

Guidelines for Reconstructing Microhabitat

Habitat broadly speaking is 'home', where there is shelter, safety, food and water. Areas of native vegetation provide habitat for many species of fauna, but simply having trees, grass and shrubs doesn't necessarily mean all fauna is catered for. Microhabitat refers to features that account for fauna that only use or need small areas to call 'home'. Examples of microhabitat are grass tussocks, fallen dead and decaying wood, bush rock or rock outcrops. These all provide habitat for small reptiles, small mammals, insects and other invertebrates.

Major threats that degrade microhabitat are fire wood collection, over grazing of native vegetation and 'cleaning up' or continual clearing of the forest floor. For more information on sustainable firewood collection and purchase see www.environment.gov.au/land/pressures/firewood

A lack of microhabitat means a lack in the fauna that rely on it. Ecologically this can create a gap in the food web. There are many other animals that feed on or rely on these animals, predatory birds other larger mammals and reptiles for example. Abundant small fauna are vital in a rich and diverse ecosystem.

The Artificial Alternative

Recent studies have demonstrated the effectiveness of installing artificial microhabitat as a potential restoration technique where these features have been removed, or in new areas of native vegetation such as tree planting.

Microhabitat can take decades to be naturally replaced, so recreating microhabitat with artificial materials can help bridge the gap early and help restore balance to the ecosystem.

Whilst introducing natural materials is the ideal, getting hold of dead wood or rocks without taking it out of other ecosystems is not encouraged. Other materials can substitute natural microhabitat such as bricks, roof tiles, old railway sleepers or fence posts, roofing iron or any material that will not break down too quickly or release harmful toxins into the ecosystem. If using old sleepers or other wood, be sure it isn't treated with anti rot chemicals.

Photos: Right from top: excellent microhabitat including long grasses and abundant fallen wood; large piles of wood increase habitat options; rocks are good for their thermal properties. Left from top: the effect of over grazing on microhabitat; wooded area 'cleaned up' of microhabitat.



Photo: Steven Sass



Photo: Steven Sass



Photo: Steven Sass



Photo: Steven Sass



Fauna you may find in microhabitat in south east NSW



Photo: G. Little

Eastern Pygmy-possum



Photo: Steven Sass

Southern Water Skink



Photo: Peter Robertson

White-footed Dunnart



Photo: Steven Sass

Eastern Blue-tongue Lizard



Photo: Dave Hunter

Giant Burrowing Frog



Photo: Steven Sass

Jacky Dragon

Selecting artificial material for microhabitat

- Will any part of the material leach or breakdown into the environment and harm the fauna or flora you want to attract, i.e. lead paint, treated wood.
- What is the life span of the material? You may want to remove it when natural sources of microhabitat have returned?
- What are the thermal properties? Try to use a variety of artificial items to provide a full range of thermal environments to suit a range of species.
- What fauna are you targeting and what are their specific habitat needs? All species have different needs so choose your material with these in mind.

NOTE: Care should always be taken when monitoring habitat. Be mindful that what ever may be living underneath might react to disturbance as a threat. Wear protective clothing such as leather gloves, strong boots and long pants. When moving a structure take note of its position so you can replace it with minimal disturbance.

Laying out artificial microhabitat

- Try to link areas of low habitat to areas with natural microhabitat. Some fauna have small home ranges or are reluctant to travel across open areas such as paddocks with limited shelter.
- Where remnants of native vegetation are surrounded by grazed paddocks consider linking them by softening the harshness of the paddock with clusters of microhabitat such as piles of bricks or wood.
- If you periodically graze in your remnant try not to let grass and ground cover get too low. This may reduce the biodiversity carrying capacity.
- Survey to see what fauna is returning. Look under artificial structures very carefully and monitor other species as well. With an increase in small fauna an increase larger fauna will follow.
- When using small materials like bricks it is best to pile them creating covered spaces, nooks and crevices.



Above are some examples of material that could be used as artificial microhabitat. All have different properties and suit some fauna better than others. If using old bricks, stack them in piles to create lots of crevices. Old decaying wood is great for invertebrates, the more rotten the better. What ever you are going to use, it is best to consult field guides for mammals and reptiles to see what may live in your area. Pay particular attention to their habitat needs and try to recreate these by selecting similar artificial materials. Good luck.