

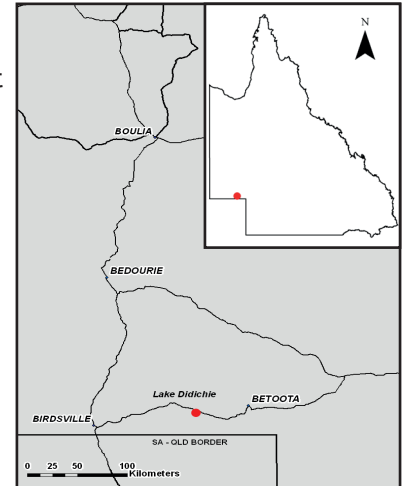
Lake Diditchie



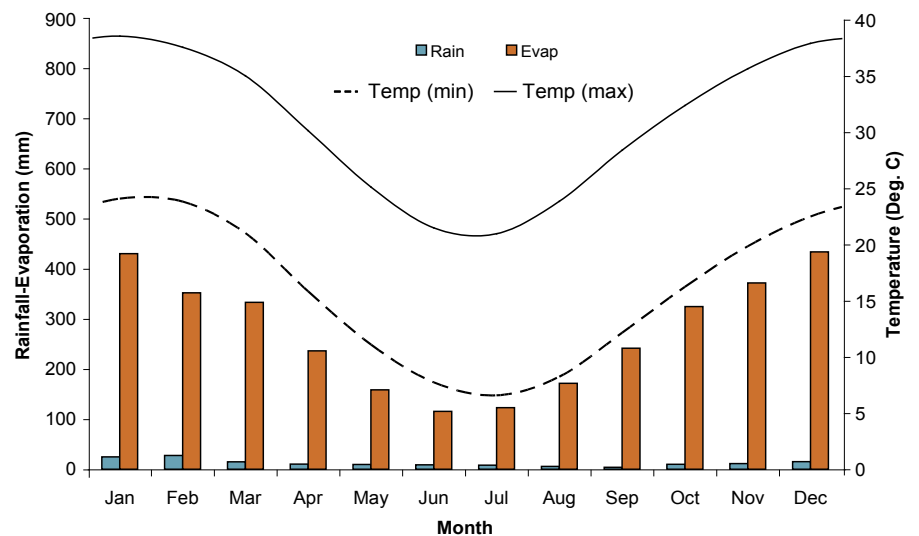
Study Area

Lake Diditchie is located approximately 100 km east of Birdsville along the Birdsville Developmental Road, South-West Queensland.

This study area is an example of an arid floodplain lake in the Channel Country Bioregion.



Climate¹



The study area is situated within an arid climatic region with no distinct wet and dry season. Evaporation exceeds rainfall in every month. The average annual rainfall for the area is 149 mm.

Landform and Inundation	Claypans, salt pans and lake floors subject to seasonal flooding Periodic freshwater inundation from overland flow
Soils²	Hydrosols
Vegetation³	Sparse herbland on floodplain lakes (RE 5.3.22)
Geology⁴	Clay silt and gravel
Disturbance	No effective disturbance except grazing by hoofed animals



Australian Government

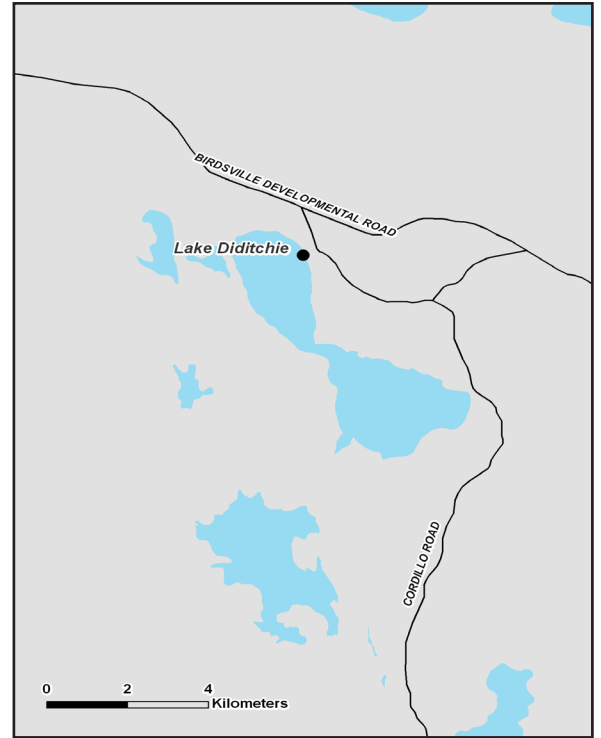


Queensland Government

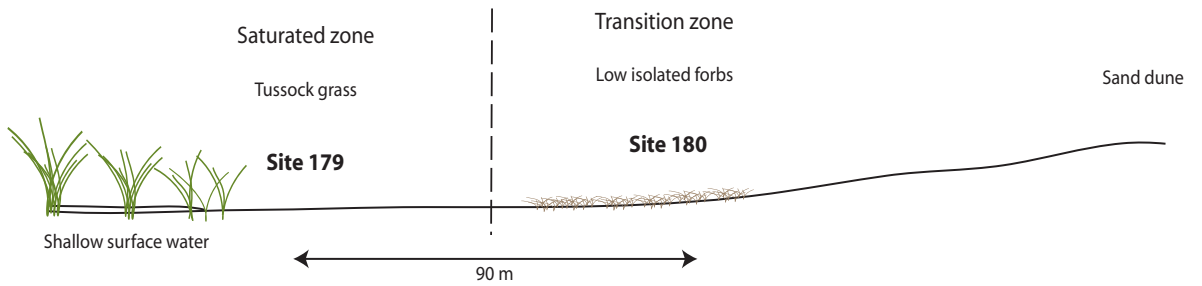
Queensland
Wetlands Program

Location

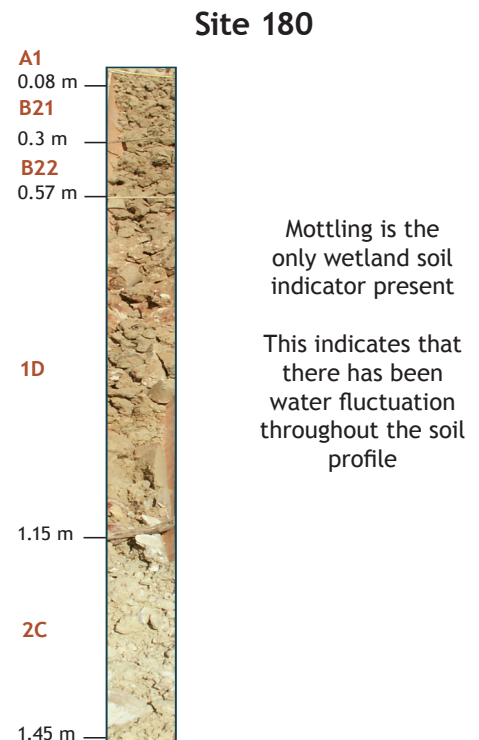
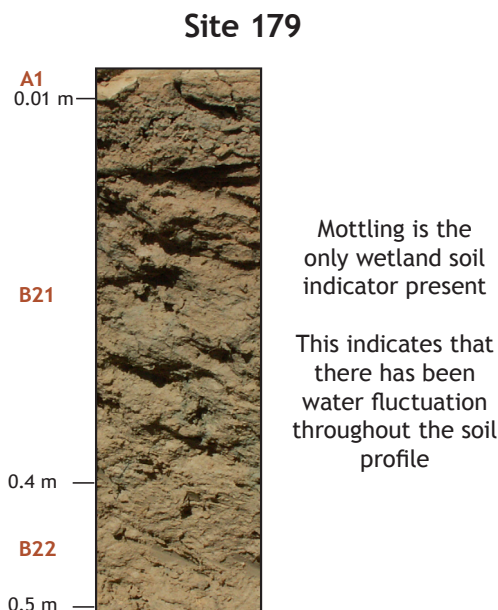
GDA94 • MGA Coordinates : 427605 E, 7150124 N, Zone 54 • Lat/Long : -25.76516 S, 140.27805 E



Landscape Diagram



Soil Profiles



Soil Indicators Present (within 0.3 m of surface)

Indicator ⁵	Site 179	Site 180
Organic materials and organic carbon (OC)*	No organic materials OC: 0.14%	No organic materials OC: 0.07%
Matrix colour	Brown	Light brownish grey
Chroma (thickness of layer)**	Not present	Not present
Mottles and Segregations	Common 15-30 mm distinct grey mottles	Very few 5-15 mm faint dark mottles Few <2 mm calcareous soft segregations
Depth to groundwater	Not present	Not present
Ferruginous root channel and pore linings	Not present	Not present
pH* ⁶	Moderately alkaline	Strongly alkaline
Texture	Fine sandy clay loam to fine sandy light clay	Fine sandy light medium clay to light medium clay
Acid sulfate material	Not present	Not present
Electrical Conductivity (EC) ⁶	Non saline	Non saline

*Organic carbon % (Dumas method) and pH taken from surface (0-0.1 m)

**Chroma value is less than or equal to 2

Summary of Field Observations

- *Muehlenbeckia florulenta* indicative of a periodically inundated environment
- Mottling suggests water fluctuation throughout both soil profiles however higher chroma values and brighter soil colours indicate that area may not experience reducing conditions

References

1. Queensland Department of Natural Resources and Water (2008). SILO [online]. Available at <http://www.longpaddock.qld.gov.au/silo/> [accessed 5/11/2007].
2. Isbell RF (2002). *The Australian Soil Classification*. CSIRO Publishing, Collingwood, Victoria, revised edition.
3. EPA (2008) *Regional Ecosystems*. [online]. Available at http://www.epa.qld.gov.au/nature_conservation/biodiversity/regional_ecosystems/ [accessed 28/06/08].
4. Bureau of Mineral Resources (1966). *Betoota: Australia 1:250,000 Geological Series*, Bureau of Mineral Resources, Canberra.
5. Bryant KB, Wilson PR, Biggs AJW, Brough DM and Burgess JW (2008). *Soil Indicators of Queensland Wetlands: State-wide assessment and methodology*. Queensland Department of Natural Resources and Water. Brisbane.
6. Hazelton P and Murphy B (2007). *Interpreting Soil Test Results: What do all the numbers mean?*. [2nd ed]. CSIRO publishing. Collingwood Victoria.

Soil Chemistry

Site	Depth (m)	pH*	EC (dS/m)	Cl (mg/kg)	NO ₃ -N (mg/kg)	TC%**	TN%**
179	0.00-0.10	8.4	0.07	<20	8	0.14	<0.03
	0.20-0.30	9.7	0.36	<20	4	0.27	<0.03
	0.40-0.50	9.9	0.6	51	3	0.28	<0.03
180	0.00-0.10	9	0.06	<20	<1	0.07	<0.03
	0.20-0.30	9.4	0.2	29	1	0.15	<0.03
	0.40-0.50	9.6	0.25	<20	<1	0.2	<0.03

*Aqueous 1:5

**Total carbon and total nitrogen



Soil Morphology

Site 179		Classification			Australian Soil Classification				Calcareous, Kandosolic, Redoxic Hydrosol		
					Landform Element				Swamp		
					Morphological Type				Flat		
Horizon	Depth (m)	Boundary	Texture	Colour	Mottles	Coarse Fragments	Structure	Segregations	Consistence		
A1	0 to .01	sharp to	fine sandy clay loam	brown (10YR53)	none	none	massive	none	-		
B2	.01 to .4	gradual to	fine sandy light clay	pale brown (10YR63)	common (10-20%) coarse (15-30 mm) distinct grey mottles	none	massive	none	-		
B2?	.4 to .5		fine sandy light medium clay	pale brown (10YR63)	common (10-20%) faint brown mottles	none	massive	none	-		
Site 180		Classification			Australian Soil Classification				Calcareous, Dermosolic, Redoxic Hydrosol		
					Landform Element				Swamp		
					Morphological Type				Flat		
Horizon	Depth (m)	Boundary	Texture	Colour	Mottles	Coarse Fragments	Structure	Segregations	Consistence		
A1	0 to .08	clear to	fine sandy light medium clay	light brownish grey (2.5Y63)	none	few (2-10%) angular sandstone small pebbles (2-6 mm)	weak 2-5 mm angular blocky	none	-		
B21	.08 to .3	gradual to	light medium clay	light brownish grey (2.5Y63)	very few (<2%) medium (5-15 mm) faint dark mottles	none	moderate 5-10 mm angular blocky	few (2-10%) fine (<2 mm) calcareous soft segregations	-		
B22	.3 to .57	gradual to	medium clay	very pale brown (10YR73)	few (2-10%) fine (<5 mm) faint orange mottles	none	weak 5-10 mm lenticular, moderate 2-5 mm subangular blocky	common (10-20%) fine (<2 mm) calcareous soft segregations	-		
1D	.57 to 1.15	clear to	fine sandy medium heavy clay	very pale brown (10YR73)	common (10-20%) medium (5-15 mm) distinct grey mottles	few (2-10%) subrounded sandstone medium pebbles (6-20 mm)	massive	few (2-10%) medium (2-6 mm) calcareous nodules, few (2-10%) fine (<2 mm) calcareous soft segregations	-		
2C	1.15 to 1.45	-	light clay	pale yellow (2.5Y83)	none	very few (<2%) angular sandstone large pebbles (20-60 mm)	-	many (20-50%) fine (<2 mm) calcareous soft segregations	-		