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Annie Featherstone
Environmental Approvals Specialist
Rio Tinto
Central Park
152-158 St George's Terrace
Perth WA 6000

Dear Annie

Nammuldi-Silvergrass Vegetation Mapping Integration

Numerous flora and vegetation surveys have been conducted in the Nammuldi-Silvergrass area since 1996 by various consultants and Rio Tinto personnel. An exercise to consolidate and integrate the data from these surveys was completed by Biota Environmental Sciences and the results are presented here. This work is intended to support the environmental assessment of the project.

Scope and Objectives

Biota was commissioned by Rio Tinto to consolidate and rationalise historical data from Nammuldi-Silvergrass. The scope and objectives were to:

- provide a better integrated vegetation mapping dataset for the Nammuldi-Silvergrass locality by identifying equivalent vegetation units across the different survey areas;
- rationalise coding for these vegetation units to a simplified and shortened code, and provide a table with expanded codes and descriptions for the corresponding vegetation types from each survey;
- resolve spatial anomalies between datasets (i.e. where unit boundaries did not match between adjacent mapping datasets; and where boundaries were incorrectly located in relation to landform features, as apparent from current aerial photography); and
- extrapolate the vegetation mapping to unsurveyed areas, where possible.

Approach and Methods

The various surveys in the Nammuldi-Silvergrass locality have mapped vegetation at different levels of detail, depending on the size of the study area and the purpose of the survey. Other factors such as individual mapping style and the quality of aerial imagery available have also resulted in differences in the definition of vegetation units and the delineation of their boundaries. In addition, surveys have used different coding systems and detailed descriptions for the vegetation units, such that it is difficult to determine equivalent units between different studies. As a consequence, a resolution and reclassification of the data was required.

The approach and methods are summarised below:

1. Available datasets and reports for Nammuldi-Silvergrass were collated. A total of 14 studies were considered to map vegetation at scales that were sufficiently similar to be integrated (Table 1). These studies covered the majority of the Nammuldi-Silvergrass locality identified by Rio Tinto, which extends from the Homestead/Silvergrass area, southeast to Nammuldi/Brockman 2 (B2), east to approximately 6.5 km west of the Rio Tinto rail line, and south to Brockman Syncline 4 (BS4) and Beasley River (over 50 km east-west and north-south).

Table 1: Datasets that were integrated for this study (survey areas ordered approximately from north to south).

Area	Reference
Homestead	Hammersley Iron (1996)
Silvergrass	Biota (2010c)
Themeda Threatened Ecological Community (TEC)	Biota (2011)
Nammuldi-Silvergrass	Halpern Glick Maunsell (HGM) (1999a)
Nammuldi-Silvergrass Transport Corridor	HGM (1999b)
Nammuldi Infill	Biota (2010a)
Nammuldi Expansion	Biota (2010b)
Greater Nammuldi Irrigated Agriculture Area	Mattiske (2011)
B2 Pit 7	Biota (2010d)
B2 Pit 1 and Nammuldi Lens E/F	Rio Tinto Iron Ore (RTIO) (2010)
Boolgeeda Powerline	Biota (2008)
White Quartz Road Corridor	Biota (2007)
BS4	Biota (2006)
Beasley River	Biota (2009)

2. Differences between the vegetation mapping in overlapping or intersecting datasets were rationalised where possible. This involved a review of the datasets and the supporting reports, vegetation descriptions and a limited inspection of site information (where this was available). Aerial imagery was also examined. Decisions to change mapping boundaries or vegetation codes were made based on this data review. Recent survey work generally superseded any older mapping. Resolution was not always possible, and in such circumstances no changes were made.
3. Vegetation mapping was extrapolated to cover three areas that were not covered by the survey reports listed in Table 1. Units were extrapolated from adjacent mapping, taking into consideration the habitats apparent on aerial photography.
4. Spatial anomalies between datasets and those apparent from aerial imagery were resolved (e.g. aligning the boundaries of a creek across two datasets by matching the habitat apparent on aerial photography).
5. Vegetation types from the different studies were then reviewed to identify similar units. Given the differences in methodology for the different studies (described above), few units were immediately apparent to be equivalent across studies. It was therefore decided to create a somewhat broader level of vegetation unit, which would accommodate minor differences in delineation of vegetation types from the different studies without losing significant detail. The new units are at approximately the level of "association", as per Level V of the National Vegetation Information System (NVIS) classification framework¹, while the units from the individual studies are closer to "sub-association" (NVIS Level VI). In some cases, this led to merging of a number of units within a single study. This should not be taken to mean that these differences are not considered real; rather that they are only apparent at a finer-scale level than can be applied when attempting to deal with mapping at a locality scale.
6. The vegetation units were re-described and a unique and shortened code was created. The codes comprised a maximum of two letters to indicate the habitat (CD = creeklines

¹ <http://www.environment.gov.au/erin/nvis/publications/avam/section-2-1.html>

and drainages; PL = calcareous plains; PC = clay plains; PS = stony plains; H = hills; and HG = gorges and breakaways), followed by sequential numbers to distinguish the units. This information was applied to the rationalised digital dataset.

Results

Attachment 1 lists the vegetation types re-defined for the Nammuldi-Silvergrass locality for the current study. A total of 34 vegetation associations occur in creekline habitats, while 35 associations occur on plains and 19 associations occur on hills.

Attachment 2 shows the distribution of the integrated vegetation mapping for Nammuldi-Silvergrass (series of four maps).

Yours sincerely,

Biota Environmental Sciences Pty Ltd

Rachel Warner
Senior Botanist

References

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RTIO (2010). Flora and Vegetation Assessment of the Proposed Brockman 2, Pit 1 Waste Dump extension (B2P1-WDE) and Pit 1 Rehabilitation re-design (B2P1-WDRR), and the Nammuldi Lens E/F 2 Waste Dump extension (NLEF2-WDE). Unpublished internal report RTIO-HSE-0095196 prepared by Rio Tinto Iron Ore Pty Ltd, June 2010.

Attachment 1: List of integrated vegetation types for the Nammuldi-Silvergrass locality.

Integrated Vegetation Code	Habitat	Vegetation Description	Equivalent Vegetation Units	
			Vegetation Unit Code	Reference: Study Area
CREEKLINES				
CREEKLINES AND DRAINAGES (CD)				
CD1	Major creeklines	<i>Eucalyptus camaldulensis</i> , <i>E. victrix</i> open woodland over <i>Acacia citrinoviridis</i> tall shrubland over mixed open tussock grassland	3	Hamersley Iron (1996): Homestead
			B1	HGM (1999a): Nammuldi / Silvergrass
			B1	HGM (1999b): Nammuldi-Silvergrass Transport Corridor
			EcEvAciAcMgCEc	Biota (2009): Beasley River
			EcEvAbGOrAciPIEUaTHt	Biota (2010a): Nammuldi Infill
		Drainage Euc vic / Aca cit	Biota (2011): Themeda TEC	
CD2	Moderate creeklines	<i>Eucalyptus camaldulensis</i> , <i>E. xerothermica</i> low woodland over <i>Acacia citrinoviridis</i> , <i>Acacia aneura</i> tall open shrubland over mixed tussock grassland and <i>Triodia epactia</i> very open hummock grassland	C2	Mattiske (2011): Greater Nammuldi Agriculture
CD3	Moderate creeklines	<i>Eucalyptus camaldulensis</i> , <i>E. xerothermica</i> woodland over <i>Melaleuca glomerata</i> , <i>Gossypium robinsonii</i> , <i>Acacia coriacea</i> subsp. <i>pendens</i> tall shrubland over <i>Triodia epactia</i> open hummock grassland	EcExMgGOrAcApyTe	Biota (2010a): Nammuldi Infill
CD4	Channels of moderate creeklines	<i>Eucalyptus victrix</i> scattered low trees to open woodland over <i>Goodenia lamprosperma</i> , <i>Pluchea dentex</i> very open herbland	C1	Biota (2006): BS4
CD5	Moderate creeklines	<i>Eucalyptus victrix</i> , <i>E. xerothermica</i> open woodland over <i>Acacia citrinoviridis</i> tall open scrub over mixed tussock grassland	C18	Biota (2006): BS4
			EvExAciCEc	Biota (2009): Beasley River
			C1	Mattiske (2011): Greater Nammuldi Agriculture
CD6	Minor creeklines	<i>Eucalyptus xerothermica</i> low open woodland over <i>Acacia citrinoviridis</i> tall open scrub over <i>Triodia epactia</i> open hummock grassland and/or mixed tussock grassland	B4	HGM (1999a): Nammuldi / Silvergrass
			B4	HGM (1999b): Nammuldi-Silvergrass Transport Corridor
			C3	Biota (2006): BS4
			ExAciAbTe	Biota (2009): Beasley River
			ExAciAanTHtCHf	Biota (2010b): Nammuldi Expansion
CD7	Minor creeklines	<i>Acacia citrinoviridis</i> tall shrubland over mixed tussock grassland or <i>Triodia epactia</i> hummock grassland	C4, C11	Biota (2006): BS4
			AciThtCEc	Biota (2009): Beasley River
CD8	Minor creeklines	<i>Eucalyptus xerothermica</i> , <i>Acacia aneura</i> open forest over <i>Triodia epactia</i> open hummock grassland over <i>Chrysopogon fallax</i> very open tussock grassland	AanExTeCHf	Biota (2010a): Nammuldi Infill
CD9	Minor creeklines	<i>Acacia citrinoviridis</i> , <i>A. aneura</i> tall open shrubland over mixed open hummock grassland	C20	Biota (2006): BS4
			AciAanAsyToTeTw	Biota (2009): Beasley River
CD10	Minor creeklines	<i>Acacia aneura</i> low open forest to tall open shrubland over mixed open tussock grassland and <i>Triodia epactia</i> open hummock grassland	B2, B5	HGM (1999a): Nammuldi / Silvergrass
			C17	Biota (2006): BS4
			AanCHfTe, AanSEd	Biota (2010a): Nammuldi Infill
CD11	Minor creeklines	<i>Eucalyptus xerothermica</i> low open woodland over <i>Acacia pyrifolia</i> , <i>Gossypium sturtianum</i> var. <i>sturtianum</i> , <i>Petalostylis labicheoides</i> tall shrubland over <i>Triodia epactia</i> hummock grassland	ExApyGOSPIfTe	Biota (2009): Beasley River
CD12	Minor flowlines	<i>Eucalyptus xerothermica</i> , <i>Corymbia hamersleyana</i> scattered low trees over <i>Acacia bivenosa</i> , <i>A. cowleana</i> , <i>A. elachantha</i> , <i>A. exilis</i> tall shrubland over <i>Triodia epactia</i> hummock grassland and <i>Eulalia aurea</i> open tussock grassland	C5	Biota (2006): BS4
CD13	Minor flowlines	<i>Eucalyptus xerothermica</i> , <i>E. gamophylla</i> low open woodland over mixed <i>Acacia</i> tall open scrub over mixed <i>Triodia</i> closed hummock	4	Hamersley Iron (1996): Homestead
CD14	Broad drainages	<i>Eucalyptus xerothermica</i> scattered trees over <i>Chrysopogon fallax</i> , <i>Aristida latifolia</i> , <i>Eulalia aurea</i> tussock grassland over <i>Triodia epactia</i> very open hummock grassland or mixed tussock grassland	ExCHfARIEUaTe	Biota (2010a): Nammuldi Infill
			ChExEUaCHf	Biota (2010a): Nammuldi Infill
CD15	Minor flowlines	<i>Corymbia hamersleyana</i> , <i>Eucalyptus xerothermica</i> scattered trees over <i>Acacia bivenosa</i> open heath over <i>Triodia angusta</i> open hummock grassland and <i>Themeda triandra</i> very open tussock grassland	C7	Biota (2006): BS4
CD16	Minor flowlines	<i>Eucalyptus xerothermica</i> low woodland over <i>Acacia bivenosa</i> , <i>A. atkinsiana</i> , <i>A. maitlandii</i> shrubland to closed heath over <i>Triodia epactia</i> hummock grassland	EiExAbCAoTHtTe	Biota (2009): Beasley River
			ExAbAatAmTe	Biota (2010a): Nammuldi Infill
CD17	Minor flowlines	<i>Eucalyptus xerothermica</i> scattered low trees over <i>Gastrolobium grandiflorum</i> open heath over <i>Chrysopogon fallax</i> , <i>Eulalia aurea</i> tussock grassland	C6	Biota (2006): BS4
CD18	Minor flowlines	<i>Eucalyptus xerothermica</i> low open woodland over <i>Acacia monticola</i> , <i>A. tumida</i> var. <i>pilbarensis</i> , <i>A. bivenosa</i> , <i>A. maitlandii</i> tall open shrubland over <i>Triodia epactia</i> scattered hummock grasses	ChExAmoAtuGAgTe	Biota (2010c): Silvergrass West
			C5	Mattiske (2011): Greater Nammuldi Agriculture
CD19	Minor flowlines	<i>Eucalyptus leucophloia</i> low woodland over <i>Acacia citrinoviridis</i> , <i>Acacia monticola</i> , <i>Dodonaea pachyneura</i> tall shrubland over <i>Triodia epactia</i> hummock grassland	C14	Biota (2006): BS4
CD20	Minor flowlines	<i>Eucalyptus leucophloia</i> low woodland over <i>Gossypium robinsonii</i> , <i>Acacia maitlandii</i> , <i>A. monticola</i> , <i>A. bivenosa</i> tall shrubland over <i>Triodia wiseana</i> , <i>T. epactia</i> very open hummock grassland	EIGOrAmAmoTeTw	Biota (2010c): Silvergrass West
			I-IG-EFw	RTIO (2010): B2 Pit 1 / Nammuldi Lens E/F
			C3	Mattiske (2011): Greater Nammuldi Agriculture
CD21	Minor flowlines through gorges	<i>Eucalyptus leucophloia</i> low open woodland over <i>Gossypium robinsonii</i> tall open shrubland over <i>Eremophila magnifica</i> subsp. <i>velutina</i> low open shrubland over <i>Cymbopogon ambiguus</i> , <i>Eriachne mucronata</i> open tussock grassland	EIGOrERmCYaERIm	Biota (2010c): Silvergrass West
CD22	Minor flowlines	<i>Eucalyptus leucophloia</i> , <i>Corymbia deserticola</i> scattered low trees over <i>Acacia tumida</i> var. <i>pilbarensis</i> tall open scrub over <i>Triodia epactia</i> , <i>T. wiseana</i> open hummock grassland	C10	Biota (2006): BS4
			EiCdAtuTeTw	Biota (2010d): BS2 Pit 7
CD23	Minor flowlines	<i>Corymbia hamersleyana</i> low open woodland over <i>Gossypium robinsonii</i> , <i>Acacia tumida</i> var. <i>pilbarensis</i> tall open shrubland over <i>Triodia epactia</i> open hummock grassland	ChGOrAtuTe	Biota (2010c): Silvergrass West

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Integrated Vegetation Code	Habitat	Vegetation Description	Equivalent Vegetation Units	
			Vegetation Unit Code	Reference: Study Area
CD24	Minor flowlines	Corymbia hamersleyana, Eucalyptus leucophloia low woodland over Grevillea wickhamii tall shrubland over Gossypium robinsonii open shrubland over Themeda sp. Mt. Barricade, Eulalia aurea, Paraneurachne muelleri open tussock grassland or Triodia epactia open hummock grassland	B7	HGM (1999a): Nammuldi / Silvergrass
			C9	Biota (2006): BS4
			C9	Biota (2008): Boolgeeda Powerline
CD25	Minor flowlines	Corymbia hamersleyana low open woodland over Triodia epactia hummock grassland and Eriachne tenuiculmis, E. mucronata, Themeda sp. Mt. Barricade open tussock grassland	C8	Biota (2006): BS4
CD26	Narrow floodplains fringing major creek (Caves Creek)	Eucalyptus victrix, Corymbia hamersleyana low open woodland over Acacia bivenosa, A. ancistrocarpa, A. inaequilatera, mixed Senna open heath over Triodia epactia, T. angusta hummock grassland	7	Hamersley Iron (1996): Homestead
CD27	Minor flowlines	Corymbia hamersleyana, Eucalyptus gamophylla low open woodland over Acacia monticola, A. ancistrocarpa, A. bivenosa, Rulingia luteiflora tall closed scrub over Triodia epactia hummock grassland	C13	Biota (2006): BS4
CD28	Minor flowlines	Corymbia hamersleyana scattered low trees over Acacia bivenosa, Petalostylis labicheoides shrubland over Triodia epactia hummock grassland	C16	Biota (2006): BS4
CD29	Minor flowlines	Corymbia hamersleyana scattered low trees over Acacia atkinsiana tall shrubland over Triodia epactia hummock grassland	C19	Biota (2006): BS4
CD30	Minor flowlines	Acacia pyrifolia, A. ancistrocarpa, Petalostylis labicheoides shrubland over Triodia epactia hummock grassland and Themeda triandra tussock grassland	C2	Biota (2006): BS4
CD31	Minor flowlines	Acacia monticola, A. maitlandii, A. atkinsiana, A. exilis, A. ancistrocarpa tall shrubland over Triodia epactia, T. wiseana open hummock grassland	11	Hamersley Iron (1996): Homestead
			B8	HGM (1999a): Nammuldi / Silvergrass
			B8	HGM (1999b): Nammuldi-Silvergrass Transport Corridor
			C12	Biota (2006): BS4
			AmoAmAatTeTw	Biota (2007): White Quartz Rd
CD32	Minor flowlines	Petalostylis labicheoides shrubland over Triodia epactia hummock grassland	C21	Biota (2006): BS4
CD33	Minor flowlines	Stylobasium spathulatum shrubland over Triodia epactia hummock grassland	C15	Biota (2006): BS4
CD34	Minor flowlines	Acacia bivenosa, Melaleuca glomerata tall shrubland over Triodia angusta hummock grassland	AbMgTa	Biota (2010a): Nammuldi Infill
PLAINS				
CALCAREOUS PLAINS (PL)				
PL1	Calcareous plains	Eucalyptus repullulans scattered low mallees over Melaleuca eleuterostachya, A. maitlandii scattered shrubs over Triodia wiseana hummock grassland	T4, T5	Mattiske (2011): Greater Nammuldi Agriculture
PL2	Calcareous plains	Eucalyptus socialis and/or E. leucophloia low open woodland over Acacia bivenosa, A. exilis scattered shrubs over Triodia wiseana, T. angusta hummock grassland	5	Hamersley Iron (1996): Homestead
			A8	HGM (1999b): Nammuldi-Silvergrass Transport Corridor
			P9, P10	Biota (2006): BS4
			ElAexAaTwTa	Biota (2010a): Nammuldi Infill
			EIEsEtAbTw	Biota (2010b): Nammuldi Expansion
PL3	Calcareous plains	Eucalyptus leucophloia scattered low trees over Acacia bivenosa scattered shrubs over Triodia longiceps, T. wiseana hummock grassland	AiTlo, ElAbTloTw	Biota (2009): Beasley River
PL4	Calcareous plains	Eucalyptus leucophloia scattered low trees over Acacia xiphophylla, A. sibirica, A. tetragonophylla, Melaleuca eleuterostachya scattered shrubs over Triodia angusta hummock grassland	A9	HGM (1999b): Nammuldi-Silvergrass Transport Corridor
PL5	Calcareous plains	Melaleuca eleuterostachya open shrubland over Triodia wiseana, (T. angusta) hummock grassland	AexMeTw, MeTwTa	Biota (2009): Beasley River
PL6	Calcareous plains	Acacia synchronicia scattered shrubs over Triodia angusta hummock grassland	P11	Biota (2006): BS4
PL7	Calcareous plains	Eucalyptus leucophloia, E. socialis scattered low trees over Acacia bivenosa scattered shrubs over Triodia brizoides hummock grassland	A10	HGM (1999b): Nammuldi-Silvergrass Transport Corridor
PL8	Calcareous plains	Eucalyptus leucophloia scattered low trees over Triodia longiceps, T. epactia hummock grassland	EITloTe	Biota (2010a): Nammuldi Infill
CLAY PLAINS (PC)				
Mulga (Acacia aneura complex) shrublands on clay plains				
PC1	Clay plains	Acacia aneura low woodland to tall open scrub over Triodia epactia, T. wiseana very open hummock grassland	AanTe/AanTw	Biota (2010b): Nammuldi Expansion
			M1	Mattiske (2011): Greater Nammuldi Agriculture
			Mulga	Biota (2011): Themeda TEC
			UP1-Aa-TOS	J. Naaykens (RTIO) mapping
Snakewood (Acacia xiphophylla) shrublands on clay plains				
PC2	Clay plains	Acacia xiphophylla open shrubland to scattered shrubs over Eremophila maculata, Senna spp. low shrubland over mixed bunch grasses and herbs	C4	HGM (1999a): Nammuldi / Silvergrass
			Snakewood	Biota (2011): Themeda TEC
			UP2-Ax-S, UP6-Em-LS	J. Naaykens (RTIO) mapping
PC3	Clay plains	Acacia xiphophylla open shrubland over Triodia epactia open hummock grassland	AxDIPa	Biota (2009): Beasley River
			UP5-AxTe-S	J. Naaykens (RTIO) mapping
PC4	Clay plains	Acacia xiphophylla open shrubland over Triodia basedowii open hummock grassland	13	Hamersley Iron (1996): Homestead
Other shrublands on clay plains				
PC5	Clay plains	Eucalyptus leucophloia scattered low trees over Acacia tetragonophylla, A. bivenosa, A. synchronicia, A. tenuissima open shrubland over Triodia basedowii hummock grassland with mixed herbs	T3	Mattiske (2011): Greater Nammuldi Agriculture

Attachment 1: List of integrated vegetation types for the Nammuldi-Silvergrass locality.

Integrated Vegetation Code	Habitat	Vegetation Description	Equivalent Vegetation Units	
			Vegetation Unit Code	Reference: Study Area
Grasslands on clay plains				
PC6	Clay plains	<i>Astrebla elymoides</i> tussock grassland	ASe, ASpp / Stony rise	Biota (2011): Themeda TEC
			M-Ast-TG	J. Naaykens (RTIO) mapping
PC7	Clay plains	<i>Astrebla lappacea</i> , <i>A. pectinata</i> tussock grassland	ASIASp	Biota (2011): Themeda TEC
PC8	Clay plains	<i>Themeda</i> sp. Hamersley Station (M.E. Trudgen 11431) tussock grassland	THs	Biota (2011): Themeda TEC
PC9	Clay plains	<i>Eriachne benthamii</i> tussock grassland	ERlb	Biota (2011): Themeda TEC
			DC-Eb-TG	J. Naaykens (RTIO) mapping
PC10	Clay plains	<i>Aristida latifolia</i> , <i>Chrysopogon fallax</i> , (<i>Eragrostis xerophila</i> , <i>Astrebla elymoides</i>) tussock grassland	ARIASeCHf	Biota (2011): Themeda TEC
			G1	Mattiske (2011): Greater Nammuldi Agriculture
			UP3-CfDf-MTG, UP4-MOTG	J. Naaykens (RTIO) mapping
Herblands on clay plains				
PC11	Clay plains	Mixed herbland	C1	HGM (1999a): Nammuldi / Silvergrass
			LPC-SkPI-HL	J. Naaykens (RTIO) mapping
STONY PLAINS (PS)				
Mulga shrublands on stony plains				
PS1	Stony plains	<i>Acacia aneura</i> , <i>A. ayersiana</i> tall open shrubland over <i>Triodia epactia</i> , <i>T. wiseana</i> hummock grassland	P1, P2, P3	Biota (2006): BS4
			AanAprAexAbAaTwTe	Biota (2010b): Nammuldi Expansion
PS2	Stony plains	<i>Acacia aneura</i> low woodland over low mixed shrubs over <i>Eriachne benthamii</i> , <i>Eragrostis tenellula</i> , <i>Chrysopogon fallax</i> open tussock grassland	M2	Mattiske (2011): Greater Nammuldi Agriculture
Snakewood shrublands on stony plains				
PS3	Stony plains	<i>Acacia xiphophylla</i> , <i>A. aneura</i> low woodland to tall open shrubland over <i>Triodia wiseana</i> , (<i>T. epactia</i>) open hummock grassland	A7	HGM (1999a): Nammuldi / Silvergrass
			P4	Biota (2006): BS4
			P4	Biota (2008): Boolgeeda Powerline
			AxTw/AxTe	Biota (2010b): Nammuldi Expansion
			M3	Mattiske (2011): Greater Nammuldi Agriculture
PS4	Stony plains	<i>Acacia xiphophylla</i> tall open shrubland over <i>Triodia epactia</i> , <i>T. longiceps</i> hummock grassland	AxTeTlo	Biota (2009): Beasley River
PS5	Stony plains	<i>Acacia xiphophylla</i> , <i>A. aneura</i> tall shrubland over <i>Triodia brizoides</i> , <i>T. epactia</i> open hummock grassland	P5	Biota (2006): BS4
Other shrublands on stony plains				
PS6	Stony plains	<i>Eucalyptus leucophloia</i> , (<i>E. gamophylla</i> , <i>Corymbia deserticola</i> , <i>C. hamersleyana</i>) scattered low trees over <i>Acacia atkinsiana</i> , <i>A. exilis</i> , <i>A. bivenosa</i> , <i>A. ancistrocarpa</i> , <i>Senna</i> spp. shrubland over <i>Triodia epactia</i> and/or <i>T. wiseana</i> hummock grassland	2	Hamersley Iron (1996): Homestead
			A5, A6	HGM (1999a): Nammuldi / Silvergrass
			A6	HGM (1999b): Nammuldi-Silvergrass Transport Corridor
			P6, P7, P13, P14, P15	Biota (2006): BS4
			P6	Biota (2008): Boolgeeda Powerline
			AbTe	Biota (2009): Beasley River
			EgAexAbAatTw, EIAbAatTw, EIAbTeTw	Biota (2010a): Nammuldi Infill
			ChEgAatAexTe, ChEIAatAbAexAiTe, EIAatAexTw	Biota (2010c): Silvergrass West
			AprAexTw	Biota (2010d): BS2 Pit 7
			I-SF-Ch/Ash	RTIO (2010): B2 Pit 1 / Nammuldi Lens E/F
			Spinifex	Biota (2011): Themeda TEC
			T2	Mattiske (2011): Greater Nammuldi Agriculture
PS7	Stony plains	<i>Eucalyptus leucophloia</i> , (<i>Corymbia hamersleyana</i>) scattered low trees over <i>Acacia inaequilatera</i> scattered shrubs to tall open shrubland over <i>Triodia wiseana</i> , (<i>T. epactia</i>) hummock grassland	AiAmAexTw, ChAiTw, EIAiTwTe	Biota (2009): Beasley River
			AiTw, EIAeAiTw	Biota (2010a): Nammuldi Infill
PS8	Stony plains	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia atkinsiana</i> , <i>A. maitlandii</i> open shrubland over <i>Triodia epactia</i> , <i>T. melvillei</i> hummock grassland	EIAatAmAspTeTm	Biota (2010a): Nammuldi Infill
PS9	Stony plains	<i>Eucalyptus xerothermica</i> low open woodland over <i>Eremophila fraseri</i> scattered shrubs over <i>Triodia wiseana</i> hummock grassland	P8	Biota (2006): BS4
PS10	Stony plains	<i>Acacia synchronica</i> , <i>A. bivenosa</i> , <i>Senna</i> spp. shrubland over <i>Triodia brizoides</i> hummock grassland	P12	Biota (2006): BS4
			AsyAbCApCAITbr	Biota (2009): Beasley River
PS11	Stony plains	<i>Acacia inaequilatera</i> open shrubland to shrubland over <i>Triodia brizoides</i> hummock grassland	AiTbr	Biota (2009): Beasley River
PS12	Stony plains	<i>Acacia maitlandii</i> open shrubland over <i>Triodia brizoides</i> open hummock grassland	AmTbr	Biota (2009): Beasley River
PS13	Stony plains	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia exilis</i> open shrubland to shrubland over <i>Triodia brizoides</i> hummock grassland	EIAexTbr	Biota (2009): Beasley River
PS14	Stony plains	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia inaequilatera</i> , <i>Mirbelia viminalis</i> scattered shrubs over <i>Triodia ?basedowii</i> open hummock grassland	8	Hamersley Iron (1996): Homestead

Attachment 1: List of integrated vegetation types for the Nammuldi-Silvergrass locality.

Integrated Vegetation Code	Habitat	Vegetation Description	Equivalent Vegetation Units	
			Vegetation Unit Code	Reference: Study Area
PS15	Stony plains	<i>Eucalyptus gamophylla</i> low open woodland over <i>Senna artemisioides</i> subsp. <i>oligophylla</i> open shrubland over <i>Triodia basedowii</i> open hummock grassland	10	Hamersley Iron (1996): Homestead
Spinifex hummock grasslands on stony plains				
PS16	Stony plains	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Triodia longiceps</i> , <i>T. angusta</i> hummock grassland	P16	Biota (2006): BS4
			AsyTloTa, EITloTaTbr	Biota (2009): Beasley River
HILLS				
HILL SLOPES AND CRESTS (H)				
Mulga woodlands / tall shrublands on hills				
H1	Hills	<i>Acacia aneura</i> low open woodland over <i>Triodia wiseana</i> , <i>T. epactia</i> hummock grassland	AanTeTw, EIAprAanTeTw	Biota (2009): Beasley River
			AanTwTe	Biota (2010a): Nammuldi Infill
H2	Hills	<i>Acacia aneura</i> low woodland over <i>Triodia epactia</i> hummock grassland	AanAkTp, AanAprTe, AanEITe, AanTpTe	Biota (2009): Beasley River
H3	Rocky slopes of hills	<i>Acacia aneura</i> , <i>Corymbia ferritcola</i> low woodland over <i>Triodia epactia</i> hummock grassland or <i>Cymbopogon ambiguus</i> , <i>Themeda triandra</i> open tussock grassland	AanGbCfTe	Biota (2009): Beasley River
			CfAanCYaTHtDIPaDlClf	Biota (2010c): Silvergrass West
H4	Hills	<i>Acacia aneura</i> low woodland over mixed bunch grassland and open herbland	14	Hamersley Iron (1996): Homestead
Other shrublands on hills				
H5	Hills	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia maitlandii</i> shrubland over <i>Triodia wiseana</i> hummock grassland	9	Hamersley Iron (1996): Homestead
			A1	HGM (1999a): Nammuldi / Silvergrass
			H3	Biota (2006): BS4
			H3	Biota (2008): Boolgeeda Powerline
			EIAexAmoAmTw, EIAmAexTwERIm	Biota (2010a): Nammuldi Infill
			EIAmAhiTw, EIAmTw	Biota (2010c): Silvergrass West
H6	Hills	<i>Acacia hamersleyensis</i> tall open shrubland over <i>Triodia wiseana</i> closed hummock grassland	T1	Mattiske (2011): Greater Nammuldi Agriculture
H7	Hills	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia pruinocarpa</i> open shrubland over <i>Triodia epactia</i> or <i>T. wiseana</i> hummock grassland	H4	Biota (2006): BS4
			H6	Biota (2006): BS4
H8	Hills	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia atkinsiana</i> , <i>A. exilis</i> , <i>A. bivenosa</i> , <i>A. ancistrocarpa</i> open shrubland over <i>Triodia wiseana</i> or <i>T. epactia</i> hummock grassland	AprTe, EIAprAatTw, EIAprTe	Biota (2009): Beasley River
			H2, H2/H16, H5, H8	Biota (2006): BS4
H9	Hills	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia inaequilatera</i> tall shrubland over <i>Triodia wiseana</i> hummock grassland	EIAbTe	Biota (2009): Beasley River
			H9	Biota (2006): BS4
H10	Hills (and stony plains)	<i>Eucalyptus leucophloia</i> low open woodland over <i>Acacia exilis</i> , <i>A. ancistrocarpa</i> , <i>A. sibirica</i> , <i>Senna</i> spp. open shrubland over <i>Triodia wiseana</i> , <i>T. basedowii</i> hummock grassland	1	Hamersley Iron (1996): Homestead
H11	Hills	<i>Acacia sibirica</i> low open woodland over <i>Eremophila exilifolia</i> scattered shrubs over <i>Triodia epactia</i> hummock grassland	H7	Biota (2006): BS4
H12	Crests and slopes of mesas	<i>Acacia bivenosa</i> , <i>A. exilis</i> , <i>A. synchronica</i> scattered shrubs to open shrubland over <i>Triodia longiceps</i> , <i>T. wiseana</i> open hummock grassland	AsyAbAxTloTw	Biota (2009): Beasley River
H13	Hill slopes	<i>Corymbia ferritcola</i> , <i>Eucalyptus leucophloia</i> low open woodland over <i>Acacia pruinocarpa</i> tall open shrubland over mixed shrubland over <i>Triodia epactia</i> open hummock grassland with <i>Eriachne mucronata</i> scattered tussock grasses	I-MS-Eflow, I-LS-EIAP	RTIO (2010)
Spinifex hummock grasslands on hills				
H14	Hills	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Triodia epactia</i> and/or <i>T. wiseana</i> hummock grassland	A2, A3	HGM (1999a): Nammuldi / Silvergrass
			A3	HGM (1999b): Nammuldi-Silvergrass Transport Corridor
			H1, H14, H15	Biota (2006): BS4
			EITeTHmERIm, EITw	Biota (2009): Beasley River
			EITe, EITeTw	Biota (2010a): Nammuldi Infill
			EITw, EITwCYa	Biota (2010c): Silvergrass West
H15	Steep hillslopes	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Triodia brizoides</i> hummock grassland	A4	HGM (1999a): Nammuldi / Silvergrass
GORGES AND BREAKAWAYS (HG)				
HG1	Rocky gorges	<i>Corymbia ferritcola</i> , <i>Eucalyptus leucophloia</i> low open woodland over <i>Acacia hamersleyensis</i> , <i>A. pruinocarpa</i> scattered tall shrubs over <i>Dodonaea pachyneura</i> open shrubland over <i>Triodia epactia</i> or <i>T. wiseana</i> open hummock grassland and mixed open tussock grassland	6, 12	Hamersley Iron (1996): Homestead
			H11, H13	Biota (2006): BS4
HG2	Gorges	<i>Eucalyptus leucophloia</i> low open woodland over <i>Acacia hamersleyensis</i> open shrubland over <i>Triodia brizoides</i> , <i>T. epactia</i> hummock grassland and <i>Themeda triandra</i> , <i>Eriachne mucronata</i> open tussock grassland	H12	Biota (2006): BS4
HG3	Gorges	<i>Eucalyptus leucophloia</i> low open woodland over <i>Acacia bivenosa</i> open shrubland over <i>Triodia brizoides</i> , <i>T. epactia</i> hummock grassland and <i>Themeda</i> sp. Mt. Barricade, <i>Cymbopogon ambiguus</i> open tussock grassland	H10	Biota (2006): BS4
HG4	Breakaways	<i>Eucalyptus leucophloia</i> scattered low trees to low open woodland over <i>Astrotricha hamptonii</i> , <i>Ficus brachypoda</i> scattered tall shrubs over <i>Themeda</i> sp. Mt Barricade, <i>Eriachne mucronata</i> open tussock grassland and <i>Triodia brizoides</i> , <i>T. epactia</i> open hummock grassland	H16	Biota (2006): BS4


















Attachment 1: List of integrated vegetation types for the Nammuldi-Silvergrass locality.

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Attachment 2: Vegetation of Nammuldi-Silvergrass

Vegetation of Creeklines and Drainages

	CD1	<i>Eucalyptus camaldulensis</i> , <i>E. victrix</i> open woodland over <i>Acacia citrinoviridis</i> tall shrubland over mixed open tussock grassland
	CD2	<i>Eucalyptus camaldulensis</i> , <i>E. xerothermica</i> low woodland over <i>Acacia citrinoviridis</i> , <i>A. aneura</i> tall open shrubland over mixed tussock grassland and <i>Triodia epactia</i> very open hummock grassland
	CD3	<i>Eucalyptus camaldulensis</i> , <i>E. xerothermica</i> woodland over <i>Melaleuca glomerata</i> , <i>Gossypium robinsonii</i> , <i>Acacia coriacea</i> subsp. <i>pendens</i> tall shrubland over <i>Triodia epactia</i> open hummock grassland
	CD4	<i>Eucalyptus victrix</i> scattered low trees to open woodland over <i>Goodenia lamprosperma</i> , <i>Pluchea dentex</i> very open herbland
	CD5	<i>Eucalyptus victrix</i> , <i>E. xerothermica</i> open woodland over <i>Acacia citrinoviridis</i> tall open scrub over mixed tussock grassland
	CD6	<i>Eucalyptus xerothermica</i> low open woodland over <i>Acacia citrinoviridis</i> tall open scrub over <i>Triodia epactia</i> open hummock grassland and/or mixed tussock grassland
	CD7	<i>Acacia citrinoviridis</i> tall shrubland over mixed tussock grassland or <i>Triodia epactia</i> hummock grassland
	CD8	<i>Eucalyptus xerothermica</i> , <i>Acacia aneura</i> open forest over <i>Triodia epactia</i> open hummock grassland over <i>Chrysopogon fallax</i> very open tussock grassland
	CD9	<i>Acacia citrinoviridis</i> , <i>A. aneura</i> tall open shrubland over mixed open hummock grassland
	CD10	<i>Acacia aneura</i> low open forest to tall open shrubland over mixed open tussock grassland and <i>Triodia epactia</i> open hummock grassland
	CD11	<i>Eucalyptus xerothermica</i> low open woodland over <i>Acacia pyrifolia</i> , <i>Gossypium sturtianum</i> var. <i>sturtianum</i> , <i>Petalostylis labicheoides</i> tall shrubland over <i>Triodia epactia</i> hummock grassland
	CD12	<i>Eucalyptus xerothermica</i> , <i>Corymbia hamersleyana</i> scattered low trees over <i>Acacia bivenosa</i> , <i>A. cowleana</i> , <i>A. elachantha</i> , <i>A. exilis</i> tall shrubland over <i>Triodia epactia</i> hummock grassland and <i>Eulalia aurea</i> open tussock grassland
	CD13	<i>Eucalyptus xerothermica</i> , <i>E. gamophylla</i> low open woodland over mixed <i>Acacia</i> tall open scrub over mixed <i>Triodia</i> closed hummock
	CD14	<i>Eucalyptus xerothermica</i> scattered trees over <i>Chrysopogon fallax</i> , <i>Aristida latifolia</i> , <i>Eulalia aurea</i> tussock grassland over <i>Triodia epactia</i> very open hummock grassland or mixed tussock grassland
	CD15	<i>Corymbia hamersleyana</i> , <i>Eucalyptus xerothermica</i> scattered trees over <i>Acacia bivenosa</i> open heath over <i>Triodia angusta</i> open hummock grassland and <i>Themeda triandra</i> very open tussock grassland
	CD16	<i>Eucalyptus xerothermica</i> low woodland over <i>Acacia bivenosa</i> , <i>A. atkinsiana</i> , <i>A. maitlandii</i> shrubland to closed heath over <i>Triodia epactia</i> hummock grassland
	CD17	<i>Eucalyptus xerothermica</i> scattered low trees over <i>Gastrolobium grandiflorum</i> open heath over <i>Chrysopogon fallax</i> , <i>Eulalia aurea</i> tussock grassland

Attachment 2: Vegetation of Nammuldi-Silvergrass

Vegetation of Creeklines and Drainages (cont.)

	CD18	<i>Eucalyptus xerothermica</i> low open woodland over <i>Acacia monticola</i> , <i>A. tumida</i> var. <i>pilbarensis</i> , <i>A. bivenosa</i> , <i>A. maitlandii</i> tall open shrubland over <i>Triodia epactia</i> scattered hummock grasses
	CD19	<i>Eucalyptus leucophloia</i> low woodland over <i>Acacia citrinoviridis</i> , <i>A. monticola</i> , <i>Dodonaea pachyneura</i> tall shrubland over <i>Triodia epactia</i> hummock grassland
	CD20	<i>Eucalyptus leucophloia</i> low woodland over <i>Gossypium robinsonii</i> , <i>Acacia maitlandii</i> , <i>A. monticola</i> , <i>A. bivenosa</i> tall shrubland over <i>Triodia wiseana</i> , <i>T. epactia</i> very open hummock grassland
	CD21	<i>Eucalyptus leucophloia</i> low open woodland over <i>Gossypium robinsonii</i> tall open shrubland over <i>Eremophila magnifica</i> subsp. <i>velutina</i> low open shrubland over <i>Cymbopogon ambiguus</i> , <i>Eriachne mucronata</i> open tussock grassland
	CD22	<i>Eucalyptus leucophloia</i> , <i>Corymbia deserticola</i> scattered low trees over <i>Acacia tumida</i> var. <i>pilbarensis</i> tall open scrub over <i>Triodia epactia</i> , <i>T. wiseana</i> open hummock grassland
	CD23	<i>Corymbia hamersleyana</i> low open woodland over <i>Gossypium robinsonii</i> , <i>Acacia tumida</i> var. <i>pilbarensis</i> tall open shrubland over <i>Triodia epactia</i> open hummock grassland
	CD24	<i>Corymbia hamersleyana</i> , <i>Eucalyptus leucophloia</i> low woodland over <i>Grevillea wickhamii</i> tall shrubland over <i>Gossypium robinsonii</i> open shrubland over <i>Themeda</i> sp. Mt. Barricade, <i>Eulalia aurea</i> , <i>Paraneurachne muelleri</i> open tussock grassland or <i>Triodia epactia</i> open hummock grassland
	CD25	<i>Corymbia hamersleyana</i> low open woodland over <i>Triodia epactia</i> hummock grassland and <i>Eriachne tenuiculmis</i> , <i>E. mucronata</i> , <i>Themeda</i> sp. Mt. Barricade open tussock grassland
	CD26	<i>Eucalyptus victrix</i> , <i>Corymbia hamersleyana</i> low open woodland over <i>Acacia bivenosa</i> , <i>A. ancistrocarpa</i> , <i>A. inaequilatera</i> , mixed <i>Senna</i> open heath over <i>Triodia epactia</i> , <i>T. angusta</i> hummock grassland
	CD27	<i>Corymbia hamersleyana</i> , <i>Eucalyptus gamophylla</i> low open woodland over <i>Acacia monticola</i> , <i>A. ancistrocarpa</i> , <i>A. bivenosa</i> , <i>Rulingia luteiflora</i> tall closed scrub over <i>Triodia epactia</i> hummock grassland
	CD28	<i>Corymbia hamersleyana</i> scattered low trees over <i>Acacia bivenosa</i> , <i>Petalostylis labicheoides</i> shrubland over <i>Triodia epactia</i> hummock grassland
	CD29	<i>Corymbia hamersleyana</i> scattered low trees over <i>Acacia atkinsiana</i> tall shrubland over <i>Triodia epactia</i> hummock grassland
	CD30	<i>Acacia pyrifolia</i> , <i>A. ancistrocarpa</i> , <i>Petalostylis labicheoides</i> shrubland over <i>Triodia epactia</i> hummock grassland and <i>Themeda triandra</i> tussock grassland
	CD31	<i>Acacia monticola</i> , <i>A. maitlandii</i> , <i>A. atkinsiana</i> , <i>A. exilis</i> , <i>A. ancistrocarpa</i> tall shrubland over <i>Triodia epactia</i> , <i>T. wiseana</i> open hummock grassland
	CD32	<i>Petalostylis labicheoides</i> shrubland over <i>Triodia epactia</i> hummock grassland
	CD33	<i>Stylobasium spathulatum</i> shrubland over <i>Triodia epactia</i> hummock grassland
	CD34	<i>Acacia bivenosa</i> , <i>Melaleuca glomerata</i> tall shrubland over <i>Triodia angusta</i> hummock grassland

Attachment 2: Vegetation of Nammuldi-Silvergrass

Vegetation of Plains

	PL1	<i>Eucalyptus repullulans</i> scattered low mallees over <i>Melaleuca eleuterostachya</i> , <i>A. maitlandii</i> scattered shrubs over <i>Triodia wiseana</i> hummock grassland
	PL2	<i>Eucalyptus socialis</i> and/or <i>E. leucophloia</i> low open woodland over <i>Acacia bivenosa</i> , <i>A. exilis</i> scattered shrubs over <i>Triodia wiseana</i> , <i>T. angusta</i> hummock grassland
	PL3	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia bivenosa</i> scattered shrubs over <i>Triodia longiceps</i> , <i>T. wiseana</i> hummock grassland
	PL4	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia xiphophylla</i> , <i>A. sibirica</i> , <i>A. tetragonophylla</i> , <i>Melaleuca eleuterostachya</i> scattered shrubs over <i>Triodia angusta</i> hummock grassland
	PL5	<i>Melaleuca eleuterostachya</i> open shrubland over <i>Triodia wiseana</i> , (<i>T. angusta</i>) hummock grassland
	PL6	<i>Acacia synchronicia</i> scattered shrubs over <i>Triodia angusta</i> hummock grassland
	PL7	<i>Eucalyptus leucophloia</i> , <i>E. socialis</i> scattered low trees over <i>Acacia bivenosa</i> scattered shrubs over <i>Triodia brizoides</i> hummock grassland
	PL8	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Triodia longiceps</i> , <i>T. epactia</i> hummock grassland
	PC1	<i>Acacia aneura</i> low woodland to tall open scrub over <i>Triodia epactia</i> , <i>T. wiseana</i> very open hummock grassland
	PC2	<i>Acacia xiphophylla</i> open shrubland to scattered shrubs over <i>Eremophila maculata</i> , <i>Senna</i> spp. low shrubland over mixed bunch grasses and herbs
	PC3	<i>Acacia xiphophylla</i> open shrubland over <i>Triodia epactia</i> open hummock grassland
	PC4	<i>Acacia xiphophylla</i> open shrubland over <i>Triodia basedowii</i> open hummock grassland
	PC5	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia tetragonophylla</i> , <i>A. bivenosa</i> , <i>A. synchronicia</i> , <i>A. tenuissima</i> open shrubland over <i>Triodia basedowii</i> hummock grassland with mixed herbs
	PC6	<i>Astrebla elymoides</i> tussock grassland
	PC7	<i>Astrebla lappacea</i> , <i>A. pectinata</i> tussock grassland
	PC8	<i>Themeda</i> sp. Hamersley Station (M.E. Trudgen 11431) tussock grassland
	PC9	<i>Eriachne benthamii</i> tussock grassland


















Attachment 2: Vegetation of Nammuldi-Silvergrass

Vegetation of Plains (cont.)

	PC10	<i>Aristida latifolia</i> , <i>Chrysopogon fallax</i> , (<i>Eragrostis xerophila</i> , <i>Astrebla elymoides</i>) tussock grassland
	PC11	Mixed herbland
	PS1	<i>Acacia aneura</i> , <i>A. ayersiana</i> tall open shrubland over <i>Triodia epactia</i> , <i>T. wiseana</i> hummock grassland
	PS2	<i>Acacia aneura</i> low woodland over low mixed shrubs over <i>Eriachne benthamii</i> , <i>Eragrostis tenellula</i> , <i>Chrysopogon fallax</i> open tussock grassland
	PS3	<i>Acacia xiphophylla</i> , <i>A. aneura</i> low woodland to tall open shrubland over <i>Triodia wiseana</i> , (<i>T. epactia</i>) open hummock grassland
	PS4	<i>Acacia xiphophylla</i> tall open shrubland over <i>Triodia epactia</i> , <i>T. longiceps</i> hummock grassland
	PS5	<i>Acacia xiphophylla</i> , <i>A. aneura</i> tall shrubland over <i>Triodia brizoides</i> , <i>T. epactia</i> open hummock grassland
	PS6	<i>Eucalyptus leucophloia</i> , (<i>E. gamophylla</i> , <i>Corymbia deserticola</i> , <i>C. hamersleyana</i>) scattered low trees over <i>Acacia atkinsiana</i> , <i>A. exilis</i> , <i>A. bivenosa</i> , <i>A. ancistrocarpa</i> , <i>Senna</i> spp. shrubland over <i>Triodia epactia</i> and/or <i>T. wiseana</i> hummock grassland
	PS7	<i>Eucalyptus leucophloia</i> , (<i>Corymbia hamersleyana</i>) scattered low trees over <i>Acacia inaequilatera</i> scattered shrubs to tall open shrubland over <i>Triodia wiseana</i> , (<i>T. epactia</i>) hummock grassland
	PS8	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia atkinsiana</i> , <i>A. maitlandii</i> open shrubland over <i>Triodia epactia</i> , <i>T. melvillei</i> hummock grassland
	PS9	<i>Eucalyptus xerothermica</i> low open woodland over <i>Eremophila fraseri</i> scattered shrubs over <i>Triodia wiseana</i> hummock grassland
	PS10	<i>Acacia synchronicia</i> , <i>A. bivenosa</i> , <i>Senna</i> spp. shrubland over <i>Triodia brizoides</i> hummock grassland
	PS11	<i>Acacia inaequilatera</i> open shrubland to shrubland over <i>Triodia brizoides</i> hummock grassland
	PS12	<i>Acacia maitlandii</i> open shrubland over <i>Triodia brizoides</i> open hummock grassland
	PS13	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia exilis</i> open shrubland to shrubland over <i>Triodia brizoides</i> hummock grassland
	PS14	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia inaequilatera</i> , <i>Mirbelia viminalis</i> scattered shrubs over <i>Triodia basedowii</i> open hummock grassland
	PS15	<i>Eucalyptus gamophylla</i> low open woodland over <i>Senna artemisioides</i> subsp. <i>oligophylla</i> open shrubland over <i>Triodia basedowii</i> open hummock grassland
	PS16	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Triodia longiceps</i> , <i>T. angusta</i> hummock grassland




Attachment 2: Vegetation of Nammuldi-Silvergrass

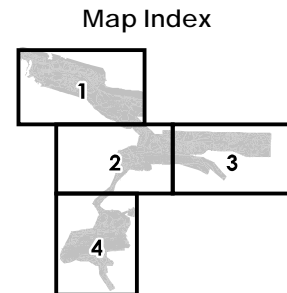
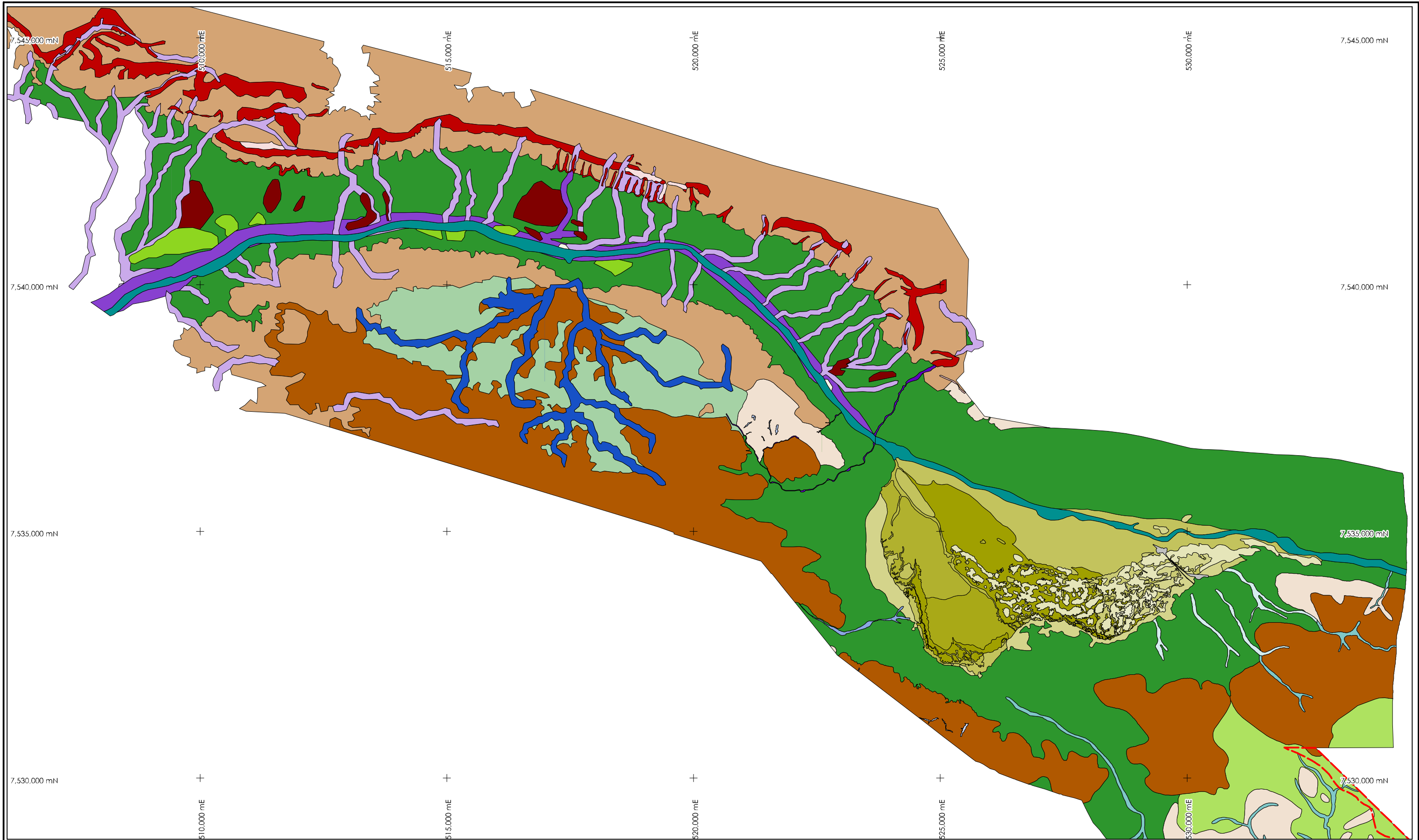
Vegetation of Hill Slopes and Crests


	H1	<i>Acacia aneura</i> low open woodland over <i>Triodia wiseana</i> , <i>T. epactia</i> hummock grassland
	H2	<i>Acacia aneura</i> low woodland over <i>Triodia epactia</i> hummock grassland
	H3	<i>Acacia aneura</i> , <i>Corymbia ferritcola</i> low woodland over <i>Triodia epactia</i> hummock grassland or <i>Cymbopogon ambiguus</i> , <i>Themeda triandra</i> open tussock grassland
	H4	<i>Acacia aneura</i> low woodland over mixed bunch grassland and open herbland
	H5	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia maitlandii</i> shrubland over <i>Triodia wiseana</i> hummock grassland
	H6	<i>Acacia hamersleyensis</i> tall open shrubland over <i>Triodia wiseana</i> closed hummock grassland
	H7	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia pruinocarpa</i> open shrubland over <i>Triodia epactia</i> or <i>T. wiseana</i> hummock grassland
	H8	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia atkinsiana</i> , <i>A. exilis</i> , <i>A. bivenosa</i> , <i>A. ancistrocarpa</i> open shrubland over <i>Triodia wiseana</i> or <i>T. epactia</i> hummock grassland
	H9	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Acacia inaequilatera</i> tall shrubland over <i>Triodia wiseana</i> hummock grassland
	H10	<i>Eucalyptus leucophloia</i> low open woodland over <i>Acacia exilis</i> , <i>A. ancistrocarpa</i> , <i>A. sibirica</i> , <i>Senna</i> spp. open shrubland over <i>Triodia wiseana</i> , <i>T. basedowii</i> hummock grassland
	H11	<i>Acacia sibirica</i> low open woodland over <i>Eremophila exilifolia</i> scattered shrubs over <i>Triodia epactia</i> hummock grassland
	H12	<i>Acacia bivenosa</i> , <i>A. exilis</i> , <i>A. synchronica</i> scattered shrubs to open shrubland over <i>Triodia longiceps</i> , <i>T. wiseana</i> open hummock grassland
	H13	<i>Corymbia ferritcola</i> , <i>Eucalyptus leucophloia</i> low open woodland over <i>Acacia pruinocarpa</i> tall open shrubland over mixed shrubland over <i>Triodia epactia</i> open hummock grassland with <i>Eriachne mucronata</i> scattered tussock grasses
	H14	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Triodia epactia</i> and/or <i>T. wiseana</i> hummock grassland
	H15	<i>Eucalyptus leucophloia</i> scattered low trees over <i>Triodia brizoides</i> hummock grassland
	HG1	<i>Corymbia ferritcola</i> , <i>Eucalyptus leucophloia</i> low open woodland over <i>Acacia hamersleyensis</i> , <i>A. pruinocarpa</i> scattered tall shrubs over <i>Dodonaea pachyneura</i> open shrubland over <i>Triodia epactia</i> or <i>T. wiseana</i> open hummock grassland and mixed open tussock grassland
	HG2	<i>Eucalyptus leucophloia</i> low open woodland over <i>Acacia hamersleyensis</i> open shrubland over <i>Triodia brizoides</i> , <i>T. epactia</i> hummock grassland and <i>Themeda triandra</i> , <i>Eriachne mucronata</i> open tussock grassland

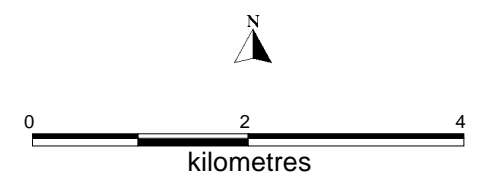
Attachment 2: Vegetation of Nammuldi-Silvergrass

Vegetation of Hill Slopes and Crests (cont.)

	HG3	<i>Eucalyptus leucophloia</i> low open woodland over <i>Acacia bivenosa</i> open shrubland over <i>Triodia brizoides</i> , <i>T. epactia</i> hummock grassland and <i>Themeda</i> sp. Mt. Barricade, <i>Cymbopogon ambiguus</i> open tussock grassland
	HG4	<i>Eucalyptus leucophloia</i> scattered low trees to low open woodland over <i>Astrotricha hamptonii</i> , <i>Ficus brachypoda</i> scattered tall shrubs over <i>Themeda</i> sp. Mt Barricade, <i>Eriachne mucronata</i> open tussock grassland and <i>Triodia brizoides</i> , <i>T. epactia</i> open hummock grassland
	Disturbed	

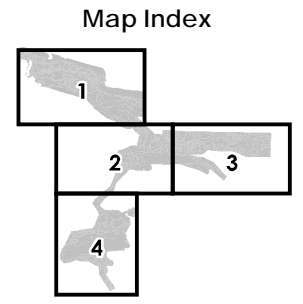
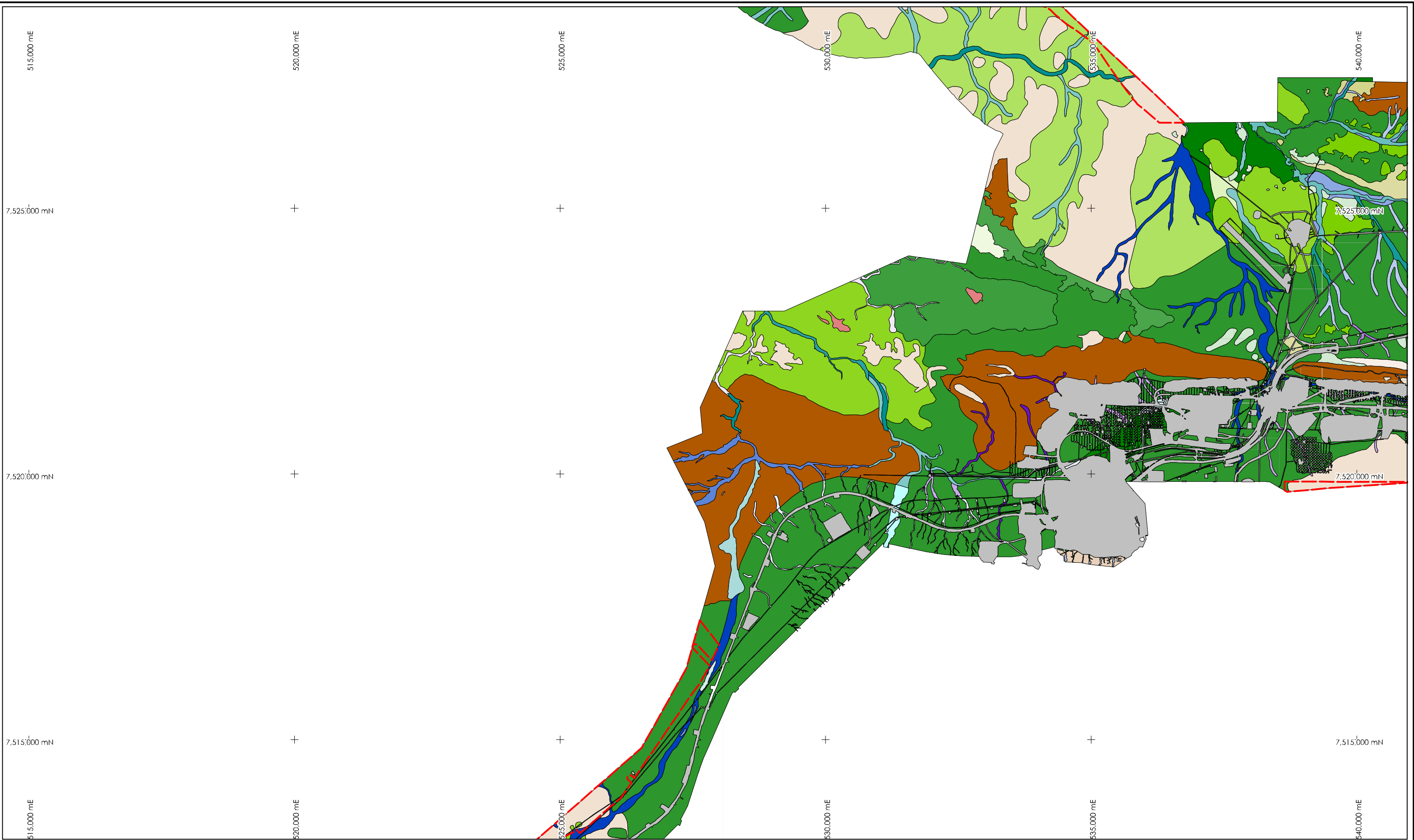


 Extrapolated Vegetation Mapping

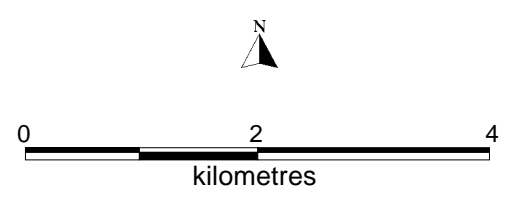


Nammuldi Silvergrass Integrated Vegetation - Map 1



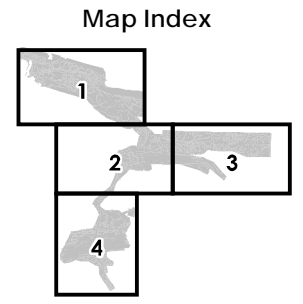
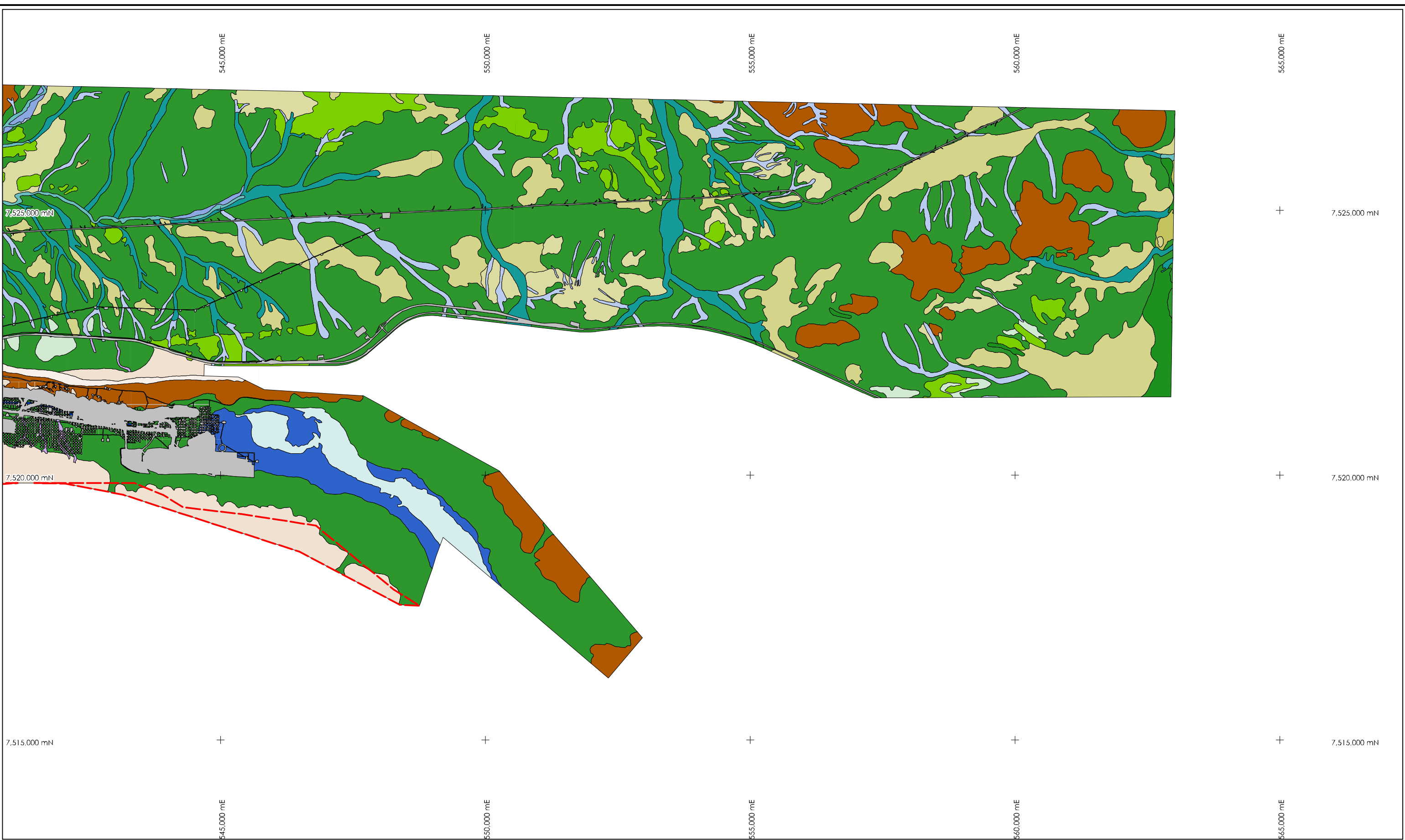


 Extrapolated Vegetation Mapping

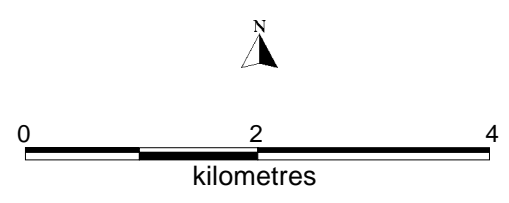


Nammuldi Silvergrass Integrated Vegetation - Map 2



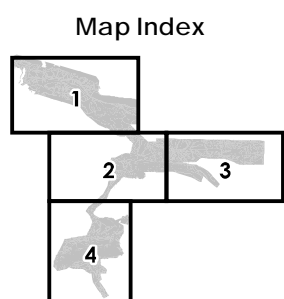
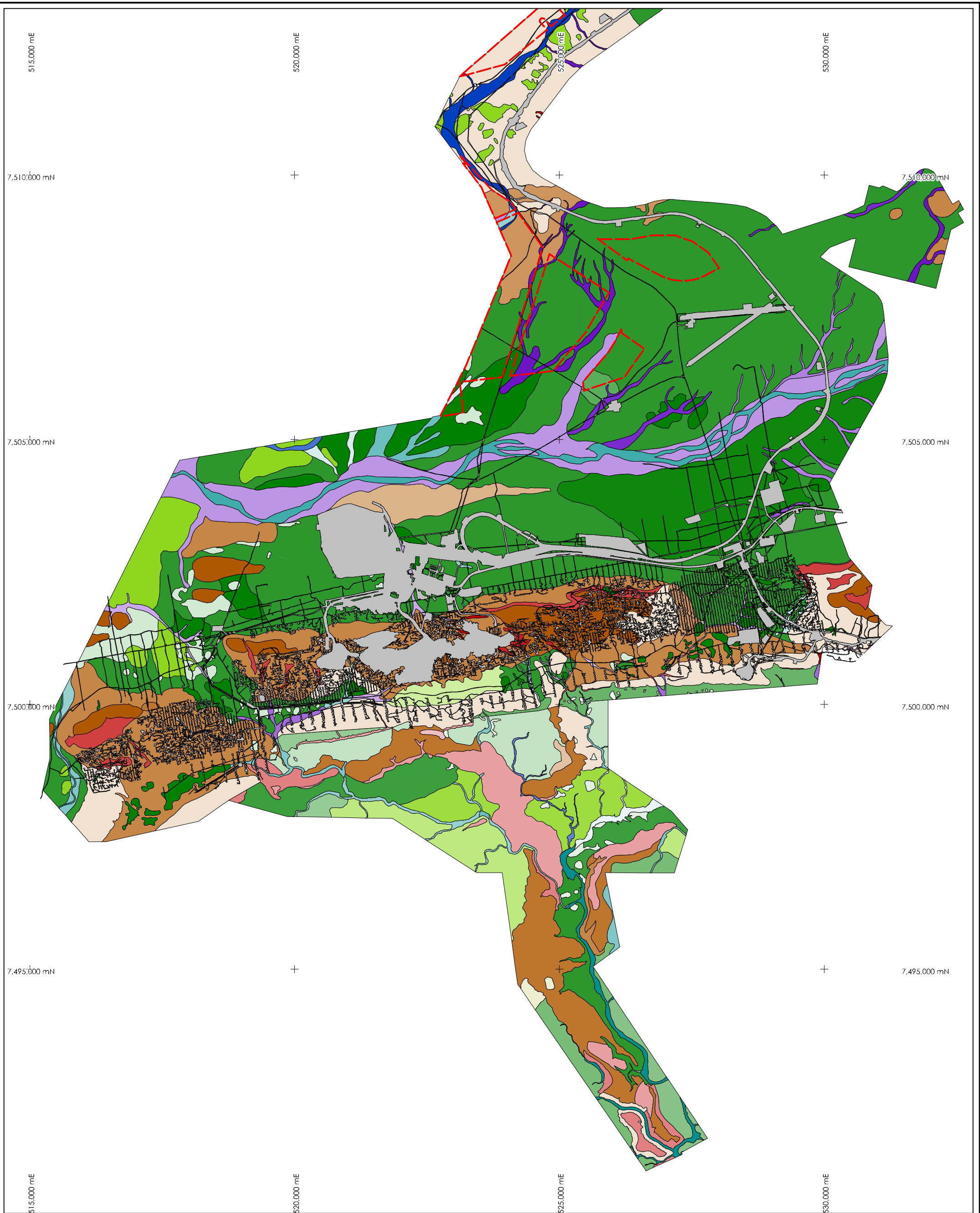



 Extrapolated Vegetation Mapping



**Nammuldi Silvergrass
Integrated Vegetation - Map 3**





 Extrapolated Vegetation Mapping



Nammuldi Silvergrass Integrated Vegetation Map 4

