

# PNAS

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Supplementary Information for

Analyses of Australian fires highlight the need for new fire, resource and conservation policies

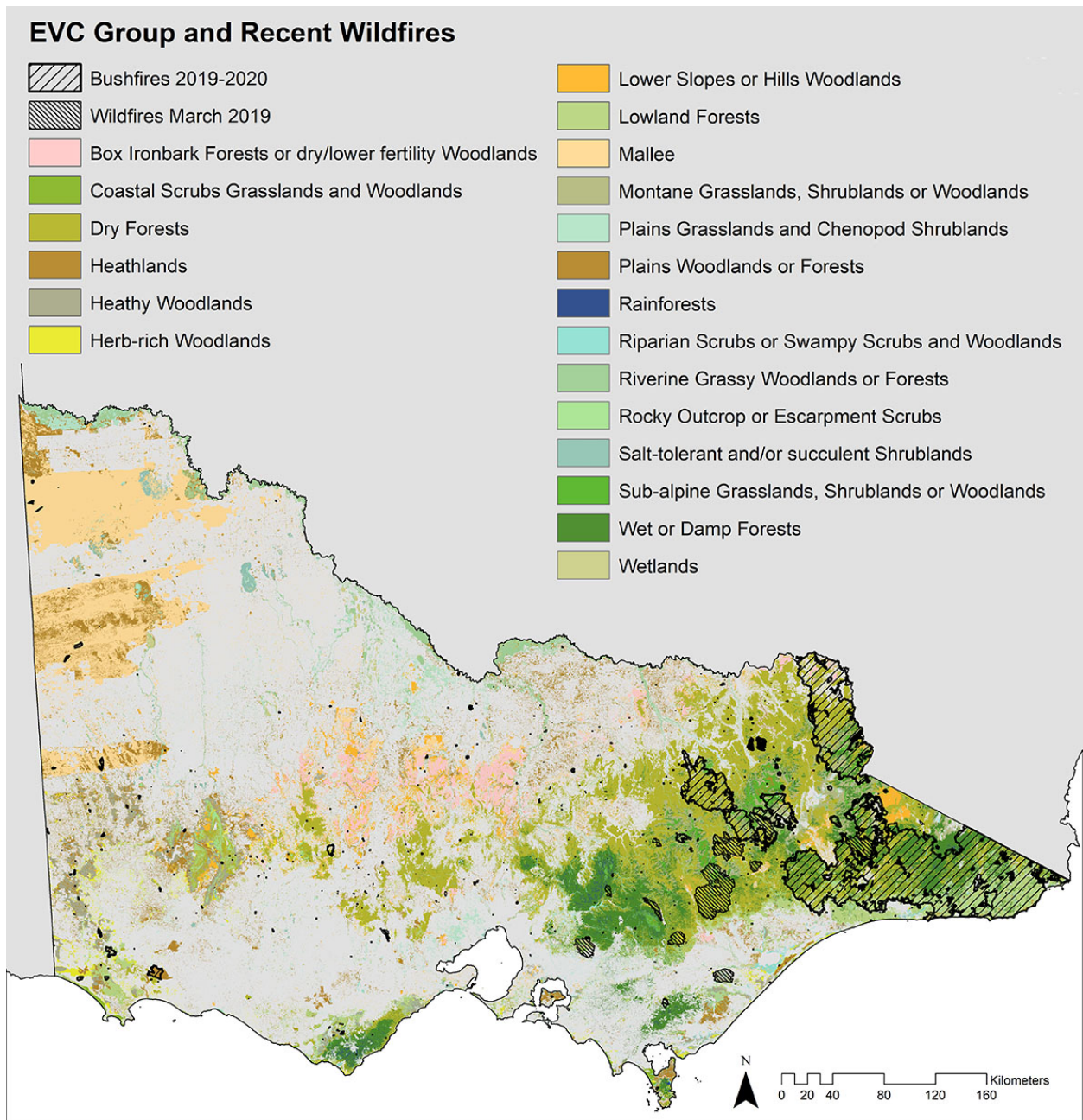
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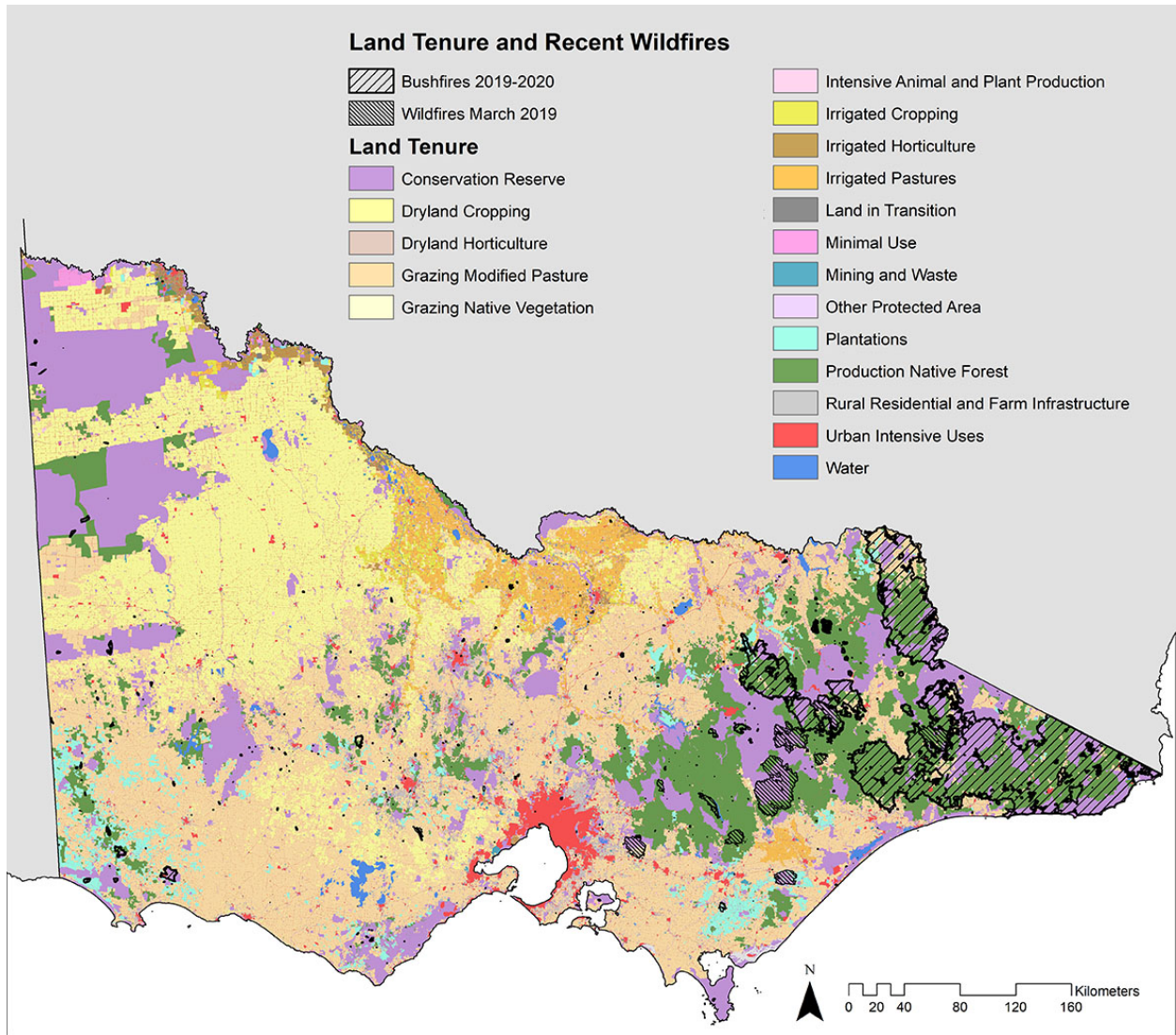
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**Fig. S1.** EVC Groups and areas burned during wildfire seasons 2018-2019 and 2019-2020.



**Fig. S2.** ACLUMP land tenure and areas burned during wildfire seasons 2018-2019 and 2019-2020.

**Table S1.** Tukey's HSD test for annual area burned between periods 1950-2002 and 2003-2020 (P < 0.05)

Land Tenure	diff	lwr	upr	p adj
Conservation Reserves	-87694.41	-147250.8	-28138	0.0044948
Production Forests	-125670.6	-203256.5	-48084.72	0.0018897
All Land Tenure	-235415.4	-379753.1	-91077.65	0.0017651

**Table S2.** Number of fires between 1995-2020 across areas burned during wildfire seasons 2018-2019 and 2019-2020

	Area (ha) Burnt 2018-2019	% of Total	Area (ha) Burnt 2019-2020	% of Total
Burnt 1	61,956	29%	792,198	52%
Burnt 2	126,568	60%	600,109	40%
Burnt 3	22,325	11%	112,957	7%
Burnt 4	843	0%	3,291	0%
Burnt 5	0	0%	455	0%
Total	211,691	100%	1,509,009	100%

**Table S3.** Frequency of fire for areas burned for the EVC Groups

<b>EVC Group</b>	<b>Unburnt (ha)</b>	<b>Burnt 1 (ha)</b>	<b>Burnt 2 (ha)</b>	<b>Burnt 3 (ha)</b>	<b>Burnt 4 (ha)</b>	<b>Burnt 5 (ha)</b>	<b>Total (ha)</b>	<b>% of Total burnt</b>
Box Ironbark Forests or dry/lower fertility Woodlands	344,350	16,991	3,189	17	-	-	364,548	6%
Coastal Scrubs Grasslands and Woodlands	46,541	5,349	60	-	-	-	51,950	10%
Dry Forests	1,155,714	1,057,748	417,723	82,575	2,291	322	2,716,372	57%
Heathlands	137,729	128,711	12,658	919	1	-	280,017	51%
Heathy Woodlands	242,451	85,617	11,019	422	-	-	339,509	29%
Herb-rich Woodlands	152,902	16,074	1,523	4	-	-	170,502	10%
Lower Slopes or Hills Woodlands	352,786	54,387	8,545	648	-	-	416,365	15%
Lowland Forests	280,177	289,971	45,307	773	45	-	616,271	55%
Mallee	1,164,431	387,377	10,413	236	-	-	1,562,456	25%
Montane Grasslands, Shrublands or Woodlands	44,808	208,294	136,522	26,980	934	-	417,538	89%
Plains Grasslands and Chenopod Shrublands	233,666	3,768	10	2	-	-	237,446	2%
Plains Woodlands or Forests	790,463	57,465	1,823	98	-	-	849,849	7%
Rainforests	20,869	15,322	1,956	21	-	-	38,168	45%
Riparian Scrubs or Swampy Scrubs and Woodlands	164,404	75,787	16,172	1,919	89	-	258,370	36%
Riverine Grassy Woodlands or Forests	397,620	11,114	784	10	1	-	409,529	3%
Rocky Outcrop or Escarpment Scrubs	17,529	41,413	15,096	741	9	-	74,787	77%
Salt-tolerant and/or succulent Shrublands	90,640	501	2	-	-	-	91,143	1%
Sub-alpine Grasslands, Shrublands or Woodlands	11,973	64,681	39,438	10,344	369	-	126,805	91%
Wet or Damp Forests	453,996	562,436	264,704	26,901	409	133	1,308,579	65%
Wetlands	144,399	9,916	382	64	3	-	154,763	7%
<b>Total</b>	<b>6,247,447</b>	<b>3,092,919</b>	<b>987,324</b>	<b>152,672</b>	<b>4,150</b>	<b>455</b>	<b>10,484,965</b>	<b>40%</b>

**Table S4.** Frequency of fire for areas burned for ACLUMP Land Tenure

<b>ACLUMP Category</b>	<b>Unburnt (ha)</b>	<b>Burnt 1 (ha)</b>	<b>Burnt 2 (ha)</b>	<b>Burnt 3 (ha)</b>	<b>Burnt 4 (ha)</b>	<b>Burnt 5 (ha)</b>	<b>Total (ha)</b>	<b>% of total burnt</b>
Production Native Forest	1,213,974	1,433,326	522,178	82,531	2,224	455	3,254,688	63%
Conservation Reserve	2,374,642	1,348,171	435,943	68,088	1,912	-	4,228,756	44%
Other Protected Area	4	-	-	-	-	-	4	0%
Dryland Cropping	4,558,764	36,374	584	5	-	-	4,595,726	1%
Urban Intensive Uses	1,004,259	52,876	6,045	244	2	-	1,063,425	6%
Dryland Horticulture	69,918	6,094	316	-	-	-	76,328	8%
Irrigated Horticulture	133,138	429	14	6	-	-	133,586	0%
Grazing Native Vegetation	13,573	1,547	467	-	-	-	15,587	13%
Water	194,375	4,001	48	2	-	-	198,426	2%
Grazing Modified Pasture	6,425,491	455,971	27,507	1,037	2	-	6,910,008	7%
Land in Transition	43,819	2,725	73	2	-	-	46,619	6%
Irrigated Pastures	704,098	3,724	66	-	-	-	707,888	1%
Irrigated Cropping	203,329	1,800	5	-	-	-	205,135	1%
Rural Residential and Farm Infrastructure	547,003	35,195	1,493	314	3	-	584,008	6%
Minimal Use	62,920	6,444	510	883	7	-	70,764	11%
Plantations	526,631	70,199	1,975	2	-	-	598,808	12%
Intensive Animal and Plant Production	47,376	1,439	2	-	-	-	48,818	3%
Mining and Waste	42,944	1,799	22	-	-	-	44,766	4%
<b>Total</b>	<b>18,166,258</b>	<b>3,462,111</b>	<b>997,248</b>	<b>153,114</b>	<b>4,150</b>	<b>455</b>	<b>22,783,335</b>	<b>20%</b>