Hollow Using Species Lists & Nest Box Designs

For the Upper Shoalhaven Landcare Group

Compiled by Alice McGlashan
Facebook: https://www.facebook.com/groups/nestboxtales/
Website: www.nestboxtales.com
Sharing stories and knowledge about nest boxes for Australian native animals to encourage everyone to improve habitat for wildlife.

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Background

Studies across Australia have found that fire tends to reduce the number of hollows in an ecosystem for the short to medium term (0-50+ years). The hotter and more damaging the fire, the greater the loss of tree hollows. Consider an old, large, wizened, partially dead tree with many small to large sized hollows, being somewhat of an apartment block for hollow using wildlife. Trees such as these do not tend to survive very destructive bushfires, such as those that have occurred during this bushfire season (summer 2019-20)

These same studies have found that hollow using species don't initially return to badly burnt areas, and when they do, the numbers are extremely low compared to before the fire. By comparison, non-hollow using species generally bounce back relatively quickly and in a few years are similar in numbers to those pre-fire. This provides an indication that it is likely to be the lack of hollows, rather than food sources and habitat other than tree hollows, that are the limiting factor for the return of hollow using species to recently burnt areas.

Aside: the studies to date have been on smaller patch burns or areas that are dwarfed in size by the vast expanses of forests burnt, particularly in the Eastern states of Australia during the bushfire season of 2019-20.

There are a large number of Australian native animals, particularly birds and mammals that need to use tree hollows for shelter, or to breed. There are about 114 bird species, and about 83 mammal species that require tree hollows either for shelter and or to breed. There are also many different lizard, snake, and frog species that also use tree hollows both in trees and on the ground.

Without tree hollows, those birds that only use hollows to nest, simply won't breed. Bird and mammal species that need tree hollows to sleep by day or night such as gliders, owls, and many possum species, risk being taken by predators, succumbing to the cold during the winter months, or perishing in search of a tree hollow in someone else's territory.

We can give any hollow using bushfire survivors, and future residents of the ecosystems scorched in this season's expansive bushfires a helping hand, by adding artificial hollows for them to use.

I have collated the information in this booklet from the following organisations and resources:

Birdlife Australia:
https://birdlife.org.au/images/uploads/education_sheets/INFO-Nestbox-technical.pdf

Birds in Backyards:
http://www.birdsinbackyards.net/Nest-Box-Plans

Nest Boxes for Wildlife (Book)
By Allan and Stacey Franks

East Gippsland & Maffra and Districts Landcare Networks (nest box dimensions):
https://egln.org.au/wp-content/uploads/2013/07/Nest-box-booklet.pdf

A bit about me

I completed a Bachelor Degree of Geomatic Engineering and Science (geology) quite a few years ago now, and worked as a Geologist and GIS Analyst during my first career.

More recently I returned to university, completing a Graduate Diploma of Psychology, also a Master of Environmental Science and Law, specialising in ecosystem and wildlife management, biodiversity law, water law, and climate change law.

I have enjoyed exploring wilderness areas since a very young age, bird watching, frog spotting, and observing the complex interactions within Australia's diverse ecosystems. I used all of my 7th year birthday money to purchase a Slater's Field Guide to Australian Birds.

More recently, I purchased a small regenerating bushland property near Canberra. In 2016, I installed a first batch of 15 nest boxes for all the known local native hollow using species on my property, with several of them becoming occupied almost immediately. However there were also a number of unexplained failures.

After discovering that many of my questions about nest box utilisation and predation of occupants and eggs could not be answered by existing published research, I have purchased an ever expanding collection of wildlife cameras, temperature recording Thermocrons, polycarbonate plastic for possum guards, arborist (tree climbing) equipment, and more nest boxes, to figure out the causes of nesting failures, and to test different strategies to increase the occupancy of nest boxes by species that were struggling to use them successfully.

I have since learnt a lot about improving the occupation rates and bird nesting success of nest boxes for the different local native species, with key considerations discovered to be the predator and competitor species, bedding preferences, installation height, and installation aspect to avoid the hot afternoon sun. Late last year I created the NestBoxTales website and Facebook group to share what I had learnt, and to encourage other people across Australia to install nest boxes for hollow using wildlife. Install, and they absolutely will come!

Upper Shoalhaven Landcare region species lists

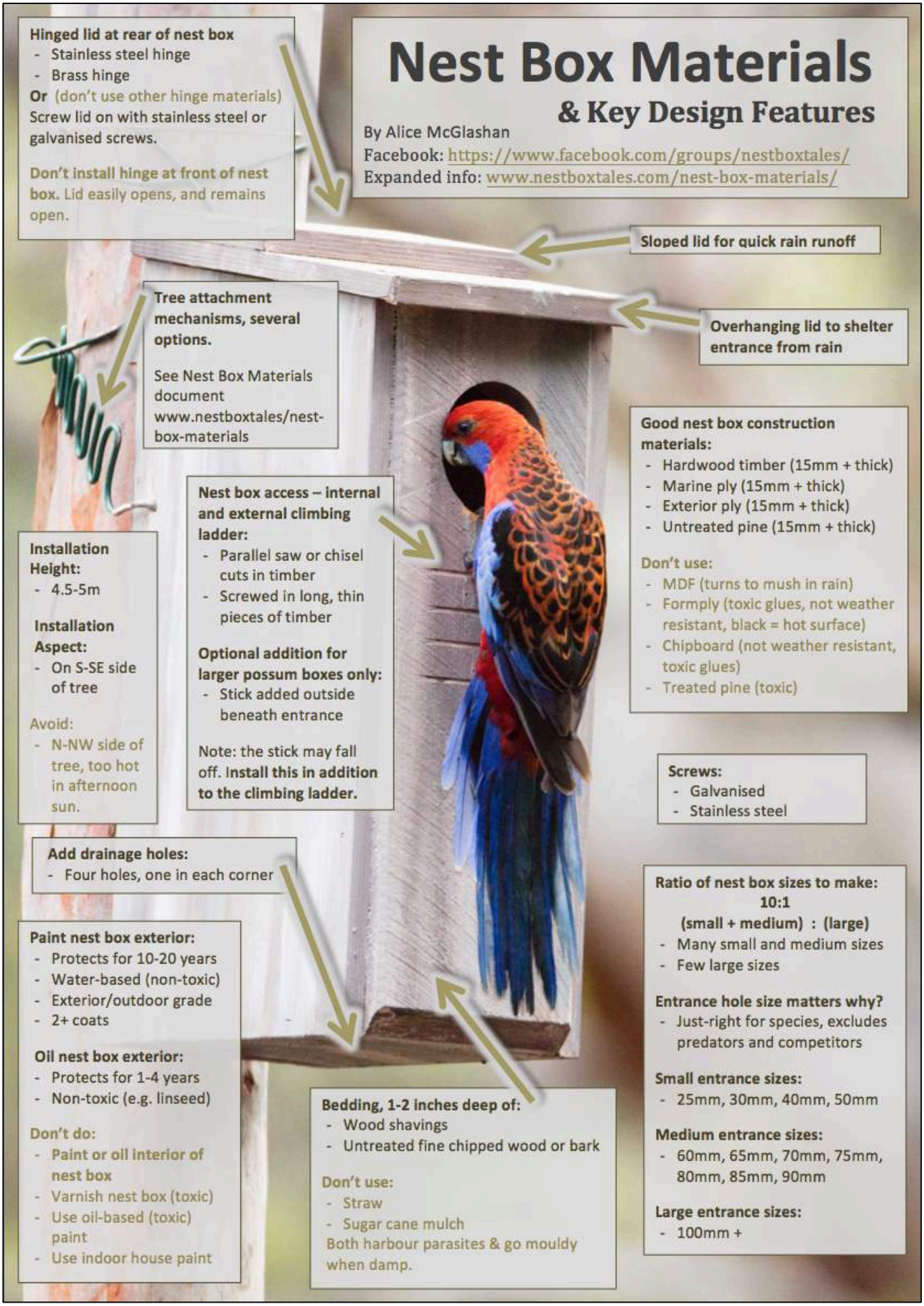
Mammals (see following page for birds)

Mammals	Entrance diameter	Nest box height
Brown, Dusky Antechinus	30mm	2-4m
Eastern Pygmy-possum	25mm	5-8m
Yellow-bellied Glider	80mm	6-8m
Sugar Glider	50mm	4-8m
Squirrel Glider	50mm	4-8m
Greater Glider (tall, moist euc forest)	See special nest box design	(SE side of tree) 15-30m
Feathertail Glider	30mm	2+m
Common Brushtail Possum	90-150mm	4-8m
Mountain Brushtail Possum	90-150mm	4-8m
Ringtail Possum	60-80mm	4-8m
Microbats	30mm hole, 20mm slot	3-5m

Upper Shoalhaven Landcare region species lists

Birds (see previous page for mammals)

Birds	Entrance diameter	Nest box height
Southern Boobook Owl	150mm	5m
Powerful Owl	150mm	10m +
Masked Owl (tall moist euc forest)	150mm	
Sooty Owl (tall moist euc forest)	150mm	
Australian Owlet-nightjar	65mm	3-6m
Grey Teal	80-120mm	1.5m
Chestnut Teal	80-120mm	1.5m
Pacific Black Duck	120mm	3m
Wood Duck	120mm	5-6m
Pink-eared Duck	120mm	?
Australian Shelduck	120mm	?
Glossy Black-cockatoo	200mm	8-10m
Gang-gang Cockatoo	100-140mm	6m +
Glossy Black Cockatoo	200mm	8-10m
Yellow-tailed Black Cockatoo	200mm	8-10m
Sulphur-crested Cockatoo	150mm	5m +
Little Corella	100-150mm	6m
Long-billed Corella	150mm	
Galah	120-150mm	6m
Rainbow Lorikeet	60mm	5m
King Parrot	100-120mm protruding entrance	6m +
Superb Parrot	Contact Canberra researchers	5m+
Crimson Rosella	70mm	5-6m
Eastern Rosella	65mm	5-6m
Rainbow Lorikeet	60mm	5m
Laughing Kookaburra	180mm arch	5-10m
Sacred Kingfisher	75mm	5-10m
Dollarbird	70mm	5m +
Red-browed Treecreeper		
Brown Treecreeper	50mm	3-5m
White-throated treecreeper	50mm	3-5m
Southern Whiteface		
Spotted Pardalote	30mm tube	5m
Striated Pardalote	30mm tube	5m
Grey Shrike Thrush	100mm	3-6m
Tree Martin	30mm	2m +


Nest Box Materials
& Key Design Features
By Alice McGlashan
Facebook: https://www.facebook.com/groups/nestboxtales/
Expanded info: www.nestboxtales.com/nest-box-materials/
Hinged lid at rear of nest box
- Stainless steel hinge
- Brass hinge
Or (don't use other hinge materials)
Screw lid on with stainless steel or galvanised screws.
Don't install hinge at front of nest box. Lid easily opens, and remains open.
Sloped lid for quick rain runoff
Overhanging lid to shelter entrance from rain
Tree attachment mechanisms, several options.
See Nest Box Materials document www.nestboxtales/nest-box-materials
Good nest box construction materials:
- Hardwood timber (15mm + thick)
- Marine ply (15mm + thick)
- Exterior ply (15mm + thick)
- Untreated pine (15mm + thick)
Don't use:
- MDF (turns to mush in rain)
- Formply (toxic glues, not weather resistant, black = hot surface)
- Chipboard (not weather resistant, toxic glues)
- Treated pine (toxic)
Nest box access – internal and external climbing ladder:
- Parallel saw or chisel cuts in timber
- Screwed in long, thin pieces of timber
Optional addition for larger possum boxes only:
- Stick added outside beneath entrance
Note: the stick may fall off. Install this in addition to the climbing ladder.
Installation Height:
- 4.5-5m
Installation Aspect:
- On S-SE side of tree
Avoid:
- N-NW side of tree, too hot in afternoon sun.
Screws:
- Galvanised
- Stainless steel
Add drainage holes:
- Four holes, one in each corner
Ratio of nest box sizes to make:
10:1
(small + medium) : (large)
- Many small and medium sizes
- Few large sizes
Entrance hole size matters why?
- Just-right for species, excludes predators and competitors
Small entrance sizes:
- 25mm, 30mm, 40mm, 50mm
Medium entrance sizes:
- 60mm, 65mm, 70mm, 75mm, 80mm, 85mm, 90mm
Large entrance sizes:
- 100mm +
Paint nest box exterior:
- Protects for 10-20 years
- Water-based (non-toxic)
- Exterior/outdoor grade
- 2+ coats
Oil nest box exterior:
- Protects for 1-4 years
- Non-toxic (e.g. linseed)
Don't do:
- Paint or oil interior of nest box
- Varnish nest box (toxic)
- Use oil-based (toxic) paint
- Use indoor house paint
Bedding, 1-2 inches deep of:
- Wood shavings
- Untreated fine chipped wood or bark
Don't use:
- Straw
- Sugar cane mulch
Both harbour parasites & go mouldy when damp.

Materials and Tools for Making Nest boxes

Tools and materials

- Untreated hardwood timber, marine ply or exterior ply.
- Stainless steel or galvanised screws.
- Stainless steel or brass hinge, and external hinge screws for the lid.
- Hole saw or jig saw for making entrance holes.
- Hand saw or power saw to cut the panels.
- Screwdriver or power drill (best to use screws, not nails).
- Ruler/tape measure.
- Pencil for marking out design.
- Sandpaper to smooth rough edges.
- One to two inches of sawdust or wood shavings (from untreated wood), or untreated fine wood or bark chip for bedding, to emulate a decaying hollow.
- Paint the nest box with at least two coats of a water-based (non-toxic) external quality paint to significantly increase the durability of the nest box. Choose a pale colour such as Flooded Gum (Dulux colour), to prevent overheating of occupants on hot sunny days.

Installing Nest Boxes

- Place the nest box away from human disturbance, busy roads, and driveways, and also out of reach of non-native predators such as cats, dogs and foxes.
- Install in a location that is protected from direct sunlight during hot summer afternoons (east to south-east side of tree).
- The installation height sweet spot is 4-5m. Most species will use nest boxes at this height range, and a tall ladder will enable easy installation and access for monitoring and maintenance.
- Installation within the cover of leafy branches is preferred by many species, but some species do prefer open aspects for easy access such as microbats.
- Tall ladder, ladder holder and person installing the nest box.

Monitoring and Maintaining Nest Boxes

- Monitoring is important to enable removal of feral pest species, such as European bees, Indian Mynas and Starlings.
- Annually or bi-annual nest boxes checks enables problems such as feral species invasion to be rectified, and repairs to be made so that native animals can continue to use the nest box.

Nest box making choose your own adventure:

2 options

1) Use the same nest box design

Make a series of nest boxes for many different species, using just three nest box dimensions and vary the entrance size for different species. See the following page for instructions.

2) Make a range of different nest boxes from the included designs.

See the page after the next, for list of nest box designs included.

Three Sizes for Many Species

Make a series **in the same nest box dimensions** and **vary the entrance size** for different species.

Please make a ratio of 10 small & medium nest boxes : 1 large nest box.
10:1

Small Nest Box Dimensions (see design drawing on page 10)

Width	Length	Height
200mm	200mm	500

Entrance Diameter	Species
30mm	Pygmy Possum, Feathertail Glider, Antechinus species, Pardalote species, Tree Martin
40mm	Sugar Glider, Thornbill species
50mm	**Sugar Glider**, **Squirrel Glider**, Thornbill species, **Treecreeper species**, Red-rumped Parrot
60mm	**Red-rumped Parrot**, **Rainbow Lorikeet**, Scaly-breasted Lorikeet, Treecreeper species

Medium Nest Box Dimensions (see design drawing on page 11)

Width	Length	Height
230mm	260mm	500mm

Entrance Diameter	Species
65mm	Ringtail Possum, **Eastern Rosella, Australian Owlet-nightjar**
70mm	Ringtail Possum, Eastern Rosella, Australian Owlet-nightjar, **Crimson Rosella**
75mm	**Ringtail Possum**, Crimson Rosella, **Dollarbird**

Large Nest Box Dimensions (see design drawing on page 12)

Width	Length	Height
250mm	300mm	500mm

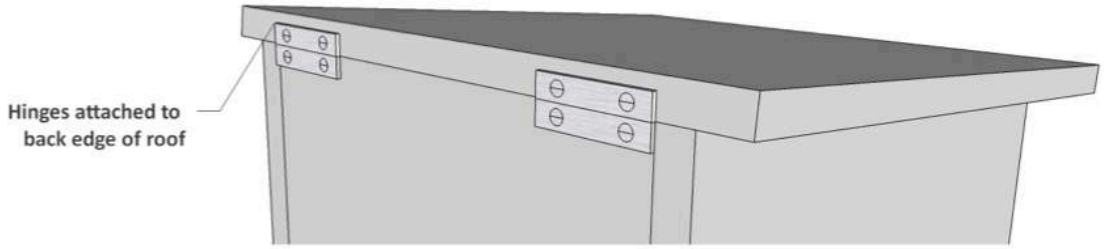
Entrance Diameter	Species
80mm	Ringtail Possum
90mm	Ringtail Possum, **Galah**
100mm	Brushtail Possum, King Parrot, Galah, Gang-gang Cockatoo
130mm	Greater Glider (southern sub-species), Brushtail Possum, **Duck species**, Owl species, Gang-gang Cockatoo, Galah, Corella species
150mm	Brushtail Possum, Duck species, **Owl species**, Galah, Sulphur-crested Cockatoo, Corella species

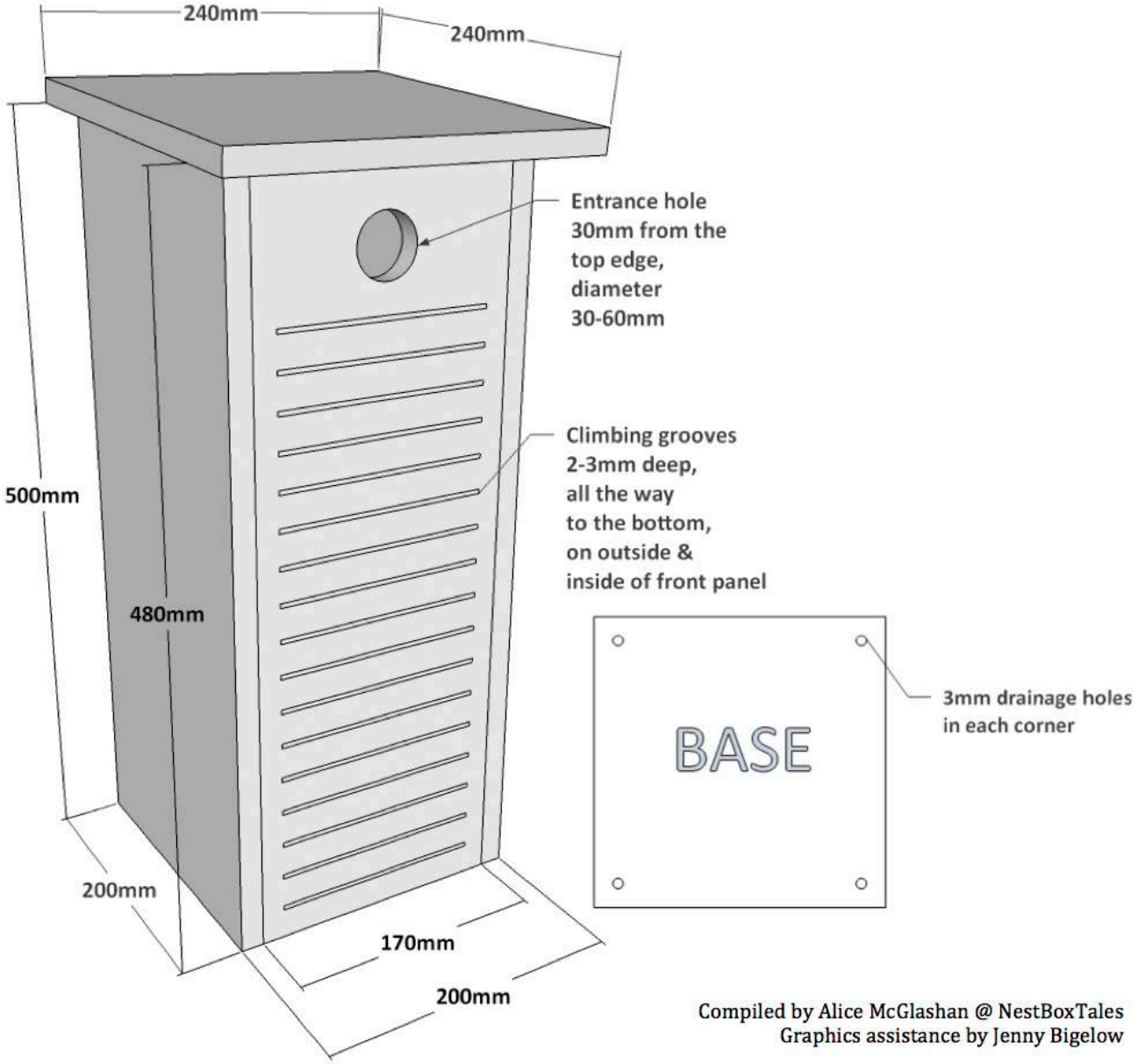
Small Nest Box Design

SMALL NEST BOX

Cutting list – 15mm ply

Sides	2 x 500mm back/480mm front x 200mm
Back	1 x 500mm x 170mm
Front	1 x 480mm x 170mm
Base	1 x 170mm x 170mm
Roof	1 x 240mm x 240mm





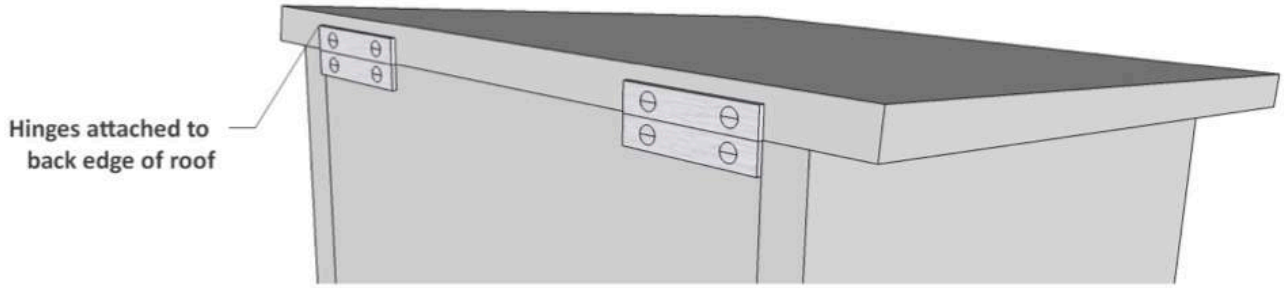
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

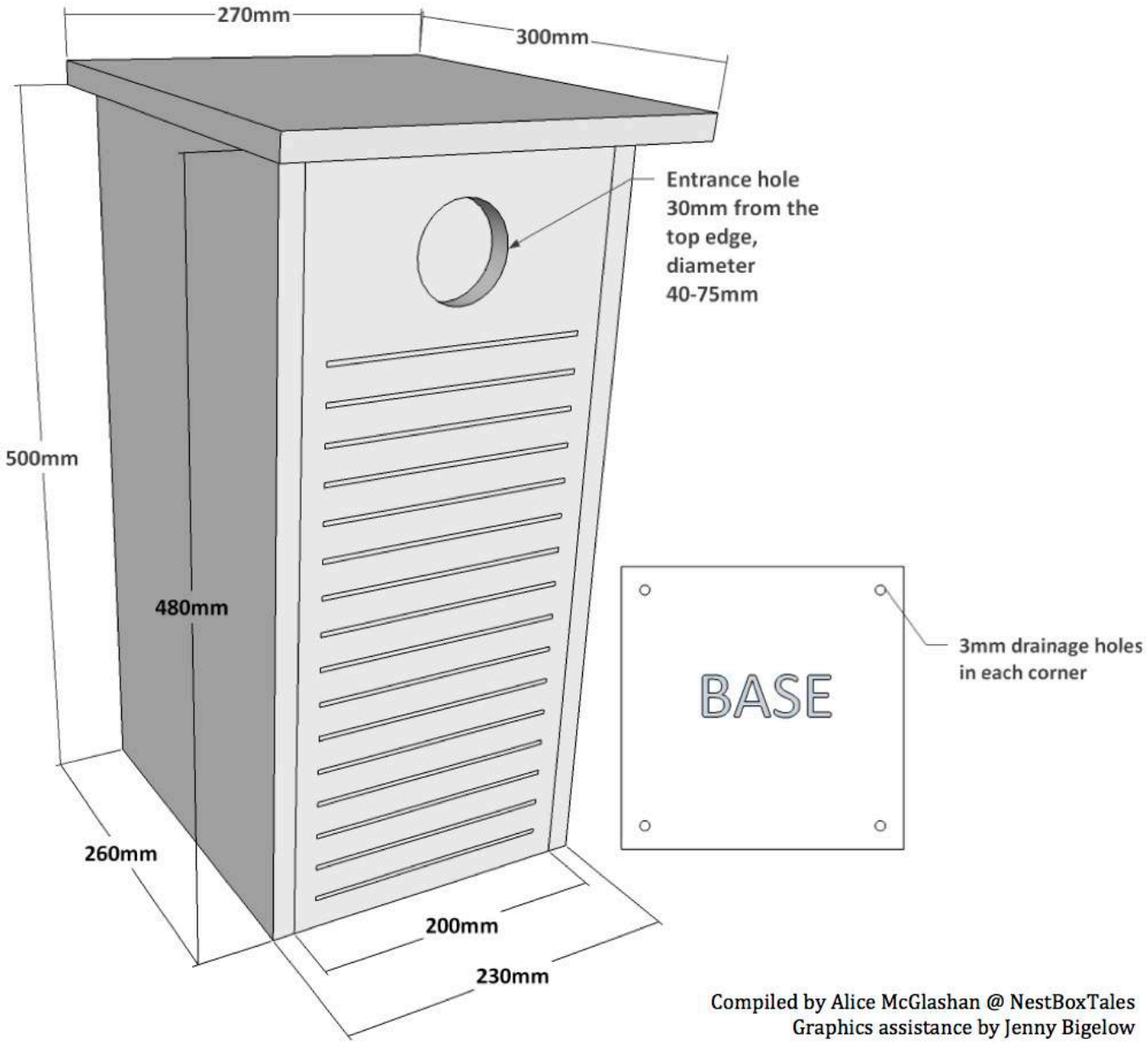
Medium Nest Box Design

MEDIUM NEST BOX

Cutting list – 15mm ply

Sides	2 x 500mm back/480mm front x 260mm
Back	1 x 500mm x 200mm
Front	1 x 480mm x 200mm
Base	1 x 230mm x 200mm
Roof	1 x 300mm x 270mm





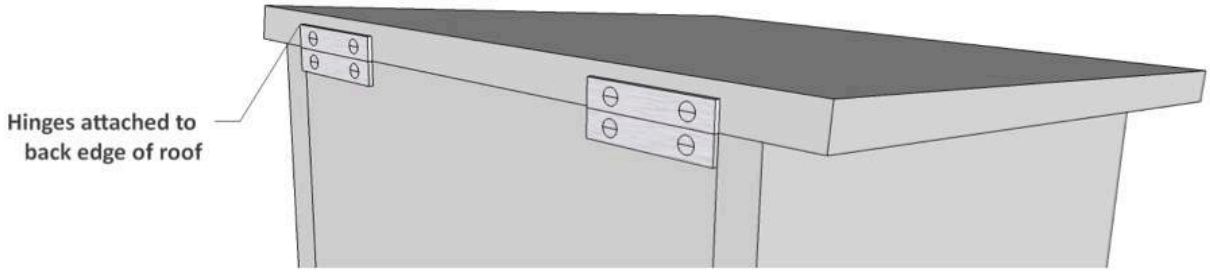
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

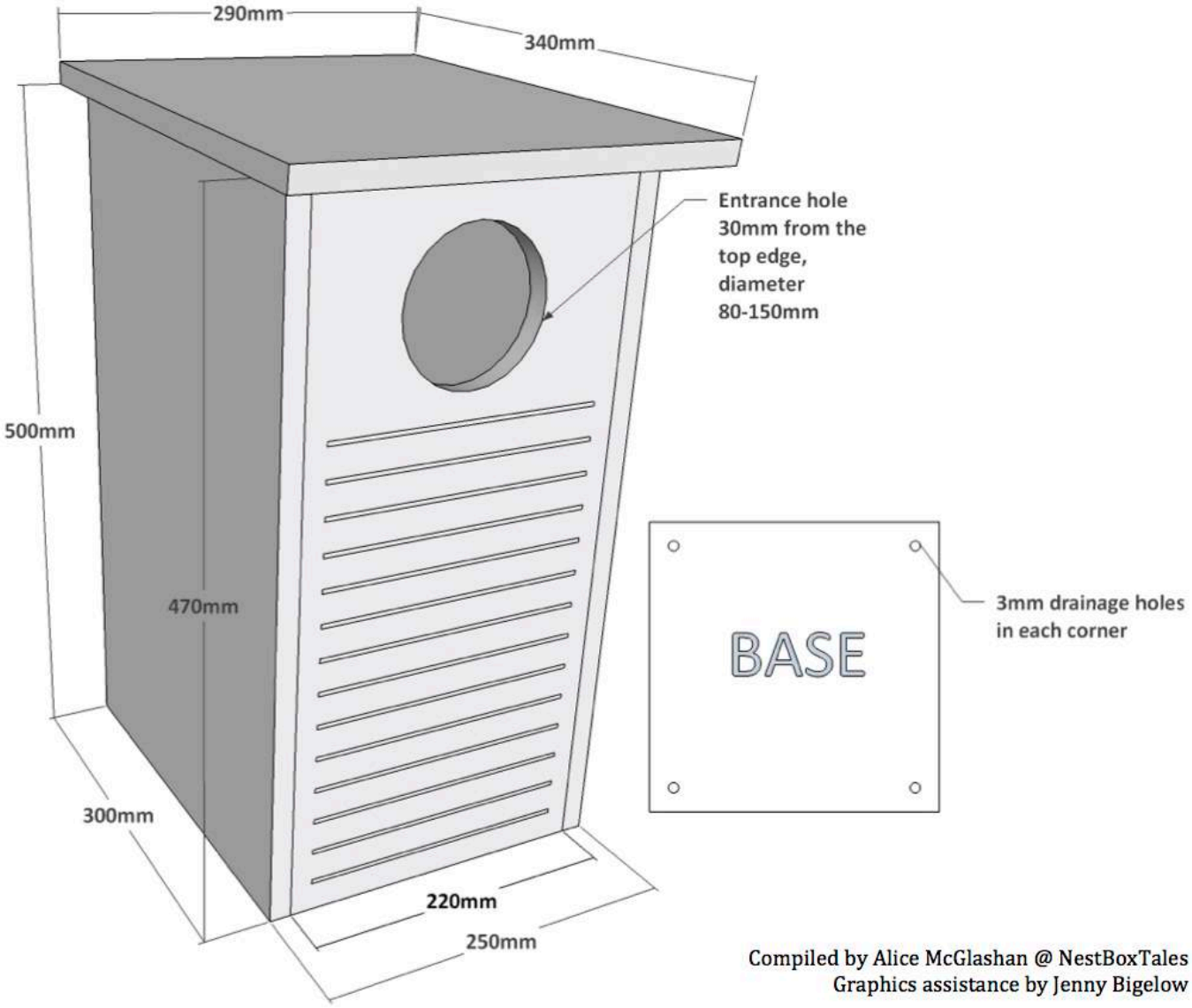
Large Nest Box Design

LARGE NEST BOX

Cutting list – 15mm ply

Sides	2 x 500mm back/470mm front x 300mm
Back	1 x 500mm x 220mm
Front	1 x 470mm x 220mm
Base	1 x 270mm x 220mm
Roof	1 x 340mm x 290mm





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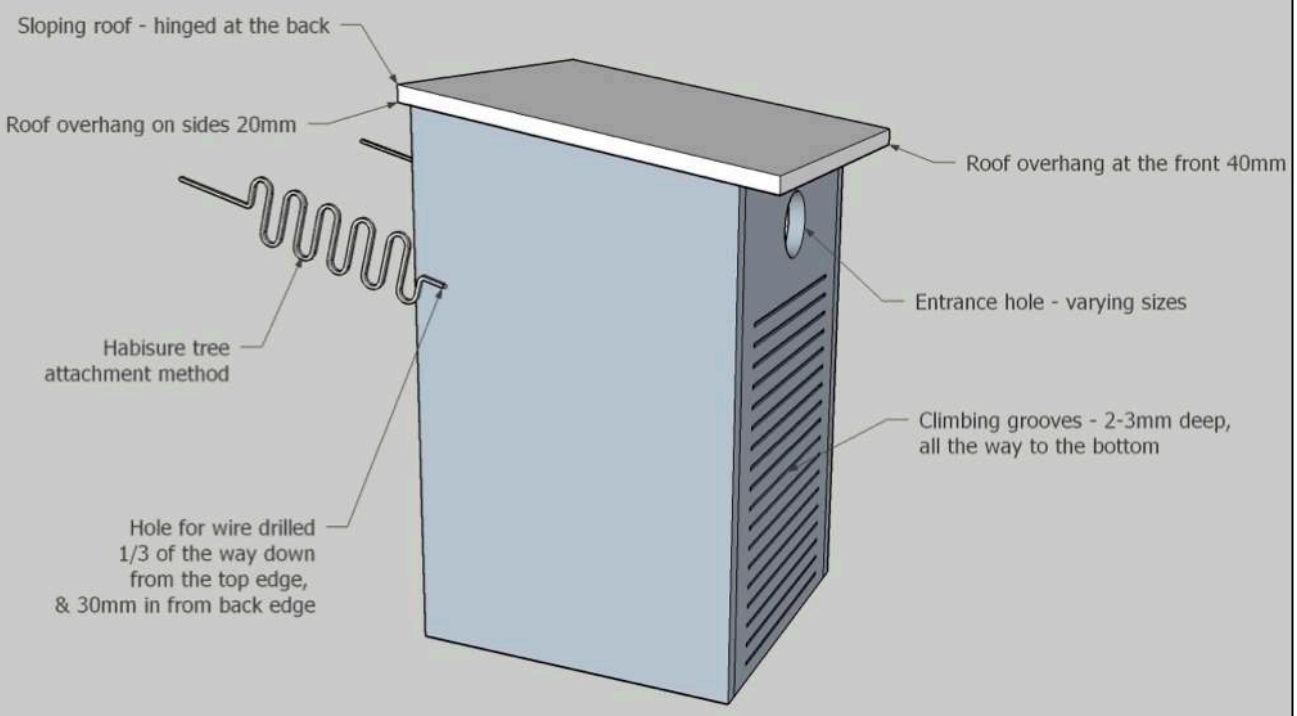
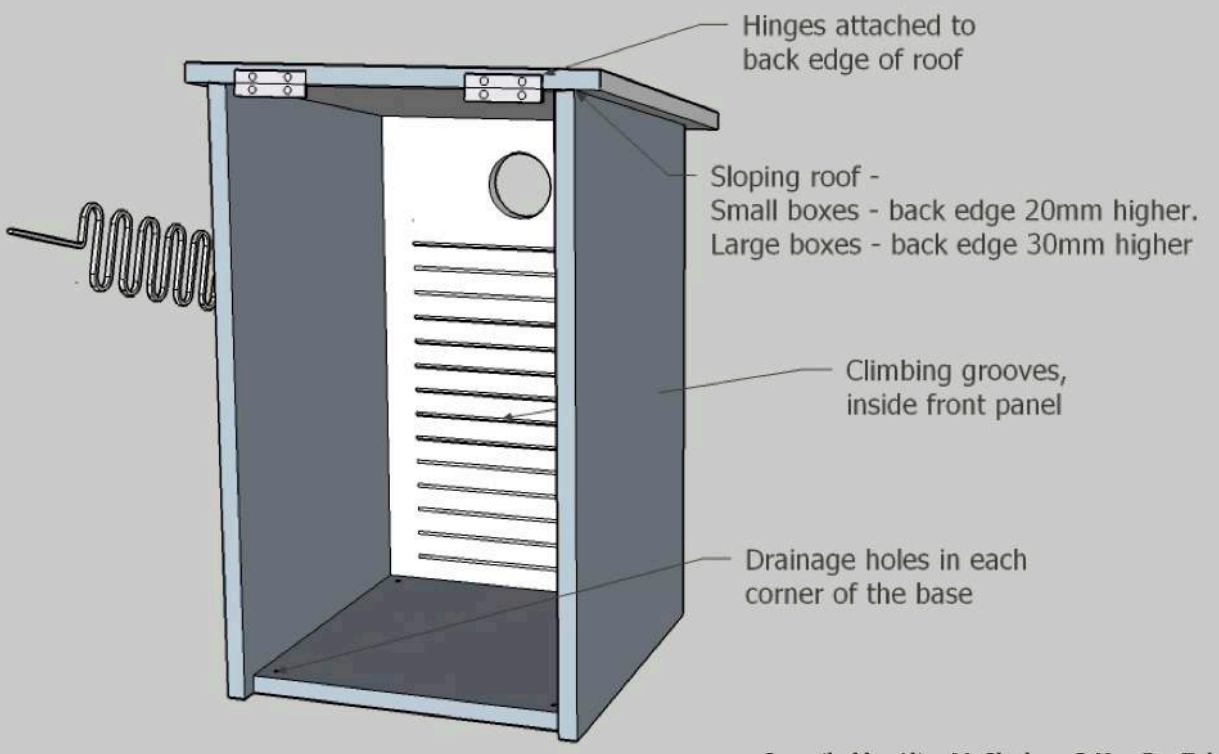
Basic Nest Box Design Features





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Graphics assistance by Jenny Bigelow

Nest box designs

The following nest box designs were found for species that occur within your bushfire-affected region:

- **Feathertail Glider/Antechinus/Pygmy Possum (side entrance)**
- **Thornbill/Feathertail Glider/Antechinus/Pygmy Possum (front entrance)**
- **Sugar Glider (same for Squirrel Glider)**
- **Greater Glider**
- **Ringtail Possum**
- **Brushtail Possum**
- **Microbat**
- **Australian Owlet-nightjar**
- **Owl / Duck (not Powerful Owl)**
- **Laughing Kookaburra**
- **Galah**
- **Glossy Black-cockatoo / Powerful Owl**
- **Red-rumped Parrot**
- **Crimson Rosella**
- **Eastern Rosella**
- **Rainbow Lorikeet**
- **Grey Shrike-Thrush**
- **Pardalote**
- **Treecreeper**

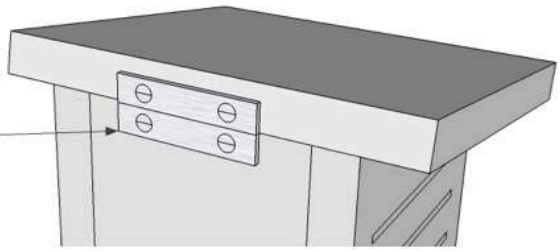
Happy making!

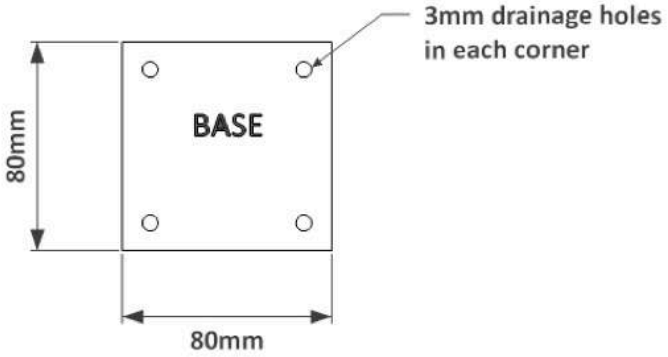
Feathertail Glider/Antechinus/Pygmy Possum (Side Entrance)

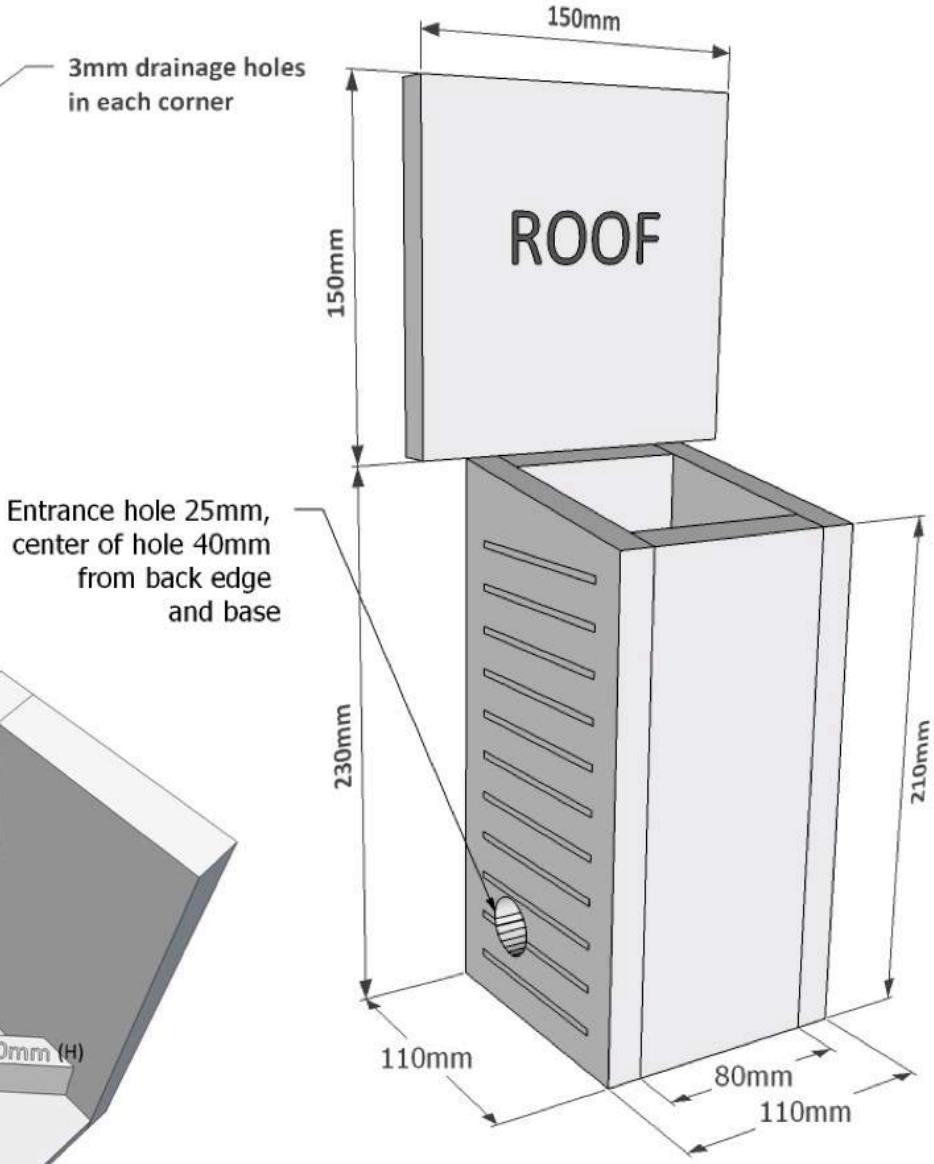
Feathertail Glider

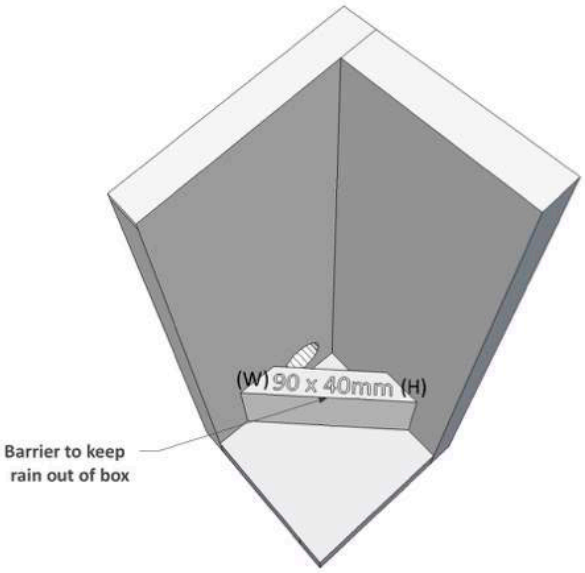
Cutting list – 15mm ply

Sides	2 x 230mm back/210mm front x 110mm
Back	1 x 230mm x 80mm
Front	1 x 210 x 80mm
Base	1 x 80mm x 80mm
Roof	1 x 150mm x 150mm
Internal barrier	1 x 90mm x 40mm









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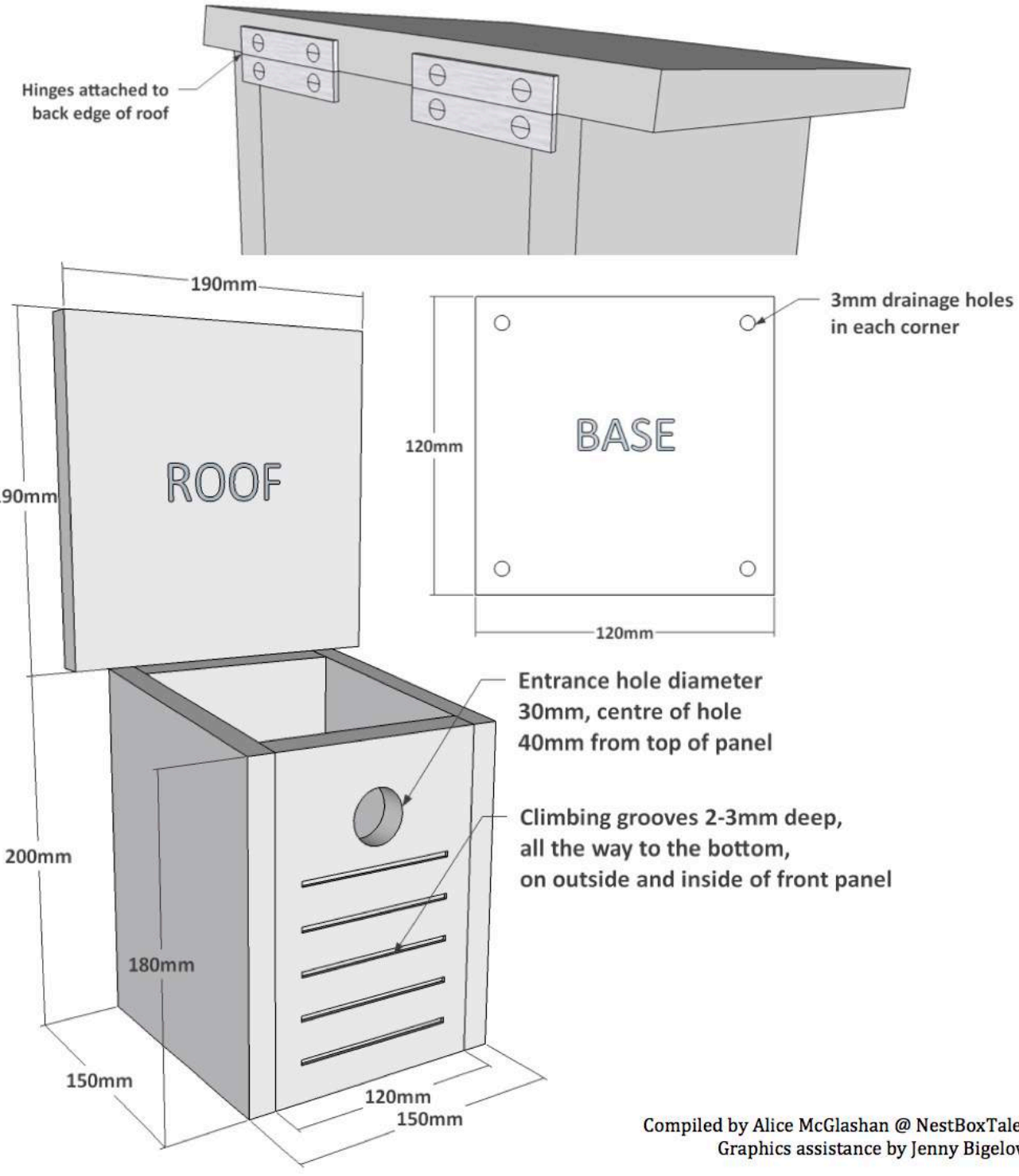
Graphics assistance by Jenny Bigelow

Thornbill/Feathertail Glider/Antichinus/Pygmy Possum (Front Entrance)

Cutting list – 15mm ply

Sides	2 x 200mm back/180mm front x 150mm
Back	1 x 200mm x 120mm
Front	1 x 180mm x 120mm
Base	1 x 120mm x 120mm
Roof	1 x 190mm x 190mm



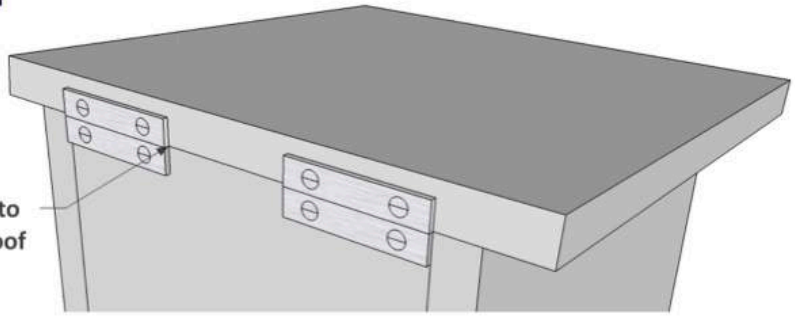
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

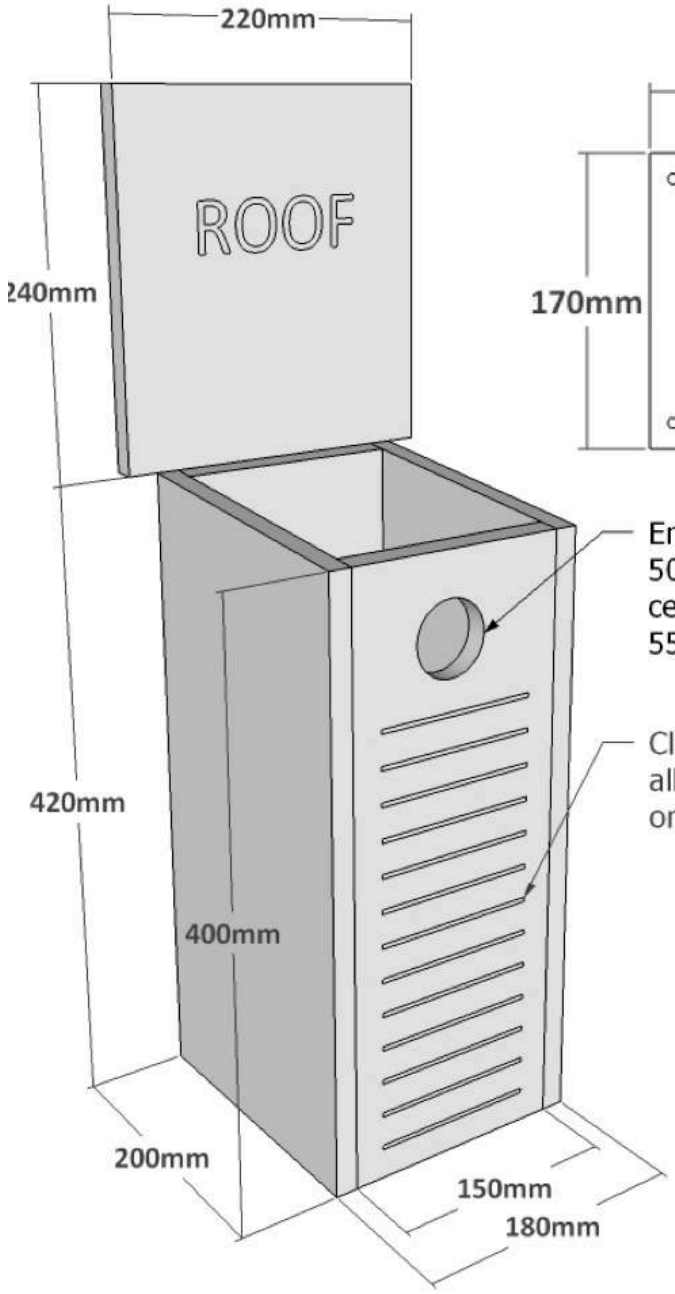
Sugar Glider

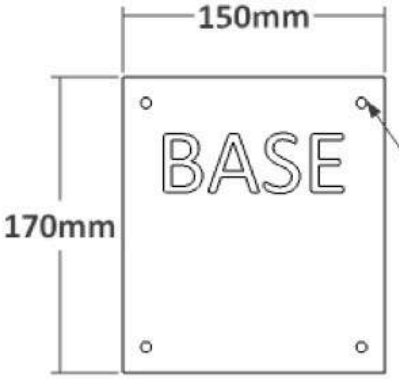
Sugar Glider

Cutting list – 15mm ply

Sides	2 x 420mm back/400mm front x 200mm
Back	1 x 420mm x 150mm
Front	1 x 400mm x 150mm
Base	1 x 170mm x 150mm
Roof	1 x 240mm x 220mm







3mm drainage holes
in each corner

Entrance hole
50mm diameter,
centre of hole
55mm from top panel

Climbing grooves - 2-3mm deep,
all the way to the bottom,
on outside & inside front panel

Southern cool climate
SG entrance diameter:
50mm

Warm climate **Northern**
NSW and Qld
SG entrance diameter:
40mm

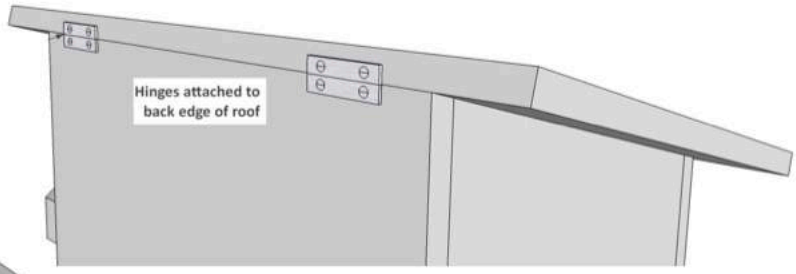
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

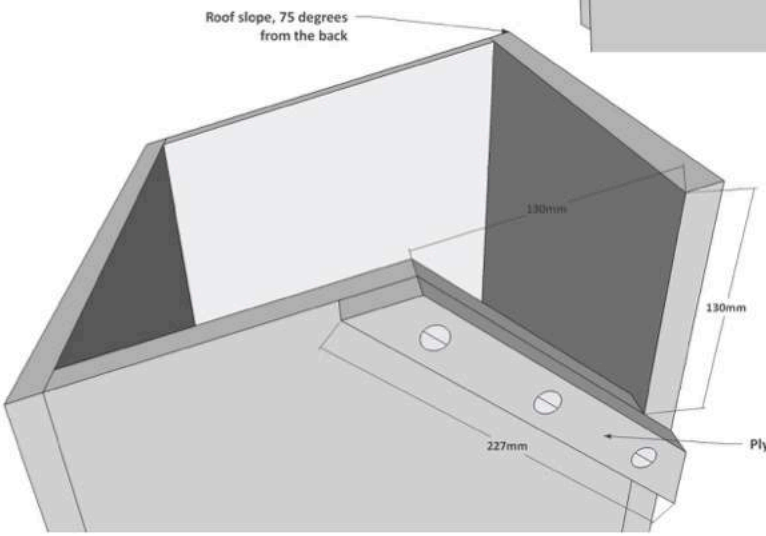
Greater Glider

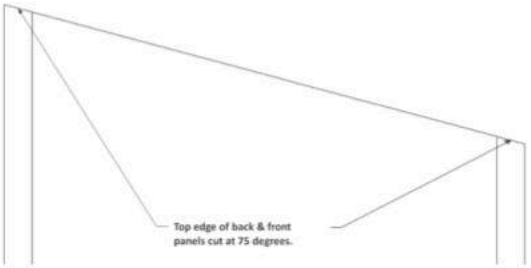
GREATER GLIDER

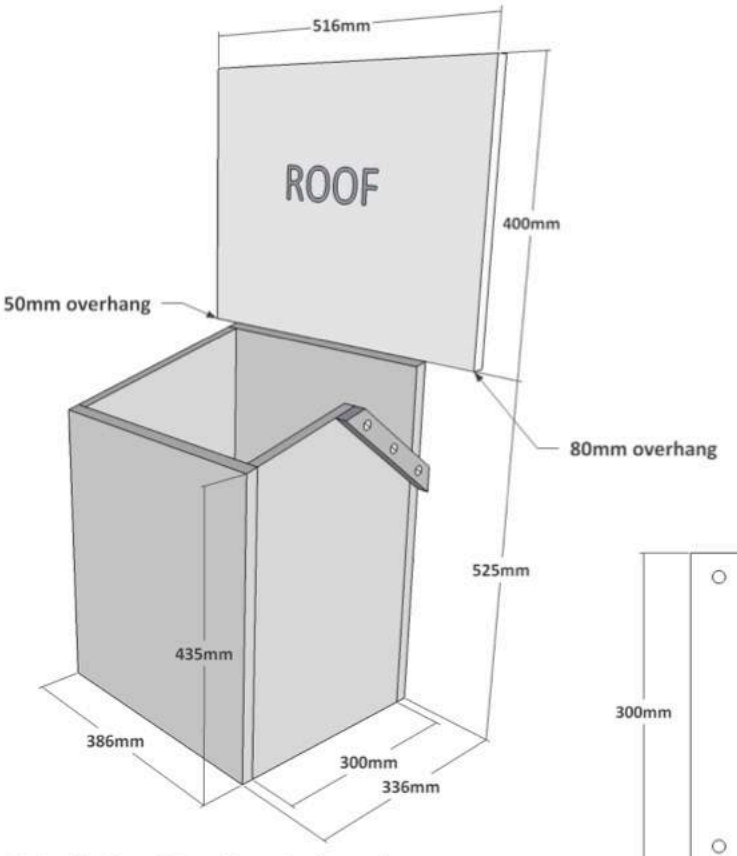
Cutting list – 18mm ply

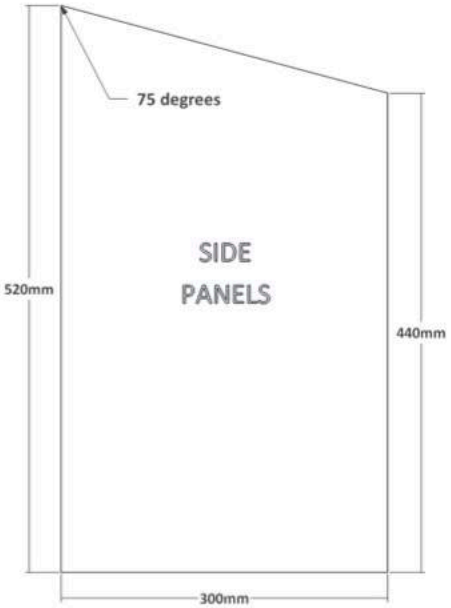
Sides	2 x 520mm back/440mm front x 300mm
Back	1 x 525mm/520mm x 386mm [allowance for bevelled edge]
Front	1 x 440mm/435mm x 386mm [allowance for bevelled edge]
Entrance block	1 x 227mm x 30mm
Base	1 x 350mm x 300mm
Roof	1 x 516mm x 400mm

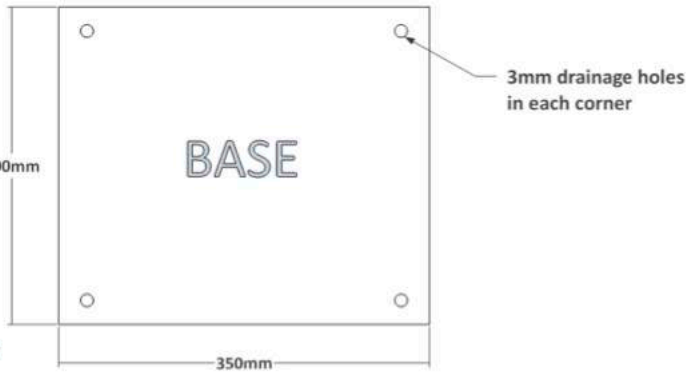












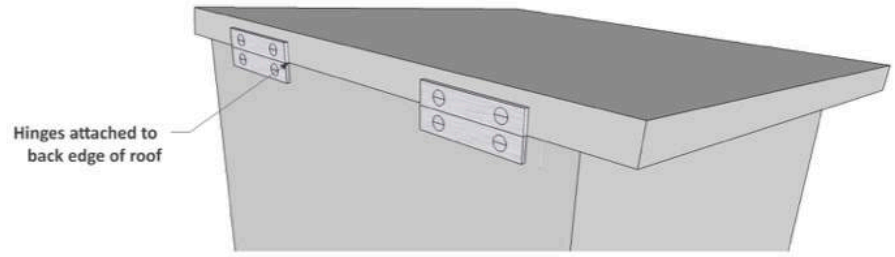
Design by Drew Liepa, Greening Australia
Detailed diagram by Anne Mouland-Claassens, Creature Comforts
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

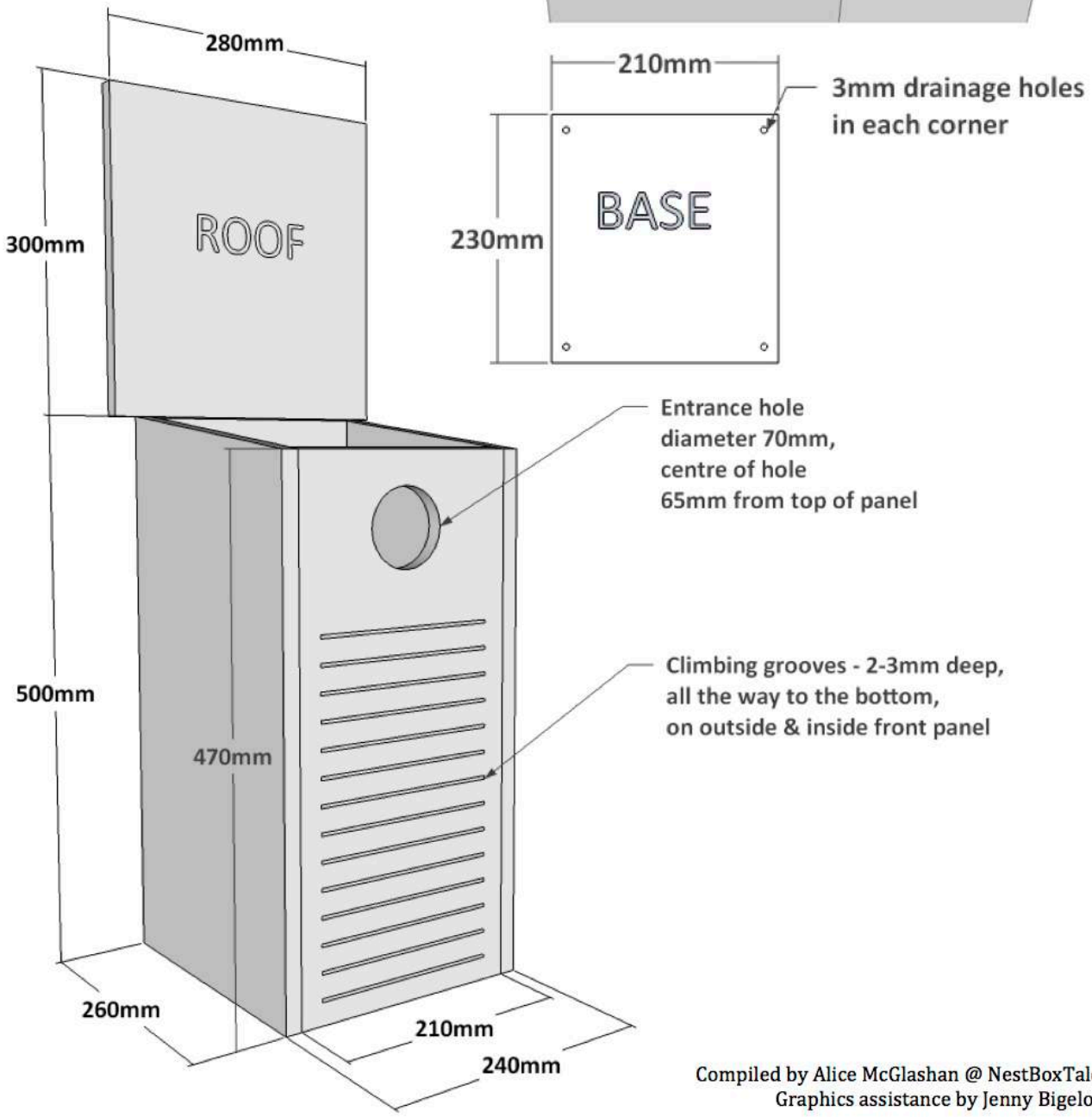
Ringtail Possum

Ringtail possum

Cutting list – 15mm ply

Sides	2 x 500mm back/470mm front x 260mm
Back	1 x 500mm x 210mm
Front	1 x 470mm x 210mm
Base	1 x 230mm x 210mm
Roof	1 x 300mm x 280mm





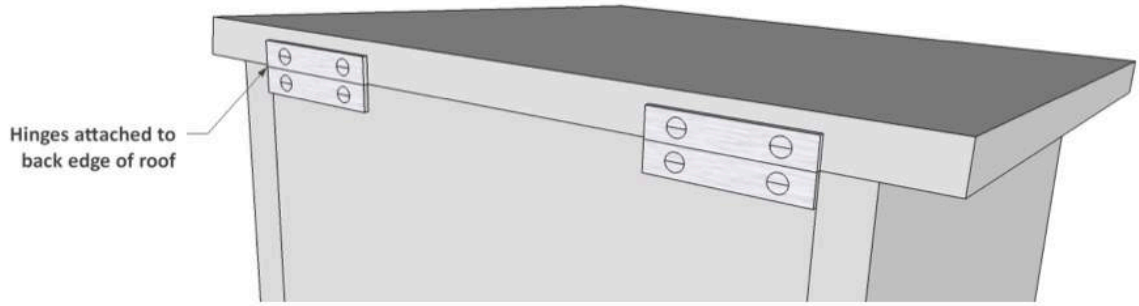
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

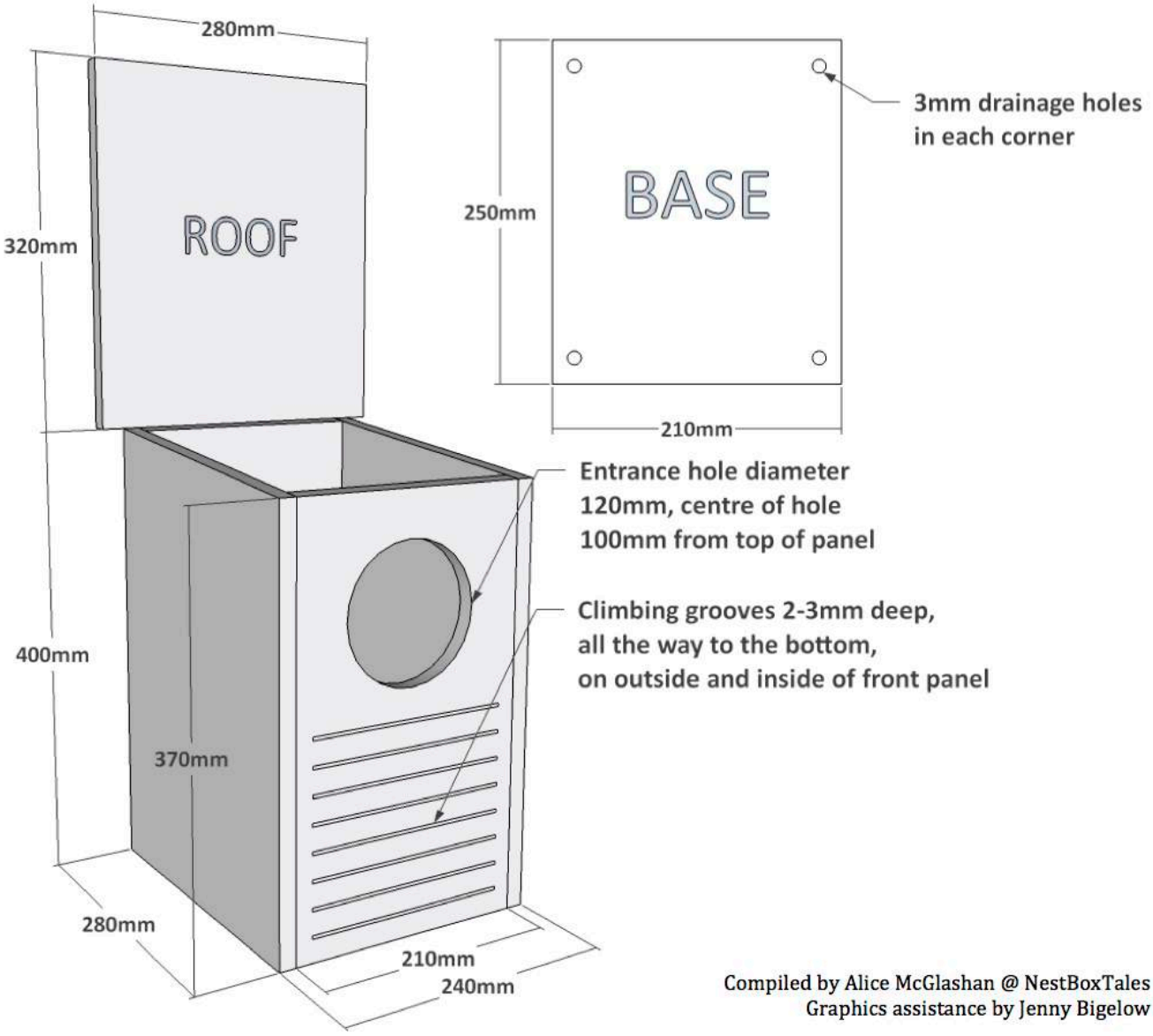
Common Brushtail Possum

BRUSHTAIL POSSUM

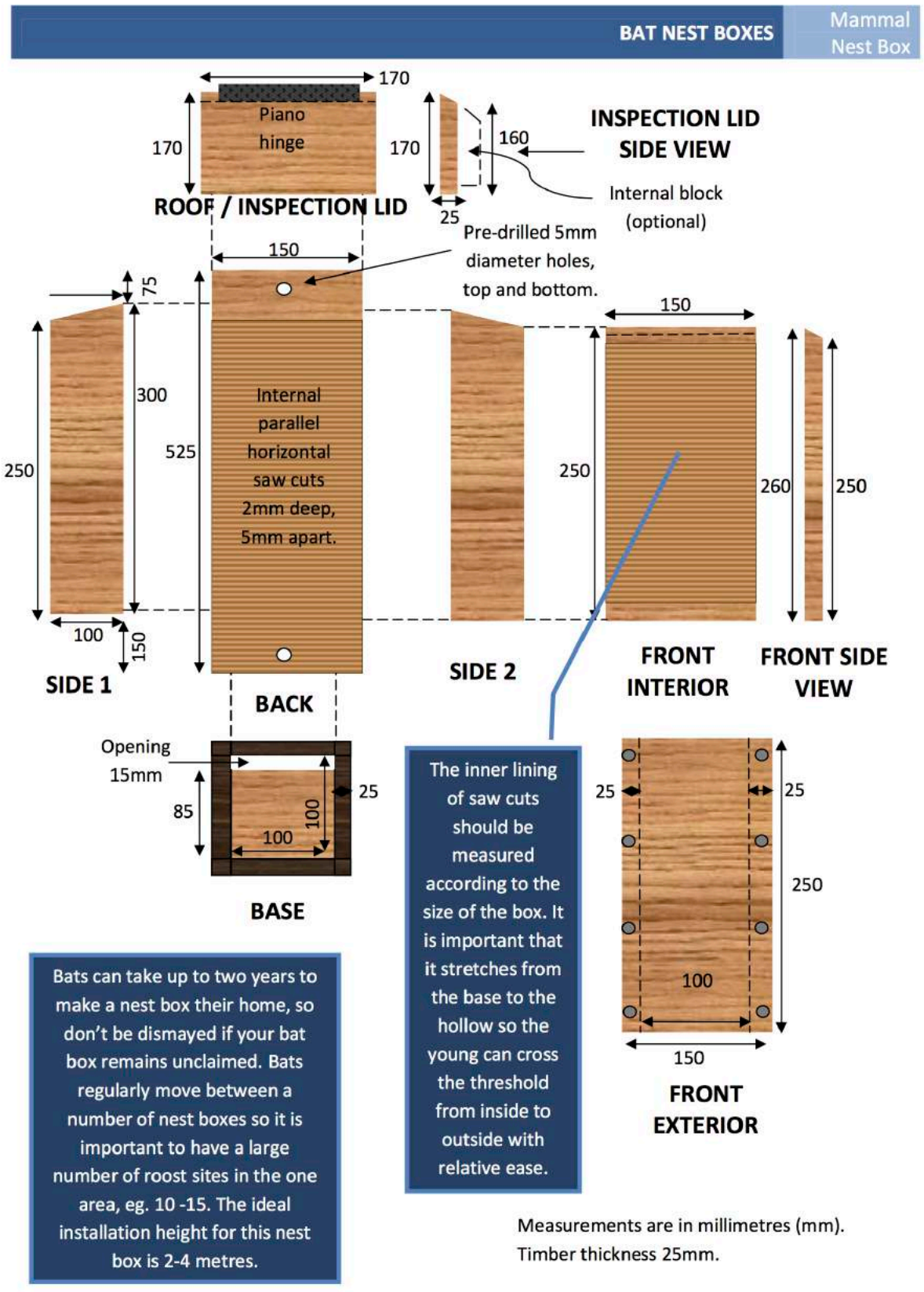
Cutting list – 15mm ply

Sides	2 x 400mm back/370mm front x 280mm
Back	1 x 400mm x 210mm
Front	1 x 270mm x 210mm
Base	1 x 250mm x 210mm
Roof	1 x 320mm x 280mm





Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow



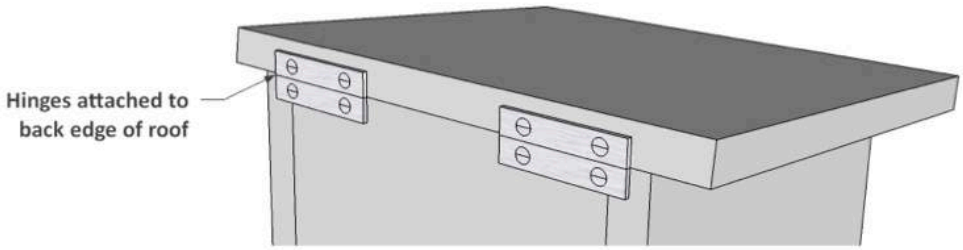
Nest Boxes for the Gippsland Region
By: East Gippsland & Maffra and district Landcare Network

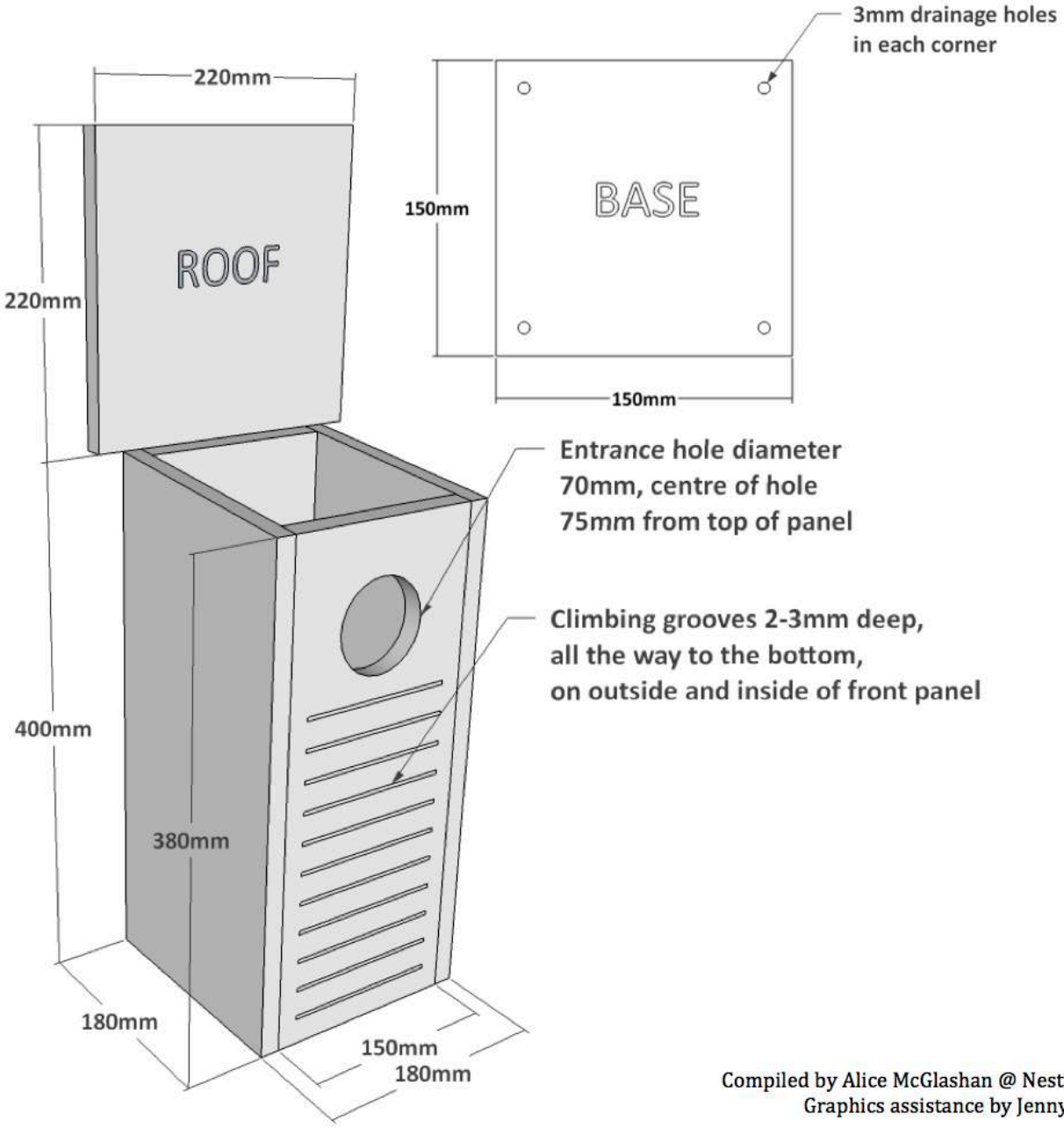
Australian Owlet-nightjar

AUSTRALIAN OWLET NIGHTJAR

Cutting list – 15mm ply

Sides	2 x 400mm back/380mm front x 180mm
Back	1 x 400mm x 150mm
Front	1 x 380mm x 150mm
Base	1 x 150mm x 150mm
Roof	1 x 220mm x 220mm



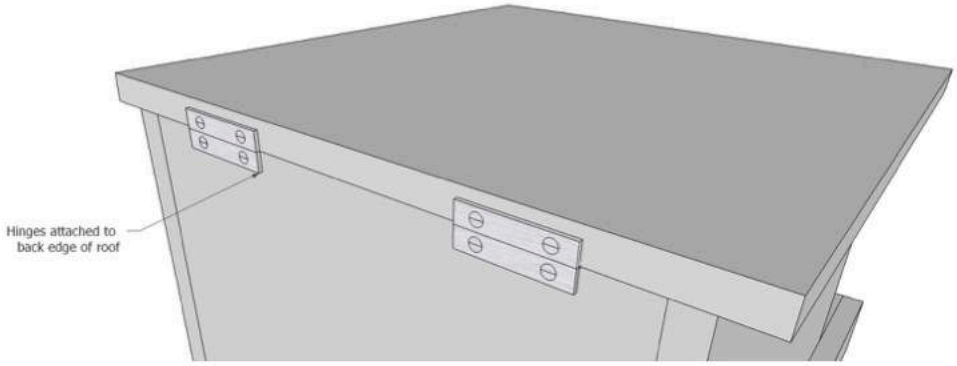


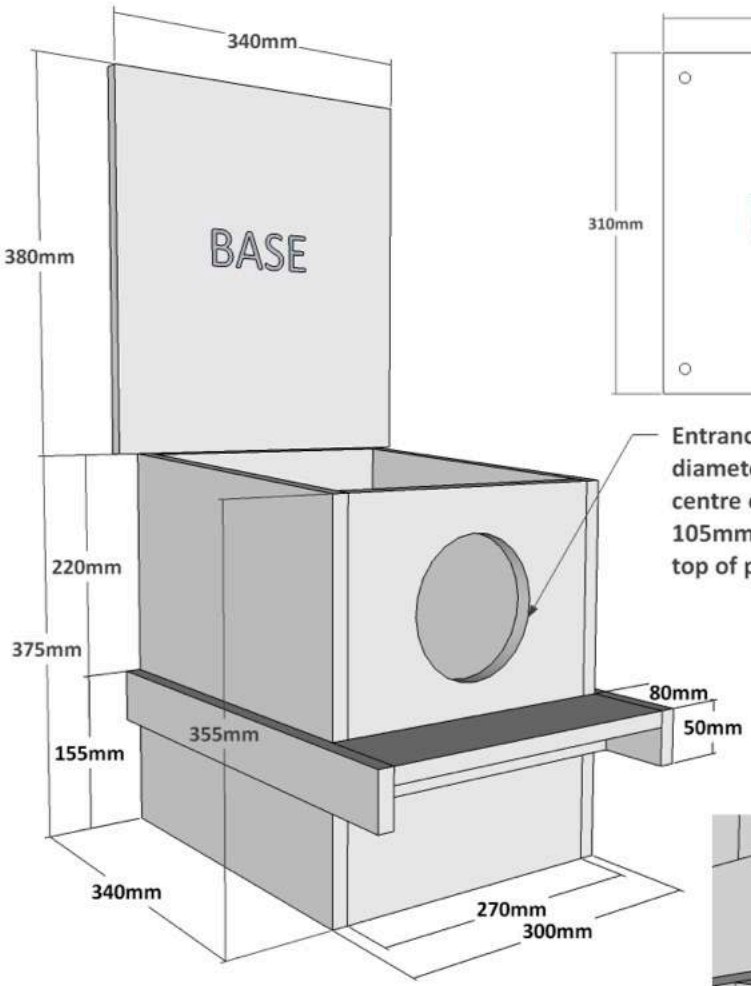
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

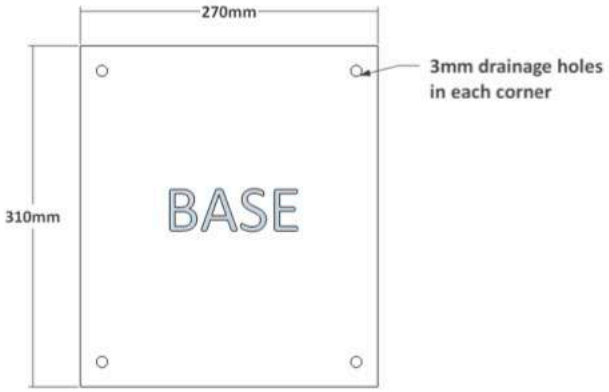
Owl / Wood Duck (duckling safe)

Cutting list – 15mm ply

Sides	2 x 375mm back/355mm front x 340mm
Back	1 x 375mm x 270mm
Front	1 x 355mm x 270mm
Base	1 x 310mm x 270mm
Roof	1 x 380mm x 340mm
Front shelf	1 x 300mm x 80mm
Shelf supports	2 x 420mm x 50mm, 1 x 300mm x 35mm



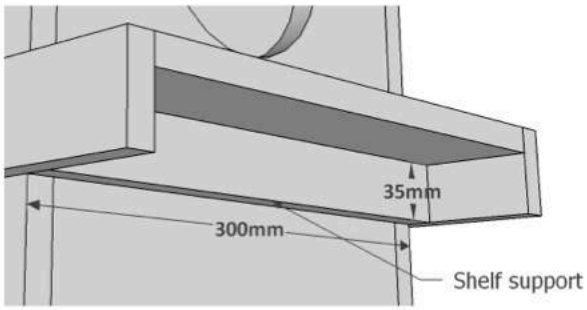




Entrance hole diameter 130mm, centre of hole 105mm from top of panel

Note: ensure the internal height from the nest box base to bottom of entrance hole is **170mm** or less. Otherwise ducklings may be unable to jump out.

180mm jump height = some will make it (with difficulty, eventually), some won't.



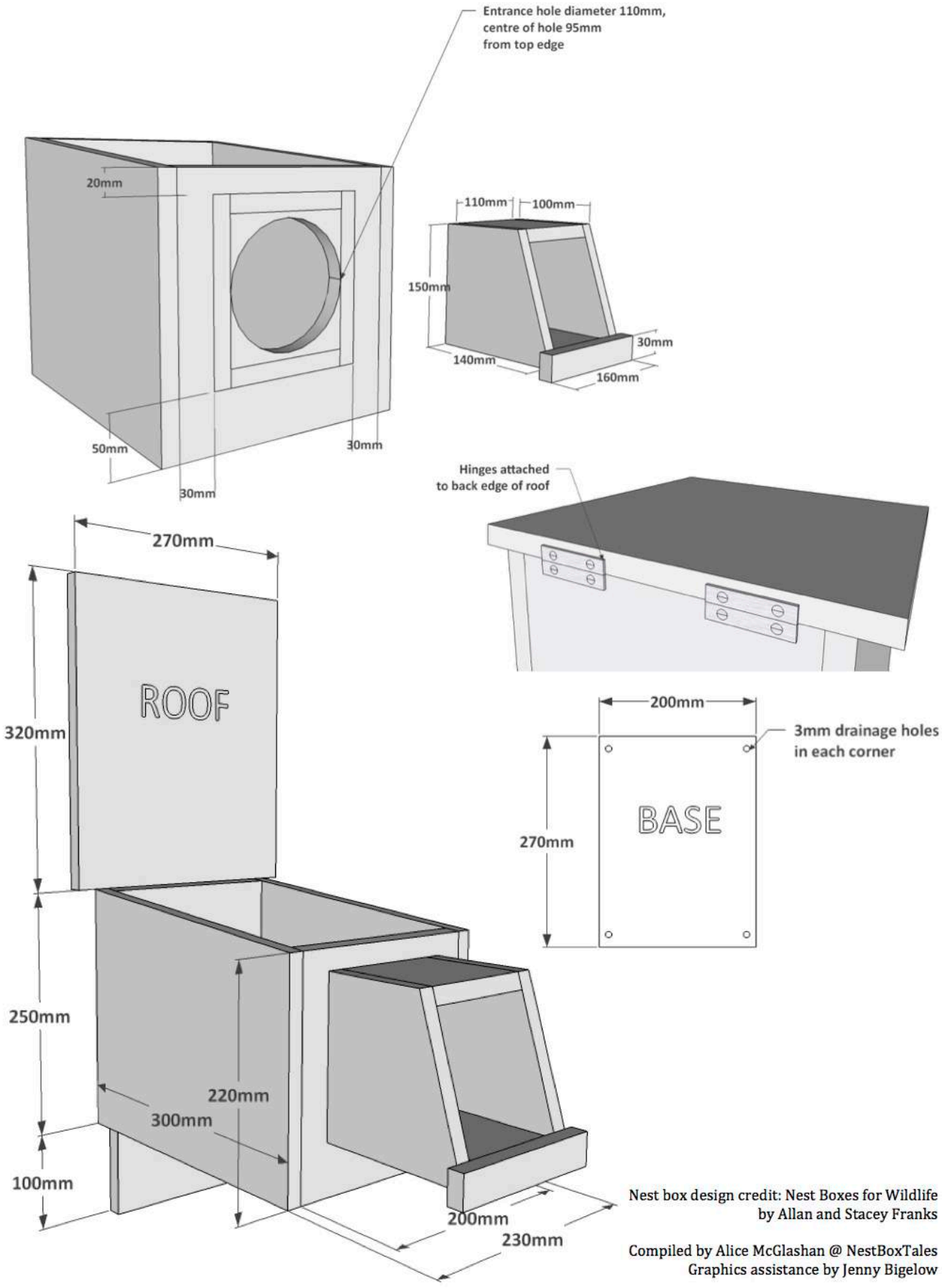
Nest box design credit: Hollow Log Homes, Allan and Stacey Franks

Modified dimensions to prevent trapping of ducklings

Compiled by Alice McGlashan @ NestBoxTales

Graphics assistance by Jenny Bigelow

Kookaburra



Nest box design credit: Nest Boxes for Wildlife
by Allan and Stacey Franks

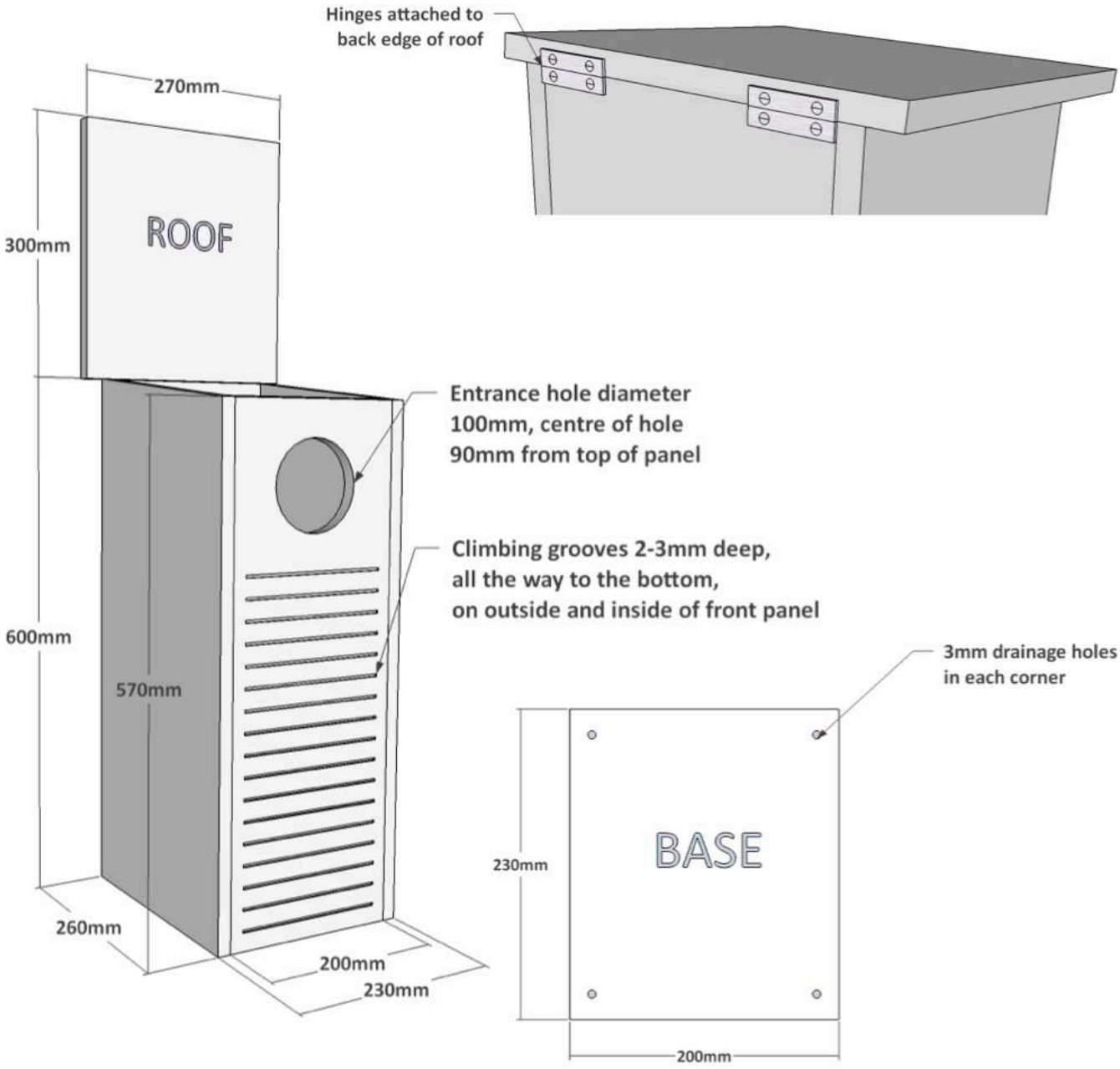
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

Galah

GALAH

Cutting list – 15mm ply

Sides	2 x 600mm back/570mm front x 260mm
Back	1 x 600mm x 200mm
Front	1 x 570mm x 200mm
Base	1 x 230mm x 200mm
Roof	1 x 300mm x 270mm



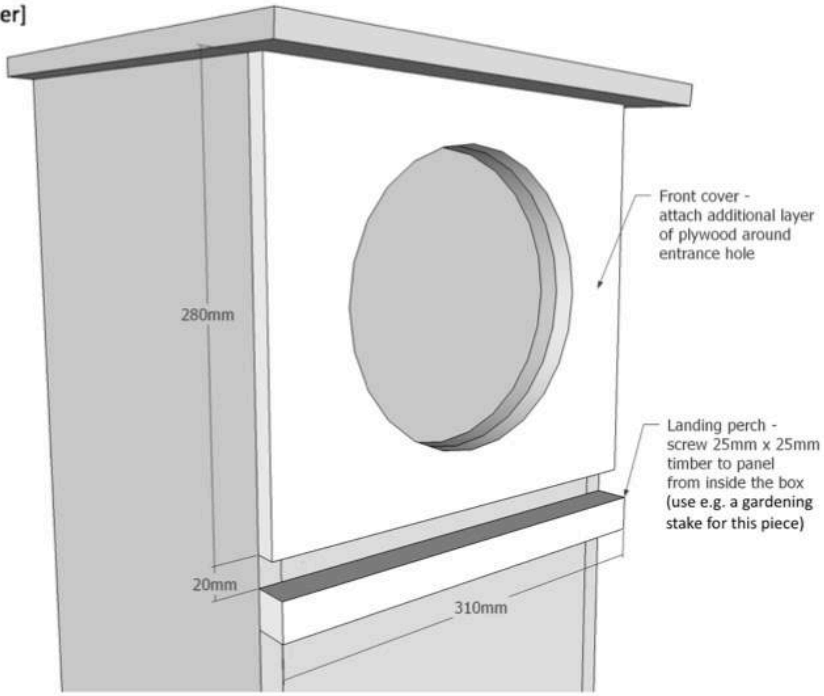
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

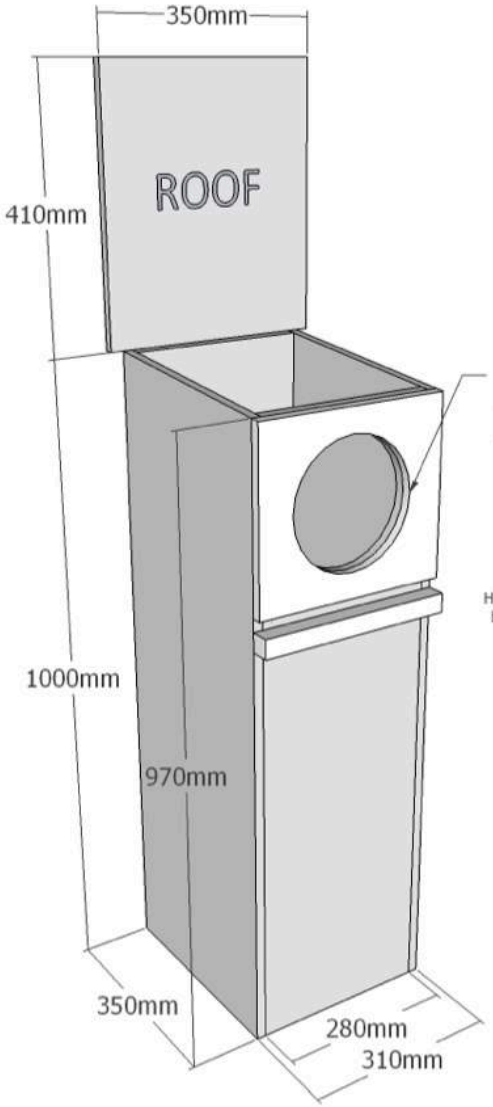
Glossy Black-cockatoo

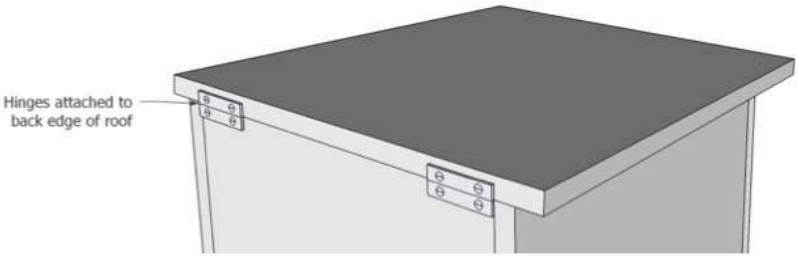
GLOSSY BLACK COCKATOO

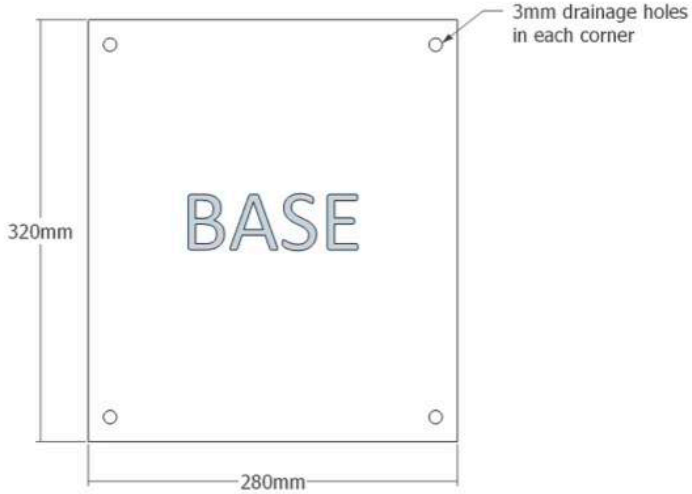
Cutting list – 15mm ply

Sides	2 x 1000mm back/970mm front x 350mm
Back	1 x 1000mm x 280mm
Front	1 x 970mm x 280mm
Front cover	1 x 280mm x 310mm
Base	1 x 320mm x 280mm
Roof	1 x 410mm x 350mm
Front perch	1 x 310mm x 25mm x 25mm [timber]









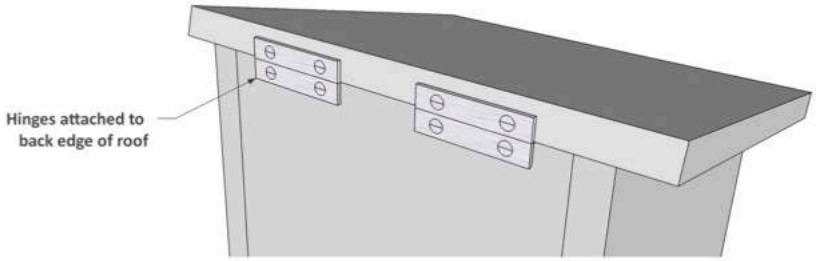
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

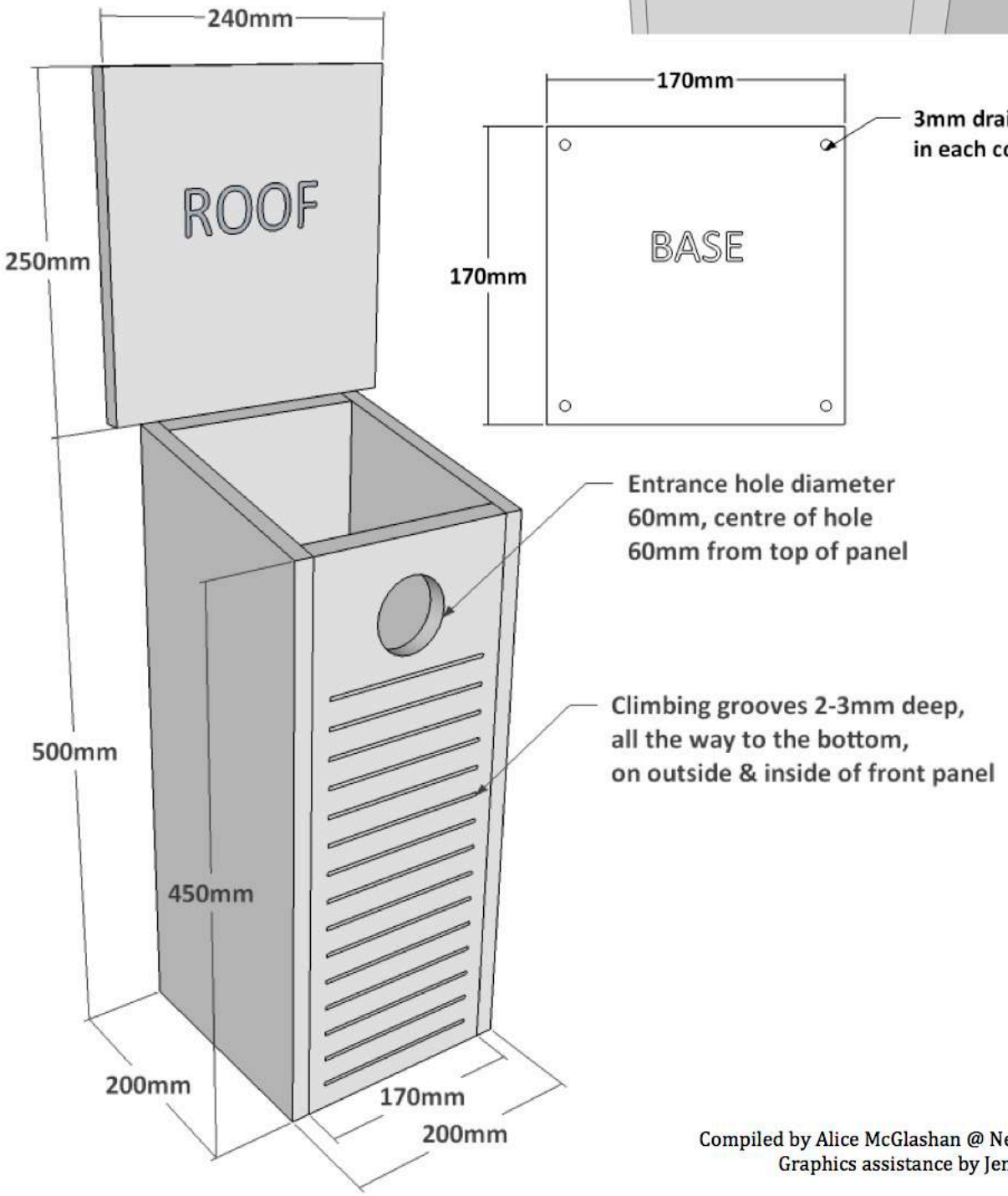
Red-rumped Parrot

RED-RUMPED PARROT

Cutting list – 15mm ply

Sides	2 x 500mm back/450mm front x 200mm
Back	1 x 500mm x 170mm
Front	1 x 450mm x 170mm
Base	1 x 170mm x 170mm
Roof	1 x 250mm x 240mm





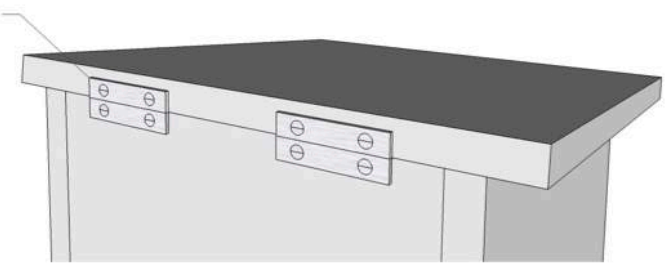
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

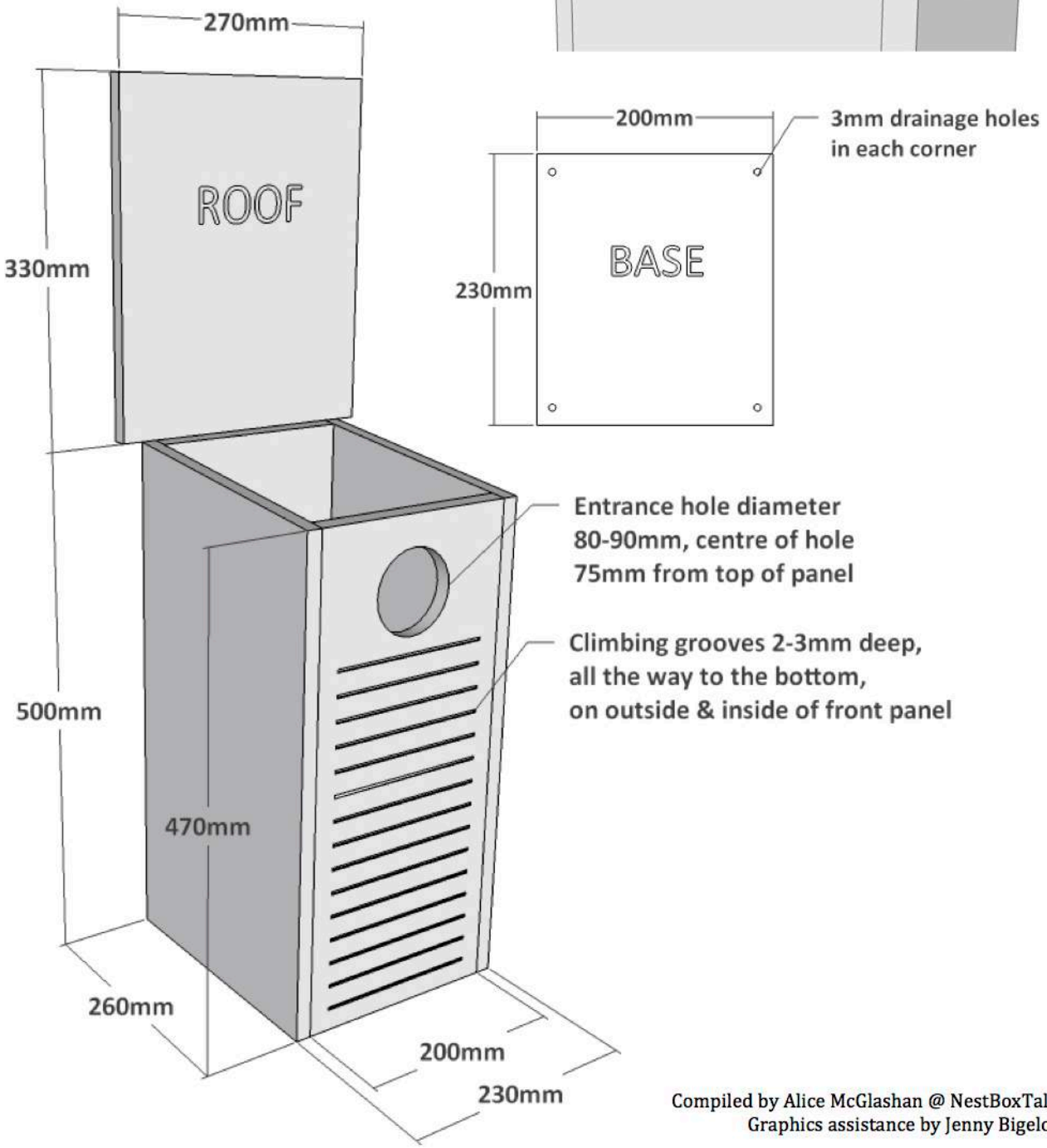
Crimson Rosella

CRIMSON ROSELLA

Cutting list – 15mm ply

Sides	2 x 500mm back/470mm front x 260
Back	1 x 500mm x 200mm
Front	1 x 470mm x 200mm
Base	1 x 230mm x 200mm
Roof	1 x 330mm x 270mm





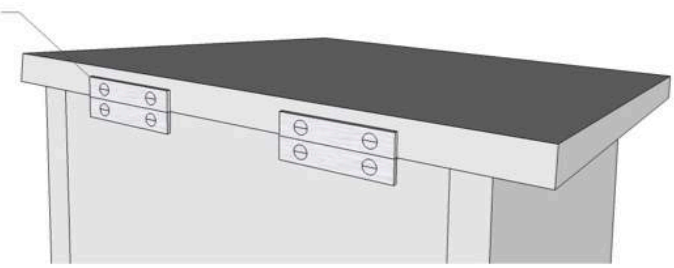
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

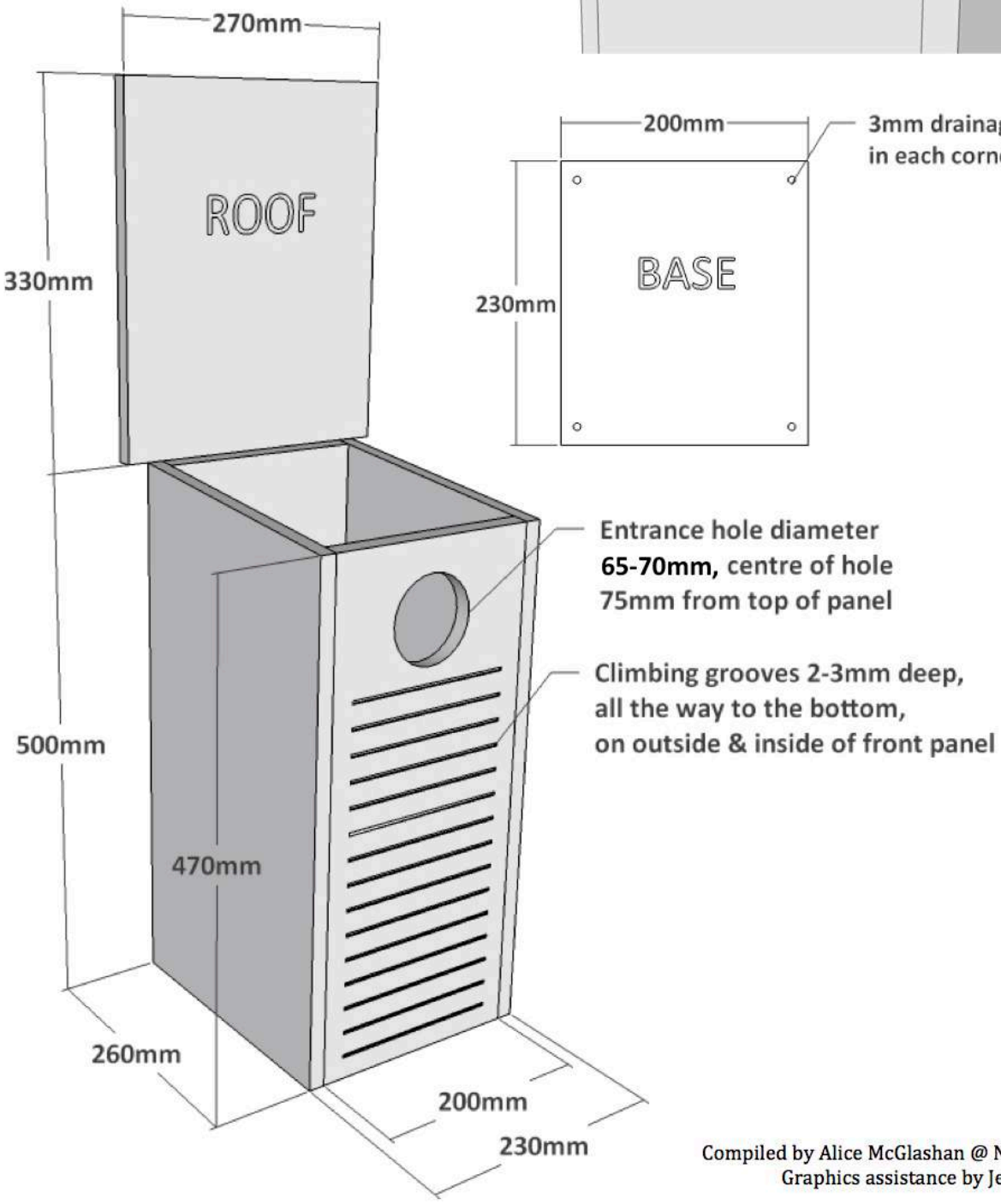
Eastern Rosella

Eastern Rosella

Cutting list – 15mm ply

Sides	2 x 500mm back/470mm front x 260
Back	1 x 500mm x 200mm
Front	1 x 470mm x 200mm
Base	1 x 230mm x 200mm
Roof	1 x 330mm x 270mm





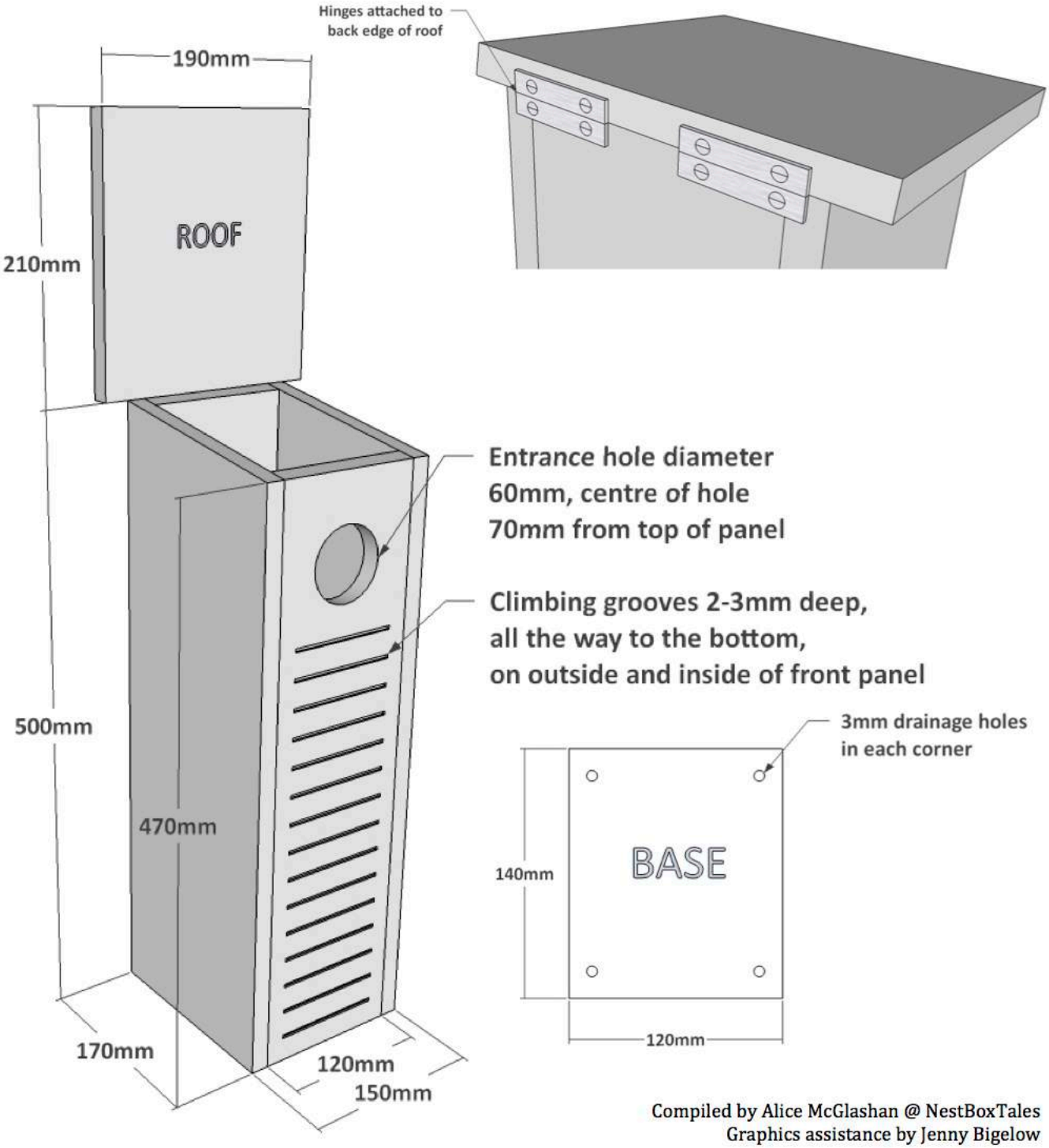
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

Rainbow Lorikeet

RAINBOW LORIKEET

Cutting list – 15mm ply

Sides	2 x 500mm back/470mm front x 170mm
Back	1 x 500mm x 120mm
Front	1 x 470mm x 120mm
Base	1 x 140mm x 120mm
Roof	1 x 210mm x 190mm



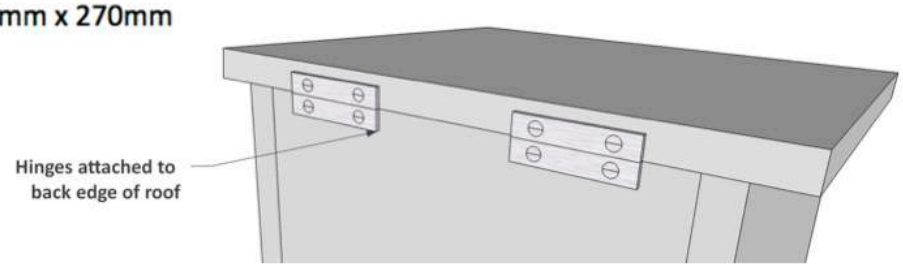
Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

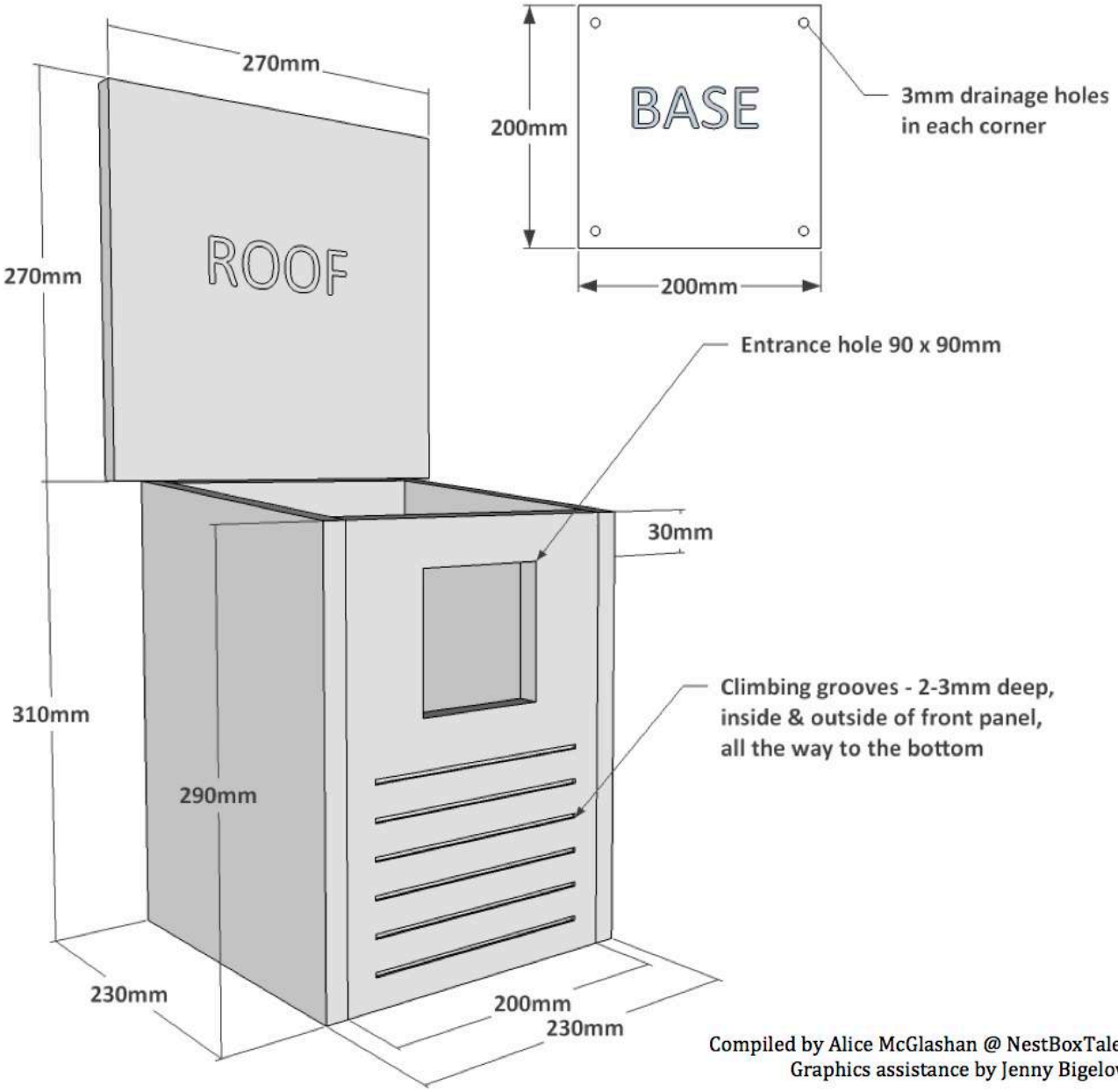
Grey Shrike-thrush

Grey Shrike Thrush

Cutting list – 15mm ply

Sides	2 x 310mm back/290mm front x 230mm
Back	1 x 310mm x 200mm
Front	1 x 290mm x 200mm
Base	1 x 200mm x 200mm
Roof	1 x 270mm x 270mm





Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

Nest box for the Striated Pardalote

The Striated Pardalote is a very small bird (8-10cm) weighing only 11g. It has a white brow with a yellow spot in front of the eye, olive-grey back and a white stripe in the wing. There is variation in the width of the stripe, the coloured spot at the front end of the strip, and whether or not the black crown has fine white stripes across the range. The breeding season occurs from June to January, when they form pairs or small groups of up to six birds. Both sexes incubate and care for the young, and other members of groups may also help with feeding. 3 – 5 eggs are laid.

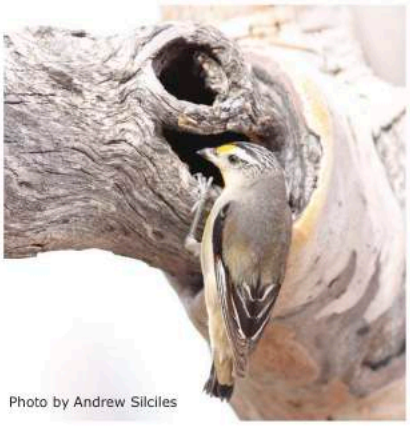
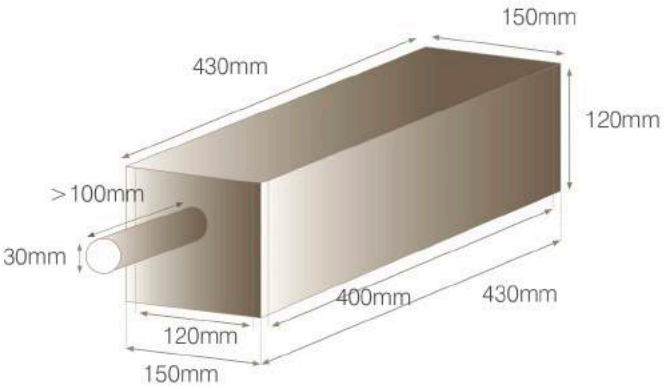


Photo by Andrew Silciles

Habitat Information

Striated Pardalotes are found in almost any habitat with trees or shrubs, but prefer eucalypt forests and woodlands. They forage on the foliage of trees for insects, particularly psyllids, but can occasionally be found close to the ground feeding in low shrubs. Pardalotes like to be high in the canopy, therefore if you have tall trees in your garden it is best to take good care of them to provide good habitat for pardalotes. Try planting some native insect-attracting shrubs to provide food for them.

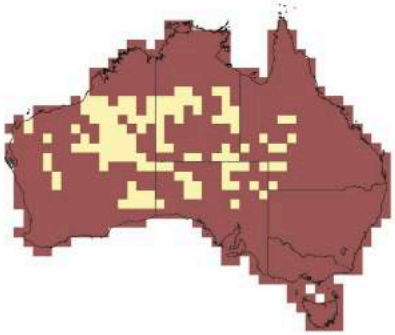


Shapes needed (based on 15mm thick timber)

- Top: rectangle 150 x 430mm
- Sides and Base: 2 x rectangles 120mm x 400mm
- Front and Back: 2 x rectangles 150mm x 120mm
- Extra: 1 tube plastic piping approx. 30mm diameter x 100mm length

Special Notes

Striated Pardalotes require a tunnel-shaped entrance which can be fashioned from PVC piping. Unless you see an introduced bird moving into the nest box, resist the urge to lift the lid and look inside. If you disturb the birds then they may abandon the nest box. Only open the lid to remove unwanted invaders.



Distribution of the Striated Pardalote

Materials Needed

- Timber at least 15mm thick (for adequate insulation). If you use thicker timber, please adjust the dimensions of the nest box appropriately. It is best to use untreated recycled wood, such as off-cuts or plywood, or plantation-grown wood, rather than using unsustainably harvested timber. Never take hollow limbs or branches from the wild. (Note: if using plywood, use glue and nails to assemble your box)
- Plastic piping (e.g. PVC) 30mm diameter, 100mm long
- Wood glue (something odourless)
- Non-toxic paint or sealant
- Linseed oil
- Screws
- Stainless steel hinge (either one long one or two smaller ones)
- Hook latch and eye
- For mounting strip attachment: A piece of timber 630mm by 90mm or 320mm by 90mm depending on whether you are attaching it to a limb or the trunk respectively) plus 100mm galvanised screws (for mounting the strip to the tree)

Tools Needed

- Drill
- Hole drill bit (for 30mm hole)
- Saw
- Hammer
- Screwdriver
- Stapler
- Safety glasses and dust mask
- Coarse sandpaper (or a rasp)
- Ladder

Construction

1. Cut out shapes

- Wearing safety glasses and a dust mask, use the saw to cut out all of the required shapes for the box.
- Label each panel with pencil (on the inside) so that you can keep track of each part.
- Paint the outside and edges of each panel with non-toxic paint or sealant. Leave the inside face of each panel raw.

2. Add features to the panels

- Front panel: use your hole drill bit to cut a hole 30mm in diameter (or the same width as your piping). The hole should be in the middle of the front panel, a couple of cm from the top. You may need to use sandpaper or a rasp to file the hole a touch larger so the tubing fits snuggly in to place. Cut the plastic tubing to a length of 100mm, and use the wood glue to fit one end into the hole. This makes a tunnel entrance for the birds.
- Side panel (for tree limb attachment only): select the side that will attach to the tree limb. Run the mounting strip horizontally along the length of the next box (with excess timber at either end) and secure with small screws from the inside of the panel. Pre-drill 2 holes in the mounting strip, one at each end. Alternatively you can run 2 mounting strips vertically at each end of the box.
- Side panel (for trunk attachment only): select the side that will attach to the tree trunk. Run the mounting strip vertically down the middle of the nest box and secure with small screws from the inside of the panel. Pre-drill 2 holes in the mounting strip, one at the top and one at the bottom.
- Bottom panel: drill at least 5 small holes into the bottom panel for drainage

3. Put the box together

- Glue the side panels to the outside edges of the bottom panel and secure with screws. Use at least 3 screws per panel face for the entire box.
- Repeat for the front and back panels.
- Use the hinge to attach the top panel to the back panel. This will allow you to lift the lid to inspect the nest box.
- Fit a hook latch and eye to stop the lid from blowing open in a strong wind.

4. Final touches

- Ensure there are no protruding screws.
- Paint the external surface with 2-3 coats of a water based (non-toxic) exterior grade paint to help it last, in a pale colour.

Installation

Ideally boxes should be installed on large, mature trees, close to or on the main trunk or a thick horizontal limb. Install the box as high as possible to prevent predation but low enough to be safely accessible for monitoring and maintenance.

For this species the ideal height for the box is 5 metres. Obviously many people will not possess the equipment necessary to be able to safely access these heights, and so we recommend that you place the box at the highest point you can comfortably access.

Choose a position for the nest box that:

- Faces south to south-east and away from prevailing winds and night time lights
- Has a large, thick (> 700mm circumference) and horizontal limb (for limb attachment method).
- Ensure that you use appropriate safety measures when installing the box. Never use a ladder alone and use a pulley system to raise the box to the installation location
- To limit cat and rat predation, try placing a smooth collar of metal or plastic around the base of the tree.

Attachment method 1 (limb attachment):

- Use the galvanized 100 mm screws to secure the box to the tree through the predrilled holes at the front and back of the mounting strip. Make sure the box is horizontal (or with a very slight forward slope).
- Ensure the box does not move too much in windy weather.
- If you remove the nest box, be sure to also remove the screws

Attachment method 2 (trunk attachment):

- Use the galvanized 100 mm screws to secure the box to the tree through the predrilled holes at the top and bottom of the mounting strip.
- Ensure the box does not move too much in windy weather.
- If you remove the nest box, be sure to also remove the screws.

Maintenance

Regularly check your box to make sure that the intended species has not been driven from their nest, and always contact an apiarist if honeybees take over the nest. Introduced birds (like Common Mynas or Starlings) are unlikely to move into these boxes because the opening is too small, but always keep an eye on it.

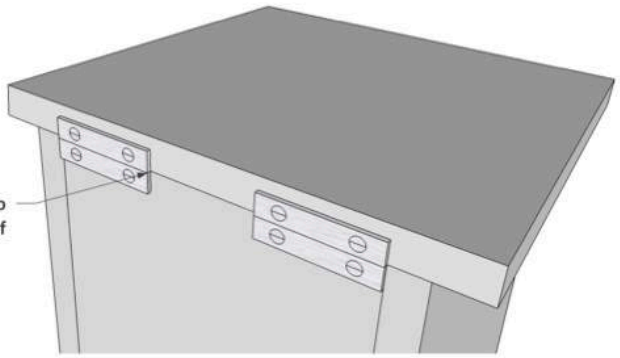
After the chicks have fledged and the adults have left the box, clean it out to prepare it for next year. Remember that trees grow in girth as well as height, and be sure to check the fixings on the box every year or two to adjust for growth.

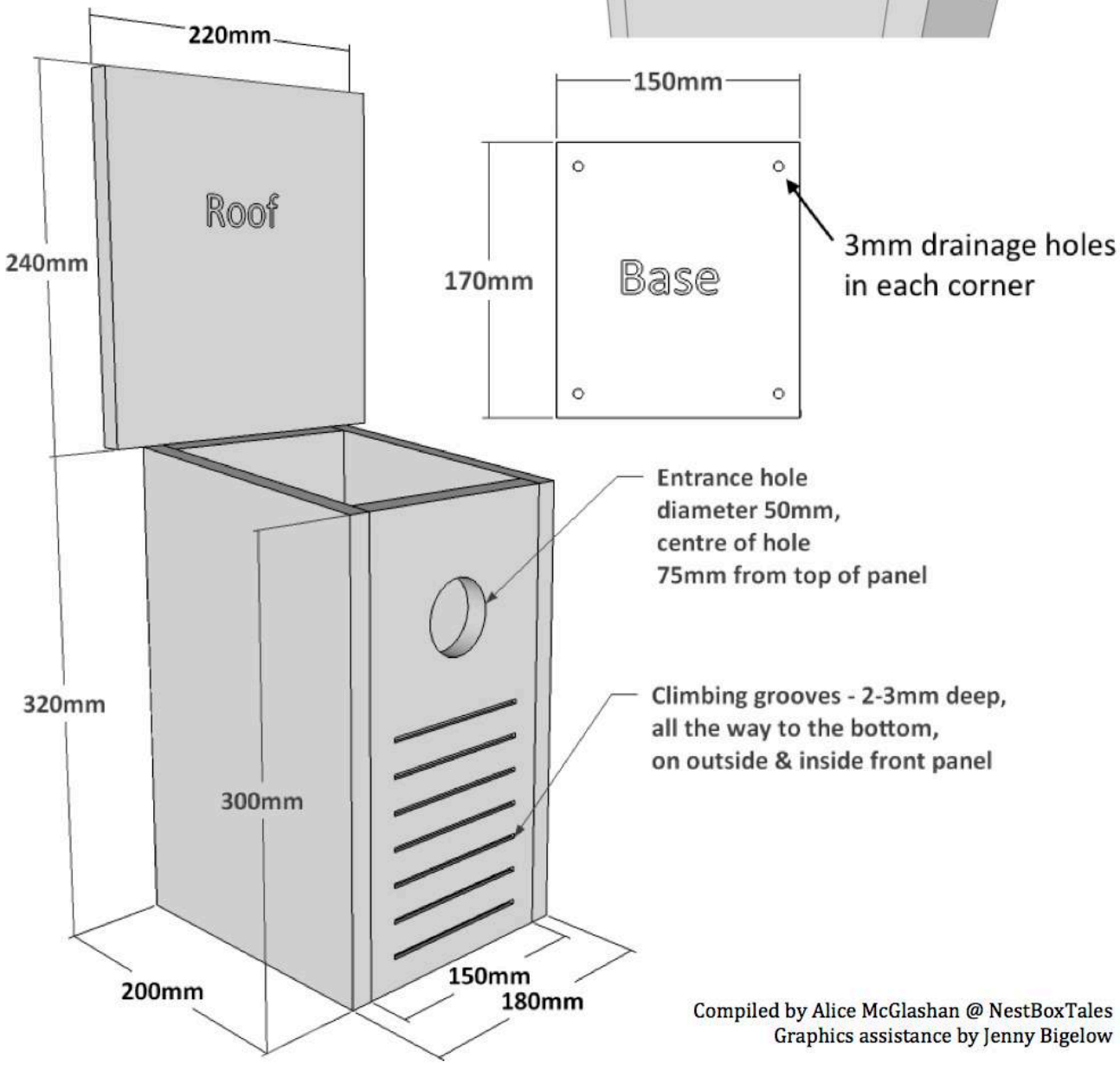
Treecreeper

Treecreeper

Cutting list – 15mm ply

Sides	2 x 320mm back/300mm front x 200mm
Back	1 x 320mm x 150mm
Front	1 x 300mm x 150mm
Base	1 x 170mm x 150mm
Roof	1 x 240mm x 220mm





Compiled by Alice McGlashan @ NestBoxTales
Graphics assistance by Jenny Bigelow

Nest Boxes – Technical Information

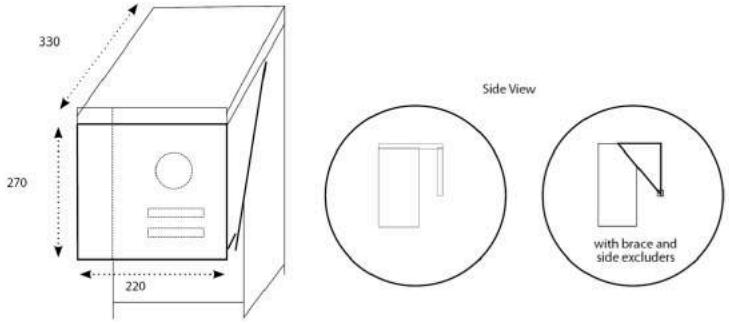
Purple-crowned Lorikeet © BirdLife Australia

Nest boxes are an important aspect to wildlife conservation in any areas where natural nesting hollows are not available. This information sheet provides a little extra technical assistance for anyone who wants to go the next step, and make or install a nest box. For a general introduction to the importance of nest boxes, please read BirdLife Australia Information Sheet entitled 'Nest Boxes for Native Birds'.

The Anti-Myna Baffle

The Anti-Myna Baffle is a simple device which shields the entrance hole to the nest box, and prevents Common Mynas from entering (they always fly directly to the entrance of the nest hollow), while allowing access to rosellas and other parrots, which usually climb up to the entrance of their nesting hollow, and so are able to climb between the baffle and the nest box. It is important to provide a 'ladder' for the parrot to climb up the entrance — chisel or saw a few horizontal grooves into the front of the nest box, or attach a small piece of wire mesh that they can climb up, but do not attach a stick, which may allow Mynas to land there.

The distance that the baffle is placed in front of the nest box should be the same as the diameter of the entrance hole.



A Few More Useful Tips for Nest Boxes

- Add a few wood shavings to the bottom of your nest box; some parrots will not nest there without them.
- In vertical (or steeply sloping) nest boxes, t is a good idea to install a 'ladder' for birds to climb out of the nest, especially if the inner surface of the nest box is relatively smooth. A few horizontal grooves, either sawn or chiselled into the wood will act as 'steps', as will a strip of wire mesh.

Tree installation materials

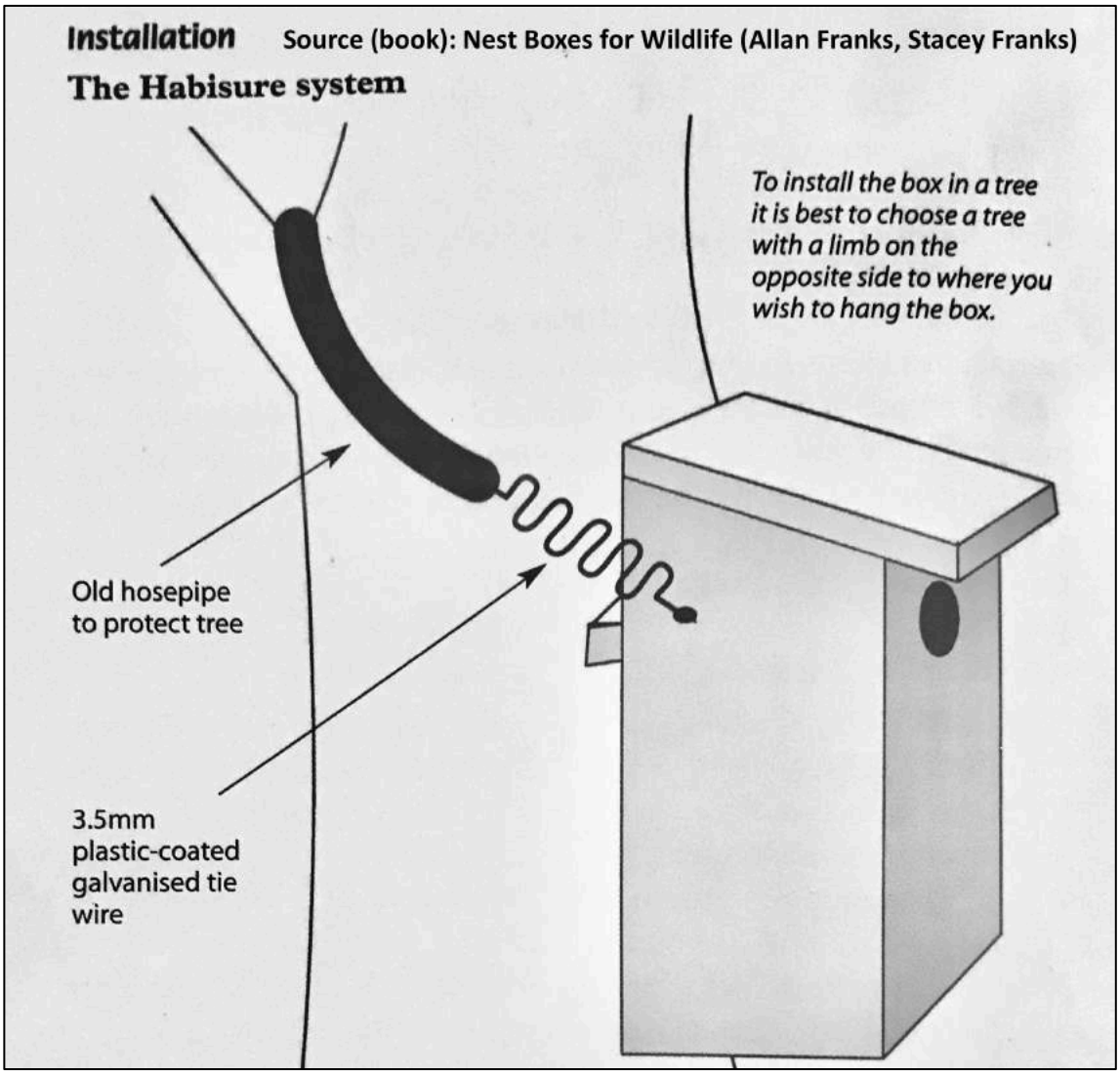
Now, there are a few different options for attaching a nest box to a tree. My preferred option is the Habisure system (and variations) by Hollow Log Homes, as this does no harm to the tree, is very durable, and makes installation a cinch. However the materials for this and similar variations are more expensive than alternatives, and so may be not an option for some seeking to install nest boxes. That's understandable!

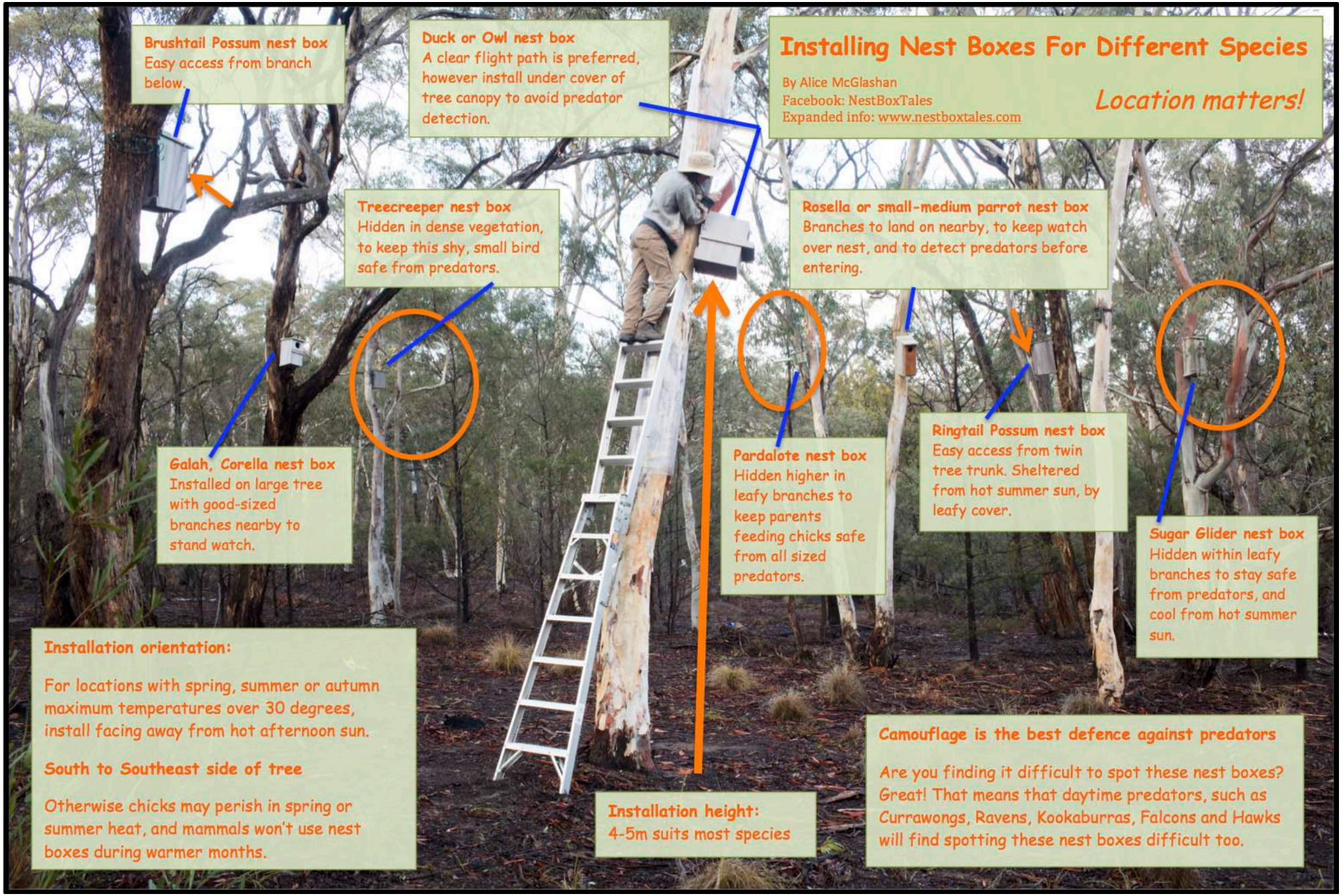
The Habisure System (Nest Boxes for Wildlife, by Alan and Stacey Franks)

The Habisure system is a single piece of plastic coated 3.15-3.5mm galvanised wire (fencing wire is an alternative option), that goes through holes right at the back of the two side panels of the nest box. The wire is bent to a zigzag shape for the first 20-30cm, and then runs straight after. One end has a loop, the other is longer with a straight end that goes around the tree and through the loop.

One variation has a piece of garden hose on the part that hangs off the tree – this would be a good option if plain fencing wire (not plastic coated) were to be used.

The zig zag shape allows for the growth of the tree, so the nest box stays secure, but the wire does not strangle the tree as it grows.




Installing Nest Boxes For Different Species
By Alice McGlashan
Facebook: NestBoxTales
Expanded info: www.nestboxtales.com
Location matters!
Brushtail Possum nest box
Easy access from branch below.
Duck or Owl nest box
A clear flight path is preferred, however install under cover of tree canopy to avoid predator detection.
Treecreeper nest box
Hidden in dense vegetation, to keep this shy, small bird safe from predators.
Rosella or small-medium parrot nest box
Branches to land on nearby, to keep watch over nest, and to detect predators before entering.
Galah, Corella nest box
Installed on large tree with good-sized branches nearby to stand watch.
Pardalote nest box
Hidden higher in leafy branches to keep parents feeding chicks safe from all sized predators.
Ringtail Possum nest box
Easy access from twin tree trunk. Sheltered from hot summer sun, by leafy cover.
Sugar Glider nest box
Hidden within leafy branches to stay safe from predators, and cool from hot summer sun.
Installation orientation:
For locations with spring, summer or autumn maximum temperatures over 30 degrees, install facing away from hot afternoon sun.
South to Southeast side of tree
Otherwise chicks may perish in spring or summer heat, and mammals won't use nest boxes during warmer months.
Installation height:
4-5m suits most species
Camouflage is the best defence against predators
Are you finding it difficult to spot these nest boxes? Great! That means that daytime predators, such as Currawongs, Ravens, Kookaburras, Falcons and Hawks will find spotting these nest boxes difficult too.

Good luck and enjoy!

Included are designs that I could find, for the species that occur in your region. There are not free online designs available for all species. However don't forget that at the start of this booklet, there is a species list that includes all the preferred entrance diameters for the native animals that occur in this region. Please do refer to these, and select a small, medium or large nest box design from above, however just make the entrance diameter that of the desired species from the list.

Studies have found that hollow using species are initially absent from badly burnt ecosystems (0-15yrs), and when they do return, are in very small numbers compared to pre-fire populations - studied from memory out to 50 years. Tree hollows take decades (tiny) to hundreds (large) of years to form. So there is a very big need for artificial tree hollows to be added to the huge areas of bushfire-affected ecosystems

Most of our native hollow-using species are tiny, small or medium sized, with only a small number of large individuals and species for any location. So nest boxes really need to be made to match this natural balance, for the bushfire affected ecosystems, where many of all sized tree hollows will have been lost.

There have already been hundreds of large brushtail possum nest boxes made across Australia for the bushfire recovery efforts.

An important consideration is the need for small to medium sized nest boxes to be made with a variety of entrance diameter sizes to keep all the slightly different hollow using species safe from slightly and much larger predators and predators. Most of our native animals compete with each other for scarce tree hollows. Slightly different hollow entrance sizes are important for enabling the different sized species to find a spot that is safe from slightly bigger predators and competitors, the difference often is only 5mm.

Thank you so much for making a difference.

Our native wildlife desperately need a helping hand to survive this current living hell of bushfire and drought. We really don't want to lose more than we already have. Sure, we will probably lose some at-risk species because of this season's bushfires and the ongoing drought. But don't forget all the other wonderful native animals out there that we have the chance, right now to help survive. While we cannot undo the past, we can change the future to some extent depending on our choice of actions.

Every little tiny bit of difference made, cumulatively makes a big difference if many participate. Thank you so much for your contribution.

This is one of my contributions.
I hope you find this helpful.

Compiled by Alice McGlashan
Facebook: https://www.facebook.com/groups/nestboxtales/
Website: www.nestboxtales.com
Sharing stories and knowledge about nest boxes for Australian native animals to encourage everyone to improve habitat for wildlife.