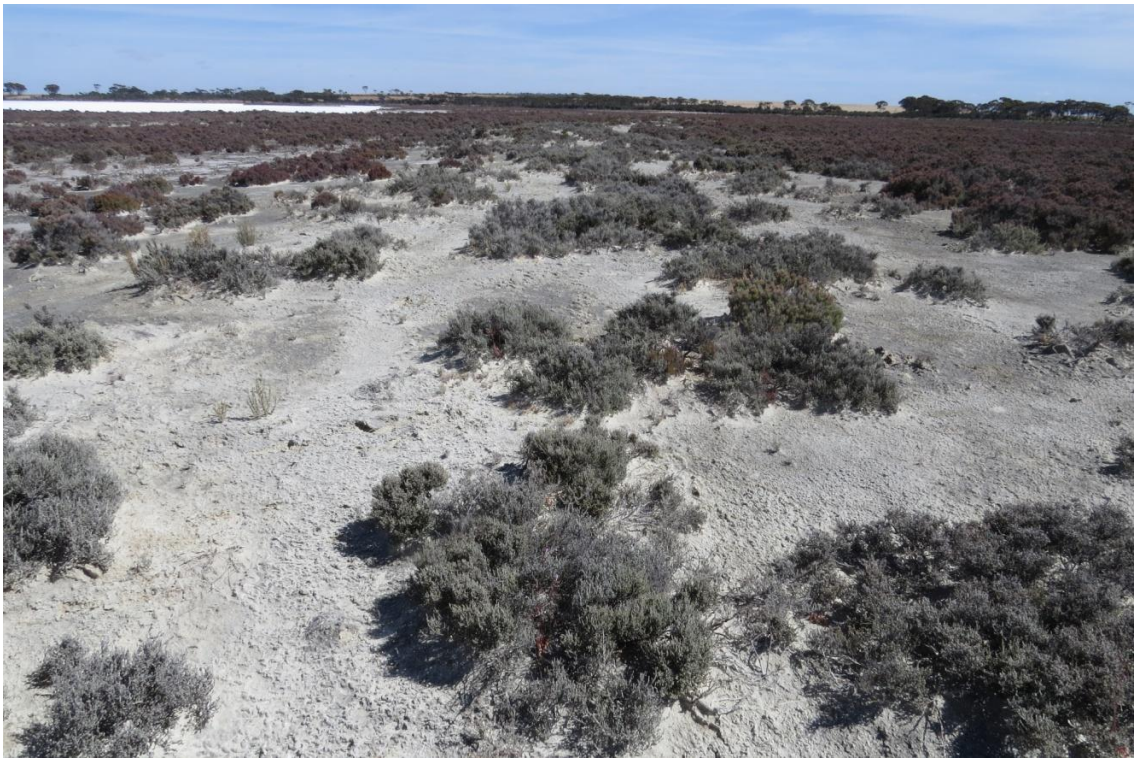
Appendix 1
Quadrat Descriptions

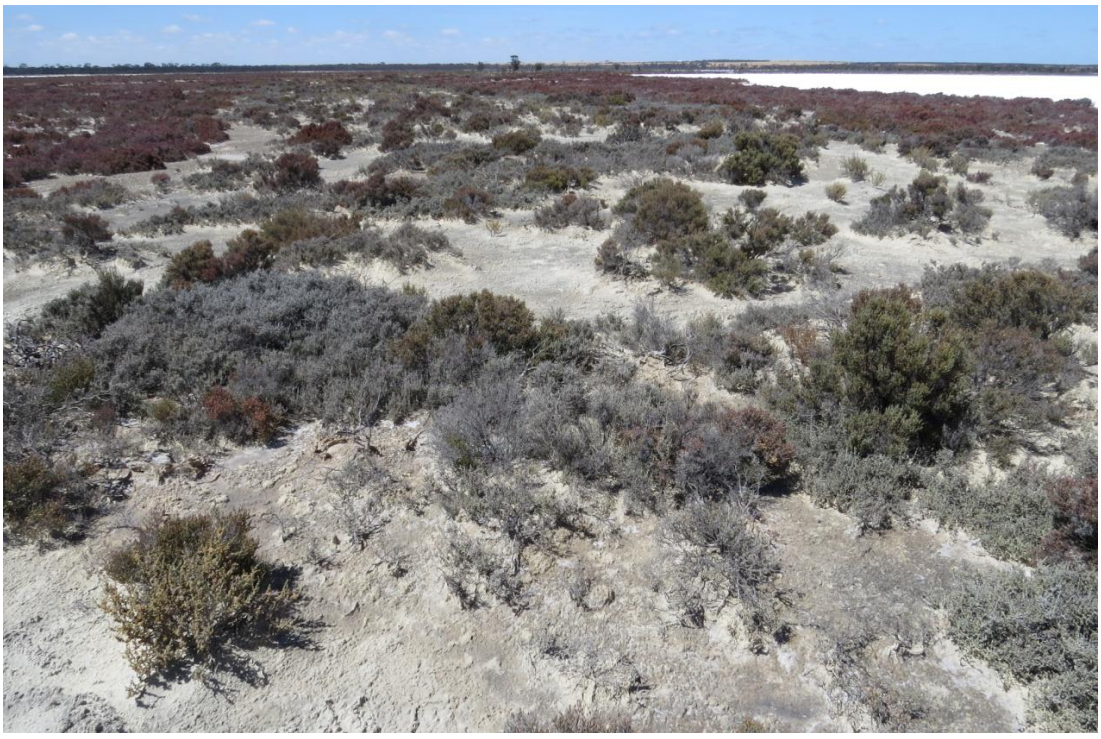
Quadrat 1: 10x10m **Mixed species shrubland** **Date Surveyed:** 21-11-16
Location/WP: 004
GPS (GDA 94): 32˚ 58' 33.3" 119˚ 42' 21.3"
Soils and topography: Ridge/rise on salt lake, gypsum soils 318m
Photograph reference: 3199, 3200
Diagnosis (Muir 1977): Dwarf Scrub D (SDi)
NVIS: open chenopod shrubland (G1\^chenopod shrub, samphire shrub, shrub, forb, rush\1\i)
Condition: Excellent, scattered weed species

Growth Form	Species	Height cm	% canopy cover
Shrub	*Maireana oppositifolia* 7832	30	20
Shrub	*Tecticornia syncarpa* 7835	40	5
Shrub	*Tecticornia loriae* 7836	40	
Shrub	*Lawrencia squamata* 7833	40	<2
Shrub	*Frankenia* sp southern gypsum 7834 P3	10	<2
Shrub	*Disphyma crassifolium*	10	2
Perennial herb	*Lawrencia glomerata*	20	<2
Perennial herb	*Calandrinia* sp. ?Meckering	25	<2
Annual herb	*Isotoma scapigera* 7840	8	<2
Annual herb	*Trichanthodium skirrophorum* 7838	8	<2
Annual herb	*Haegiela tatei* 7841 P4	8	<2
Sedge/rush	*Triglochin minutissima* 7831	5	<2
Perennial herb	**Spergularia rubra 7830*	5	<2
Annual herb	**Sonchus oleraceus 7837*	25	<2
Grass	**Paraphosis incurva 7839*	5	<2



Quadrat 2: 10x10m **Mixed species shrubland** **Date Surveyed:** 21-11-16
Location/WP: 012
GPS (GDA 94): 32˚ 58' 34.3" 119˚ 41' 54.6"
Soils and topography: Ridge/rise on salt lake, gypsum soils 317m
Photograph reference: 3221, 3222
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: chenopod shrubland (G1\^chenopod shrub, samphire shrub, shrub, forb, grass\1\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Maireana oppositifolia*	30	30
Shrub	*Tecticornia halocnemoides* subsp *caudata* 7848	40	10
Shrub	*Tecticornia moniliformis* 7849	40	
Shrub	*Lawrencia squamata*	30	5
Shrub	*Frankenia* sp southern gypsum 7843 P3	10	5
Shrub	*Disphyma crassifolium*	10	2
Shrub	*Kippistia suaedifolia* 7850	10	<2
Perennial herb	*Calandrinia* sp.?Meckering	25	<2
Annual herb	*Isotoma scapigera*	10	<2
Annual herb	*Asteridea chaetopoda* 7846	8	<2
Grass	Austrostipa pycnostachya 7845	50	<2
Grass	Austrostipa ?puberula 7847	50	<2
	Adjacent		
Annual herb	**Sonchus oleraceus*		
Perennial herb	*Carpobrotus modestus*		
vine	*Billarderia lehmanniana*		



Quadrat 3: 10x10m ***Casuarina obesa* open woodland** **Date Surveyed:** 21-11-16

Location/WP: 013
GPS (GDA 94): 32˚ 58' 40.7" 119˚ 41' 54.2"
Soils and topography: Ridge/dune on salt lake, gypsum soils 319m
Photograph reference: 3256, 3257
Diagnosis (Muir 1977): Open Low Woodland B over Dwarf Scrub D (LBr.SDi)
NVIS: open woodland over open chenopod shrubland (U1+\^tree\6\r;G1\^ chenopod shrub, samphire shrub, shrub, grass\1\i)
Condition: Excellent some dead trees

Growth Form	Species	Height cm	% canopy cover
Tree	*Casuarina obesa*	400-600	5
Shrub	*Maireana oppositifolia*	30	5
Shrub	*Tecticornia moniliformis* 7852	40	5
Shrub	*Lawrencia squamata*	30	5
Shrub	*Rhagodia drummondii* 7851	40	<2
Shrub	Threlkeldia diffusa	30	<2
Grass	Austrostipa pycnostachya	50	<2
	Adjacent		
Perennial herb	*Calandrinia* sp.?Meckering		
Perennial Herb	*Dianella brevicaulis*		
Annual herb	*Isotoma scapigera*		
Annual herb	*Asteridea chaetopoda*		

Quadrat 4: 10x10m ***Casuarina obesa* open woodland** **Date Surveyed:** 21-11-16
Location/WP: 023
GPS (GDA 94): 32˚ 58' 59.9" 119˚ 41' 33.6"
Soils and topography: Ridge/dune on salt lake, gypsum soils 319m
Photograph reference: 3320, 3321, 3324.
Diagnosis (Muir 1977): Open Low Woodland B over Low Scrub B over Dwarf Scrub D (LBr.SBi.SDi)
NVIS: open woodland****open shrubland\open samphire shrubland (U1\^tree\6\r;M1+\^shrubs\3\i;G1\^samphire shrub, chenopod shrub, shrub\1\i)
Condition: Excellent, weed

Growth Form	Species	Height cm	% canopy cover
Tree	*Casuarina obesa*	300-400	5
Shrub	*Melaleuca halmaturorum* 7862	250	<2
Shrub	*Darwinia* sp Karonie	100-150	10
Shrub	*Rhagodia drummondii* 7861	100	<2
Shrub	*Exocarpos aphyllus*	100-150	<2
Shrub	*Melaleuca halmaturorum* 7862	100-150	20
Shrub	*Maireana erioclada* 7858	20	<2
Shrub	*Tecticornia moniliformis* 7859, 7860	30	20
Shrub	*Leucopogon* sp Kau Rock 7857	50	<2
	Adjacent		
Grass	*Austrostipa juncifolia*		
vine	*Billardiera lehmanniana*		
Perennial Herb	*Dianella revoluta*		
Annual Herb	**Ursinia anthemoides*		
Shrub	*Melaleuca thyoides*		

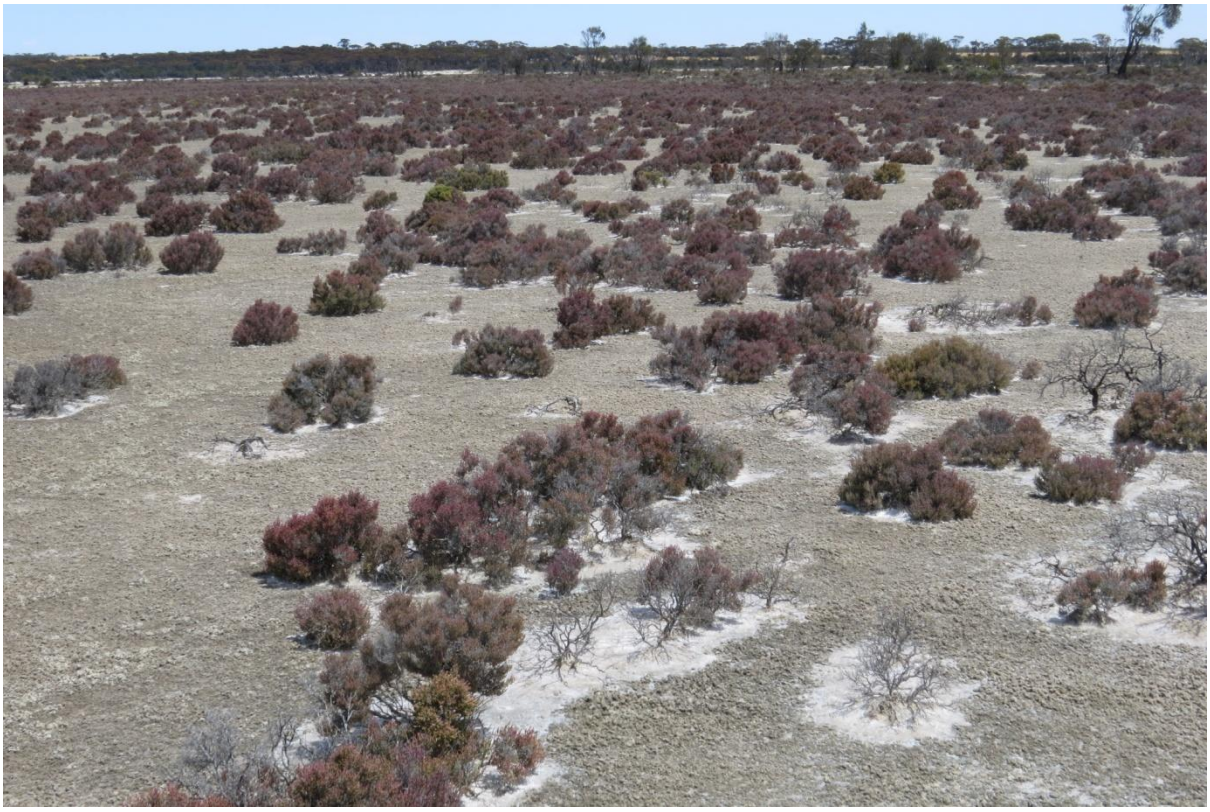
Quadrat 5: 10x10m ***Casuarina obesa* open woodland** **Date Surveyed:** 21-11-16
Location/WP: 025
GPS (GDA 94): 32˚ 59' 06.7" 119˚ 41' 21.3"
Soils and topography: Ridge/dune on salt lake, gypsum soils 317m
Photograph reference: 3352, 3353
Diagnosis (Muir 1977): Open Low Woodland B over Open Dwarf Scrub C over Dwarf Scrub D (LBr.SCr.SDi)
NVIS: open woodland\sparse shrubland\open samphire shrubland (U1+\^tree\6\r;G1\^shrub\2\r;G2\^samphire shrub, chenopod shrub, shrub, grass, sedge, forb, rush, vine\1\i)
Condition: Excellent, weed

Growth Form	Species	Height cm	% canopy cover
Tree	*Casuarina obesa*	300-400	5
Shrub	*Alyxia buxifolia*	150	<2
Shrub	*Darwinia* sp Karonie	100	5
Shrub	*Tecticornia moniliformis* 7865	40	20
Shrub	*Maireana brevifolia*	30	<2
Shrub	*Maireana oppositifolia*	40	<2
Shrub	*Zygophyllum aurantiacum* 7864	10	<2
Grass	*Austrostipa pycnostachya*	50	<2
Sedge	*Gahnia ancistrophylla* 7863	50	<2
Vine	*Comesperma integerrimum*		<2
Perennial Herb	*Carpobrotus modestus*	10	<2
Perennial Herb	**Mesembryanthemum nodiflorum*	10	<2
Perennial Herb/rush	Dianella revoluta	100	<2
Herb	Isotoma scapigera	10	<2
	Adjacent		
Shrub	*Melaleuca halmaturorum*		

Quadrat 6: 10x10m **Tecticornia (samphire) shrubland** **Date Surveyed:** 21-11-16

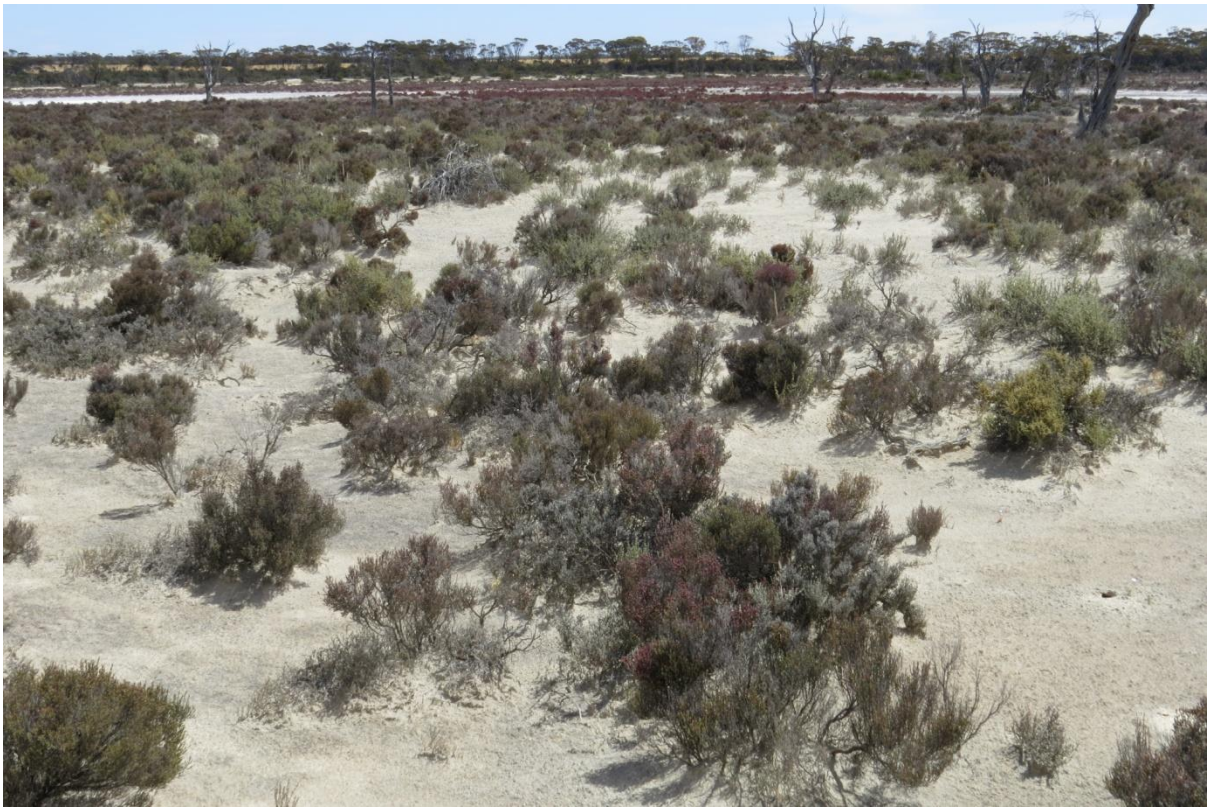
Location/WP: 027
GPS (GDA 94): 32˚ 59' 14.1" 119˚ 41' 13.4"
Soils and topography: lake bed, flat terrain, gypsum soils over clay 319m
Photograph reference: 3358, 3359, 3360.
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: samphire shrubland (G1+\^samphire shrub, forb\1\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Tecticornia halocnemoides* subsp *caudata* 7867	25	50
Shrub	*Tecticornia loriae* 7866	30	
Perennial herb	*Calandrinia* sp.?Meckering	25	<2



Quadrat 7: 10x10 **Mixed species shrubland** **Date Surveyed:** 21-11-16
Location/WP: 029
GPS (GDA 94): 32˚ 59' 18.9" 119˚ 41' 07.0" (NE corner)
Soils and topography: Low ridge/rise on salt lake, gypsum soils 320m
Photograph reference: 3366, 3367
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: chenopod shrubland (G1+\^chenopod shrub, samphire shrub, shrub, forb, grass\1\c)
Condition: Excellent, some dead trees

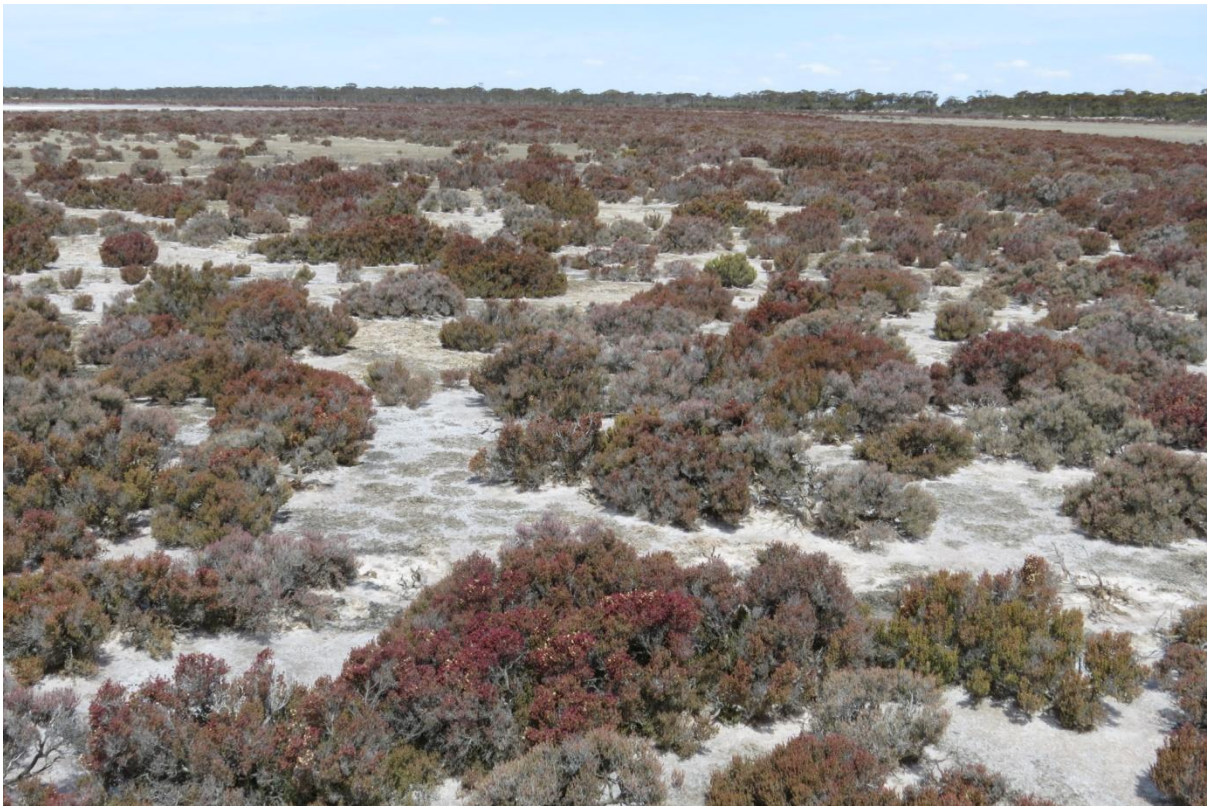
Growth Form	Species	Height cm	% canopy cover
Shrub	*Maireana oppositifolia*	30	30
Shrub	*Tecticornia* moniliformis 7871	25	30
Shrub	*Tecticornia* syncarpa 7872	25	
Shrub	*Lawrencia squamata*	30	<2
Shrub	*Frankenia* sp southern gypsum 7869 P3	10	<2
Perennial herb	*Calandrinia* sp.?Meckering	25	<2
Annual herb	*Isotoma scapigera*	10	<2
Annual herb	*Fitzwillia axilliflora* 7868 P2	8	<2
Grass	*Austrostipa pycnostachya*	50	<2
	Adjacent		
Shrub	*Alyxia buxifolia*		
Perennial herb	*Dianella revoluta*		



Quadrat 8: 10x10m **Tecticornia (samphire) shrubland** **Date Surveyed:** 21-11-16

Location/WP: 033
GPS (GDA 94): 32˚ 59' 36.5" 119˚ 40' 49.9"
Soils and topography: lake bed, flat terrain, gypsum soils over clay 318m
Photograph reference: 3395, 3396, 3397
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: samphire shrubland (G1+\^samphire shrub\1\c)
Condition: Excellent

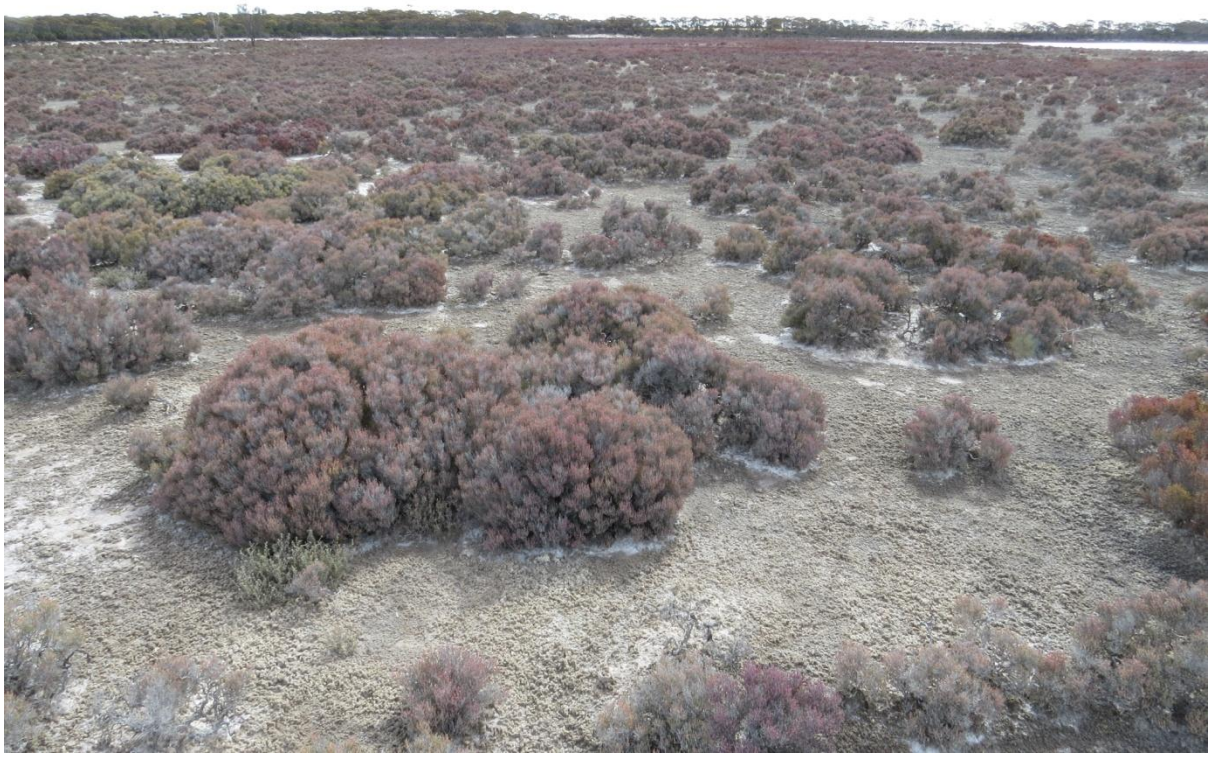
Growth Form	Species	Height cm	% canopy cover
Shrub	*Tecticornia peltata* 7874	30	70
Shrub	*Tecticornia loriae* 7873	30	



Quadrat 9: 10x10m **Tecticornia (samphire) shrubland** **Date Surveyed:** 21-11-16

Location/WP: 038
GPS (GDA 94): 32˚ 59' 38.1" 119˚ 41' 13.2"
Soils and topography: lake bed, flat terrain, gypsum soils over clay 319m
Photograph reference: 3433, 3434
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: samphire shrubland (G1+\^samphire shrub, shrub, forb \1\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Tecticornia peltata* 7892	25	60
Shrub	*Tecticornia loriae* 7891	25	
Shrub	*Frankenia* sp southern gypsum P3	8	<2
Perennial herb	*Calandrinia* sp.?Meckering 7893	25	<2



Quadrat 10: 10x10m ***Casuarina obesa* open woodland** **Date Surveyed:** 21-11-16
Location/WP: 040
GPS (GDA 94): 32˚ 59' 34.3" 119˚ 41' 24.6"
Soils and topography: Ridge/dune on salt lake, gypsum soils 317m
Photograph reference: 3435, 3436
Diagnosis (Muir 1977): Open Low Woodland B over Low Scrub B over Open Dwarf Scrub D (LBr.SBi.SDr)
NVIS: open woodland\open shrubland\sparse chenopod shrubland (U1+\^tree \6\r;M1\^shrub\3\i;G1\^chenopod shrub, samphire shrub\1\r)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Tree	*Casuarina obesa*	300-400	5
Shrub	*Melaleuca halmaturorum*	150	10
Shrub	*Darwinia* sp Karonie	100	5
Shrub	*Leucopogon* sp Kau Rock	100	<2
Shrub	*Maireana oppositifolia*	30	5
Shrub	*Tecticornia ?moniliformis*	30	5
	Adjacent		
Grass	*Austrostipa juncifolia*		
Shrub	*Alyxia buxifolia*		
Shrub	*Lawrencia squamata*		
Shrub	*Zygophyllum aurantiacum*		
Sedge	*Gahnia ancistrophylla*		

Quadrat 11: 10x10m **Tecticornia (samphire) shrubland** **Date Surveyed:** 21-11-16

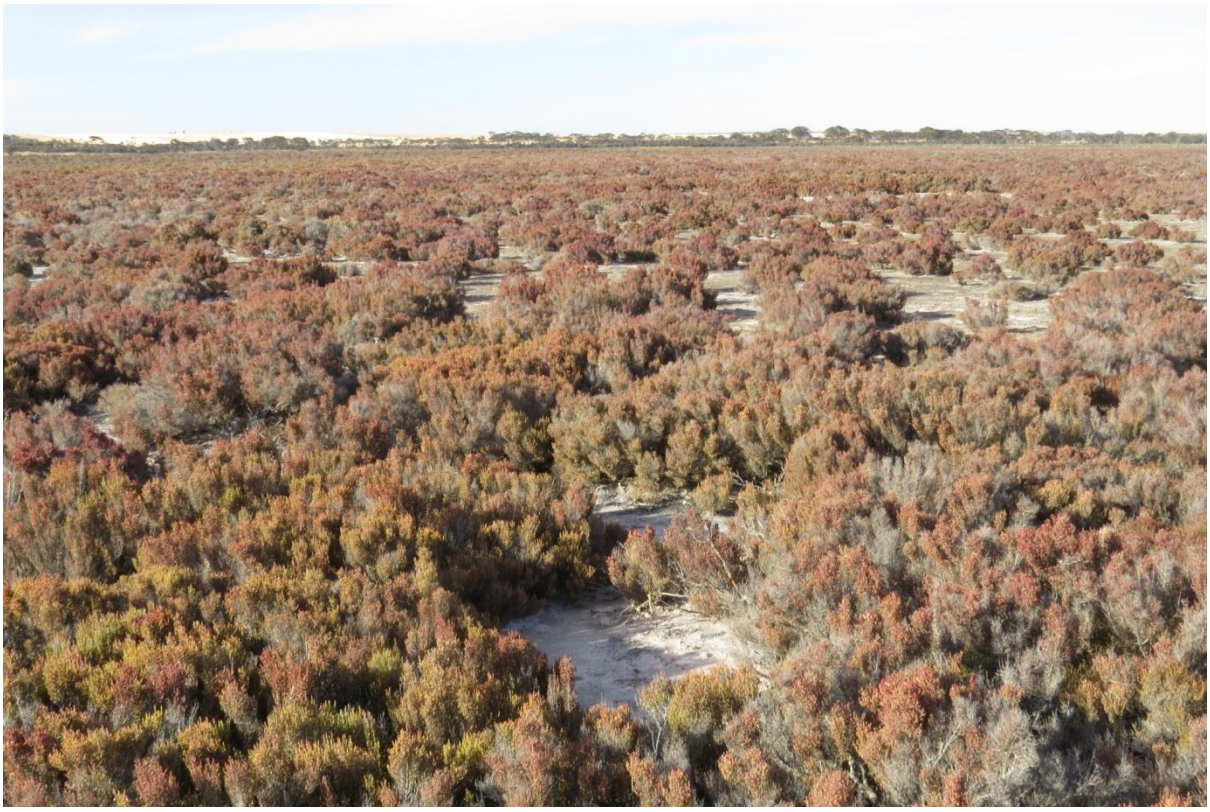
Location/WP: 043
GPS (GDA 94): 32˚ 59' 20.1" 119˚ 41' 38.5"
Soils and topography: lake bed, flat terrain, gypsum soils over clay 319m
Photograph reference: 3447, 3448, 3449
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: samphire shrubland (G1+\^samphire shrub, shrub\1\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Tecticornia peltata* 7898, 7896	25	60
Shrub	*Tecticornia loriae* 7897	30	
Shrub	*Tecticornia halocnemoides* 7894	25	
Shrub	*Frankenia* sp southern gypsum 7895 P3	5	<2

Quadrat 12: 10x10m **Tecticornia (samphire) shrubland** **Date Surveyed:** 21-11-16

Location/WP: 050
GPS (GDA 94): 32˚ 58' 54.1" 119˚ 41' 54.7"
Soils and topography: Lake bed, flat terrain, gypsum soils over clay 319m
Photograph reference: 3476, 3477, 3478
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: samphire shrubland (G1+\^samphire shrub, shrub\1\c)
Condition: Excellent

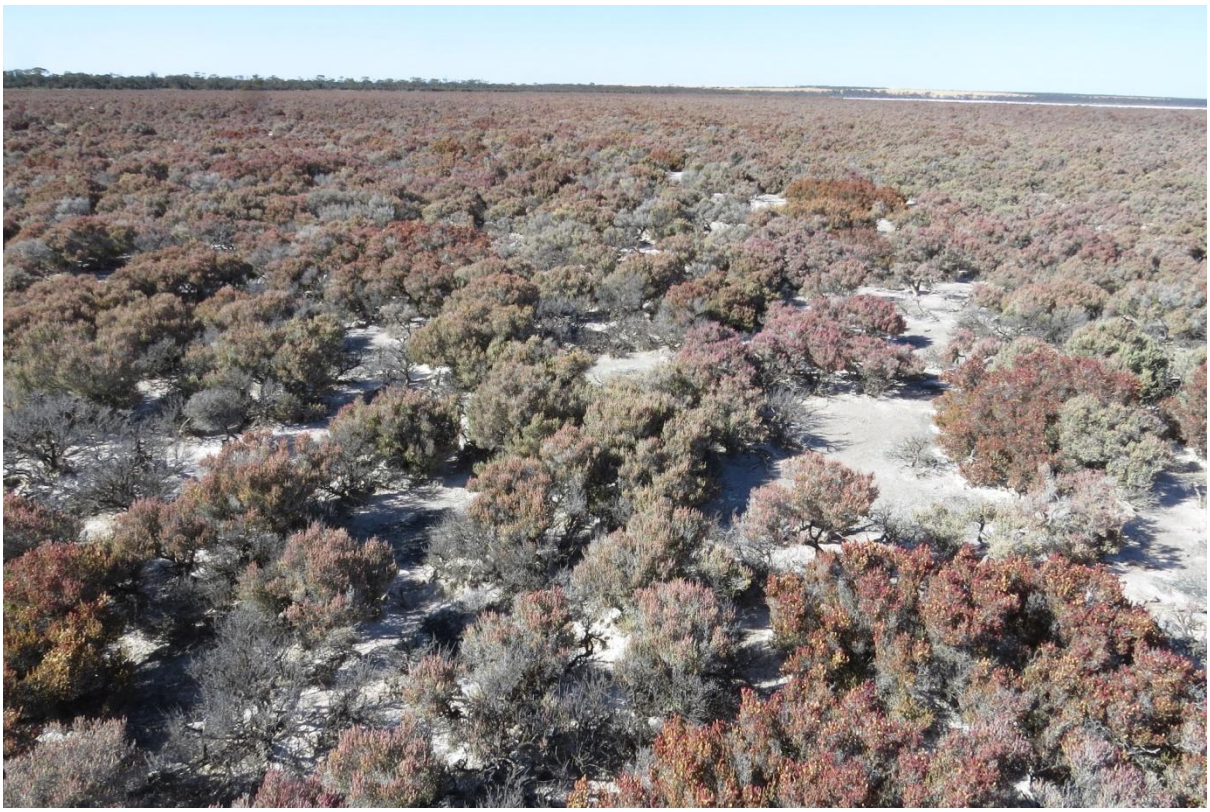
Growth Form	Species	Height cm	% canopy cover
Shrub	*Tecticornia peltata* 7902, 7905	40	70
Shrub	*Tecticornia loriae* 7906	30	
Shrub	*Tecticornia ?halocnemoides* 7903, 7904	30	
Shrub	*Frankenia* sp southern gypsum P3 7901	5	<2



Quadrat 13: 10x10m **Tecticornia (samphire) shrubland** **Date Surveyed:** 22-11-16

Location/WP: 052
GPS (GDA 94): 32˚ 58' 46.4" 119˚ 42' 26.9"
Soils and topography: Lake bed, flat terrain, gypsum soils 319m
Photograph reference: 3480, 3481, 3482, 3483
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: samphire shrubland (G1+\^samphire shrub\1\c)
Condition: Excellent

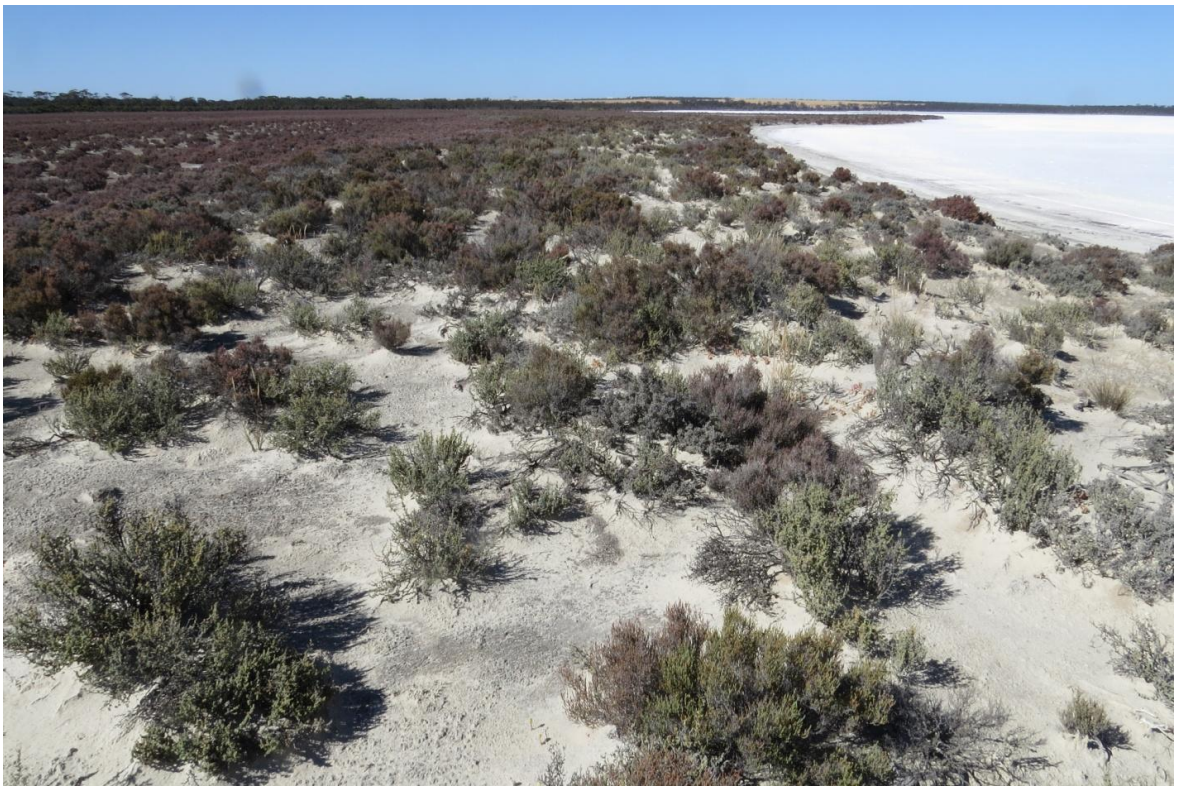
Growth Form	Species	Height cm	% canopy cover
Shrub	*Tecticornia peltata* 7913	40	70
Shrub	*Tecticornia loriae* 7914	30	
	Adjacent		
Perennial Herb	*Calandrinia* sp ?Meckering	25	<2



Quadrat 14: 5x20m **Mixed species shrubland** **Date Surveyed:** 22-11-16

Location/WP: 056
GPS (GDA 94): 32˚ 59' 09.2" 119˚ 42' 14.4"
Soils and topography: Ridge/rise on salt lake, gypsum soils
Photograph reference: 3484, 3485
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: chenopod shrubland (G1+\^chenopod shrub, samphire shrub, shrub, forb, grass\1\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Maireana oppositifolia*	30	10
Shrub	*Tecticornia moniliformis* 7916, 7917	40	40
Shrub	*Lawrencia squamata*	30	10
Shrub	Disphyma crassifolium	10	2
Annual herb	*Angianthus halophilus* 7915 P3	3	<2
Annual herb	*Isotoma scapigera*	10	<2
Grass	*Austrostipa pycnostachya* 7919	50	<2
Grass	*Austrostipa ?puberula* 7918	50	<2



Quadrat 15: 10x10m **Mixed species shruband** **Date Surveyed:** 22-11-16

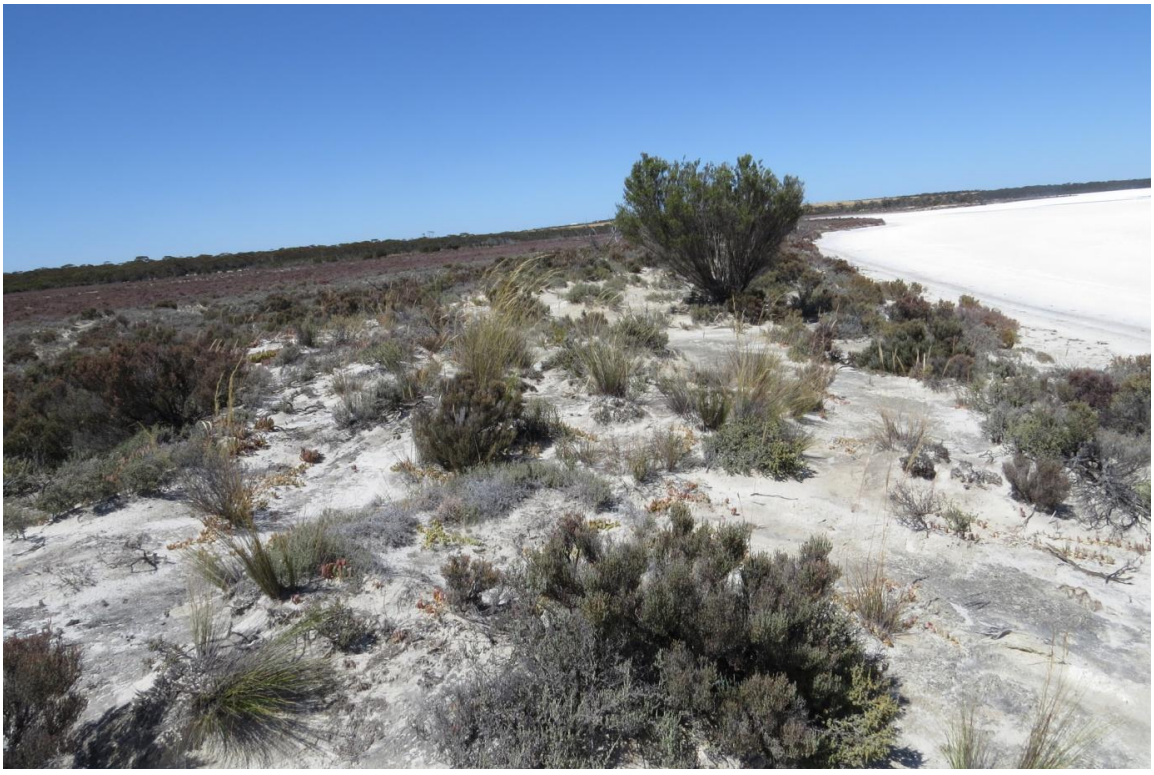
Location/WP: 061
GPS (GDA 94): 32˚ 59' 22.9" 119˚ 42' 07.5"
Soils and topography: Ridge/rise on salt lake, gypsum soils 319m
Photograph reference: 3509, 3510, 3511, 3512
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: chenopod shrubland (G1+\^chenopod shrub, samphire shrub, shrub, forb, grass\1\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Maireana oppositifolia*	30	10
Shrub	*Tecticornia moniliformis* 7922	40	20
Shrub	*Lawrencia squamata*	30	10
Shrub	*Frankenia* sp southern gypsum 7923 P3	10	<2
Perennial herb	*Calandrinia* sp.?Meckering	25	<2
Annual herb	*Angianthus halophilus* 7921 P3	3	<2
Annual herb	*Fitzwillia axilliflora* 7920 P2	8	<2
Annual herb	*Isotoma scapigera*	10	<2
Grass	Austrostipa pycnostachya	50	<2
Grass	Austrostipa ?puberula	50	<2
	Adjacent		
Shrub	*Disphyma crassifolium*	10	
Annual Herb	*Athrixia chaetopoda*	15	

Quadrat 16: 5x20m **Mixed species shrubland** **Date Surveyed:** 22-11-16

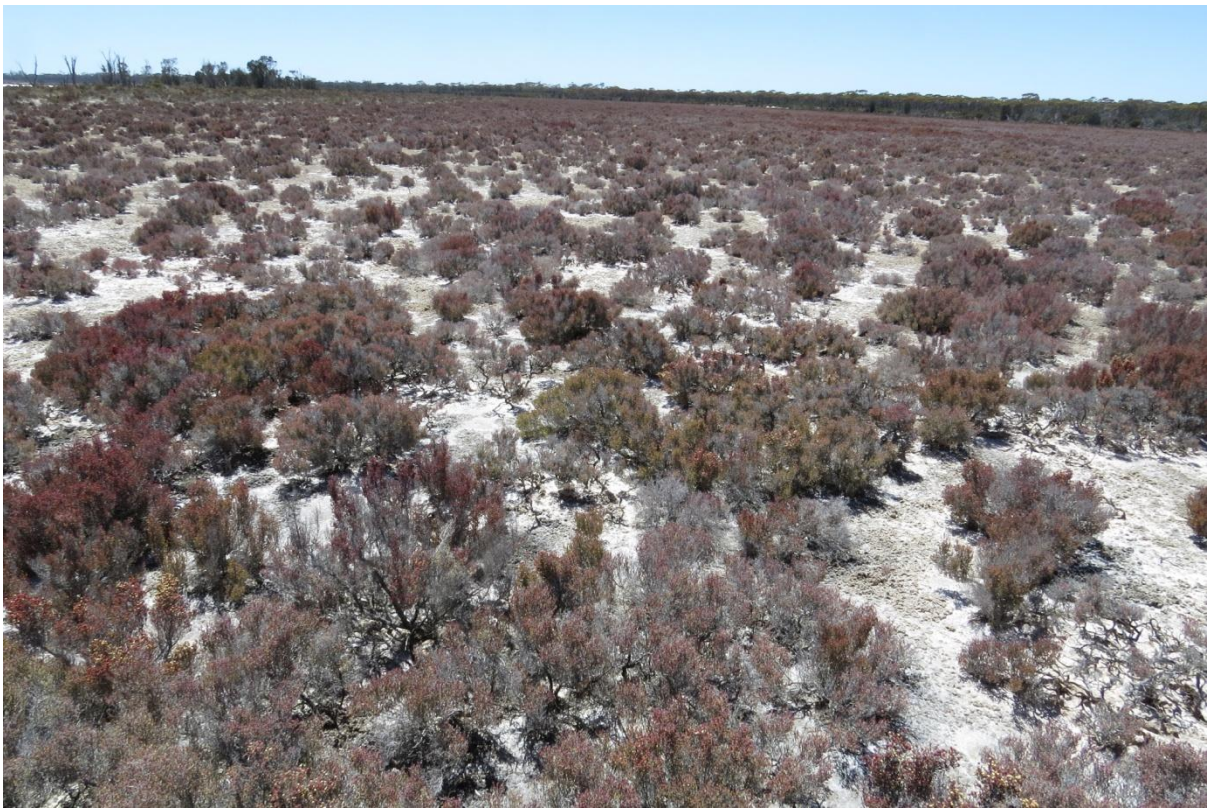
Location/WP: 063
GPS (GDA 94): 32˚ 59' 27.7" 119˚ 42' 03.0"
Soils and topography: Ridge on salt lake, gypsum soils 317m
Photograph reference: 3543, 3544
Diagnosis (Muir 1977): Low Heath D (scattered shrubs to 2.5m) (SDc)
NVIS: chenopod shrubland (M1\^shrub, grass\4\bi;G1+\^chenopod shrub, samphire shrub, shrub, grass, forb\1\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Melaleuca halmaturorum*	2.5	<2
Shrub	*Maireana oppositifolia*	30	5
Shrub	*Tecticornia* moniliformis 7924, 7926	40	30
Shrub	*Lawrencia squamata*	40	5
Shrub	*Disphyma crassifolium*	10	2
Shrub	*Frankenia cinerea* 7925	10	<2
Shrub	*Frankenia* sp southern gypsum P3	8	<2
Shrub	*Kippistia suaedifolia*	15	<2
Grass	Austrostipa geoffreyi P1	180	<2
Grass	Austrostipa pycnostachya	50	<2
Grass	Austrostipa sp 7927 sterile	50	<2
Perennial herb	*Carpobrotus modestus*	10	<2
Perennial herb	Calandrinia sp.?Meckering	25	<2
Annual herb	*Isotoma scapigera*	10	<2



Quadrat 17: 10x10m ***Tecticornia* (samphire) shrubland** **Date Surveyed:** 22-11-16
Location/WP: 072
GPS (GDA 94): 32˚ 59' 50.0" 119˚ 41' 28.5"
Soils and topography: Lake bed, flat terrain, gypsum soils over clay 318m
Photograph reference: 3595, 3596, 3597, 3598, 3599
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: samphire shrubland (G1+\^samphire shrub\1\c)
Condition: Excellent

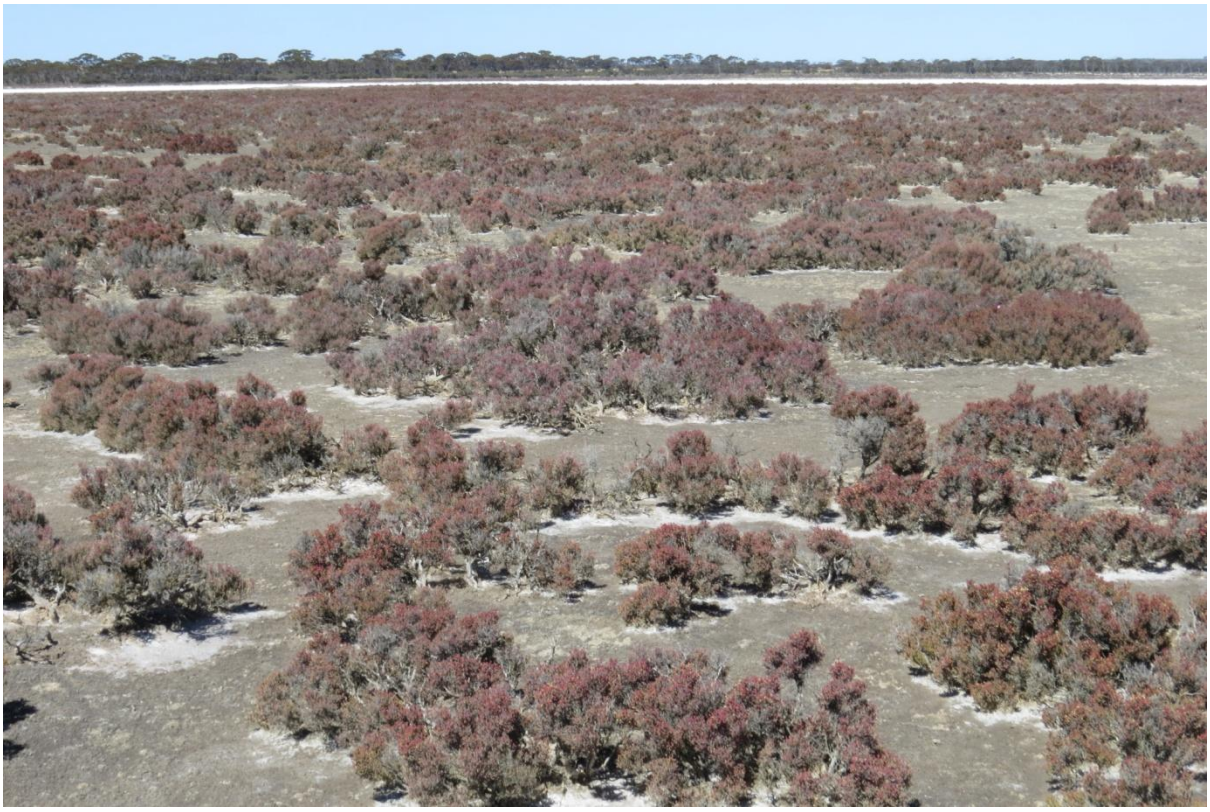
Growth Form	Species	Height cm	% canopy cover
Shrub	*Tecticornia peltata* 7931, 7932, 7934	30	50
Shrub	*Tecticornia loriae* 7933	30	



Quadrat 18 10x10**m** ***Tecticornia*** **(samphire) shrubland** **Date Surveyed:** 22-11-16

Location/WP: 095
GPS (GDA 94): 32˚ 58' 23.4" 119˚ 41' 31.0"
Soils and topography: Lake bed, flat terrain, gypsum soils over clay 318m
Photograph reference: 3666, 3670, 3671
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: samphire shrubland (G1+\^samphire shrub, forb\1\c)
Condition: Excellent

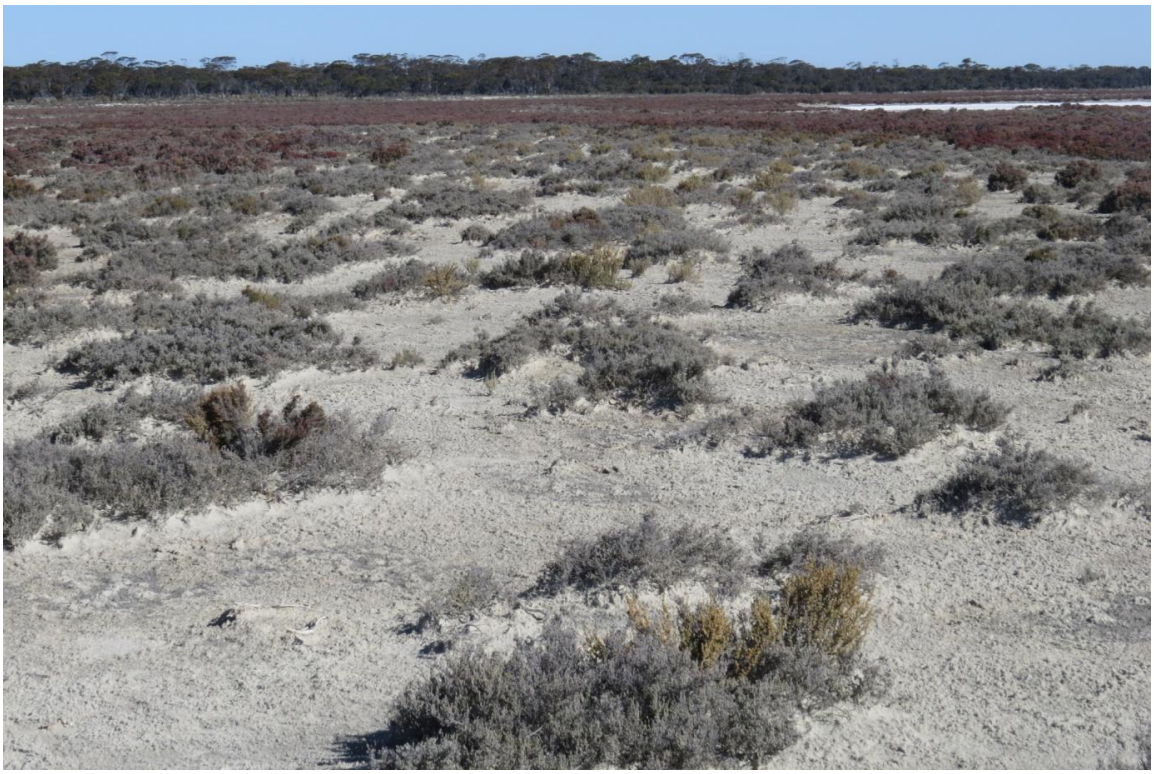
Growth Form	Species	Height cm	% canopy cover
Shrub	*Tecticornia peltata* 7945	30	50
Shrub	*Tecticornia loriae* 7946	30	
Perennial herb	*Calandrinia* sp ?Meckering	25	<2



Quadrat 19: 10x10m **Mixed species shrubland** **Date Surveyed:** 22-11-16

Location/WP: 104
GPS (GDA 94): 32˚ 58' 18.0" 119˚ 42' 13.1"
Soils and topography: Slight ridge on salt lake, gypsum soils 319m
Photograph reference: 3688, 3689
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: chenopod shrubland (G1+\^chenopod shrub, samphire shrub, shrub, forb, grass\1\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Maireana oppositifolia*	30	50
Shrub	*Tecticornia loriae* 7950, 7951	40	5
Shrub	*Lawrencia squamata*	30	10
Shrub	*Frankenia* sp southern gypsum P3	10	<2
Perennial herb	*Calandrinia* sp.?Meckering	25	<2
Annual herb	*Isotoma scapigera*	10	<2
Grass	*Eragrostis dielsii* 7949	20	<2
	Adjacent		
Perennial herb	*Lawrencia glomerata* 7947	25	
Annual herb	*Fitzwillia axilliflora* 7948 P2	10	
Herb	**Spergularia rubra*		
grass	**Parapholis incurva*		



Appendix 2
Releve Descriptions

Releve 1 **Mixed species shrubland** **Date Surveyed:** 21-11-16
Location/WP: 014
GPS (GDA 94): 32˚ 58' 44.6" 119˚ 41' 50.0"
Soils and topography: Ridge/rise on salt lake, gypsum soils 317m
Photograph reference: 3269, 3270
Diagnosis (Muir 1977): Low Heath D
NVIS: chenopod shrubland (G1\^chenopod shrub, samphire shrub, shrub, forb\1\c)

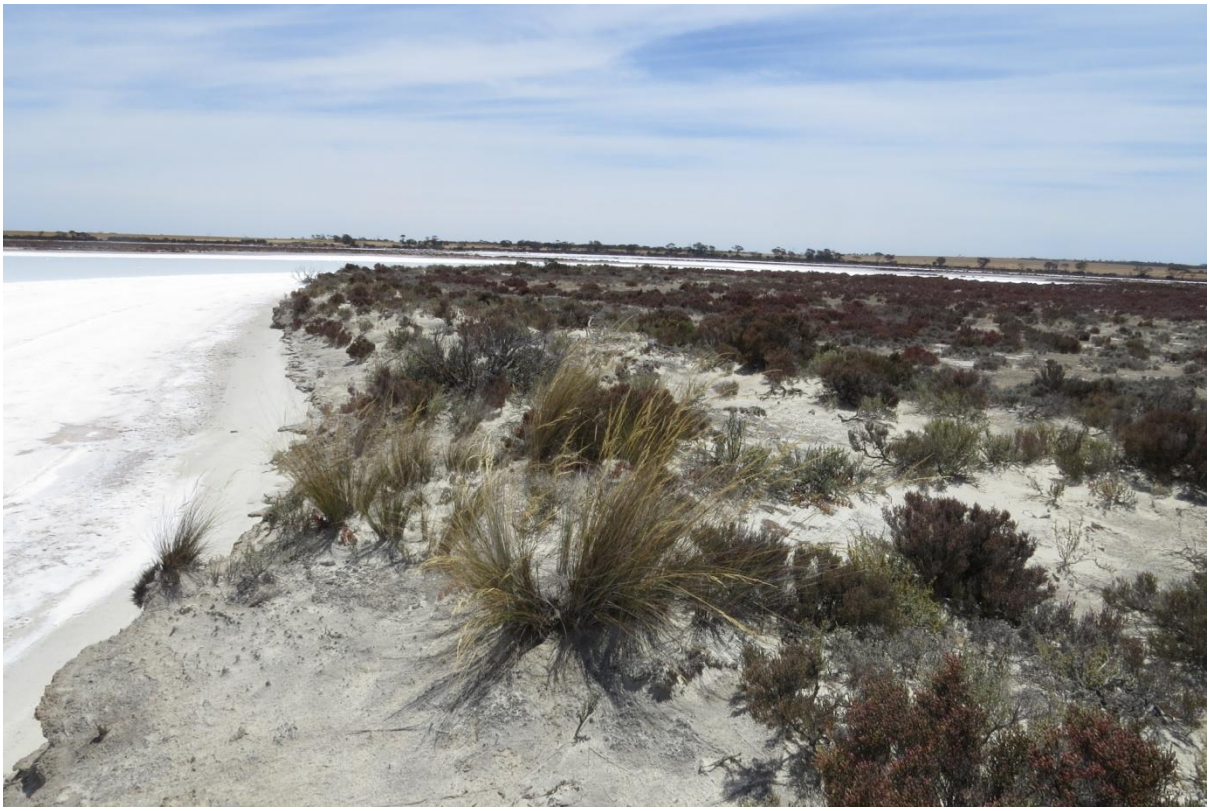
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Maireana oppositifolia*	25	30-70%
Shrub	*Tecticornia ?moniliformis*	30	
Shrub	*Lawrencia squamata*	25	
Perennial herb	*Calandrinia* sp.?Meckering	25	<2
Annual herb	*Isotoma scapigera* 7853	10	<2
Annual herb	Angianthus halophilus 7854 P3	5	<2

Releve 2 **Mixed species shrubland** **Date Surveyed:** 21-11-16

Location/WP: 017
GPS (GDA 94): 32˚ 58' 49.1" 119˚ 41' 34.0"
Soils and topography: Ridge on salt lake, edge of water, gypsum soils 319m
Photograph reference: 3282
Diagnosis (Muir 1977): Very Open Tall Grass over Low Heath D
NVIS: sparse grassland over chenopod shrubland (G1\^grass\2\r;G2+\^ chenopod shrub, samphire shrub, shrub, forb\1\c)
Condition: Excellent

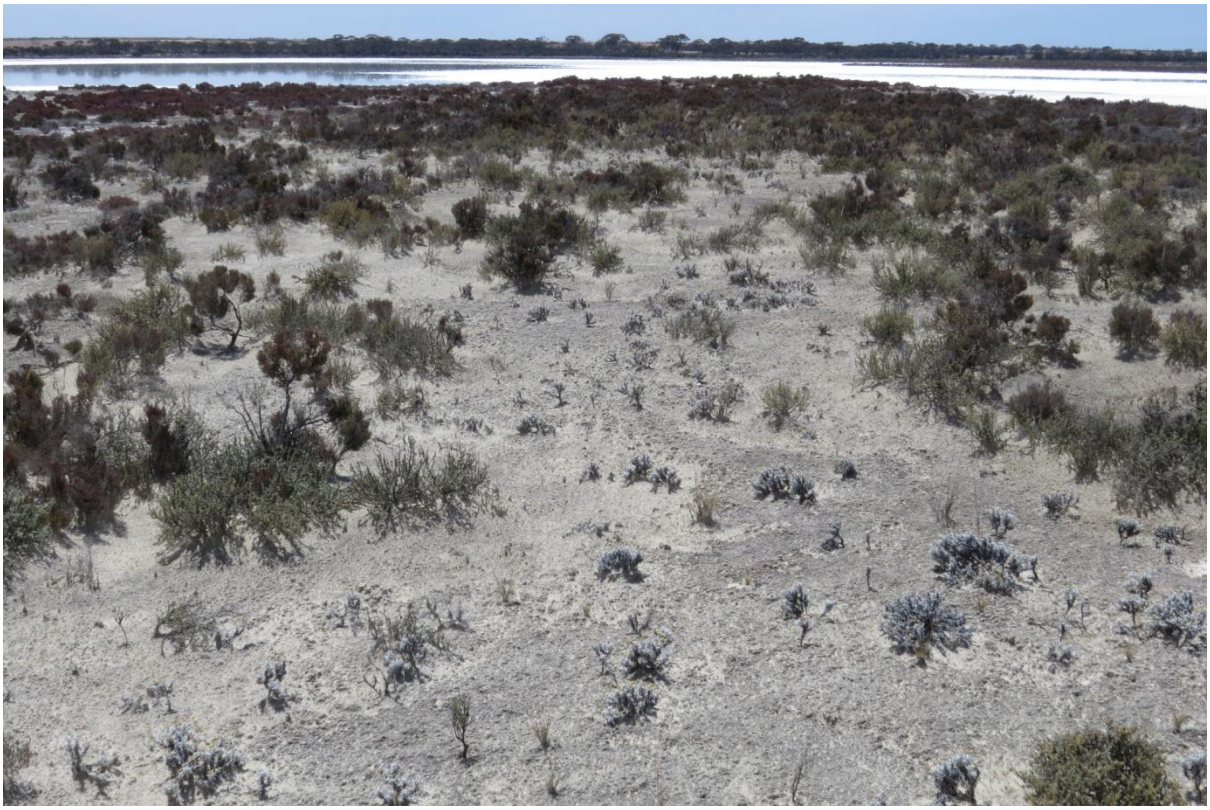
Growth Form	Species	Height cm	% canopy cover
Shrub	*Maireana oppositifolia*	30	30-70%
Shrub	*Tecticornia* species	30	
Shrub	*Lawrencia squamata*	40	
Shrub	*Frankenia* sp southern gypsum P3	10	
Shrub	*Disphyma crassifolium*	10	
Grass	Austrostipa pycnostachya	60	2-10%
Grass	Austrostipa juncifolia 7855	100	
Annual herb	*Isotoma scapigera*	10	<2



Releve 3 **Mixed species shrubland** **Date Surveyed:** 21-11-16

Location/WP: 020
GPS (GDA 94): 32˚ 58' 39.8" 119˚ 41' 35.9"
Soils and topography: Low ridge/rise on salt lake, gypsum soils 319m
Photograph reference: 3305, 3306
Diagnosis (Muir 1977): Dwarf Scrub D over Very Open Herbs (SDi.Jr)
NVIS: open chenopod shrubland over sparse forbland(G1+\^chenopod shrub, samphire shrub, shrub\1\i;G2\^forb, grass\1\r)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Maireana oppositifolia*	30	10-30
Shrub	*Tecticornia* species	30	
Shrub	*Tecticornia* species	20	
Shrub	*Lawrencia squamata*	30	
Shrub	*Frankenia* sp southern gypsum P3	10	
Shrub	*Kippistia suaedifolia*	10	
Perennial herb	*Calandrinia* sp.?Meckering	25	2-10
Annual herb	*Isotoma scapigera*	10	
Annual herb	*Asteridea chaetopoda*	8	
Grass	Austrostipa pycnostachya	80	<2
Grass	Austrostipa ?puberula	50	<2



Releve 4: ***Casuarina obesa*** **open woodland** **Date Surveyed:** 21-11-16
Location/WP: 031
GPS (GDA 94): 32˚ 59' 26.6" 119˚ 40' 58.6"
Soils and topography: Ridge/dune on salt lake, gypsum soils 318m
Photograph reference: 3390, 3391, 3392, 3393
Diagnosis (Muir 1977): Open Low Woodland B over Dwarf Scrub C over Open Dwarf Scrub D
NVIS: open woodland\open shrubland\sparse chenopod shrubland (U1+\^tree\6\r;G1\^shrub\2\i;G2\^ chenopod shrub, samphire shrub, vine\1\r)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Tree	*Casuarina obesa*	300-400	5
Shrub	*Darwinia* sp Karonie	80	
Shrub	*Melaleuca halmaturorum*	100	10-30
Shrub	*Alyxia buxifolia*	100	
Shrub	*Leucopogon* sp Kau Rock	70	
Shrub	*Melaleuca ?scalena* 7910	100	
Shrub	*Maireana brevifolia*	30	
Shrub	*Maireana oppositifolia*	40	2-10
Shrub	*Tecticornia* species	30	
Vine	*Comesperma integerrimum*		<2
	Adjacent		
Shrub	*Lawrencia squamata*		

Releve 5 ***Melaleuca* shrubland** **Date Surveyed:** 21-11-16
Location/WP: 034
GPS (GDA 94): 32˚ 59' 42.0" 119˚ 40' 48.9"
Soils and topography: Edge salt lake, brown sandy loam 322m
Photograph reference: 3405, 3406
Diagnosis (Muir 1977): Thicket over Dwarf Scrub D (scattered shrubs to 1.0m)(Sc.SDi)
NVIS: Shrubland\open chenopod shrubland (M1+\^shrub\4\c;G1\^shrub, chenopod shrub\2\bi;G2\^chenopod shrub, samphire shrub, shrub, forb, grass, vine\1\i)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Melaleuca thyoides*	300	30-70%
Shrub	*Melaleuca ?scalena*	300	
Shrub	*Melaleuca halmaturorum*	300	
Shrub	*Scaevola spinescens*	100	<2
Shrub	*Eremophila decipiens* 7880	90	<2
Shrub	*Rhagodia drummondii* 7878	80	<2
Shrub	*Cyathostemon blackettii* 7876	100	<2
Shrub	*Threlkeldia diffusa* 7882	30	10-30%
Shrub	*Maireana brevifolia* 7879	20	
Shrub	*Disphyma crassifolium*	10	
Shrub	*Frankenia tetrapetala* 7881	10	
Shrub	*Tecticornia ?pergranulata* 7877	25	
Annual Herb	*Podolepis capillaris* 7875	15	<2
Grass	*Austrostipa elegantissima*	50	<2
vine	*Comesperma integerrima*		<2
Perennial Herb	**Mesembryanthemum nodiflorum*	5	<2
Annual Herb	**Sonchus oleraceus*	30	<2

Releve 6 ***Eucalyptus salubris* woodland** **Date Surveyed:** 21-11-16

Location/WP: 036

GPS (GDA 94): 32˚ 59' 46.1" 119˚ 40' 51.8"

Soils and topography: Edge salt lake, gentle slope on higher ground, brown sandy loam

Photograph reference: 3415, 3416, 3417,3423

Diagnosis (Muir 1977): Low Forest A over Very Open Shrub Mallee over Scrub over Open Dwarf Scrub C

NVIS: open forest\sparse mallee shrubland\open shrubland\sparse shrubland (U1+\^tree\6\c;M1\^mallee shrub\6\r;M2\^shrub\4\i;G1\^shrub, chenopod shrub\2\r

Condition: Excellent, some weed

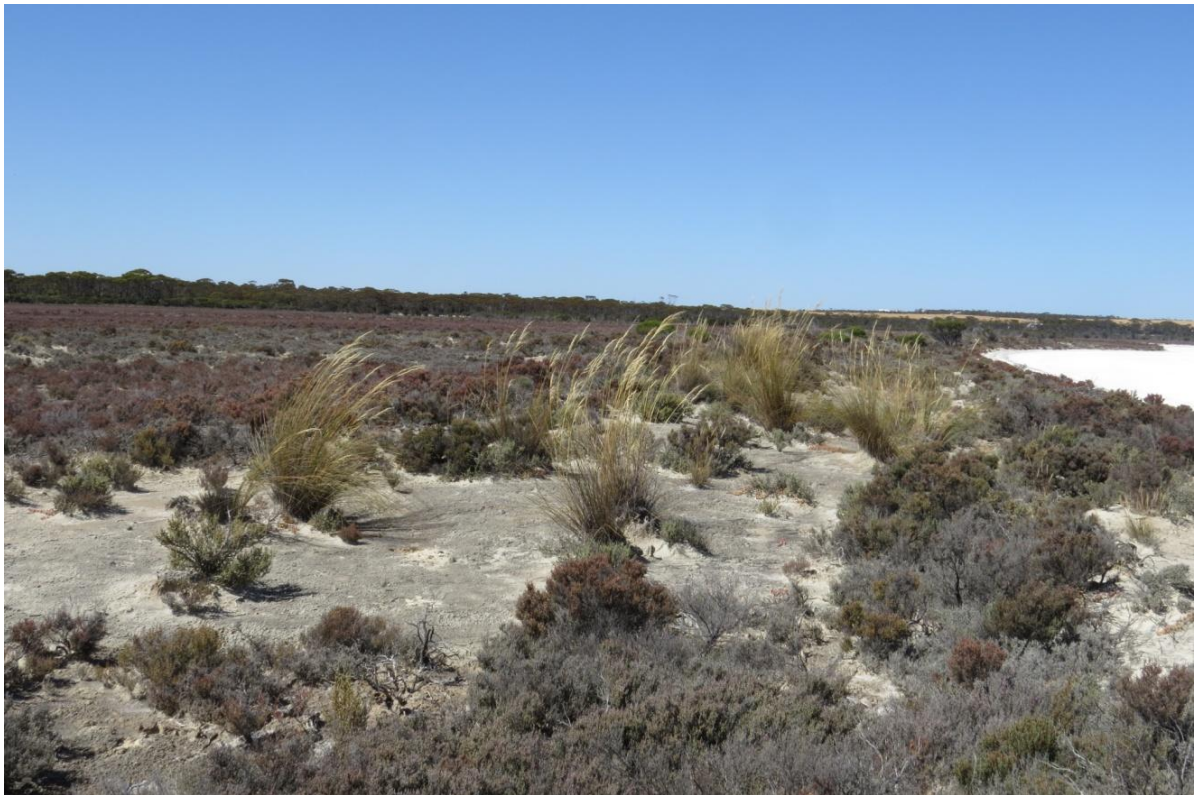
Growth Form	Species	Height cm	% canopy cover
Tree	*Eucalyptus salubris*	8	30-70
Tree	*Eucalyptus* smooth bark no bud or fruits	8	
Mallee	*Eucalyptus celastroides 7884*	6	2-10
Shrub	*Melaleuca thyoides*	300	10-30
Shrub	*Melaleuca halmaturorum*	300	
Shrub	*Eremophila decipiens*	70	2-10
Shrub	*Rhagodia drummondii*	50	
Shrub	*Cyathostemon blackettii* 7889	100	
Shrub	*Microcybe multiflora* 7888	60	
Shrub	*Phebalium filifolium* 7890	80	
Shrub	*Olearia muelleri*	50	
Shrub	*Maireana brevifolia*	40	<2
Shrub	*Threlkeldia diffusa* 7882	30	<2
Shrub	*Zygophyllum auranticum*	20	<2
Shrub	*Enchylaena tomentosa*	20	<2
Shrub	*Acacia erinacea*	20	<2
Perennial Herb	*Thysanotus lavenduliflorum* 7883	15	<2
Perennial herb	*Ptilotus holosericeus* 7885	5	<2
Annual Herb	*Angiathus tomentosus* 7886	15	<2
Annual herb	*Asteridea athrixioides* 7887	50	<2
Perennial Herb	**Mesembryanthemum nodiflorum*	5	<2
Grass	**Pentameris airoides*	30	<2

Releve 7 **Mixed species shrubland** **Date Surveyed:** 21-11-16
Location/WP: 046
GPS (GDA 94): 32˚ 59' 16.5" 119˚ 41' 54.8"
Soils and topography: Low ridge/rise on salt lake, gypsum soils 316m
Photograph reference: 3459, 3460, 3461
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: chenopod shrubland (G1+\^chenopod shrub, samphire shrub, shrub, forb, rush\1\c)
Condition: Excellent, some weed

Growth Form	Species	Height cm	% canopy cover
Shrub	*Maireana oppositifolia*	30	30-70
Shrub	*Tecticornia* species	30	
Shrub	*Tecticornia* species	25	
Shrub	*Lawrencia squamata*	30	
Shrub	*Frankenia* sp southern gypsum P3	10	
Shrub	*Disphyma crassifolium*	10	
Perennial herb	*Calandrinia* sp.?Meckering	25	<2
Perennial herb	*Carpobrotus modestus*	10	<2
Annual herb	*Isotoma scapigera*	10	<2
Annual herb	Angianthus halophilus P3	5	<2
Sedge/rush	Triglochin minutissima	8	<2
Perennial herb	**Mesembryanthemum nodiflorum*		

Releve 8 **Mixed species shrubland** **Date Surveyed:** 22-11-16
Location/WP: 062
GPS (GDA 94): 32˚ 59' 24.3" 119˚ 42' 05.3"
Soils and topography: Ridge/rise on salt lake, gypsum soils 318m
Photograph reference: 3513, 3517, 3519
Diagnosis (Muir 1977): Very Open Tall Grass over Dwarf Scrub D (GTr.SDi)
NVIS: sparse grassland\open shrubland (G1\^grass\2\r;G2+\^shrub, chenopod shrub, samphire shrub, forb\1\i)
Condition: Excellent

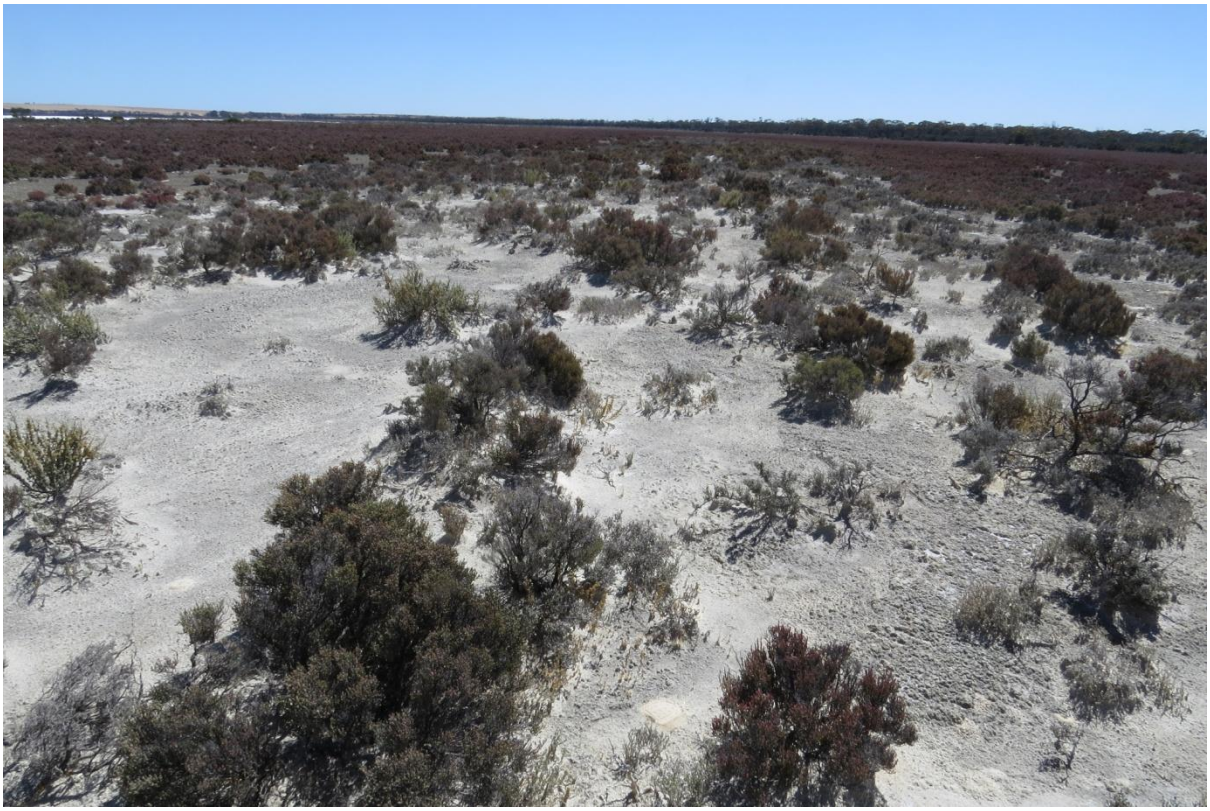
Growth Form	Species	Height cm	% canopy cover
Grass	Austrostipa geoffreyi P1 7956	180	2-10
Grass	Austrostipa pycnostachya	50	
Shrub	*Maireana oppositifolia*	30	10-30
Shrub	*Tecticornia* species	40	
Shrub	*Lawrencia squamata*	40	
Shrub	*Leucopogon* sp Kau Rock	50	
Shrub	*Darwinia* sp Karonie	50	
Shrub	*Disphyma crassifolium*	10	
Shrub	*Frankenia* sp southern gypsum P3	8	
Shrub	*Kippistia suaedifolia*	15	
Perennial herb	*Carpobrotus modestus*	12	<2
Annual herb	*Athrixia chaetopoda*	15	<2
Annual herb	*Isotoma scapigera*	10	<2
	Adjacent		
Shrub	*Melaleuca halmaturorum*		



Releve 9 **Mixed species shrubland** **Date Surveyed:** 22-11-16

Location/WP: 064
GPS (GDA 94): 32˚ 59' 31.45" 119˚ 42' 03.75"
Soils and topography: Ridge/rise on salt lake, gypsum soils 318m
Photograph reference: 3545, 3546, 3547
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: chenopod shrubland (G1+\^chenopod shrub, samphire shrub, shrub, forb,\1\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Maireana oppositifolia*	30	30-70
Shrub	*Tecticornia ?peltata*	40	
Shrub	*Lawrencia squamata*	50	
Shrub	*Frankenia* sp southern gypsum P3	5	
Annual herb	*Angianthus halophilus* P3	5	<2
Annual herb	*Fitzwillia axilliflora* P2	8	<2



Releve 10: ***Casuarina obesa*** **open woodland** **Date Surveyed:** 22-11-16
Location/WP: 069
GPS (GDA 94): 32˚ 59' 42.4" 119˚ 41' 42.9"
Soils and topography: Ridge/dune on salt lake, gypsum soils 318m
Photograph reference: 3556, 3557
Diagnosis (Muir 1977): Open Low Woodland B over Dwarf Scrub C over Dwarf Scrub D over Very Open Low Sedges (in places) (LBr.SCi.VLr)
NVIS: open woodland\open shrubland\open chenopod shrubland (U1+\^tree\6\r;G1\^shrub, grass, vine\2\i;G2\^chenopod shrub, samphire shrub, shrub, sedge, rush\1\i)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Tree	*Casuarina obesa*	300-500	10
Shrub	*Alyxia buxifolia*	100	10-30
Shrub	*Darwinia* sp Karonie	80	
Shrub	*Leucopogon* sp Kau Rock	60	
Shrub	*Melaleuca halmaturorum*	100-150	
Shrub	*Maireana brevifolia*	30	10-30
Shrub	*Maireana oppositifolia*	30	
Shrub	*Tecticornia moniliformis* 7929	30	
Shrub	*Lawrencia squamata*	40	
Shrub	*Zygophyllum aurantiacum*	20	
Shrub	*Rhagodia drummondii*	50	
Sedge	*Lepidosperma ?tenue* 7928	50	2-10
Grass	*Austrostipa juncifolia* 7930	80	<2
vine	*Comesperma integerrimum*		<2
vine	*Billardiera lehmanniana*		<2
Perennial Herb/rush	*Dianella brevicaulis*	40	<2

Releve 11 ***Melaleuca*** **shrubland** **Date Surveyed:** 22-11-16
Location/WP: 074
GPS (GDA 94): 32˚ 59' 53.0" 119˚ 41' 47.65"
Soils and topography: Edge salt lake, sandy soils over clay 321m
Photograph reference: 3600, 3601, 3602
Diagnosis (Muir 1977): Thicket (Sc)
NVIS: shrubland/isolated samphire shrubs (M1+\^shrub\4\c;G1\^samphire shrub, shrub\1\bi)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Melaleuca brophyi* 7935	200-300	
Shrub	*Melaleuca thyoides*	200-300	30-70%
Shrub	*Melaleuca ?scalena*	200-300	
Shrub	*Melaleuca halmaturorum*	200-300	
Shrub	*Tecticornia ?pergranulata*	25	<2
Shrub	*Disphyma crassifolium*	10	<2

Releve 12 ***Eucalyptus kondininensis*** **woodland** **Date Surveyed:** 22-11-16
Location/WP: 075
GPS (GDA 94): 32˚ 59' 53.4" 119˚ 41' 49.7"
Soils and topography: Edge salt lake, higher ground, loamy sand over clay 321m
Photograph reference: 3609, 3610, 3611
Diagnosis (Muir 1977): Low Woodland A over Thicket (Lai.Sc)
NVIS: woodland\shrubland (U1+\^tree\6\i;M1\^shrub\4\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Tree	*Eucalyptus kondininensis*	800	10-30
Tree	*Eucalyptus* smooth bark no buds and fruits	800	
Shrub	*Melaleuca brophyi*	200-300	
Shrub	*Melaleuca thyoides*	200-300	
Shrub	*Melaleuca ?scalena*	200-300	30-70%
Shrub	*Melaleuca halmaturorum*	200-300	
Shrub	Cyathostemon blackettii	100	<2

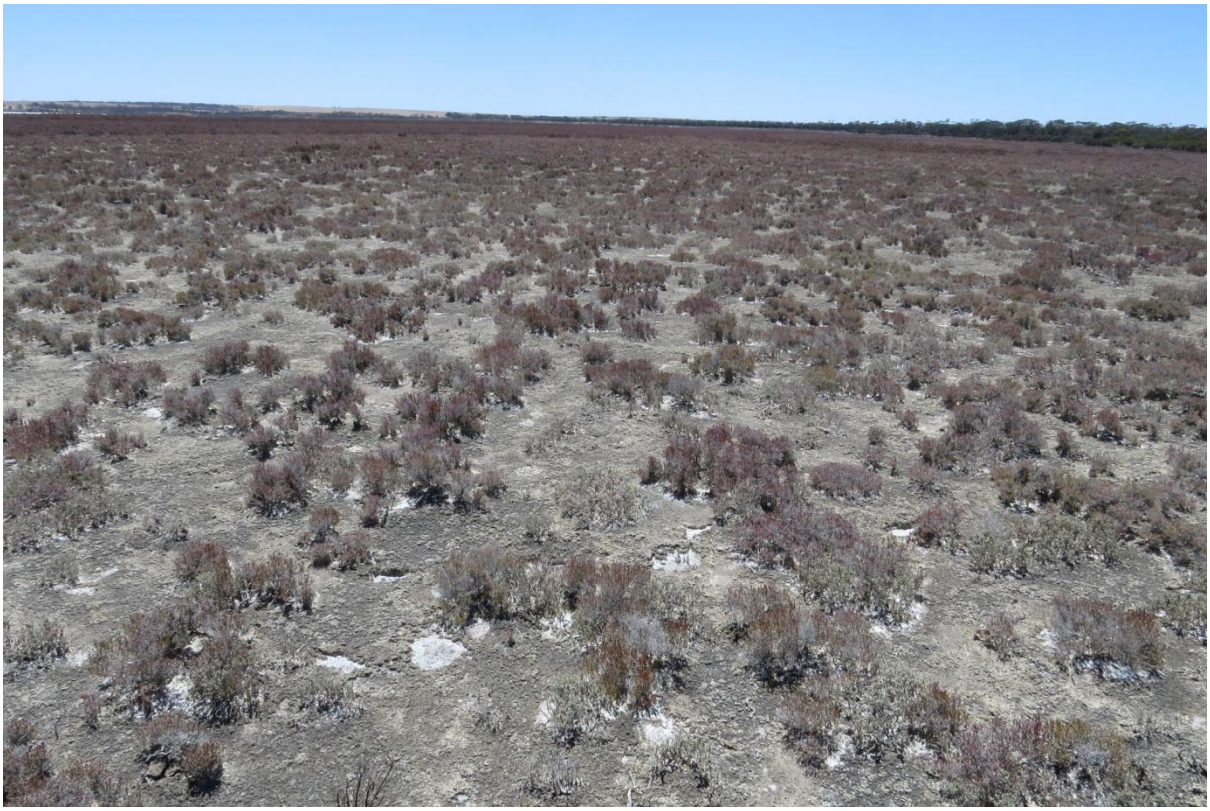
Releve 13 ***Eucalyptus kondininensis* woodland** **Date Surveyed:** 22-11-16
Location/WP: 078
GPS (GDA 94): 32˚ 59' 53.4" 119˚ 41' 49.7"
Soils and topography: Edge salt lake, higher ground, loamy sand over clay 322m
Photograph reference: 3615, 3616, 3617, 3618, 3619, 3620
Diagnosis (Muir 1977): Low Woodland A over Thicket (Lai.Sc)
NVIS: woodland\shrubland\isolated shrubs
(U1+\^tree\6\i;M1\^shrub\4\c;G1\^shrub, rush, forb, grass\1\bi)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Tree	*Eucalyptus kondininensis*	1000	10-30
Shrub	*Melaleuca brophyi*	200-300	30-70
Shrub	*Melaleuca thyoides*	200-300	
Shrub	*Phebalium filifolium*	100	<2
Shrub	*Darwinia* sp. Karonie	50	<2
Shrub	*Threlkeldia diffusa*	30	<2
Shrub	*Conostephium roei* 7937	30	<2
Shrub	Disphyma crassifolium	8	<2
Perennial herb/rush	*Dianella revoluta*	60	<2
Perennial herb	Calandrinia eremaea 7936	10	<2
Annual herb	*Crassula exerta*	5	<2
Grass	*Neurachne alopecuroidea*	20	<2

Releve 14 **Tecticornia (samphire) shrubland** **Date Surveyed:** 22-11-16

Location/WP: 079
GPS (GDA 94): 32˚ 59' 34.6" 119˚ 42' 09.5"
Soils and topography: Lake bed, flat terrain, gypsum soils 319m
Photograph reference: 3621
Diagnosis (Muir 1977): Low Heath D (SDc)
NVIS: samphire shrubland (G1+\^samphire shrub, shrub\1\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Shrub	*Tecticornia halocnemoides* 7938	30	30-70
Shrub	*Tecticornia ?loriae*	30	
Shrub	*Frankenia* sp southern gypsum P3	10	<2
	Adjacent		
Perennial herb	*Calandrinia* sp ?Meckering	25	<2

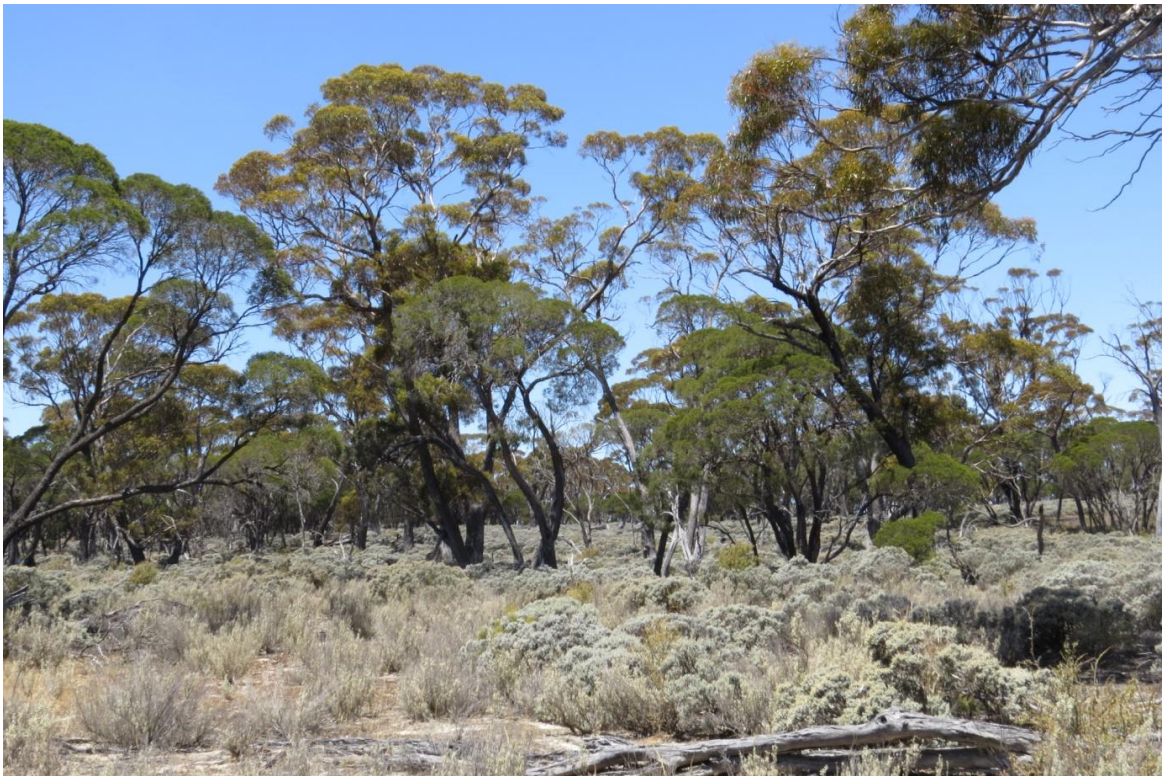


Releve 15: ***Casuarina obesa*** **open woodland** **Date Surveyed:** 22-11-16
Location/WP: 081
GPS (GDA 94): 32˚ 59' 14.2" 119˚ 42' 31.3"
Soils and topography: Edge of salt lake, gentle slope to lake bed, gypsum soils 322m
Photograph reference: 3622-23
Diagnosis (Muir 1977): Low Woodland A over Scrub over Open Dwarf Scrub D (Lai.Si.SDr)
NVIS: woodland\open shrubland\sparse chenopod shrubland (U1+\^tree\6/I;M1\^shrub\4\i;G1\^chenopod shrub, samphire shrub, shrub, forb\1\r)
Condition: Excellent, weed

Growth Form	Species	Height cm	% canopy cover
Tree	*Casuarina obesa*	400-700	10-30
Shrub	*Melaleuca halmaturorum*	200-300	10-30
Shrub	*Melaleuca thyoides*	200-300	
Shrub	*Atriplex ?paludosa* sterile 7940	50	2-10
Shrub	*Maireana oppositifolia*	30	
Shrub	*Tecticornia ?loriae* 7939	40	
Shrub	*Lawrencia squamata*	40	
Shrub	*Rhagodia drummondii*	50	
Shrub	*Disphyma crassifolium*	10	
Annual herb	*Isotoma scapigera*	10	<2
Annual herb	*Gnephosis acicularis*	15	<2
Perennial herb	**Mesembryanthemum nodiflorum*	6	<2

Releve 16 ***Eucalyptus longicornis*** **woodland** **Date Surveyed:** 22-11-16
Location/WP: 084
GPS (GDA 94): 32˚ 58' 57.9" 119˚ 42' 40.2"
Soils and topography: Edge salt lake, higher ground, loamy sand over clay 324m
Photograph reference: 3626, 3627, 3628, 3631
Diagnosis (Muir 1977): Woodland over Scrub over Low Heath C (Mi.Si.SCc)
NVIS: woodland\isolated mallee shrubs\open shrubland\shrubland\isolated chenopod shrubs
(U1+\^tree\7\i;M1\malleeshrub\6\bi;M2\^shrub\4\i;G1\^shrub, chenopod shrub\2\c;G2\^chenopod shrub/1/bi)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Tree	*Eucalyptus longicornis*	2000	10-30
Tree	*Eucalyptus kondininensis*	800	<2
Tree	*Eucalyptus* smooth bark no buds and fruits	800	<2
Mallee	*Eucalyptus ?horistes 7942* buds and fruits on ground	500	<2
Shrub	*Melaleuca quadrifaria 7941*	200-400	10-30
Shrub	*Exocarpos aphyllus*	150	<2
Shrub	*Cratystylis conocephala* 7943 range extension	100	30-70
Shrub	*Atriplex ?paludosa*	50	
Shrub	*Eremophila decipiens*	80	
Shrub	*Rhagodia drummondii*	60	
Shrub	*Lycium australis*	80	
Shrub	*Threlkeldia diffusa*	40	<2
Shrub	*Maireana brevifolia*	30	<2



Releve 17 ***Eucalyptus kondininensis* woodland** **Date Surveyed:** 22-11-16
Location/WP: 086
GPS (GDA 94): 32˚ 58' 52.0" 119˚ 42' 38.6"
Soils and topography: adjacent to salt lake, higher ground, loamy clay 320m
Photograph reference: 3647, 3648, 3649, 3650, 3651
Diagnosis (Muir 1977): Open Low Woodland A over Open Dwarf Scrub C over Low Heath D over Very Open Low Grass (LAr.SCr.SDc.GLr)
NVIS: open woodland\sparse shrubland\chenopod shrubland (U1+\^tree\6\r;G1\^shrub\2\r;G2\^chenopod shrub, samphire shrub, shrub, tussock grass\1\c)
Condition: Excellent

Growth Form	Species	Height cm	% canopy cover
Tree	*Eucalyptus kondininensis*	800	2-10
Shrub	*Eremophila decipiens*	80	2-10
Shrub	*Lycium australe*	100	
Shrub	*Atriplex ?paludosa*	50	30-70
Shrub	Lawrencia squamata	40	
Shrub	*Tecticornia* species	30	
Shrub	Frankenia tetrapetala	15	
Shrub	Disphyma crassifolium	8	
Grass	*Austrostipa elegantissima*	50	2-10
Grass	Austrostipa sp sterile 7944	30	
Grass	**Avena* species	50	
Perennial herb	**Mesembryanthemum nodiflorum*	8	<2
	Adjacent		
	Melaleuca quadrifaria		

Appendix 3
Site from Mattiske (1995)

Mattiske Site G226

Location: VCL east of Reserve 25113

Location Notes: Two adjacent small lakes, 2.4km west of intersection of Magenta Rd and Reserve Rd.

Recorder: Mal Graham **Date:** 2/12/94

Topography: Top of eastern lake edge dune.

Soils: Grey sandy clay

Soil analysis: 5% gypsum

GPS 33° 34' 47" 119° 13' 41"

Comments: Not grazed by livestock despite appearance in photo. Site is apparently natural and undisturbed.

Site	Locn. (within 5m of central point)	Species	Height cm	% cover
G226	5	?Chenopodiaceae sp.	1	5
G226	5	*Danthonia caespitosa = Austrodanthonia setacea* group	1	45
G226	5	*Lawrencia squamata*	20	2
G226	5	*Maireana marginata*	3	0.01
G226	5	*Podolepis rugosa = Podolepis rugata*	10	0.01
G226	5	*Senecio lautus* ssp. *maritimus = Senecio pinnatifolius* var. *maritimus*	4	0.01
G226	+5	*Asteridea chaetopoda*	3	0.01
G226	+5	*Atriplex paludosa* subsp.?*cordata*	20	0.01
G226	+5	*Halosarcia syncarpa = Tecticornia syncarpa*	30	0.01
G226	+5	*Halosarcia* aff. *syncarpa = Tecticornia syncarpa*	30	0.1
G226	+5	*Scaevola spinescens*	40	0.01
G226	+5	*Stipa juncifolia = Austrostipa juncifolia*	50	0.01

Photograph 63: Site No. G226. Location: VCL East of Reserve 25113

Photograph 62: Site No. G225. Location: Lake Cobham

Appendix 4
Plant Species List

Species List Lake Kathleen

*introduced species or weeds

	Family	*Taxa*	Collecting No	
110	**Aizoaceae**	*Carpobrotus modestus*		
		Disphyma crassifolium		
		**Mesembryanthemum nodiflorum*		
106	**Amaranthaceae**	*Ptilotus holosericeus*	7885	
304	**Apocynaceae**	*Alyxia buxifolia*		
054B	**Asparagaceae**	*Thysanotus lavanduliflorus*	7883	
345	**Asteraceae**	*Angianthus halophilus*	7854, 7899, 7915, 7921	P3
		Angianthus tomentosus	7886	
		Asteridea athrixioides	7887	
		Asteridea chaetopoda	7846	
		Cratystylis conocephala	7943	
		Fitzwillia axilliflora	7868, 7920, 7948	P2
		Gnephosis acicularis		
		Haegiela tatei	7842	P4
		Kippistia suaedifolia	7850	?gypsophile
		Olearia muelleri		
		Podolepis capillaris	7875	
		**Sonchus oleraceus*	7828	
		Trichanthodium skirrophorum	7838	
		**Ursinia anthemoides*		
339	**Campanulaceae**	*Isotoma scapigera*	7840	
113	**Caryophyllaceae**	**Spergularia rubra*	7829	
070	**Casuarinaceae**	*Casuarina obesa*		

105	**Chenopodiaceae**	*Atriplex ?paludosa*	7940	sterile
		Enchylaena tomentosa		
		Maireana brevifolia	7879	
		Maireana erioclada	7858	
		Maireana oppositifolia	7832	
		Rhagodia drummondii	7851	
		Tecticornia halocnemoides subsp. caudata	7848	
		Tecticornia loriae	7836	
		Tecticornia moniliformis	7849	
		Tecticornia peltata	7874	
		Tecticornia ?pergranulata	7877	sterile
		Tecticornia syncarpa	7835	
		Threlkeldia diffusa	7882	
149	**Crassulaceae**	*Crassula exserta*		
032	**Cyperaceae**	*Gahnia ancistrophylla*	7863	
		Lepidosperma ?tenue	7928	Taxonomy
		Lepidosperma ?sanguinolentum	7911	Taxonomy
287	**Ericaceae**	*Conostephium roei*	7937	
		Leucopogon sp. Kau Rock (M.A. Burgman 1126)	7857	
162	**Fabaceae**	*Acacia erinacea*		
236	**Frankeniaceae**	*Frankenia cinerea*	7925	
		Frankenia sp. southern gypsum (M.N. Lyons 2864)	7834	P3
		Frankenia tetrapetala	7881	
341	**Goodeniaceae**	*Scaevola spinescens*		
054P	**Hemerocallidaceae**	*Dianella brevicaulis*	7907	
		Dianella revoluta		
026	**Juncaginaceae**	*Triglochin minutissima*	7831	

221	**Malvaceae**	*Lawrencia glomerata*	7947	
		Lawrencia squamata	7833	
273	**Myrtaceae**	*Cyathostemon blackettii*	7876	
		Darwinia sp. Karonie (K. Newbey 8503)		
		Eucalyptus celastroides	7884, 7953	
		Eucalyptus ?horistes		Old buds and fruits on ground
		Eucalyptus kondininensis		
		Eucalyptus longicornis		
		Eucalyptus ?salicola		Old buds and fruits on ground
		Eucalyptus salubris		
		Melaleuca brophyi	7935	
		Melaleuca halmaturorum	7856	
		Melaleuca hamulosa	7842	
		Melaleuca quadrifaria	7941	
		Melaleuca ?scalena	7910	no flowers
		Melaleuca thyoides		
152	**Pittosporaceae**	*Billardiera lehmanniana*		
031	**Poaceae**	*Austrostipa elegantissima*		
		Austrostipa geoffreyi	7956	P1
		Austrostipa juncifolia	7855, 7930	
		Austrostipa puberula	7847	
		Austrostipa pycnostachya	7845, 7919	
		**Avena species*		
		Eragrostis dielsii	7949	
		Neurachne alopecuroidea		
		**Parapholis incurva*	7839	
		**Pentameris airoides*		
183	**Polygalaceae**	*Comesperma integerrimum*	7908	
		Comesperma spinosum		

111	**Portulacaceae**	*Calandrinia eremaea*	7936	
		Calandrinia sp.?Meckering (F. Obbens 42/02)	7893	taxonomy
175	**Rutaceae**	*Microcybe multiflora*	7888	
		Phebalium filifolium	7890	
092	**Santalaceae**	*Exocarpos aphyllus*		
316	**Scrophulariaceae**	*Eremophila decipiens*	7880	
315	**Solanaceae**	*Lycium australe*		
173	**Zygophyllaceae**	*Zygophyllum aurantiacum*	7864	

Appendix 5

Department of Parks and Wildlife

CONSERVATION CODES

For the Western Australian Flora and Fauna

Department of
Parks and Wildlife

CONSERVATION CODES

For Western Australian Flora and Fauna

Specially protected fauna or flora are species* which have been adequately searched for and are deemed to be, in the wild, either rare, at risk of extinction, or otherwise in need of special protection, and have been gazetted as such.

Categories of specially protected fauna and flora are:

T **Threatened species**

Published as Specially Protected under the *Wildlife Conservation Act 1950,* and listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

Threatened fauna is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.

Threatened flora is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**

Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EN **Endangered species**

Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

VU **Vulnerable species**

Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EX **Presumed extinct species**

Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.

IA **Migratory birds protected under an international agreement**

Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.

CD **Conservation dependent fauna**

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.

OS **Other specially protected fauna**

Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

P **Priority species**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened flora or fauna.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

1 **Priority 1: Poorly-known species**

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

2 **Priority 2: Poorly-known species**

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

3 **Priority 3: Poorly-known species**

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

4 **Priority 4: Rare, Near Threatened and other species in need of monitoring**

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

*Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

Appendix 6

Threatened and Priority Flora Occurring in the Lake King Salt Lake System

Threatened and Priority Flora Occurring in the Lake King Salt Lake System

Species in red grow on gypsum soils

Taxon	Cons Code	Site Description	Geographical Distribution	Km from Lake kathleen NatureMap
Adenanthos gracilipes	P3	Small dune near salt lake, valley floor, mallee, sand	Dundas, Esperance and Lake Grace shires	Within 20 km radius
Angianthus halophilus	P3	Low rise salt lake. Very saline gypsum (95%). Sandy island in salt lake	Lake King, Lake Grace, Lake Cairlocup	Within 10 km radius
Aotus lanea	P1	Sand. Edge of lakes	Esperance, Kondinin Shires	
Austrostipa geoffreyi	P1	Lake margins and dunes. white gypsum sand.	Lake King at causeway Lake Grace, Lake Tay	Within 20 km radius
Dampiera orchardii	P2	Broad upper beach slope of large saline playa. White-grey sand.	Lake Ronnerup, Dundas, Kent, Lake Grace and Ravensthorpe Shires	
Drosera salina	P2	Adjacent to salt lake. Sandy soils over clay, sand over clay/silt.	Lake King, Esperance, Kent and Lake Grace Shires	Within 20 km radius
Eremophila biserrata	P4	Alluvial flats, salt flats and lakes	Esperance, Kondinin and Lake Grace Shires	
Eremophila serpens	P4	In sandy soil in bed of river, Lake edge dune - mid slope.	Hyden, Newdegate, Esperance Shire, Lake Milarup	Within 5km radius
Eremophila subteretifolia	T	Sand dune, sandy-loam, Shrubland, woodland of *Eucalyptus kondininensis*, salmon gums, *Melaleuca* thicket	Lake Milarup, Pallarup Lake Nature Reserve, S of Lake Ronnerup, Lake Bennett and NW Ravensthorpe	Within 10 km radius
Eremophila veneta	P4	Clay to loam, sand, plain flats, slopes, valley floor, woodlands, Melaleuca	Shires of Corrigin, Gnowangerup, Kent, Kondinin, Kulin, Lake Grace	
Eucalyptus exigua	P3	Embankment lake edge, clay, gypsum	E Lake King north to COO2 IBRA sub region NW to Cowcowing	Within 5 km radius

Eucalyptus mimica subsp. *mimica*	P3	Sandy clay, clayey loam, flats, near salt lakes	Kent, lake Grace and Yilgarn shires	Within 20 km radius
Eucalyptus quaerenda	P3	In sandy clay near salt pan, salty white sand, gypsum, near salt lake	Lake King, Lake Altham area to Phillips River	Within 20 km radius
Frankenia drummondii	P3	In saline loam, gypsum dune, sand dune, edge salt pan	Lake King, Lake Grace Shire, Kondinin to Salmon Gums to Gnowangerup Shire	Within 5 km radius
Frankenia glomerata	P4	Salt lakes, sand, samphire flat,	Geralton region to Esperance shire and Kalgoorlie area	
Frankenia sp. southern gypsum (M.N. Lyons 2864)	P3	Upper beach slope of large saline playa. Moderately saline sand. Low rise salt lake. Very saline cream gypsum (95%).	Lake Ronnerup, Lake King, S Pingaring, Quarry Lake, Lake Magenta lake chain, Lake Varley	Within 20 km radius
Gnephosis multiflora	P3	River flats, salt lakes, sandy rises, sandy saline soils, trace of gypsum	Cunderdin, Kent, Kulin, Lake Grace, Narrogin, Wongan-Ballidu Shires	
Goodenia integerrima	T	Flats, salt lake, White gypsum, clay, margin of salt lake.	Lake King	Within 20 km radius
Goodenia salina	P2	Adjacent to salt lake and gypsum mine. Sandy soils with gypsum.	Lake King, Lake Altham, Lake Cairlocup, Lake Cobham	Within 20 km radius
Haegiela tatei	P4	Sand dune, grey-white gypsum, yellow/white sand	Gypsum lease, Lake King, MAL1 and MAL2 IBRA sub regions. 2 sites COO2 and 1 site east of Geraldton	Within 20 km radius
Hydrocotyle muriculata	P1	raised margin of salt lake, clay loam, SE edge of salt lake	Broomhill-Tambellup, Cranbrook, Kent, Kulin and L Grace (L Burkett) Shires	
Hydrocotyle sp. *Hexaptera* (T. Erickson TEE 173)	P1	In low sandy island in salt lake. Low flat subject to inundation on lake bed. Very saline gypsum (97%).	Lake King	Within 10 km radius

Hydrocotyle sp. *Vigintimilia* (PG Wilson 7940)	P1	Granite, salt lake	Esperance, Coorow Shires	
Lepidobolus spiralis	P2	On yellow sand fringing salt lake. Kwongan	Lake Grace and Dundas Shires	
Melaleuca fissurata	P4	Sand, sandy loam, samphire flats, salt pans, 1 record gypsum	Esperance, Gnowangerup, Kent, Lake Grace, Ravensthorpe Shires	
Melaleuca sculponeata	P3	White sand, clay-loam, slight slope to lake, sandplains	Jerramungup, Kent, Lake Grace, Raversthorpe Shires	Within 20 km radius
Microseris walteri	P3	Kopi dune, lunette adjacent to saline pan, sand, gypsum	Mainly MAL1 and MAL2 IBRA subregions	
Millotia steetziana	P2	Grey-white sand, saline flat, 20% gypsum, sandy soils over clay	Lake King, Kondinin Shire, Chinocup, Lake Magenta	Within 20 km radius
Olearia laciniifolia	P2	White sand, Around playa lakes	Lake King, Kondinin Dumbleyung, Esperance, Lake Grace Shires	Within 20 km radius
Oxymyrrhine plicata (prev. *Backea crispiflora* subsp. Kulin)	P3	Brown loamy sand, sandplain, 1 record samphire flat, sands silt	Esperance, Kondinin, Kulin, Lake Grace Shires	
Pauridia salina (previously *Hypoxis salina)*	P1	saline drainage line, sandy soils over clay	Chinocup Lake King	
Pimelea halophila	P2	Islet in salt lake. Dry white sand over clay, fine clay loam within sandy soils with gypsum	Lake King, Lake Morris, Ravensthorpe Shire, Esperance Shire	Within 20 km radius
Pultenaea daena	P3	Adjacent to salt lake. Loam soils over dolomite and sandy soils.	Shires of Esperance, Jerramungup, Kondinin, Lake Grace, Ravensthorpe	
Roycea pycnophylloides	T	Gypsum, edge of salt lake, sandy salt lands, clay pan, adjacent to salt lake	Cunderdin to Lake King and south to Kent Shire	Within 20 km radius
Sarcocornia globosa	P3	On saline flat, gypsum, sand, sandy clay	Chinocup, Lake Fox to East Geraldton, Lake Magenta , Lake King	

Scaevola tortuosa	P1	Sandy clay, margins of salt lakes	Esperance to Wongan-Ballidu Shires	
Seorsus clavifolius	P2	Flat near lake edge, sand, clayey sand, sand over clay, slope	Lake King, Lake Grace and Perenjori Shires	Within 20 km radius
Spyridium mucronatum subsp. *recurvum*	P3	Valley bottom, sandy and clayey soils, mallee scrub, scrub	Gnowangerup, Kent, Lake Grace, Ravensthorpe shires	Within 10 km radius
Stylidium pulviniforme	P3	Open ground, sand, grows on margins of winter wet pools. In sand over clay on high water line of salt lake.	Lake King, Lake Cobham to Salmon Gums and into Dundas and Yilgarn Shires	Within 20 km radius
Tecticornia entrichoma	P4	Slightly brackish lakes, clay, clayey sand	Frank Hann National Park, Esperance, Lake Grace Shires	
Thryptomene salina	P1	Deep alluvial sand on flat along saline creek, *Melaleuca hamulosa* Scrub	Kondinin, Near Emu Rock	
Tribonanthes minor	P3	Shallow leached sand at the edge of large playa. sand over clay/silt on flat terrain	Lake King, Chinocup	Within 20 km radius

Appendix 7

Threatened and Priority Flora recorded on gypsum in the Lake Magenta, Lake King and Lake Grace salt lake chains

Threatened and Priority Flora recorded on gypsum in the Lake Magenta, Lake King and Lake Grace salt lake chains

Taxon	Cons Code	Site Description	Geographical Distribution	Suggested Gypsophile (g) or gypsum tolerant (t)
Angianthus globuliformis	P1	Gypsiferous dune 54% gypsum	South Lake Altham	g
Angianthus halophilus	P3	Sandy ridge/island in lake - gypsum	Lake King, Lake Grace, Lake Cairlocup	t
Austrostipa geoffreyi	P1	Lake margins and dunes gypsum , sand, gypsum dune	Lake Grace, Lake King, Lake Tay	g
Eucalyptus exigua	P3	Embankment lake edge clay, gypsum	East Lake King north to COO2 sub region NW to Cowcowing	t
Eucalyptus quaerenda	P3	gypsum, sandy soils over clay, near salt lake	Lake Altham area to Lake King and upper Phillips River	t
Fitzwillia axilliflora	P2	saline lake, edge salt lake, saline basin, gypsum	Lake Bryde north to Morawa area	t
Frankenia drummondii	P3	dune adjacent saline pan, gypsum dune, sandy clay, sand dune, edge salt pan	Kondinin to Salmon Gums south to Gnowangerup Shire	t
Frankenia sp. southern gypsum (M.N. Lyons 2864)	P3	Low rise gypsum, gypsum, saline grey clay	S Pingaring, Quarry Lake area, L Magenta, L King, L Cobham	g
Goodenia integerrima	T	gypsum, clay sand, margin salt lake, sandy island in salt lake	Lake King	g
Goodenia salina	P2	gypsiferous dune on shore of saline pan, previous gypsum mine, islet in salt lake	Lake King, Lake Altham, Lake Cairlocup, L Cobham	g

Haegiela tatei	P4	gypsum dune, sand dune, Greens mining lease, gypsum	Mainly MAL1 and MAL2 sub regions. 2 sites in COO2 and 1 site east of Geraldton	t
Hydrocotyle sp. Hexaptera (T Erickson TEE 173)	P1	sandy island, sand fringing salt lake, low flat subject to inundation, gypsum	Lake King,	g
Microseris walteri	P3	Kopi dune, lunette adjacent to saline pan, sand, gypsum	Mainly MAL1 and MAL2 sub regions	t
Millotia steetziana	P2	saline flat, sandy soils over clay, rise adjacent to salt lake, 20% gypsum	Kondinin, Chinocup, Lake King, lake Magenta	t
Pimelea halophila	P2	sandy island in salt lake, sand over clay, adjacent to gypsum mine, edge of salt lake, sandy soil with gypsum	Lake King, Lake Morris, Ravensthorpe shire, Esperance shire	t
Roycea pycnophylloides	T	samphire/gypsum dune, edge of salt lake, low rise, sandy salt lands, clay pan, adjacent to salt lake	Cunderdin to Lake King and south to Kent shire	t
Sarcocornia globosa	P3	Saline flat adjacent to salt lake, sand , sandy clay, gypsum, southern shore	Chinocup and Lake Fox to East Geraldton, Lake Magenta NR	t
Stenanthera pungens (prev. *Conostephium pungens*)	P2	?gypsum and sandy soils	Chinocup NR	t

Appendix 8
Maps of way points

Way Points Lake kathleen 21-11-2016 (imagery google earth)

Way Points Lake kathleen 22-11-2016 (imagery google earth)