

Wet sclerophyll forests in the subtropics and tropics: A review

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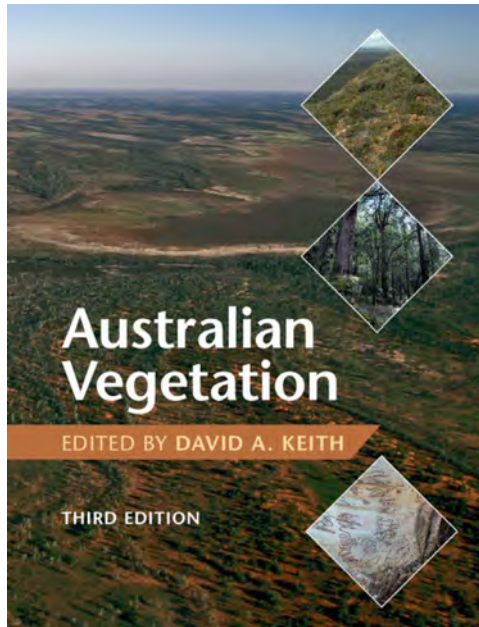


Wet sclerophyll forest, Tallebudgera Valley, Queensland.

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Wet Sclerophyll Forests

GRANT WARDELL-JOHNSON, JOHN NELDNER AND JAYNE BALMER



“Wet sclerophyll forests have an upper tree canopy dominated by species of *Eucalyptus* or closely allied genera (*Corymbia*, *Lophostemon* or *Syncarpia*) in the family Myrtaceae, which usually reach at least 30 m tall at maturity. having a foliage projective cover of between 30 and 70% (Specht 1970).”



Wet sclerophyll forest

Regrowth Benefits - Management Guideline

Great state. Great opportunity.



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Wet Sclerophyll Forests

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Tall open-forests

D.H. ASHTON & P.M. ATTIWILL

- Several reviews written on wet sclerophyll forests that cover aspects of this forest type in subtropics and tropics
- Notable focus in the published primary literature on wet sclerophyll forests in temperate region of Australia

Table 1. Descriptions of some of the wet sclerophyll communities described under the Queensland regional ecosystem framework (Queensland Herbarium, 2023).

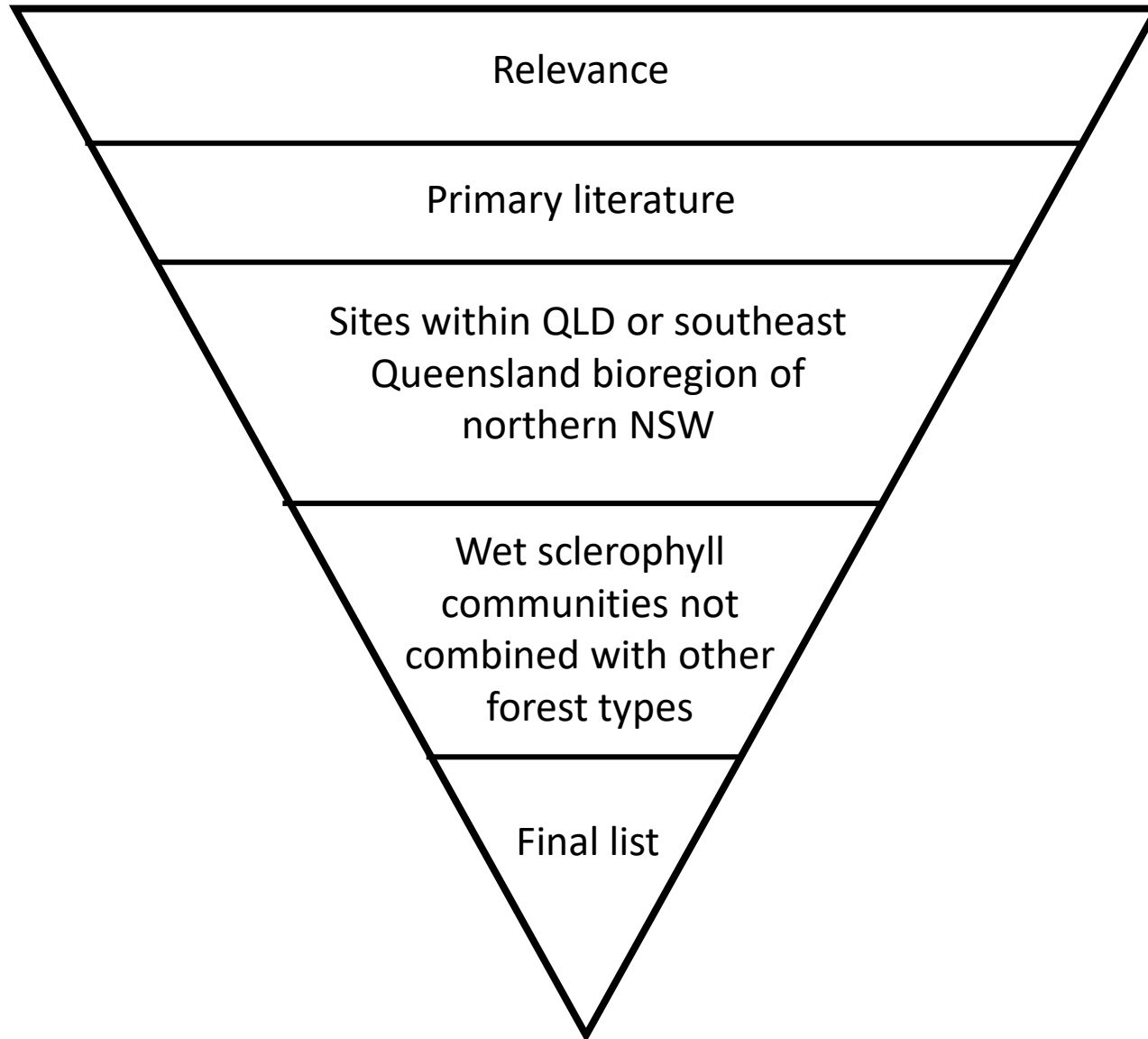
12.3.2	<i>Eucalyptus grandis</i> tall open forest on alluvial plains
12.8.8	<i>Eucalyptus saligna</i> or <i>E. grandis</i> tall open forest on Cainozoic igneous rocks
12.2.4	<i>Syncarpia hillii</i> , <i>Lophostemon confertus</i> tall open to closed forest on parabolic high dunes
12.11.2	<i>Eucalyptus saligna</i> or <i>E. grandis</i> , <i>E. microcorys</i> , <i>Lophostemon confertus</i> tall open forest on metamorphics +/- interbedded volcanics
12.12.2	<i>Eucalyptus pilularis</i> tall open forest on Mesozoic to Proterozoic igneous rocks especially granite

- Estimated 2.71 million hectares of wet sclerophyll forest across the subtropics and tropics (Wardell-Johnson et al., 2017)
- Numerous distinct ecosystems, that provide habitat for specialist flora and fauna species.
- Currently under threat from processes such as land clearing, altered fire regimes, and myrtle rust (*Austropuccinia psidii*).



Wet sclerophyll forest, Springbrook National Park, Queensland.

- 1) How are publications distributed spatially?
- 2) Is there a bias towards certain types of wet sclerophyll forests?
- 3) What are the main focuses of the publications?
- 4) What aspects of vegetation are examined, and how are these publications distributed spatially?



- Search of databases: Scopus, Web of Science and Google Scholar (first 400 papers).
- Search terms: Queensland or New South Wales and 8 synonyms for wet sclerophyll forest
- 486 Papers excluded during the filtering process
- 133 papers retained

1) How are publications distributed spatially?

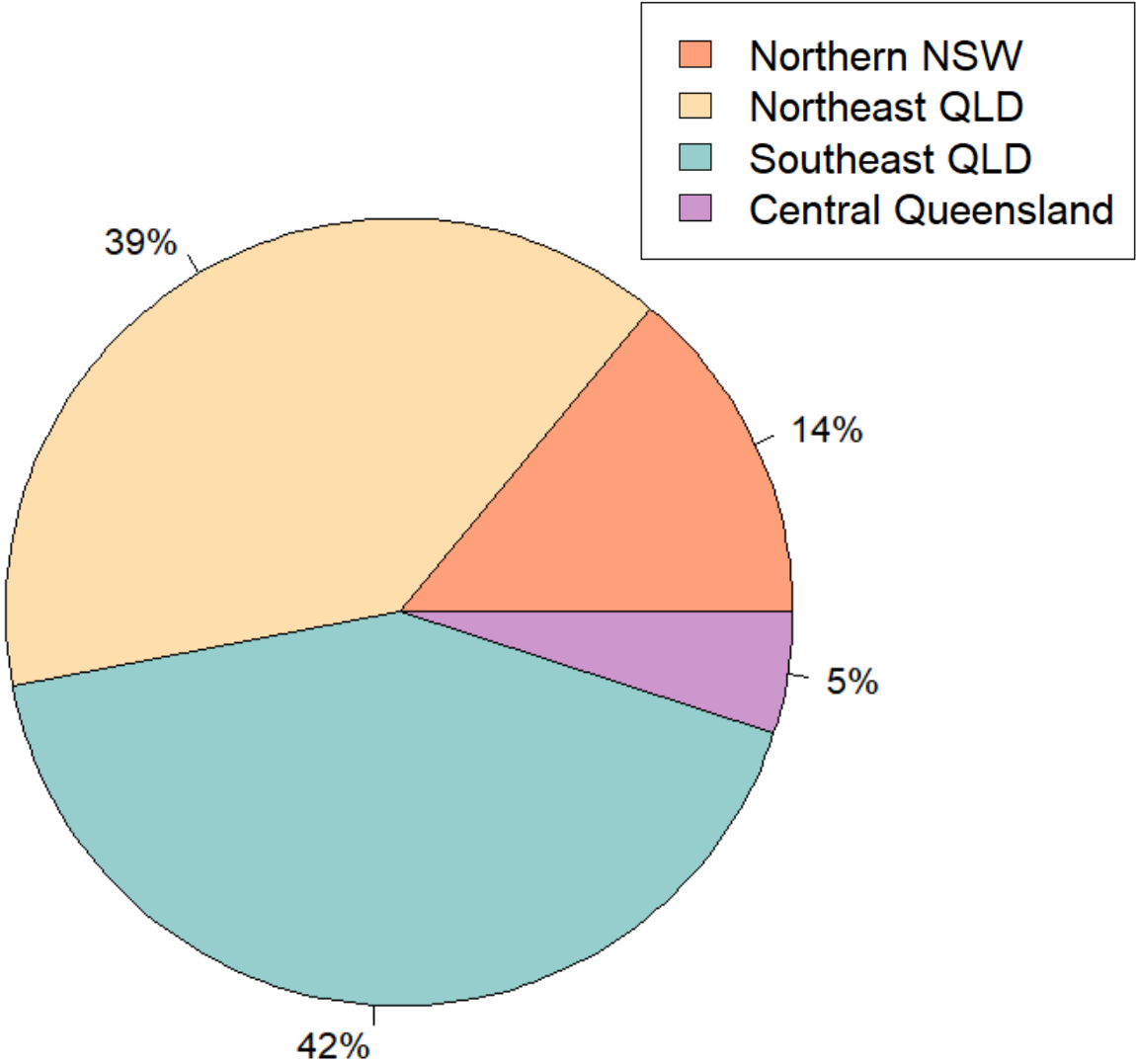


Figure 1. Proportion of studies represented in key study regions between 1958 and 2024.

1) How are publications distributed spatially?

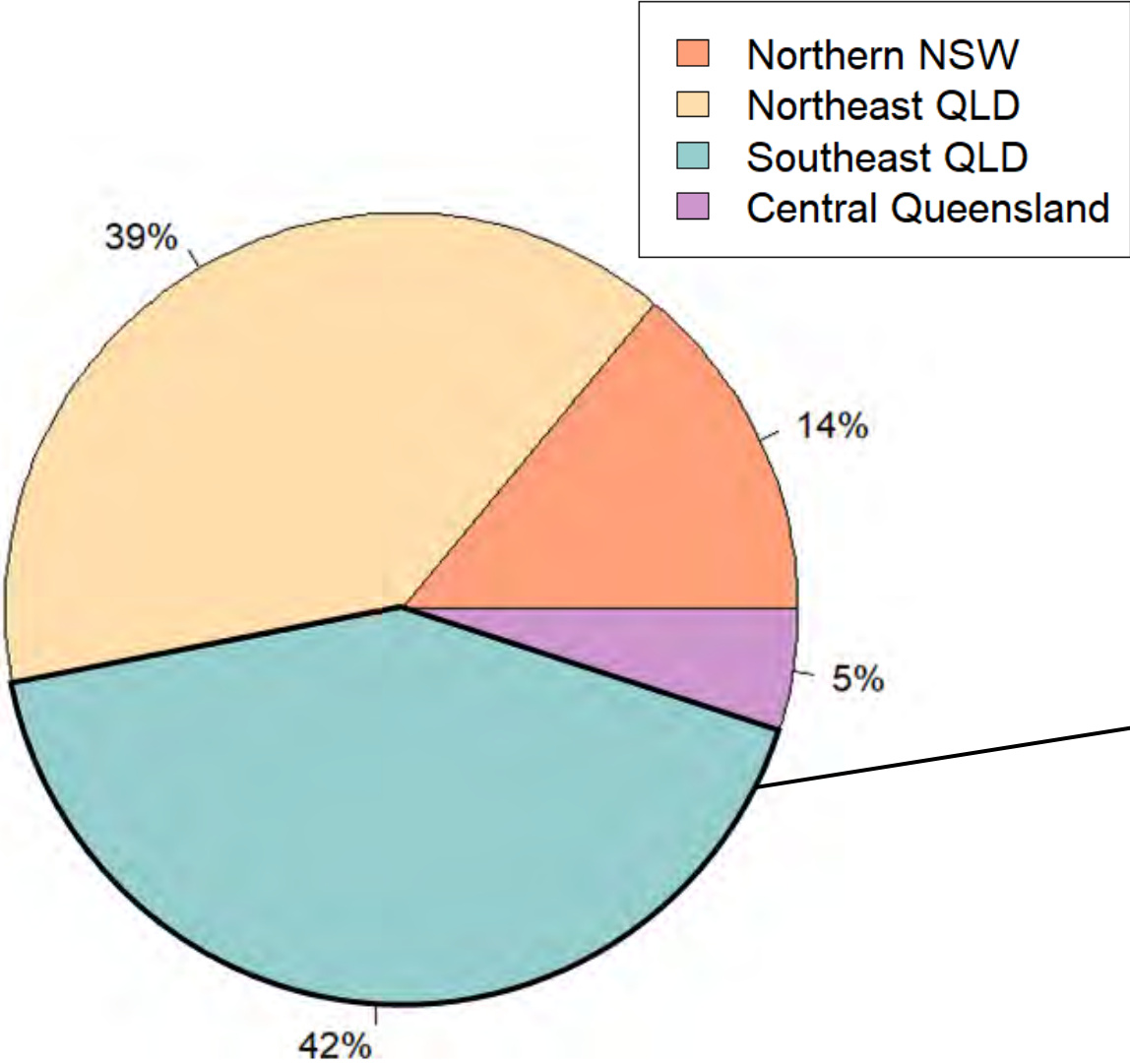


Figure 1. Proportion of studies represented in key study regions between 1958 and 2024.

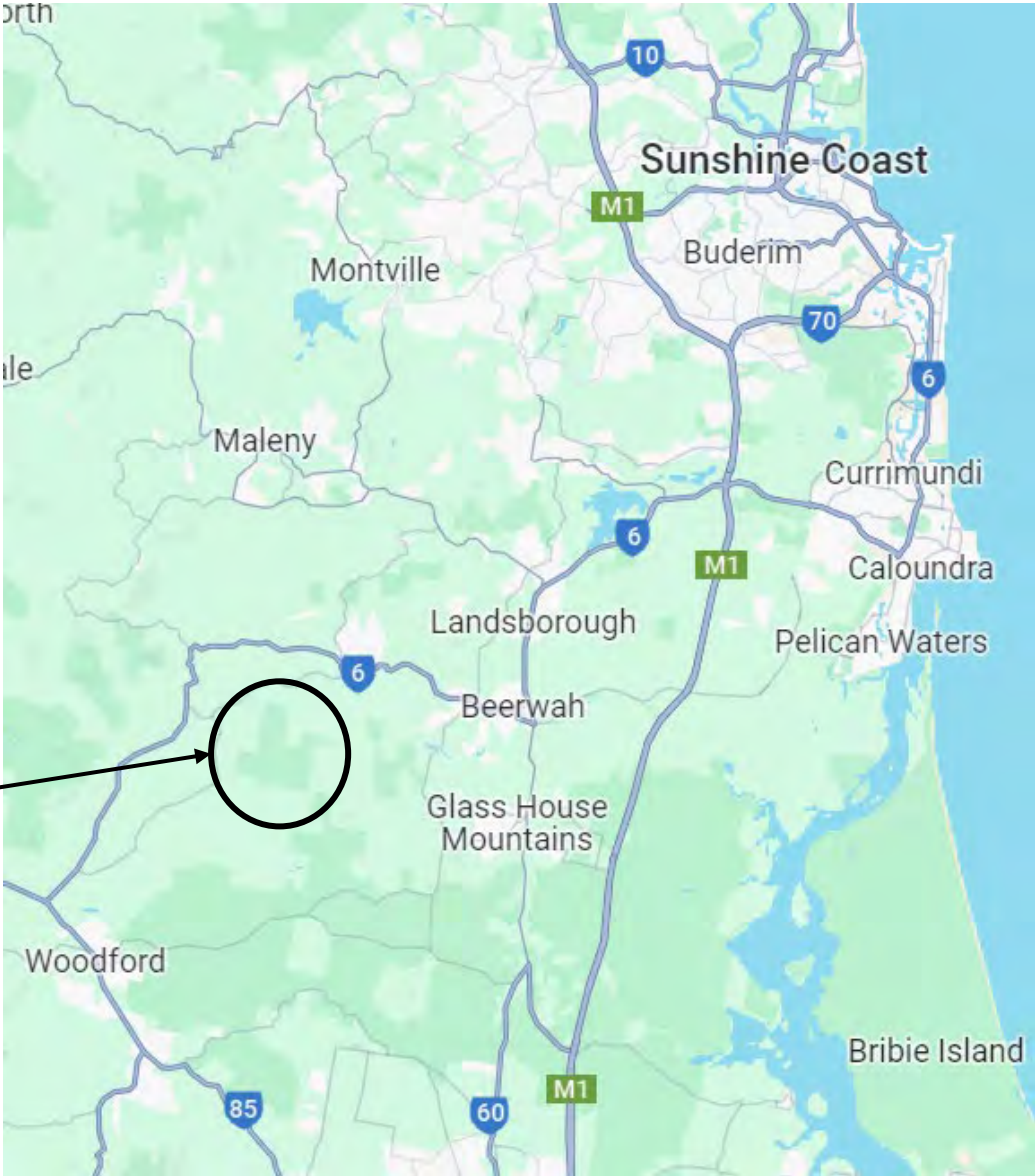


Figure 2. Map of Sunshine Coast region with Peachester State Forest circled.

2) Is there a focus on certain vegetation communities?

Table 2. Descriptions of subgroups within Broad Vegetation Group (BVG) 8 Wet eucalypt tall open forests on uplands and alluvia (Neldner et al., 2023).

8a Wet tall open forests	8b Moist open forests to tall open forests
Mean annual rainfall range: >1200 mm	Mean annual rainfall range: >1000 mm
Dominated by species such as <i>Eucalyptus grandis</i> or <i>Eucalyptus saligna</i> , <i>E. resinifera</i> , <i>Lophostemon confertus</i>	Mostly dominated by <i>Eucalyptus pilularis</i>

South-East Queensland:

- 63% of publications described dominant canopy species associated with the drier form of wet sclerophyll forest (BVG Group 8b)
- Compared to 25% that described dominant canopy species associated with the wetter form (BVG 8a)

3) What are the main focuses of the publications?

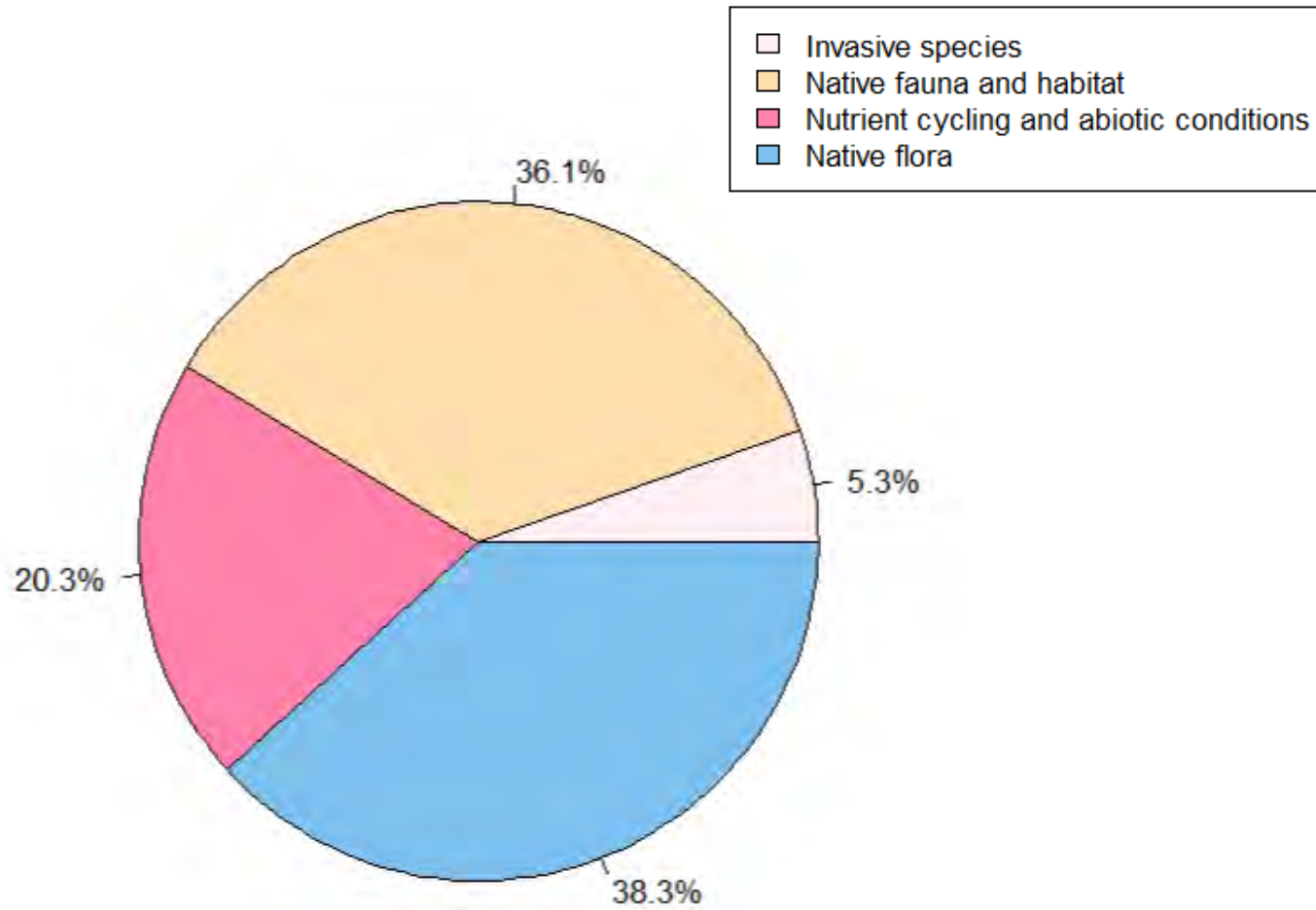


Figure 3. Main focuses of published studies as proportion of total studies.

4) What aspects of vegetation are examined and how do these publications vary spatially?

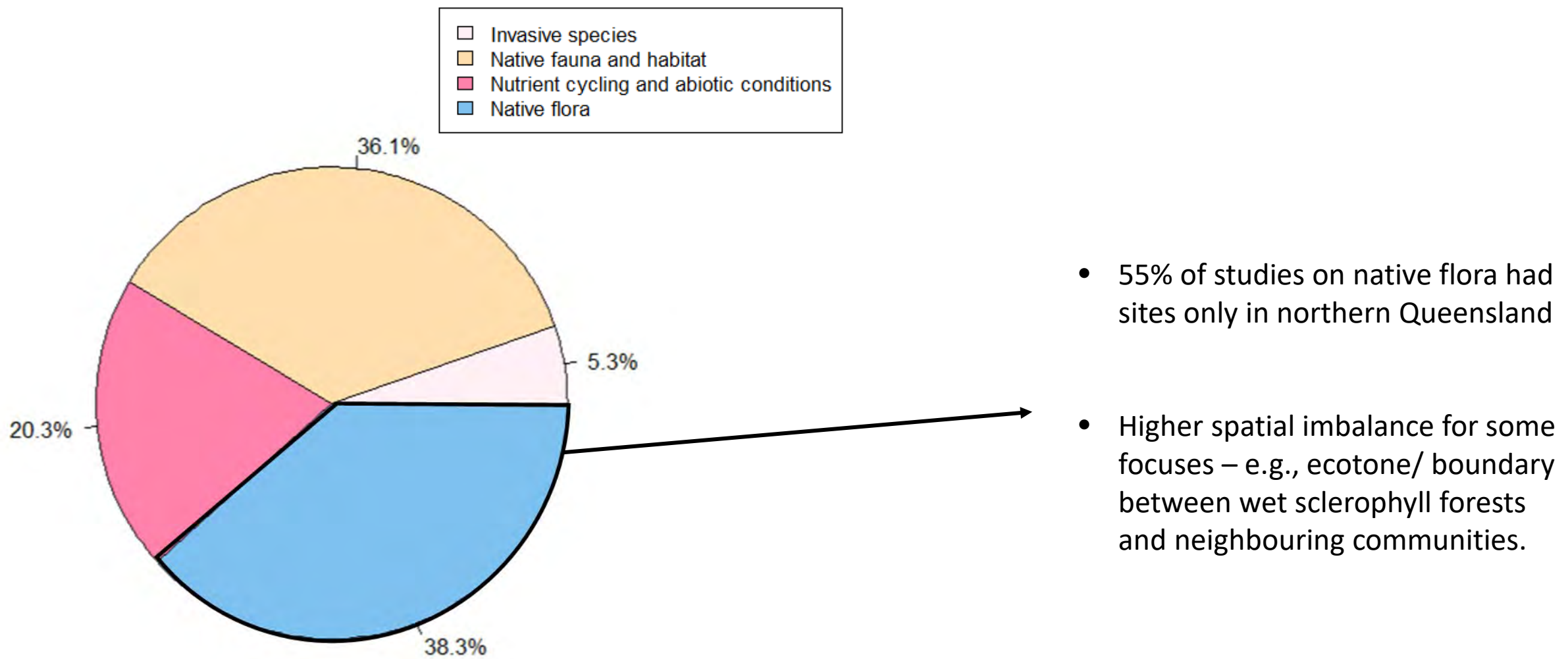


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Wet sclerophyll forest, Tallebudgera Valley, Queensland

- Wet sclerophyll forests are highly variable in response to disturbance
- More published studies needed in the subtropics - particularly in wetter communities and that include multiple sites
- Important for developing our understanding of the impacts of key threatening processes, such as altered fire regimes and invasive species



Wet sclerophyll forest, Tallebudgera Valley, Queensland

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Funders

