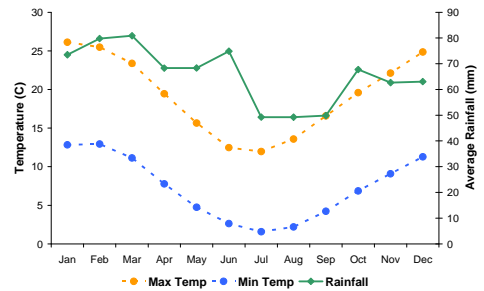


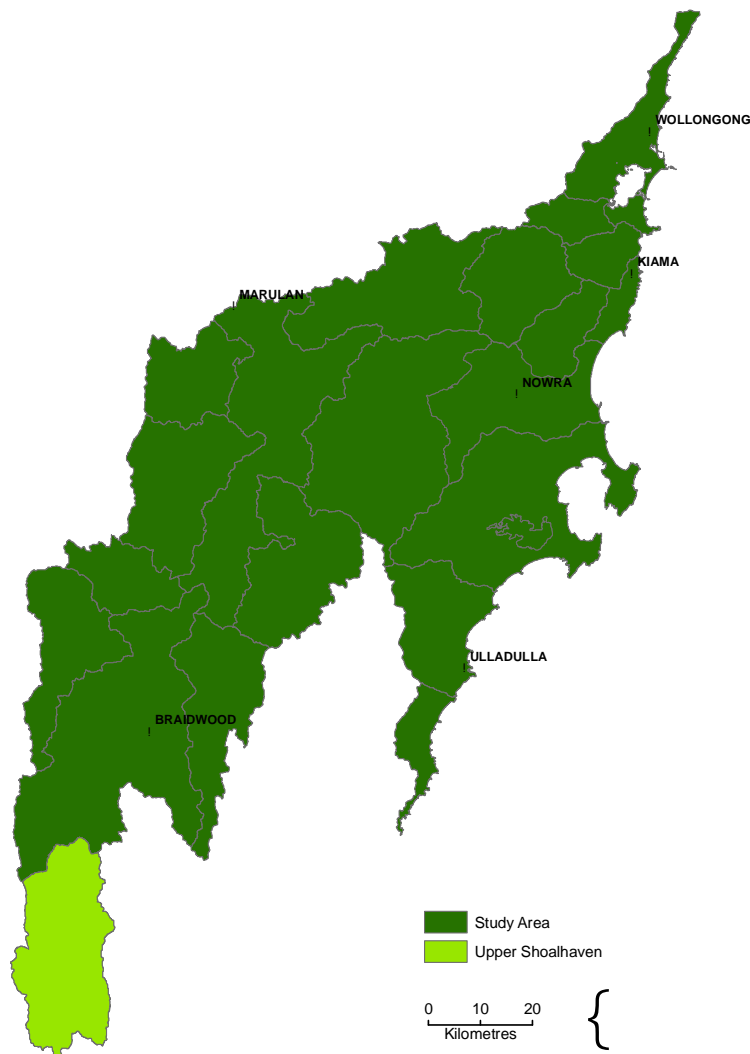
Report Card – Upper Shoalhaven

General Information

<i>Sub-catchment size</i>	576 km ²
<i>Riparian landscape area</i>	25 km ²
<i>Average annual rainfall range</i>	791-1200 mm
<i>Median annual rainfall</i>	890 mm
<i>Elevation range</i>	678 – 1458 m
<i>Sub-catchment stream length</i>	2012 km
<i>Analysis area stream length</i>	1176 km

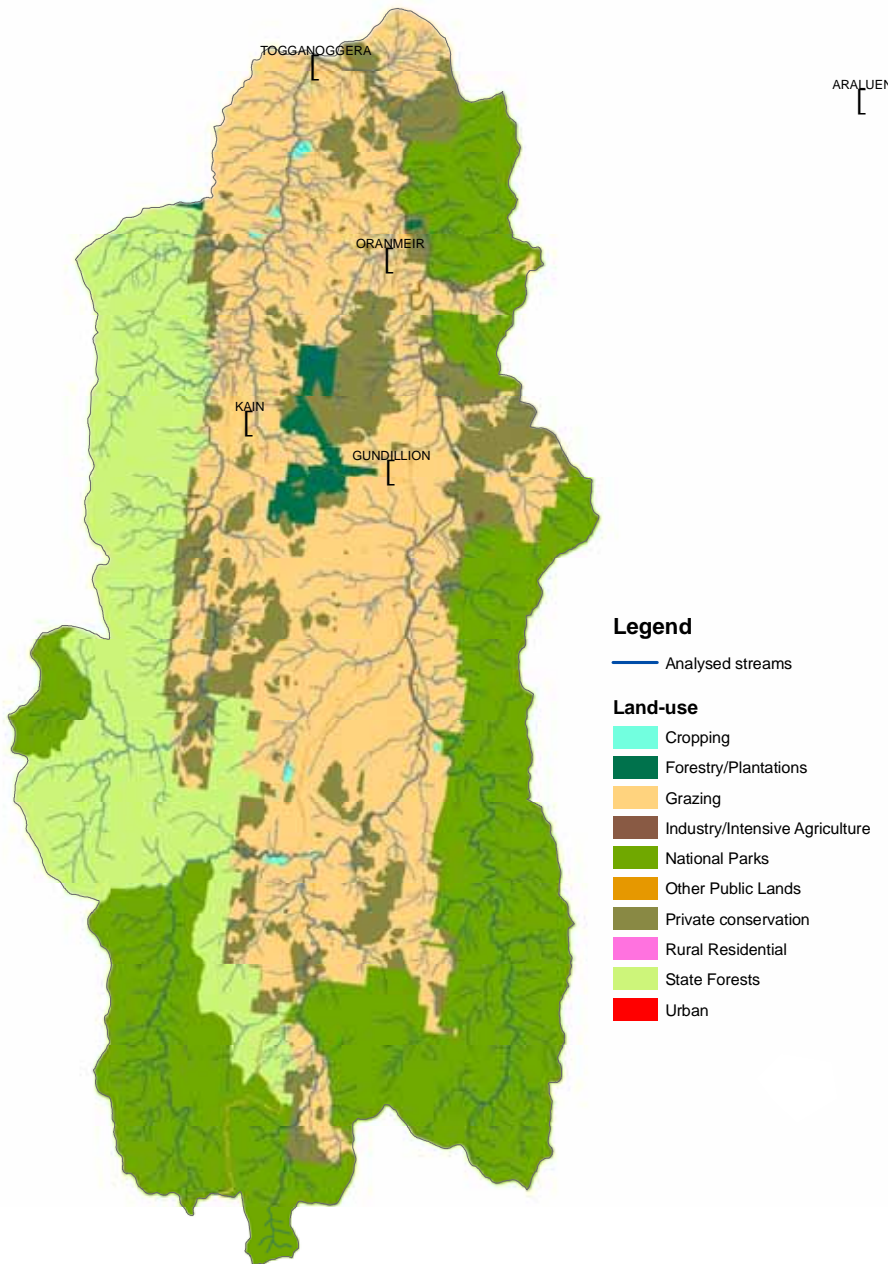


Average daily temperature and monthly rainfall data



Location of Upper Shoalhaven sub-catchment within study area

Land Use



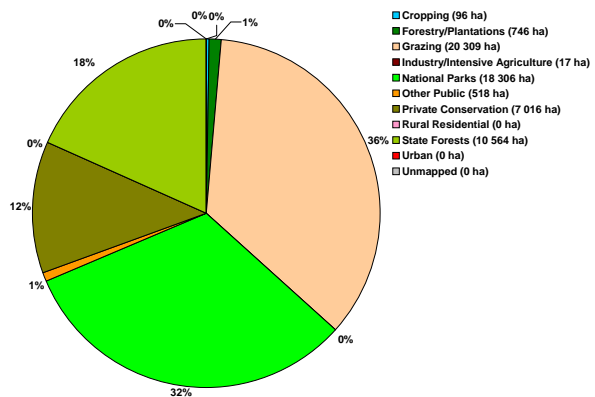
Legend

— Analysed streams

Land-use

- Cropping
- Forestry/Plantations
- Grazing
- Industry/Intensive Agriculture
- National Parks
- Other Public Lands
- Private conservation
- Rural Residential
- State Forests
- Urban

Land use map for Upper Shoalhaven sub-catchment

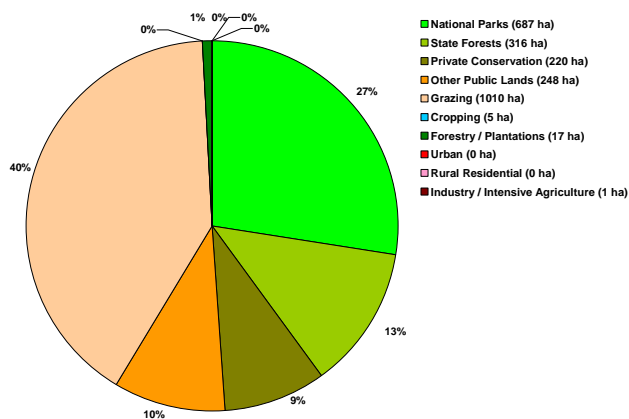


Land use within the sub-catchment

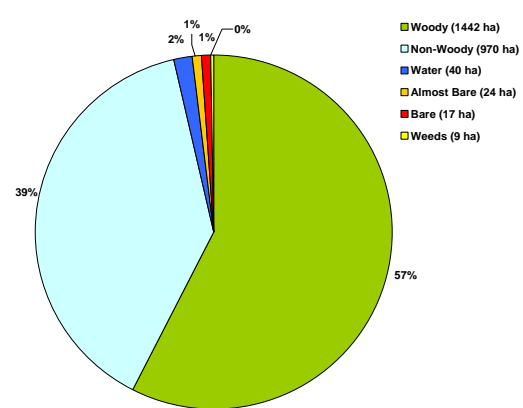
Report Card

Upper Shoalhaven Sub-catchment Riparian Zone Summary

- The combined National Parks and State Forests riparian area is roughly equivalent to the riparian area under Grazing, approximately 40%.
- Woody vegetation cover dominates the riparian area comprising approximately 57%. More than 64% of the woody riparian cover is within the National Parks and State Forests tenures.
- Bare and Almost Bare areas constitute small percentages of the total riparian zone area.



Land use within the riparian zone



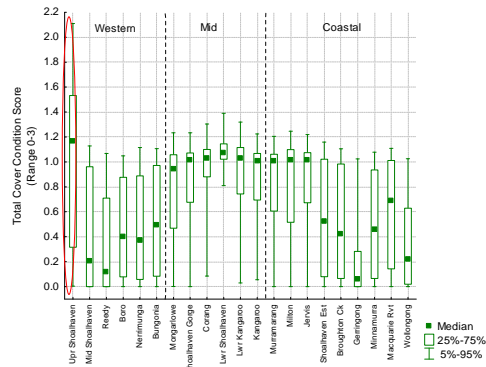
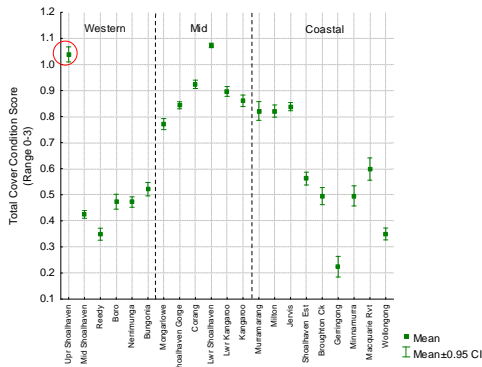
Land cover classes within the riparian zone

Cover Class by land use with in the riparian zone

Cover Class	Landuse	Conservation		Other Conservation		Agriculture			Other		
		National Parks	State Forests	Private Conservation	Other Public Lands	Grazing	Cropping	Forestry / Plantations	Urban	Rural Residential	Industry / Intensive Agriculture
Woody	Area (ha)	612.7	310.3	193.0	91.4	218.7	0.8	14.4	0.0	0.0	0.7
	% of Cover Class	42.5%	21.5%	13.4%	6.3%	15.2%	0.1%	1.0%	0.0%	0.0%	0.0%
Non-Woody	Area (ha)	65.9	5.4	22.8	106.7	763.6	3.8	1.9	0.0	0.0	0.2
	% of Cover Class	6.8%	0.6%	2.3%	11.0%	78.7%	0.4%	0.2%	0.0%	0.0%	0.0%
Water	Area (ha)	5.6	0.0	2.2	24.5	7.5	0.0	0.1	0.0	0.0	0.0
	% of Cover Class	14.0%	0.0%	5.4%	61.4%	18.9%	0.0%	0.2%	0.0%	0.0%	0.0%
Almost Bare	Area (ha)	1.8	0.0	1.2	12.3	8.7	0.1	0.1	0.0	0.0	0.0
	% of Cover Class	7.6%	0.1%	4.9%	50.8%	36.0%	0.4%	0.3%	0.0%	0.0%	0.0%
Bare	Area (ha)	0.8	0.0	1.0	10.3	4.9	0.0	0.1	0.0	0.0	0.0
	% of Cover Class	4.5%	0.3%	5.8%	60.3%	28.6%	0.1%	0.4%	0.0%	0.0%	0.0%
Weeds	Area (ha)	0.0	0.0	0.0	2.3	6.9	0.2	0.0	0.0	0.0	0.0
	% of Cover Class	0.0%	0.0%	0.1%	24.7%	73.0%	2.3%	0.0%	0.0%	0.0%	0.0%

Report Card - Woody cover

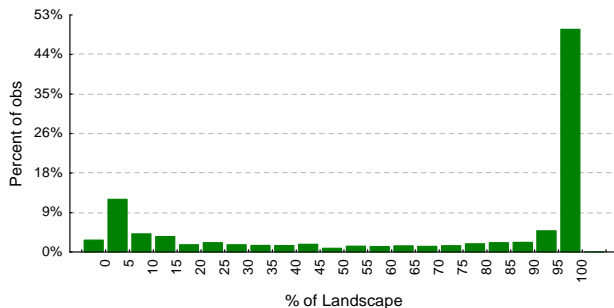
Upper Shoalhaven – Woody Cover



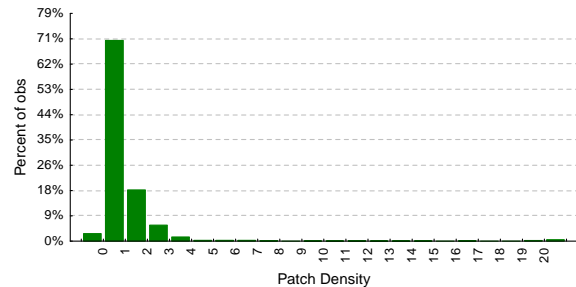
Overall Rank: 10/21
Zonal Rank: 1/6
(Ranks are based on Sub-catchment Woody Cover Score)

Comparison of mean and median woody cover scores across study area

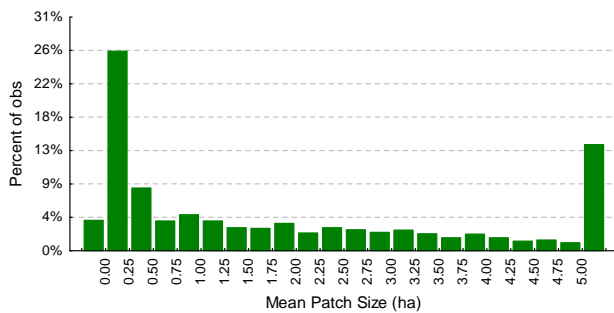
- The riparian zone in approximately 66% of the sub-catchment tiles, where woody vegetation cover is present, consists of between 55 and 100% woody cover, i.e. woody cover is very dominant in the riparian zones of these tiles. However, woody riparian cover is much less dominant in approximately 19% of the sub-catchment tiles, where it consists of 20% or less of the riparian area within a tile.
- The riparian woody vegetation cover Patch Density graph shows a high negative skew indicating that woody cover is generally the intact where it exists within the sub-catchment.
- The Mean Patch Size graph shows that the woody cover exists generally in larger patches sizes.



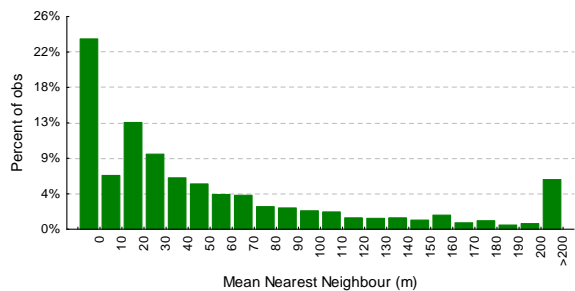
Distribution of the percentage of woody vegetation or **Percent of Landscape (PL)** within tiles in the riparian zones of the sub-catchment.



Distribution of the woody vegetation Patch Density (ha) within tiles in the riparian zones.



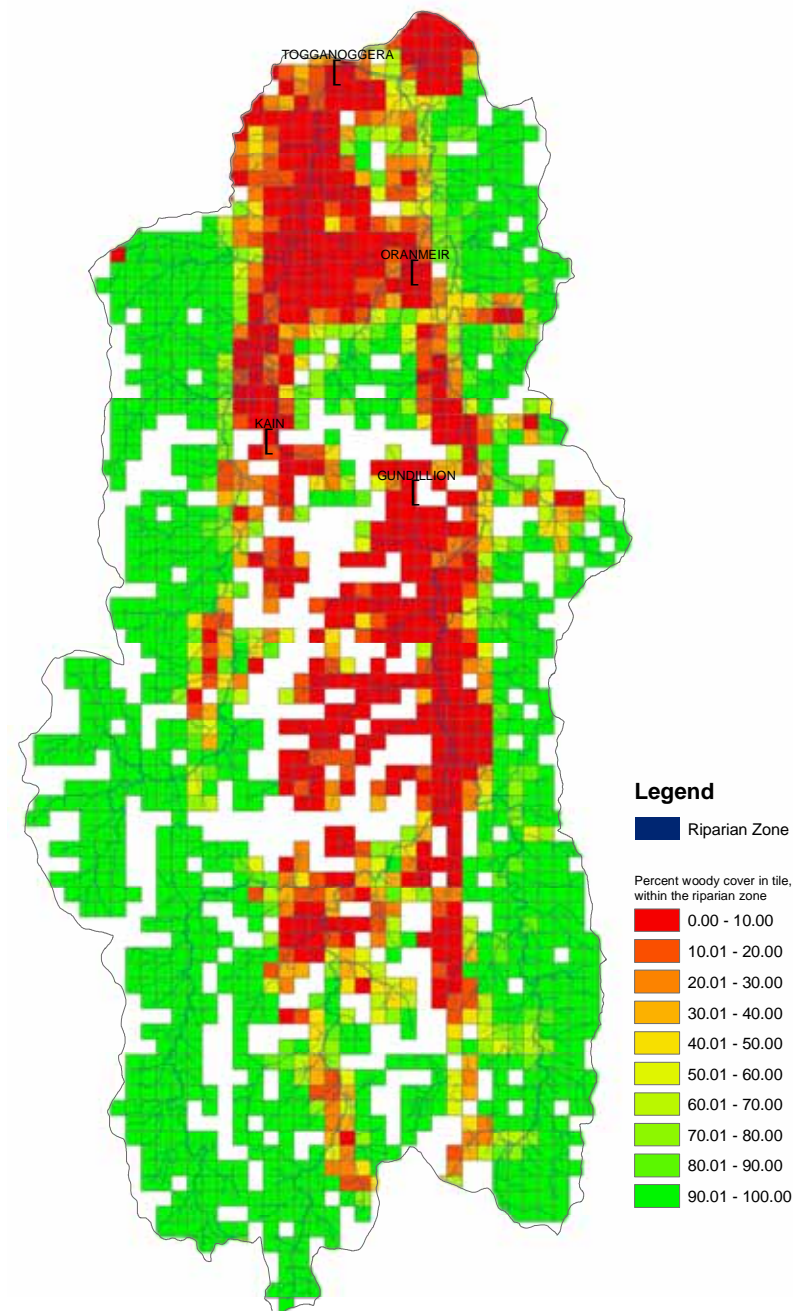
Distribution of mean patch size (ha) of woody vegetation in the riparian zones.



Distribution of the Mean Nearest Neighbour (Metres) distance between woody vegetation patches within tiles in the riparian zones.

Report Card - **Woody cover**

Upper Shoalhaven – Woody cover



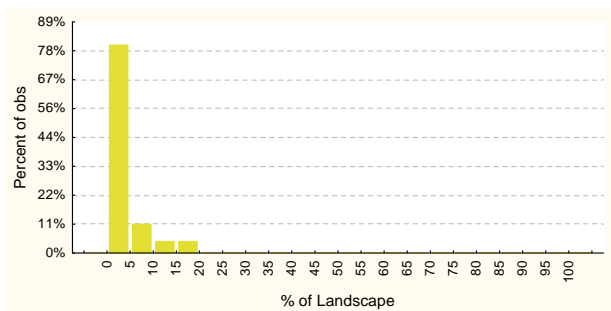
- Woody riparian vegetation cover in riparian zones is lowest in proportion and fragmented in the central and northern parts of the sub-catchment, where grazing is the predominant land use type.
- Woody riparian cover is dominant and largely intact on the outer parts of the sub-catchment where National Parks and State Forests are the main tenure.

Woody cover map of Upper Shoalhaven sub-catchment

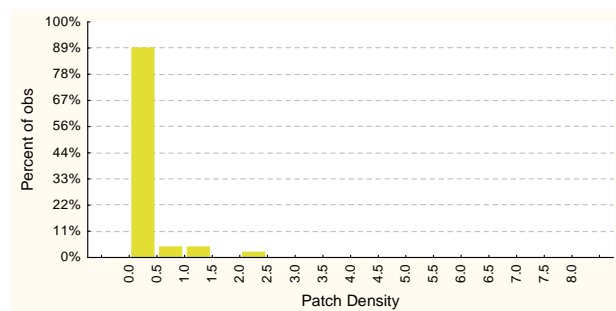
Report Card - Weeds (Willows)

Upper Shoalhaven – Weeds (Willows)

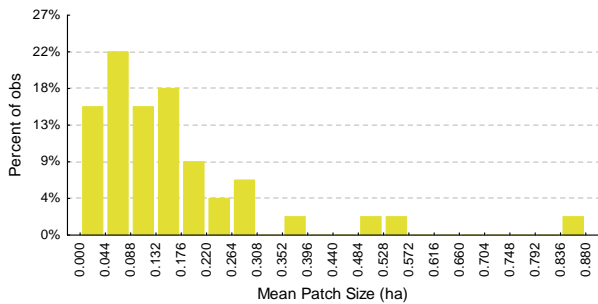
- The **% of Landscape** graph indicates that weeds generally do not dominate the riparian zone in the sub-catchment. In approximately 78% of the tiles where the weeds (mostly Willows) exist, they occupy 5% or less of the riparian zone.
- Weeds generally exist in relatively small patch sizes. In approximately 54% the sub-catchment tiles where weeds exist, the weeds Mean Patch Size is approximately 0.1 ha or less.



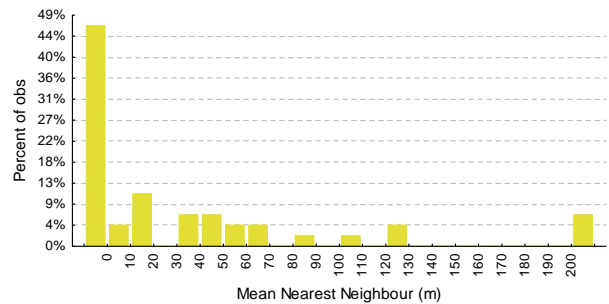
Distribution of the percentage of *Weeds* or **Percent of Landscape (PL)** within tiles in the riparian zone.



Distribution of the *Weeds* Patch Density (PD) within tiles in the riparian zones.



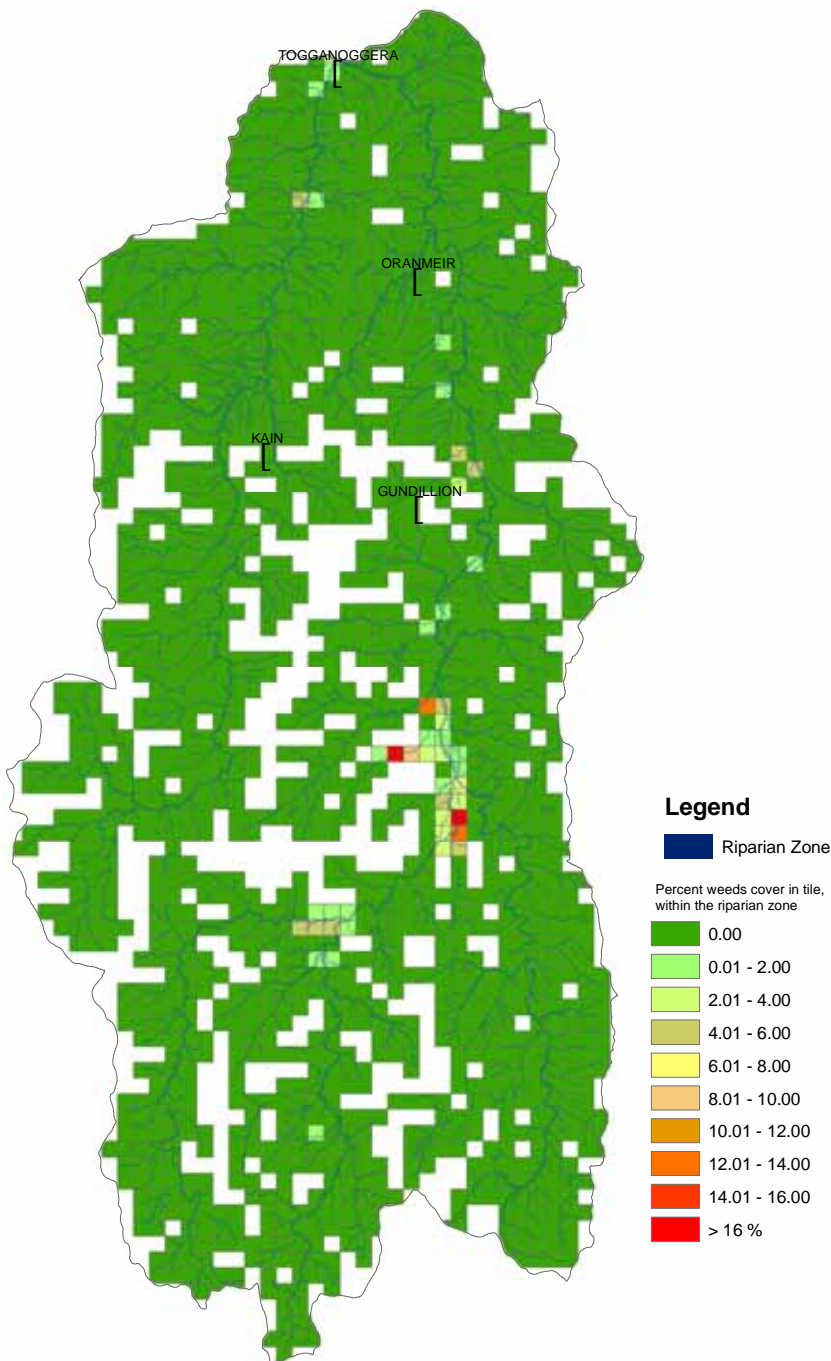
Distribution of mean patch size (ha) of weeds in the riparian zones.



Distribution of the Mean Nearest Neighbour (Metres) distance between *Weeds* patches within tiles in the riparian zones.

Report Card - Weeds (Willows)

Upper Shoalhaven – Weeds (Willows)

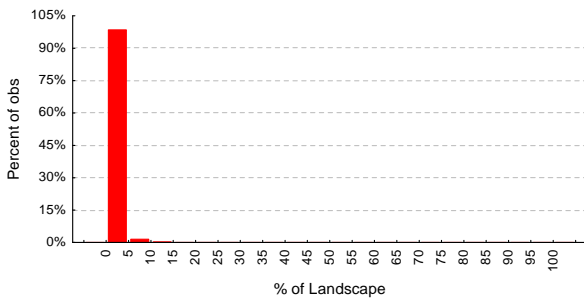


- The Weeds (mainly Willows) appear to be localised in distribution with the largest contiguous areas found in the central parts of the sub-catchment where grazing is the main land use. Smaller dispersed areas occur in northern parts of the sub-catchment.

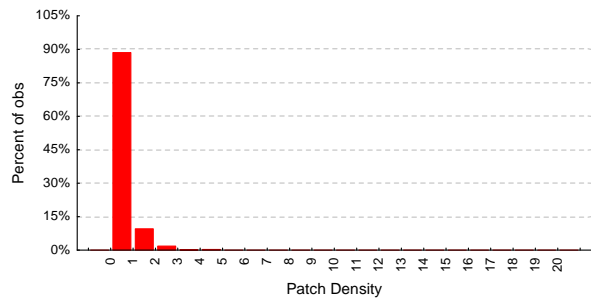
Weeds cover map of Upper Shoalhaven sub-catchment

Upper Shoalhaven – Bare

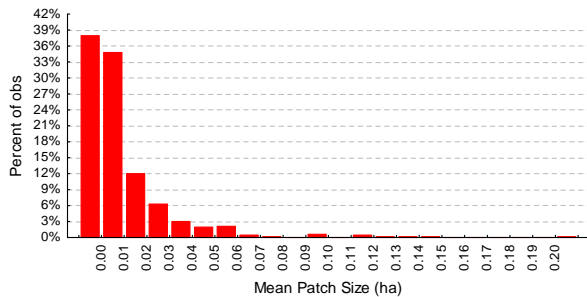
- The % Landscape graphs shows that Bare areas generally do not dominate the riparian area in this sub-catchment. Where the Bare areas are present within tiles, they occupy 5% or less of the riparian zone in approximately 99% of the tiles.
- Bare areas are generally small as indicated by the Mean Patch Size graph.



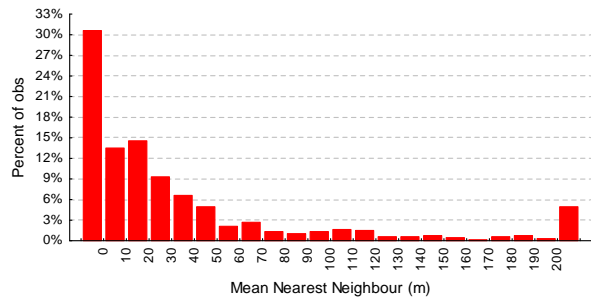
Distribution of the percentage of Bare area or Percent of Landscape (PL) within tiles in the riparian zones.



Distribution of the Bare Patch Density (PD) within tiles in the riparian zones.

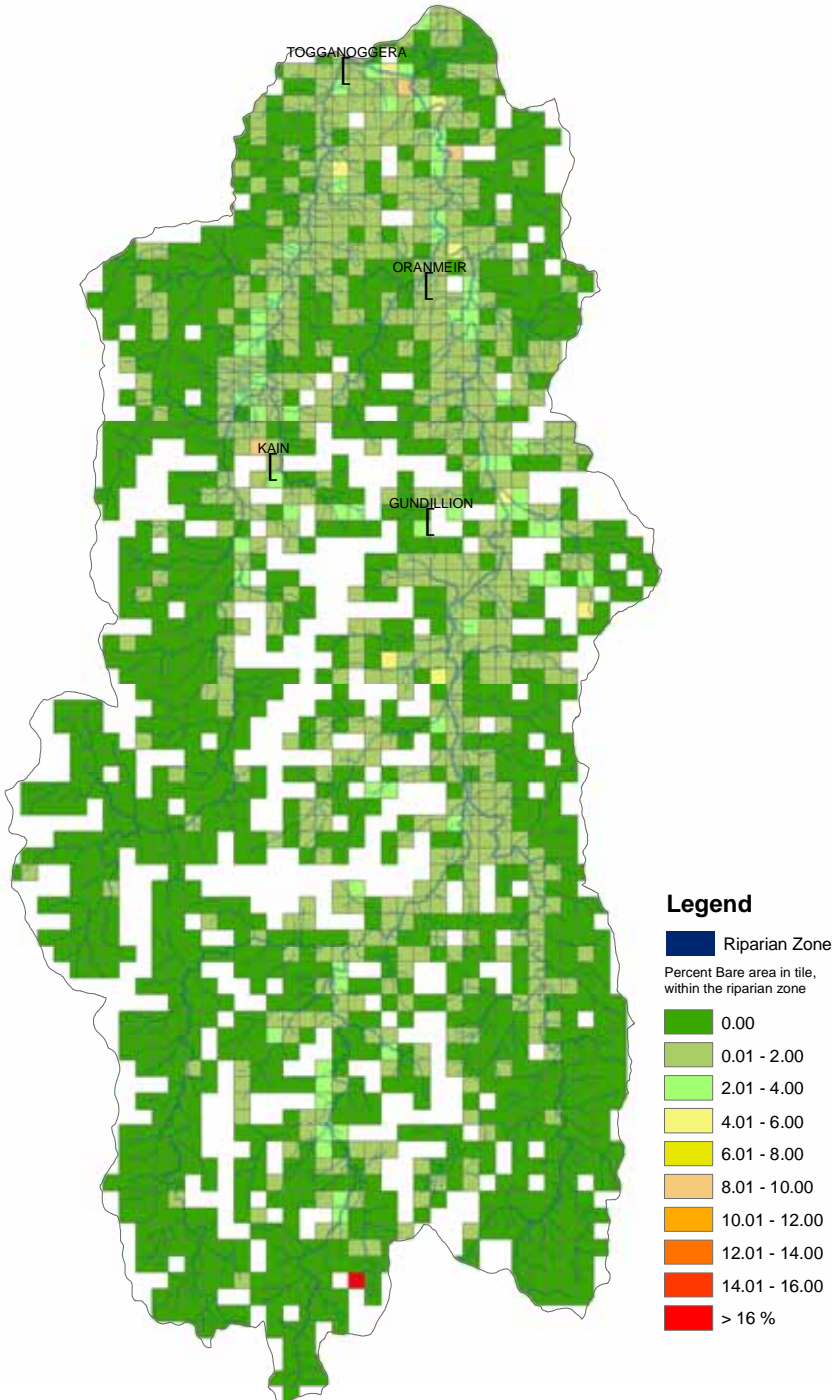


Distribution of mean patch size of Bare areas in the riparian zones.



Distribution of the Mean Nearest Neighbour (MNN) distance between Bare patches within tiles in the riparian zones.

Upper Shoalhaven – Bare



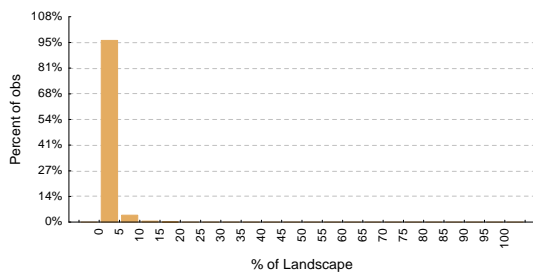
Bare cover map of Upper Shoalhaven sub-catchment

- Bare areas exist predominantly in riparian zones where grazing is the main land use, mostly in the central parts of the sub-catchment.
- Where Bare areas exist, they generally compose a small proportion of the riparian zone, less than 4% on average.

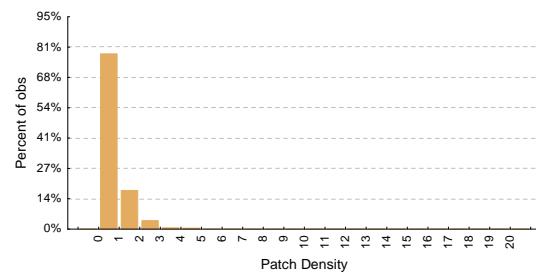
Report Card - Almost Bare

Upper Shoalhaven – Almost Bare

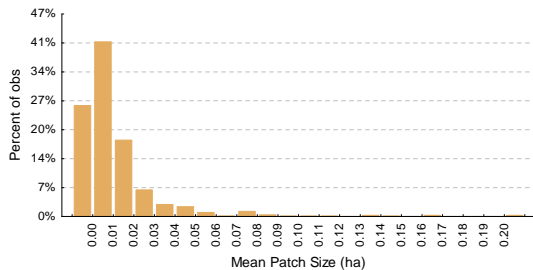
- The **% Landscape** graphs shows that the Almost Bare areas generally do not dominate the riparian area in this sub-catchment. Where the Almost Bare areas are present within tiles, they occupy 5% or less of the riparian zone in approximately 95% of the sub-catchment tiles.
- Almost Bare areas are generally small as indicated by the Mean Patch Size graph.



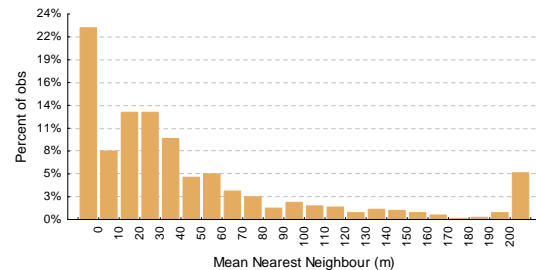
Distribution of the percentage of *Almost bare* area or **Percent of Landscape (PL)** within tiles in the riparian zones.



Distribution of the *Almost Bare* Patch Density (Ha) within tiles in the riparian zones.



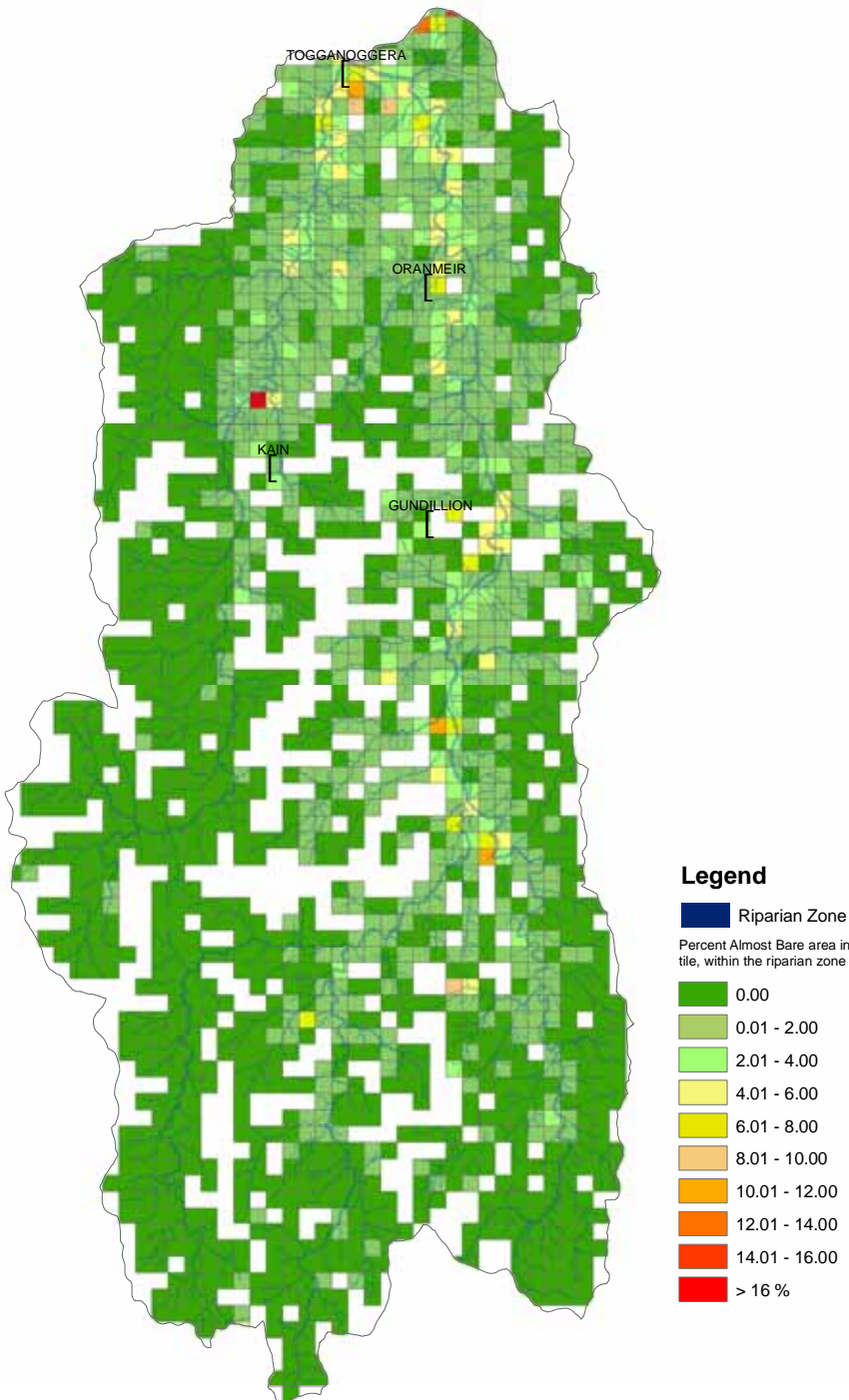
Distribution of mean patch size (Ha) of *Almost Bare* areas in the riparian zones.



Distribution of the Mean Nearest Neighbour (metres) distance between *Almost Bare* patches within tiles in the riparian zones.

Report Card - Almost Bare

Upper Shoalhaven – Almost Bare



- Almost Bare areas exist predominantly in riparian zones where grazing is the main land use and mainly in the central parts of the sub-catchment.
- Where Almost Bare areas exist, they generally compose a small proportion of the riparian zone, less than 6% on average.

Almost Bare cover map of Upper Shoalhaven sub-catchment