

NATIVE FAUNA OF THE GREATER BLUE MOUNTAINS WORLD HERITAGE AREA



UPDATE 1 – FROGS

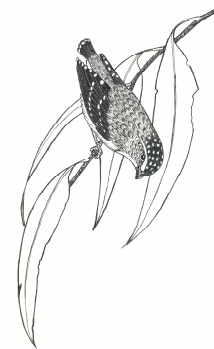
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UPDATE 1 – FROGS

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Cover illustration of Blue Mountains Tree Frog by Kate Smith katesmithart@gmail.com

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Introduction

The Greater Blue Mountains World Heritage Area comprises eight reserves: Blue Mountains, Gardens of Stone, Kanangra-Boyd, Nattai, Thirlmere Lakes, Wollemi and Yengo National Parks, and Jenolan Karst Conservation Reserve. The area was inscribed on the World Heritage List in 2000 because its natural values, including the diversity of its fauna, were considered to be outstanding at international level.

In 1998, when the nomination of the Greater Blue Mountains Area for inscription on the World Heritage List was prepared for the Australian Government, it was well known that the area provided habitat for a wide variety of mammals, birds, reptiles and frogs but the details were sketchy. The nomination indicated that about 400 native terrestrial vertebrate fauna species had been recorded in the area, including 52 mammal, 265 bird, 63 reptile and more than 30 frog species. However, these included species recorded in the vicinity but not confirmed to occur within the World Heritage Area.

We have been residents of the Blue Mountains, and have observed and kept records of its fauna, for over 40 years. As ecological consultants, we have carried out many fauna surveys in the area. In 1990, we published a book on the local fauna (J. Smith and P. Smith, 1990, *Fauna of the Blue Mountains*, Kangaroo Press, Kenthurst) and in 2019, from our own records and many other sources, we published a more comprehensive book on the fauna of the World Heritage Area (J. Smith, P. Smith and K. Smith, 2019, *Native Fauna of the Greater Blue Mountains World Heritage Area*, P & J Smith Ecological Consultants, Blaxland). Our objective in the latter book was to document the native mammals, birds, reptiles and frogs of the World Heritage Area, with details of the distribution, abundance, habitat and conservation significance of each species. The book was intended to celebrate the outstanding diversity of native fauna in the area, to promote greater appreciation of this fauna, and to provide benchmark information that would be of value for the current and future management of the World Heritage Area.

Our book listed 68 mammals, 254 birds, 74 reptiles and 36 frogs that we considered to have been reliably recorded within the Greater Blue Mountains World Heritage Area since European settlement. Sadly, nine mammal species now appear to be locally extinct, including one which is extinct at species level (White-footed Rabbit-rat *Conilurus albipes*), and one which is extinct at subspecies level (an unidentified bettong, either the Tasmanian Bettong *Bettongia gaimardi gaimardi* or the Brush-tailed Bettong *Bettongia penicillata*

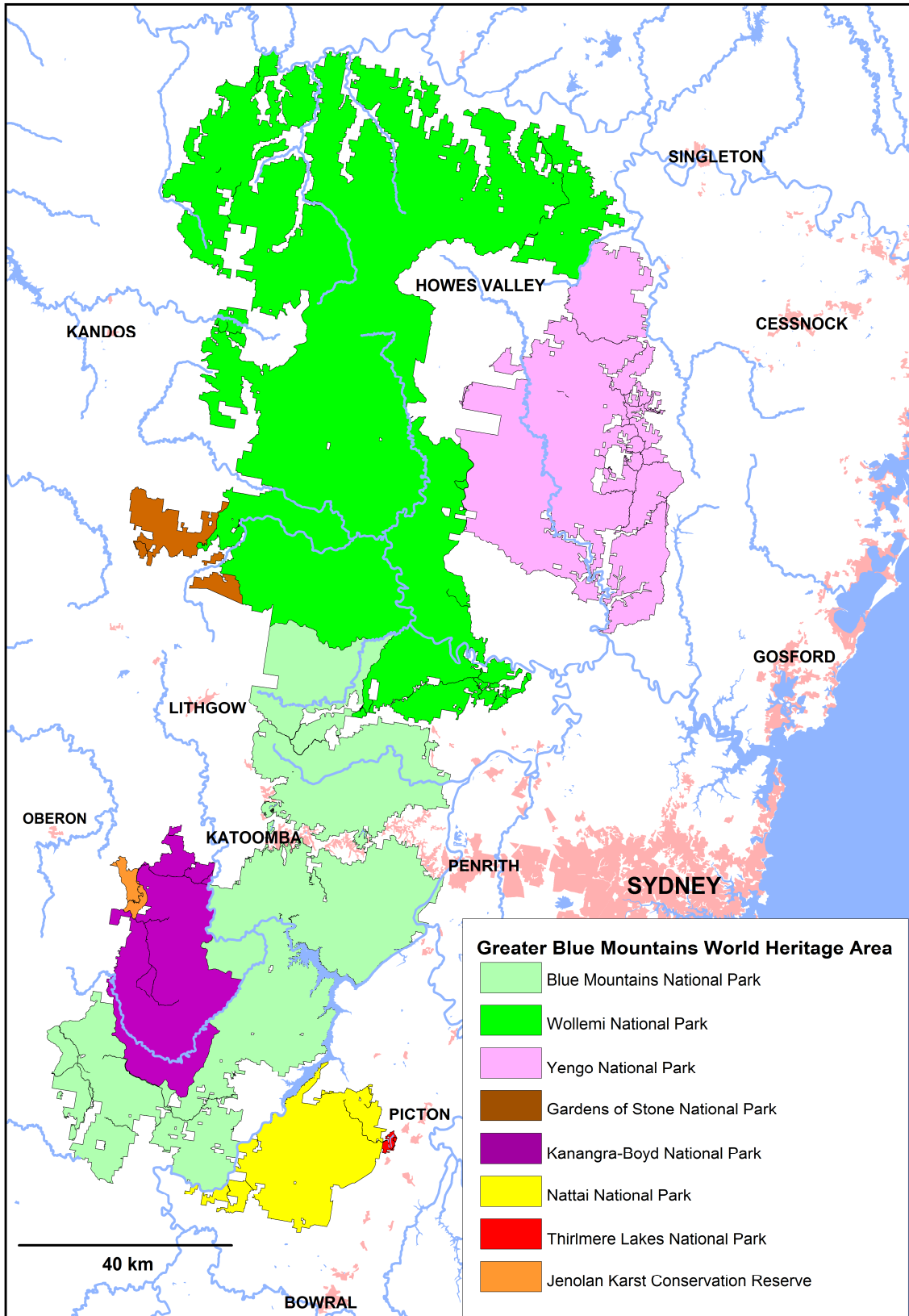
penicillata, both of which were recorded historically in the near vicinity of the WHA). At least one frog species, the Green and Golden Bell Frog, last recorded in 1963, may also now be extinct in the World Heritage Area.

While we were writing the book, the World Heritage Area was subject to a severe and prolonged drought accompanied by record-breaking and persistent high temperatures. These extreme conditions, which are a consequence of on-going rapid climate change, culminated in the spring and summer wildfires of 2019-20. The severity and extent of the fires were unprecedented and about 80% of the Greater Blue Mountains World Heritage Area was burnt. In early 2020, the wildfires were extinguished by deluges of rain which caused serious flooding and erosion in the World Heritage Area. The full impact on the fauna of these combined events is still to be determined, but it is clear that much more now needs to be done locally to promote the recovery and resilience of the native vegetation and fauna. In the face of the increasing impact of human-induced climate change on the World Heritage Area, it is also clear that local management initiatives will not succeed in the long term unless the issue of climate change is addressed much more seriously at state, national and global levels.

We are continuing to gather information on the Blue Mountains fauna. We intend to provide occasional updates to our book in the form of four annotated checklists (one each for the mammals, birds, reptiles and frogs), which will be made available on the Blue Mountains Nature and Researchgate websites. In this first update, there are two additions to the species list: one nomadic waterbird, the Plumed Whistling-Duck, was recorded within the WHA for the first time in the summer of 2017-18; and one mammal species, the Sugar Glider, has recently been split into three separate species, two of which occur in the WHA (Krefft's Glider and Sugar Glider in a narrower sense). Thus, the native fauna species now known from the WHA include 69 mammals, 255 birds, 74 reptiles and 36 frogs. Seventy-seven of these (28 mammals, 38 birds, 4 reptiles and 7 frogs) are listed as threatened species under either national or state legislation (as of March 2021).

This first update represents the status of the fauna prior to the events of 2019-20 and does not take account of the impact of the drought, heatwaves, wildfires and floods. It is likely that the populations and ranges of many fauna species in the area have been reduced. Many fauna species have become much more threatened and some may have become locally extinct. The changes resulting from the upheavals in 2019-20 are yet to be elucidated and documented. As more information becomes available, we hope to do further updates describing those changes. Updating the checklists is an important and on-going process. If you have additional records or other information, your feedback would be very welcome.

Judy and Peter Smith



Native frog species recorded in the Greater Blue Mountains World Heritage Area

Status in NSW and Commonwealth legislation: E = endangered, V = vulnerable

GBMWA reserves: BMNP = Blue Mountains National Park, GOSNP = Gardens of Stone National Park, JKCR = Jenolan Karst Conservation Reserve, KBNP = Kanangra-Boyd National Park, NNP = Nattai National Park, TLNP = Thirlmere Lakes National Park, WNP = Wollemi National Park, YNP = Yengo National Park

Species nomenclature follows Cogger (2014). 'Recent' records are 2000 or later, otherwise the date of the last record is specified.

Common name	Scientific name	Family	Status		Records in Greater Blue Mountains World Heritage Area reserves								
			NSW	Aus	BMNP	GOSNP	JKCR	KBNP	NNP	TLNP	WNP	YNP	
Tusked Frog	<i>Adelotus brevis</i>	Limnodynastidae			recent							recent	
Giant Burrowing Frog	<i>Heleioporus australiacus</i>	Limnodynastidae	V	V	recent				1959			recent	recent
Fletcher's Frog	<i>Lechriodus fletcheri</i>	Limnodynastidae										1997	
Eastern Banjo Frog	<i>Limnodynastes dumerilii</i> subspecies <i>dumerilii</i> subspecies <i>grayi</i>	Limnodynastidae			recent recent	recent		recent		recent	recent	recent recent	recent recent
Brown-striped Frog	<i>Limnodynastes peronii</i>	Limnodynastidae			recent		recent		1997	recent	recent	recent	recent
Spotted Grass Frog	<i>Limnodynastes tasmaniensis</i>	Limnodynastidae			recent	recent	recent	recent				recent	
Sudell's Frog	<i>Neobatrachus sudelli</i>	Limnodynastidae										recent	
Ornate Burrowing Frog	<i>Platyplectrum ornatum</i>	Limnodynastidae										recent	recent
Common Eastern Froglet	<i>Crinia signifera</i>	Myobatrachidae			recent	recent	recent	recent	recent	recent	recent	recent	recent
Stuttering Frog	<i>Mixophyes balbus</i>	Myobatrachidae	E	V	recent		1974			1973		recent	
Great Barred Frog	<i>Mixophyes fasciolatus</i>	Myobatrachidae										recent	recent
Giant Barred Frog	<i>Mixophyes iteratus</i>	Myobatrachidae	E	E	1967							recent	
Haswell's Frog	<i>Paracrinia haswelli</i>	Myobatrachidae									recent		
Red-crowned Toadlet	<i>Pseudophryne australis</i>	Myobatrachidae	V		recent					recent	recent	recent	recent
Brown Toadlet	<i>Pseudophryne bibronii</i>	Myobatrachidae			recent	recent	1979	recent	recent	1997	recent	recent	recent
Dusky Toadlet	<i>Uperoleia fusca</i>	Myobatrachidae			recent							recent	recent
Smooth Toadlet	<i>Uperoleia laevigata</i>	Myobatrachidae			recent		pre 1950	1997	recent			recent	recent
Tyler's Toadlet	<i>Uperoleia tyleri</i>	Myobatrachidae								undated			
Green and Golden Bell Frog	<i>Litoria aurea</i>	Hylidae	E	V									1963
Booroolong Frog	<i>Litoria booroolongensis</i>	Hylidae	E	E					1998			1980	
Green Tree Frog	<i>Litoria caerulea</i>	Hylidae				recent						recent	recent
Red-eyed Tree Frog	<i>Litoria chloris</i>	Hylidae										recent	recent
Blue Mountains Tree Frog	<i>Litoria citropa</i>	Hylidae			recent		pre 2000	recent	recent	1969	recent		

Common name	Scientific name	Family	Status		Records in Greater Blue Mountains World Heritage Area reserves							
			NSW	Aus	BMNP	GOSNP	JKCR	KBNP	NNP	TLNP	WNP	YNP
Bleating Tree Frog	<i>Litoria dentata</i>	Hylidae			recent	recent		recent	recent	recent	recent	recent
Brown Tree Frog	<i>Litoria ewingii</i>	Hylidae			recent							
Eastern Dwarf Tree Frog	<i>Litoria fallax</i>	Hylidae			recent				recent	recent	recent	recent
Freycinet's Frog	<i>Litoria freycineti</i>	Hylidae										1997
Broad-palmed Frog	<i>Litoria latopalmata</i>	Hylidae			recent	recent					recent	recent
Lesueur's Frog	<i>Litoria lesueuri sens. str.</i>	Hylidae			recent	recent					recent	recent
Littlejohn's Tree Frog	<i>Litoria littlejohni</i>	Hylidae	V	V	recent			pre 2000			recent	
Leaf Green River Tree Frog	<i>Litoria nudidigita</i>	Hylidae			recent		recent	recent				
Peron's Tree Frog	<i>Litoria peronii</i>	Hylidae			recent	recent		recent	recent	recent	recent	recent
Leaf Green Tree Frog	<i>Litoria phyllochroa sens. str.</i>	Hylidae			recent	recent	recent	recent	recent		recent	recent
Tyler's Tree Frog	<i>Litoria tyleri</i>	Hylidae			recent					recent	recent	recent
Verreaux's Tree Frog	<i>Litoria verreauxii verreauxii</i>	Hylidae			recent	recent	recent	recent	recent	recent	recent	
Wilcox's Frog	<i>Litoria wilcoxi</i>	Hylidae			recent	recent	recent	recent	recent		recent	recent

Native Frog Species Recorded in the Greater Blue Mountains World Heritage Area

Species nomenclature follows Cogger (2014). The reserves in which each species has been recorded are listed as: BM (Blue Mountains National Park), GOS (Gardens of Stone NP), J (Jenolan Karst Conservation Reserve), KB (Kanangra-Boyd NP), N (Nattai NP), TL (Thirlmere Lakes NP), W (Wollemi NP) and Y (Yengo NP). Unless otherwise indicated, there have been recent records (2000 or later) from each reserve listed. The date of the last record is only shown if it was before 2000. Threatened species listings under NSW and Commonwealth legislation are shown in red. Terminology for vegetation types follows Keith (2004).

Family LIMNODYNASTIDAE – LIMNODYNASTID GROUND FROGS

Tusked Frog *Adelotus brevis*

Reserves: BM, W

Rare resident at the southern edge of its range. It is typically associated with permanent or semi-permanent ponds and watercourses in wet sclerophyll forest and rainforest. The species has declined greatly in recent years at higher elevations in northern NSW (Anstis 2013). There are recent (2007) and older (1977-78) records from south-eastern Wollemi NP between Angorawa Creek and Culoul Range (DECC 2008b and Australian Museum specimens). Also recorded in Blue Mountains NP from a 1977 sighting at Euroka Clearing (BioNet Atlas record) and from calls heard at Blue Gum Swamp Creek in 2007 and 2017 (Darryl McKay). Recorded in the past in or near Blue Mountains NP at Springwood (Moore 1961).

Giant Burrowing Frog *Heleioporus australiacus*

Status: vulnerable (NSW and Commonwealth)

Reserves: BM, KB (1959), W, Y

Uncommon resident with a localised distribution. A declining species in the Sydney Basin (Anstis 2013). It is more common at lower elevations and is most frequently recorded in the north-east of the WHA. It reaches the western and northern limits of its distribution at the western escarpment of the Blue Mountains and the southern escarpment of the Hunter Valley. It is a burrowing frog that in the Sydney Basin is typically associated with streams in sandstone forests, but also occurs in upland swamps.

Recent records include Tobys Glen, Linden Creek and Donna's Track (Blue Mountains NP), Hayes Creek, Reubens Fire Trail, Tootie Creek, Angorawa Creek, Grassy Hill Track, Myrtle Creek, Cottage Creek, Numietta Creek, Gaspers Creek, and between Little Tootie and Bowen Hill (Wollemi NP), and Old Bulga Road and Partridge Creek (Yengo NP). Older records in or near Blue Mountains NP include Buralow Creek, Murphys Glen, Williams Ridge, Hazelbrook, Lawson and Leura (Smith and Smith 1990). The only record from Kanangra-Boyd NP an Australian Museum specimen collected at Kanangra Walls in 1959.

Fletcher's Frog *Lechriodus fletcheri*

Reserves: W (1997)

Rare resident at the southern edge of its range. It is usually associated with wet sclerophyll forest and rainforest, breeding in small temporary ponds and in still pools along small creeks. It was recorded in 1997 in the vicinity of Hunter Main Trail about 1.5 km east of Three Ways in north-eastern Wollemi NP (DEC 2005a). This population is disjunct from the main distribution of the species. The closest known populations are at Barrington Tops and Mount Royal (90 km to the north-east) and in the Watagan Mountains (70 km to the south-east).

Eastern Banjo Frog *Limnodynastes dumerilii dumerilii* and *L. dumerilii grayi*

Reserves: BM, GOS, J, KB, N, TL, W, Y

Common, widespread resident recorded from every WHA reserve but most frequently in Wollemi, Blue Mountains and Yengo NPs. It occurs in various habitats, including disturbed habitats such as farmland. It breeds in permanent or semi-permanent ponds and stream pools. The call is a single 'bonk' like a banjo being plucked, but in chorus the effect is a 'pobblebonk' sound and an alternative common name for the species is Pobblebonk. Recent records include Carne Creek, Glow Worm Tunnel Road and the vicinity of Coco and Airly Creeks (Gardens of Stone NP), Angorawa Creek, Bylong Creek, Blackwater Creek, Lee Creek and Ganguddy Creek (Wollemi NP), and Old Bulga Road, Putty Road, Darkey Creek and Partridge Creek (Yengo NP).

Two subspecies, *dumerilii* and *grayi*, have been recorded in the WHA, both of which occur widely, from south to north and at both low and high elevations (DEC 2005a, DEC 2005b, DEC 2006, DECC 2008a, OEH 2012a, OEH 2012b). In some cases, both subspecies have been recorded in the same location, e.g. Ganguddy Creek in Wollemi NP (DEC 2006) and Old Bulga Road in Yengo NP (DEC 2005b). Subspecies *grayi* is at the western limit of its distribution.

Brown-striped Frog *Limnodynastes peronii*

Reserves: BM, J, KB (1997), N, TL, W, Y

Common, widespread resident, recorded from all WHA reserves except Gardens of Stone NP. It is associated with permanent or temporary ponds and still stream pools. It is common around human habitation on the fringes of the WHA, occurring in farm dams, garden ponds, drains and other artificial habitats. Its call, a slowly repeated 'tock', sounds like a dripping tap.

Spotted Grass Frog *Limnodynastes tasmaniensis*

Reserves: BM, GOS, J, KB, W

Uncommon resident that is more frequent in the western parts of the WHA. It is typically associated with open grassy or sedgy habitats, either natural or cleared, breeding in

permanent or temporary ponds and marshy areas. The call is a rapidly repeated ‘gonk-gonk-gonk....’

Sudell's Frog *Neobatrachus sudelli*

Reserves: W

Rare resident that is more typical of inland areas and is at the eastern limit of its range in the WHA. It is a burrowing frog associated with grassy woodland and shrub/grass dry sclerophyll forest, where it breeds in marshy areas and in permanent or temporary ponds. The only record in the WHA was in 2004 on the boundary of Wollemi NP in the Doyles Creek valley following heavy rain (DEC 2005a).

Ornate Burrowing Frog *Platyplectrum ornatum*

Reserves: W, Y

Uncommon resident at the southern edge of its range in coastal NSW (it occurs further south on the western side of the Great Dividing Range). This burrowing frog is found in a variety of natural and disturbed habitats. It breeds in permanent or temporary ponds, puddles and marshy areas. Records have come from various locations in Wollemi and Yengo NPs.

Family MYOBATRACHIDAE – SOUTHERN GROUND FROGS

Common Eastern Froglet *Crinia signifera*

Reserves: BM, GOS, J, KB, N, TL, W, Y

Common resident that has been recorded from all reserves and is easily the most abundant frog in the WHA. It is found in most habitats, breeding in temporary or permanent ponds, puddles, marshy areas and stream pools. Its ‘crick-crick-crick....’ calls are heard throughout the year and are surprisingly loud for such a small frog.

Stuttering Frog *Mixophyes balbus*

Status: endangered (NSW), vulnerable (Commonwealth)

Reserves: BM, J (1974), N (1973), W

Rare resident at the western edge of its range and possibly on the verge of local extinction. It is associated with flowing streams, typically in wet sclerophyll forest or rainforest. The southern form (south from Barrington Tops – the form that occurs in the WHA) has declined greatly in recent times, while the northern form (north from Barrington Tops) has been more stable (Anstis 2013). These two forms may be separate species.

It has been recorded in the Mt Werong area (Blue Mountains NP) in 2001-04 (BioNet Atlas) and 2018 (Australian Museum specimen), occurring in both east-flowing and west-flowing streams (i.e. on both sides of the Great Dividing Range). It was seen at Victoria Falls (Blue Mountains NP) in 2002 but subsequent surveys have failed to relocate the species in this

location (DECC 2008a). Other recent records have come from Wollemi NP at Blackwater Creek in 2005 and Canobla Creek in 2007 (BioNet Atlas). The Blue Mountains NP and Wollemi NP populations are the only known surviving populations of the species at high elevations south of the Hunter Valley.

The species was formerly more common and widespread in the WHA region, recorded in Nattai NP in 1973 and Jenolan KCR in 1974 (Australian Museum specimens). Other old (pre-1990) records in or near the WHA include Kurrajong Heights, Blue Gum Swamp Creek, Faulconbridge, Linden, upper Grose River, Mount Irvine, Mount Wilson, Newnes Plateau and the Coxs River Valley (Smith and Smith 1990).

Great Barred Frog *Mixophyes fasciolatus*

Reserves: W, Y

Rare resident at the western edge of its range. It is associated with riparian rainforest and wet sclerophyll forest, where it breeds in stream pools and permanent ponds. It was recorded at Parsons Creek at the junction of Wollemi and Yengo NPs in 2005 (DEC 2005a), and at Darkey Creek in Yengo NP in the same year (DEC 2005b).

Giant Barred Frog *Mixophyes iteratus*

Status: endangered (NSW and Commonwealth)

Reserves: BM (1967), W

Rare resident at the southern edge of its range. Like the other species of this genus, it is associated with riparian rainforest and wet sclerophyll forest, breeding in permanent or semi-permanent stream pools. It was recorded at the Colo River in Wollemi NP in 2014 (Matt McCaffery). A series of specimens at the Australian Museum was collected in 1967 in the Explorers Range area of Blue Mountains NP. Warrimoo, which borders Blue Mountains NP, is considered the southern limit of the species (Anstis 2013)

Haswell's Frog *Paracrinia haswelli*

Reserves: TL

Rare resident in Thirlmere Lakes NP. It was recorded there in 1997 during a National Parks and Wildlife Service fauna survey (BioNet Atlas) and in 2001 (Australian Museum specimen). It is a coastal species at the western edge of its range. It inhabits swamps, heath and shrubby dry sclerophyll forest, breeding in marshy areas and in permanent or temporary ponds.

Red-crowned Toadlet *Pseudophryne australis*

Status: vulnerable (NSW)

Reserves: BM, N, TL, W, Y

Common resident, recorded widely in Hawkesbury and Narrabeen sandstone areas of the WHA. The species has a restricted distribution, confined to the Sydney Basin. It reaches the western and northern limits of its distribution at the western escarpment of the Blue Mountains and the southern escarpment of the Hunter Valley. It forms small colonies in temporary watercourses and soaks on sandstone ridges and slopes, and in the headwaters of creeks. In Wollemi NP it has been recorded in seepage areas at the base of pagoda formations. It is also found occasionally in other habitats, including volcanic diatremes, deep sandy alluvium and rainforest.

Brown Toadlet *Pseudophryne bibronii*

Reserves: BM, GOS, J (1979), KB, N, TL (1997), W, Y

Moderately common resident, recorded in every WHA reserve. The lowland form of the species appears to be declining, but the highland form appears to be more stable. The species is typically associated with areas of higher soil fertility, breeding in permanent or temporary ponds, soaks and creeks. It is rarely found in sandstone habitats. The highland form is common in Kanangra-Boyd NP, while the Burraborang and Nattai Valleys provide refuges for the lowland form (DECC 2007b). Other recent localities include Crown Creek and Glow Worm Tunnel Road (Gardens of Stone NP), Gibba Swamp, Culoul Range and Gaspers Creek (Wollemi NP), Pierces Hole, Mount Yengo and Wallabadah Valley (Yengo NP), and Murrain Range (Blue Mountains NP). There are no recent records from Jenolan KCR but specimens were collected there in 1969-79 (Australian Museum).

Dusky Toadlet *Uperoleia fusca*

Reserves: BM, W, Y

Rare resident at the southern limit of its distribution. Restricted to north-eastern quarter of the WHA, where it has been recorded from scattered locations. One recent location at the southern end of its distribution is Vale of Avoca (Blue Mountains NP). It appears to favour wet sclerophyll forest but also occurs in other habitats, including farmland. It breeds in marshy areas and permanent or temporary ponds.

Smooth Toadlet *Uperoleia laevigata*

Reserves: BM, J (pre 1950), KB (1997), N, W, Y

Uncommon but widespread resident. It appears to favour dry sclerophyll forest and grassy woodland, but also occurs in farmland. It breeds mostly in permanent ponds and may be found in former farm dams within the WHA. The only record from Jenolan KCR is an undated Australian Museum specimen collected before 1950, probably many years before.

Tyler's Toadlet *Uperoleia tyleri*

Reserves: TL (undated)

Rare resident, only known in the WHA from an undated Australian Museum specimen collected at Thirlmere Lakes, where the species is at the western limit of its distribution. It occurs in various habitats, breeding in permanent or temporary ponds and in swamps.

Family HYLIDAE – TREE FROGS

Green and Golden Bell Frog *Litoria aurea*

Status: endangered (NSW), vulnerable (Commonwealth)

Reserves: Y (1963)

The only record is two specimens at the Queensland Museum collected in 1963 about 35 km north of Wisemans Ferry in what is now Yengo NP. The species has declined dramatically throughout its range (Anstis 2013) and is possibly now extinct in the WHA. It was once a common frog in the Sydney region but now only small, isolated populations remain (White and Pyke 1996). It is found in ponds, marshy areas or along watercourses, especially where there are bulrushes or spikerushes.

Booroolong Frog *Litoria booroolongensis*

Status: endangered (NSW and Commonwealth)

Reserves: KB (1998), W (1980)

Rare resident at the eastern edge of its range. It is found along rocky watercourses but has declined in east-flowing streams and is now found mainly west of the Great Dividing Range. It has suffered drastic declines in northern NSW since the 1980s and also appears to be declining in the southern parts of its range (Anstis 2013). It was recorded at Wollemi Creek and Simpson Gorge (Wollemi NP) in 1979-80 and Morong Falls (Kanangra-Boyd NP) in 1976 (Australian Museum specimens). It was recorded at Beefsteak Creek and Little River (Kanangra-Boyd NP) in 1998 (DEC 2004a). We are unaware of any records in the WHA since then. In the 1980s, it was considered moderately common in the Coxs River Valley, including Kanimbla and Megalong Valleys (Smith and Smith 1990).

Green Tree Frog *Litoria caerulea*

Reserves: GOS, W, Y

Rare resident in the three northernmost reserves of the WHA. It may once have occurred in the south of the WHA as well, but we have found no records to confirm this. The species is declining in the Greater Southern Sydney region, where it is now extremely rare and a species of high conservation priority (DECC 2007b). It occurs in a variety of habitats, including buildings, breeding in still water bodies, large or small, permanent or temporary, natural or artificial. Recent locations include Coco Creek, Crown Creek and Halfway Hollow (Gardens of Stone NP), and Gibba Swamp and New Blue Gum Creek (Wollemi NP).

Red-eyed Tree Frog *Litoria chloris*

Reserves: W, Y

Rare resident at the southern edge of its range. It is typically associated with wet sclerophyll forest and rainforest, where it spends much of its time in trees but breeds in temporary or permanent ponds and stream pools. It was recorded in the north-east corner of Wollemi NP in 1997 (Raspberry Junction) and 2005 (Hayes Creek) (DEC 2005a). It was recorded in Yengo NP in 2016 (George Madani).

Blue Mountains Tree Frog *Litoria citropa*

Reserves: BM, J (pre 2000), KB, N, TL (1969), W

Moderately common resident at the northern edge of its range. Despite the name, the species has a distribution extending beyond the Blue Mountains to eastern Victoria. It occurs at scattered locations in the WHA near permanent bodies of either still or flowing water, typically on sandstone geology. Recent records include Blackwater, Ovens and Numietta Creeks (Wollemi NP), and Galong and Sliprail Creeks (Blue Mountains NP). Australian Museum specimens are the only records for Jenolan KCR (two undated specimens collected before 2000) and Thirlmere Lakes NP (1969 specimen).

Bleating Tree Frog *Litoria dentata*

Reserves: BM, GOS, KB, N, TL, W, Y

Moderately common, widespread resident recorded from every reserve except Jenolan KCR. It is more frequent at lower elevations. It is found beside permanent or temporary ponds, streams and swamps, and also in trees well away from water. In chorus, the calls of the Bleating Tree Frog can be deafening.

Brown Tree Frog *Litoria ewingii*

Reserves: BM

Rare resident at the northern limit of its range. It is found in a variety of habitats, often well away from water, but it breeds in temporary or permanent ponds and stream pools. It was recorded in the higher parts of southern Blue Mountains NP in the Bindook Creek area in 2003-04 (DECC 2007a) and at Wombeyan Falls in 2016 (Judy and Peter Smith).

Eastern Dwarf Tree Frog *Litoria fallax*

Reserves: BM, N, TL, W, Y

Moderately common resident at the western edge of its range. It is associated with permanent or semi-permanent ponds and swamps. It is typically found in lower elevation sites on the eastern side of the WHA, such as Burralow Swamp and Euroka Clearing (Blue Mountains NP), and Wheeny Creek (Wollemi NP), but it also occurs in the Wolgan and Capertee Valleys on the western side of Wollemi NP. In the warmer months its 'wreek-pip' calls may be heard coming from low, dense vegetation and are surprisingly loud for such a small frog.

Freycinet's Frog *Litoria freycineti*

Reserves: Y (1997)

Rare resident at the western edge of its range. The only WHA record is from Finchley Campground (Yengo NP) in a National Parks and Wildlife Service fauna survey in 1997 (BioNet Atlas). The species is associated with swamps, watercourses and temporary ponds in either heath or forest.

Broad-palmed Frog *Litoria latopalmata*

Reserves: BM, GOS, W, Y

Moderately common resident in the northern half of the WHA, where it reaches the southern limit of its range in coastal NSW (it occurs further south on the western side of the Great Dividing Range). It is associated with permanent or semi-permanent ponds, swamps and watercourses but may also be found well away from water.

Lesueur's Frog *Litoria lesueuri sens. str.*

Reserves: BM, GOS, W, Y

Moderately common resident at the northern edge of its range. It is typically found along rocky, shady watercourses but may also be found beside permanent or semi-permanent ponds. *Litoria lesueuri* was formerly a more broadly defined species, but has recently been split into two separate species, *L. lesueuri sens.str.* and *L. wilcoxi* (Donnellan and Mahony 2004). *L. lesueuri sens.str.* has a more southern distribution and *L. wilcoxi* a more northern distribution. The two species overlap in the WHA and have been recorded together, for example, at McDonald River in Yengo NP. Older *L. lesueuri* records in the WHA could be either species. There is also some uncertainty about how reliably the two species can be distinguished on morphological features, especially in the WHA, where their distributions overlap. *L. lesueuri sens.str.* has been identified genetically from Glenbrook Creek in Blue Mountains NP (Donnellan and Mahony 2004) and morphologically from three other WHA reserves.

Littlejohn's Tree Frog *Litoria littlejohni*

Status: vulnerable (NSW and Commonwealth)

Reserves: BM, KB (pre 2000), W

Rare resident at the western edge of its range. It is found in upland swamps, temporary or permanent ponds, and along watercourses. Recent localities include a tributary of Bowen Creek in Wollemi NP (DECC 2008b), and Ingar Swamp in Blue Mountains NP (DECC 2007b). Specimens were collected between Bell and Mount Tomah (Blue Mountains NP) in 1962 (Queensland Museum) and 1972 (Australian Museum), and there are old, undated specimens from Kanangra-Boyd NP (Australian Museum). The species was recorded recently just west of Blue Mountains NP near Dargan (Grant Webster).

Leaf Green River Tree Frog *Litoria nudidigita*

Reserves: BM, J, KB

Rare resident at higher elevations at the southern end of the WHA, where it reaches the northern limit of its range. It is found along flowing streams, mostly in forested areas. It has only recently been distinguished as a separate species from *L. phyllochroa* (Donnellan *et al.* 1999). It has been recorded from Jenolan River in Jenolan KCR (David Coote), from Morong Creek and Spring Creek in Kanangra-Boyd NP (DEC 2004a), and from Mt Werong Creek and Abercrombie River in the south-western corner of Blue Mountains NP (DECC 2007a).

Peron's Tree Frog *Litoria peronii*

Reserves: BM, GOS, KB, N, TL, W, Y

Common, widespread resident, recorded from every WHA reserve except Jenolan KCR. It is more frequent at lower elevations. It breeds in permanent or semi-permanent ponds and stream pools but often shelters and calls in tree hollows well away from water. It is also common in surrounding urban and rural areas, where its breeding sites include farm dams and garden ponds.

Leaf Green Tree Frog *Litoria phyllochroa sens. str.*

Reserves: BM, GOS, J, KB, N, W, Y

Common, widespread resident at the southern edge of its range. It has been recorded from every WHA reserve except Thirlmere Lakes NP. It is found along flowing streams, mostly in shady, forested areas. *Litoria phyllochroa* was formerly a more broadly defined species with northern and southern forms with different calls. These were distinguished as two separate species in 1999: *L. phyllochroa sens. str.* (northern form) and *L. nudidigita* (southern form). The two species overlap in the WHA and earlier records of *L. phyllochroa* may include *L. nudidigita*. Subsequent records suggest that *L. phyllochroa sens. str.* is much more common and widespread in the WHA than *L. nudidigita*.

Tyler's Tree Frog *Litoria tyleri*

Reserves: BM, GOS, TL, W, Y

Uncommon resident at the western edge of its range. It is mainly found in the eastern half of the WHA, but also in the Wolgan Valley (Gardens of Stone NP) on the western side of the WHA. It is usually encountered near permanent or semi-permanent ponds, swamps and watercourses.

Verreaux's Tree Frog *Litoria verreauxii verreauxii*

Reserves: BM, GOS, J, KB, N, TL, W

Common, widespread resident recorded from every WHA reserve except Yengo NP. It is associated with permanent or semi-permanent ponds, swamps and watercourses in a variety of vegetation types. Sometimes called the Whistling Tree Frog because of its rapid

pulsing whistling call, it is one of the few frog species to call in winter, when it may be heard even at higher elevations.

Wilcox's Frog *Litoria wilcoxi*

Reserves: BM, GOS, J, KB, N, W, Y

Moderately common resident at the southern edge of its range. It typically breeds along rocky watercourses, but tends to move away from watercourses in winter. *Litoria wilcoxi* has only recently been distinguished as a separate species from *L. lesueuri* (Donnellan and Mahony 2004). Recent records, distinguishing between the two species morphologically, suggest that *L. wilcoxi* is the more common, more widespread species in the WHA. However, there is some uncertainty about how reliably the two species can be distinguished on morphological features, especially in the WHA, where their distributions overlap (Donnellan and Mahony 2004).

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Records from these databases were treated with caution. Any records that we considered doubtful were ignored.

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People

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