



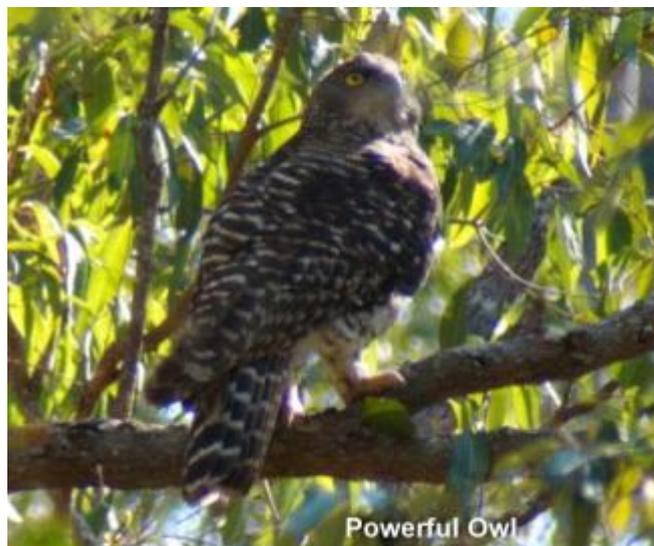
Since finding in July that an area of Braemar State Forest (south of Casino) proposed for imminent logging has extensive Koala High Use Areas and an exceptional population of Koalas, NEFA have been assessing its significance while appealing to the Premier and Environment Minister to intervene.

Our surveys have so far identified 134 trees with Koala scats beneath them, including 53 high use trees. Until recently the requirement was to undertake intensive surveys within 100m of high use trees to delineate high use areas to exclude from logging. We have identified 56ha of potential Koala High Use Areas and expect over 100ha to be present. This is the most extensive area found on State Forests.

Braemar encompasses core breeding habitat that is part of the nationally significant Koala population previously identified across the nearby Carwong and Royal Camp State Forests. The logging area is likely to support 60-90 Koalas, which represents an important source area for this population.

The only outcome of our pleas is that the Forestry Corporation abandoned their 2017 Harvesting Plan, which required the identification and protection of Koala High Use Areas, and on 31 August 2019 replaced it with a new Harvesting Plan which applies the new logging rules which no longer require the protection of Koala High Use Areas. Rather than protecting Braemar's Koalas, the Government has removed their protection.

Logging is scheduled to start on 13 September. Now that Koala High Use Areas no longer require protection the Forestry Corporation is also proposing logging compartment 13 Royal Camp SF.



Note: The logging area has been renumbered from Compartments 23 and 24 to 6 and 7.

NEFA undertook its 3rd assessment of Koalas in Braemar State Forest on the weekend of 31 August and 1 September to better identify the extent of Koala High Use Areas, as well as other threatened species. Our results confirm that the proposed logging area contains a resident population of Koalas that is more extensive and at higher densities than any found in pre-logging surveys over the past 20 years. With over half the logging area likely to qualify as Koala HUAs, Braemar State Forest has been confirmed as being of outstanding importance for a nationally significant population of Koalas.

When NEFA [first inspected](#) what were then compartments 23 and 24 of Braemar State Forest on Sunday 28 July it was to be logged under a November 2017 Harvesting Plan (HP) that applied the requirements of the 1999 Threatened Species Licence (TSL). The area had recently been marked up for logging which was due to start in August. The Harvesting Plan identified one Koala High Use Area (HUA) of 0.9ha, 3 Koala records from 1998 and 2 records from 2016. In one afternoon NEFA identified 42 records of Koalas, an additional Koala High Use Area (HUA) over 3ha in size and the likely presence of other Koala HUAs.

It was apparent that we had found an extension to the nationally significant Koala population [previously identified](#) by NEFA in Royal Camp and Carwong State Forests.

At that time, in accordance with the 1999 TSL, the 2017 HP required thorough searches for Koalas ahead of logging and the protection of all Koala HUAs, as well as the retention of 5 Koala feed trees >30cm diameter per hectare.

NEFA wrote to Premier Gladys Berejiklian on 30 July 2019 asking her to urgently intervene to ensure that independent surveys are undertaken to identify all important Koala habitat in Braemar State Forest before logging starts, and to ensure that a full assessment is undertaken of Koala habitat on the Richmond River lowlands given their demonstrated importance as Koala habitat.

In response to our letter to the Premier, NEFA was informed that the area would now be logged under the rules of the new Coastal Intergrated Forestry Operations Approval (IFOA), which do not require searches for, and protection of, Koala HUAs.

NEFA returned on 8 August to [further assess](#) the distribution of Koalas in the proposed logging area, identifying that the Koala HUA likely extends over 24 hectares, that other Koala HUAs are likely to be present, and that outside Koala HUAs Koalas are widespread but limited by the low numbers and diversity of feed trees due to previous logging.

The Premier informed NEFA that she had passed the issue onto Environment Minister Matt Kean, so accordingly an appeal to intervene was made to him on 9 August.

NEFA again returned on the weekend of 31 August and 1 September to better identify the extent of Koala HUAs as well as other threatened species. NEFA identified 74 trees with Koala scats, 31 of which are high use trees. Our additional assessment has now increased the area of potential Koala HUAs to 56ha, with an expectation that over 100ha of Koala HUAs exist in the logging area.

To put this into perspective, the Forestry Corporation have only identified 200ha of Koala HUAs in the past 15 years over hundreds of thousands of hectares. The principal Koala HUA identified is extremely large, being far bigger than any identified by the Forestry Corporation in the past 20 years.

The [EPA \(2016\)](#) identified that the adjacent Carwong State Forest had a Koala occupancy of 80%, which the EPA (2016) attributed to "*having both wildfire and multiple, recent logging events absent from Carwong (for approximately 20 years)*". This section of Braemar is expected to have a similar occupancy. The Forestry Corporation (Shields 2013) searched for Koalas using a sniffer dog in Royal Camp State Forest, detecting 14 Koalas at a mean density of 0.36/ha in 11 hours of

searching, this is a density of one koala per 2.8ha. Given the lower occupancy (58%) of Royal Camp, this would be a conservative density for this section of Braemar. Based on one Koala per 2.8ha the 185ha logging area would support 66 koalas, though with allowance for occupancy this could increase to over 90 Koalas.

NEFA also located a new record for Squirrel Glider (which under the 1999 TSL required the creation of an 8ha exclusion zone around the record), a tree hollow nest site for Little Lorikeet (which under the 1999 TSL required the creation of an exclusion zone of 30m around the nest), and the hollow-dependent Masked Owl, Powerful Owl and Turquoise Parrot (not previously identified).

On August 31 2019 the Forestry Corporation approved a new Harvesting Plan for Braemar State Forest. The compartment boundaries have been redrawn and the compartment numbers changed to 6 and 7, though the proposed logging area remains the same. The Koala HUA identified in the 2017 HP retains protection, though there is no longer any requirement to search for and protect additional Koala HUAs.

The requirement for the retention of 5 Koala feed trees >30cm diameter per hectare has been removed, with the only requirement given for Koalas is that if one is seen then the tree it is observed in has to be retained until the Koala moves. Though the EPA mapping now shows these compartments as Prescription 2 Koala habitat, thereby requiring the retention of 5 Koala feed trees per hectare >20cm diameter.

Similarly the requirement to protect 8ha around the record of the Squirrel Glider has been removed and the nest protection for the Little Lorikeet reduced from 30m down to 25m. Allowable logging intensity has increased and the Forestry Corporation has begun cancelling previously marked Recruitment (R) trees so they can be logged.

To offset these losses the new rules require the retention of 5% of the base net area as Wildlife Habitat Clumps. The new 2019 HP relies upon inaccessible areas to meet most of this requirement, effectively only excluding an additional 4.4ha of forest. It does not appear that the required assessment over a broad area has been undertaken, and retention levels appear too low. Neither is it evident that the criteria have been applied in identifying WHCs, as inaccessibility is not a criteria.

The new 2019 HP identifies potential areas for Tree Retention Clumps, which are required to cover 5% of the logging area at the discretion of the Forestry Corporation. One is located in an erosion exclusion area, and another is located adjacent to the 2017 Koala HUA, with the boundary drawn to specifically exclude the Koala records identified by NEFA on 28 July. This is an act of sheer bastardry.

Now that they no longer need to protect Koala High Use Areas, the Forestry Corporation have identified they intend to also log Compartment 13 of Royal Camp State Forest. It was NEFA's identification of extensive Koala High Use Areas that stopped it being logged in 2013.

The Forestry Corporation expects to obtain 1,443 m³ of high quality logs and 1,359 m³ of salvage logs from its logging of Compartments 6&7 of Braemar.

The NSW Government spent \$8.55 million in 2014 to buy back 50,000 m³ of high quality logs per annum to reduce commitments down to an estimated sustainable level. In 2018, after the buyback, the Forestry Corporation informed me they have "High Quality Product Allocations" of 220,423 m³ per annum from north-east NSW. The latest data provided to me by the Forestry Corporation give yields of these products as:

- 220,027 m³ for 2014-15
- 237,270 m³ for 2015-16
- 252,790 m³ for 2016-17
- 249,728 m³ for 2017-18

254,245 m³ for 2018-19

It is evident that the cut has significantly increased since the buyback. Over the past 3 years this is a total over-cut of 95,494 m³ of high quality logs, an average of 31,831 m³ per annum, which represents 64% of the annual allocations bought back at such expense in 2014. This is at the same time the Forestry Corporation is claiming shortfalls of up to a 8,600 m³ per annum of high quality logs to justify logging oldgrowth!

The 1,443 m³ of high quality sawlogs expected to be obtained from Braemar 6&7 represents just 1.5% of the total overcut of the past 3 years. There is no justification for logging this irreplaceable Koala habitat.

Fauna

On the weekend of 31 August and 1 September 2019 NEFA undertook a survey of fauna in Braemar State Forest Compartments 6 and 7. The focus was on doing Koala scat searches, with 74 trees located with Koala scats around their bases: 24 with >20 scats, 7 with different sized scats, and 43 with 1-20 scats (Appendix 1).

Across the 3 surveys to date we have identified 134 trees with Koala scats beneath them, including 46 high use trees with 21-121 scats and an additional 7 trees with different sized scats indicating a mother and joey. NEFA have assessed 7 patches and identified the presence of Koala High Use Areas (as defined by the TSL) and recent Koala activity in all of them, which clearly extend beyond the search areas. The total area of potential Koala High Use Areas identified by NEFA so far is around 56ha, with over 100ha expected, making this area the most significant recorded on State Forests in the past 20 years.

Ecologist David Milledge observed numerous Little Lorikeets, with one using a tree hollow near the intersection of Storck and Range Roads. A Powerful Owl and a pair of Masked Owls were calling near this intersection on Saturday night, with a Squirrel Glider heard further down Storck Road. Mr Milledge also made a new record of a male Turquoise Parrot at two sites along Range Road, though outside Compartment 6. The Powerful Owl was observed by Andrew Murray roosting on Sunday morning. (Appendix 1)

The new logging rules remove protection for Koala High Use Areas and the requirement to protect 8ha around records of Squirrel Gliders, these losses are major reductions in protection for these species and are likely to result in significant declines in populations of both.

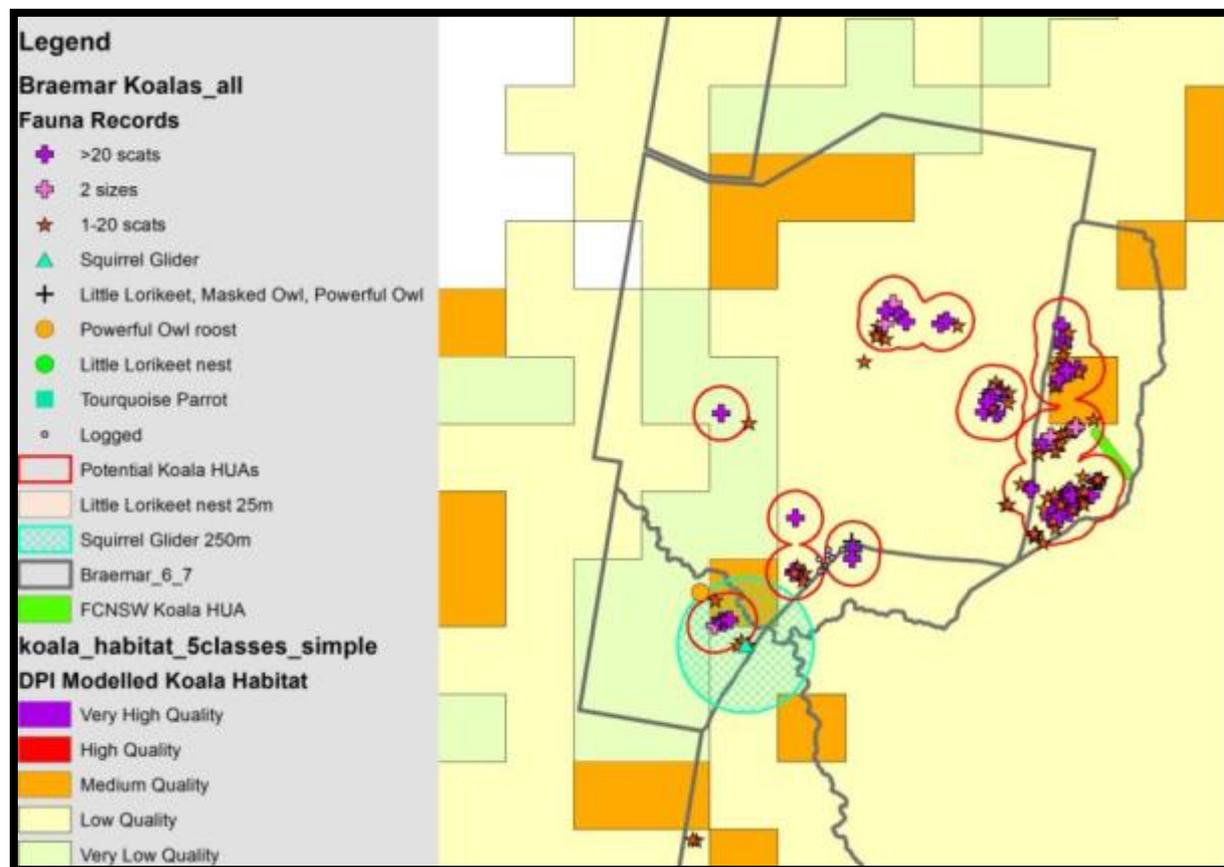
Koala

NEFA has focussed on targeting patches of forest throughout the logging area to ascertain their significance for Koalas in order to document Koala distribution and the location of Koala High Use Areas throughout the logging area.

NEFA uses volunteers to search under trees in patches of forest, targeting preferred feed trees. Patches have been chosen to obtain a geographical spread, though also to sample better looking habitat. The methodology is basically searching for Koala scats around potential feed trees, focussing within 1m of the base, and placing all Koala scats found in piles at the base. These are counted, photographed and the location (species, diameter) of the tree recorded.

The methodology is basically the same as that intended by the 1999 Threatened Species Licence, though with no 'star' searches. The thresholds used are to identify trees with one or more scats and high use trees with more than 20 scats. Only a sample of scats are found under any tree, with increased effort applied when it is apparent that there are likely to be more than 20 scats.

Across the 3 surveys to date we have identified 134 trees with Koala scats beneath them, including 46 high use trees with 21-121 scats and an additional 7 trees with different sized scats indicating a mother and joey. Under the 1999 TSL these high use trees are trigger trees that, until the adoption of the new logging rules, required a 'star' search involving searches of 8x100m radiating transects to identify the extent of any Koala High Use Areas.



NEFA's fauna records overlaid on the DPI modelled Koala habitat. Note the extremely poor correlation of modelled habitat with reality. None of this highly significant Koala habitat qualifies as high quality and it is mostly classed as low to very low habitat. This is the model relied upon by EPA for prescriptions. Because there is less than 25% modelled moderate quality habitat within the compartments there is no retention of Koala Feed Trees required, though the EPA have apparently doctored their mapping to require the retention of 5 Koala feed trees >20cm per ha. This clearly shows the folly of setting prescriptions based on modelled habitat rather than surveys.

We have assessed 7 patches and identified the presence of Koala High Use Areas (as defined by the TSL) in all of them. In all of these cases it is apparent that the Koala High Use Areas extend beyond the assessed areas. If as a precautionary measure the 100m search area is applied to the high use trees we have mapped, the total area of potential Koala High Use Areas identified is around 56ha. We expect that this will be greatly increased by more searches. To put this into perspective, the Forestry Corporation have only identified 200ha of Koala High Use Areas in the past 15 years over hundreds of thousands of hectares. It is likely that over 100ha of these compartments will end up qualifying as Koala High Use Areas by applying the same criteria.

To test our assumption from the last survey that our two samples to the east of Collins Road represent a single Koala High Use Area, a transect between them was conducted which confirmed their linkage. Another sample nearby on the other side of Collins Road indicates that it also extends to there. This is an extremely large Koala High Use Area, and is far bigger than any identified by the Forestry Corporation in the past 20 years.

It is apparent that Koalas are utilising all of the logging area, though our observations are that highest activity is concentrated in patches (at least one very large) with more than one feed species at relatively high densities. Koalas are making occasional use of feed trees around and between these areas. It is apparent from the ages of scats that different trees are used at different times, with some trees used repeatedly. Scratches on most Grey Gum show that these trees have been used for years, even where no scats are found.

NEFA identified significant densities of Koalas and numerous Koala High Use Areas in Royal Camp State Forest in 2012 and 2013, and proposed it along with Carwong State Forest, as the [Sandy Creek National Park](#) specifically to protect what had been identified as a regionally significant Koala population. The EPA undertook a [detailed review](#) of these forests, along with two other State Forests known to have had significant Koala populations (see NEFA's previous Braemar audit reports). The EPA (2016) made a number of relevant observations on Koala usage:

While resident populations of koala were found in all pilot areas, habitat utilisation was variable across the landscape. Areas of higher activity positively correlated with greater abundance and diversity of local koala feed trees, trees and forest structure of a more mature size class, and areas of least disturbance.

The main feed tree species identified (EPA 2016) in Royal Camp and Carwong State Forests were Small-fruited Grey gum, red gum (mainly Slaty Red Gum – *Eucalyptus glaucina*) and Grey Box. A variety of other species were also utilised when in the vicinity of preferred feed trees, whether as roost trees or secondary feed trees, particularly including Spotted Gum and Ironbark.

Of the 53 high use trees identified by NEFA, 21 were Grey Box, 17 were Small-fruited Grey Gum, and 15 were red gum. From our rough estimations 14 were under 30cm diameter at breast height, (dbh) 18 were 30-45 cm, and 21 were over 45 cm. The average diameter was 39 cm, which reflects the dearth of larger trees due to past logging.

The EPA(2016) study found that active Koala sites mostly had a high density of feed trees and contained at least two species of feed trees. This correlates with NEFA's observations of widespread Koala usage, with highest activity concentrated in patches with more than one feed species at relatively high densities.

Logging Impacts

It is apparent that compartment 6 (and part of 7) are of exceptional importance for Koalas, and that this is in part because this stand has not been subject to logging for over 20 years. As trees grow larger they are providing increasing resources for Koalas. While Koalas are widespread there are patches (some very extensive) with higher densities, diversity and sizes of feed trees that constitute core habitat.

Compartment 7 was logged more recently and has been denuded of large trees and feed species, with extensive areas in a degraded state and not therefore representing core Koala habitat. Compartment 5 also has extensive areas denuded of larger trees and widespread Bell Miner Associated Dieback in its headwaters. These are not healthy forests.

The 2017 HP identifies use of Single Tree Selection (STS) and a planned removal of 47% of the basal area, from 19 m²/ha down to 10 m²/ha. At that time the IFOA limited logging using STS to removing 40% of the basal area (i.e. retaining 11.4 m²/ha), with retention of all trees under 20cm diameter. To overcome this limitation the Forestry Corporation intended using 291 ha of then compartment 24 as an offsetting area where there would be no basal area removal - thereby theoretically increasing the basal area retention when averaged across both the logged and unlogged areas. This concept of offsetting is a rort of the STS prescription. leading the EPA (2016), on behalf of the Environment Minister, to admit this "is not consistent with the definition and intent of

STS (Single Tree Selection) in the Integrated Forestry Operations Approval (IFOA) as well as FCNSW's own silvicultural guidelines."

The new Coastal IFOA only requires retention of a minimum basal area of 10 m²/ha. The 2019 HP identifies that logging will be light-moderate STS and "*minimum average BA limits within compartments 6 and 7 is 10m²/ha*". So the intent is still to remove 47% of the basal area, now with no offsets, with the emphasis on removing most of the trees over 45cm dbh.

The earlier 2017 HP identified a 0.9 ha Koala High Use Area, required searches to identify and protect additional Koala High Use Areas, and for feed trees required retention of "*10 trees/2ha >30 cm DBH*".

The previously identified Koala High Use Area still requires protection, though there are no longer requirements to identify and protect any more. NEFA have so far identified some 56ha of potential Koala High Use Areas, and expects over 100ha to be present. Under the 2017 HP and 1999TSL all this area would have required protection.

Under the 2019 HP there are no specific requirements to retain Koala feed trees (though there is a separate requirement to retain red gums), with the Koala Browse Prescription identifying "*A suitably qualified person must visually assess each tree immediately prior to being felled*", with the only requirement being if they see one in a tree to not cut it down until the Koala leaves. This is contradicted by the EPA's website which has added this area to Koala Prescription 2 (despite its not satisfying the criteria), thereby requiring the retention of 5 Koala feed trees per ha >20cm diameter.

Samples of 2.2ha from the two most thoroughly searched highest use areas had 43 trees used by Koalas which is an average of 19.5 per ha. From the age range of scats, NEFA observed that some trees had only recently been used once while others had been used on multiple occasions, indicating a reliance on particular trees. The retention of just 5 feed trees per hectare is only a fraction of those Koalas use, particularly as trees selected for retention may not be those being utilised.

Many studies have identified Koalas preference for larger trees (Hindell and Lee 1987, Lunney *et. al.* 1991, Sullivan *et. al.* 2002, Moore *et. al.* 2004b, Smith 2004, Moore and Foley 2005, EPA 2016). Tree size has been found to be the most significant variable after tree species in a number of studies, though this seems to be often ignored or downplayed for resource and political reasons.

For Royal Camp and Carwong State Forests the EPA (2016) assessed the relative use of trees of various sizes and found a strong positive relationship between the size class of feed trees and usage by koalas, noting "*Analysis of size class data for Carwong, Royal Camp and Clouds Creek indicate that koalas preference for utilisation of feed trees by koalas is towards larger trees (higher diameter at breast height >30 centimetres)*".

EPA (2016) observed data for pooled size classes of Small-fruited Grey Gum with and without scats (*E. propinqua*)

Dbh class	Scat	No scat	Total	Strike rate
150 (100–199 mm)	8	40	48	16.7%
225 (200–249 mm)	6	20	26	23.1%
300 (250–349 mm)	6	35	41	14.6%
400 (350–449 mm)	5	11	16	31.3%
500 (450–549 mm)	5	12	17	29.4%

700 (550–1049 mm)	9	9	18	50.0%
Total	39	127	166	23.5%

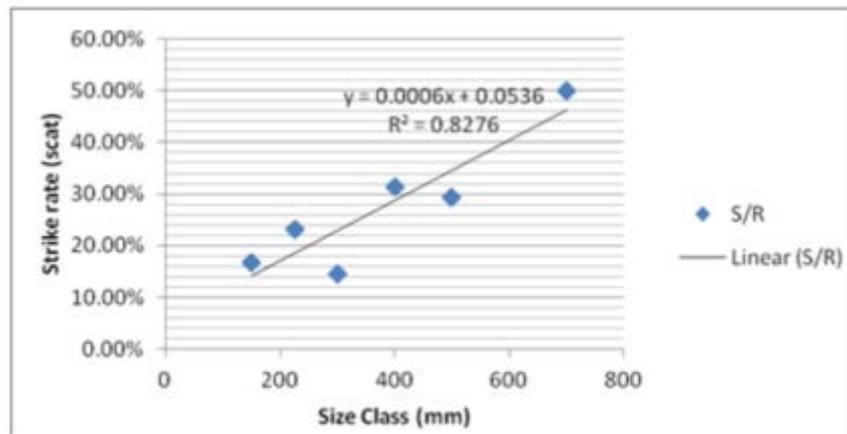


Figure 4: Size class of small-fruited grey gum versus scat strike rate

EPA (2016) Observed data for pooled size classes of Grey Box (*E. moluccana*) with and without scats

DBH class	Scat	No scat	Total	Strike rate
150 (100–199 mm)	5	62	67	7.46%
250 (200–299 mm)	9	65	74	12.16%
350 (300–399 mm)	8	52	60	13.33%
450 (400–499 mm)	6	35	41	14.63%
775 (500–1049 mm)	6	23	29	20.69%
Total	34	237	271	

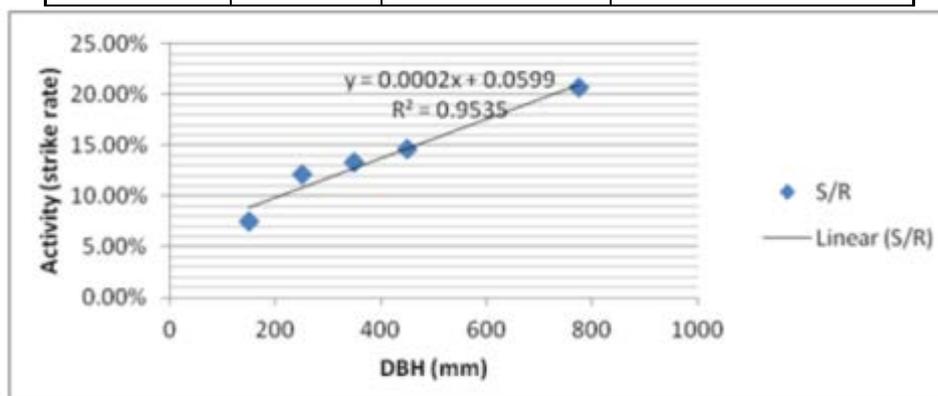


Figure 5: Size class of grey box versus scat strike rate

The EPA data indicate that in the size class 20-29cm, which are the size class most likely to be chosen for the new prescription, only 12.16% of the Grey Box are likely to be used by Koalas. Similarly in the size class of 20-24cm only 23.1% of the Grey Gum are likely to be used by Koalas. This indicates that of the 5 trees chosen for retention under Koala Prescription 2 the chances are that only an average of 0.6 to 1.2 of the selected feed trees may actually be utilised by Koalas. This is a retention rate of only 1 actual Koala feed tree per ha, which is a lot less than the 19.5 per ha identified as currently being utilised in good habitat.

The EPA (2016) "found koala activity correlated with larger tree size classes and mapped mature forest components of the pilot areas", observing:

Evidence of disturbance in Royal Camp and Carwong state forests is overall quite high. The eastern section of Royal Camp State Forest has been extensively logged, resulting in mosaics of young and small tree size classes dominating. Larger trees of most species are still present but in relatively low numbers. In relative terms, Carwong appeared to be the least disturbed by logging and fire. Having both wildfire and multiple, recent logging events absent from Carwong (for approximately 20 years) appears to correlate with overall highest occupancy compared with other pilot areas that have experienced multiple, more recent silviculture treatments.

It is apparent that significant reductions in the larger sized trees primarily being targeted for logging will have significant impacts on the availability and quality of Koala habitat, as will the reduction in the number of available feed trees. While Koalas may be using over 19 feed trees per hectare in good habitat, it is likely that the retention of feed trees actually used by Koalas may be as low as 1 per hectare.

Logging that removes feed and roost trees diminishes the resources available for resident Koalas, reducing the carrying capacity of the forest and forcing survivors to expand the area they need to forage over, making them more vulnerable to predation by dogs and dingoes. Koalas may still survive though their population will significantly decline. As identified by the EPA (2016) for other State Forests, while Braemar is currently source habitat the danger is that if logging goes ahead with such token protection it will become sink habitat where mortality outstrips reproduction.

The Effects of Changes to Logging Rules

The NSW Government has repeatedly asserted that the new IFOA would result in *no net change to wood supply and no erosion of environmental values*. Braemar is one of the first areas to be logged under the new rules, and it is apparent that the application of the new Coastal IFOA rules in this case has resulted in:

- a reduction of the basal area required to be retained from 11.4 m²/ha down to 10 m²/ha
- removal of the need to protect what is likely to be over 100ha of Koala High Use Areas
- a reduction in the size of the 5 Koala feed trees per ha required to be protected from >30cm diameter down to >20cm
- removal of the need to protect 8ha around Vulnerable Squirrel Glider records
- removal of the requirement to retain recruitment habitat trees
- reduction in the exclusion area required around Vulnerable Little Lorikeet nests from 30m down to 25m.
- removal of limited protection for Vulnerable Slaty Red Gum under 30cm diameter.

Changes to the logging rules for Koalas are identified in the proceeding section.

A Squirrel Glider was recorded in the logging area by David Milledge on the 31 August 2019. The 1999 TSL requires that an 8ha exclusion zone be established within a 250m planning area around a Squirrel Glider record. The new Coastal IFOA only requires that pre-existing Squirrel Glider exclusion areas be protected, thus there is no longer any requirement to protect habitat around this record.

Numerous Little Lorikeets were observed foraging through the area. David Milledge identified a Little Lorikeet utilising a nesting hollow on the 31 August 2019. The 1999 TSL previously required the retention of a 30m buffer around the nest tree, though this has now been reduced to 25m.

The retention rate for hollow-bearing trees has been increased from 5 to 8 trees per ha, though they have been severely depleted in these forests meaning that neither threshold will be reached. The 1997 HP and 1999 TSL requirements to protect a R (recruitment) tree for every hollow-bearing tree has been removed. This removal of protection for the mature trees needed to be available to replace hollow-bearing trees as they die will significantly compound the already significant impacts on hollow-dependent species into the future.

It is also apparent that the mature feed trees required for retention as R trees are particularly important for Koalas. The Forestry Corporation have begun remarking under the new rules, cancelling protection for previously identified R trees. Two of these were identified as Koala high use trees, one with 26 Koala scats around its base and the other with 6 scats from a mother and joey.

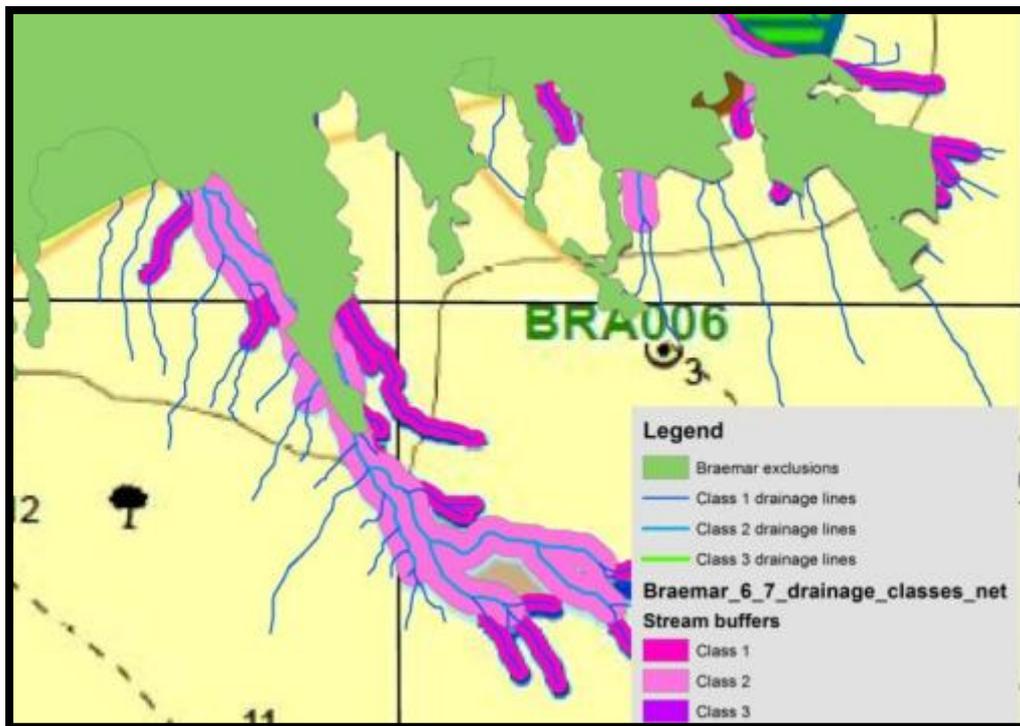


Examples of cancelled R trees. As can be seen by the fading of the paint, these trees were originally marked for retention as R (recruitment) habitat trees pursuant to the 2017 HP, and recently this protection was cancelled pursuant to the 2019 HP. Both trees were found to be active Koala feed trees: **LEFT** 26 scats were found under this Grey Gum (6788021, 498295) **RIGHT** 6 scats from a mother and joey were found under this Grey Box (6788052 498282)

The vulnerable Slaty Red Gum are common in parts of this area. The 2017 HP requires "Exclude harvesting of any trees of Slaty Red Gum *Eucalyptus glaucina*, and avoid damage to trees over 30 cm dbhob to the greatest extent practicable, but with no harvest exclusion zone around individual trees. As a precautionary approach to avoid damaging *Eucalyptus glaucina*, all Red Gums are to be excluded from harvesting".

The 2019 HP removes any protection for Slaty Red Gum under 30cm diameter, noting "*Slaty Red Gum Eucalyptus glaucina* - mature individuals (>30 cm DBHOB) must be protected. Due to the difficulty in identifying Slaty Red Gum, all Red Gum species must be protected". This effectively removes protection for trees under 30cm diameter.

Due to the presence of Class 1 aquatic habitat for Purple Spotted Gudgeon 10m buffers are still required on unmapped streams. Inexplicably in the 2019 HP buffers are only shown for a minority of Class 1 drainage lines, this requires explanation.



Example showing stream buffers as mapped in the 2019 HP as compared to mapped drainage lines. Note the extension of numerous Class 1 streams outside mapped buffers.

It is of concern that rather than marking boundaries in the field, GPS is to be relied upon to identify the boundaries of most exclusion areas (TECs, Oldgrowth, wildlife habitat clumps, tree retention clumps, Koala EZ). Reliance upon GPS has repeatedly been found to be unreliable, with numerous incursions into exclusion zones identified by the EPA in the past blamed on inaccurate GPS readings. The contractors themselves wanted to retain boundary marking so they would not be held responsible for incursions.

Planning Changes

The EPA make much out of their requirements to exclude 10% of the base net area of each logging area from logging as compensation for the reduction in individual species protections and tree retention requirements, as well as the increase in logging intensity. This is comprised of 5% of exclusions required to be identified pre-logging as Wildlife Habitat Clumps and 5% to be identified at the discretion of the forester 100m ahead of logging as Tree Retention Clumps.

The new Coastal IFOA Conditions include the requirement to identify Wildlife Habitat Clumps:
*50.1 At least five per cent of the **base net area** of each **local landscape area** must be identified prior to the commencement of a **forestry operation** (other than **road maintenance**) in each **local landscape area**, and permanently retained as **wildlife habitat clumps** in accordance with **Protocol 22: Wildlife habitat and tree retention clumps***

On the [EPA's website](#) it only displays the **base net area** for Compartments 6 and 7, with no identification of the **Local Landscape Area** or the distribution of the **base net area** and **wildlife habitat clumps** across the LLA. On face value it is assumed that Condition 50.1 has not been complied with.

The identified **base net area** on the EPA's website complies with the net logging area shown on the 2019 HP. The only exclusion identified on the 2017 HP not applied is the 80m wide "ridge and headwater habitat" exclusion zone. It needs to be explained why this wildlife corridor was removed.

The identified **base net area** on the EPA's website excludes the **wildlife habitat clumps** and tentative Tree Retention Clumps identified on the 2019 HP. There is an error here as both these can only be selected from within the base net area, and the tree retention clumps can be changed at the foreman's whim, therefore they should be part of the base net area.

The new Coastal IFOA Protocols require:

22.2 General conditions for identifying wildlife habitat clumps and tree retention clumps
Wildlife habitat clumps must include at least one, and as many as possible, of the following:

- (a) existing hollow-bearing trees, nectar trees, Glider sap feed trees, Glossy Black-Cockatoo feed trees and giant trees;
- (b) potential future hollow-bearing trees;
- (c) previously protected habitat for subject species or threatened species;
- (d) carry-over exclusion zones;
- (e) dead standing trees and coarse woody debris;
- (f) rocky outcrops, cliffs, heath and scrub, wetlands and their associated exclusion zones located within the base net area;
- (g) areas subject to a species-specific condition or a species management plan exclusion zone;
- (h) areas where Koala browse prescription 1 or Koala browse prescription 2 would otherwise apply;
- (i) local populations of **threatened** or unusual **plants** (e.g. edge of range or locally uncommon);
- (j) mature forest **patches** and long-undisturbed forest **patches** (data sources – CRAFTI, **LIDAR**, targeted surveys);
- (k) rocky ground and valuable understorey **habitat** such as grass trees, fruiting and flowering shrubs, Allocasuarina stands (data sources targeted and previous surveys);
- (l) **habitat** connectivity to help improve landscape connections between other retained patches of vegetation or as **habitat** islands within a large cutover area (can be corridors or islands, both improve connectivity);
- (m) selection of **habitat** for regional priority **threatened species** and forest communities, or environmental features important within the **local landscape area**.

There is no identification of Wildlife Habitat Clumps across the Local Landscape Area, so compliance with this condition cannot be ascertained for the broader area. The base net area given in the 2019 HP for compartment 6 and 7 is 315 ha, with a total area of Wildlife Habitat Clumps identified on the HP is about 13.8 ha (4.4%), though this includes riparian exclusion zones which do not qualify.

In this case, basically the same areas are proposed for logging in the 2017 and 2019 Harvesting Plans, with an identified reduction in the "Potential Net Harvesting Area" from 192ha down to 185ha, a total reduction of 7ha.

The basic difference is that areas identified as the Koala HUA, inaccessible or as offset areas in the 2017 HP have been reclassified as Wildlife Habitat Clumps, with an additional 4.4ha area added.

The mapped eastern WHC is some 9.4ha within compartment 6, with this including the riparian buffers and an identified 80m wide Wildlife Corridor, with these excluded the net area of the WHC is just 5.3ha. This comprises the 0.9ha Koala HUA, 3.4 ha previously identified as an offset area (which is basically inaccessible) and 1 ha (behind the Koala HUA) previously identified as inaccessible. It is not good enough to just select areas that are inaccessible to satisfy requirements for WHCs, the reasons justifying inclusion of these areas need to be provided.

There are no criteria identified for the selection of the additional 4.4ha WHC area. The only threatened species record for this area is a Powerful Owl. With no criteria provided, this appears to be a randomly selected area.

Based on NEFA's review the area of WHC's identified across the claimed 315 ha base net area the actual area of Wildlife Habitat Clumps legitimately identified is 9.7ha, which is only 3.1% of the base net area and therefore deficient.

For Tree Retention Clumps the new Coastal IFOA Conditions require:

63. Tree retention clumps

63.1 **Tree retention clumps** must be identified and permanently retained at least 100 metres in advance of a **forestry operation** (other than **road maintenance**) in any part of an **operational area**, at the following rates:

- (a) at least five per cent of the **base net area** in each **compartment** in the **regrowth zone**; and
- (b) at least eight per cent of the **base net area** in each **compartment** in the **non-regrowth zone**.

63.2 Each tree retention clump must be planned and implemented in accordance with Protocol 22: Wildlife habitat and tree retention clumps, and:

- (a) must be between a minimum of 0.1 hectare and a maximum of two hectares in size;
- (b) must prioritise the retention of hollow-bearing trees and potential future hollow-bearing trees;
- (c) must not include areas or **ESAs** that are known at the time of the **tree retention clump** establishment and that would otherwise require permanent protection under the **approval**, unless they are listed in condition 22.2(2)(a) and 22.2(2)(b) of **Protocol 22: Wildlife habitat and tree retention clumps**; and
- (d) must be in addition to the areas identified and protected as **wildlife habitat clumps**.

63.3 Where a **subject species** or **habitat feature** is identified after the establishment of **tree retention clumps** in the **compartment**, then:

- (a) the **subject species** or **habitat feature** must be protected in accordance with the conditions of the **approval**, in addition to **tree retention clumps**; or
- (b) FCNSW can apply to the EPA to seek a revision to the tree retention clumps in the compartment in accordance with Protocol 34: Spatial datasets.

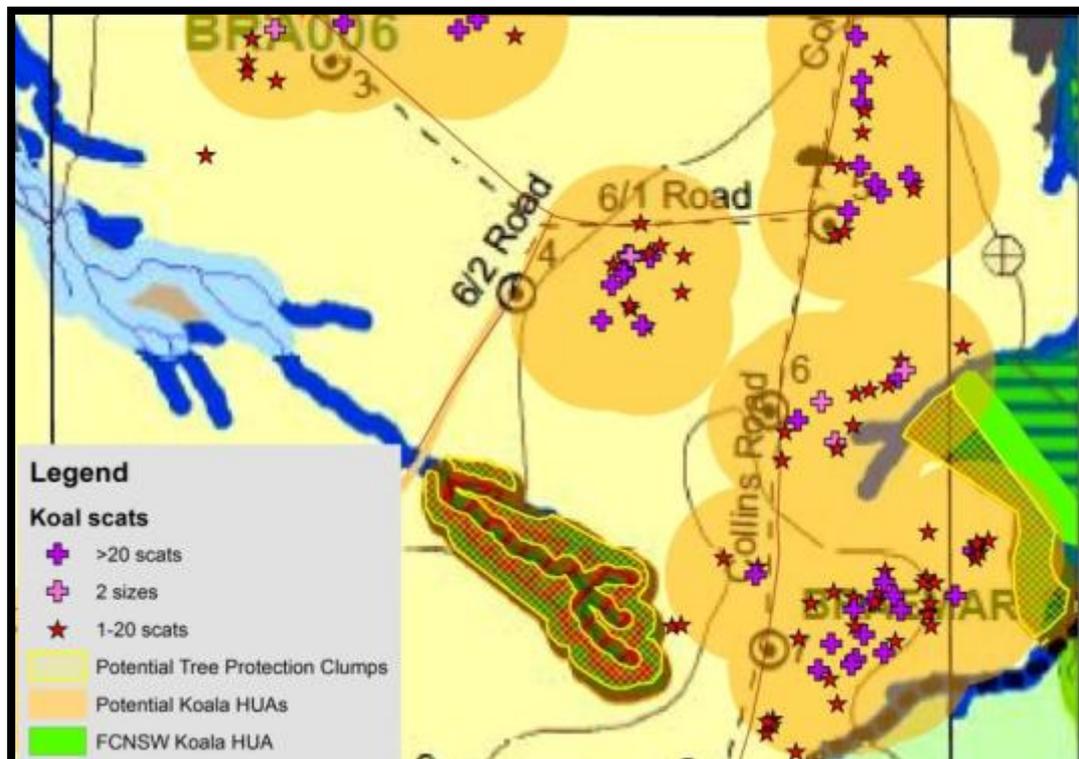
The new Coastal IFOA Protocols require:

Tree retention clumps must:

- (a) include at least one, and as many as possible, of the following:
- I. existing hollow-bearing trees, nectar trees, Glider sap feed trees, Koala browse trees, Glossy Black-Cockatoo feed trees and giant trees;
 - II. potential future hollow-bearing trees; or
 - III. dead standing trees.
- (b) Where any of the following **ESAs** occur in conjunction with the **habitat** in condition 22.2(2)(a), they can be incorporated into the **tree retention clump**:
- I. **nest, roost or den** and associated **exclusion zones** as described by condition 76 of the **approval**;
 - II. **bat roost trees, potential subterranean bat roost** and associated **exclusion zones** as described by condition 78 or 80 of the **approval**;
 - III. **plants** requiring the protection of all individuals and associated **exclusion zones** as described by condition 81 of the **approval**; or
 - IV. **plants** requiring protection of mature individuals as described by condition 82 of the **approval**.

The 2019 HP identifies "several potential Tree Retention Clumps identified prior to plan approval are shown on the operational map. These TRC need to be confirmed by the markup team prior to harvesting".

The area of potential Tree Protection Clumps so far identified is 3.7ha, these include an area of 2ha previously identified as a 20m buffer around an area of extreme erosion, a 1.4 ha extension to the 2017HP Koala HUA, a 0.1ha inaccessible area, and another 0.2ha area which seems to have some legitimacy. The Forestry Corporation are clearly wrong to use an erosion site as the basis for identifying Tree Retention Clumps. It is absolutely outrageous that the Forestry Corporation has drawn the boundary of the extension to their Koala HUA explicitly to exclude NEFA's identified Koala records.



Map showing overlay of NEFA Koala records on 2019 HP, with identified potential Tree Protection Clumps (TPC) highlighted. Note that the largest TPC is located over an area excluded from logging

because of erosion, and that the boundary of the TPC adjacent to the FC Koala HUA has been indented explicitly to avoid NEFA's Koala records.

Illegal Logging?

Around log dump 13 nine sound trees had been felled some months ago. The trees were left where they fell, though some were trimmed ready for snigging. It is likely these trees were felled without being authorised by a Harvesting Plan, or without the required Mark Up searches (including for Koalas) being undertaken. It is thus likely the logging was unlawful.



Map of locations of trees unlawfully cut down.



Spotted Gum, 53cm (6787140, 498095)



Spotted Gum, 35 cm, 6787119, 498042



Spotted Gum, 60 cm, 6787138, 498043



Ironbark, 46 cm, 6787104, 498009



Spotted Gum, 48 cm, 6787079, 498030



Spotted Gum, 60 cm, 6787070, 498021



Spotted Gum, 39 cm, 6787061, 498025



Spotted Gum, 60 cm, 6787059, 498014

Ironbark, 50cm, 6787109, 498057 not shown

Appendix 1: Records

Koala scat records 31 August - 1 September 2019

y_proj	x_proj	scats_no	y_proj	x_proj	scats_no
High Use Trees >20 scats			Trees 1-20 scats		
6787144	498135	25	6787054	497918	3
6787258	497922	21	6787760	498659	1
6787984	498328	30	6787725	498650	1
6787976	498456	121	6787723	498707	1
6787988	498477	42	6787735	498681	3
6787107	498131	21	6787727	498669	2
6787060	497924	24	6787714	498629	13
6787055	497915	22	6787683	498705	2
6787724	498644	23	6787644	498665	1
6787721	498670	24	6787664	498648	5
6787650	498616	62	6787668	498647	13
6787705	498642	24	6787968	498226	13
6787644	498661	24	6787941	498221	1
6787702	498641	45	6787920	498253	1
6787690	498627	30	6787929	498220	3
6788013	498303	21	6787836	498174	14
6788021	498295	26	6786065	497557	8
6788025	498255	21	6786068	497544	3
6786875	497649	24	6786805	497724	1
6786870	497656	25	6786789	497744	5
6786880	497680	23	6786789	497749	1
6787364	498787	24	6786787	497710	1
6787538	498834	26	6786879	497662	7
6787586	498946	23	6786883	497670	8
High Use Trees 2 sizes			6786953	497627	10
6787722	498647	2	6787374	498790	8
6787977	498252	7	6787384	498752	6
6788052	498282	6	6787308	498694	9
6786858	497626	10	6787309	498704	2
6787559	498861	4	6787494	498817	7
6787514	498876	12	6787526	498820	6
6787594	498954	2	6787507	498878	2
Trees 1-20 scats			6787533	498896	9
6787970	498519	5	6787568	498899	2
6787054	497956	1	6787573	498915	12
6787026	497949	1	6787578	498935	1
6787051	497923	2	6787606	498949	3
6787078	497928	1	6787622	499018	2

Other Fauna 31 August - 1 September 2019

y_proj	x_proj	Species
6787140	498131	Little Lorikeet nest
6787170	498130	Little Lorikeet, Masked Owl, Powerful Owl

6786982	497571	Powerful Owl roost
6786787	497739	Squirrel Glider
6786197	499660	Tourquoise Parrot
6786254	500289	Tourquoise Parrot

Trees logged

y_proj	x_proj	Species	Diameter (cm)
6787140	498095	Spotted Gum	53
6787109	498057	Ironbark	50
6787119	498042	Spotted Gum	35
6787138	498043	Spotted Gum	60
6787104	498009	Ironbark	46
6787079	498030	Spotted Gum	48
6787070	498021	Spotted Gum	60
6787061	498025	Spotted Gum	39
6787059	498014	Spotted Gum	60

Koala Scat Records



121 scats, Red Gum (6787976, 498456)



42 scats, Grey Gum (6787988, 498477)



30 scats, Grey Gum (6787984, 498328)



1 old scat, Grey Gum, scratches show long term usage (6787054, 497956)



1 old scat, Grey Gum, scratches show long term usage (6787026, 497949)



24 very fresh and older scats showing long term usage (6787060, 497924)



1 very old scat, Grey Gum (recent scratches) (6787078, 497928)



22 very fresh and older scats showing long term usage, Grey Box (6787055, 497915)



1 scat , Grey Box (6787760, 498659)



23 fresh scats, Grey Box (6787724, 498644)



1 scat, Grey Box (6787723, 498707)



3 old scats, Grey Box (6787735, 498681)



24 mixed age scats, Grey Box (6787721, 498670)



2 old scats, Grey Gum, scratches (6787727, 498669)



62 mixed age scats, Grey Gum (6787650, 498616)



13 scats, Grey Box (6787714, 498629)



10 fresh scats, Grey Box (6787644, 498661)



2 old scats Grey Gum, lots scratches (6787683, 498705)



1 fresh scat, Grey Box (6787644, 498665)



5 old scats, Grey Box (6787664, 498648)



13 old scats, Grey Gum (6787668, 498647)



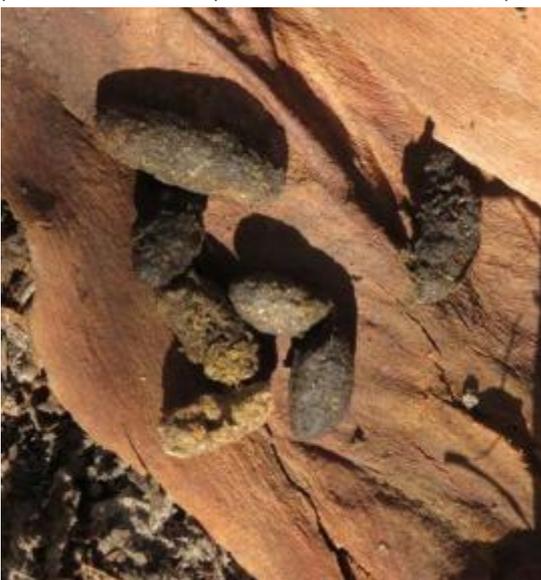
30 mixed age scats, Grey Gum (6787702, 498641)



30 mixed age scats, Grey Box, (6787690, 498627)



13 mixed age scats, Grey Gum, numerous scratches (6787968, 498226)



7 scats, 2 sizes, Red Gum (6787977, 498252)



1 old scat, Grey Gum, numerous scratches (6787941, 498221)





3 old scats, Grey Gum, old scratches (6787929, 498220) 14 old scats, Grey Gum (6787836, 498174)



20 old scats Grey Box (6788013, 498303) 8 mixed age scats, Grey Gum, scratches (6786065, 497557)



26 mixed age Grey Gum. scratches, cancelled R tree (6788021, 498295)



6 old scats, 2 sizes, Grey Box, cancelled R (6788052, 498282)



3 scats Grey Box (6786068, 497544)



1 old scat, Grey Box (6786805, 497724)



5 old scats, Red Gum (6786789, 497744)



1 very old scat, Grey Box (6786789, 497749)



1 scat Grey Box (6786787, 497710)



10 scats, 2 sizes, Grey Gum (6786858, 497626)



25 fresh scats, Grey Gum, (6786875, 497649)



7 old scats, 2 sizes, Grey Box (6786879, 497662)



8 fresh scats, Grey Box (6786883, 497670)



23 fresh scats, Grey Box (6786880, 497680)



10 scats, Grey Gum (6786953, 497627)



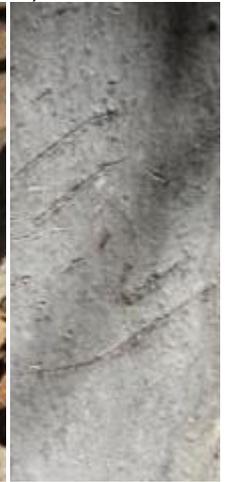
8 scats Grey Gum (6787374, 498790)



24 fresh scats, Grey Box, (6787364, 498787)



6 scats, scratches, Grey Gum (6787384, 498752)



9 scats, Grey Gum, scratches, only tree seen marked with K (6787308, 498694)





2 scats Grey Gum (6787309, 498704)



7 scats Grey Gum (6787494, 498817)



6 fresh scats, Grey Gum (6787526, 498820)



26 scats, Grey Box (6787538, 498834)



4 scats, Grey Box (6787559, 498861)



2 scats, Grey Gum, scratches (6787507, 498878)



9 scats, Grey Box, (6787533, 498896)



2 old scats Grey Box (6787568, 498899)



12 scats, Grey Box (6787573, 498915)



23 scats, Grey Box (6787586, 498946)



1 scat Grey Gum (6787578, 498935)



3 scats Red Gum (6787606, 498949)



2 scats Red Gum (6787594 498954)



2 scats Grey Gum (6787622, 499018)

