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Pacific Conservation Biology

Supplementary Material

How well do Immediate Protection Areas conserve biodiversity in Victorian forests?

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Table S1. The 53 species analysed in the study with threatened status and the organization declaring the threatened state (CR – Critically Endangered; EN – Endangered; V – Vulnerable; NT – Near Threatened; LC – Least Concern; R – Rare; L – Listed; P – Parent).

Species	Scientific Name	Range in Study Area (ha)	Proportion of Range in Study Area	Range Area < 10 000 ha	IUCN	EPBC Act	FFG Act	State Status	Conservation Target Factor
Alpine Bog Skink	<i>Pseudemoia cryodroma</i>	101,828	0.91	0	EN		L	V	0.5
Barred Galaxias	<i>Galaxias fuscus</i>	3,462	0.99	1	EN	EN	L	CR	1
Baw Baw Berry	<i>Wittsteinia vacciniacea</i>	119,483	0.96	0				R	0.3
Baw Baw Frog	<i>Philoria frosti</i>	8,701	1.00	1	CR	EN	L	CR	1
Black Fellows Hemp	<i>Commersonia rossii</i>	122,522	0.98	0				V	0.3
Booroolong Tree Frog	<i>Litoria booroolongensis</i>	26,699	0.60	0	CR	EN	L	CR	0.9
Broad Toothed Rat	<i>Mastacomys fuscus</i>	161,183	0.95	0	NT	V	L	EN	0.5
Brown Guinea Flower	<i>Hibbertia rufa</i>	86,123	0.92	0				R	0.3
Brushtailed Rock Wallaby	<i>Petrogale penicillata</i>	21,093	0.93	0	V	V	L	CR	0.9
Colquhoun Grevillea	<i>Grevillea celata</i>	34,612	0.95	0		V	L	V	0.3
Coxs Gudgeon	<i>Gobiomorphus coxii</i>	1,586	0.66	1	LC		L	EN	1
Eastern Horseshoe Bat	<i>Rhinolopus megaphyllus</i>	440,243	0.97	0	LC		L	V	0.3
Eastern Pomaderris	<i>Pomaderris discolor</i>	522,167	0.92	0				R	0.3
Elegant Daisy	<i>Brachyscome salkiniae</i>	272,805	0.98	0				R	0.3
Forest Geebung	<i>Persoonia silvatica</i>	327,530	0.95	0				R	0.3
Forest Phebalium	<i>Phebalium squamulosum squamulosum</i>	714,489	0.94	0				R	0.3
Forest Sedge	<i>Carex alsophila</i>	318,524	0.96	0				R	0.3
Giant Burrowing Frog	<i>Heleioporus australiacus</i>	99,673	0.99	0		V	L	V	0.3
Gippsland Stringybark	<i>Eucalyptus mackintii</i>	273,891	0.97	0				R	0.3
Glossy Black Cockatoo	<i>Calyptorhynchus lathami</i>	220,294	0.99	0	LC		L	V	0.3
Greater Glider	<i>Petauroides volans</i>	2,376,041	0.94	0	V	EN		V	0.5
Green and Golden Bell Frog	<i>Litoria aurea</i>	150,458	0.89	0		V	L		0.3
Grey Headed Flying Fox	<i>Pteropus poliocephalus</i>	50,793	0.65	0	V	V	L	V	0.3
Gully Grevillea	<i>Grevillea barklyana</i>	23,415	0.97	0			L	V	0.3
Helmeted Honeyeater	<i>Lichenostomus melanops cassidix</i>	56	1.00	1		CR	L	CR	1
Lace Monitor	<i>Varanus varius</i>	1,757,460	0.63	0	LC			EN	0.5
Large Brown Treefrog	<i>Litoria littlejohni</i>	94,297	0.99	0	LC	V	L	EN	0.5

Leadbeaters Possum	<i>Gymnobelideus leadbeateri</i>	195,834	0.99	0	CR	CR	L	EN	0.9
Leafless Pinkbells	<i>Tetratheca subaphylla</i>	636,955	0.99	0				R	0.3
Long Footed Potoroo	<i>Potorous longipes</i>	327,770	0.99	0	V	EN	L	V	0.5
Macquarie Perch	<i>Macquaria australasica</i>	2,140	0.53	1	EN	EN	L	EN	1
Martins Toadlet	<i>Uperoleia martini</i>	105,602	0.93	0			L	EN	0.5
Masked Owl	<i>Tyto novaehollandiae</i>	1,350,614	0.75	0	LC		L	EN	0.5
Orbost Spiny Cray	<i>Euastacus diversus</i>	14	1.00	1	EN		L	EN	1
Outcrop Guinea Flower	<i>Hibbertia hermanniifolia</i>	144,741	0.99	0				R	0.3
Oval Forkfern	<i>Tmesipteris ovata</i>	420,249	0.88	0				R	0.3
Oval Leaf Grevillea	<i>Grevillea miqueliana</i>	287,238	0.98	0				P	0.3
Powerful Owl	<i>Ninox strenua</i>	1,868,612	0.67	0	LC		L	V	0.3
Sandfly Zieria	<i>Zieria smithii smithii</i>	619,121	0.97	0				R	0.3
Serpent Heath	<i>Richea victoriana</i>	22,226	1.00	0				R	0.3
Small Forkfern	<i>Tmesipteris parva</i>	397,884	0.98	0				R	0.3
Smokey Mouse	<i>Pseudomys fumeus</i>	161,099	0.95	0	V	EN	L	EN	0.5
Smooth Geebung	<i>Persoonia levis</i>	547,942	0.98	0				R	0.3
Sooty Owl	<i>Tyto tenebricosa</i>	1,326,161	0.99	0	LC		L	V	0.3
Spot Tailed Quoll	<i>Dasyurus maculatus</i>	1,032,946	0.90	0		EN	L	EN	0.5
Spotted Tree Frog	<i>Litoria spenceri</i>	77	0.99	1		EN	L	EN	1
Tall Astelia	<i>Astelia australiana</i>	84,725	0.54	0		V	L	V	0.3
Tasmania Waxflower	<i>Philotheca virgata</i>	106,213	0.99	0				R	0.3
Toothed Leonema	<i>Leionema bilobum</i>	227,235	0.80	0				R	0.3
Tree Geebung	<i>Persoonia arborea</i>	208,551	0.98	0	CR			R	0.9
Upright Pomaderris	<i>Pomaderris virgata</i>	506	1.00	1				V	1
Veined Pomaderris	<i>Pomaderris costata</i>	281,765	0.98	0				R	0.3
Velvety Geebung	<i>Persoonia subvelutina</i>	146,284	0.95	0				R	0.3

Table S2. Marxan Targets of the current reserve system and the 53 forest dependent species analysed in the study.

Name	Conservation Target (ha)	Earmarked and Conservation (ha)	Total Species Area (ha)	% of Earmark Target	% in Formal Protection
Orbost Spiny Cray	13	7	13	54.2	54.2
Barred Galaxias	3,482	485	3,482	13.9	13.9
Macquarie Perch	3,891	789	3,891	20.3	20.3
Coxs Gudgeon	2,409	568	2,409	23.6	23.6
Powerful Owl	600,002	472,575	2,000,007	78.8	23.6
Masked Owl	740,727	403,486	1,481,454	54.5	27.2
Sooty Owl	401,247	344,257	1,337,490	85.8	25.7
Glossy Black Cockatoo	66,458	46,187	221,526	69.5	20.8
Spot Tailed Quoll	531,292	440,208	1,062,585	82.9	41.4
Greater Glider	1,227,483	596,583	2,454,966	48.6	24.3
Leadbeaters Possum	178,572	52,556	198,413	29.4	26.5
Long Footed Potoroo	164,946	101,713	329,891	61.7	30.8
Brushtailed Rock Wallaby	19,808	21,166	22,008	106.9	96.2
Grey Headed Flying Fox	19,065	20,474	63,551	107.4	32.2
Eastern Horseshoe Bat	135,436	122,097	451,453	90.2	27.0
Broad Toothed Rat	84,809	112,139	169,619	132.2	66.1
Smokey Mouse	80,804	60,180	161,608	74.5	37.2
Lace Monitor	978,653	501,350	1,957,305	51.2	25.6
Alpine Bog Skink	56,185	93,676	112,371	166.7	83.4
Giant Burrowing Frog	30,156	11,770	100,520	39.0	11.7
Baw Baw Frog	8,735	4,379	8,735	50.1	50.1
Green and Golden Bell Frog	49,298	70,947	164,328	143.9	43.2
Booroolong Tree Frog	39,056	15,021	43,395	38.5	34.6
Spotted Tree Frog	77	24	77	31.4	31.4
Martins Toadlet	55,952	48,647	111,903	86.9	43.5
Large Brown Treefrog	47,426	34,922	94,853	73.6	36.8
Helmeted Honeyeater	56	44	56	78.8	78.8
Tall Astelia	26,563	21,078	88,542	79.4	23.8
Forest Sedge	99,115	84,537	330,385	85.3	25.6
Black Fellows Hemp	37,481	18,294	124,936	48.8	14.6
Tasmania Waxflower	32,163	27,758	107,210	86.3	25.9
Gully Grevillea	7,266	7,593	24,219	104.5	31.3
Outcrop Guinea Flower	44,005	53,840	146,684	122.4	36.7
Brown Guinea Flower	27,275	30,002	90,917	110.0	33.0
Tree Geebung	192,406	65,484	213,785	34.0	30.6
Smooth Geebung	166,569	193,209	555,229	116.0	34.8
Forest Geebung	103,412	150,911	344,707	145.9	43.8
Velvety Geebung	45,975	71,796	153,250	156.2	46.8
Veined Pomaderris	85,893	130,051	286,310	151.4	45.4
Eastern Pomaderris	168,746	180,121	562,486	106.7	32.0
Upright Pomaderris	506	290	506	57.2	57.2

Serpent Heath	6,699	11,296	22,331	168.6	50.6
Leafless Pinkbells	193,224	218,461	644,079	113.1	33.9
Oval Forkfern	143,393	145,650	477,978	101.6	30.5
Small Forkfern	121,346	167,169	404,487	137.8	41.3
Baw Baw Berry	37,174	66,747	123,914	179.6	53.9
Sandfly Zieria	190,206	186,350	634,020	98.0	29.4
Gippsland Stringybark	84,572	63,922	281,908	75.6	22.7
Colquhoun Grevillea	10,899	1,185	36,329	10.9	3.3
Elegant Daisy	82,580	96,272	275,268	116.6	35.0
Forest Phebalium	226,525	222,904	755,084	98.4	29.5
Toothed Leonema	85,273	68,851	284,243	80.7	24.2
Oval Leaf Grevillea	87,912	123,066	293,041	140.0	42.0

Table S3. Marxan Targets of the current reserve system with the inclusion of the Informal Protection Areas (Special Protection Zones) and the 53 forest dependent species analysed in the study.

Name	Conservation Target (ha)	Earmarked and Conservation (ha)	Total Species Area (ha)	% of Earmark Target	% in Protection
Orbost Spiny Cray	13	11	13	83.3	83.3
Barred Galaxias	3,482	957	3,482	27.5	27.5
Macquarie Perch	3,891	1,059	3,891	27.2	27.2
Coxs Gudgeon	2,409	854	2,409	35.5	35.5
Powerful Owl	600,002	717,105	2,000,007	119.5	35.9
Masked Owl	740,727	579,690	1,481,454	78.3	39.1
Sooty Owl	401,247	517,973	1,337,490	129.1	38.7
Glossy Black Cockatoo	66,458	82,473	221,526	124.1	37.2
Spot Tailed Quoll	531,292	537,490	1,062,585	101.2	50.6
Greater Glider	1,227,483	936,491	2,454,966	76.3	38.1
Leadbeaters Possum	178,572	80,161	198,413	44.9	40.4
Long Footed Potoroo	164,946	132,194	329,891	80.1	40.1
Brush-tailed Rock Wallaby	19,808	21,201	22,008	107.0	96.3
Grey Headed Flying Fox	19,065	27,821	63,551	145.9	43.8
Eastern Horseshoe Bat	135,436	179,394	451,453	132.5	39.7
Broad Toothed Rat	84,809	119,929	169,619	141.4	70.7
Smokey Mouse	80,804	78,390	161,608	97.0	48.5
Lace Monitor	978,653	752,807	1,957,305	76.9	38.5
Alpine Bog Skink	56,185	94,780	112,371	168.7	84.3
Giant Burrowing Frog	30,156	27,024	100,520	89.6	26.9
Baw Baw Frog	8,735	7,154	8,735	81.9	81.9
Green and Golden Bell Frog	49,298	88,845	164,328	180.2	54.1
Booroolong Tree Frog	39,056	16,333	43,395	41.8	37.6
Spotted Tree Frog	77	71	77	92.7	92.7
Martins Toadlet	55,952	67,377	111,903	120.4	60.2
Large Brown Treefrog	47,426	44,915	94,853	94.7	47.4
Helmeted Honeyeater	56	44	56	78.8	78.8
Tall Astelia	26,563	30,829	88,542	116.1	34.8
Forest Sedge	99,115	124,006	330,385	125.1	37.5
Black Fellows Hemp	37,481	36,476	124,936	97.3	29.2
Tasmania Waxflower	32,163	37,774	107,210	117.4	35.2
Gully Grevillea	7,266	8,819	24,219	121.4	36.4
Outcrop Guinea Flower	44,005	81,452	146,684	185.1	55.5
Brown Guinea Flower	27,275	44,544	90,917	163.3	49.0
Tree Geebung	192,406	93,182	213,785	48.4	43.6
Smooth Geebung	166,569	253,610	555,229	152.3	45.7
Forest Geebung	103,412	173,563	344,707	167.8	50.4
Velvety Geebung	45,975	84,899	153,250	184.7	55.4
Veined Pomaderris	85,893	152,490	286,310	177.5	53.3
Eastern Pomaderris	168,746	238,280	562,486	141.2	42.4
Upright Pomaderris	506	308	506	60.9	60.9

Serpent Heath	6,699	15,083	22,331	225.1	67.5
Leafless Pinkbells	193,224	292,434	644,079	151.3	45.4
Oval Forkfern	143,393	184,633	477,978	128.8	38.6
Small Forkfern	121,346	203,397	404,487	167.6	50.3
Baw Baw Berry	37,174	81,561	123,914	219.4	65.8
Sandfly Zieria	190,206	267,903	634,020	140.8	42.3
Gippsland Stringybark	84,572	105,593	281,908	124.9	37.5
Colquhoun Grevillea	10,899	9,494	36,329	87.1	26.1
Elegant Daisy	82,580	128,125	275,268	155.2	46.5
Forest Phebalium	226,525	315,704	755,084	139.4	41.8
Toothed Leonema	85,273	97,013	284,243	113.8	34.1
Oval Leaf Grevillea	87,912	162,526	293,041	184.9	55.5

Table S4. Marxan Targets of the current reserve system with the inclusion of the Immediate Protection Areas (IPA) and the 53 forest dependent species analysed in the study.

Name	Conservation Target (ha)	Earmarked and Conservation (ha)	Total Species Area (ha)	% of Earmark Target	% in Protection
Orbost Spiny Cray	13	9	13	66.7	66.7
Barred Galaxias	3,482	607	3,482	17.4	17.4
Macquarie Perch	3,891	789	3,891	20.3	20.3
Coxs Gudgeon	2,409	568	2,409	23.6	23.6
Powerful Owl	600,002	580,431	2,000,007	96.7	29.0
Masked Owl	740,727	496,391	1,481,454	67.0	33.5
Sooty Owl	401,247	452,547	1,337,490	112.8	33.8
Glossy Black Cockatoo	66,458	52,256	221,526	78.6	23.6
Spot Tailed Quoll	531,292	505,291	1,062,585	95.1	47.6
Greater Glider	1,227,483	725,571	2,454,966	59.1	29.6
Leadbeaters Possum	178,572	75,734	198,413	42.4	38.2
Long Footed Potoroo	164,946	142,702	329,891	86.5	43.3
Brushtailed Rock Wallaby	19,808	21,199	22,008	107.0	96.3
Grey Headed Flying Fox	19,065	20,688	63,551	108.5	32.6
Eastern Horseshoe Bat	135,436	153,329	451,453	113.2	34.0
Broad Toothed Rat	84,809	112,437	169,619	132.6	66.3
Smokey Mouse	80,804	71,968	161,608	89.1	44.5
Lace Monitor	978,653	594,609	1,957,305	60.8	30.4
Alpine Bog Skink	56,185	93,690	112,371	166.8	83.4
Giant Burrowing Frog	30,156	27,380	100,520	90.8	27.2
Baw Baw Frog	8,735	6,816	8,735	78.0	78.0
Green and Golden Bell Frog	49,298	72,704	164,328	147.5	44.2
Booroolong Tree Frog	39,056	15,021	43,395	38.5	34.6
Spotted Tree Frog	77	24	77	31.4	31.4
Martins Toadlet	55,952	49,695	111,903	88.8	44.4
Large Brown Treefrog	47,426	52,529	94,853	110.8	55.4
Helmeted Honeyeater	56	44	56	78.8	78.8
Tall Astelia	26,563	34,612	88,542	130.3	39.1
Forest Sedge	99,115	121,980	330,385	123.1	36.9
Black Fellows Hemp	37,481	42,798	124,936	114.2	34.3
Tasmania Waxflower	32,163	52,018	107,210	161.7	48.5
Gully Grevillea	7,266	8,954	24,219	123.2	37.0
Outcrop Guinea Flower	44,005	58,217	146,684	132.3	39.7
Brown Guinea Flower	27,275	31,080	90,917	114.0	34.2
Tree Geebung	192,406	93,766	213,785	48.7	43.9
Smooth Geebung	166,569	251,642	555,229	151.1	45.3
Forest Geebung	103,412	170,850	344,707	165.2	49.6
Velvety Geebung	45,975	71,796	153,250	156.2	46.8
Veined Pomaderris	85,893	161,098	286,310	187.6	56.3
Eastern Pomaderris	168,746	221,901	562,486	131.5	39.5
Upright Pomaderris	506	454	506	89.8	89.8

Serpent Heath	6,699	13,711	22,331	204.7	61.4
Leafless Pinkbells	193,224	294,320	644,079	152.3	45.7
Oval Forkfern	143,393	197,480	477,978	137.7	41.3
Small Forkfern	121,346	215,532	404,487	177.6	53.3
Baw Baw Berry	37,174	74,778	123,914	201.2	60.3
Sandfly Zieria	190,206	242,787	634,020	127.6	38.3
Gippsland Stringybark	84,572	82,748	281,908	97.8	29.4
Colquhoun Grevillea	10,899	1,185	36,329	10.9	3.3
Elegant Daisy	82,580	114,761	275,268	139.0	41.7
Forest Phebalium	226,525	291,986	755,084	128.9	38.7
Toothed Leonema	85,273	96,437	284,243	113.1	33.9
Oval Leaf Grevillea	87,912	123,894	293,041	140.9	42.3

Table S5. Marxan Targets of the current reserve system with the inclusion of the Immediate Protection Areas (IPA), Informal Protected Areas (Special Protection Zones) and the 53 forest dependent species analysed in the study.

Name	Conservation Target (ha)	Earmarked and Conservation (ha)	Total Species Area (ha)	% of Earmark Target	% in Protection
Orbost Spiny Cray	13	12	13	91.7	91.7
Barred Galaxias	3,482	1,015	3,482	29.2	29.2
Macquarie Perch	3,891	1,059	3,891	27.2	27.2
Coxs Gudgeon	2,409	854	2,409	35.5	35.5
Powerful Owl	600,002	793,323	2,000,007	132.2	39.7
Masked Owl	740,727	642,789	1,481,454	86.8	43.4
Sooty Owl	401,247	590,916	1,337,490	147.3	44.2
Glossy Black Cockatoo	66,458	85,751	221,526	129.0	38.7
Spot Tailed Quoll	531,292	581,860	1,062,585	109.5	54.8
Greater Glider	1,227,483	1,025,138	2,454,966	83.5	41.8
Leadbeaters Possum	178,572	91,581	198,413	51.3	46.2
Long Footed Potoroo	164,946	164,141	329,891	99.5	49.8
Brush-tailed Rock Wallaby	19,808	21,232	22,008	107.2	96.5
Grey Headed Flying Fox	19,065	27,879	63,551	146.2	43.9
Eastern Horseshoe Bat	135,436	203,041	451,453	149.9	45.0
Broad Toothed Rat	84,809	120,105	169,619	141.6	70.8
Smokey Mouse	80,804	87,009	161,608	107.7	53.8
Lace Monitor	978,653	819,784	1,957,305	83.8	41.9
Alpine Bog Skink	56,185	94,780	112,371	168.7	84.3
Giant Burrowing Frog	30,156	38,820	100,520	128.7	38.6
Baw Baw Frog	8,735	7,160	8,735	82.0	82.0
Green and Golden Bell Frog	49,298	89,671	164,328	181.9	54.6
Booroolong Tree Frog	39,056	16,333	43,395	41.8	37.6
Spotted Tree Frog	77	71	77	92.7	92.7
Martins Toadlet	55,952	67,773	111,903	121.1	60.6
Large Brown Treefrog	47,426	58,395	94,853	123.1	61.6
Helmeted Honeyeater	56	44	56	78.8	78.8
Tall Astelia	26,563	39,450	88,542	148.5	44.6
Forest Sedge	99,115	144,640	330,385	145.9	43.8
Black Fellows Hemp	37,481	54,127	124,936	144.4	43.3
Tasmania Waxflower	32,163	57,611	107,210	179.1	53.7
Gully Grevillea	7,266	9,799	24,219	134.9	40.5
Outcrop Guinea Flower	44,005	85,438	146,684	194.2	58.2
Brown Guinea Flower	27,275	45,118	90,917	165.4	49.6
Tree Geebung	192,406	107,606	213,785	55.9	50.3
Smooth Geebung	166,569	296,029	555,229	177.7	53.3
Forest Geebung	103,412	189,781	344,707	183.5	55.1
Velvety Geebung	45,975	84,899	153,250	184.7	55.4
Veined Pomaderris	85,893	176,706	286,310	205.7	61.7

Eastern Pomaderris	168,746	268,588	562,486	159.2	47.8
Upright Pomaderris	506	455	506	89.9	89.9
Serpent Heath	6,699	15,354	22,331	229.2	68.8
Leafless Pinkbells	193,224	348,539	644,079	180.4	54.1
Oval Forkfern	143,393	223,162	477,978	155.6	46.7
Small Forkfern	121,346	237,828	404,487	196.0	58.8
Baw Baw Berry	37,174	83,399	123,914	224.3	67.3
Sandfly Zieria	190,206	308,116	634,020	162.0	48.6
Gippsland Stringybark	84,572	117,026	281,908	138.4	41.5
Colquhoun Grevillea	10,899	9,494	36,329	87.1	26.1
Elegant Daisy	82,580	142,097	275,268	172.1	51.6
Forest Phebalium	226,525	357,486	755,084	157.8	47.3
Toothed Leionema	85,273	112,059	284,243	131.4	39.4
Oval Leaf Grevillea	87,912	162,786	293,041	185.2	55.6

Table S6. Priority Areas identified in the Marxan analysis not accounting for past disturbance (clearcut logging and high severity fire), accounting for past clearcut logging and accounting for past severe disturbance (clearcut logging and high severity fire).

Marxan Analysis	Land Tenure	Remaining State Forest (ha)	Priority Area (ha)	Total Area (ha)
Not accounting for past severe disturbance	IPA	46,282	93,175	139,457
	Special Protection Zone	460,790	108,324	569,115
	<i>Subtotal</i>	<i>507,072</i>	<i>201,500</i>	<i>708,572</i>
	General Management Zone	1,154,501	374,039	1,528,541
	Special Management Zone	89,314	70,642	159,956
	Unprotected Reserve	55,266	7,136	62,402
	<i>subtotal</i>	<i>1,299,082</i>	<i>451,817</i>	<i>1,750,899</i>
	Total	1,806,154	653,316	2,459,471
Accounting for past clearcut logging	IPA	59,386	80,071	139,457
	Special Protection Zone	430,640	138,475	569,115
	<i>Subtotal</i>	<i>490,026</i>	<i>218,546</i>	<i>708,572</i>
	General Management Zone	1,141,239	387,302	1,528,541
	Special Management Zone	103,414	56,542	159,956
	Unprotected Reserve	52,200	10,202	62,402
	<i>subtotal</i>	<i>1,296,852</i>	<i>454,047</i>	<i>1,750,899</i>
	Total	1,786,878	672,593	2,459,471
Accounting for past severe disturbance	IPA	65,517	73,941	139,457
	Special Protection Zone	400,859	168,255	569,115
	<i>Subtotal</i>	<i>466,376</i>	<i>242,196</i>	<i>708,572</i>
	General Management Zone	1,116,318	412,223	1,528,541
	Special Management Zone	100,179	59,777	159,956
	Unprotected Reserve	41,798	20,604	62,402
	<i>Subtotal</i>	<i>1,258,296</i>	<i>492,603</i>	<i>1,750,899</i>
	Total	1,724,671	734,799	2,459,471

Table S7. Marxan Targets of the current reserve system with the inclusion of prioritized areas not accounting for past severe disturbance (clearcut logging and high severity fire) for the 53 forest dependent species analysed in the study.

Name	Conservation Target (ha)	Earmarked and Conservation (ha)	Total Species Area (ha)	% of Earmark Target	% in Protection
Orbost Spiny Cray	13	13	13	100.0	100.0
Barred Galaxias	3,482	3,356	3,482	96.4	96.4
Macquarie Perch	3,891	1,467	3,891	37.7	37.7
Coxs Gudgeon	2,409	1,163	2,409	48.3	48.3
Powerful Owl	600,002	1,002,085	2,000,007	167.0	50.1
Masked Owl	740,727	835,329	1,481,454	112.8	56.4
Sooty Owl	401,247	889,792	1,337,490	221.8	66.5
Glossy Black Cockatoo	66,458	125,939	221,526	189.5	56.9
Spot Tailed Quoll	531,292	717,935	1,062,585	135.1	67.6
Greater Glider	1,227,483	1,227,483	2,454,966	100.0	50.0
Leadbeaters Possum	178,572	179,050	198,413	100.3	90.2
Long Footed Potoroo	164,946	257,646	329,891	156.2	78.1
Brush-tailed Rock Wallaby	19,808	21,288	22,008	107.5	96.7
Grey Headed Flying Fox	19,065	26,413	63,551	138.5	41.6
Eastern Horseshoe Bat	135,436	210,869	451,453	155.7	46.7
Broad Toothed Rat	84,809	115,673	169,619	136.4	68.2
Smokey Mouse	80,804	95,586	161,608	118.3	59.1
Lace Monitor	978,653	981,858	1,957,305	100.3	50.2
Alpine Bog Skink	56,185	93,793	112,371	166.9	83.5
Giant Burrowing Frog	30,156	72,290	100,520	239.7	71.9
Baw Baw Frog	8,735	8,476	8,735	97.0	97.0
Green and Golden Bell Frog	49,298	88,296	164,328	179.1	53.7
Booroolong Tree Frog	39,056	21,447	43,395	54.9	49.4
Spotted Tree Frog	77	76	77	99.3	99.3
Martins Toadlet	55,952	55,957	111,903	100.0	50.0
Large Brown Treefrog	47,426	86,006	94,853	181.3	90.7
Helmeted Honeyeater	56	44	56	78.8	78.8
Tall Astelia	26,563	74,341	88,542	279.9	84.0
Forest Sedge	99,115	256,742	330,385	259.0	77.7
Black Fellows Hemp	37,481	101,136	124,936	269.8	81.0
Tasmania Waxflower	32,163	85,988	107,210	267.4	80.2
Gully Grevillea	7,266	19,966	24,219	274.8	82.4
Outcrop Guinea Flower	44,005	75,012	146,684	170.5	51.1
Brown Guinea Flower	27,275	44,763	90,917	164.1	49.2
Tree Geebung	192,406	192,917	213,785	100.3	90.2
Smooth Geebung	166,569	419,545	555,229	251.9	75.6
Forest Geebung	103,412	216,880	344,707	209.7	62.9
Velvety Geebung	45,975	73,449	153,250	159.8	47.9
Veined Pomaderris	85,893	240,333	286,310	279.8	83.9
Eastern Pomaderris	168,746	387,213	562,486	229.5	68.8

Upright Pomaderris	506	506	506	100.0	100.0
Serpent Heath	6,699	19,173	22,331	286.2	85.9
Leafless Pinkbells	193,224	464,514	644,079	240.4	72.1
Oval Forkfern	143,393	342,866	477,978	239.1	71.7
Small Forkfern	121,346	338,916	404,487	279.3	83.8
Baw Baw Berry	37,174	104,368	123,914	280.8	84.2
Sandfly Zieria	190,206	453,088	634,020	238.2	71.5
Gippsland Stringybark	84,572	197,641	281,908	233.7	70.1
Colquhoun Grevillea	10,899	23,358	36,329	214.3	64.3
Elegant Daisy	82,580	197,639	275,268	239.3	71.8
Forest Phebalium	226,525	545,115	755,084	240.6	72.2
Toothed Leionema	85,273	191,131	284,243	224.1	67.2
Oval Leaf Grevillea	87,912	143,816	293,041	163.6	49.1

Table S8. Marxan Targets of the current reserve system with the inclusion of prioritized areas accounting for past clearcut logging for the 53 forest dependent species analysed.

Name	Conservation Target (ha)	Earmarked and Conservation (ha)	Total Species Area (ha)	% of Earmark Target	% in Protection
Orbost Spiny Cray	13	11	13	83.3	83.3
Barred Galaxias	3,482	2,938	3,482	84.4	84.4
Macquarie Perch	3,891	1,467	3,891	37.7	37.7
Coxs Gudgeon	2,409	1,163	2,409	48.3	48.3
Powerful Owl	600,002	975,183	2,000,007	162.5	48.8
Masked Owl	740,727	787,315	1,481,454	106.3	53.1
Sooty Owl	401,247	828,932	1,337,490	206.6	62.0
Glossy Black Cockatoo	66,458	124,011	221,526	186.6	56.0
Spot Tailed Quoll	531,292	667,812	1,062,585	125.7	62.8
Greater Glider	1,227,483	1,227,483	2,454,966	100.0	50.0
Leadbeaters Possum	178,572	143,789	198,413	80.5	72.5
Long Footed Potoroo	164,946	188,357	329,891	114.2	57.1
Brushtailed Rock Wallaby	19,808	21,275	22,008	107.4	96.7
Grey Headed Flying Fox	19,065	26,894	63,551	141.1	42.3
Eastern Horseshoe Bat	135,436	238,948	451,453	176.4	52.9
Broad Toothed Rat	84,809	115,206	169,619	135.8	67.9
Smokey Mouse	80,804	101,857	161,608	126.1	63.0
Lace Monitor	978,653	978,672	1,957,305	100.0	50.0
Alpine Bog Skink	56,185	93,795	112,371	166.9	83.5
Giant Burrowing Frog	30,156	55,284	100,520	183.3	55.0
Baw Baw Frog	8,735	7,909	8,735	90.5	90.5
Green and Golden Bell Frog	49,298	90,782	164,328	184.1	55.2
Booroolong Tree Frog	39,056	21,446	43,395	54.9	49.4
Spotted Tree Frog	77	76	77	99.3	99.3
Martins Toadlet	55,952	55,957	111,903	100.0	50.0
Large Brown Treefrog	47,426	52,037	94,853	109.7	54.9
Helmeted Honeyeater	56	44	56	78.8	78.8
Tall Astelia	26,563	60,574	88,542	228.0	68.4
Forest Sedge	99,115	227,837	330,385	229.9	69.0
Black Fellows Hemp	37,481	61,797	124,936	164.9	49.5
Tasmania Waxflower	32,163	59,481	107,210	184.9	55.5
Gully Grevillea	7,266	16,805	24,219	231.3	69.4
Outcrop Guinea Flower	44,005	78,513	146,684	178.4	53.5
Brown Guinea Flower	27,275	49,944	90,917	183.1	54.9
Tree Geebung	192,406	156,746	213,785	81.5	73.3
Smooth Geebung	166,569	354,971	555,229	213.1	63.9
Forest Geebung	103,412	187,822	344,707	181.6	54.5
Velvety Geebung	45,975	74,226	153,250	161.4	48.4
Veined Pomaderris	85,893	203,510	286,310	236.9	71.1

Eastern Pomaderris	168,746	342,648	562,486	203.1	60.9
Upright Pomaderris	506	501	506	98.9	98.9
Serpent Heath	6,699	18,773	22,331	280.2	84.1
Leafless Pinkbells	193,224	400,324	644,079	207.2	62.2
Oval Forkfern	143,393	271,974	477,978	189.7	56.9
Small Forkfern	121,346	276,342	404,487	227.7	68.3
Baw Baw Berry	37,174	101,926	123,914	274.2	82.3
Sandfly Zieria	190,206	401,493	634,020	211.1	63.3
Gippsland Stringybark	84,572	169,897	281,908	200.9	60.3
Colquhoun Grevillea	10,899	24,630	36,329	226.0	67.8
Elegant Daisy	82,580	184,751	275,268	223.7	67.1
Forest Phebalium	226,525	489,505	755,084	216.1	64.8
Toothed Leionema	85,273	162,318	284,243	190.4	57.1
Oval Leaf Grevillea	87,912	156,299	293,041	177.8	53.3

Table S9. Marxan Targets of the current reserve system with the inclusion of prioritized areas accounting for past severe disturbance (clearcut logging and high severity fire) for the 53 forest dependent species analysed.

Name	Conservation Target (ha)	Earmarked and Conservation (ha)	Total Species Area (ha)	% of Earmark Target	% in Protection
Orbost Spiny Cray	13	8	13	62.5	62.5
Barred Galaxias	3,482	2,591	3,482	74.4	74.4
Macquarie Perch	3,891	1,001	3,891	25.7	25.7
Coxs Gudgeon	2,409	1,029	2,409	42.7	42.7
Powerful Owl	600,002	984,900	2,000,007	164.1	49.2
Masked Owl	740,727	771,800	1,481,454	104.2	52.1
Sooty Owl	401,247	767,778	1,337,490	191.3	57.4
Glossy Black Cockatoo	66,458	135,988	221,526	204.6	61.4
Spot Tailed Quoll	531,292	644,650	1,062,585	121.3	60.7
Greater Glider	1,227,483	1,227,483	2,454,966	100.0	50.0
Leadbeaters Possum	178,572	128,938	198,413	72.2	65.0
Long Footed Potoroo	164,946	164,976	329,891	100.0	50.0
Brush-tailed Rock Wallaby	19,808	21,298	22,008	107.5	96.8
Grey Headed Flying Fox	19,065	30,280	63,551	158.8	47.6
Eastern Horseshoe Bat	135,436	245,070	451,453	180.9	54.3
Broad Toothed Rat	84,809	115,164	169,619	135.8	67.9
Smokey Mouse	80,804	104,997	161,608	129.9	65.0
Lace Monitor	978,653	978,654	1,957,305	100.0	50.0
Alpine Bog Skink	56,185	93,785	112,371	166.9	83.5
Giant Burrowing Frog	30,156	50,250	100,520	166.6	50.0
Baw Baw Frog	8,735	7,909	8,735	90.5	90.5
Greenand Golden Bell Frog	49,298	108,535	164,328	220.2	66.0
Booroolong Tree Frog	39,056	20,772	43,395	53.2	47.9
Spotted Tree Frog	77	57	77	74.5	74.5
Martins Toadlet	55,952	67,706	111,903	121.0	60.5
Large Brown Treefrog	47,426	49,743	94,853	104.9	52.4
Helmeted Honeyeater	56	44	56	78.8	78.8
Tall Astelia	26,563	56,311	88,542	212.0	63.6
Forest Sedge	99,115	205,559	330,385	207.4	62.2
Black Fellows Hemp	37,481	52,981	124,936	141.4	42.4
Tasmania Waxflower	32,163	51,759	107,210	160.9	48.3
Gully Grevillea	7,266	12,553	24,219	172.8	51.8
Outcrop Guinea Flower	44,005	73,027	146,684	166.0	49.8
Brown Guinea Flower	27,275	46,677	90,917	171.1	51.3
Tree Geebung	192,406	138,820	213,785	72.2	64.9
Smooth Geebung	166,569	321,154	555,229	192.8	57.8
Forest Geebung	103,412	182,254	344,707	176.2	52.9
Velvety Geebung	45,975	77,801	153,250	169.2	50.8
Veined Pomaderris	85,893	174,954	286,310	203.7	61.1
Eastern Pomaderris	168,746	303,931	562,486	180.1	54.0

Upright Pomaderris	506	301	506	59.6	59.6
Serpent Heath	6,699	16,959	22,331	253.1	75.9
Leafless Pinkbells	193,224	359,582	644,079	186.1	55.8
Oval Forkfern	143,393	241,075	477,978	168.1	50.4
Small Forkfern	121,346	249,181	404,487	205.3	61.6
Baw Baw Berry	37,174	94,913	123,914	255.3	76.6
Sandfly Zieria	190,206	360,704	634,020	189.6	56.9
Gippsland Stringybark	84,572	153,574	281,908	181.6	54.5
Colquhoun Grevillea	10,899	22,507	36,329	206.5	62.0
Elegant Daisy	82,580	165,725	275,268	200.7	60.2
Forest Phebalium	226,525	431,956	755,084	190.7	57.2
Toothed Leonema	85,273	148,435	284,243	174.1	52.2
Oval Leaf Grevillea	87,912	156,121	293,041	177.6	53.3

Figure S1. IPAs and Priority Areas not accounting for past severe disturbance (clearcut logging and high severity fire)

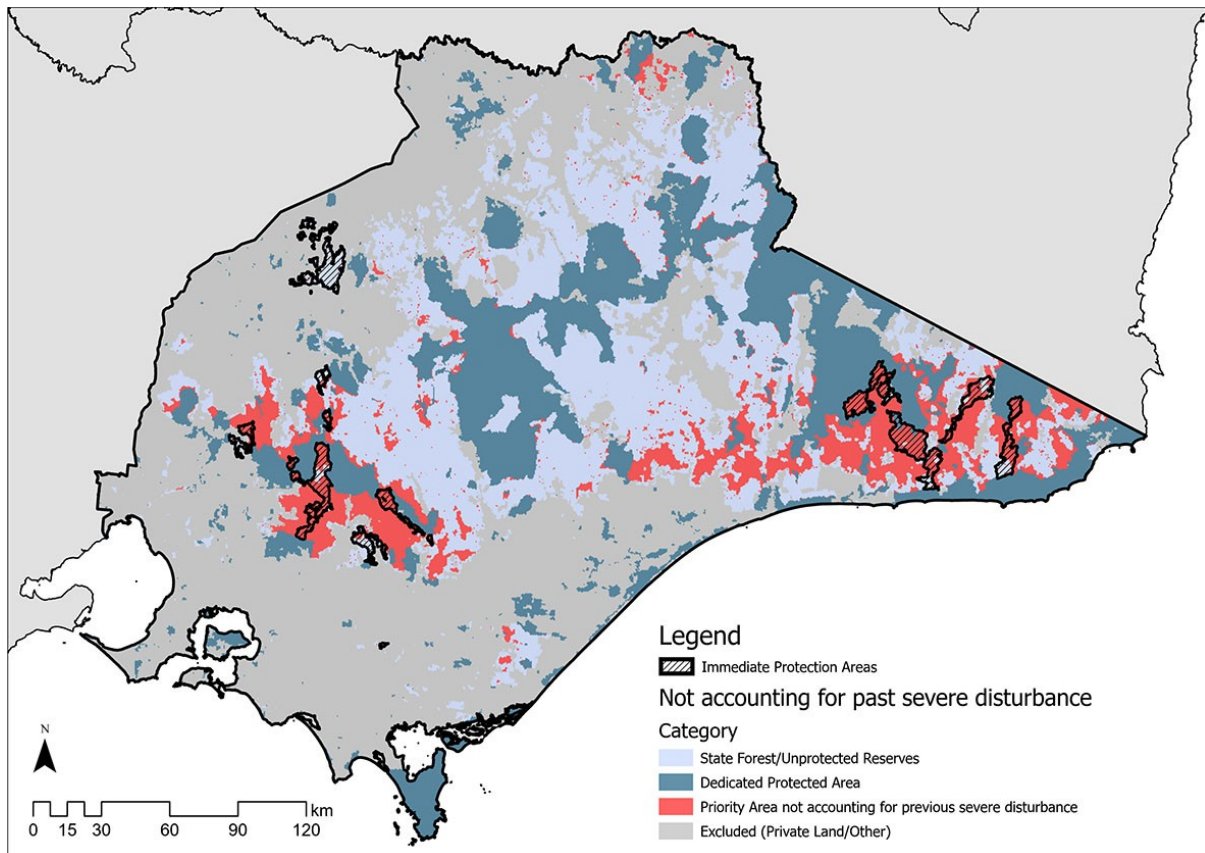


Figure S2. IPAs and Priority Areas accounting for past clearcut logging

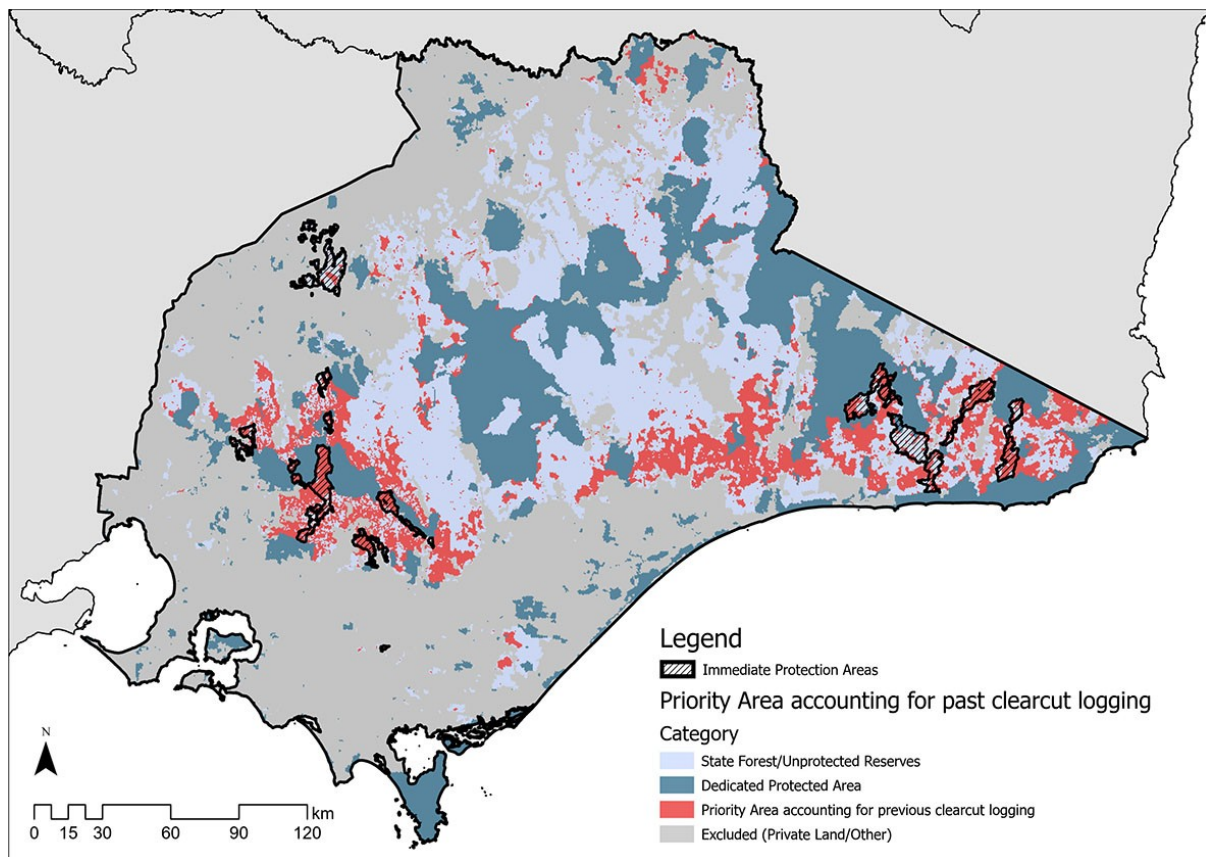


Figure S3. IPAs and Priority Areas accounting for past severe disturbance (clearcut logging and high severity fire)

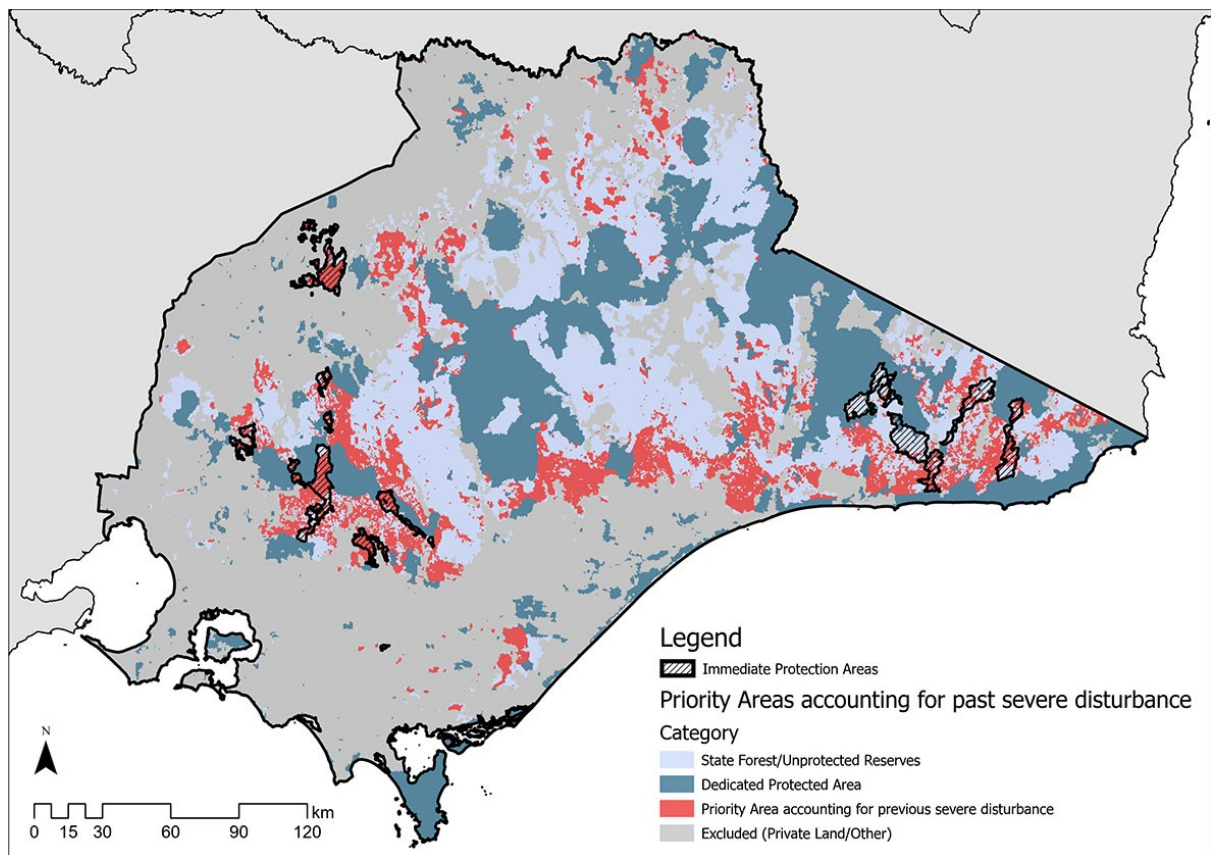


Figure S4. Planned logging under the VicForests Timber Release Plan with the Irreplaceability Scores (Selection Frequency Scores) accounting for previous clearcut logging.

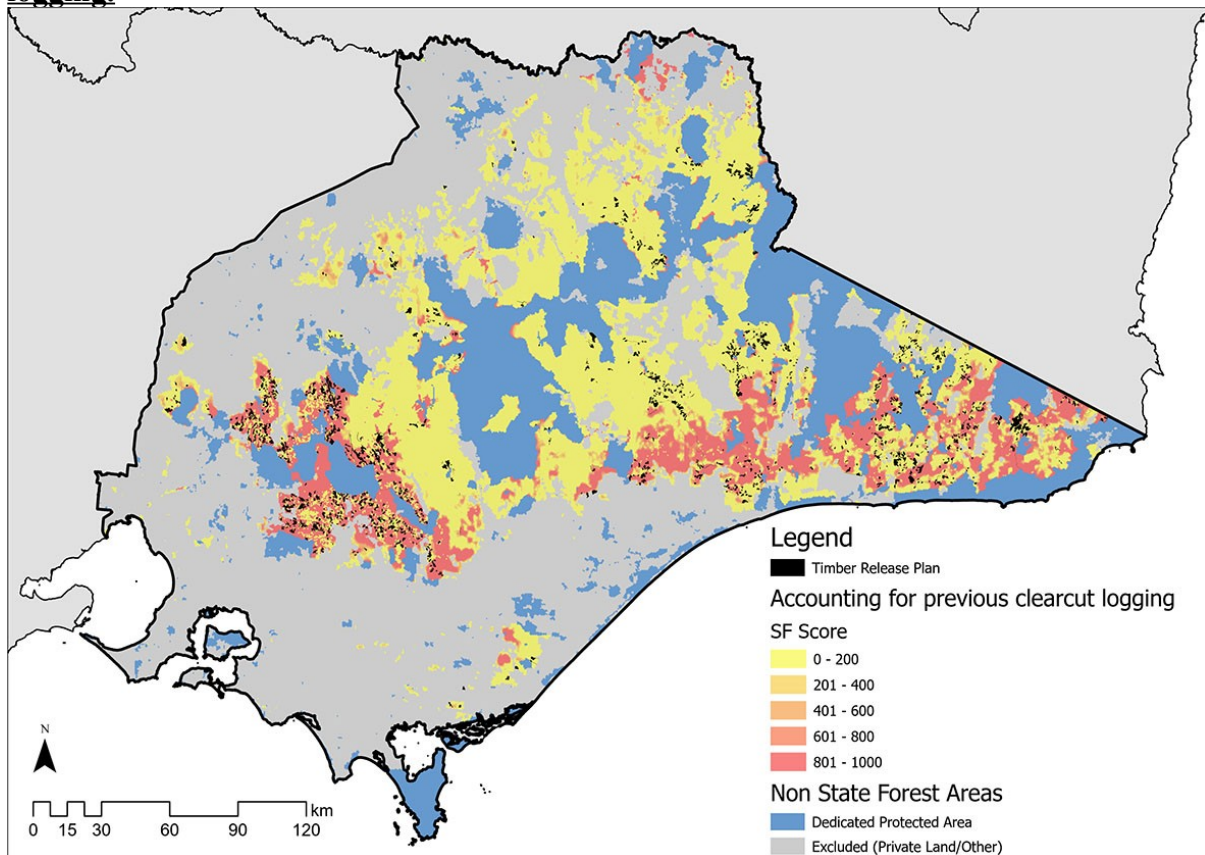


Figure S5. Planned logging under the VicForests Timber Release Plan with the Irreplaceability Scores (Selection Frequency Scores) accounting for previous severe disturbance (clearcut logging and high severity fire).

