



Queensland Murray-Darling Committee Inc.

Mining and Energy Industry Impact on Natural Resource Management in the Queensland Murray-Darling Basin

Geoff Penton
CEO
QMDC



Funded by:



Australian Government



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Government

January 2009

Queensland Murray-Darling Committee

“Working together – healthy landscapes, viable communities”

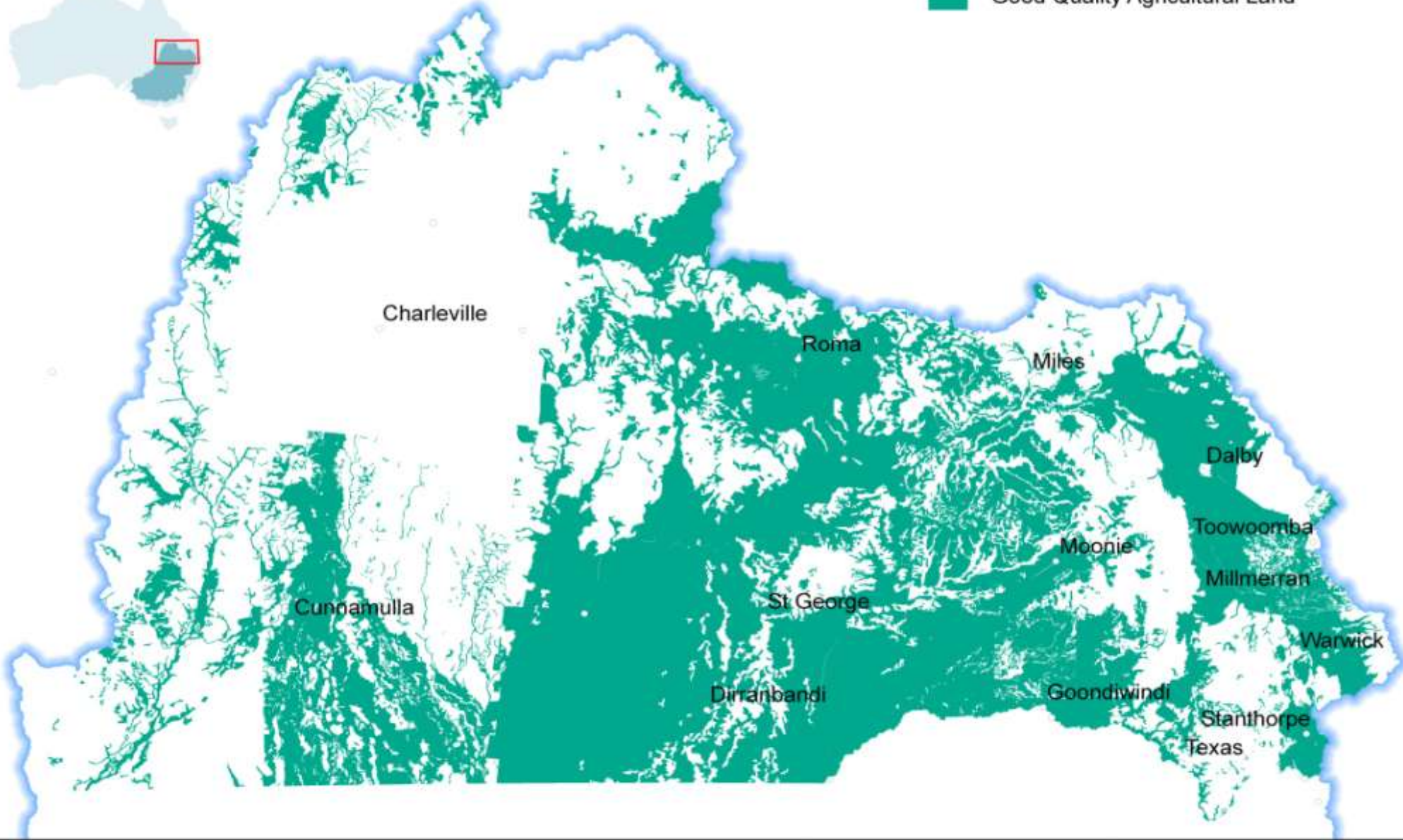


QMDC is not adverse to mining activity if the following issues can be effectively managed, mitigated or preferably avoided.

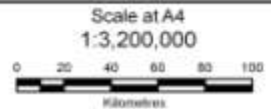


Land Use

Mining that disturbs areas of good quality soil (agricultural land) and is not able to be rehabilitated to its former productive state, could mean good soil, productive farming land is lost forever.



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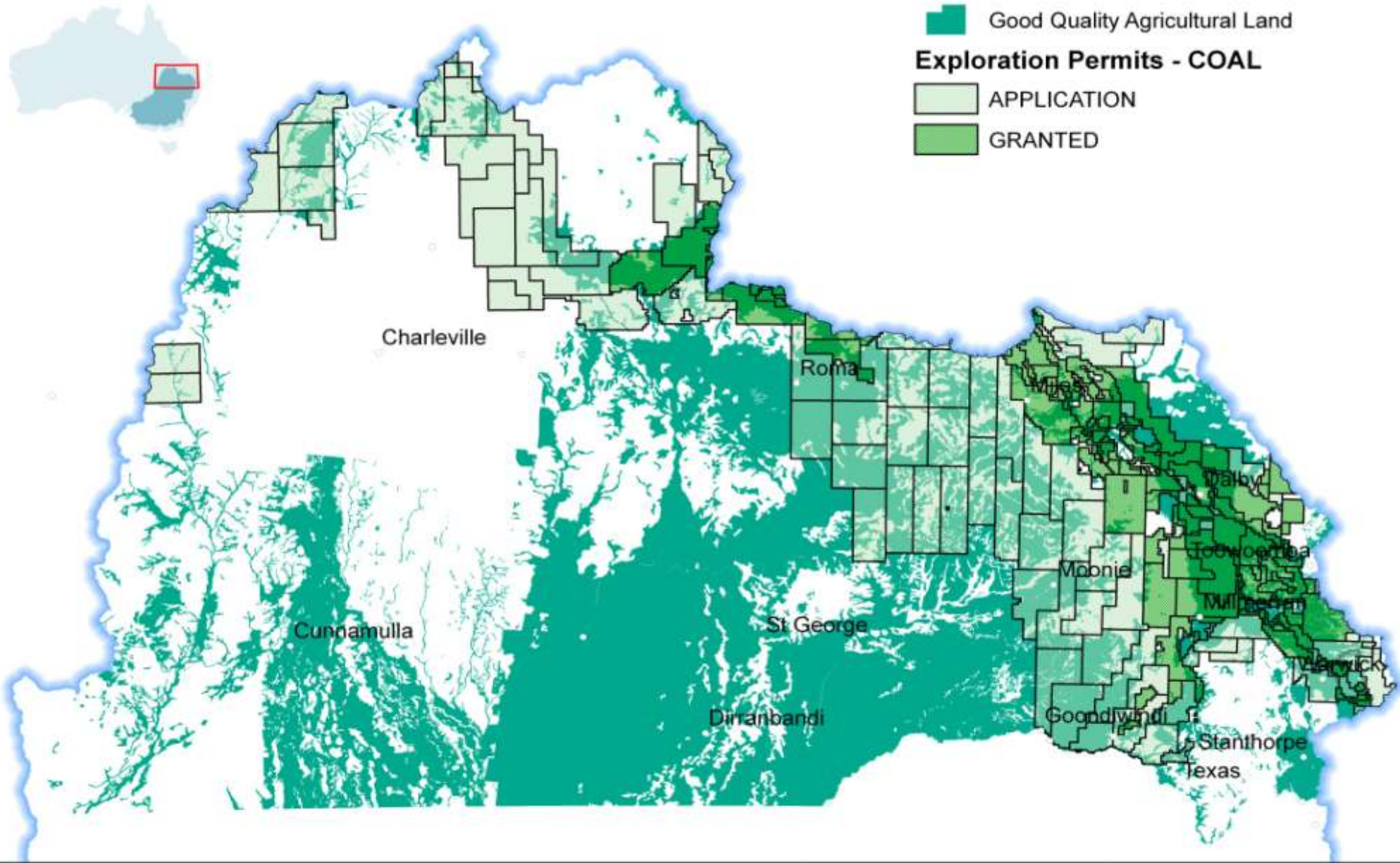
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Good Quality Agricultural Land

Exploration Permits - COAL

APPLICATION

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Scale at A4
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Kilometers

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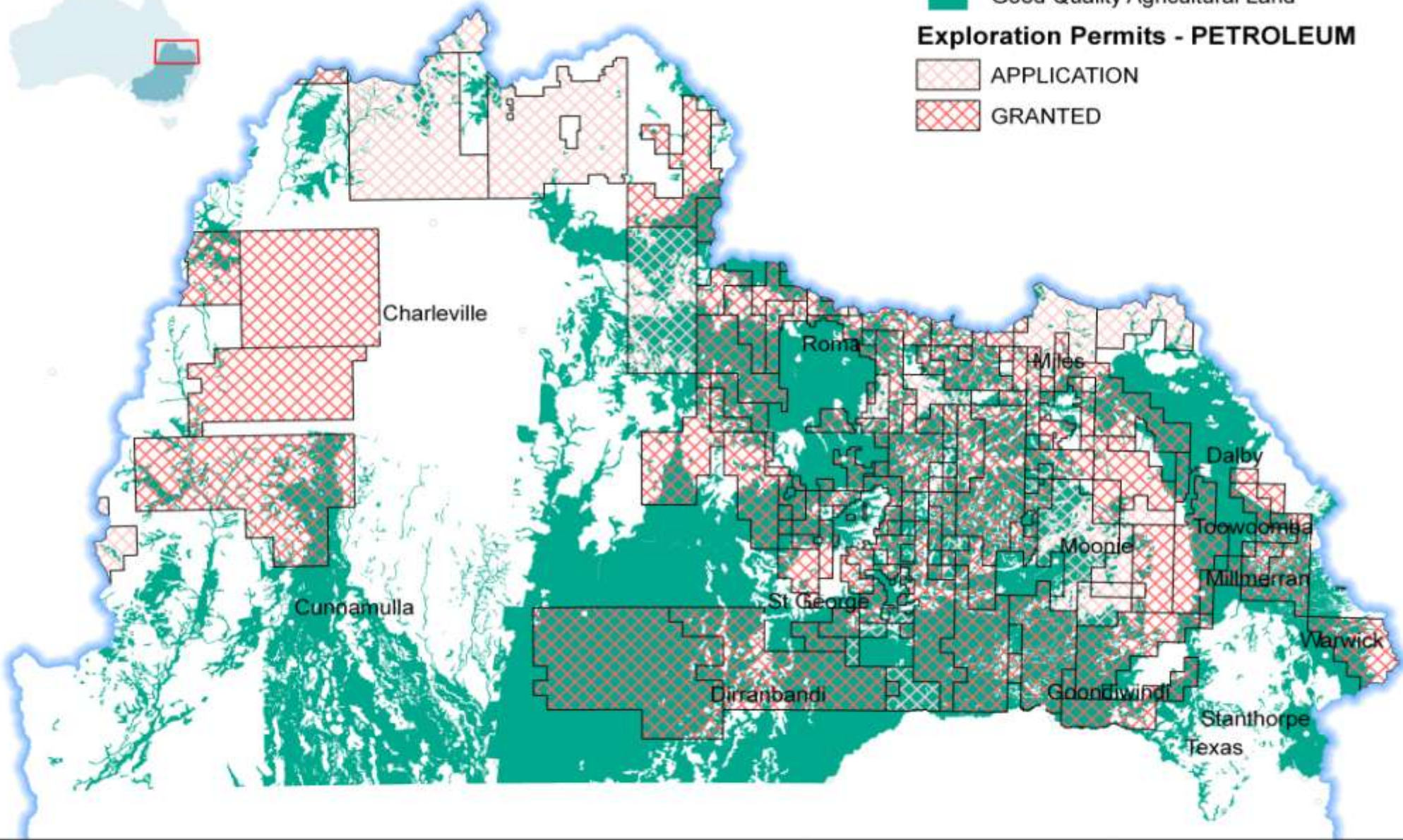


Good Quality Agricultural Land

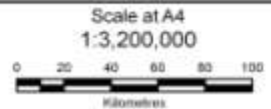
Exploration Permits - PETROLEUM

APPLICATION

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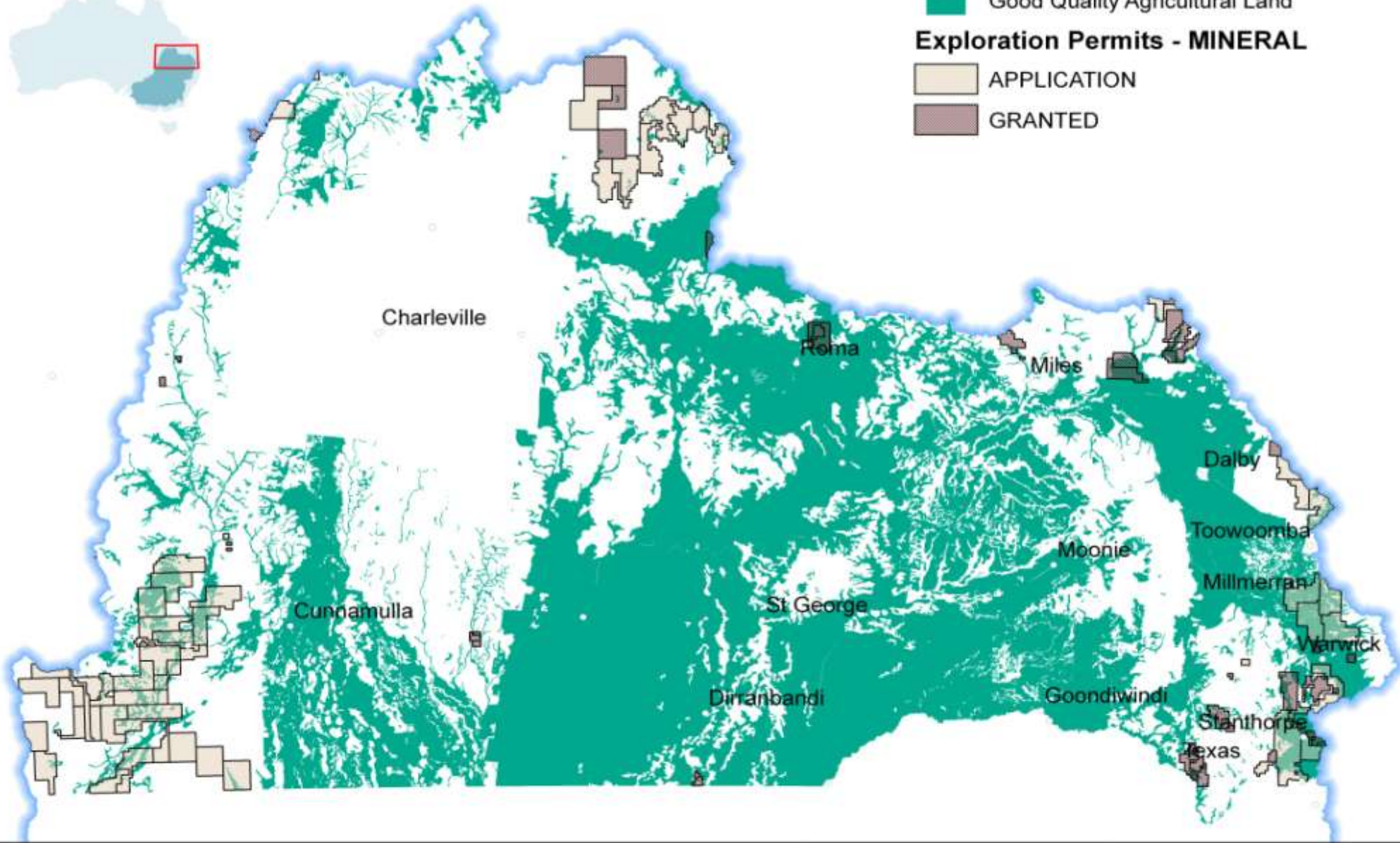


Good Quality Agricultural Land

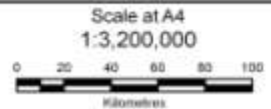
Exploration Permits - MINERAL

APPLICATION

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Good Quality Agricultural Land

June 08

Dec 2008

Current Exploration Permits

• COAL applications	1.9M Ha	2.96M Ha
granted	1.1M Ha	1.52M Ha
• PETROLEUM applications	3.2M Ha	2.20M Ha
granted	4.4M ha	5.53M Ha
• MINERAL applications		0.35M Ha
granted		0.16M Ha



Riverine/Wetlands

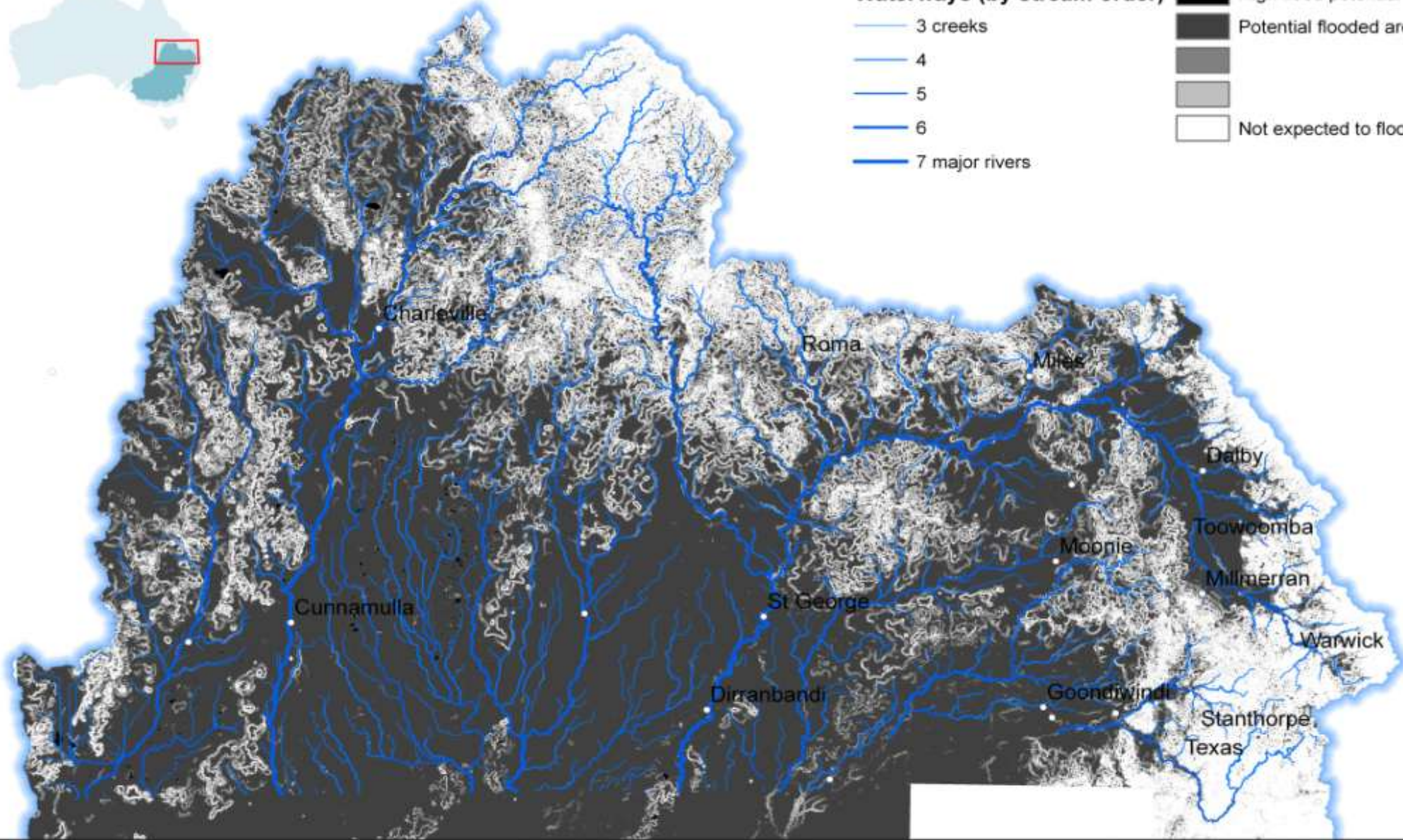
The modification of river, floodplains flows caused by creek, river diversions and flood plain levy banks diverting flows leads to erosion on floodplains and creek bank, slumping, changed overland flow patterns.



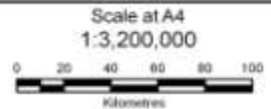
Waterways (by stream order)

- 3 creeks
- 4
- 5
- 6
- 7 major rivers

- High flood potential
- Potential flooded areas
-
-
- Not expected to flood



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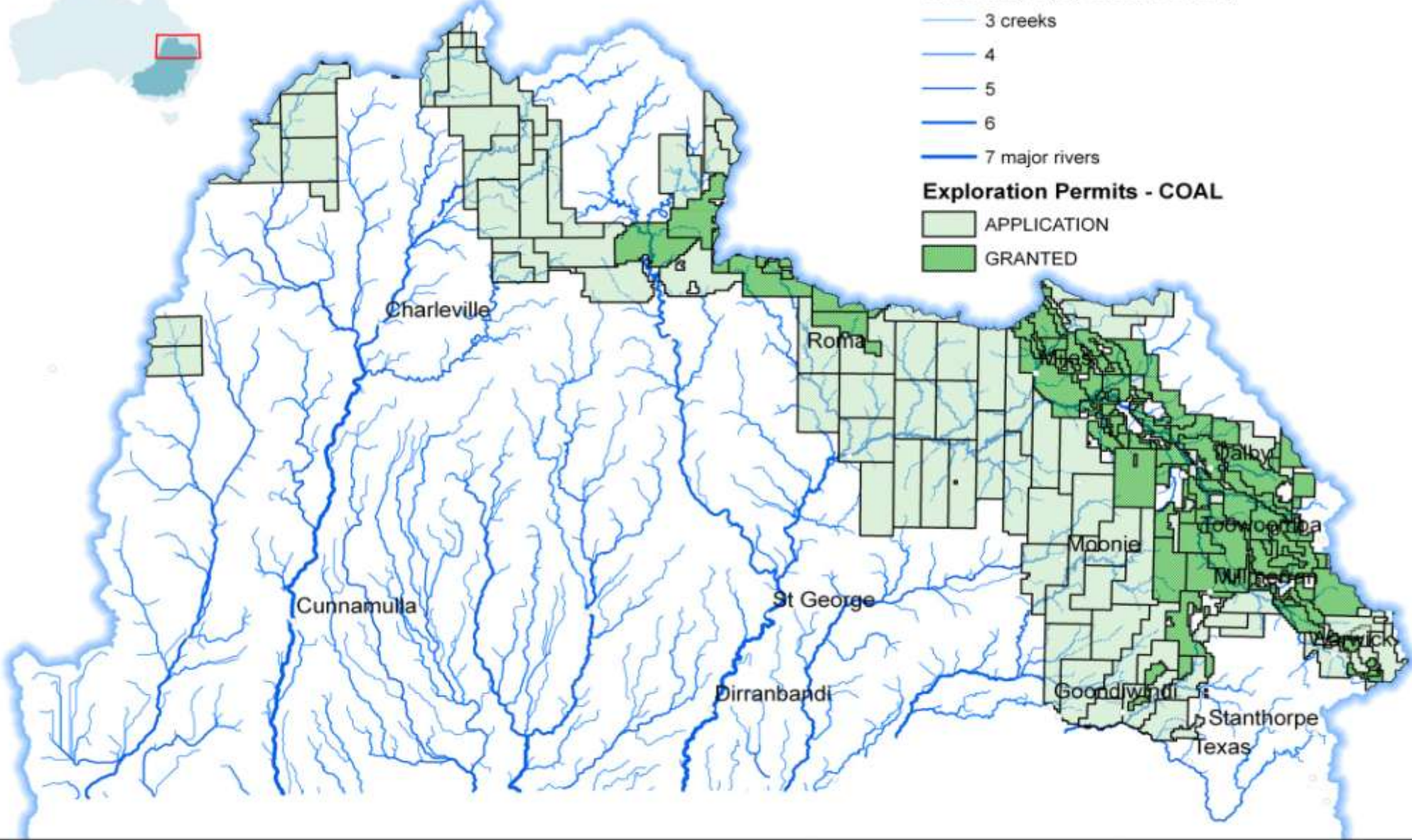


Waterways (by stream order)

-  3 creeks
-  4
-  5
-  6
-  7 major rivers


Exploration Permits - COAL

-  APPLICATION
-  GRANTED



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 Kilometres

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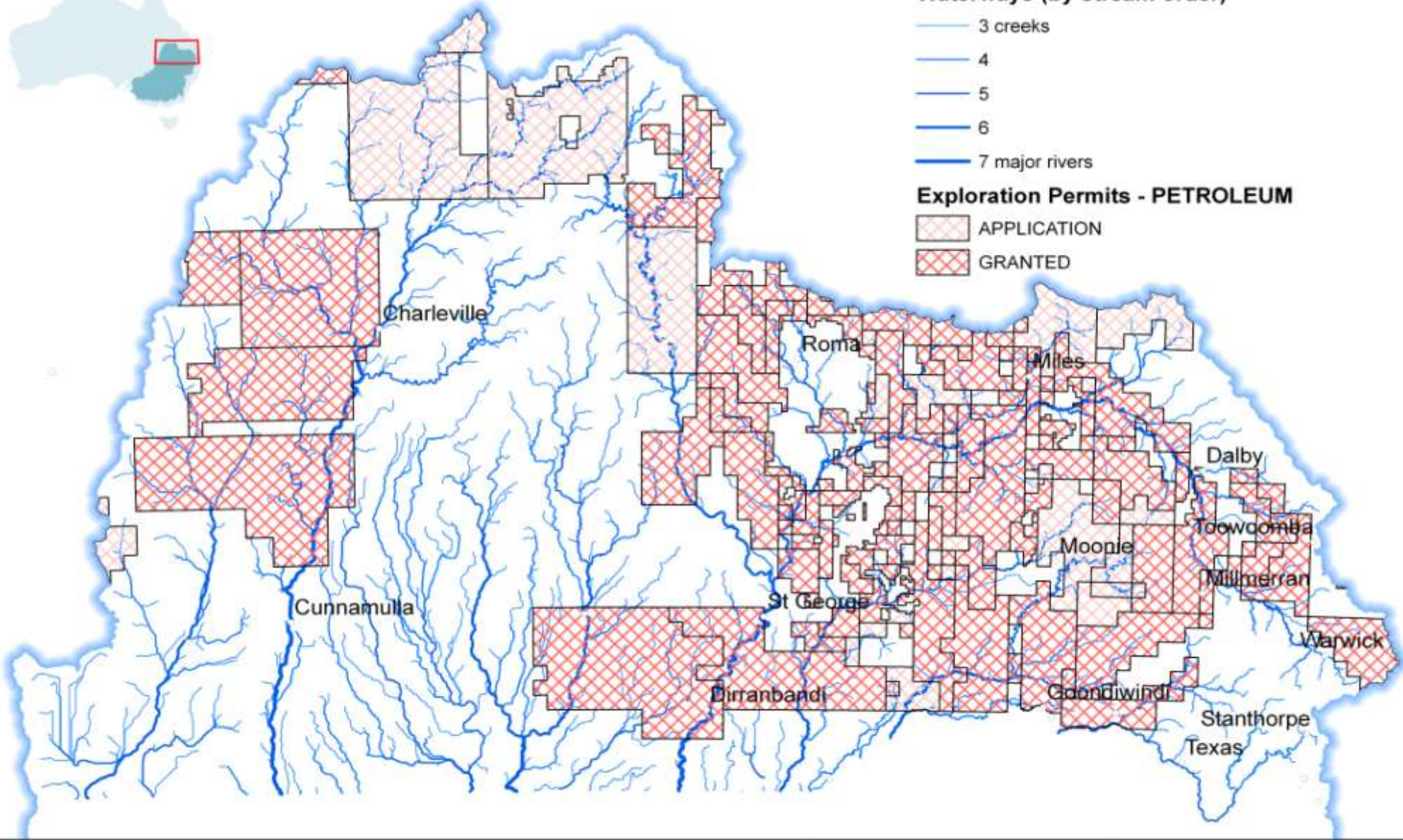


Waterways (by stream order)

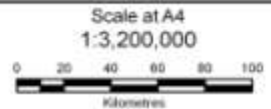
-  3 creeks
-  4
-  5
-  6
-  7 major rivers

Exploration Permits - PETROLEUM

-  APPLICATION
-  GRANTED



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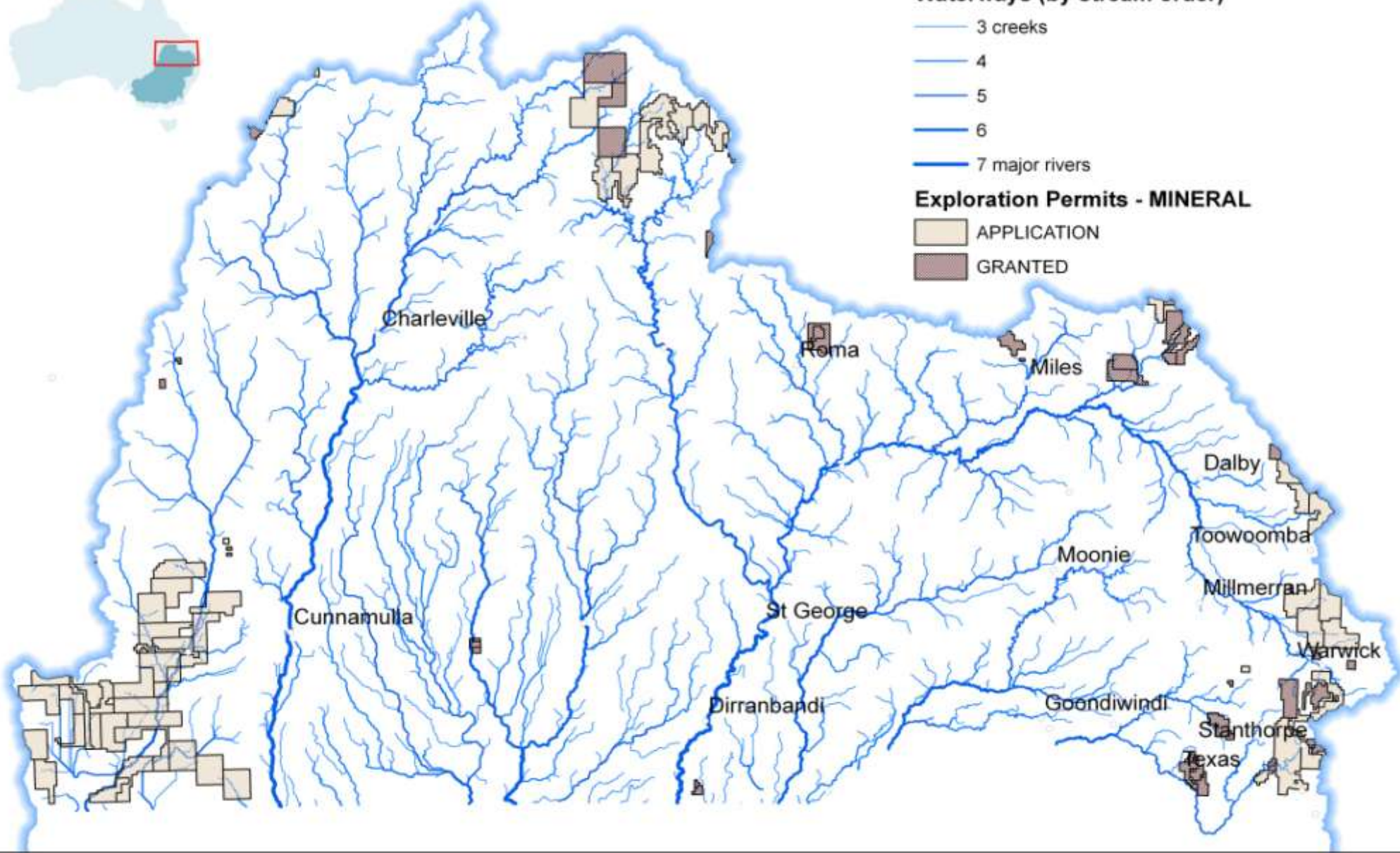


Waterways (by stream order)

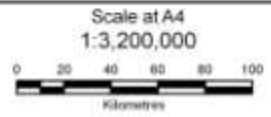
- 3 creeks
- 4
- 5
- 6
- 7 major rivers

Exploration Permits - MINERAL

- APPLICATION
- GRANTED



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Maranoa-Balonne-Condamine Rivers

Coal Exploration Permits

Row Labels	Sum of km
APPLICATION	9,447
1	4,529
2	2,551
3	1,121
4	685
5	319
6	242
GRANTED	6,855
1	3,339
2	1,699
3	974
4	355
5	299
6	189
Grand Total	16,302

Petroleum Exploration Permits

Row Labels	Sum of km
APPLICATION	7,332
1	3,630
2	1,843
3	948
4	499
5	174
6	237
GRANTED	15,742
1	7,712
2	3,945
3	1,962
4	1,043
5	485
6	465
7	129
Grand Total	23,074.031



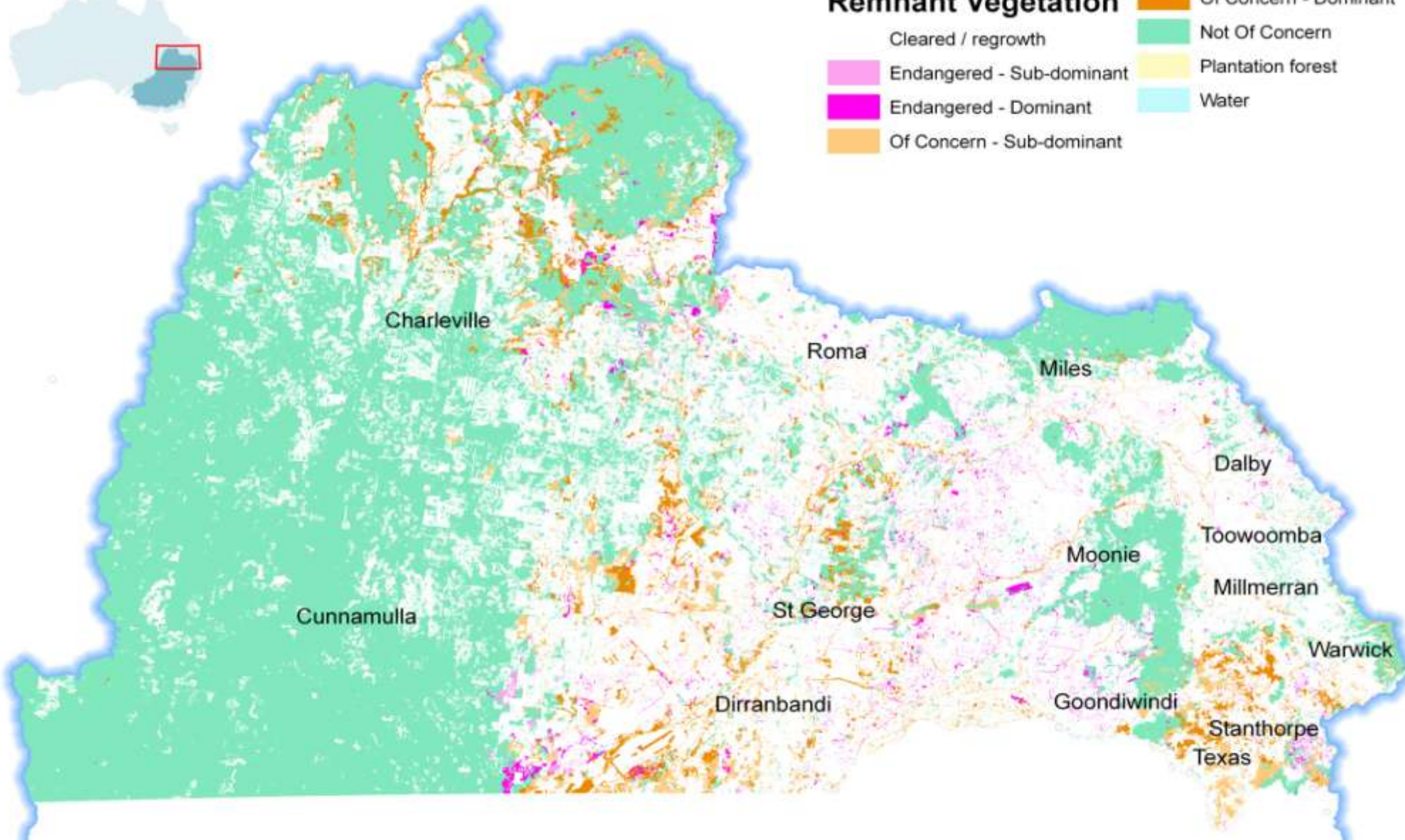
Vegetation and Biodiversity

Continued decline in vegetation extent and habitat fragmentation through clearing of vegetation.

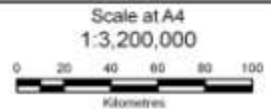


Remnant Vegetation

- Of Concern - Dominant
- Not Of Concern
- Cleared / regrowth
- Endangered - Sub-dominant
- Endangered - Dominant
- Plantation forest
- Of Concern - Sub-dominant
- Water



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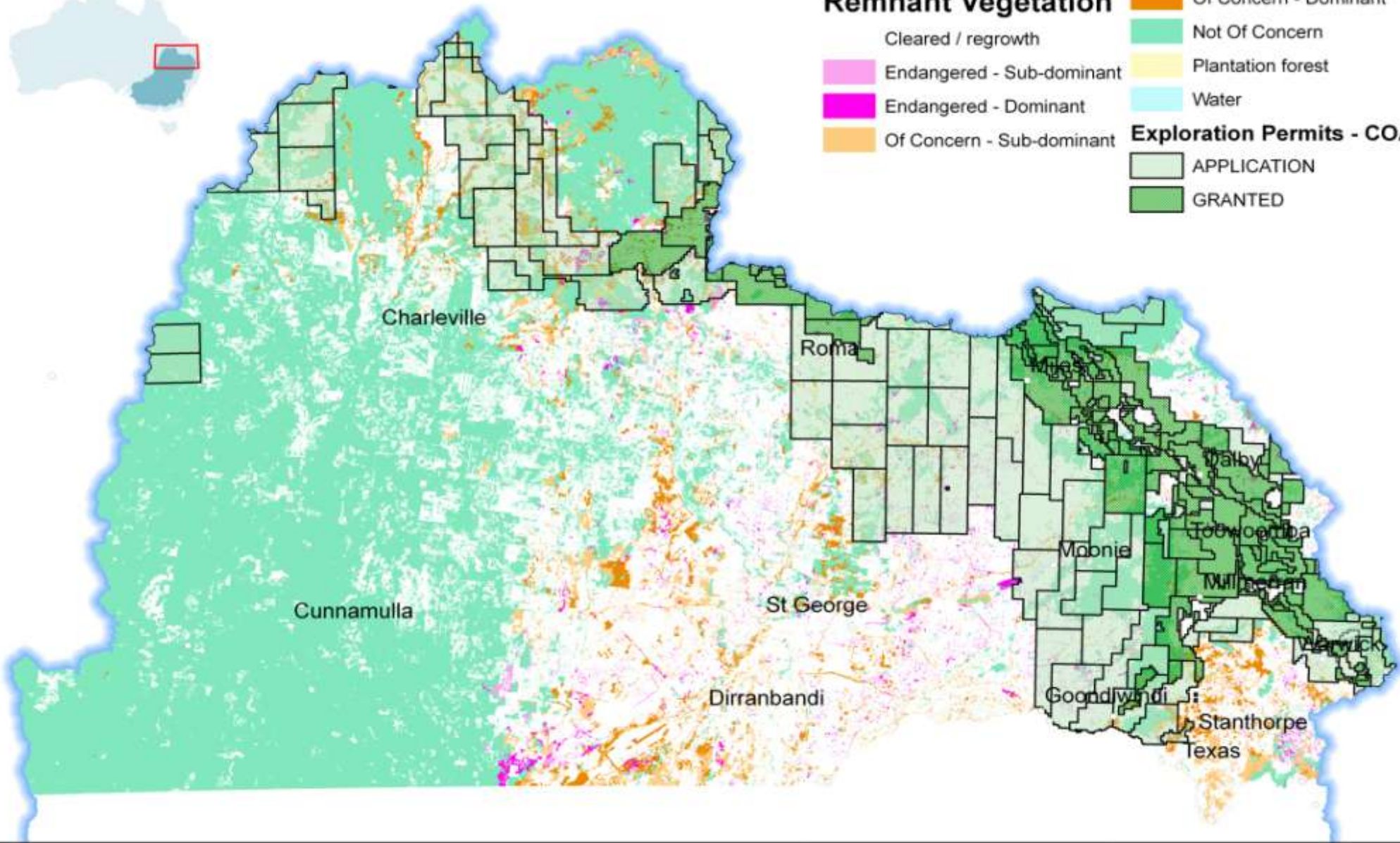


Remnant Vegetation

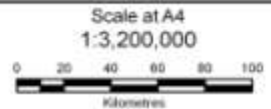
- Of Concern - Dominant
- Not Of Concern
- Cleared / regrowth
- Plantation forest
- Endangered - Sub-dominant
- Water
- Endangered - Dominant
- Of Concern - Sub-dominant

Exploration Permits - COAL

- APPLICATION
- GRANTED



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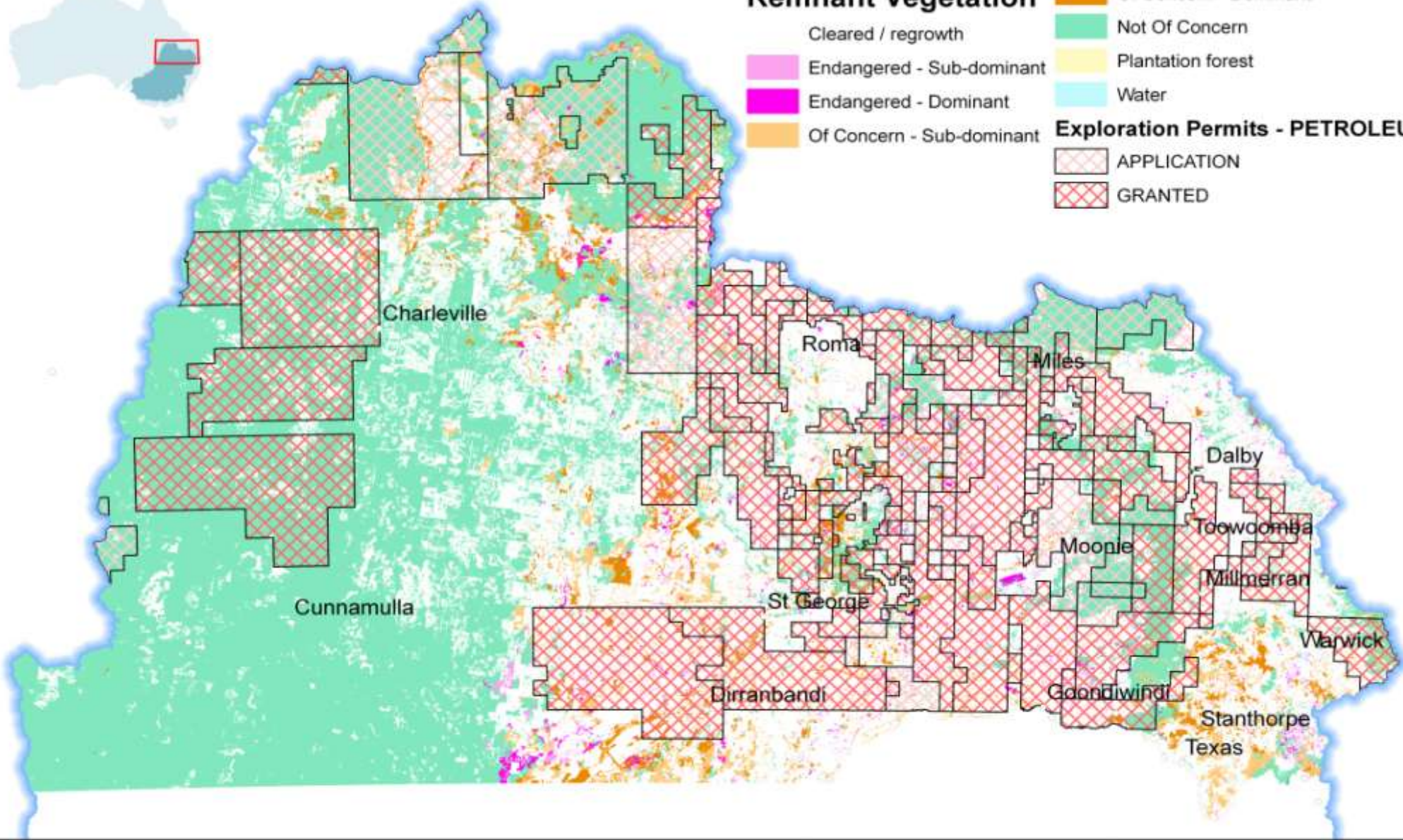
Remnant Vegetation

- Cleared / regrowth
- Endangered - Sub-dominant
- Endangered - Dominant
- Of Concern - Sub-dominant

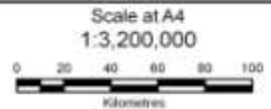
- Of Concern - Dominant
- Not Of Concern
- Plantation forest
- Water

Exploration Permits - PETROLEUM

- APPLICATION
- GRANTED



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Remnant Vegetation

Granted exploration permits:

- COAL granted 1.9M Ha
application 2.1M Ha
- PETROLEUM
Active granted 3.1M Ha
Active application 1.5M Ha



Current Exploration Permits Coal (EPC)

Sum of Hectares		Sum of Hectares		
EXPLORATION STATUS	VEGETATION STATUS	June 08	Dec 08	Change
APPLICATION	Endangered - dominant	71,461	86,783	121%
	Endangered -subdominant	10,160	20,332	200%
	Not Of Concern	1,073,128	1,631,279	152%
	Of concern -dominant	161,729	238,950	148%
	Of concern -subdominant	75,002	111,675	149%
total		1,391,479	2,089,018	150%
GRANTED	Endangered – dominant	23,493	22,431	95%
	Endangered -subdominant	4,274	3,627	85%
	Not Of Concern	401,030	425,011	106%
	Of concern -dominant	41,232	39,298	95%
	Of concern -subdominant	25,689	32,308	126%
total		495,719	522,674	105%
Grand Total		1,887,198	2,611,692	138%

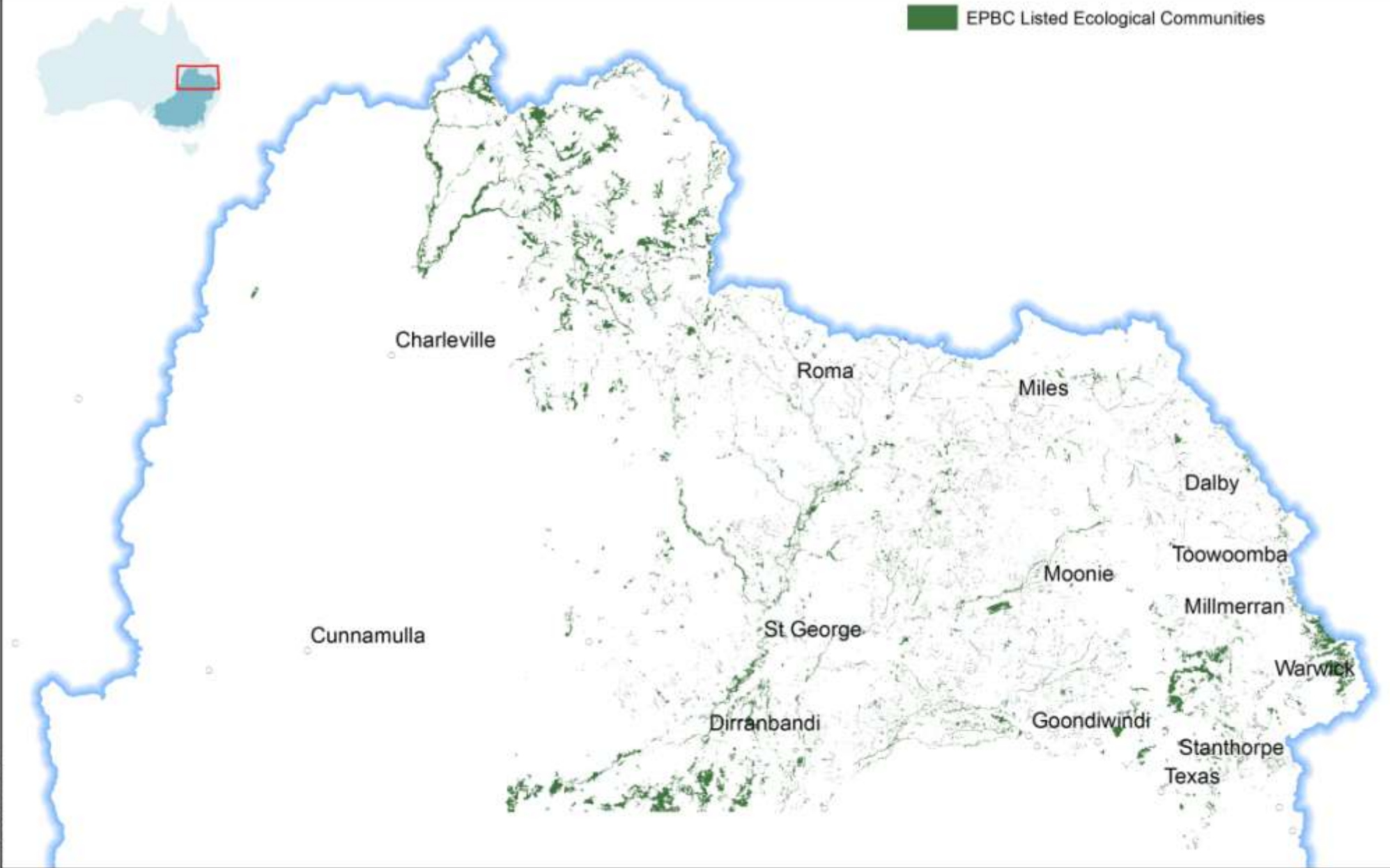
Current Exploration Permits Coal (EPC)

		Sum of Hectares		
EXPLORATION STATUS	VEGETATION STATUS	June 08	Dec 08	Change
APPLICATION	Endangered - dominant	71,461	27,209	38%
	Endangered -subdominant	10,160	11,629	114%
	Not Of Concern	1,073,128	1,347,112	126%
	Of concern -dominant	161,729	139,832	86%
	Of concern -subdominant	75,002	51,098	68%
total		1,391,479	1,576,879	113%
GRANTED	Endangered – dominant	23,493	117,159	499%
	Endangered -subdominant	4,274	28,340	663%
	Not Of Concern	401,030	2,649,909	661%
	Of concern -dominant	41,232	227,798	552%
	Of concern -subdominant	25,689	160,721	626%
total		495,719	3,183,927	642%
Grand Total		1,887,198	4,760,806	252%

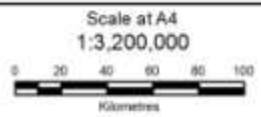


Environmental Protection and Biodiversity Conservation Act (EPBC)

Listed Ecological Communities



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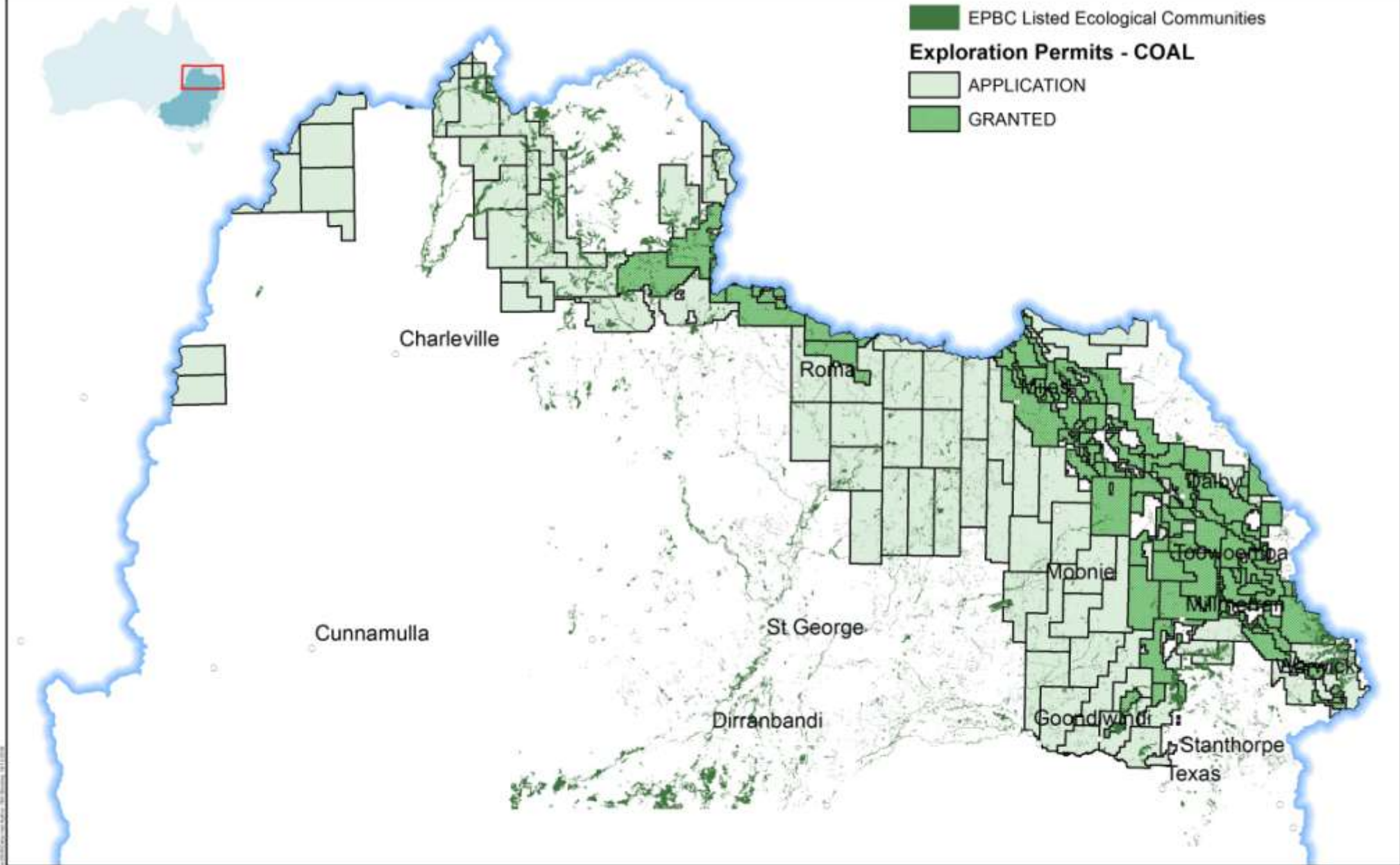


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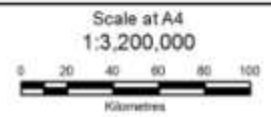


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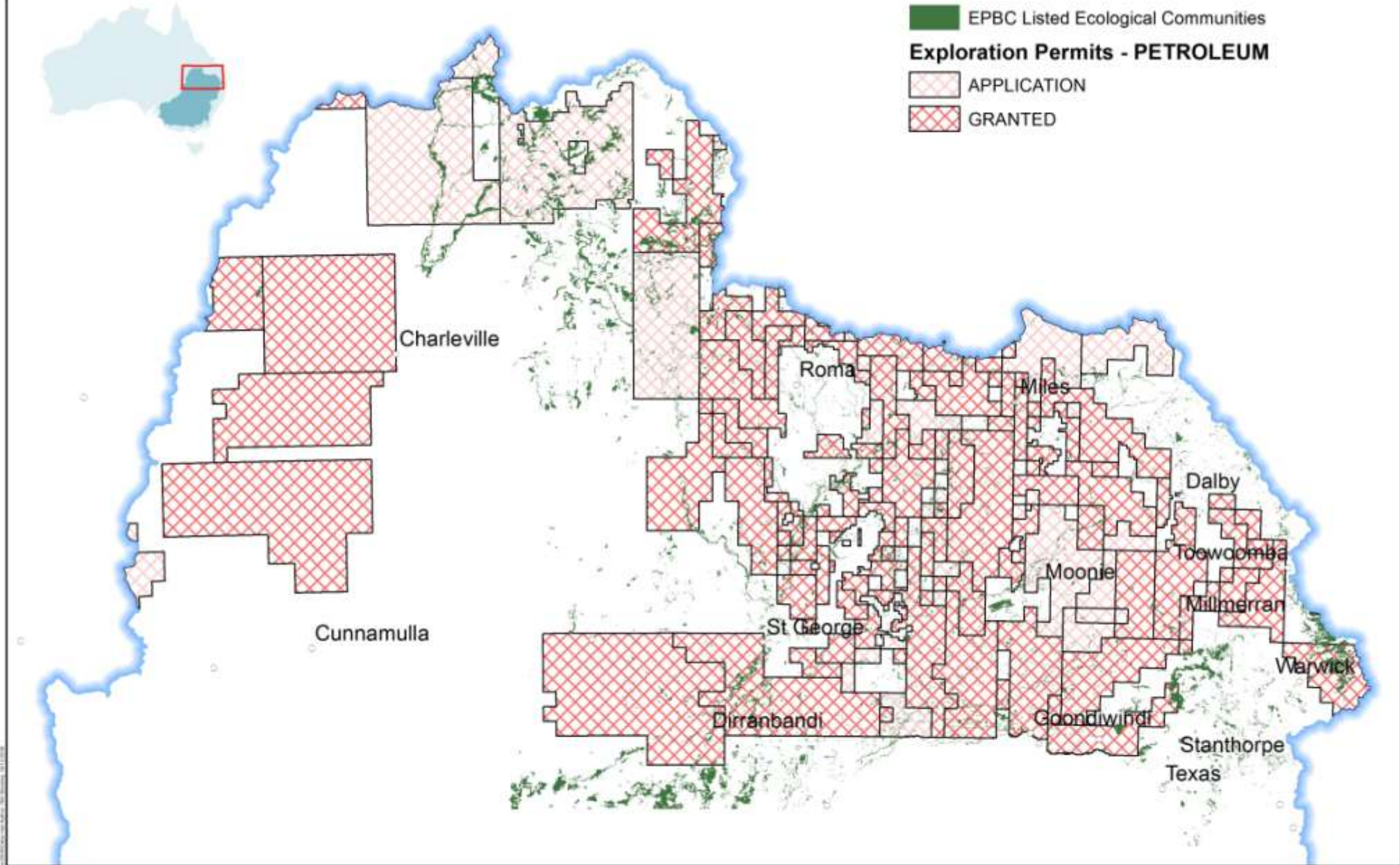


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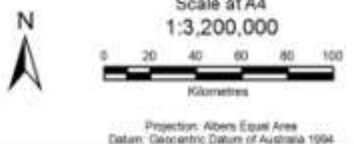


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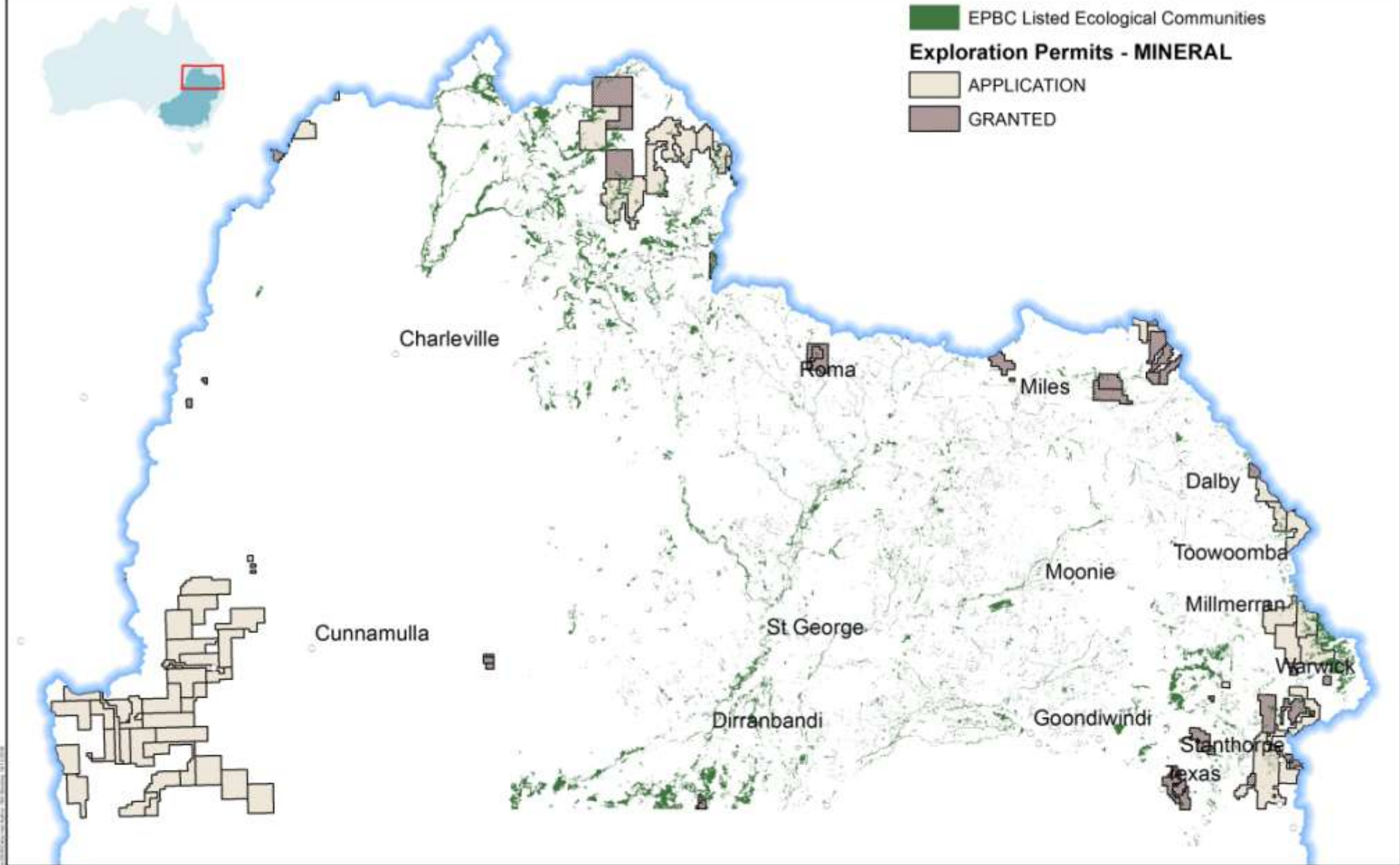


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EPBC Listed Ecological Communities
Exploration Permits - MINERAL
 APPLICATION
 GRANTED

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Scale at A4
 1:3,200,000
 Kilometres
 Projection: Albers Equal Area
 Datum: Geocentric Datum of Australia 1994

Funded by

 Queensland Murray Darling Committee Inc.
 Cnr Campbell & Bellvue Streets, TOOWOOMBA QLD 4350
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Mining & Energy Industry Impacts on
 Natural Resource Management in the
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Total Area of
EPBC Listed
Communities in
QMDB
881,654 Ha

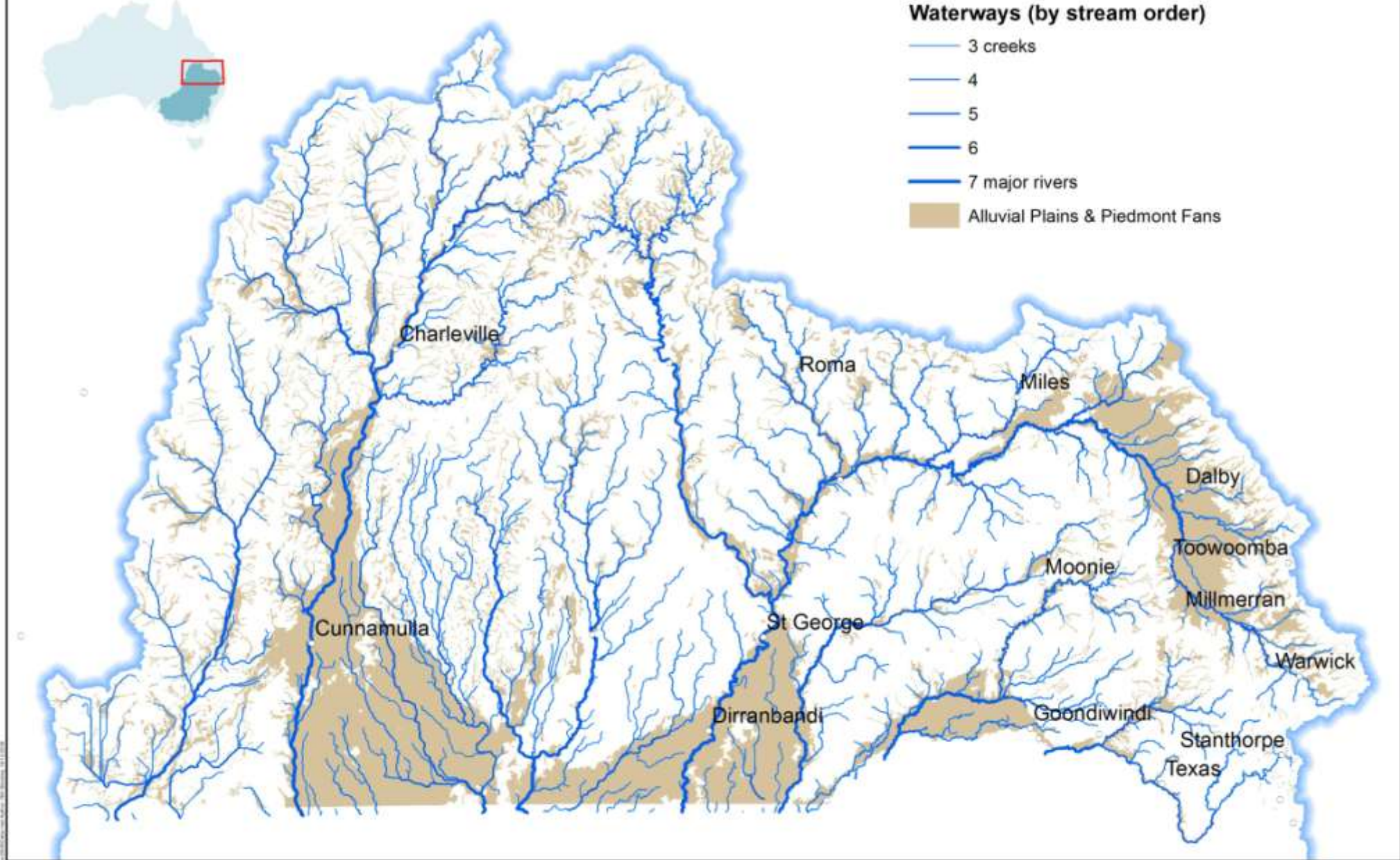
40-43% of
current extent
under coal
exploration
permits

Sum of Hectares		Sum of Hectares	
EXPLORATION STATUS	EPBC Community	Dec08	
APPLICATION	Weeping Myall Woodlands	168,686	
	Box Gum Grass Grassy Woodland	51,474	
	Brigalow Community	80,516	
	Semi-evergreen vine thicket	976	
	Native Alluvial Grasslands	907	
total		302,559	
GRANTED	Weeping Myall Woodlands	41,243	
	Box Gum Grass Grassy Woodland	20,034	
	Brigalow Community	11,764	
	Semi-evergreen vine thicket	4,216	
	Native Alluvial Grasslands	4,270	
total		81,527	
Grand Total		384,086	

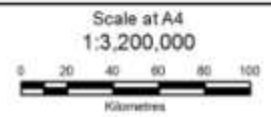


Water Quality

The possible pollution/sedimentation of water ways (rivers, creeks & wetlands) from erosion off mine sites and spoil heaps. Leakages and possible overtopping of settling ponds or evaporation ponds.



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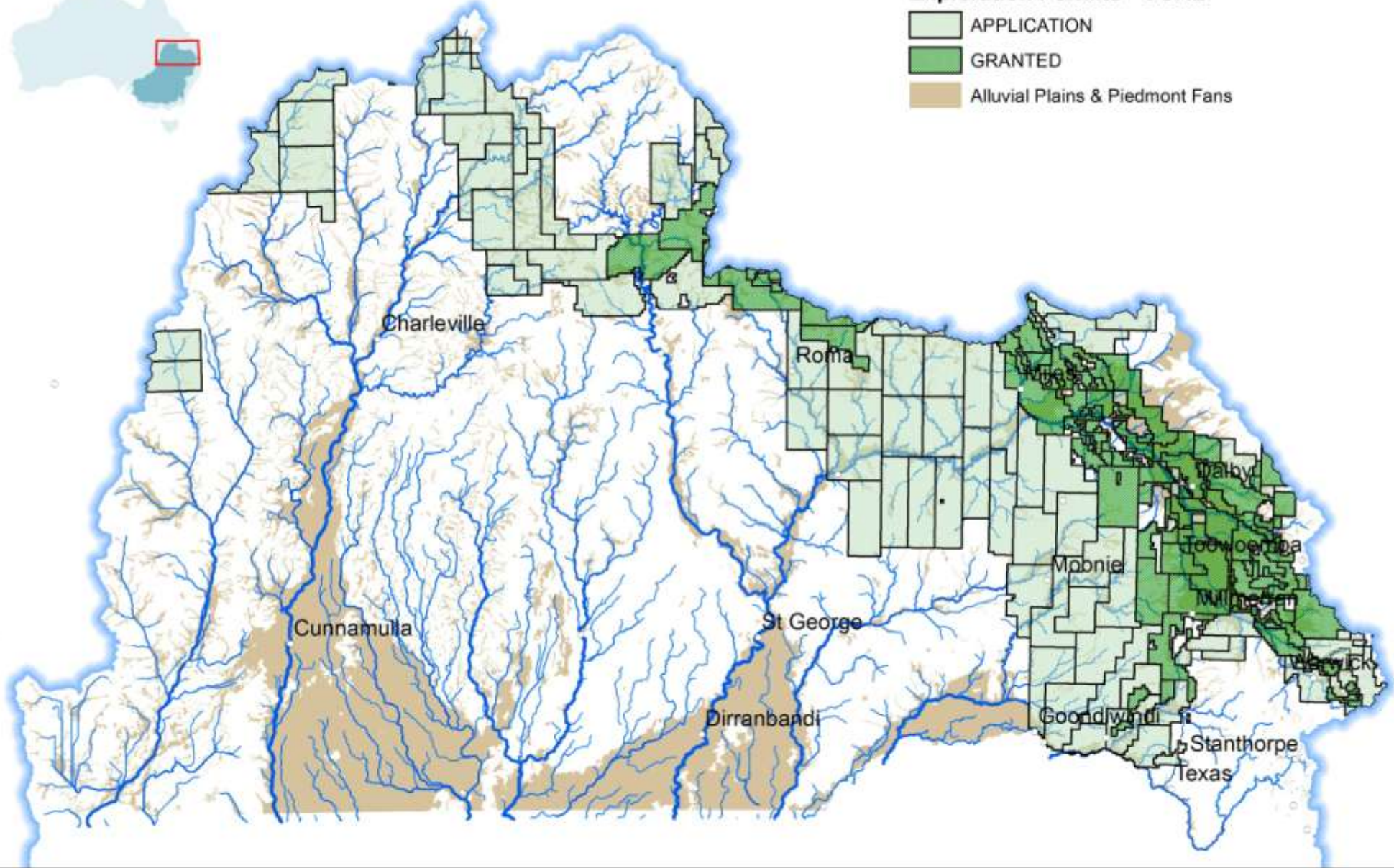


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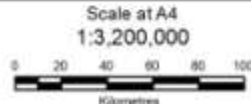
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Exploration Permits - COAL

- APPLICATION
- GRANTED
- Alluvial Plains & Piedmont Fans



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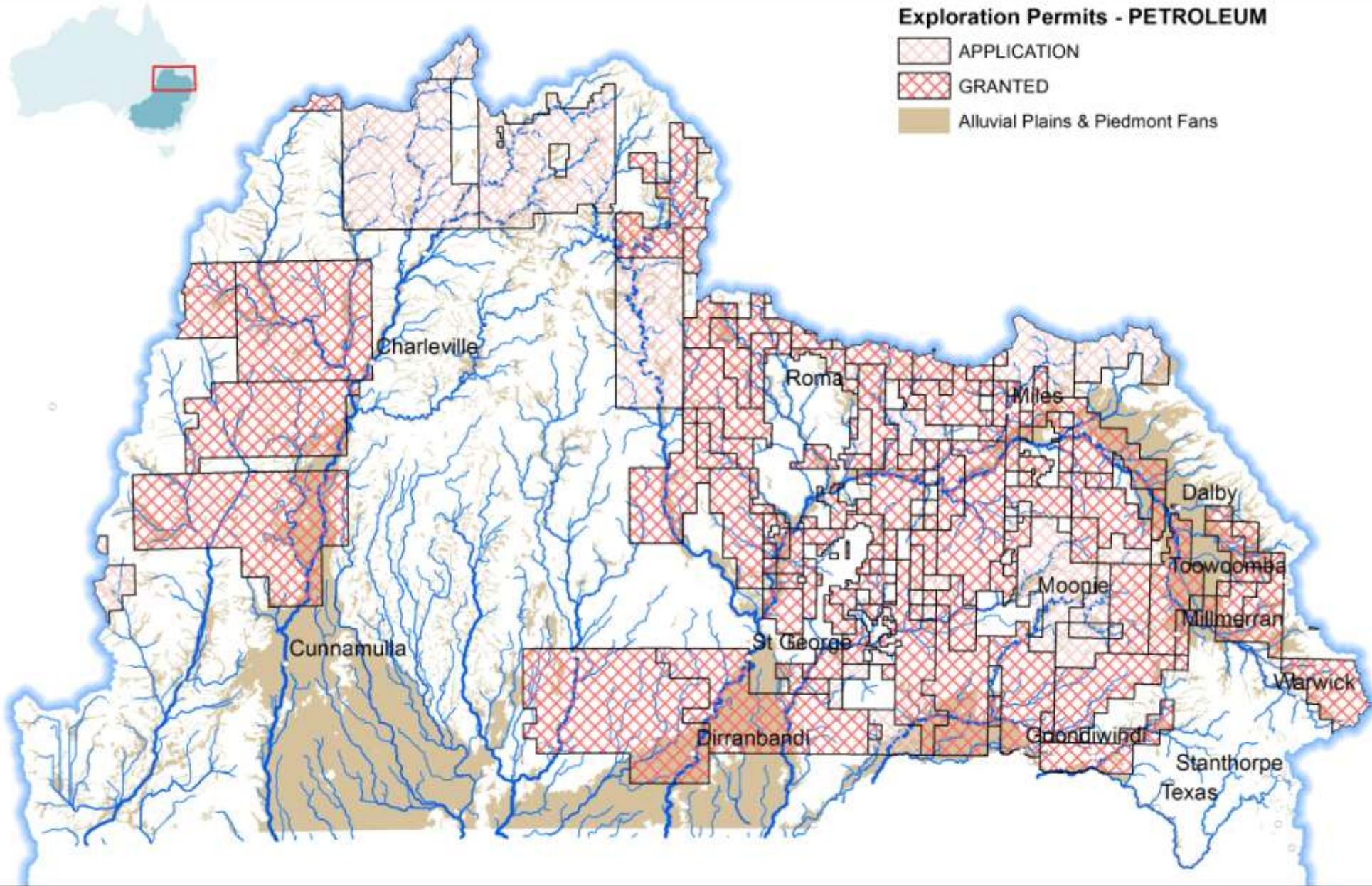


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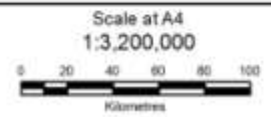
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Exploration Permits - PETROLEUM

- APPLICATION
- GRANTED
- Alluvial Plains & Piedmont Fans



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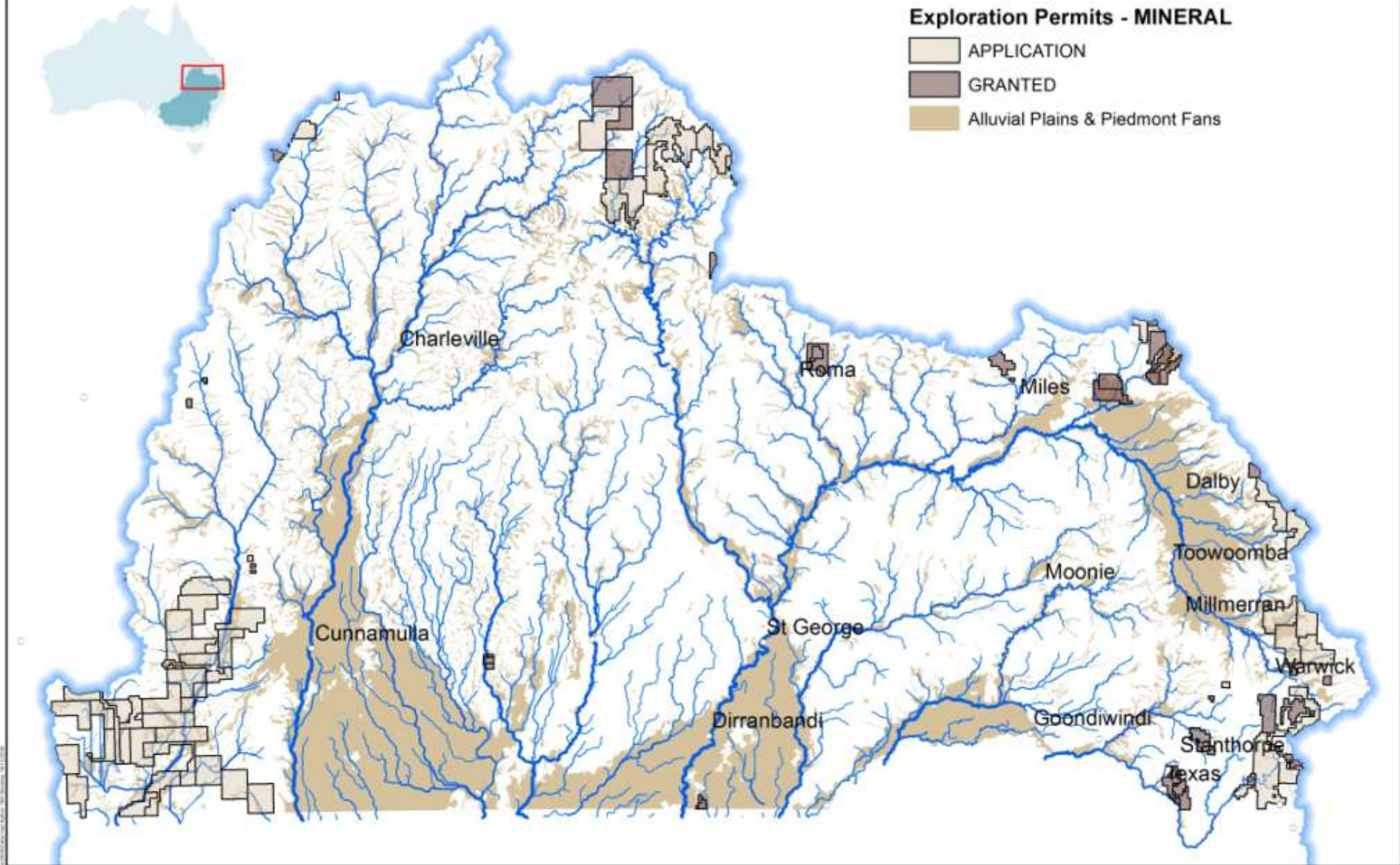


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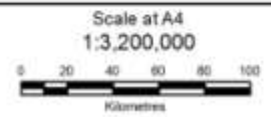
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Exploration Permits - MINERAL

- APPLICATION
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- Alluvial Plains & Piedmont Fans



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QMDB Stream Order Summary

Coal Exploration Permits

	Length (km)
APPLICATION	17,859
1	8,774
2	4,455
3	2,281
4	1,322
5	770
6	257
GRANTED	7,467
1	3,712
2	1,871
3	1,028
4	367
5	299
6	189
Grand Total	25,326

Petroleum Exploration Permits

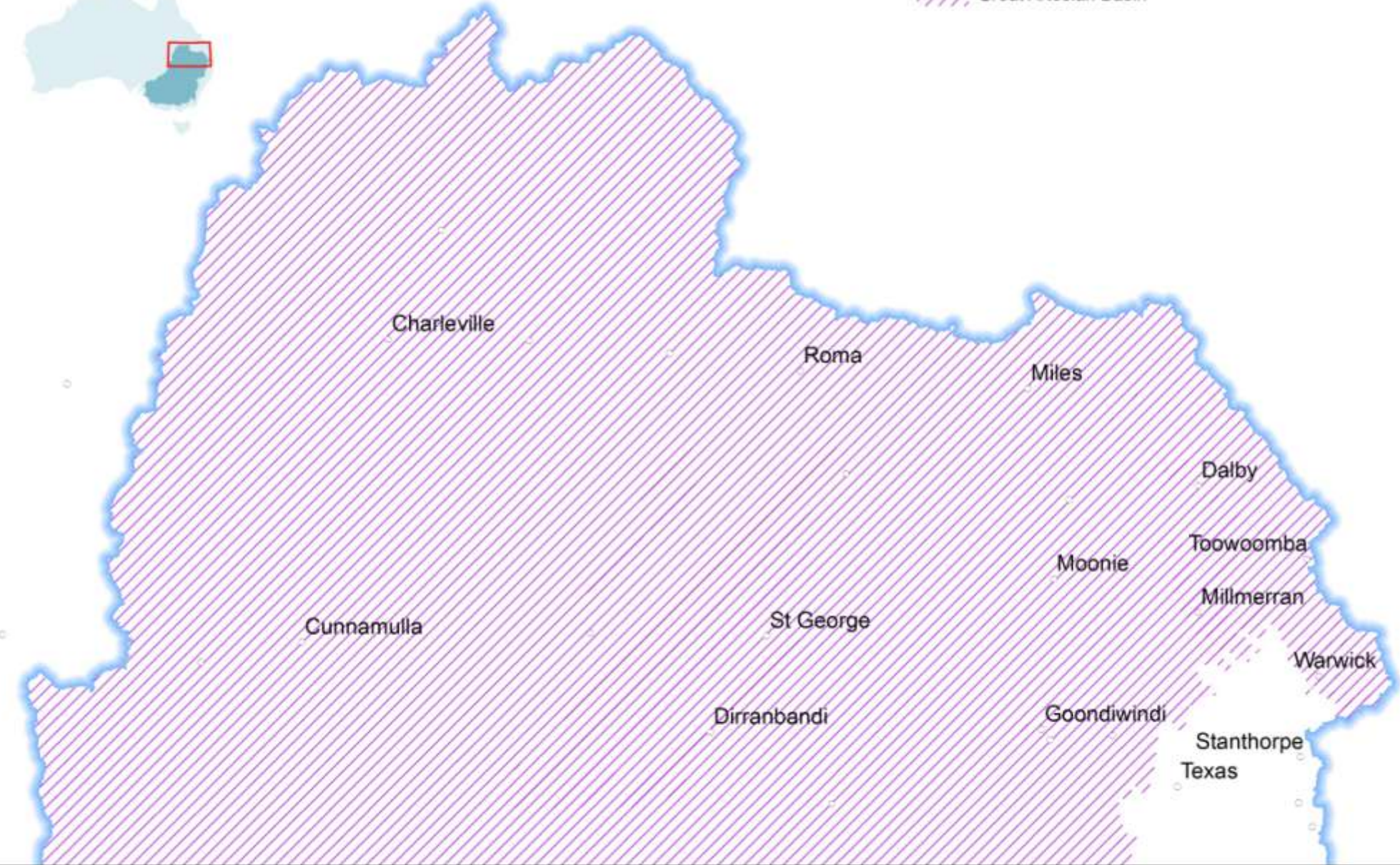
Row Labels	Sum of Length (km)
APPLICATION	19,876
1	9,660
2	4,707
3	2,569
4	1,739
5	778
6	422
GRANTED	31,714
1	15,916
2	7,785
3	3,755
4	1,947
5	1,217
6	836
7	259
Grand Total	51,590



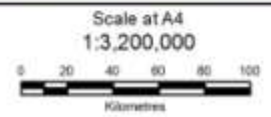
Landzones under Coal Exploration Permits

	Sum of Hectares
APPLICATION	5,212,607
Ranges, Plateaus and scarps (Low Fertility)	511,904
Ranges, Hills & Lowlands (Moderate fertility)	34,357
Ranges, hills & lowlands (Low fertility)	1,621
Alluvial plains & piedmont fans	861,300
Gently undulating plains-clay (Mod - High fertility)	998,141
Gently undulating plains-sand	977,920
Colluvium, low mesas and scarps	575,744
Plains and occasional low scarps (Mod - high fertility)	110,236
Undulating landscapes (Mod - High fertility)	1,141,233
Undulating, ranges, plateaus and scarps (Mod fertility)	152
GRANTED	1,977,024
Ranges, Plateaus and scarps (Low Fertility)	64,496
Ranges, Hills & Lowlands (Moderate fertility)	5,788
Alluvial plains & piedmont fans	818,181
Gently undulating plains-clay (Mod - High fertility)	55,239
Gently undulating plains-sand	316,956
Colluvium, low mesas and scarps	176,371
Plains and occasional low scarps (Mod - high fertility)	204,559
Undulating landscapes (Mod - High fertility)	334,237
Undulating, ranges, plateaus and scarps (Mod fertility)	1,199
Grand Total	7,189,632

Great Artesian Basin



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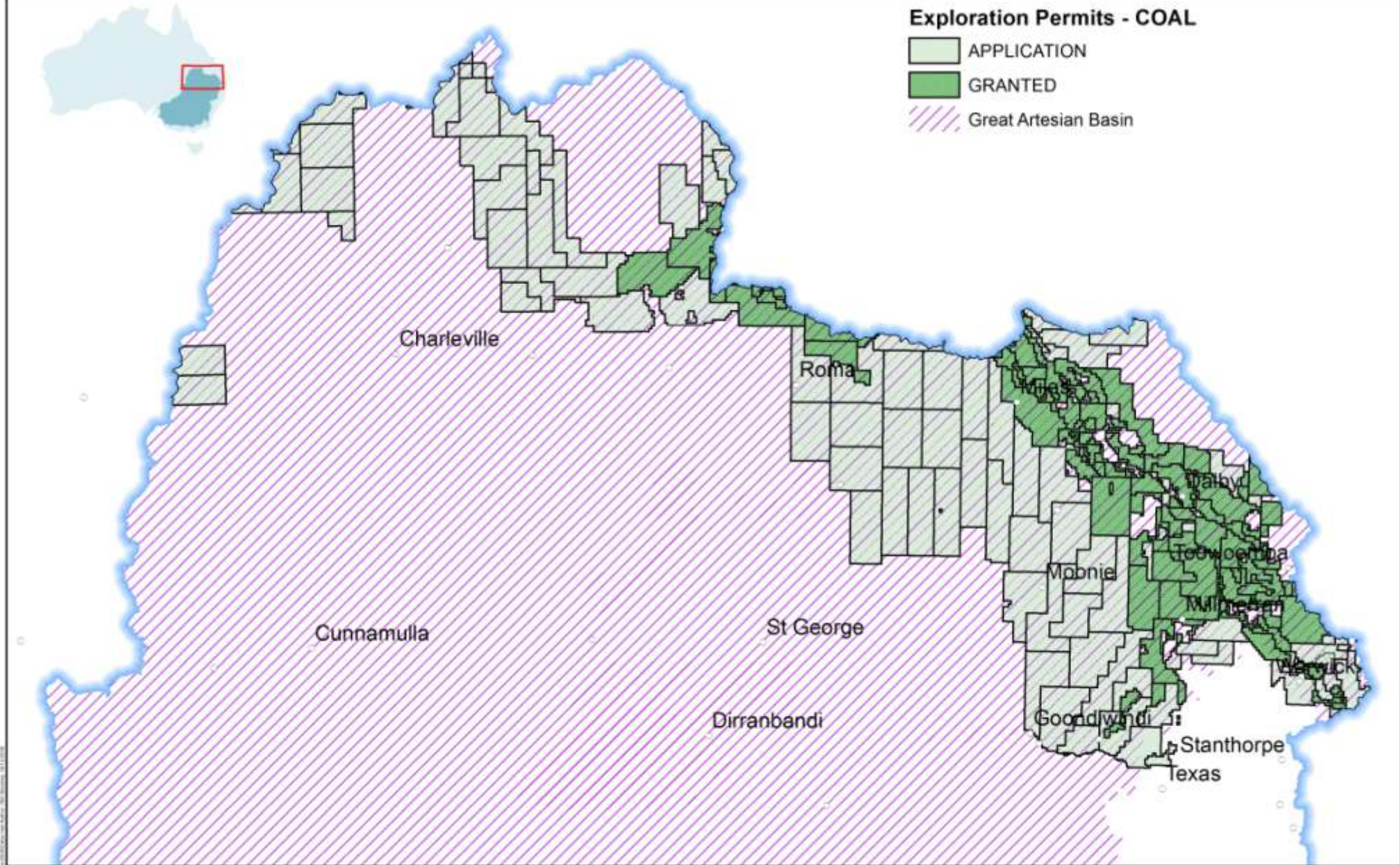


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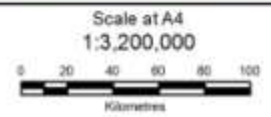
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Exploration Permits - COAL

- APPLICATION
- GRANTED
- Great Artesian Basin



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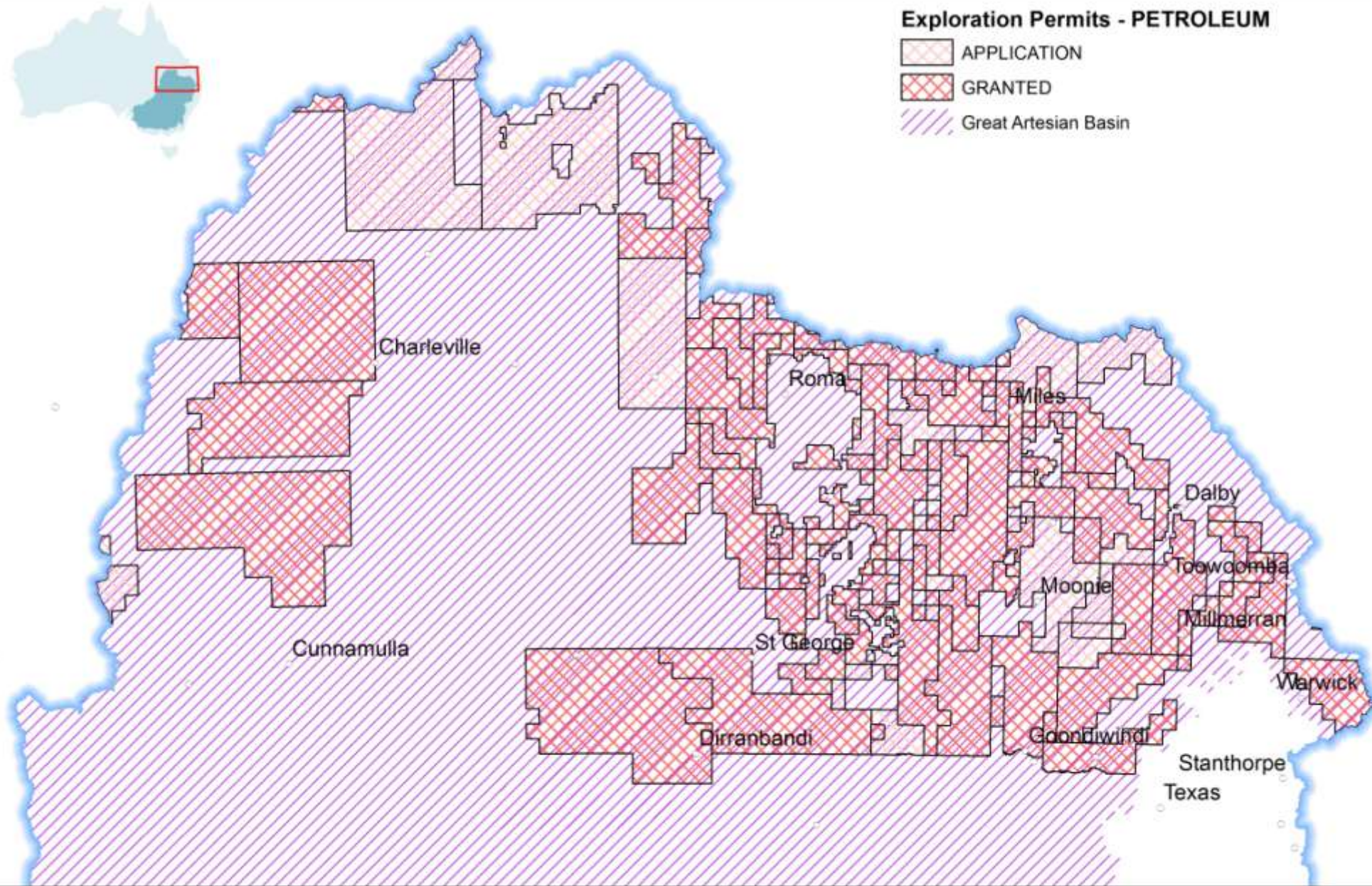
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Exploration Permits - PETROLEUM

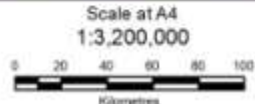
 APPLICATION

 GRANTED

 Great Artesian Basin



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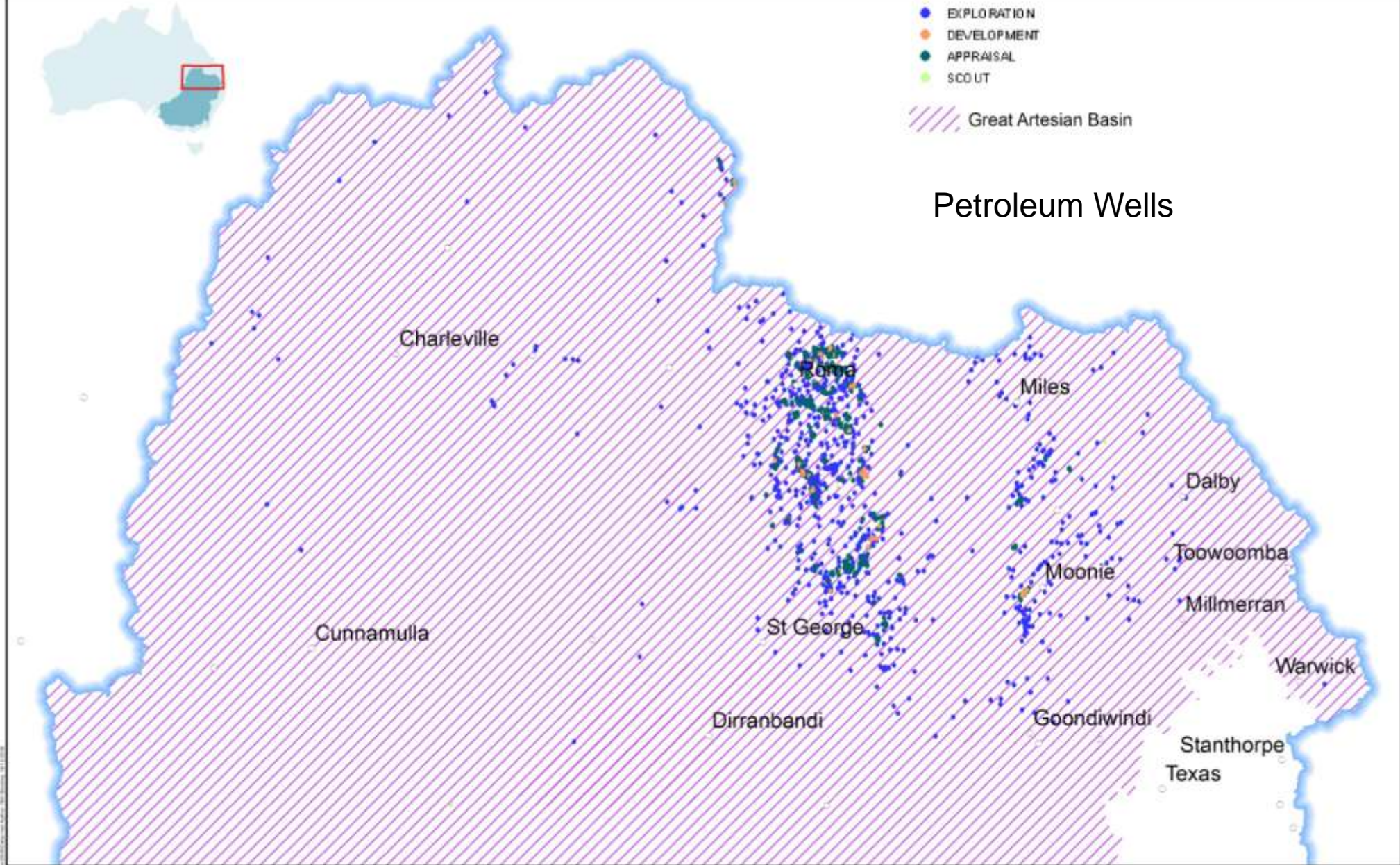


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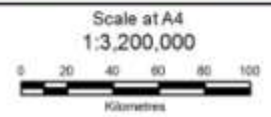


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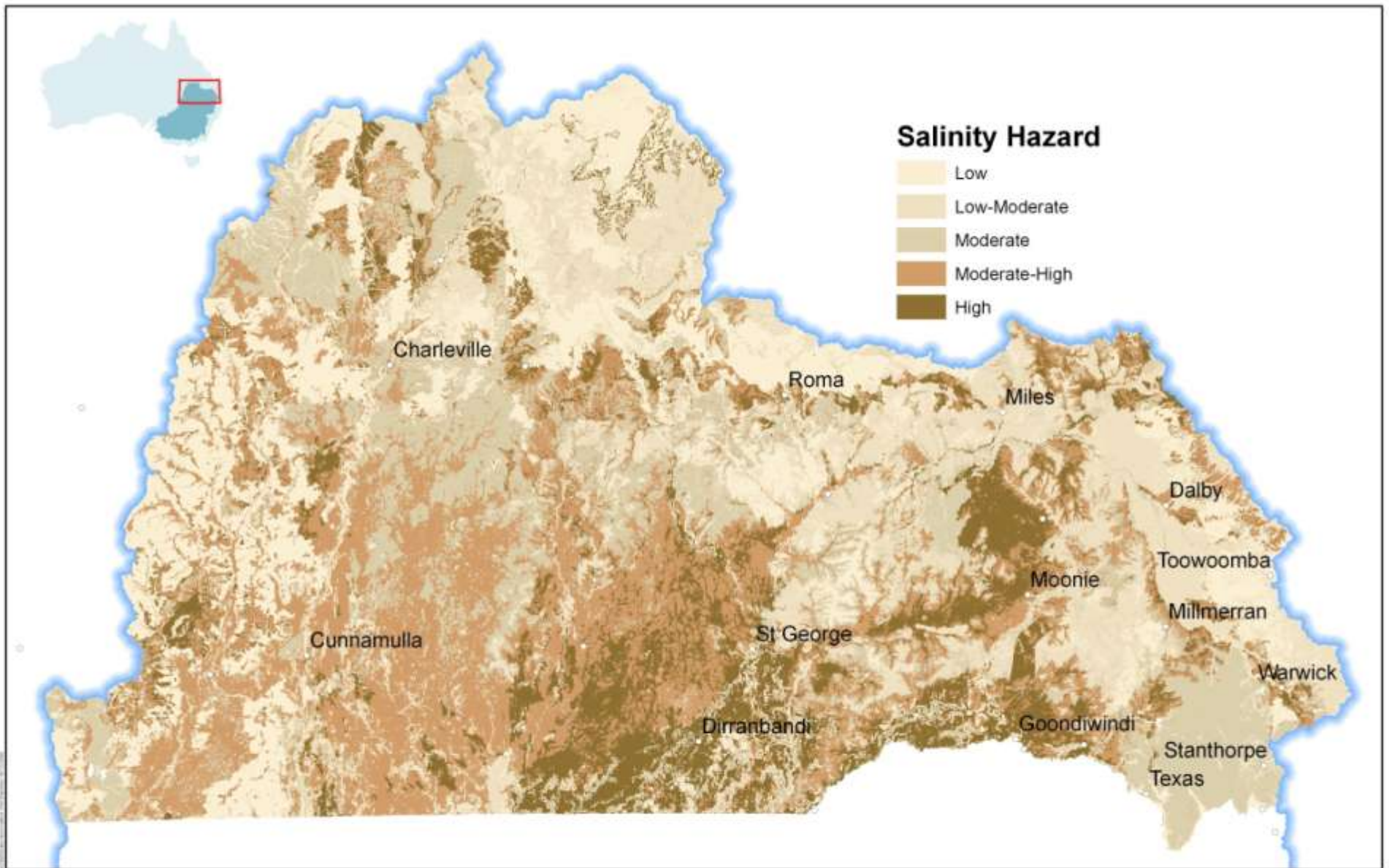
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Salinity

Waste (or associated) water that has high salt content has the potential to be used (irrigation), leak or be left behind and damage farming land and creeks, rivers and wetlands.



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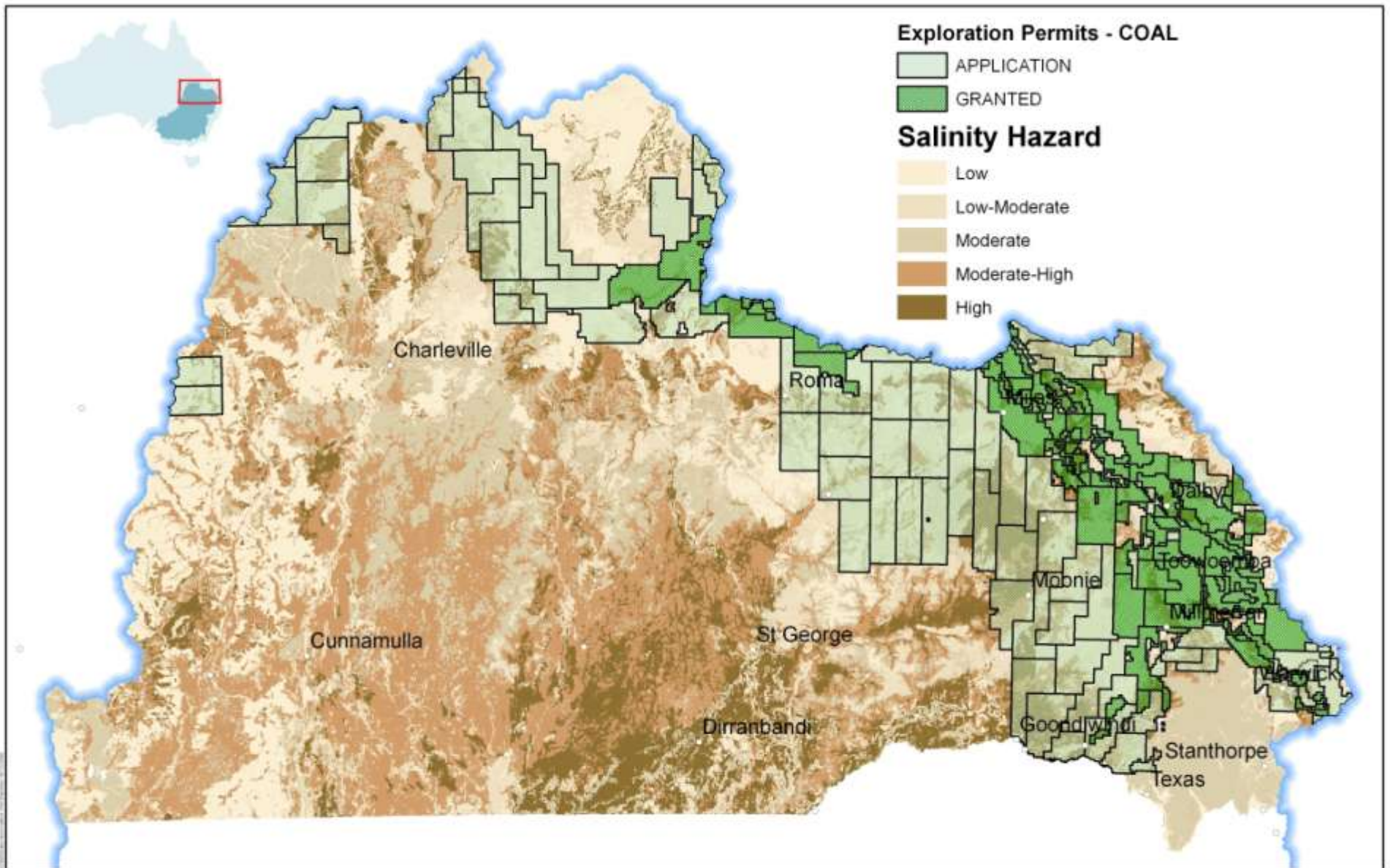


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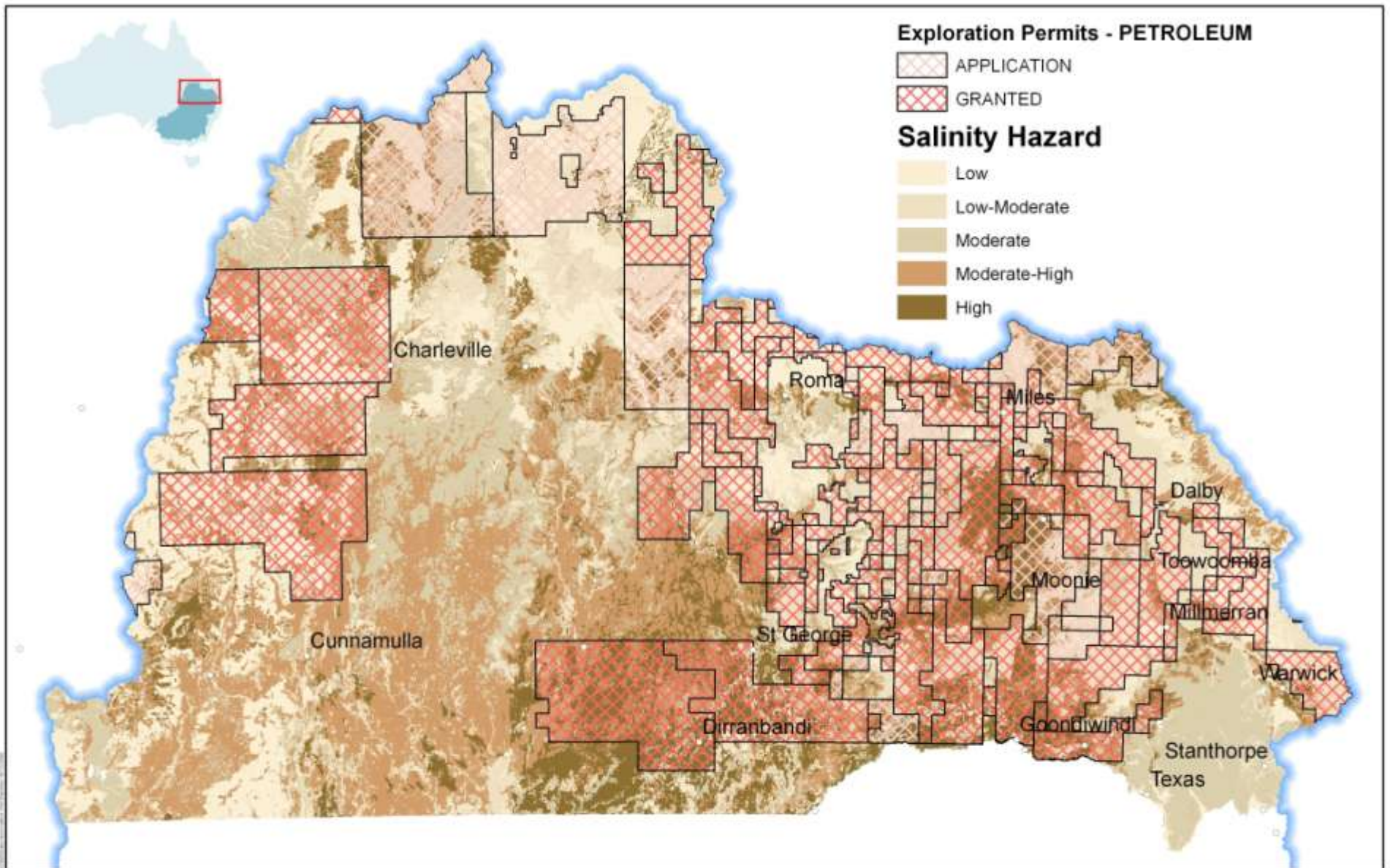


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Current Exploration Permits Coal (EPC)

Sum of Hectares				
EXPLORATION STATUS	SALINITY HAZARD	Jul-08	Dec-08	% change
APPLICATION	Low	751,219	1,049,071	40
	Low-Moderate	1,368,071	1,679,644	23
	Moderate	663,157	931,477	40
	Moderate-High	571,041	814,874	43
	High	557,910	723,319	30
total		3,911,399	5,198,385	
GRANTED	Low	367,702	411,901	12
	Low-Moderate	935,017	1,007,040	8
	Moderate	233,956	219,290	-6
	Moderate-High	262,675	247,589	-6
	High	90,810	84,876	-7
total		1,890,160	1,970,694	4
Grand Total		5,801,559	7,169,080	24

Current Exploration Permits Petroleum (EPC)

Sum of Hectares				
EXPLORATION STATUS	SALINITY HAZARD	Jul-08	Dec-08	% change
APPLICATION	Low	373,818	1,228,174	229
	Low-Moderate	835,848	2,127,348	155
	Moderate	444,044	1,152,255	159
	Moderate-High	484,839	838,210	73
	High	465,237	566,065	22
APPLICATION Total		2,603,786	5,912,053	127
GRANTED	Low	1,552,176	1,652,015	6
	Low-Moderate	2,143,812	2,153,770	0
	Moderate	1,389,433	1,384,213	0
	Moderate-High	2,039,405	1,999,204	-2
	High	1,444,250	1,445,079	0
GRANTED Total		8,569,076	8,634,280	1
Grand Total		11,172,862	14,546,334	30



Further Information

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