

## 3 Dangerous tree removal

### 3.1 Native vegetation

#### 3.1.1 Methods

Each of the 91 dangerous trees were mapped, including tree canopy using the following data:

- waypoints of tree locations;
- a canopy height model developed using Light Detection and Ranging (LiDAR) data and hi-resolution aerial imagery;
- photographs of each tree to be removed; and
- tree attributes provided by Tree Survey Pty Ltd (Tree Survey 2018).

Tree canopies were drawn around visible canopies using the canopy height model and were stratified into vegetation zones based on condition state of the PCT the trees were mapped within (Table 3.1).

**Table 3.1** Definitions used in delineation of dangerous tree vegetation zones

Condition class	Description
High_tree	Largely intact with all stratum present and minimal disturbance
Medium_tree	Some elements or stratum missing or immature, but minimal disturbance
Other_tree	Regeneration is occurring due to previous human impacts, such as clearing or fire, but minimal to moderate disturbance to other stratum.

Vegetation within the disturbance boundary, including dangerous trees, were re-calculated. Additional PCTs, vegetation zones and areas (ha) are addressed below (Section 3.1.2).

For the purposes of the BAM assessment, it was assumed all trees within the zone were removed. Future vegetation integrity scores were calculated by setting the composition and structure scores for the tree growth form to zero and leaving scores for all other growth forms with the current score. Functional scores for large trees and stem size class were set to zero; all other function scores were not modified.

#### 3.1.2 Results

##### i Plant community types and vegetation zones

Site investigations, including determination of vegetation communities using the methods described in Section 3.1.1, identified dangerous trees were mapped within five PCTs. Each of these PCTs were stratified into vegetation zones based on broad condition state. This process identified eight vegetation zones, as outlined in Table 3.2.

**Table 3.2 Plant community types and vegetation zones mapped within dangerous tree areas**

Plant community type	Condition	Area (ha)
PCT 300 – Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	Other_tree	0.02
PCT 300 – Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	Medium_tree	0.01
PCT 300 – Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	High_tree	0.10
PCT 729 – Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion	Medium_tree	<0.01
PCT 729 – Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion	High_tree	<0.01
PCT 953 – Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_tree	0.02
PCT 999 – Norton’s Box - Broad-leaved Peppermint open forest on footslopes, central and southern South Eastern Highlands Bioregion	High_tree	<0.01
PCT 1196 – Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_tree	0.98
<b>TOTAL</b>		<b>1.13</b>

Notes: Vegetation zones with an area less than 0.01 ha were not inputted into the BAM calculator.

## ii Vegetation integrity score

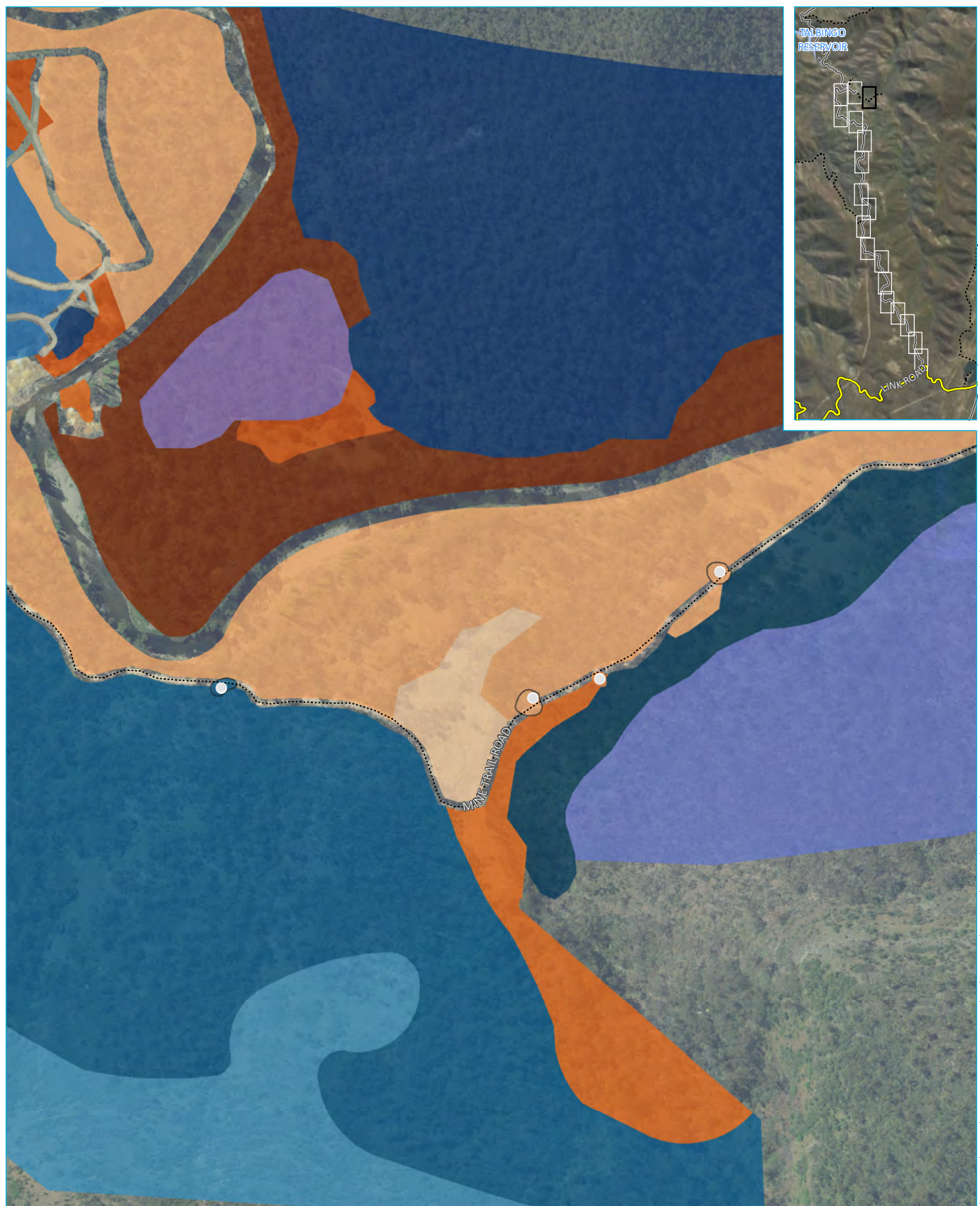
The vegetation integrity score for each vegetation zone is provided in Table 3.3. Dangerous tree vegetation zones were calculated with a vegetation integrity score loss. These have been assessed further in Table 3.7.

**Table 3.3 Vegetation integrity scores for all vegetation zones within dangerous tree areas**

Plant community type	Condition	Current vegetation integrity score	Future vegetation integrity score
PCT 300 – Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	Other_tree	59.8	38.7
PCT 300 – Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	Medium_tree	56	31.2
PCT 300 – Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	High_tree	49	28.7
PCT 953 – Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_tree	75.7	45.9

**Table 3.3**      **Vegetation integrity scores for all vegetation zones within dangerous tree areas**

Plant community type	Condition	Current vegetation integrity score	Future vegetation integrity score
PCT 1196 – Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_tree	95.7	64.6



Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

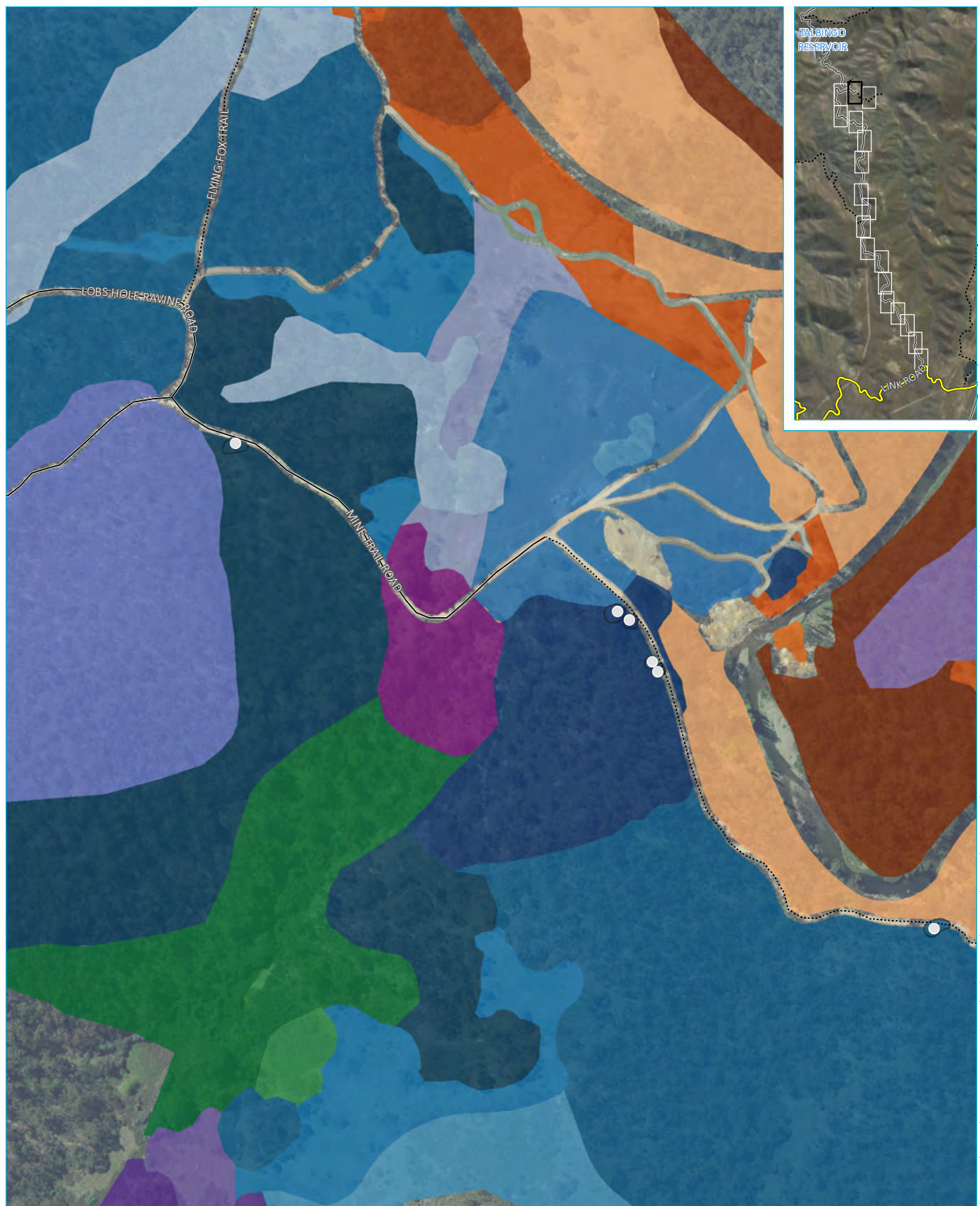
● Dangerous trees	Poor	PCT 999
..... Vehicular track	Poor - tree	High
PCT 285	Other	
Medium	Other - tree	
PCT 296	Derived grassland	
High	PCT 729	
Low	High	
PCT 302	Medium	
High	Medium - tree	
Low	Poor	

## Dangerous tree locations, Plant Community Type and vegetation zone mapping

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3.1 a







Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

● Dangerous trees	■ Poor	PCT 302	■ Medium - tree
— Local road	PCT 296	■ High	■ Low
..... Vehicular track	■ High	■ Medium	■ Poor
PCT 299	■ High - tree	■ Low	PCT 999
■ Medium	■ Low	■ Poor	■ High
■ Low	■ Poor	■ Other	
PCT 285	PCT 300	PCT 729	
■ High	■ Medium	■ High	
■ Medium	■ Low	■ High - tree	
■ Low		■ Medium	

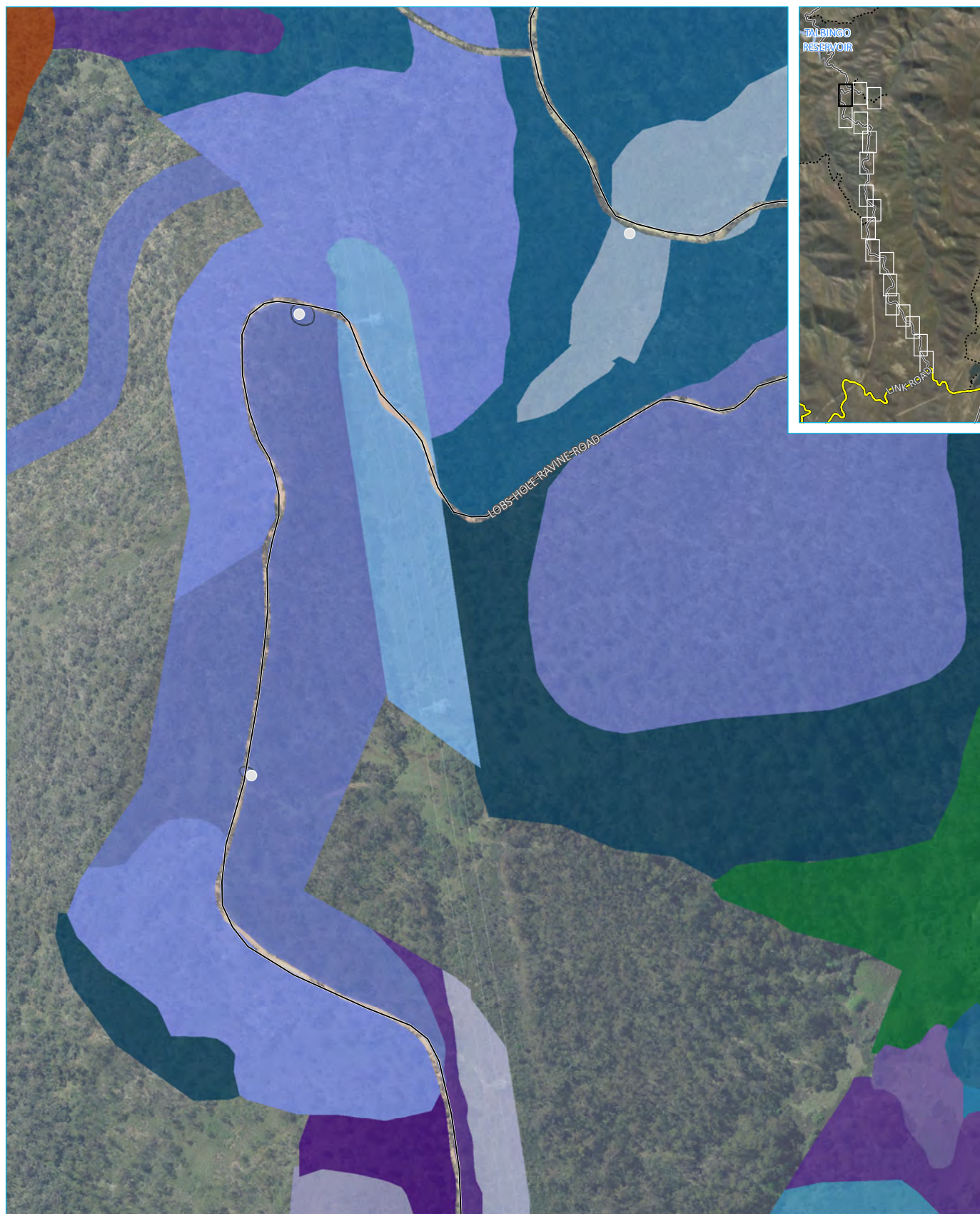
## Dangerous tree locations, Plant Community Type and vegetation zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

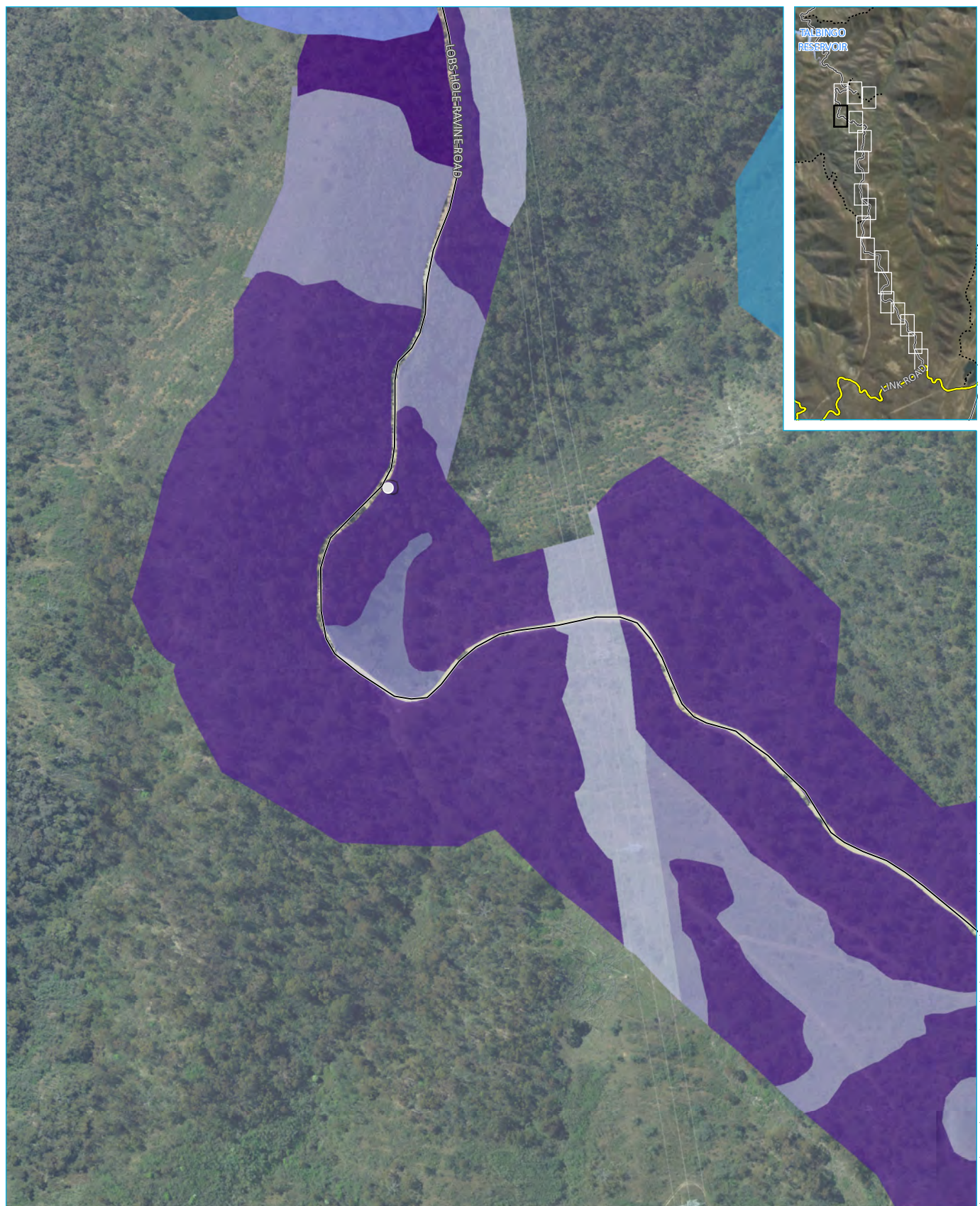
● Dangerous trees	Medium	Low
— Local road	Low	Poor
..... Vehicular track	Other	PCT 999
PCT 299	Derived grassland	High
Medium	PCT 302	High - tree
Low	Medium	Medium
PCT 285	PCT 729	Derived grassland
Poor	High	
PCT 300	High - tree	
High	Medium	

## Dangerous tree locations, Plant Community Type and vegetation zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

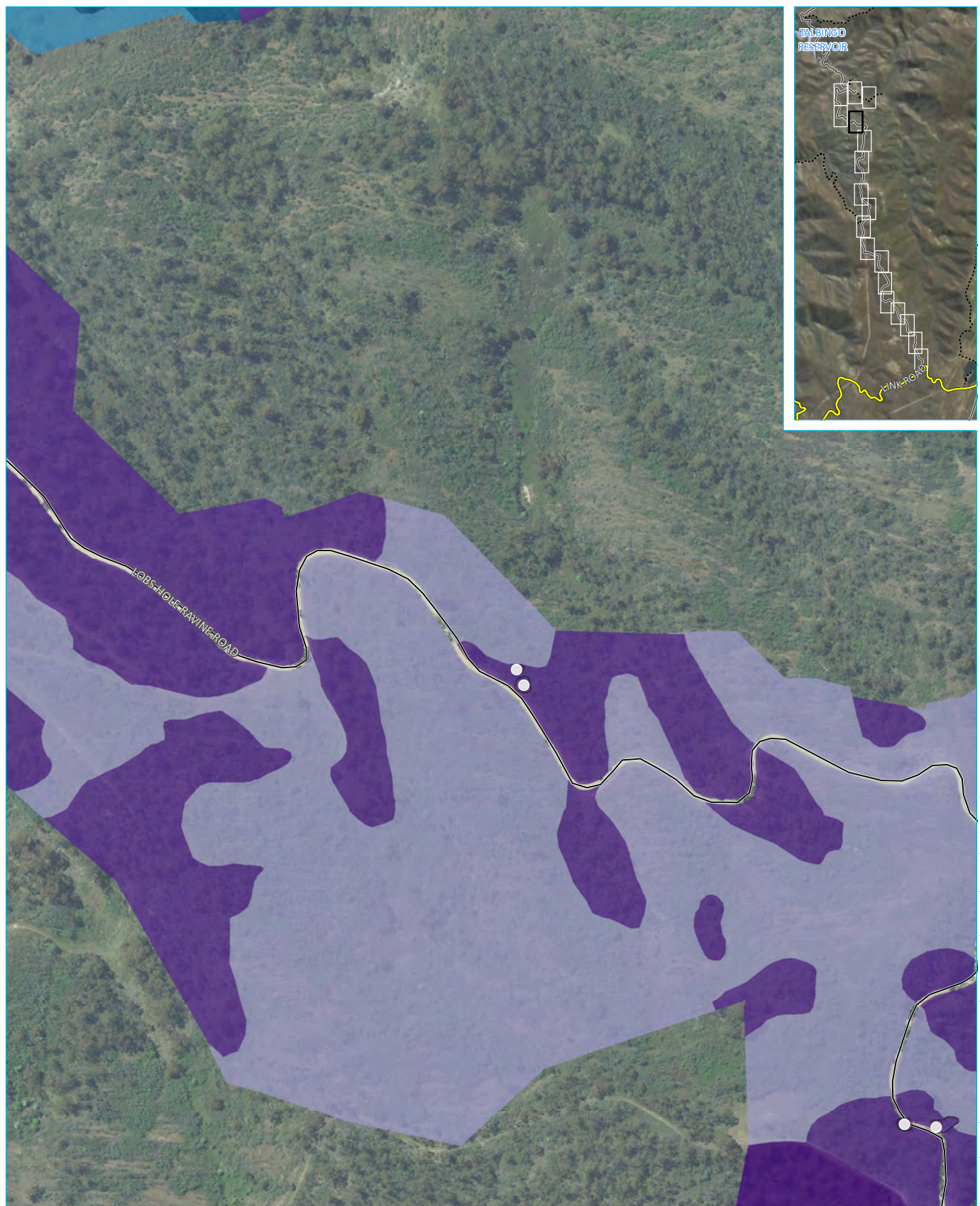
- |                     |          |
|---------------------|----------|
| ● Dangerous trees   | PCT 729  |
| — Local road        | ■ High   |
| PCT 300             | ■ Medium |
| ■ High              | ■ Low    |
| ■ Medium            | ■ Poor   |
| ■ Medium - tree     | PCT 999  |
| ■ Low               | ■ Medium |
| ■ Poor              |          |
| ■ Other             |          |
| ■ Derived grassland |          |

Dangerous tree locations, Plant  
Community Type and vegetation  
zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

- Dangerous trees
- Local road
- PCT 300
  - High
  - Medium
  - Medium - tree
  - Other
- PCT 729
  - Medium
  - Poor

Dangerous tree locations, Plant  
Community Type and vegetation  
zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

- Dangerous trees
- Local road
- PCT 300
  - High
  - High - tree
  - Medium
  - Medium - tree
  - Other
- PCT 729
  - High

## Dangerous tree locations, Plant Community Type and vegetation zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

- Dangerous trees
- Local road
- PCT 300
  - High
  - High - tree
- PCT 729
  - High
  - High - tree

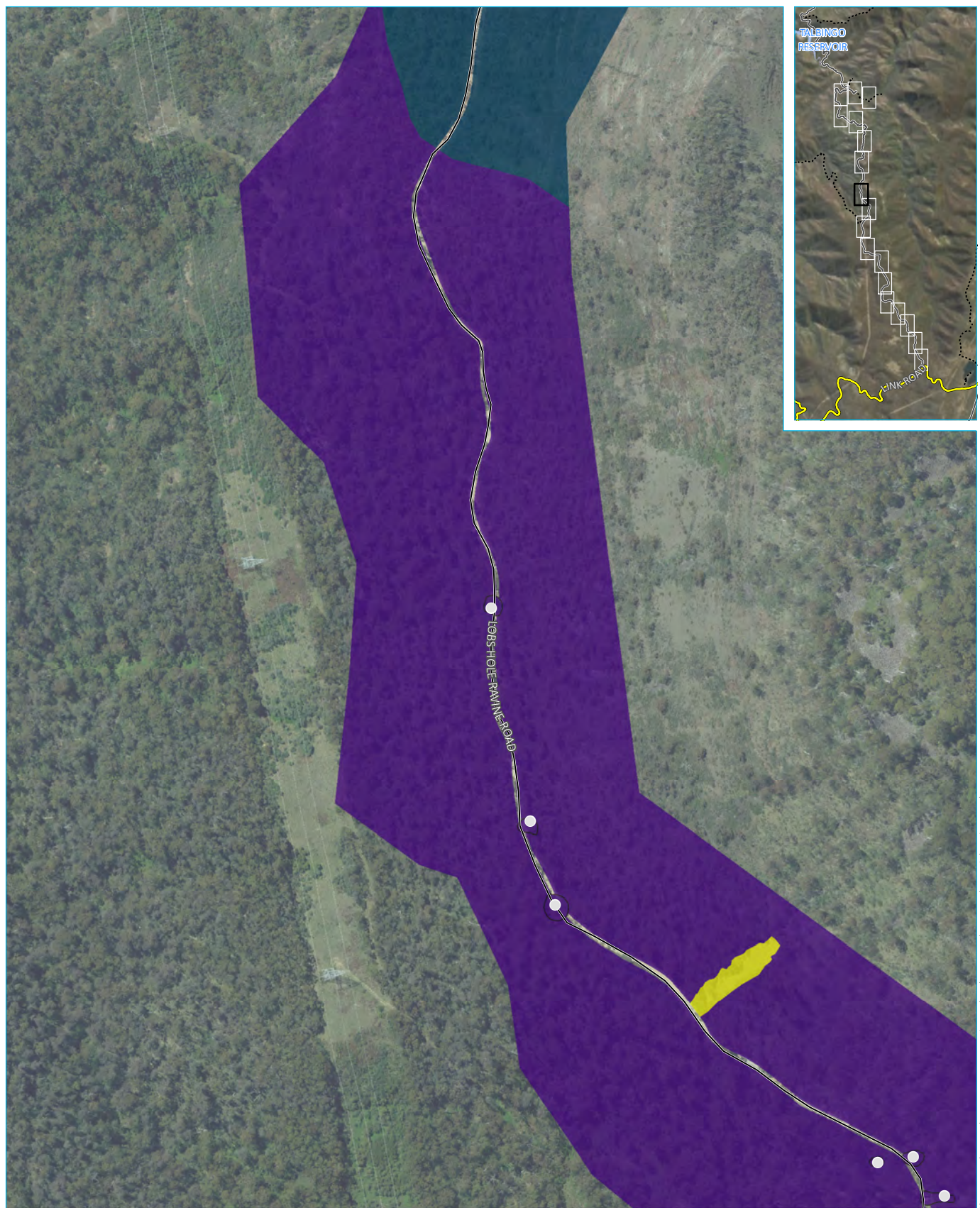
Dangerous tree locations, Plant  
Community Type and vegetation  
zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

- Dangerous trees
- Local road
- PCT 300
- High
- High - tree
- PCT 643
- Low
- PCT 729
- High

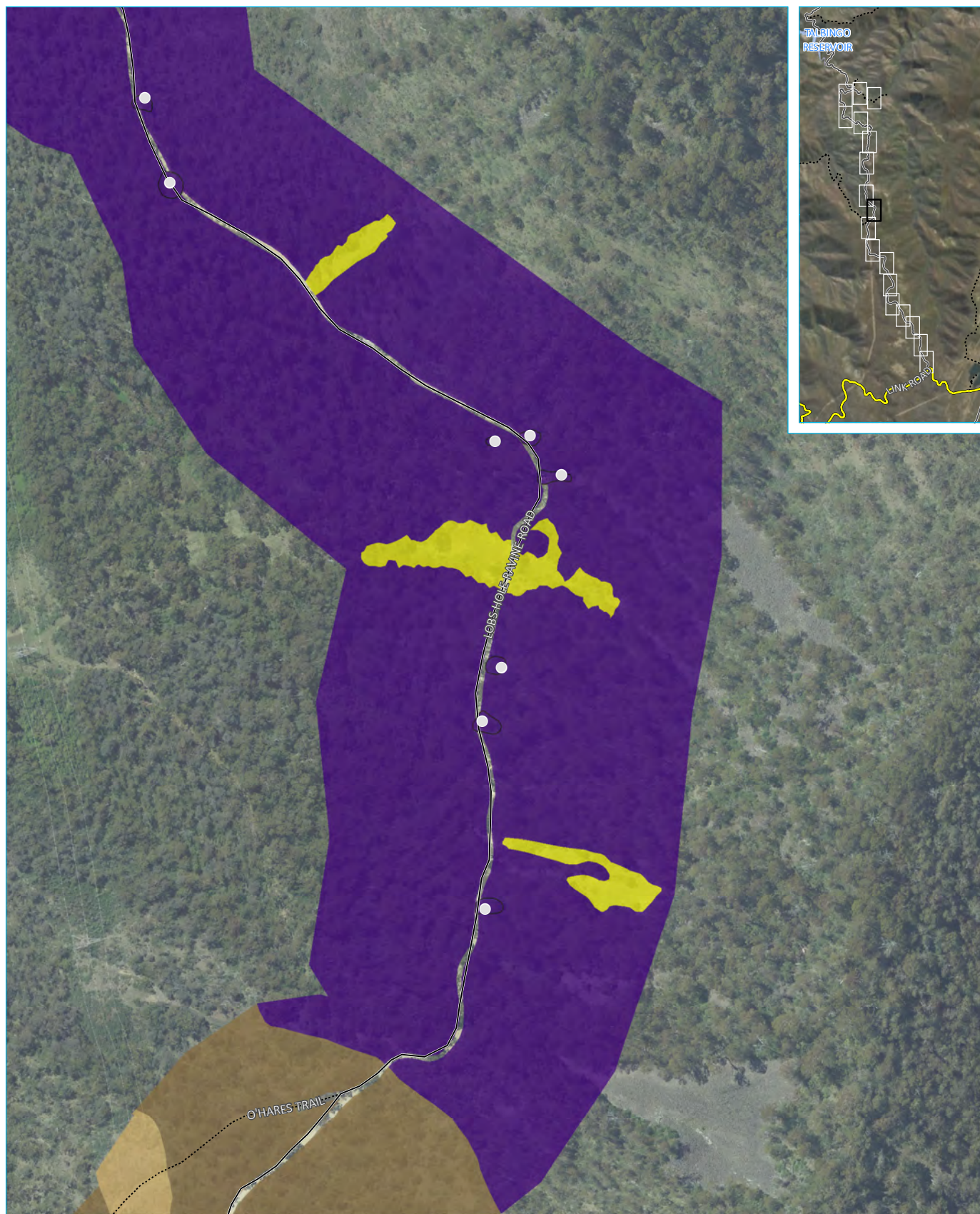
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Community Type and vegetation  
zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

- Dangerous trees
- Local road
- ..... Vehicular track
- PCT 300
- High
- High - tree
- PCT 643
- Low
- PCT 953
- High
- Derived grassland

Dangerous tree locations, Plant  
Community Type and vegetation  
zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

- Dangerous trees
- Local road
- ..... Vehicular track
- PCT 300
- High
- High - tree
- PCT 643
- Low
- PCT 953
- High
- High - tree
- Derived grassland
- PCT 1196
- High
- High - tree
- Derived grassland

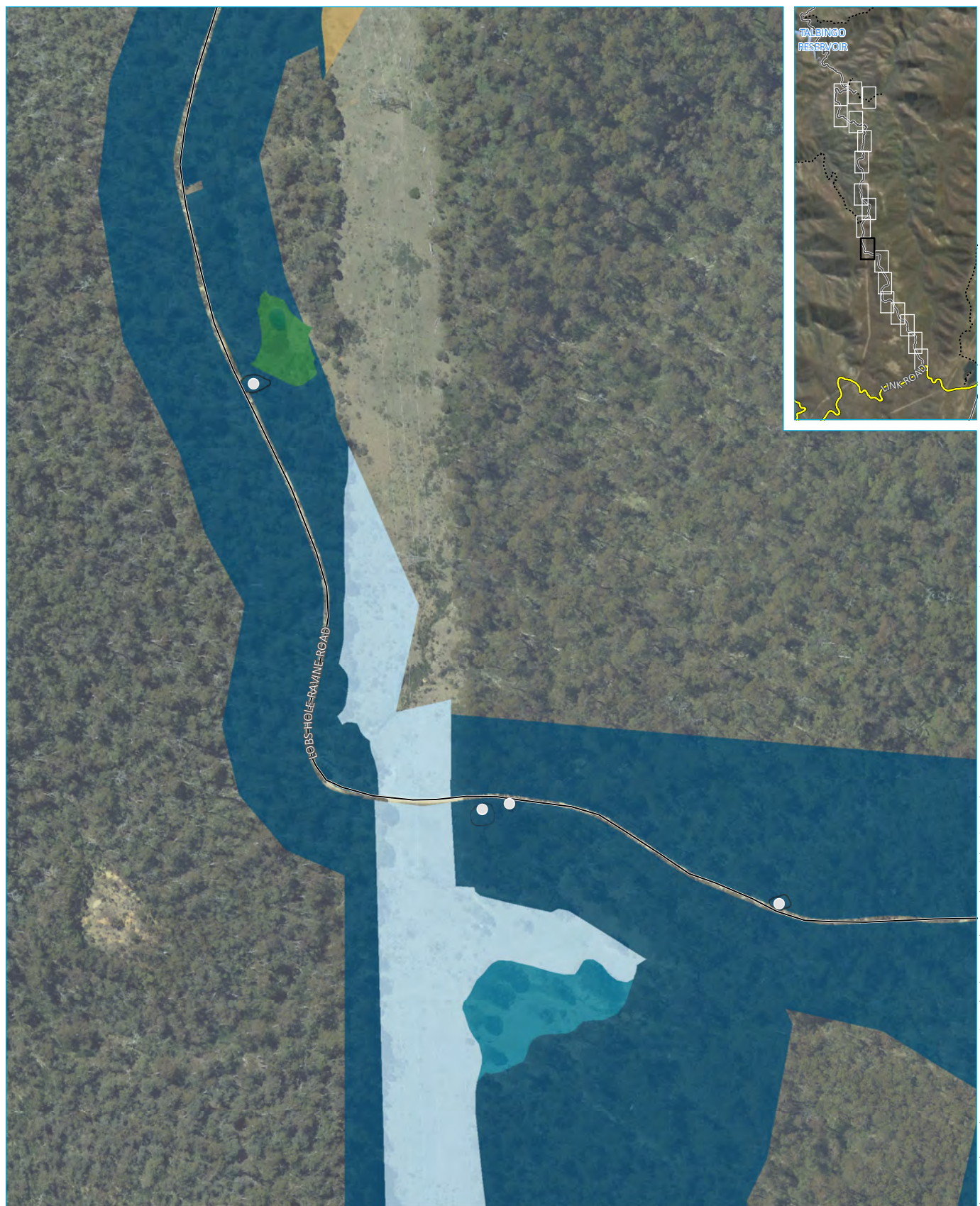
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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

- Dangerous trees
- Local road
- PCT 303
- PCT 637
- PCT 953
- High
- Derived grassland
- PCT 1196
- High
- High - tree
- Medium
- Derived grassland

Dangerous tree locations, Plant  
Community Type and vegetation  
zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- Dangerous trees
- Local road
- PCT 1196
- High
- High - tree

#### Dangerous tree locations, Plant Community Type and vegetation zone mapping

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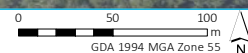


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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)



# KEY

- Dangerous trees
- Local road
- PCT 1196
- High
- High - tree
- PCT 1224
- High

Dangerous tree locations, Plant  
Community Type and vegetation  
zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

# KEY

- Dangerous trees
- Local road
- PCT 639
- High
- PCT 638
- High
- PCT 1196
- High
- High - tree

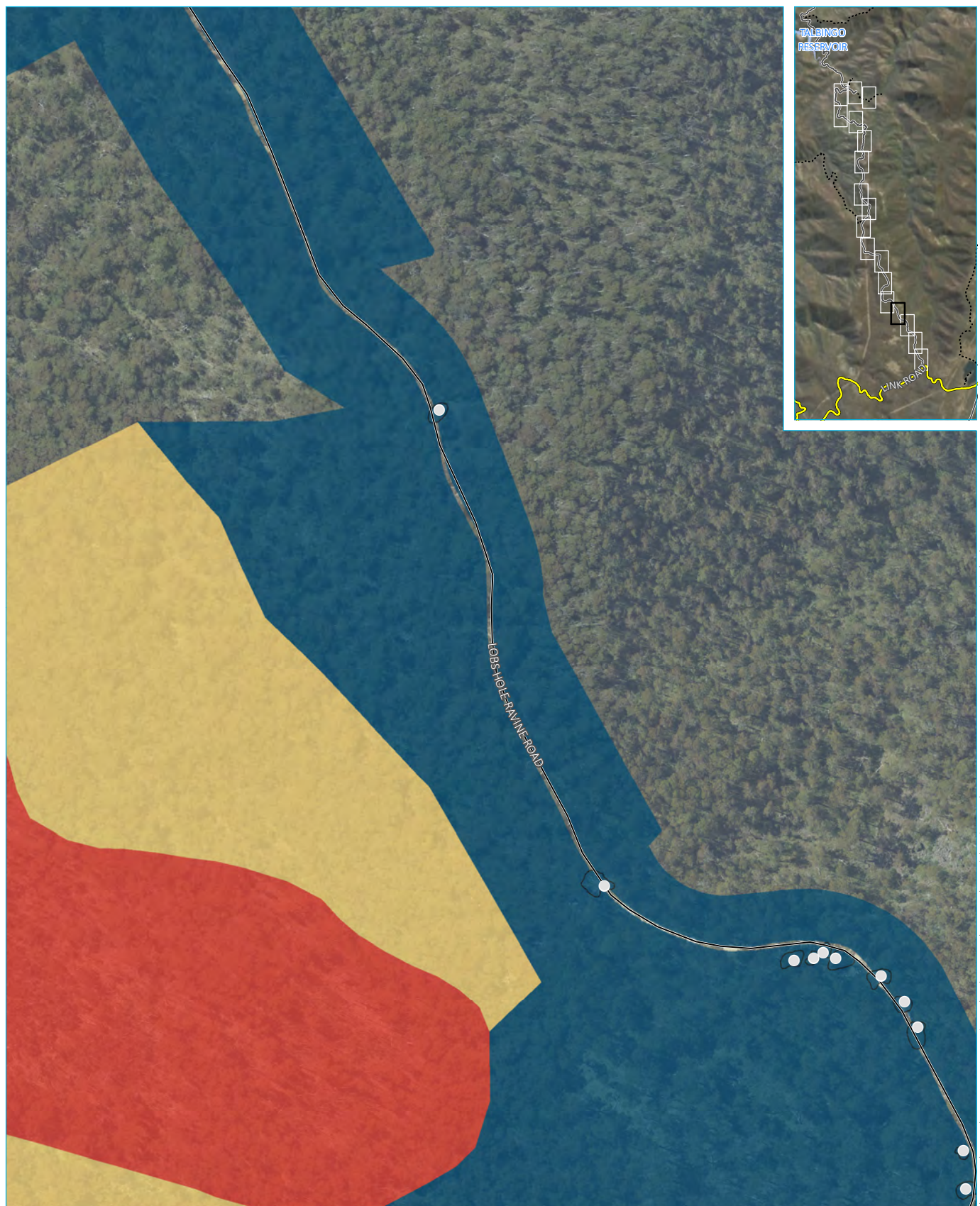
## Dangerous tree locations, Plant Community Type and vegetation zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- Dangerous trees
- Local road
- PCT 639
- High
- PCT 638
- High
- PCT 1196
- High
- High - tree

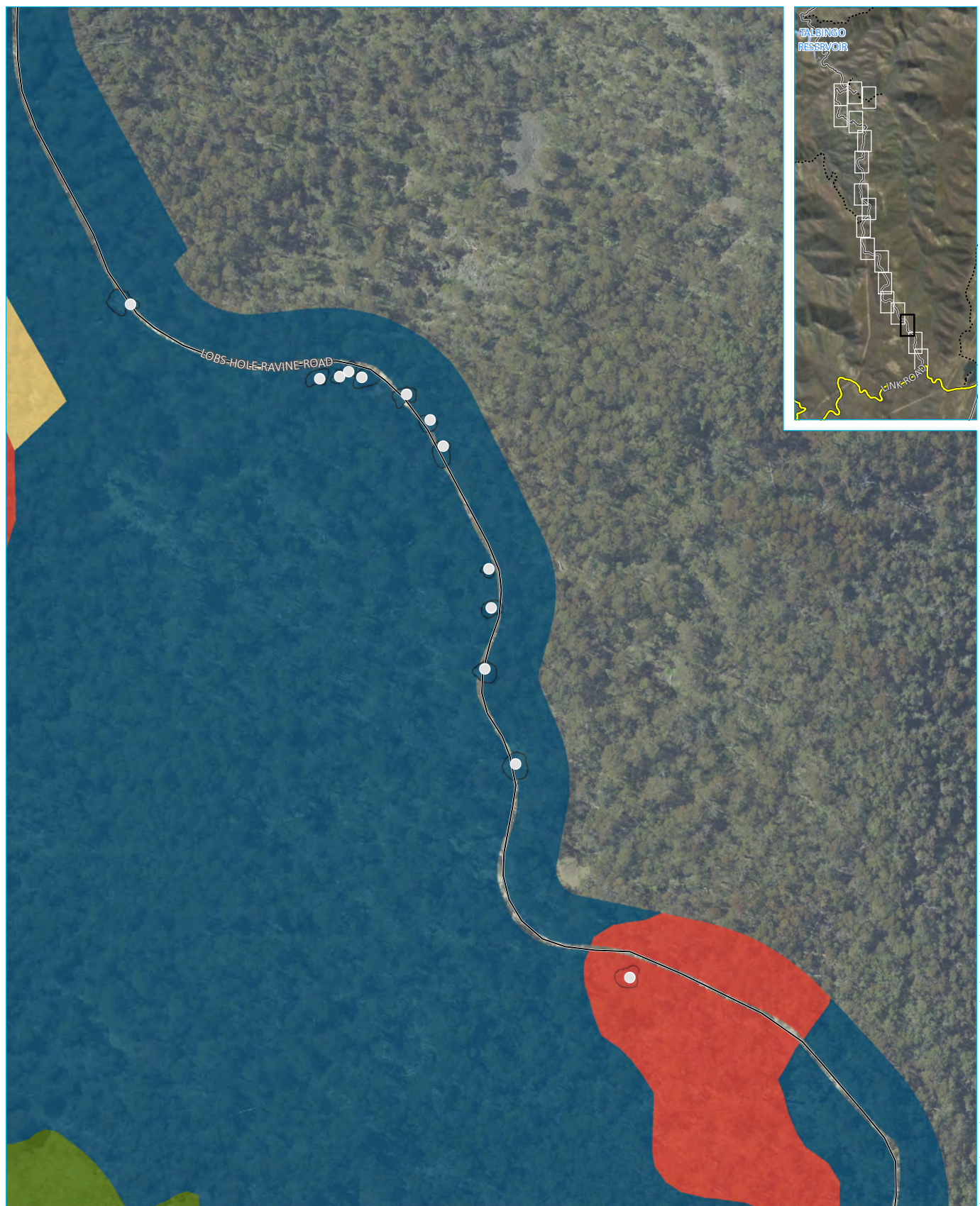
#### Dangerous tree locations, Plant Community Type and vegetation zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

## KEY

- Dangerous trees
- Local road
- PCT 639
- PCT 638
- PCT 1196
- PCT 1224
- High
- High
- High - tree
- High
- High - tree

## Dangerous tree locations, Plant Community Type and vegetation zone mapping

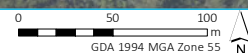
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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)



## KEY

- Dangerous trees
- Local road
- PCT 639
- High
- PCT 638
- High
- High - tree
- PCT 1196
- High
- High - tree

Dangerous tree locations, Plant  
Community Type and vegetation  
zone mapping

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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- Dangerous trees
- Main road
- Local road
- PCT 638
- High
- High - tree
- PCT 1196
- High

Dangerous tree locations, Plant  
Community Type and vegetation  
zone mapping

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