Habitat Creation – Quick Guide

ECOLOGY & RESTORATION AUSTRALIA

Artificial Hollows

Can be created in standing trees or logs on the ground using a variety of tools; different designs can be modified to suit a variety of arboreal and terrestrial native species including mammals, birds, and reptiles.
Pro's – low maintenance, infinite life-span and more thermally similar to natural hollows than nest boxes;
Con's – requires larger trees to host an arboreal hollows, especially for larger target species such as Greater Gliders.

Nest Boxes

Nest boxes come in all shapes and sizes, and can be made suitable for a variety of native mammals including bats, and birds.
Pro's – easily made and installed in all kinds of habitat;
Con's – require maintenance and have a finite lifespan, can be thermally unstable..

Log Hollows

Created from existing hollows in fallen, felled or removed trees or limbs, and attached to a tree in a similar way to a nest box.
Pro's – similar to nest boxes, but additional positive in reuse of an existing hollow;
Con's - similar to nest boxes.

Rock habitat

Utilising waste rock to create rock den habitat for a variety of species including mammals (ie: Quolls) and reptiles.
Pro's – reuse of waste materials, low maintenance in long-term;
Con's – can require significant heavy machinery for initial install, can be thermally unstable and attract pest species.

Re-snagging

Creating snags in rivers to provide habitat for freshwater species such as platypus, endangered fish and crayfish.
Pro's – can utilise waste or storm damage timber;
Con's – difficult to monitor success, requires significant machinery to install initially.

Wildlife Bridges

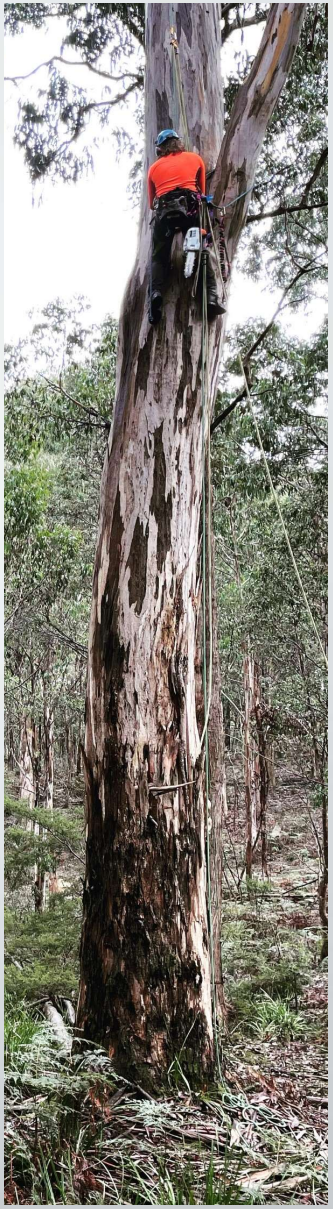
Rope bridges designed to support movement for arboreal species across gaps in the canopy, such as from roads or storm damage. Can be designed for long-term installation, or temporary use as canopy grows back.
Pro's – able to be used immediately by target species;
Con's – can require significant effort to create and install, require maintenance in the long-term.

admin@eraus.com.au
(03) 8376 6403
www.eraus.com.au

Habitat Creation – Quick Guide

ECOLOGY & RESTORATION AUSTRALIA

Type of Installation	Relevant Research	Maintenance	Installation effort	Lifespan	Ease of Monitoring	Other Comments
Artificial Hollow	Internal temperatures most similar to natural hollows[1]	Low	Medium	>20 years	Easy-Moderate	Limited by availability of suitable host trees/logs, particularly for designs with larger internal sizes. Installation requires qualified arborists, monitoring may require arborist depending on height.
Log Hollow	Internal temperature fluctuations greater than natural hollows[1]	Medium	Low	~10 years	Easy	Research on success for target species is currently limited.
Nest Box	Can become lethally hot if not placed carefully [2] Generally much larger temperature fluctuations than natural hollows [1, 2]	Medium	Low	~10 years	Easy	Many designs available for a variety of species. Good option if larger trees are limiting. Volunteer groups can easily make boxes..
Rock Habitat	Internal temperatures similar to natural rock dens, but potential to attract introduced predators [3]	Low	High	>20 years	Easy	Research on success for target species, such as Quolls, is ongoing.
Re-snagging	Fish species abundance responds positively to increased in-stream wood [4]	Medium	High	>20 years	Moderate-Hard	Quantification of 'success' can be difficult.
Wildlife Bridges	Target species often use bridges soon after installation. Successful for a variety of species [5]	Medium	Medium-High	10-20 years	Easy	Installation effort varies – if bridges are permanent, high effort to install additional support/attachment poles. Volunteers can be engaged to help make simple, temporary, bridge designs.



References:

1. Griffiths, S. R., Lentini, P. E., Semmens, K., Watson, S. J., Lumsden, L. F., & Robert, K. A. (2018). Chainsaw-carved cavities better mimic the thermal properties of natural tree hollows than nest boxes and log hollows. *Forests*, *9*(5), 235.

2. Isaac, J. L., Parsons, M., & Goodman, B. A. (2008). How hot do nest boxes get in the tropics? A study of nest boxes for the endangered mahogany glider. *Wildlife Research*, *35*(5), 441-445.

3. Cowan, M. A., Dunlop, J. A., Turner, J. M., Moore, H. A., & Nimmo, D. G. (2020). Artificial refuges to combat habitat loss for an endangered marsupial predator: how do they measure up?. *Conservation Science and Practice*, *2*(6), e204.

4. Raymond, S., Koehn, J., Tonkin, Z., Todd, C., Stoessel, D., Hackett, G., ... & Moloney, P. (2019). Differential responses by two closely related native fishes to restoration actions. *Restoration Ecology*, *27*(6), 1463-1472.

5. Baker, C., El Hanandeh, A., & Jones, D. (2022). Does wildlife crossing infrastructure work? A case study of three canopy-bridge designs and exclusion fencing from Moreton Bay Regional Council, Queensland. *Australian Mammalogy*.

admin@eraus.com.au
(03) 8376 6403
www.eraus.com.au