

Swallows *Hirundo* sp.



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Four swallow species breed in Western Australia and of these, the Welcome Swallow *Hirundo neoxena* and Barn Swallow *Hirundo rustica* build mud nests attached to buildings and other structures. They also roost in large numbers in warehouses, sheds, verandas, ledges and other sites where they can cause damage.

Exclusion is one of the most effective long-term solutions to the problems caused by swallows. For best results, exclusion barriers should be installed before the swallows become established.

Identification

The Welcome Swallow and Barn Swallow look very similar as they are 14 to 17cm in length and have a deeply forked tail (Morcombe 2000). The back is glossy blue-black, the forehead, face and throat bright chestnut and the underbody white (Morcombe 2000). The juvenile is paler than the adult and has a short tail (Morcombe 2000).

Distribution and abundance

The Welcome Swallow is common across southern Australia and the Barn Swallow is restricted to northern Australia, where it is an uncommon visitor (Higgins and Peters 2006). Swallows commonly occur in open areas like grassland, farmland and woodland, in association with a water body (Marchant and Fullagar 1983). They are also common in urban areas (Marchant and Fullagar 1983).

Biology

Swallows have long pointed wings that provide the speed and manoeuvrability needed to catch prey on the wing. They feed on insects and spend most of the day hawking air borne insects. They are not usually observed on the ground, other than while collecting mud for nest construction. These birds do not sing, but their voice consists of twitterings and squeaks (Morcombe 2000).

The breeding biology of the Welcome Swallow and Barn Swallow is very similar (Marchant and Fullagar 1983). The nest is an open cup of mud and grass (Figure 1), made by both sexes (Higgins and Peters 2006). Other materials can also be used for nest construction, such as fur, bark, twine, wood shavings, shell and nylon fishing line (Marchant and Fullagar 1983).



Figure 1 Welcome Swallow nest (Photo: www.middlepath.com.au).

Between August and February 3 to 5 eggs are laid and two broods are commonly raised in one season (Higgins and Peters 2006). The female incubates the eggs, which hatch 2 to 3 weeks after laying (Higgins and Peters 2006). The young are fed by both parents and fledge 2 to 3 weeks after hatching (Higgins and Peters 2006).

Habits

Before using man-made structures, swallows nested in cliffs or caves where their nests could be attached to vertical surfaces (Gorenzel and Salmon 1994). Swallows are attracted to particular sites by open habitat for foraging, a vertical surface beneath an overhang, a supply of mud and a body of freshwater (Gorenzel and Salmon 1994).

Swallows hawk insect prey from the air or from above lakes and ponds, which are also used for drinking and as a mud supply for nest construction (Gorenzel and Salmon 1994). Structures such as buildings, bridges and agricultural structures have increased the number of sites on which nests can be placed (e.g. Marchant and Fullagar 1983). Wherever irrigation water and buildings are found

together, suitable breeding conditions are likely to exist (Gorenzel and Salmon 1994).

Damage

Nuisance

Colonies of swallows nesting and roosting on buildings and other structures can become a nuisance. Large numbers of swallows can also generate a noise nuisance.

Fouling

Machinery, infrastructure and produce can become contaminated with faeces. Recreation areas, cars, rooves and other property can be fouled by faeces.

Health

The nests of swallows often contain mites and insects that will bite humans, although humans are not the preferred hosts of these parasites.

Environmental Law

Commonwealth

Both the Welcome and Barn Swallow are listed as a Marine Species under Section 248 of the *Environment Protection and Biodiversity Act 1999*. Thus, it is an offence to intentionally or recklessly kill, injure, trade, keep or move them in Commonwealth lands or waters unless authorised by a permit issued under Section 258, or it was reasonably necessary to prevent a risk to human health (Section 255). A permit to kill, injure, take, trade, keep or move a member of a listed marine species in or on a Commonwealth area may be obtained from the [Department of Environment, Water Heritage and the Arts](#) by filling out an [application form](#).

The applicant must demonstrate that due process has been followed prior to applying for such a permit. Thus the applicant would have to demonstrate that all reasonable non-lethal methods

have been attempted, assess the environmental impacts of culling and obtain a permit to cull prior to undertaking population control.

State

These swallow species are native to Western Australia and as such are protected under the provisions of the *Wildlife Conservation Act 1950*. They may be taken only with a licence issued by the Department of Environment and Conservation. Licences to take are generally issued only after other methods have been attempted as part of a co-ordinated management program.

Damage Prevention and Control

Exclusion

Exclusion is one of the most effective long-term solutions to the problems caused by swallows. Closing doors one hour before sunset prevents access to roosts and the doors can be re-opened one hour after sunset (Temby 2003). In warehouses and other buildings, with equipment, vehicle and pedestrian traffic, closing doors may be impractical. In this case PVC strip doors or curtains may be installed. These doors are made of 15-40cm wide strips (Figure 2) and are commonly used to maintain temperature in refrigerated areas (Gorenzel and Salmon 1994). The strips overlap by about 5cm and do not require opening and closing like conventional doors. In addition, the doors are not damaged by the passage of equipment or machinery, while excluding swallows and other birds (Figure 2). Any techniques used to exclude swallows from buildings must be combined with a program to ensure that all gaps in skylights and the roof are blocked to prevent entry (Temby 2003).

Netting can be installed below rafters and eaves to provide a physical barrier to roosting and nesting. Thin, flexible netting, which could trap or entangle swallows must not be used. For best results, the

netting should be installed before the swallows become established. Plastic netting or poultry wire with a mesh size of about 2cm is recommended to exclude swallows (Gorenzel and Salmon 1994). The method of attachment will vary according to the architecture of the site, but it can be mounted using hooks, Velcro, ties or polyclips (Gorenzel and Salmon 1994).



Figure 2 PVC strip doors allow the passage of machinery and equipment, but exclude swallows and other birds (image from www.ansadoors.com.au).

The key consideration when installing netting or wire mesh is that it must extend from the outer edge down to the sides of the building so that the eaves do not provide protection from the elements (Gorenzel and Salmon 1994). No opening should remain where the swallows can enter and all parts of the building which may be attractive to swallows must be fitted with exclusion mesh.

Parallel 35kg breaking strain nylon monofilament line can be suspended at 12cm intervals below roost

sites. For example, if the swallows are roosting on beams, nylon lines can be attached to the bottom of the beams and this may prevent roosting (Temby 2003).

In cases where it is impractical to install physical barriers, a platform can be installed below roosting sites to catch droppings (Temby 2003).

Habitat Modification

Architectural design can be used to minimise the suitability of building for swallow nesting and roosting. For example, buildings with eaves at right angles to the wall are potential nest sites, whereas eaves that form an obtuse angle or concave surface are less likely to be used for nesting (Gorenzel and Salmon 1994).

The width of the overhang may restrict nesting if kept to 20cm or less (Gorenzel and Salmon 1994). Textured surfaces such as concrete, wood and plasterboard may be more attractive than smooth surfaces such as metal. Issues relating to building materials and design should be taken into consideration when planning building construction,

especially when swallows are a problem on nearby structures (Gorenzel and Salmon 1994).

Roosting and nesting can be discouraged by modifying the surface, because swallows prefer surfaces that provide a good foothold and nest attachment (Gorenzel and Salmon 1994). The use of metal projections which consist of a metal or plastic spikes installed along ledges and window sills (Figure 3 c.) can prevent roosting and nesting. However, this method is not always successful because swallows have learned to land on the spikes and eventually build a nest on them (Gorenzel and Salmon 1994). Thus, these spines are not widely used to deter swallows (Gorenzel and Salmon 1994).

Removing rough surfaces that provide traction for roosting and nesting is sometimes effective for swallows. A fresh coat of high gloss paint may be successful, but has not been tested on swallows. Fibreglass or Perspex may be installed between the eave and wall to create a concave surface (Figure 3 d.) (Gorenzel and Salmon 1994).

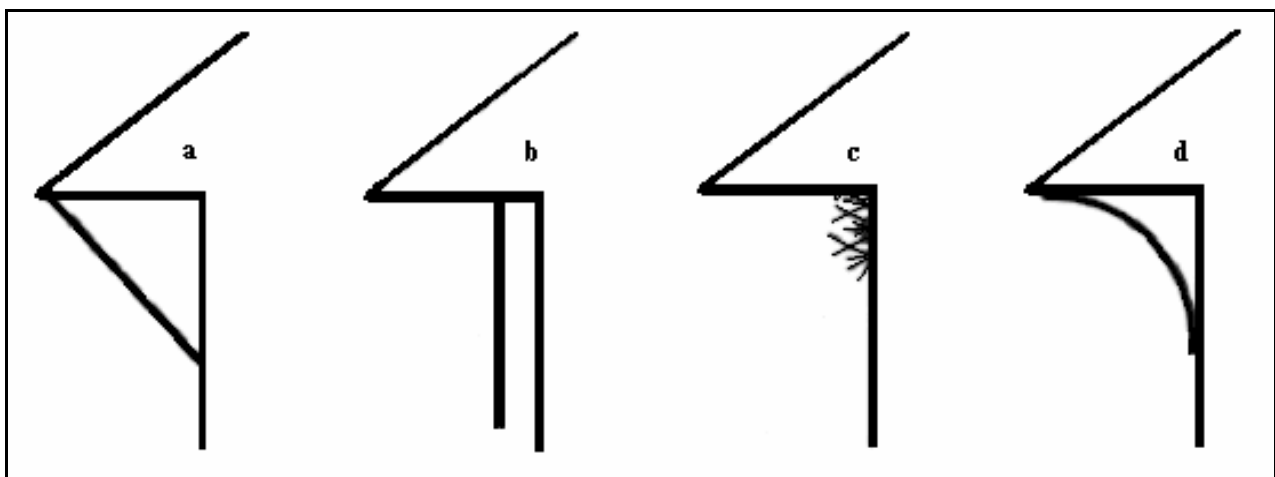


Figure 3 Four methods used to deter Swallows from roosting and nesting under eaves a). netting attached to eave and down the side of the building, b). a curtain of netting hanging down under the eave, d). metal projections mounted at the junction of the eave and wall and d). a fiberglass panel mounted to form a concave surface (Gorenzel and Salmon 1994).

Behaviour Modification

Turning off lights at night and removing sources of fresh water removes feeding and drinking resources for the swallows. In addition, using fans to create air currents can make areas unsuitable as nest sites (Temby 2003).

Scaring

Models of predatory birds, snakes, noise emitting devices and lights are not useful for scaring swallows because they are very tolerant of human activity and other forms of disturbance (Gorenzel and Salmon 1994).

Shooting

Shooting and trapping is extremely difficult and unlikely to be successful for swallows.

Population control

Nest removal can be effective but must be commenced at the first sign of nest building before eggs or young are present in the nest. Nests can be knocked down with a pole or washed with a water hose, but since swallows return to old nest sites, all traces of mud must be removed. This method is messy, time consuming and may spread nest parasites (Gorenzel and Salmon 1994). In addition, the swallows may persist and re-build nests (Marchant and Fullagar 1983), so removal may have to be repeated over time (Gorenzel and Salmon 1994). Leaving the nest in place and placing a tennis ball in the completed nest will prevent egg laying and re-nesting at that site (Temby 2003).

Alternatives

Swallows are valued for hunting insects on rural properties in some countries and information on how

to attract them to your property is available on the web page [The Barn Swallow: Friend of the Farm](#) (Daly 2002).

References

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