

City of Wanneroo

Desktop Assessment Report for Native Vegetation Clearing (NVC) Application



Based on data supplied by WALGA and Landgate



©Western Australian Land Information Authority (2020):
Cadastral/Property boundaries
Hydrography lines
Crown Reserves

Distance and area calculations are performed using the MGA94 Zone 50.

This report and the application it is produced from is based on the discontinued WALGA Environmental Planning Tool developed by Fluffy Software.

Table of Contents

Table of Contents.....	2
1 Applicant Details	4
2 Site Details.....	4
3 Applicant Site Attributes	5
4 Identified Potential Impacts of Clearing	6
5 Explanatory Notes.....	7
6 Interpreting This Report	7
7 Appendix 1 – Data used for Calculating Principals	7
7.1 Principal A - Biodiversity	8
7.1.1 Specially Protected Fauna	8
7.1.2 Priority Fauna	8
7.1.3 Specially Protected Flora	10
7.1.4 Priority Flora	10
7.1.5 Threatened Ecological Communities.....	10
7.1.6 Priority Ecological Communities.....	10
7.1.7 Apiary Sites	11
7.1.8 Environmentally Sensitive Area	11
7.2 Principle B - Significant Habitat for Fauna	12
7.2.1 Carnaby's Cockatoo Habitat.....	12
7.2.2 Important Birding Areas	12
7.2.3 Specially Protected Fauna	12
7.2.4 Ecological Linkages and Vegetation Connectivity	15
7.3 Principal C – Habitat for Rare Flora	16
7.3.1 Special Protected Flora.....	16
7.4 Principal D - Habitat for Threatened Ecological Communities (TEC).....	16
7.4.1 Threatened Ecological Communities.....	16
7.5 Principal E - Mapped Vegetation Description	18
7.5.1 Interim Biogeographical Regionalisation for Australia (IBRA) Region.....	18
7.5.2 Beard vegetation associations by IBRA region.....	18
7.5.3 Beard vegetation associations by Local Government Authority	18
7.5.4 Beard Association – Description	19
7.5.5 Area of Remnant Vegetation within 10km Buffer	19
7.5.6 South West Region Vegetation Complexes	19

7.6	Principal F - Growing in Association with a Watercourse or Wetland	20
7.6.1	Within 5km of a Wetland	20
7.6.2	Within 5km of a Geoscience Australia Mapped Lake	20
7.6.3	Within 50 m of a Geomorphic Wetland.....	20
7.7	Principle G - Likely to Cause Appreciable Land Degradation	20
7.8	Principle H – Impacts to Conservation area	21
7.9	Principle I -Deterioration in the Quality of Surface or Underground Water.....	21
7.9.1	RIWI Act Area and PDWSA	21
7.9.2	Terrestrial Water Dependent Ecosystem.....	21
7.10	Principle J -Flooding	21
8	Appendix 2- Planning Instruments and Other Relevant Matters	22
8.1	Within 5km of Forest Management 2014 Proposed Reserve	22
8.2	Within 5km of DAFWA Mapped Landuse	22
8.3	DAA Site	22
8.4	Local Planning Scheme Zones	22
8.5	Regional Scheme Zones.....	22
8.6	Representative Aboriginal / Torres Strait Islander Body Area.....	22
9	Appendix 3- Parameter for Principals A to I.....	23
10	Appendix 4- Metadata.....	25
11	References	27

1 Applicant Details

Applicant:	City of Wanneroo
COW NVC Site ID	28
Property	469 Wanneroo Road WOODVALE, 26 Cosimo Drive WOODVALE, 2 Panzano Circuit WOODVALE, 17 Solaia Loop WOODVALE, 5 Rosso Meander WOODVALE, 479L Wanneroo Road WOODVALE, 19 Solaia Loop WOODVALE, 15 Rosso Meander WOODVALE, 429 Wanneroo Road WOODVALE, 471L Wanneroo Road WOODVALE, 35 Rosso Meander WOODVALE
LGA	City of Wanneroo
Proposed Clearing	1722.07 m ²
Land Tenure	Lot: 1001 DP: 407416, Lot: 300 DP: 413701, Lot: 3000 DP: 69603, Lot: 5 DP: 68139 SP:, Lot: 61 DP: 411618, Lot: 76 D: 57092, Lot: 8001 DP: 68139, Lot: 8004 DP: 414951, Lot: 808 DP: 50215, Lot: 84 D: 70131, Lot: 9002 DP: 414951

2 Site Details










DBCA District:	Swan Coastal
Environmentally Sensitive Area	Environmentally Sensitive Area
EPA Red Book Area	M7
Country Areas Water Supply Act 1947 - Clearing Control	No Data
Rights in Water and Irrigation Act 1914 area	No Data

3 Applicant Site Attributes

Rainfall Annual Mean (mm)	729
Evapotranspiration Annual Mean (mm)	1800
Contour Elevation (1m interval)	22,23,25,26,27
Geology	Low hilly to gently undulating terrain. Yellow sand over limestone at 1-2 m. Banksia spp. woodland with scattered emergent <i>E. gomphocephala</i> and <i>E. marginata</i> and a dense shrub layer., Swamp.
Soil	Karrakatta Sand Yellow Phase - 211Sp__Ky, Spearwood wet, swamp Phase - 211SpW_SWAMP
Department of Aboriginal Affairs Site	No Data

4 Identified Potential Impacts of Clearing

Red – Likely to be at variance, **Orange** – May be at variance, **Green** – Not likely to be or not at variance. Appendix 3 contains definitions of all the Principals parameter values.

Clearing Principle	Impacts (please circle)	Reason (please provide explanation why you have selected the level of variance)
Principle (A) – High Biodiversity	Red Flag 	The vegetation is in a good or better (Keighery 1994) condition and there is flora, fauna, PEC, and TEC records within 5km of the application area. If ANY of the principles B, C, and D are red
Principle (B) – Significant Habitat For Fauna	Red Flag 	If there are Carnaby records within 10km; hollows are present in the application area; other fauna records within 5km; vegetation is in a good or better (Keighery 1994) condition.
Principle (C) – Habitat For Rare Flora	Orange Flag 	If the vegetation community and soil type mapped in the application area is the same as a Declared Rare Priority (DRP) record within 10km. If the vegetation is in a good or better (Keighery 1994) condition
Principle (D) – Habitat for TEC's	Red Flag 	Records within 5km of the application area.
Principle (E) – Significant Remnant In An Extensively Cleared Area	Red Flag 	If vegetation communities mapped in the application area are less than 30% or 10% in a constrained area. If the native vegetation in the local area is less than 30% and principle B, C, or D are red. If vegetation complexes in the application area have only 400 ha or 10% or less protected for conservation on the Swan Coastal Plain portion of Perth.
Principle (F) – Growing In Association With A Watercourse Or Wetland	Red Flag 	The application area intersects with a mapped wetland/watercourse or if vegetation is growing in association with a watercourse or wetland
Principle (G) – Likely To Cause Appreciable Land Degradation	Orange Flag 	The application intersects with a high risk ASS site and/or site at high risk of erosion
Principle (H) – Impacts To Conservation Area	Red Flag 	The application area intersects with a conservation area, or is directly adjacent to a reserve
Principle (I) – Deterioration In The Quality Of Surface Or Underground Water	Orange Flag 	The application area intersects with a mapped wetland/watercourse, or the application area intersects with vegetation growing in association with a watercourse or wetland. And/or falls within a RIWI, PDWSA, CAWS area

5 Explanatory Notes

This report is designed to support City of Wanneroo with native vegetation clearing permit applications. The report is a desktop study and does not replace a site assessment

The information generated in this report is correct to the best of City of Wanneroo's knowledge.

Information about the clearing principles is available from the [Department of Water and Environment Regulation \(DWER\)](#) "A guide to the assessment of applications to clear native vegetation".

6 Interpreting This Report

This report will assist the user to determine if the proposed clearing is 'at variance', 'may be at variance', 'not likely to be at variance' or 'not at variance' to any of the clearing principles contained Schedule 5 of the *Environmental Protection Act 1986 (EP Act)*.

If using this report to complete an assessment as part of your desktop study under your Strategic Purpose Permit and an 'at variance' result is produced, you may refer your application to DWER for clarification. Please note that the Strategic Purpose Permit applies to clearing that is 'not at variance' or 'not likely to be at variance' to any of the clearing principles. Proposed clearing that 'may be at variance' or 'is at variance' will need to be referred to DWER for review.

If using this report as supporting information for a clearing permit application, please email this report, a covering sheet and accompanying shapefile with the application form and payment to DWER.

If you are unsure about the levels of variance identified in this report and require further clarification, please seek further advice from DWER by submitting a referral form via email or alternatively phone (08) 6364 7000.

The 'may be at variance' and 'at variance' levels determined in this report identifies that a clearing principle requires further attention. A more detailed assessment (including a site visit may be required) and further identification of impacts may alter the variance levels. If you wish to seek clarification on the altered variance level, please seek advice from DWER via email or alternatively phone (08) 6364 7000, using your Permit Number for reference. NB: Any actions you take should be accounted for and recorded. This information should be provided in your annual report and is subject to DWER auditing.

7 Appendix 1 – Data used for Calculating Principals

The data used to calculate the identified impacts of clearing are listed in Appendix 1. The data is indexed by Principal A to E. Further information might be available for your application site in specific project reports or site specific assessments that you might like to attach to this desktop assessment.

7.1 Principal A - Biodiversity

Native vegetation should not be cleared if it comprises a high level of biological diversity.

7.1.1 Specially Protected Fauna

The following fauna record counts have been located within 5km of the application area.

Class	Status	Number of Records
BIRD EN, BIRD MI, BIRD OS, BIRD P4, BIRD VU, INVERTEBRATE P3, INVERTEBRATE P4, MAMMAL CD, MAMMAL P4, MAMMAL VU, REPTILE P3, REPTILE VU	EN, MI, OS, P4, VU, P3, CD	237, 19, 3, 13, 9, 12, 28, 1, 83, 7

7.1.2 Priority Fauna

The following priority fauna records have been located within 5km of the application area.

Source ID	Class	WA Status	Certainty	Distance (m)
487030 216, 283366 216, 5130052 216, 5000803 216, 5000732 216, 5817, 6465, 5072489 216, 76689 216, 5073608 216, 5020120 216, 58265 216, 5153 216	Bird	P4	No Data, Moderately certain, Certain	1865, 1948.9, 1998.9, 2202.1, 2258.9, 2260.4, 2281.9, 3141.9, 3301.7, 3855.4, 4641, 5443.5
No Data	Fish	No Data	No Data	No Data
99145, 99141, 99144, 99579, 99580, 99577, 99581, 99578, 16553, 214989, 99142, 99147, 99146, 214990, 99143, 10682, 10683, 10684, 99678, 16554,	Invertebrate	P3, P4	Certain, Moderately certain	906.4, 1589.5, 2723.2, 3506.5, 3520.4, 3922.5, 4011.6, 4069.8, 4084.4, 4407.9, 4427, 4592.6, 4665, 4738.3, 4740.7, 4741.6, 4815.8, 4833.2, 4900.7, 4916.8,

16676, 16552, 16550, 7673, 7672, 10668, 99697, 99595, 99637, 99623, 99677, 99137, 99139, 99138, 99158, 99140, 7112, 10675, 7118, 16547					4922.6, 4935.5, 4987.3, 4989.8, 5027.7, 5073.6, 5173.2, 5351.5, 5355.4
68577, 23439, 23438, 81032, 23186, 8206, 80519, 73642, 67553, 8207, 8203, 75163, 80047, 24978, 815GAA, 817GAA, 809GAA, 812GAA, 818GAA, 811GAA, 806GAA, 816GAA, 813GAA, 807GAA, 810GAA, 814GAA, 808GAA, 849557, 89593, 75151, MAMM:M56290, 97261, 98695, 75150, 911168, 1325846, 176, 89584, 89576, 23175, 24960, 362, 173, 363, 175, 364, 172, 22160, 177, 81106, 8202, 1773GAA, 80614, 127137, 174, 21226, 5730, 80066, 140202, 140114, 140110, 98130, 76055, 75577,	Mammal	P4	Moderately certain, Certain, No Data, Very Certain (photo, specimen, expert), WAM Vouchered		1008.6, 1020.2, 1055.6, 1095.3, 1612.7, 1787.3, 1910.3, 1957.5, 2008.7, 2114.8, 2192.1, 2228.4, 2311.6, 2357.1, 2366.9, 2450.9, 2639.3, 2682.2, 2728.3, 2901.5, 2951.8, 2962.8, 3006.2, 3014.4, 3023.7, 3026.6, 3047.9, 3056.5, 3075.2, 3076.2, 3112, 3127.2, 3130.5, 3162.8, 3232, 3269.8, 3291.9, 3342.9, 3421.5, 3454.1, 3475.2, 3488, 3582.2, 3766.3, 3784.9, 3810.7, 3866.2, 4003.5, 4008.7, 4045.6, 4458.5, 4524, 4608.4, 4616.2, 4713.2, 4758.2, 4763.6, 4794.4, 4808.7, 4808.9, 4833, 4989.8, 5049.8, 5074.3, 5123.9, 5150.6

849554, 80040, 81038, 68102, 80226, 80207, 498807, 67771, 8183, 68589, 21227, 21229, MAMM:M41421, MAMM:M47950, 96612, MAMM:M13417, 21225, 97911, 1512				
15156, REPT:R96383, REPT:R1307, 15177, 15148, REPT:R40534, REPT:R40287	Reptile	P3	Certain, WAM Vouchered	4248.2, 4248.6, 4833, 4833.2, 4944.4, 4950

7.1.3 Specially Protected Flora

The following flora record counts have been located within 5km of the application area.

ConStatus	WA Rank	Number of Records
Priority 4 - Rare Taxa	No Data	8

7.1.4 Priority Flora

The following priority flora records have been located within 5km of the application area.

Population ID	Priority	Distance (m)
98929, 98930, 86874, 98927, 98926, 98916, 98917, 86875	Priority 4 - Rare Taxa	3260, 3365, 3714, 4217, 4642, 5032, 5042, 5347

7.1.5 Threatened Ecological Communities

The following threatened ecological community records have been located within 5km of the application area.

Ranking	Count
Threatened	10

7.1.6 Priority Ecological Communities

The following priority ecological community records have been located within 5km of the application area.

Record ID	Ranking	Level	Distance (m)
5022, 4997	Priority	1	3498.5, 4079.7

7.1.7 Apiary Sites

The following apiary site records have been located within 5km of the application area:

Waiting for data to be supplied

7.1.8 Environmentally Sensitive Area

Area of site within Environmentally Sensitive Area (ha)

0.172

7.2 Principle B - Significant Habitat for Fauna

Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

7.2.1 Carnaby's Cockatoo Habitat

Cockatoo Attribute	Relationship with Site
Remnant Vegetation	0
Confirmed Breeding Site	0
Unconfirmed Breeding Site	0
Feeding Habitat	0
Confirmed Roosting Sites	0
Confirmed Roost Sites 6km Buffer	0.172
Unconfirmed Roosting Areas	0
Unconfirmed Roost Sites 6km Buffer	0.172

7.2.2 Important Birding Areas

The site is within the following Important Birding Areas.

Northern Swan Coastal Plain IBA

7.2.3 Specially Protected Fauna

The following fauna records have been located within 5km of the application area.

Key to conservation status ranking:

CD = Species of special conservation interest (conservation dependent fauna)

CR = Critically Endangered

EN = Endangered

EX = Presumed Extinct

MI = Migratory Species

OS = Other specially protected species

VU = Vulnerable

Class	Source ID	Ranking	Distance (m)
Bird	25875, 25874, 25469, 25468, 23535, 30882, 30885, 30886, 30883, 30884, 26097, 26099, 26098, 23536, 172787 794, 5013241 178, 5058030 178, 5023321 178, 5013242 794, 28134, 5008099 178, 262331 158, 262331 178, 18589, 288291 794, 20640, 5021975 178, 5037306 178, 5120271 178, AVIF:28018, 289436 178,	EN, MI, VU, OS	847.3, 917.8, 1191.2, 1295.8, 1304.7, 1336.8, 1405.5, 1638.5, 1886.8, 2059.5, 2165.4, 2168.9, 2174.3, 2208, 2270.3, 2281.9, 2287.7, 2465.7, 2557.9, 2592.6, 2653, 2654.9, 2705, 2742.9, 2760.8, 2761.4, 2786.1, 2841.1, 2846.6, 2848, 2957.9, 2964.3, 2989.2, 3023.7, 3025.7, 3061.6, 3066.5, 3068.2,

	289436 158, 1127011, 1127010, 288272 794, 125, 127322, 5130057 178, 93, 8205, 134, 75856, 84964, 32492, 32506, 32512, 32495, 32507, 32515, 32509, 32503, 32517, 32490, 32504, 32498, 32510, 32501, 32505, 32497, 32491, 32511, 32508, 32500, 32494, 32514, 32502, 32496, 32516, 32513, 32499, 32518, 32493, Calyptrorhynchus latirostris 18/10/2016.1, 188, 218957 794, 218953 794, 218954 794, 218956 794, 21465, 62, 186, 431671 794, 67, Calyptrorhynchus latirostris 19/10/2016, 192, 371, 66, 21170, Calyptrorhynchus latirostris 17/10/2016.2, 187, 157249 237, 167230 794, 80360, 24157, 80654, 24158, 37, 170, 190, 168, 169, Calyptrorhynchus latirostris 20/10/2016.2, 541481, 289344 794, 68, 30604, 30605, 298390 794, 92257, 5020771 794, 5010353 158, 30845, 30846, 33049, 64188, 64187, 23574, 33456, 33455, 5120796 158, 5120273 178, 5120711 158, 5120796 178, 5120711 178, 25905, 25906, 27488, 27487, 27499, 27491, 27502, 27503, 27489, 27500, 27492, 27501, 27490, 27493, 33457, 35626, 33459, 33458, 32621, 32620, 18850, 95792, 65, 95812, 81, 80386,		3080.4, 3098.4, 3119.1, 3127.4, 3130.5, 3149.6, 3232.5, 3271.2, 3273.8, 3275.8, 3397.9, 3422.6, 3422.8, 3431.8, 3432.7, 3453.9, 3539.3, 3697.4, 3804.4, 3827.8, 3851.7, 3855.4, 3923.2, 3923.4, 3972, 3993.3, 4061.7, 4069.7, 4244.9, 4247, 4248.7, 4300.2, 4322.1, 4368.1, 4371.6, 4390.1, 4432, 4436.6, 4488.2, 4602.2, 4627.9, 4641, 4713.2, 4736.1, 4741.5, 4763.6, 4822.2, 4833, 4838, 4844.9, 4861, 4871.2, 4879.6, 4918.1, 4943.4, 4988.5, 4990.9, 5034.4, 5035.8, 5049.6, 5063.6, 5075.1, 5106.6, 5107.9, 5157.8, 5167.7, 5198.2, 5203.2, 5203.3, 5224.8, 5397.9, 5400.5, 5443.5, 5444.8, 5565.2, 5602.1
--	--	--	---

	80387, 64, 845547, 64215, 64214, 64217, 64213, 64216, 99898 794, 498803, 498796, 29429, 29433, 29432, 20050, 8182, 127321, AVIF:18453, AVIF:28769, AVIF:18596, AVIF:18452, AVIF:18597, AVIF:21968, 80592, 25922, 25919, 28137, 25917, 25928, 33376, 25914, 25916, 25924, 25915, 25926, 25923, 33374, 25920, 25918, 25921, 25927, 25929, 25939, 218572 794, 80593, 23593, 21366, 33124, 33128, 33125, 33131, 33126, 33132, 33123, 33130, 33127, 21360, 24159, 25900, 29277, 25901, 29278, 25902, 25862, 25876, 25861, 25879, 25878, 25877, 25880, 25903, 25904, 23616, 33462, 122567 162, 98759, 20099, 80653, 32690, 30736, 30733, 30735, 30734, 64236, 64237, 64235, 64238, 64234, 32853, 32852, 88257, 36709, 32222, 30725, 31121, 25936, 30728, 31119, 30726, 32223, 31122, 30729, 31120, 31123, 30730, 29550, 30727, 33539, 5153 794, 1513, 88260, 88262		
Fish	No Data	No Data	No Data
Invertebrate	No Data	No Data	No Data
Mammal	96512, 96490	VU, EN	4994
Reptile	100037	VU	4531.7

7.2.4 Ecological Linkages and Vegetation Connectivity

The application area is within a Regional Ecological Linkage. Regional Ecological Linkages should be maintained wherever possible.

The application area is within the following Perth Regional Ecological Linkages:

6

The application area is within the following Gnangara Mound Ecological Linkages

Gnangara Mound Ecological Linkage	ha
Bush Forever associated with Conceptual Linkage, Conceptual Linkage	0.106

7.3 Principal C – Habitat for Rare Flora

Native vegetation should not be cleared if it includes, or is necessary for the continued existence of rare flora.

7.3.1 Special Protected Flora

The following flora records have been located within 5km of the application area.

Key to the Conservation Status:

CR - Critically Endangered

EN - Endangered

VU - Vulnerable

EX - Extinct

Population ID	WA Rank	Distance (m)
No Data	No Data	

7.4 Principal D - Habitat for Threatened Ecological Communities (TEC)

Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

7.4.1 Threatened Ecological Communities

The following threatened ecological community records have been located within 5km of the application area.

Record ID	Ranking	Distance (m)
115367, 115366, 115369, 114674, 115370, 115069, 115063, 123678, 123709, 123708, 115065, 115140, 122562, 122563, 115139, 114894, 115331, 115216, 114808, 115123, 114810, 122406, 114704, 114809, 114806, 115141, 115142, 115359, 115324, 114807, 123677, 114937, 114671, 114976, 115143, 115332, 114939, 114940, 115144, 114938, 114972, 114973, 114896, 114974, 114941, 114975, 114682, 114935, 114934, 114971, 114933, 115202, 114755, 115145, 114936, 115195, 115333, 114801, 114688, 114554, 114690, 114970, 115203, 114897, 115189, 114669, 114898, 114756, 114804, 115176, 115169, 114670,	Priority 3, Endangered	206.8, 411, 414.7, 788.6, 868.3, 947, 1157.5, 1268.6, 1302.7, 1406.2, 1478.2, 1503.7, 1518.1, 1582.4, 1605.9, 1642.4, 1642.9, 1648.8, 1902.6, 1933.6, 1941.2, 1941.7, 1952.2, 1955.6, 1956.1, 1970, 2055.2, 2061.9, 2120.8, 2182.2, 2182.9, 2186.2, 2194, 2208.5, 2210.1, 2210.2, 2241, 2293.1, 2339.4, 2340.6, 2372.2, 2409.9, 2413.9, 2420.4, 2428.5, 2434.6, 2446, 2451.6, 2454.7, 2467.1, 2468.7, 2512, 2524.7, 2534.3, 2538.2, 2619.9, 2623.1, 2630, 2638.1, 2646.6, 2719.5, 2734.2, 2752.2, 2810.9, 2831.8, 2837, 2838.3, 2841.8, 2868, 2893, 2906.6, 2909.5, 2943.7, 2960.4, 3003.3,

114698, 115194, 115168, 114893, 115191, 114553, 115068, 114792, 115219, 115190, 115188, 115334, 114892, 114790, 114772, 114788, 114791, 115186, 114793, 114908, 115187, 114805, 114915, 114907, 114913, 114906, 115056, 115357, 114799, 114905, 114851, 114794, 115356, 114903, 114795, 114904, 114796, 115355, 114968, 115217, 114797, 114962, 114798, 114757, 114717, 114758, 115078, 114967, 123668, 114963, 114759, 115067, 114718, 115077, 115361, 114969, 114911, 114691, 114730, 123706, 114843, 114716, 114714, 114787, 114964, 114842, 114844, 115342, 114910, 114847, 114727, 114719, 115058, 114715, 114848, 114846, 114721, 114909, 114800, 114789, 115076, 115201, 114895, 115185, 114845, 115074, 114720, 115075, 115218, 123667, 3213, 114966, 114722, 114965, 114912, 105878, 114731, 115184, 105877, 114928, 114638, 105764, 114728, 115147, 115354, 114946, 114914, 115146, 105760, 114930, 114945, 114944, 600, 114752, 114672, 114957, 114931, 249, 105820, 114926, 114639, 105765, 105801, 114932, 114956, 115373, 115182, 115362, 115180, 115220, 105761, 115126, 115181, 115353, 115329, 115148, 105762, 114942, 115127, 114947, 115183, 114927, 115363, 114902, 105766, 114832, 114953, 114943, 115151, 114929, 114901, 114955, 114641, 114729, 114954, 115125, 114833, 115128, 105768,		3007.8, 3012.9, 3015.9, 3022.8, 3075, 3083.8, 3089.2, 3099.2, 3115.1, 3126, 3159.3, 3192.3, 3230.7, 3244.2, 3295.9, 3306, 3316.2, 3339.6, 3356.2, 3382.4, 3398.7, 3402.8, 3449.6, 3494.5, 3513.1, 3521.4, 3522.7, 3528.7, 3534, 3534.7, 3552.9, 3579, 3582.3, 3588.3, 3593.8, 3604.5, 3648.1, 3666.6, 3722.1, 3744.4, 3767.4, 3768, 3774.4, 3801.6, 3806.8, 3819, 3821.8, 3825.5, 3828.1, 3829.4, 3831.1, 3838, 3842.7, 3843.6, 3844, 3854.9, 3870.6, 3878.1, 3882.7, 3895.4, 3898.9, 3910.7, 3912.2, 3913.4, 3915.2, 3915.6, 3926.2, 3927.7, 3937.2, 3959.9, 3968.5, 3970.5, 3978, 3980.4, 3988.2, 3997, 4020, 4024, 4032.8, 4034.4, 4038.4, 4040.4, 4046.8, 4054.3, 4066.4, 4073.5, 4075.6, 4082.3, 4083.8, 4084.3, 4096.5, 4099.6, 4101.2, 4118.7, 4123.4, 4125.2, 4133.6, 4146.1, 4164.2, 4164.4, 4182.3, 4184.1, 4184.6, 4239.7, 4253.3, 4254.2, 4272, 4272.4, 4288.7, 4292, 4303.9, 4304.1, 4312.6, 4328.6, 4346.3, 4352.4, 4374, 4385.5, 4389, 4391.7, 4392.5, 4402.1, 4404.6, 4412.9, 4419.4, 4424.3, 4429.1, 4435.9, 4443.4, 4446, 4449.3, 4452.2, 4469.4, 4488.7, 4492.8, 4500.5, 4503.1, 4517.2, 4521.2, 4529.5, 4529.7, 4542, 4547.7, 4556.7, 4563.3, 4566.6, 4569.3, 4572, 4573.5, 4576.4, 4609.6, 4615.2, 4619.9, 4622.1, 4626.4, 4629.6, 4664.3, 4665.5, 4683.2, 4683.9, 4684.5, 4685.1,
---	--	---

114685, 115150, 115352, 105879, 114917, 115337, 114613, 114961, 115149, 105781, 115330, 114725, 114588, 114960, 115124, 115055, 105763, 105773, 114820, 115129, 114959, 114841, 114726, 115052, 114951, 105703, 114819, 115050, 114587, 114586, 114958, 105712, 105800, 115051, 115165, 114632, 105711, 105767, 105827, 115164, 115049, 114900, 115372, 114899, 115340, 105759, 105870, 105831, 115057, 114754, 114952, 115339, 115341, 123676, 123204, 105871, 114916, 114724, 114585, 114812, 105702, 114824, 114837, 114854, 114924, 123675, 105779, 115179, 114750, 114948, 105725, 114575, 114826, 105726, 114949, 115351, 114920, 115221, 114853, 114919, 114631, 114681, 115348, 114921, 123673, 114918, 114626		4693, 4695.3, 4695.5, 4703.6, 4705.1, 4713, 4725.6, 4732.6, 4743.2, 4765.6, 4767.3, 4767.9, 4775, 4777.4, 4777.5, 4778.1, 4780.7, 4781.3, 4782.9, 4802.9, 4806.8, 4807.8, 4812.9, 4842.4, 4855.5, 4879.6, 4884.1, 4885.1, 4891.4, 4893.4, 4899.9, 4901.4, 4915.3, 4919.7, 4923.6, 4927.6, 4933.6, 4936.6, 4944.6, 4945.4, 4952.1, 4955.2, 4956.4, 4969.3, 4971.7, 4982.9, 4987.8, 4988.9, 5002.4, 5009, 5010.9, 5020.2, 5020.8, 5027, 5031.1, 5033.4, 5053.8, 5056.8, 5062.5, 5065.5, 5066.7, 5086.4, 5089.3, 5096, 5098.2, 5115.5, 5119, 5130, 5131.4, 5139, 5143.7, 5155, 5158.7, 5171.6, 5173.4, 5199.9, 5204, 5204.7, 5210.1, 5210.2, 5267.9, 5274.9, 5295.6, 5305.3, 5339.4, 5358.6, 5359.6, 5377.8, 5378.5, 5379.7, 5393.6, 5400.6
--	--	---

7.5 Principal E - Mapped Vegetation Description

7.5.1 Interim Biogeographical Regionalisation for Australia (IBRA) Region

Swan Coastal Plain / Perth(SWA02)

7.5.2 Beard vegetation associations by IBRA region

IBRA Region	Association	Rarity	Area (ha)
Swan Coastal Plain	37	35.34 %	0.000 ha

7.5.3 Beard vegetation associations by Local Government Authority

LGA	Association	Rarity	Area (ha)

7.5.4 Beard Association – Description

Description	Vegetation
Thicket	37

7.5.5 Area of Remnant Vegetation within 10km Buffer

Area of remnant vegetation remaining within 10km of the selected area (local area vegetation retention). Land area is based on pre-European extent of Beard Vegetation Association mapping within the 10km buffer.

Veg area:	Land area:	Remnant veg remaining:
48.258 km ²	302.855 km ²	15.934 %

7.5.6 South West Region Vegetation Complexes

Complex	ha
Karrakatta Complex-Central and South	0.000

Vegetation complexes occurring within the Swan Coastal Plain and Jarrah Forest are categorised.

Category	Description
A	Vegetation complexes with less than 10% of pre-European extent remaining and < 10% being protected within the Swan Coastal Plain and Jarrah Forest IBRA regions
B	Vegetation complexes with less than 30% of pre-European extent remaining and less than 10% being protected within the Swan Coastal Plain and Jarrah Forest IBRA regions
C	Vegetation complexes with only 1500 ha or 15% or less protected for conservation in the Jarrah Forest IBRA-region
D	Vegetation complexes with only 400 ha or 10% or less protected for conservation on the Swan Coastal Plain portion of Perth and Peel
E	Vegetation complexes with less than 10% of pre-European extent protected within the Swan Coastal Plain and Jarrah Forest IBRA regions (and not already listed above)
F	Vegetation complexes with less than 30% of pre-European extent remaining within the Swan Coastal Plain and Jarrah Forest IBRA regions
G	Vegetation complexes not meeting any of the above criteria

7.6 Principal F - Growing in Association with a Watercourse or Wetland

Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

7.6.1 Within 5km of a Wetland

The site is in or within 5 km of the following Directory of Important Wetlands sites (distance from the application area)

Wetland	Distance (m)
Wallubuenup Swamp, Not Applicable, Beenyup Swamp, Lake Goolelal, Lake Joondalup, Joondalup Lake, Badgerup Lake, Little Badgerup Lake, unknown, Gnangara lake, Snake Swamp	83.0, 465.1, 507.0, 968.5, 1213.0, 1228.9, 1294.8, 1775.0, 3126.3, 3141.3, 3735.4, 3775.6, 4027.4, 4233.1, 4266.1, 4549.9, 4602.5, 4634.2, 4656.0, 4667.5, 4810.0, 4965.4, 4967.2, 4971.8, 5092.4, 5095.0

7.6.2 Within 5km of a Geoscience Australia Mapped Lake

The site is in or within 5 km of the following Geoscience Australia mapped lakes (distance from the application area).

Lake Distance (m)
WALLUBURNUP SWAMP 974.4m, BEENYUP SWAMP 1247.3m, LAKE GOOLLELAL 1443.2m, LAKE JOONDALUP 1706.7m, BADGERUP LAKE 3200.0m, Un-named Lake 3775.6m, Un-named Lake 4418.9m, GNANGARA LAKE 4953.9m, SNAKE SWAMP 4973.5m

7.6.3 Within 50 m of a Geomorphic Wetland

The site is within 50m of a geomorphic wetland.

ID	Classification	Distance (m)
7064	Sumpland - Conservation	83

7.7 Principle G - Likely to Cause Appreciable Land Degradation

Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Acid Sulphate Soil	
Risk Category	High to moderate risk
Soil	
Soil Name	Spearwood wet, swamp Phase, Karakatta Sand Yellow Phase
Geomorphology	Swamp., Low hilly to gently undulating terrain. Yellow sand over limestone at 1-2 m. Banksia spp. woodland with scattered emergent E. gomphocephala and E. marginata and a dense shrub layer.
Soil Symbol Category	211SpW_SWAMP, 211Sp_Ky
Salinity	

Salinity Risk	<500 mg/L
Hydrogeology	
Coastal Plain	Coastal & fixed sand dunes & calcarenite. Non-calcareous sands, podsolised soils with low-lying wet areas. Further inland, alluvial deposits, colluvial deposits adjacent to the Darling Scarp. Clayey to sandy alluvial soils with wet areas.

7.8 Principle H – Impacts to Conservation area

Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any conservation area within a 5km buffer.

Bush Forever	Bush Forever Site ID 299 - 75.0m, Bush Forever Site ID 327 - 2120.5m, Bush Forever Site ID 328 - 3417.2m, Bush Forever Site ID 463 - 3710.1m, Bush Forever Site ID 471 - 3884.2m, Bush Forever Site ID 199 - 4419.4m, Bush Forever Site ID 202 - 4607.8m, Bush Forever Site ID 324 - 4781.2m, Bush Forever Site ID 193 - 4895.1m
Regional Park	Yellagonga 74.2m
Red Book Reserve	M7- 72.9m

7.9 Principle I -Deterioration in the Quality of Surface or Underground Water

Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water. For surface water features affected by clearing area see 2.6 Principle (f).

7.9.1 RIWI Act Area and PDWSA

RIWI Act Area	Perth Groundwater Area
Public Drink Water Source Area (PDWSA)	Perth Coastal and Gwelup Underground Water Pollution Control Area

7.9.2 Terrestrial Water Dependent Ecosystem

The site is within the following Terrestrial Water Dependent Ecosystems.

Name	Type	Area (ha)
No Data	No Data	No Data

7.10 Principle J -Flooding

Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

The site is within the following DAFWA Land Quality flood risk categories

<3% of the map unit has a moderate to high flood risk

8 Appendix 2- Planning Instruments and Other Relevant Matters

8.1 Within 5km of Forest Management 2014 Proposed Reserve

The site is within 5km of the following Forest Management Plan 2014 proposed reserves.

Forest Management 2014 Proposed Reserve
No Data - Distance No Datam

8.2 Within 5km of DAFWA Mapped Landuse

The site is within 5km of the following DAFWA mapped landuses.

LivestockGrazing, Viticulture, Horticulture- Distance 0.0 m, 8.1 m, 2322.5 m
--

8.3 DAA Site

The site overlies or is adjacent to the following Department of Aboriginal Affairs heritage sites.

No Data
No Data
No Data
No Data
No Data

8.4 Local Planning Scheme Zones

The site overlies or is adjacent to the following local planning scheme zones

REGIONAL PARKS & RECREATION, URBAN DEVELOPMENT
--

8.5 Regional Scheme Zones

The site overlies or is adjacent to the following Regional Scheme classes

Parks and Recreation, Urban

8.6 Representative Aboriginal / Torres Strait Islander Body Area

The site is within the following Representative Aboriginal/Torres Strait Islander Body areas.

South West - South West Aboriginal Land and Sea Council

9 Appendix 3- Parameter for Principals A to I

Principal	Flag	Definition
A	Green	The vegetation is in a degraded or completely degraded (Keighery 1994) condition and there is no fauna, flora, PEC and TEC records within the local area. If ALL principles B, C, D, and E are green
	Orange	The vegetation is in a good or better (Keighery 1994) condition and there are flora, fauna, PEC, and TEC records within 5 - 10 km of the application area. If ANY principles B, C, D and E are orange
	Red	The vegetation is in a good or better (Keighery 1994) condition and there is flora, fauna, PEC, and TEC records within 5km of the application area. If ANY of the principles B, C, D and E are red
B	Green	If within the applicant area there are no fauna records within 10km, and the vegetation is in a degraded or less (Keighery 1994) condition; No hollows are present after a visual assessment
	Orange	If there are Carnaby records within 10km; the application area may contain hollows; other fauna records within 5-10km; if the vegetation is in a good or better (Keighery 1994) condition.
	Red	If there are Carnaby records within 10km; hollows are present in the application area; other fauna records within 5km; vegetation is in a good or better (Keighery 1994) condition.
C	Green	No records of DRF within 10km of the application area or not the same vegetation and soil type as DRF records in 10km
	Orange	If the vegetation community and soil type mapped in the application area is the same as a DRF record within 10km. If the vegetation is in a good or better (Keighery 1994) condition
	Red	A DRF record or 50 m buffer of a DRF record is within the application area. If the the vegetation community and soil type mapped in the application area is he same as a DRF record within 5km. If the vegetation is in a good or better (Keighery 1994) condition
D	Green	No records within 10km of the application area.
	Orange	Records within 10km of the application area
	Red	Records within 5km of the application area
E	Green	If the vegetation represented in the application area is more than 30% and principle B, C, and D are green
	Orange	If the vegetation communities mapped in the application area are less than 30% or 10% in DER region. If the native vegetation in the local area is less than 30% and principle B, C, or D are orange
	Red	If vegetation communities mapped in the application area are less than 30% or 10% in a constrained area. If the native vegetation in the local area is less than 30% and principle B, C, or D are red. If vegetation complexes in the application area have only 400 ha or 10% or less protected for conservation on the Swan Coastal Plain portion of Perth.
F	Green	There are no water courses or wetlands or vegetation is growing in association with a watercourse or wetland in the application area
	Orange	There is a water course or wetland within 50m or the possibility that vegetation is growing in association watercourse or wetland in the application area
	Red	The application area intersects with a mapped wetland/watercourse or if vegetation is growing in association with a watercourse or wetland

G	Green	The application does not intersect with a ASS site or area subject to erosion
	Orange	The application intersects with a high risk ASS site and/or site at high risk of erosion
	Red	The application is greater than 5ha and intersects with a high risk ASS site, and/or, site at high risk of erosion
H	Green	The application area is more than 50m from a conversation area.
	Orange	The application is within 50m of a conservation area.
	Red	The application area intersects with a conservation area, or is directly adjacent to a reserve.
I	Green	The application area does not fall within the Red or Orange flag categories for "Principle I"
	Orange	The application area intersects with a mapped wetland/watercourse, or the application area intersects with vegetation growing in association with a watercourse or wetland. And/or falls within a RIWI, PDWSA, CAWS area
	Red	The application area is more than 5Ha and intersects with a wetland/watercourse. Or the application intersects with vegetation growing in association with a watercourse or wetland and is within a RIWI, PDWSA, or CAWS area

10 Appendix 4- Metadata

Schema_Name	Table_Name	Function_Name
nvc	Principal_Index	nvc.Principle_A
dbo	TecPecs_boundaries_28062021	nvc.Principle_A
epc	Threatened_Priority_Fauna_5km_Buffer	nvc.Principle_B
dbo	Slip_CarnabyConfirmedBreeding_054	nvc.Principle_B
dbo	Slip_CarnabyUnconfirmedBreeding_055	nvc.Principle_B
Enviro	Potential_Quenda_Habitat_clipped	nvc.Principle_B
Enviro	Birds_Australia_IBA_2009	nvc.Principle_B
epc	Carnaby_Cockatoo_feeding_habitat_DBCA-057_clipped	nvc.Principle_B
epc	CarnabysCockatooConfirmedRoostSitesDBCA_050_clipped	nvc.Principle_B
epc	CarnabysCockatooUnconfirmedRoostSitesDBCA_051	nvc.Principle_B
Enviro	Declared_Rare_Priority_Flora	nvc.Principle_C
dbo	Slip_ThreatEcoComm_038	nvc.Principle_D
nvc	Principal_Index	nvc.Principle_E
Enviro	NativeVegetationDPIRD_005_clipped	nvc.Principle_E
carto	Carto_Australia_Water_Ways_Line	nvc.Principle_F
dbo	slip_geomorphic_wetland	nvc.Principle_F
dbo	slip_lake_epp	nvc.Principle_F
epc	Section_7-7_Acid_Sulfate_Soils	nvc.Principle_G
dbo	slip_bush_forever	nvc.Principle_H
dbo	slip_geomorphic_wetland	nvc.Principle_H
epc	Leg_LandsandWatersDBCA_011_clipped	nvc.Principle_H
dbo	vw_COW_Park_Reserve	nvc.Principle_H
epc	PDWSA_Wanneroo	nvc.Principle_I
carto	Carto_Australia_Water_Ways_Line	nvc.Principle_I
dbo	slip_geomorphic_wetland	nvc.Principle_I
dbo	slip_lake_epp	nvc.Principle_I
Enviro	Clearing_Regs_Enviro_Sensitive_Areas_DWER_046	nvc.Section_2_Site_Details
nvc	EPA_Redbook_Reserves_DBCA_029	nvc.Section_2_Site_Details
dbo	Contour_1m	nvc.Section_3_Applicant_Site_Attribute_Contour
Enviro	Soil_Landscape_Mapping_DPIRD	nvc.Section_3_Applicant_Site_Attributes
nvc	Section_3_Applicant_Site_Attribute_Contour	nvc.Section_3_Applicant_Site_Attributes
epc	Fauna_ThreatPriorityFauna_DBCA	nvc.Section_7_1_1_Specially_Protected_Fauna
epc	Fauna_ThreatPriorityFauna_DBCA	nvc.Section_7_1_2_Priority_Fauna
NULL	Slip_Threat_Priority_Flora_036	nvc.Section_7_1_3_Specially_Protected_Flora
dbo	Slip_Threat_Priority_Flora_036	nvc.Section_7_1_3_Specially_Protected_Flora
dbo	Slip_Threat_Priority_Flora_036	nvc.Section_7_1_4_Priority_Flora
dbo	ThreatEcoComm_038	nvc.Section_7_1_5_Threatened_Ecological_Communities
dbo	ThreatEcoComm_038	nvc.Section_7_1_6_Priority_Ecological_Communities
dbo	Slip_Enviro_Sensitive_Area_046	nvc.Section_7_1_8_Environmentally_Sensitive_Area
nvc	Flood_Risk_DPIRD_007	nvc.Section_7_10_Principle_J_Flooding
Enviro	Birds_Australia_IBA_2009	nvc.Section_7_2_2_Important_Birding_Areas
dbo	Slip_ThreatPriorityFauna_037	nvc.Section_7_2_3_Specially_Protected_Fauna
Enviro	Regional_Ecological_Linkages	nvc.Section_7_2_4_Regional_Ecological_Linkage
Enviro	GSS_Ecological_Linkages	nvc.Section_7_2_5_GSS_Ecological_Linkages
dbo	Slip_Threat_Priority_Flora_036	nvc.Section_7_3_1_Special_Protected_Flora

dbo	TecPecs_boundaries_28062021	nvc.Section_7_4_1_Threatened_Ecological_Communities
SLIP	BEARD_IBRA_Postclearing	nvc.Section_7_5_2_Beard_Vegetation_Assocation_By_IBRA_Region
SLIP	Beard_Assoc_by_IBRA_SubRegion	nvc.Section_7_5_3_Beard_Vegetation_Assocation_By_LGA_IBRA_SubRegion
Enviro	Pre_EuropeanVegetationDPIRD_006_clipped	nvc.Section_7_5_4_Beard_Association_Description
Enviro	VegetationComplexes_SwanCoastalPlainDBCA_046_clipped	nvc.Section_7_5_5_Enviro_Vegetation
Enviro	NativeVegetationDPIRD_005_clipped	nvc.Section_7_5_5_Enviro_Vegetation
nvc	Dir_Important_Wetlands_DBCA_045	nvc.Section_7_6_1_Principal_F_Within_5km_Wetland
nvc	Geoscience_Lake	nvc.Section_7_6_2_Principal_F_Wiithin_5km_Geoscience_Au_Mapped_Lake
dbo	slip_geomorphic_wetland	nvc.Section_7_6_3_Within50m_Geomorphic_Wetland
dbo	Slip_Acid_Sulphate_Soil	nvc.Section_7_7_Principal_G_Land_Degradation
dbo	Slip_SoilLandscapeBestAvail_027	nvc.Section_7_7_Principal_G_Land_Degradation
SLIP	Groundwater_Salinity_DWER026	nvc.Section_7_7_Principal_G_Land_Degradation
dbo	slip_bush_forever	nvc.Section_7_8_1_Bush_Forever
epc	RegionalParksDBCA026_clipped	nvc.Section_7_8_2_Regional_Park
nvc	EPA_Redbook_Reserves_DBCA_029	nvc.Section_7_8_3_Red_Book
nvc	EPA_Redbook_Reserves_DBCA_029	nvc.Section_7_8_Principal_H_Impacts_to_Conservation_Area
epc	RegionalParksDBCA026_clipped	nvc.Section_7_8_Principal_H_Impacts_to_Conservation_Area
dbo	slip_bush_forever	nvc.Section_7_8_Principal_H_Impacts_to_Conservation_Area
SLIP	RIWI_Act_GroundwaterAreasDWER034	nvc.Section_7_9_1_RIWI_Act_PDWSA
SLIP	PublicDrinkWaterSourcAreaDWER033	nvc.Section_7_9_1_RIWI_Act_PDWSA
nvc	GDE_Terrestrial_Ecosystem	nvc.Section_7_9_2_Groundwater_Dependent_Ecosystem
nvc	Forest_Man_Plan_2014_2023_DBCA_041	nvc.Section_8_2_Forest_Man_Plan_2014_2023
nvc	Forest_Man_Plan_2014_2023_DBCA_041	nvc.Section_8_2_Forest_Man_Plan_2014_2023_orig
nvc	Generalised_Ag_Landuse_DPIRD_003	nvc.Section_8_3_DAFWA_Landuse
Planning	dps2	nvc.Section_8_5_Local_Planning_Scheme_Zone
Planning	mrs	nvc.Section_8_6_Regional_Planning_Scheme_Zone

11 References

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.