Table 2: Ecology and diet of insectivorous bat species recorded in NSW, in alphabetical order by their scientific name.

Key to table: # - Listed as vulnerable under the NSW Government Biodiversity Conservation Act 2016

The White-striped Free-tailed Bat is

the northern coastal area. During

Australia's coldest months (June

through August), these bats migrate

temperatures and, therefore, higher

north to areas with warmer night-time

found throughout Australia, excluding

- \* Listed as vulnerable under the Commonwealth Government Environment Protection and Biodiversity Conservation Act 1999
- ^ Listed as endangered under the NSW Government Biodiversity Conservation Act 2016

Distribution

insect populations.

White-striped Free-tailed Bat (Austronomus australis)

## Habitat Ecology & Roosts

Diet & Pest Insects

White-striped free-tailed bats can be found in lowland, tropical and scrub forests, grasslands with isolated trees and even deserts! They roost in dead, hollow trees or tree stumps and in human-dominated landscape in attics of buildings, barns, and silos.

Mainly crickets / grasshoppers, flying insects, ground insects such as beetles, bugs, grasshoppers and ants. Likely to consume pest grasshoppers, crickets and bugs.



Large-eared Pied Bat (Chalinolobus dwyeri) # \*

The Large-eared Pied Bat is mainly found in areas with extensive cliffs and caves, from Rockhampton in Queensland south to Bungonia in the NSW Southern Highlands. It is generally rare with a very patchy distribution in NSW. There are scattered records from the New England Tablelands and North West Slopes.

Occurs in low to mid-elevation dry open forest, woodland and well-timbered areas containing gullies close to roosting habitat. Roosts in caves, overhangs, escarpments, outcrops, or crevices in cliffs, old mines, adits or tunnels and in the disused, bottle-shaped mud nests of the Fairy Martin (*Petrochelidon ariel*). Maternity caves are required for breeding, with characteristics such as roof domes in sandstone caves and overhangs.

Eats flying insects along forest edges such as natural openings, tracks and trails and along creeks and rivers. No specific dietary information.

	Distribution	Habitat Ecology & Roosts	Diet & Pest Insects
Gould's Wattled Bat (Chalinolobus gouldii)	The Gould's Wattled Bat is distributed throughout mainland Australia and Tasmania and is relatively common.	Variety of wooded habitats. Roosts in tree hollows and hollow limbs or in bird nests. In the absence of good tree cover, these bats will use buildings and other structures during the day.	Moths, scarab beetles, cockroaches, stoneflies, crickets, cicada and many other flying and non-flying insects. Known to consume major chewing pests of vegetable crops, cotton and other field crops including bollworms (Chelicera armigera, Helicoverpa punctigera), beet armyworm (Spodoptera exigua), cotton tipworm (Crocidosema plebejana), green mirid (Creontiades dilutus), rape beetle (Meligethes ochropus), crickets, lygaeid bugs and planthoppers.
Chocolate Wattled Bat (Chalinolobus morio)	The Chocolate Wattled Bat is distributed throughout mainland Australia and Tasmania.	The species is found from rainforests to treeless plains and inhabits a wide variety of other environments. This species mainly roosts in tree hollows, buildings and caves in the disused, bottle-shaped mud nests of the Fairy Martin ( <i>Petrochelidon ariel</i> )	Mainly eats small moths and beetles, wasps and termites. Known to consume major chewing pests of vegetable crops, cotton and other field crops including bollworms ( <i>Helicoverpa armigera</i> , <i>Helicoverpa punctigera</i> ), rough bollworm ( <i>Earias huegeliana</i> ), armyworms ( <i>Mythimna sp.</i> ), beet armyworm ( <i>Spodoptera exigua</i> ), cotton tipworm ( <i>Crocidosema plebejana</i> ), green mirid ( <i>Creontiades dilutus</i> ), rape beetle ( <i>Meligethes ochropus</i> ), crickets, lygaeid bugs and planthoppers.

	Distribution	Habitat Ecology & Roosts	Diet & Pest Insects
Hoary Wattled Bat (Chalinolobus nigrogriseus) #	Australia although absent from the arid centre. In northeast NSW it extends from Port Macquarie in the south, north to the Queensland	dry open eucalypt forests, such as forests dominated by Spotted Gum, boxes and ironbark, and heathy coastal forests where Red Bloodwood and Scribbly Gum are common. Because it flies fast below the canopy level, forests with naturally sparse understorey layers may provide the best habitat. Roosts in hollows and rock	



Little Pied Bat (Chalinolobus picatus) #

The Little Pied Bat is found in inland Queensland and NSW extending slightly into South Australia and Victoria.

It is found in semi-arid tall shrublands and vine forests, Eucalyptus and Acacia open woodlands. Roosts in caves, rock outcrops, mine shafts, tunnels, tree hollows and buildings.

This bat eats insects such as moths, beetles, wingless ants, cockroaches, stoneflies, katydids, crickets, cicadas, spiders, flies, termites and grasshoppers. Known to consume major chewing pests of vegetable crops, lucerne, cotton and other field crops including cutworms (*Agrotis munda, Diarsia intermixta*), beet armyworm (*Spodoptera exigua*), Australian bollworm (*Helicoverpa punctigera*), pests of turf (*Faveria tritalis*), pests of peanut (*Endotricha puncticostalis*) and grapevines (*Hippotion celerio*).

Eastern Falsistrelle (Falsistrellus tasmaniensis) #

Habitat Ecology & Roosts

Prefers moist habitats, with trees taller than 20 m. Eastern Falsistrellus generally roost in eucalypt hollows. One of our biggest bats, with an average weight of 20 grams!

Hunts beetles, moths, weevils and other flying insects above or just below the tree canopy. No specific dietary information. Likely eats larger pest moth species.

**Diet & Pest Insects** 



Eastern Coastal Free-tailed Bat (Micronomus norfolkensis) #

The Eastern Coastal Free-tailed Bat is found along the east coast from south Queensland to southern NSW.

The Eastern False Pipistrelle is found

on the south-east coast and ranges

of Australia, from southern

Queensland to Victoria and

Occurs in dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range. Roost mainly in tree hollows (including mangroves) but will also roost under bark or in man-made structures.

The Eastern Coastal Free-tailed Bat shows a preference for foraging in open riparian areas associated with low-lying coastal floodplains, and wetlands. They frequently eat insects from the orders Lepidoptera (moths) and Diptera (flies, mosquitoes and midges), but also consume Blattodea (cockroaches), Coleoptera (beetles), Hemiptera (bugs) and Hymenoptera (wasps and ants). This bat eats disease carrying mosquitoes (Aedes sp.) and agricultural pests such as *Mythimna convecta* (common armyworm).

Green tick = found in the Wellington region in 2024.

**Distribution** 

Tasmania.

## **Distribution Habitat Ecology & Roosts Diet & Pest Insects** Little Bent-winged bats are found in moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia Small insects beneath the canopy of scrub. Generally found in well-timbered densely vegetated habitats. Their diet East coast and ranges of Australia consists primarily of beetles, moths, areas. Little Bent-winged bats roost in from Cape York in Queensland to caves, tunnels, tree hollows, abandoned flies and spiders. Known to consume Wollongong in NSW. mines, stormwater drains, culverts, bridges Drosophila (fruit flies) and potentially louse flies (Hippoboscidae). and sometimes buildings. Maternity colonies form in spring and birthing occurs Little Bent-winged Bat in early summer. Only five nursery sites / (Miniopterus australis) # maternity colonies are known in Australia. Large Bent-winged Bats are found in variety of woodlands, heathlands, shrublands and grasslands near roosting habitat. Caves are the primary roosting Moths make up a large proportion of habitat, but also use derelict mines, stormthe diet, but they still consume a variety water tunnels, buildings and other man-The Large Bent-winged Bat occurs of insects. This bat forages above tree made structures. Form discrete populations along the east coast of Australia. tops for flies, cockroaches and beetles, centred on a maternity cave that is used but in grasslands they stay to within a annually in spring and summer for the birth few metres above the ground. and rearing of young. Cold caves are used Large Bent-winged Bat for hibernation in southern Australia. (Miniopterus orianae Breeding or roosting colonies can number oceanensis) # from 100 to 150,000 individuals. Forage over streams and pools Forages over streams and pools catching The Southern Myotis is found in the catching insects (particularly midges insects and small fish by raking their feet coastal band from the north-west of and mosquitoes and aquatic macroacross the water surface. They generally Australia, across the top-end and invertebrates like water boatman. roost in groups of 10 - 15 close to water in south to western Victoria. It is rarely backswimmers and whirligig beetle) caves, mine shafts, hollow-bearing trees,

storm water channels, buildings, under

bridges / culverts and in dense foliage.

and small fish by raking their feet

consumes disease carrying mosquitoes

across the water surface. Likely



Large-footed Myotis (Myotis

macropus) #

found more than 100 km inland,

except along major rivers.



Eastern Long-eared Bat (Nyctophilus bifax) #

Found from Cape York through eastern Queensland to the far northeast corner of NSW. In NSW they appear to be confined to the coastal plain and nearby coastal ranges, extending south to the Clarence River area, with a few recorded further south around Coffs Harbour. The species can be locally common within its restricted range.

Lowland subtropical rainforest and wet and swamp eucalypt forest, extending into adjacent moist eucalypt forest. Coastal rainforest and patches of coastal scrub are particularly favoured. Roosts in tree hollows, the hanging foliage of palms, in dense clumps of foliage of rainforest trees, under bark and in shallow depressions on trunks and branches, among epiphytes, in the roots of strangler figs, among dead fronds of tree ferns and less often in buildings

Slow flying agile bat, using the understorey to hunt non-flying prey - especially caterpillars and beetles - and will even hunt on the ground.



Corben's Long-eared Bat (Nyctophilus corbeni) # \*

Overall, the distribution of the south eastern species coincides approximately with the Murray Darling Basin with the Pilliga Scrub region being a distinct stronghold for this species.

Inhabits a variety of vegetation types, including mallee, bulloke (*Allocasuarina leuhmanni*) and box eucalypt dominated communities, but it is distinctly more common in box/ironbark/cypress-pine vegetation that occurs in a north-south belt along the western slopes and plains of NSW and southern Queensland. Roosts in tree hollows, crevices, and under loose bark.

Use the understorey to hunt non-flying prey - especially caterpillars and beetles, and will hunt on the ground. The diet includes Coleoptera (beetles), Diptera (flies), Neuroptera (lacewings) and Isoptera (termites), but was dominated by Lepidoptera (moths). Likely eats disease-carrying mosquitoes and pest moth species.



Lesser Long-eared Bat (Nyctophilus geoffroyi)

Widespread around Australia, but absent from the northeast tropical coasts and Cape York Peninsula.

Inhabits a variety of habitats including deserts, tropical to alpine woodlands, mangroves, agricultural land, urban areas, wet to dry sclerophyll forests and rain forests. Roosts in tree hollows, crevices, and under loose bark.

Grasshoppers, crickets and moths are their most common food but have a large variety of foods including: lacewings, beetles, flies, cricket nymphs, cockroaches and spiders. Nyctophilus geoffroyi is known to consume major chewing pest of vegetable crops, cotton and other field crops including bollworms (Helicoverpa armigera, Helicoverpa punctigera), rough bollworm (Earias huegeliana), armyworms (Mythimna sp. and Mythimna seperata), beet armyworm

Distribution	Habitat Ecology & Roosts	Diet & Pest Insects
		(Spodoptera exigua), cotton tipworm (Crocidosema plebejana), green mirid (Creontiades dilutus), rape beetle (Meligethes ochropus), sap beetle (Carpophilus pallipennis), crickets, lygaeid bugs and planthoppers.



Gould's Long-eared Bat (Nyctophilus gouldi)

Distributed across eastern Australia, from Queensland to Victoria.

Rainforest, sclerophyll forests and woodland, including forest remnants, also along watercourses in dry woodlands and river redgum forests. It roosts in tree hollows of old eucalypts, under loose or decorating bark and sometimes in buildings and in the old nests of birds.

Flying and non-flying insects. Catches prey close to the ground or snatches non-flying insects off the ground or leaves. Known to consume Blattodea (cockroaches and termites), flies (Drosophila sp.), cicada (Psaltoda plaga) and small moths. No specific insect pests detected.



Northern Free-tailed Bat (Ozimops lumsdenae) #

Widely distributed across northern Australia from Western Australia to Queensland, extending south to the north-east corner of NSW. Little is known about its distribution in NSW. The only confirmed record in NSW is of a colony found in the roof of a house in Murwillumbah, however, calls have been detected from a few other locations in the far north of the state.

The Northern Free-tailed Bat occurs in a range of vegetation types from rainforests to open forests and woodlands and are often recorded along watercourses. They can also occur in towns and cities. Mainly roosts in hollows of old trees, but also known to roost in caves and buildings in large colonies.

No dietary information. Takes flying prey on the wing and from tree trunks.

	Distribution	Habitat Ecology & Roosts	Diet & Pest Insects
Inland Free-tailed Bat (Ozimops petersi)	The Inland Free-tailed Bat is distributed around much of Australia in the most arid areas, inhabiting deserts, acacia and eucalypt woodlands, chenopod shrublands, and grasslands. It is often associated with tree-lined ephemeral creeks.	Found in a variety of habitats. Roosts in tree hollows, crevices and between roof beams and the corrugated iron roof.	Eats flying insects and will crawl on the ground or tree trunks to pursue prey. Stomach contents included flies and winged and wingless ants. No specific dietary information.
Southern Free-tailed Bat (Ozimops planiceps)	The Southern Free-tailed Bat occurs in most of south-east Australia away from the coast including New South Wales, Victoria and South Australia, extending into South-west Western Australia and along the east coast to Queensland.	Roosts in tree hollows, crevices, and under loose bark or in buildings, roofs of houses.	Bugs, flies, beetles, moths, ants and termites. In Victoria 80% of the diet of Southern Free-tailed Bats was found to be Rutherglen bugs (agricultural pest).
Ride's Free-tailed Bat (Ozimops ridei)	Ride's Free-tailed Bat is found in eastern Australia. It occurs mostly along the Great Diving Range and east to the coast, but also ventures west along the Murray River.	Roosts in tree hollows, crevices, and under loose bark or in buildings	Diet consists mainly of bugs, flies and beetles, some moths and occasional spiders. No specific dietary information.

Variable diet and selective, mostly consisting of moths and beetle species. No specific dietary information.



Eastern Horseshoe Bat (Rhinolophus megaphyllus)

Bats roost in warm, humid caves, holes and cracks in rocks, old mines and tunnels, bridges and culverts and occasionally under buildings.

The Yellow-bellied Sheathtail-bat is a wide-ranging species found across

most southerly part of its range -

rare visitor in late summer and

of this species across the New

commonly detected on the North

England Tablelands, but it is

Eastern Horseshoe Bats hunt flying and non-flying insects and spiders. They fly close to the ground or foliage to catch their prey, then carry them to special feeding roosts to eat.

Forages in most habitats across its very wide range, with and without trees. Roosts in tree hollows in old trees, hollows inside dead limbs, sometimes buildings and the abandoned nests of sugar gliders. In

Flying insects. Possibly larger moths. No specific dietary information. Likely eats larger pest moth species.



Yellow-bellied Sheath-tailed Bat (Saccolaimus flaviventris)

northern and eastern Australia. In the most of Victoria, south-western NSW and adjacent South Australia - it is a autumn. There are scattered records treeless areas they are known to use mammal burrows.

Green tick = found in the Wellington region in 2024.

West Slopes.



Greater Broad-nosed Bat (Scoteanax rueppellii) #

The Greater Broad-nosed Bat is found mainly in the gullies and river systems that drain the Great Dividing Range, from north-eastern Victoria to the Atherton Tableland. It extends to the coast over much of its range. In NSW it is widespread on the New England Tablelands, however does not occur at altitudes above 500m.

Scoteanax rueppellii inhabits wetter gullies of foothills forest, but is usually associated with high rainfall regions nearer the coast and with tall forest.

This bat consumes larger prey, mainly Coleoptera (beetles) from the families (Scarabaeidae, Cerambycidae and Carabidae), but consume flies, bugs and moths in smaller quantities. The Greater Broad-nosed Bat is also carnivorous and consumes other bat species.



Inland Broad-nosed Bat (Scotorepens balstoni)

Inland Broad-nosed bats are distributed widely throughout inland Australia, including arid and semi-arid regions. They are generally not distributed east of the Great Dividing Range.

Arid and semi-arid woodlands open woodland, mallee and dryland woodland habitats. In arid areas they prefer river red gums following surface drainage systems. Inland broad-nosed bats prefer to roost in tree hollows but can also roost in the roofs of buildings, under metal caps of power poles and in water pipes.

This bat is known to eat cockroaches, termites, crickets, cicadas, bugs, beetles, flies, moths, ants and grasshoppers. They start foraging earlier than most other species, beginning usually just on dusk. No specific dietary information.



Little Broad-nosed Bat (Scotorepens greyii)

The range of the Little Broad-nosed Bat includes most of mainland Australia, except Tasmania and Victoria, the southern parts of Western and South Australia, coastal NSW and the Cape York Peninsula.

They live in mostly hot arid areas but also occur in temperate tropical areas. These areas range from monsoon forest, dry grasslands, sandy deserts, inland rivers with redgums, monsoon forests, melaleuca forests, open forests, mixed shrubland and paperbark swamps. Little broad-nosed bats are known to roost in hollows, usually in trees but they have also been found in fence posts, and in the space under metal caps of telegraph poles. They will also roost in disused buildings.

They eat a lot of beetles, bugs and ants. They also consume moths, termites, cockroaches, katydids, crickets, flies and lacewings. Known to consume major chewing pests of vegetable crops, cotton and other field crops including bollworms (Helicoverpa armigera, Helicoverpa punctigera), armyworms (Mythimna sp. and Mythimna seperata), beet armyworm (Spodoptera exigua), cotton tipworm (Crocidosema plebejana), rape beetle (Meligethes ochropus), sap beetle

	Distribution	Habitat Ecology & Roosts	Diet & Pest Insects
			(Carpophilus pallipennis), crickets, lygaeid bugs and planthoppers.
Eastern Broad-nosed Bat (Scotorepens orion)	Distributed across eastern Australia, east of the Great Dividing Range from Rockhampton to Melbourne and a discrete population on the Atherton Tablelands	The Eastern Broad-nosed Bat occurs in a range of habitats, including rainforest, tall wet forest, vine forest, low open forest and in timbered urban areas. They often roost in tree hollows and sometimes buildings - sharing maternity roosts with <i>Chalinolobus morio</i> .	Diet is not known. Probably eats flying insects. Likely eats disease-carrying mosquitoes and pest moth species.
	Parnaby's Broad-nosed Bat occurs throughout Eastern Australia in	Found along coastal and sub-coastal habitat including dry -sclerophyll forest. Roosts in tree hollows, buildings and wall	Diet is not known. Probably eats flying insects. Likely eats disease-carrying

Parnaby's Broad-nosed Bat (Scotorepens sp.)

northern NSW and southern Qld cavities.

mosquitoes and pest moth species.



Bristle-faced Free-tailed Bat (Setirostris eleryi) ^

Distributed from the southern half of the Northern Territory to central Queensland and north-western NSW. In NSW, the species has been recently recorded from only three disjunct locations: thirteen individuals from Gundabooka National Park, south of Bourke; one individual from Dhinnia Dthinawan Nature Reserve (formerly Bebo State Forest), north of Warialda two individuals near Bonshaw.

It remains an undescribed species.
Knowledge of the ecology of the Hairynosed Freetail Bat is limited and they are
considered extremely rare. They appear to
favour riverine and drainage line habitats.
Evidence suggests that the species
depends on hollows and tree fissures for
roosting sites.

Diet is not known. Probably eats flying insects. Likely eats disease-carrying mosquitoes and pest moth species.



Inland Forest Bat (Vespadelus baverstocki) #

Because of the difficulty of identification, the distribution of this species, particularly in NSW, is very poorly known. Believed to occur in all the mainland states, generally in areas with annual rainfall less than 400 millimetres.

The habitat requirements of this species are poorly known but it has been recorded from a variety of woodland formations, including Mallee, Mulga and River Red Gum. Roosts in tree hollows and abandoned buildings.

Feeds on flying insects, mainly moths. Known to consume major chewing pest of vegetable crops, cotton and other field crops including cutworms (*Diarsia intermixta*), beet armyworm (*Spodoptera exigua*), cotton bollworms (*Helicoverpa armigera, Helicoverpa punctigera*), sugarcane armyworm (*Leucania loreyi*), lucerne seed web moth (*Etiella behrii*), and pests of turf (*Faveria tritalis*) and peanuts (*Endotricha puncticostalis*).



Large Forest Bat (Vespadelus darlingtoni)

Found along the southeast of Australia in Victoria and New South Wales, Tasmania and Lord Howe Island. Found in dry and wet eucalypt forest, rainforest, woodlands, coastal, mallee urban habitats and at sub-alpine to alpine habitats. This bat roosts in tree hollows.

Consumes ants, flies, lacewings, termites, bugs, beetles, moths and spiders. Probably consumes disease carrying mosquitoes.



Eastern Forest Bat (Vespadelus pumilus)

The Eastern Forest Bat is found from Queensland to New South Wales.

The Eastern Forest Bat is found in rainforest and wet sclerophyll forests where the gullies contain rainforest vegetation. They roost in mature trees with small to large hollows and under the loose bark.

Diet consists of small moths, beetles, flies, ants/wasps and bugs. Eats disease carrying mosquitoes and pest moths. Specifically, Australian armyworm (*Mythimna convecta*) and web moth species (*Spectrotrota fimbrialis*) a pest of Myrtaceae.



Southern Forest Bat (Vespadelus regulus)

Distributed across the southern half of Australia, from western Australia, South Australia, Victoria, NSW, Tasmania and the southern part of OLD. Common in coastal and sub-coastal habitat except for the northern part of its range where is occurs on the northern tablelands and associated eastern escarpments. The habitat is a variety of mallee and other semi-arid woodland and wet sclerophyll forest in areas of higher rainfall. Roosts in hollows in old trees, under the loose bark of trees and buildings.

Diet consists of flies, moths, beetles, bugs and ants. No specific dietary information. Probably consumes disease carrying mosquitoes.



Eastern Cave Bat (Vespadelus troughtoni) #

The Eastern Cave Bat is found in a broad band on both sides of the Great Dividing Range from Cape York to Kempsey, with records from the New England Tablelands and the upper north coast of NSW. The western limit appears to be the Warrumbungle Range, and there are records close to Sydney.

A cave-roosting species that is usually found in dry open forest and woodland, near cliffs or rocky overhangs. Occasionally found along cliff-lines in wet eucalypt forest and rainforest. Also found in tropical mixed woodland and wet sclerophyll forests and semiarid environments. Very little is known about the ecology, behaviour and habitat requirements. Roosts in caves and disused mine workings.

Consumes mosquitoes and other diptera (e.g flies and midges). No specific dietary information. Probably consumes disease carrying mosquitoes.

	Distribution	Habitat Ecology & Roosts	Diet & Pest Insects
Little Forest Bat (Vespadelus vulturnus)	Distributed across south-eastern Australia, but is absent from arid areas.	Eucalypt forests, preferring open and riverine forest. Also found in mallee, mulga and brigalow woodland. Roosts in hollows in old trees, buildings, and timber stacks.	Mostly moths, some beetles, flies, mosquitoes, bugs, crickets and grasshoppers. Known to consume major chewing pest of vegetable crops, cotton and other field crops including bollworms (Helicoverpa armigera, Helicoverpa punctigera), rough bollworm (Earias huegeliana), armyworms (Mythimna sp. and Mythimna seperata), beet armyworm (Spodoptera exigua), cotton tipworm (Crocidosema plebejana), green mirid (Creontiades dilutus), rape beetle (Meligethes ochropus), sap beetle (Carpophilus pallipennis), crickets, lygaeid bugs and planthoppers. Diet is dominated by webworm (Achyra affinitalis).