopes may require a larger buffer above the colony to protect the source of the soak from thirsty plants. In the example shown in Photo 5, it is recommended to only plant medium/small shrubs and grasses, sedges and rushes. Understorey trees and large shrubs can be planted on the sides of the slope (Figure 2).

3. Planting Design

All activities associated with processes that threaten GGEs and their habitat should be excluded from the colony and its buffer. This includes:

Zone 1 - GGE habitat - no planting zone

- No excavation or soil disturbance (e.g. no ploughing, scalping or deep-ripping of soil);
- Retain any existing vegetation;
- No vehicle access;
- Manual slashing (anytime) or crash grazing (excluding under wet conditions) are acceptable;
- Temporary fencing may be desirable to identify and protect GGE colonies during revegetation works;

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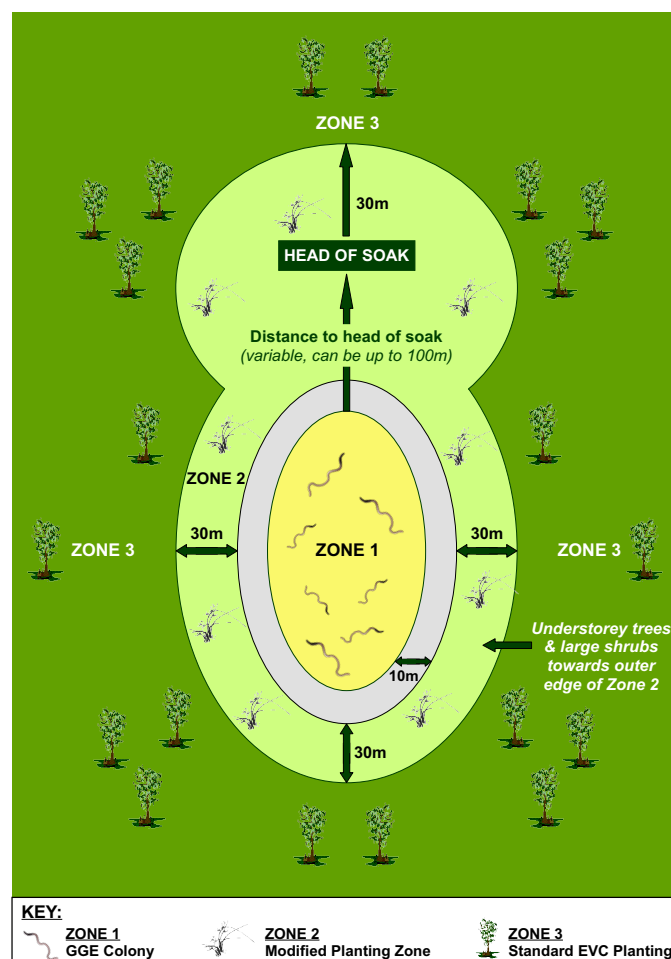


Figure 2 Modified planting for hillside colonies

Zone 1 continued

- Remove small regenerating saplings of large trees such as eucalypts or understorey trees such as Blackwood and Silver Wattle under 2 m. Remove with cut and paint method to reduce the risk of soils in GGE habitat drying out during the first years of tree growth.

Weed Management

- Use non-chemical weed removal methods wherever possible. Do not use glyphosate or any fungicides in a spray situation;
- Use physical methods of weed control prior to flowering/seeding, e.g. hand weeding, brush cutting and chainsaws;

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Zone 1 *continued*

- If small infestation, consider hand pulling;
- If heavy, e.g. ragwort infestation - target spot spraying prior to seeding;
- Use cut and paint method for larger shrubs and trees only where necessary;
- If herbicides are required, use organic herbicide options;
- Consider other options such as steam, solarisation, or mulching.

Zone 2 - Modified planting zone

- Minimise soil disturbance;
- Avoid use of heavy machinery;
- Thin regenerating overstorey trees such as Eucalypts, Blackwood and Silver Wattle if encroaching on Zone 1 due to the drying out of moist and wet soils in GGE habitat.

Weed Management

- Use selective chemical herbicides minimally through targeted spot spraying and drill and fill/cut and paint methods. Avoid windy days to minimise spray drift;
- Use physical methods of weed control where appropriate, e.g. hand weeding and chainsaws;
- Recommend the use of organic herbicide options;
- Consider other options such as steam, solarisation, or mulching;
- Avoid any vehicle use if possible;
- Do not use glyphosate or any fungicides.

Zone 3 - Standard EVC planting

Apply standard EVC appropriate species and planting densities.

- No restrictions on plantings;
- No restrictions on vehicle access;
- Use chemicals as per recommended guidelines; and
- Avoid windy days to minimise spray drift.

4. Revegetation preparation for pasture sites

- Slash pasture or graze heavily in drier months in GGE habitat prior to planting or spray minimum herbicide concentrations if outside of Zone 1;
- Where appropriate, plant directly into grazed or slashed pasture;
- Consider the use of small square weed mats in revegetation areas to suppress pasture, particularly in Zone 1.

These guidelines are based on the current understanding of the impacts of revegetation works on GGE colonies and may alter as further knowledge of the relationship between GGEs and their environment is developed.

Remember to check our website:
www.giantearthworm.org.au
regularly for the latest information.

Resources

www.giantearthworm.org.au

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