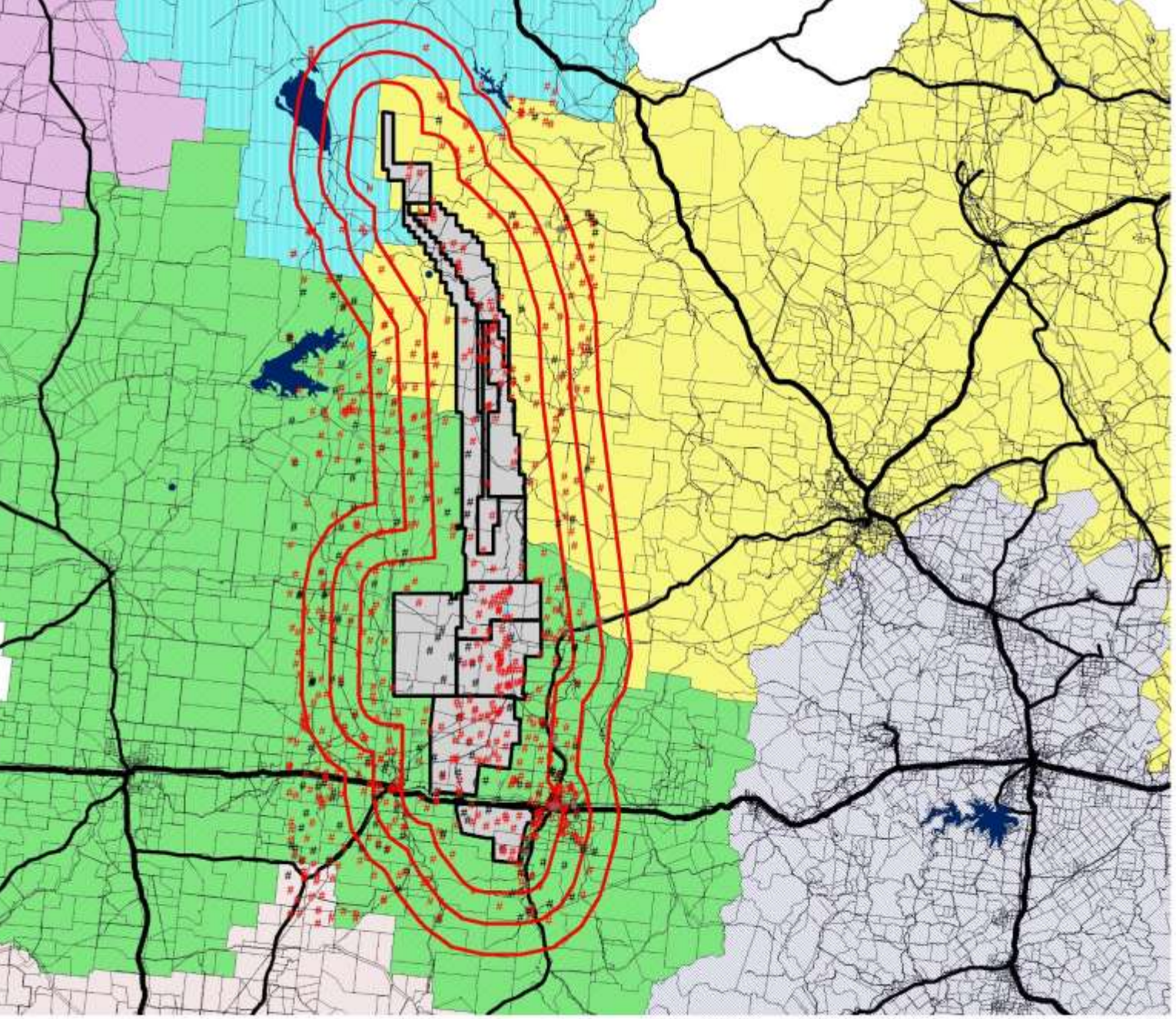
Galilee Basin Overview

Ellie Smith
Lock the Gate Alliance
Central Queensland

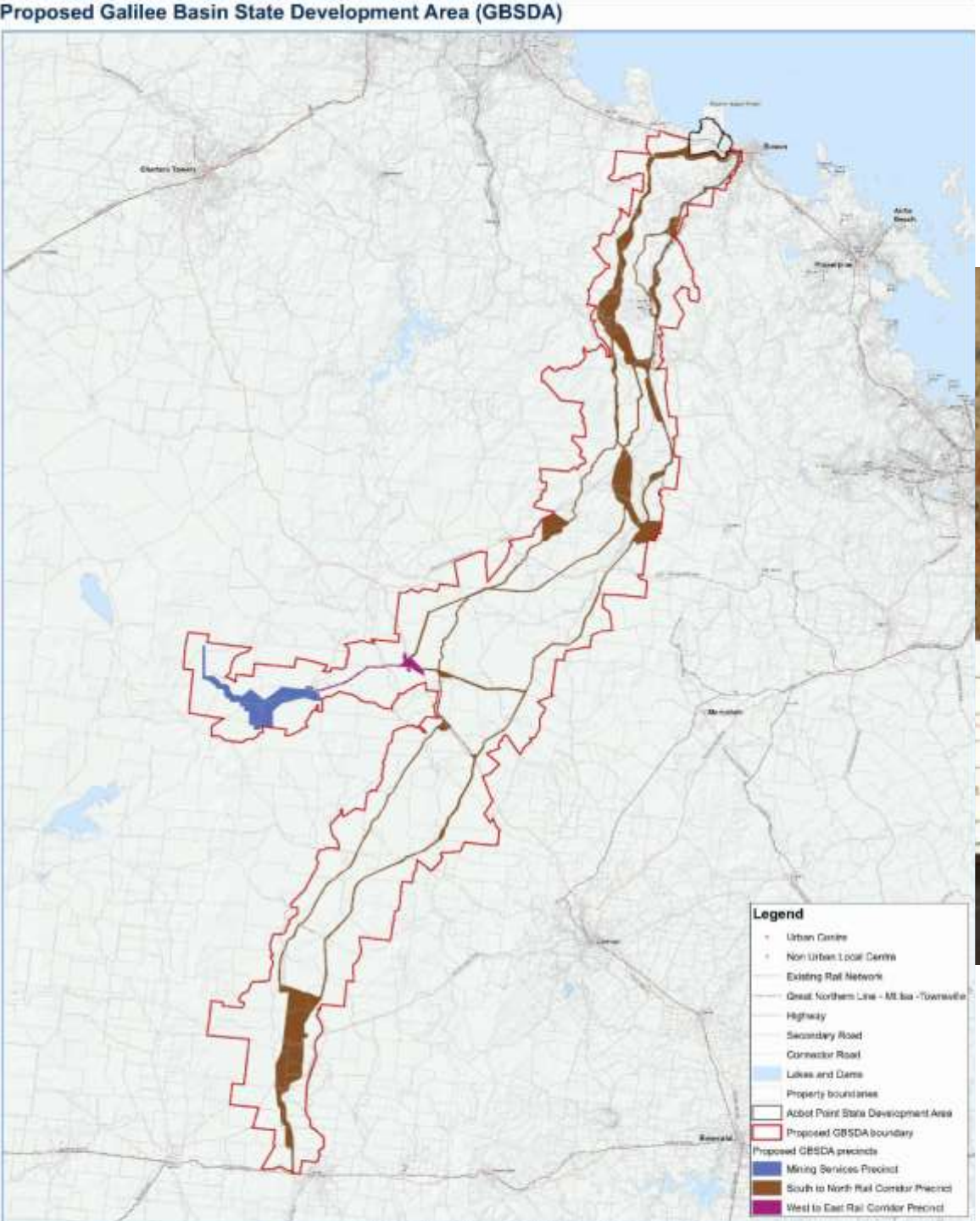

Townsville
Ayr
Charters Towers
Bowen
Proserpine
Moranbah
Yeppoon
Rockhampton
Gladstone
Macmines – China Stone
Currently completing EIS
Adani – Carmichael
SEIS Complete – Awaiting State and Federal decisions
NGBR EIS currently on display
GVK/Hancock – Kevin's Corner
Approved by State and Federal Governments.
ML and EA challenged in the Land Court
Alpha Coal Mine and Rail:
Owned by GVK (79%) and Hancock (21%)
EIS approved by State and Federal Govts with conditions,
EA and ML being challenged in court,
In discussion with Aurizon for rail joint venture
Awaiting financial close
Waratah – China First
Approved by State and Federal Governments.
Bandanna - Galliee South
Currently completing SEIS
Source: Coordinator General



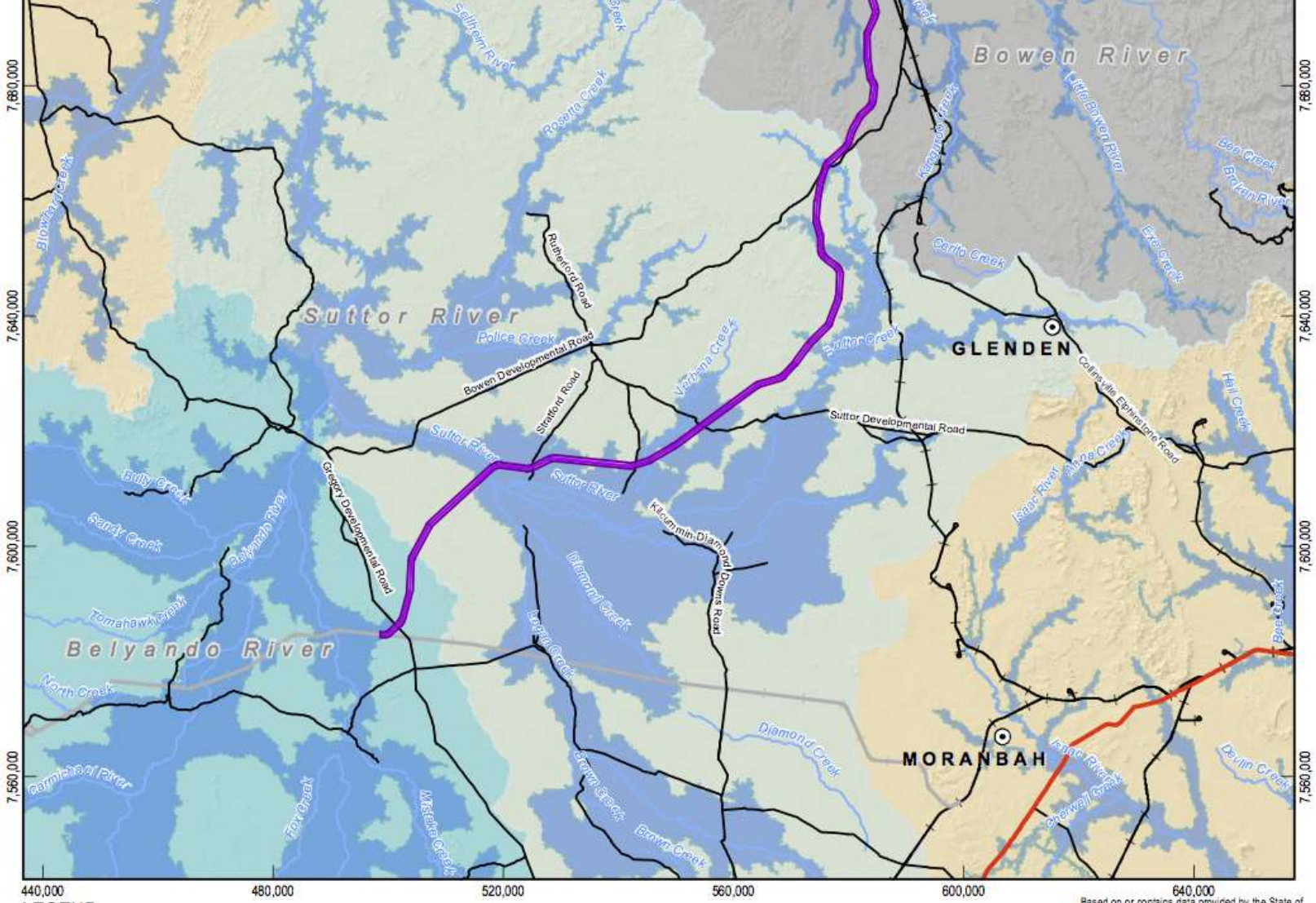
39 properties directly within the mining leases.

Dozens more within 10km that may be affected by drawdown.

Proposed Galilee Basin State Development Area (GBSDA)



Courtesy of Department of Transp



LEGEND

- Population Centres
- Major Port
- Highway
- Main Road
- Carmichael Project (Rail)
- Railway
- Watercourse (Major)
- Flooding Assessment
- River Basins
- Belyando River
- Suttor River
- Bowen River
- Don River
- Lower Burdekin River
- North Galilee Basin Rail 1000m Corridor
- North Galilee Basin Rail 100m Corridor

1:1,300,000 Paper Size A4

0 10 20 40

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

GHD

adani

Adani Mining Pty Ltd
North Galilee Basin Rail Project

Job Number	41-26457
Revision	A
Date	29 Aug 2013

The 2010/2011 flood event

Figure 9-4

Financial Analysis of Galilee Basin Projects

Financial Analysis of Galilee Basin Projects

- Price of coal is going down
  - Chinese demand for coal is being constrained by air pollution concerns and lowered growth
  - Other major exporters coming online
- Companies involved have very weak balance sheets
- Huge ~$6bn expense involved in building rail infrastructure
- Recent infrastructure projects in Queensland have experienced cost blowouts or have fallen through
  - Eg Wandoan Coal Mine


nsw
FARMERS
Protect Our
Land And Water
'T EAT COAL,
CAN'T DRINK GAS
Gone
– Gone
s next?


COMMUNITY
NOT
COAL
Our Communities In Action


COUNTRY WOMEN'S ASSOCIATION
New South Wales
Pride in our Past, Faith in our Future

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Compulsory Acquisition

Environmental Defenders Office
of Northern Queensland

The Galilee Basin

- Negotiations now - private infrastructure facility.

- What happens when and if the area is declared a State development area?

Negotiations with proponents

- Sharing information – confidentiality
- How to support others and gain assistance
- Timeframes
- Professional assistance – payment upfront or later – user pays

Negotiations with the government

- Will negotiations change?
- What is the difference when negotiating with the government?
- What if you cannot agree on an amount?

What if you say no to your land being taken?

- Notice of Intention to Resume
- Objection - within 30 days
- You need to provide reasons and support them.
- Governor in Council -decision

Compensation

- Land taken
- Damage caused to remaining land
- Loss of profits
- Replacement land
- Professional costs
- Your own time

Adani

North Galilee Basin Rail Project

Carmichael Mine to Abbot Point

Environmental Impact Statement

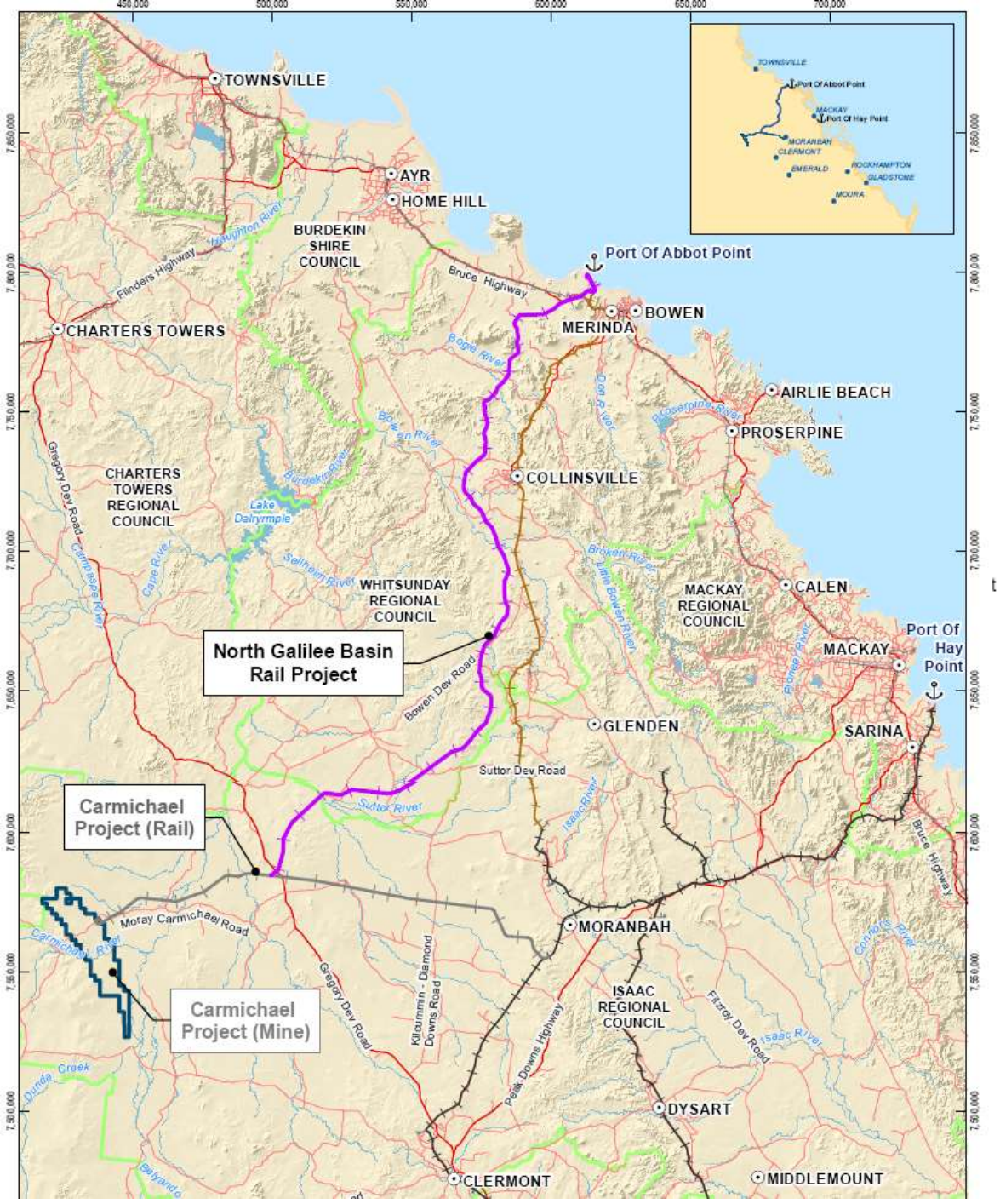
Feb 4th 2014

MACKAY CONSERVATION GROUP

The Environment Centre
156 Wood St, Mackay
PO BOX 826
Mackay Qld 4740

Tel: (07) 49530808
Fax: (07) 49530153
Mob: 0403 304 081
Email: mcgmail@bigpond.com
Web: www.mackayconservation group.org.au

Proposed North Galilee Basin Rail Route



Other Rail Network
Goonyella System
Newlands System
Major Road
Local Road
Watercourse
Local Government Area
Carmichael Project (Rail)
North Galilee Basin Rail
Carmichael Project (Mine)

Rail Links

- The Newlands rail network is linked with the **Goonyella rail network** which services the Port of Hay Point south of Mackay **via the Northern Missing Link** (North Goonyella Junction to Newlands Junction).

- The southern section of the NGBR Project will also adjoin the proposed **Carmichael Coal Mine and Rail Project's rail infrastructure** around Mistake Creek.

Further details on **rail networks within the vicinity of the local study area are provided in the EIS in Volume 1 Chapter 14 Transport**

Table 3-4 Current and potential land use (Mackay, Isaac and Whitsunday region)

Land use type	Current land use (percent of region[1])	Potential land use (percent of region[1])
Broadacre cropping	2.52 %	9.62 %
Sugarcane	1.88 %	7.06 %
Perennial horticulture	0.02 %	8.32 %
Annual horticulture	0.10 %	17.66 %
Grazing	85.28 %	92.88 %
Intensive livestock	0.00 %	23.84 %
Aquaculture	0.00 %	0.27 %
Other land use (non-agricultural land uses and also may include some forestry)	10.20 %	N/A

[1] – Region is defined as the Mackay, Isaac and Whitsunday region

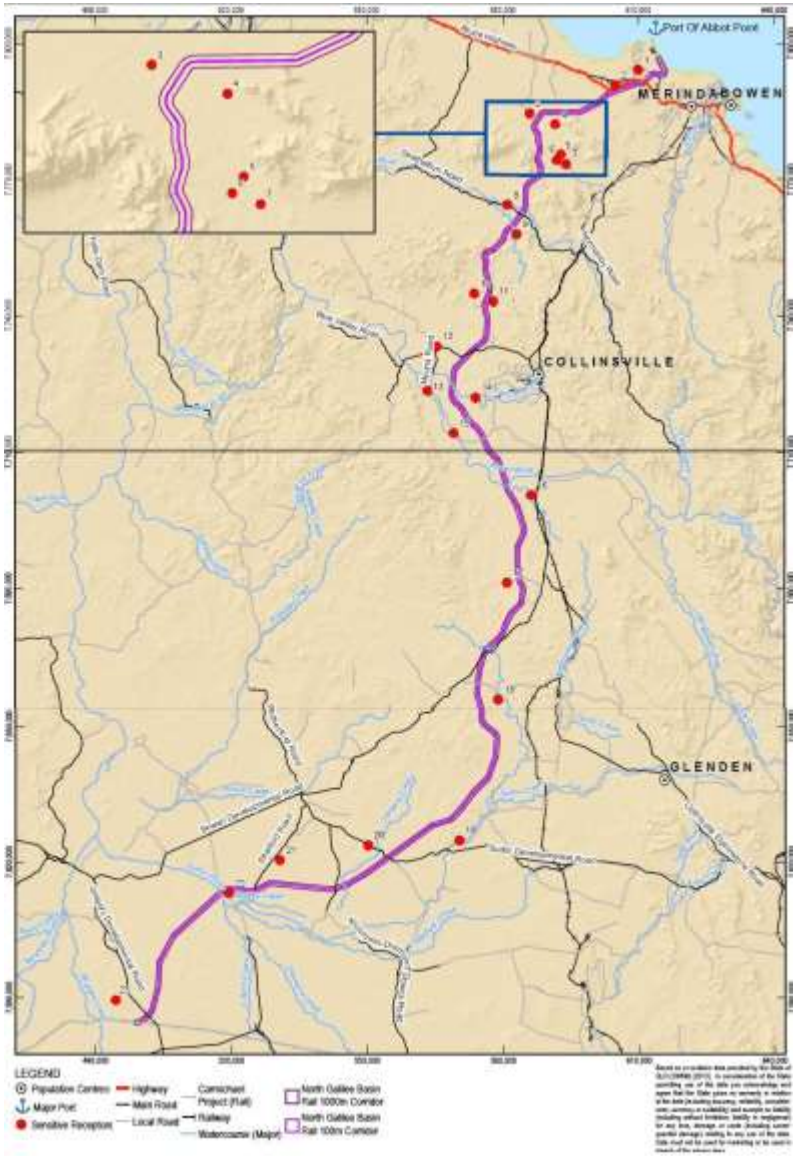
64 properties intersected by the final rail corridor

27 leasehold lots, 36 freehold lots and one lot designated as ‘Unallocated State Land’.

Key communities in the local study area are considered to be Bowen, Collinsville and Moranbah.

Rail route will impact 3,248 ha of land

Homesteads affected by the Rail Line



Stratford Homestead #22 only 1 km from the proposed rail line corridor.

Table 3-5 Summary of potential sensitive receptors

Sensitive receptor	Easting, mE (GDA94)	Northing, mN (GDA94)	Approximate distance from final rail corridor (m)	Lot on Plan
Homestead 1	609916	7794255	2,690	255HR2027
Homestead 2	604874	7790877	1,152	3HR1712
Homestead 3	585906	7784622	2,198	4SB687
Homestead 4	591656	7782269	2,581	25SB353
Homestead 5	592845	7775614	4,680	1SB279
Homestead 6	591975	7774322	3,776	3SB514
Homestead 7	594112	7773398	5,674	76SP167797
Homestead 8	581086	7764508	3,572	355K124696
Homestead 9	583141	7758004	2,071	5047PH370
Homestead 10	573776	7744903	2,877	3SB236
Homestead 11	577664	7743174	1,514	86DK154
Homestead 12	565463	7733205	6,158	3SP132678
Homestead 13	563357	7723411	5,316	14DK18
Homestead 14	574094	7721935	3,863	4914PH1791
Homestead 15	569153	7714138	4,263	618PH2106

Homestead 16	586276	7700615	3,819	62SP195387
Homestead 17	580954	7681237	2,772	4SP171921
Homestead 18	579067	7655503	4,120	1510SP171920

Sensitive receptor	Easting, mE (GDA94)	Northing, mN (GDA94)	Approximate distance from final rail corridor (m)	Lot on Plan
Homestead 19	570319	7624819	4,931	1DK244
Homestead 20	550182	7623709	4,694	1943SP221555
Homestead 21	530696	7620414	5,159	5088SM101
Homestead 22	519416	7613045	1,059	3821PH1304
Homestead 23	494429	7589483	6,584	4SP116046

National Protected Area System

Table 3-6 Significant recreational areas near the investigation corridor

Recreational area	Approximate Distance from final rail corridor
Nairana National Park	8.5 km west
Hells Gate Nature Refuge	9 km west
Mount Pleasant Nature Refuge	8 km west
Aberdeen Nature Refuge	8 km west
Mount Aberdeen National Park	4 km south-east
Mount Abbot National Park	8 km north-west
Abbott Bay Resources Reserve	7 km north

More on Protected Areas

- Close enough for coal dust to affect these protected areas i.e. coal dust has been recorded in dust deposition at least 6 km south of Hay Point port's coal stockpiles and access rail.

- Adani's mining tenure affects Nature Refuges and potentially protected areas west.

- Some of the Offset Hub tenures also lie very close to the proposed rail corridor.

- Fig. 3-7 Port of Abbot Point land use designation shows the **proposed rail loop within the Caley Valley wetlands**

Roads & Stock Routes

A total of 24 roads, stock routes and road reserves are likely to be intersected by the NGBR Project, of which **five are considered major roads (State-controlled roads**), eight are minor roads (Council owned roads), four are road reserves and **seven are gazetted stock routes (refer Table 3-7).**

Stock Routes

The NGBR Project will potentially constrain the movement of stock on existing crossings, increasing wait times for stock on foot or truck, stressing animals and incurring delays for landholders trying to transport stock for sale.

Potential impacts on access within properties causing **disruption to existing stock** and/or **vehicle movements** are considered in the **EIS Section 3.4.1.**

There are seven gazetted stock routes that will be traversed by the NGBR Project final rail corridor.

Of these, **one stock crossing (gazetted but not constructed), located at chainage 117.11 km, is proposed to be permanently closed**.

Where deemed necessary, **holding yards** may be established at either side of stock crossings **or underpasses provided**

Table 3-7 Road and stock route crossings

Crossing	Chainage	Classification
Abbot Point Road	-5.25 km	Major road
Abbot Point Road	-6.70 km	Major road
Abbot Point Road	6.11 km	Major road
Bruce Highway	12.27 km	Major road
Glenore Road	34.05 km	Minor road
Road / Stock Crossing (gazetted Stock route number U398BOWN05)	57.34 km	Stock route
Strathalbyn Road	61.58 km	Minor road
Stock Crossing (gazetted Stock route number U398BOWN04)	62.77 km	Stock route
Road / Stock Crossing (gazetted Stock route number U398BOWN04)	79.55 km	Stock route
Road reserve (not constructed)	83.70 km	Road reserve
Strathmore Road & Stock Crossing (gazetted Stock route number U321BOWN01)	97.89 km	Minor road / stock route

Further details on road and stock route networks within the local study area are provided in the EIS in Volume 1 Chapter 14 Transport.

Road reserve (not constructed)	117.11 km	Road reserve
Road Crossing (Minor Road)	120.46 km	Minor road
Stock Crossing (gazetted Stock route number U409BOWN02)	133.32 km	Stock route
Road reserve (not constructed)	139.27 km	Road reserve
Road Crossing	153.92 km	Minor road
Bowen Developmental Road	173.20 km	Major road

Crossing	Chainage	Classification
Cerito Road	177.82 km	Minor road
Cerito Road	180.25 km	Minor road
Stock Crossing (gazetted Stock route number U403BOWN02)	186.37 km	Stock route
Road reserve (not constructed)	205.84 km	Road reserve
Suttor Developmental Road	231.27 km	Major road
Kilcummin Diamond Downs Road	244.68 km	Minor road
Stratford Road	262.95 km	Minor road
Stock Crossing (gazetted Stock route number U402BOWN01)	269.63 km	Stock route
Gregory Developmental Road	303.79 km	Major road

Road Works

Rehabilitation and overlay works occurring to the Bowen Developmental Road (Bowen – Collinsville) may result in an improvement in the **capacity to transport heavy vehicles or large quantities of materials from Bowen or the Port of Abbot Point to the construction site.**

Current Coal Rail System for Bowen Basin

Proposal Description

- 100 million tonnes per annum (mtpa) of coal for export
- Use by Adani and third party mines in the northern Galilee Basin
- Bi-directional rail track
- Standard gauge line as opposed to existing narrow gauge line
- 100 m wide rail corridor
- A rail maintenance access road running parallel to the 300 km rail track
- Seven passing loops, each 4.3 km in length
- Quarries and borrow pits within acceptable haulage distances - fill, gravel, aggregate and ballast – screening and crushing plants for each

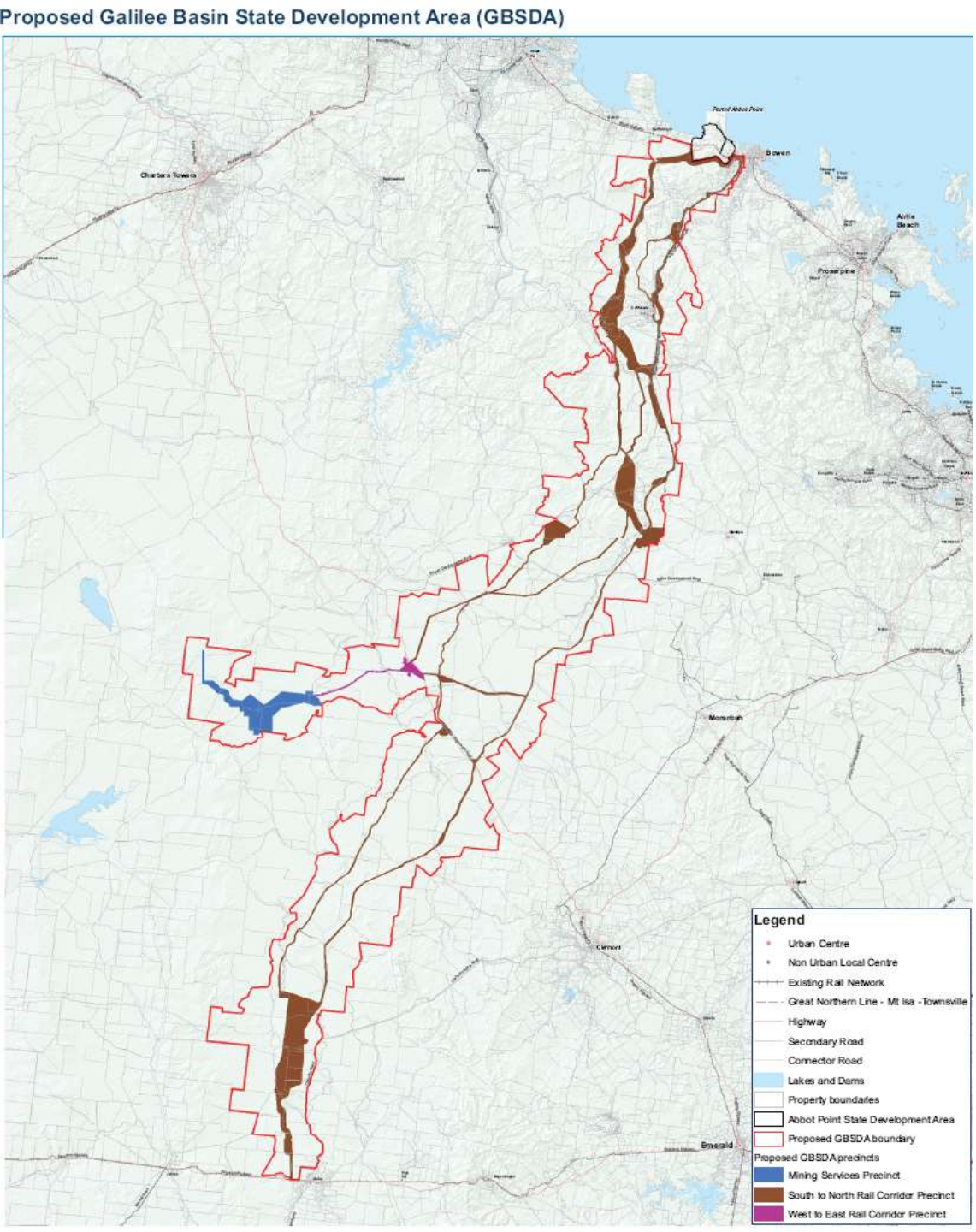
NEED? Important component of EIS

QLD government's ***The Coal Plan 2030*** (DSDIP 2010)

- India is to be a major market for Australian export coal.
- The servicing of this market will require significant coal and infrastructure developments with government support.
- Galilee Basin expected to become the largest coal producing region in the State.
- $25.5 billion by government for rail, port & water infrastructure.
- But coal prices continue to drop and stay below level economically viable to mine Galilee coal.
- Long-term agriculture will earn more than shorter-term coal. Need for landowner data to show this.

Coal Price outlook flat

Source: [IMF Commodity Price Forecasts, September 2013]



Galilee Basin State Development Area

Declaration will allow properties to be compulsorily acquired by Adani.

Area is much wider than the proposed rail corridor.

Much of the area is covered with coal and gas mining tenures.

Impacts on the grazing industry in this region? Data needed for EIS.

Government support offered to “first movers”

ADANI's short-term proposal

The proposed **Carmichael Coal Mine and Rail Project** includes a **120 km portion of dual gauge rail** that will run west to east from the mine site to **Diamond Creek**, and a **69 km narrow gauge portion** that will run **east from Diamond Creek** and **connect to the Goonyella rail system south of Moranbah.**

But unlikely to be built if Dudgeon Point coal terminals do not proceed.

Why did Adani select the North Galilee Basin Rail Option?

Avoided most 'no go' zones, i.e.

- national parks,
- severe topographical features,
- **major floodplains**,
- **social centres** and
- Current or proposed mining lease areas

Would you agree they have done that?

The main watercourses crossed by the NGBR

Includes the

- Bowen River,
- Bogie River,
- Elliot River,
- Pelican Creek and
- Suttor River (major floodplain crossed here) and several smaller creeks and ephemeral water bodies

A discussion regarding water resources within the vicinity of the NGBR Project is presented **in Volume 1 Chapter 9 Water resources**

Good Quality Agricultural Land

Approximately 1,264 ha of GQAL will become sterilised due to the **final rail corridor and permanent ancillary infrastructure** and a further 405 ha will be sterilised due to **temporary ancillary infrastructure.**

Good Quality Agricultural Land is present and is discussed in the EIS in **Volume 1 Chapter 5 Topography, geology, soils and land contamination.**

The potential impacts of the NGBR Project on GQAL and SCL as well as proposed mitigation and management measures are discussed further in **Volume 1 Chapter 5**

Topography, geology, soils and land contamination.

The Queensland Government considers that Strategic Cropping Land (SCL) i.e. high quality cropping land, is **a finite resource that must be conserved and managed for the long term** (Queensland Government 2010).

EIS OBJECTIVE

1.6.2 EIS objectives

The objective of this EIS is to ensure that all potential direct and indirect

- environmental,
- social and
- economic

impacts of the NGBR Project are **identified and adequately assessed**, and that **appropriate mitigation and management measures are developed** to minimise or avoid adverse impacts

Land Acquisition

Land acquisition for the NGBR Project will be approached in accordance with **Adani's land acquisition protocol**

(refer EIS **Volume 2 Appendix R**).

Negotiate and if not successful acquire compulsorily.

How much compensation is planned?

An impact considered to be of **extreme significance** would need to be met with **a high level of mitigation** that:

- avoids,
- eliminates or
- makes provisions for full offsetting or compensation in advance and
- ensures that measures are demonstrably effective

Are you faced with significant impacts? If so EDO NQ may be able to assist with negotiations, or show that the action should be avoided altogether as impact is too great.

1.6.5 Cumulative Impacts

Volume 1 Chapter 19 Cumulative impacts

Cumulative impacts can be defined as impacts on the environment, which result from **the incremental impact of an action when added to other past, present or reasonably foreseeable future actions.**

Are you facing or are you aware of cumulative impacts?

Air & Noise Pollution

Indirect impacts on land use at directly affected properties and properties adjacent to the final rail corridor includes dust and noise impacts.

EIS Volume 1 Chapter 10 Air quality

&

EIS Volume 1 Chapter 12 Noise and vibration

Air Quality Modelling

The **annual-mean TSP air quality objective is met within a distance of 61 m, on either side of the track**, for all representative track alignments within the five regions. The maximum distance to compliance for the Coastal; Bogie River; Bowen River; Newlands; and Isaac regions are 27 m; 46 m; 61 m; 39 m; and 43 m respectively

Particulates PM10

The assessment found that the daily mean **PM10 air quality** objective is met within a distance of 228 m, on either side of the track, for all representative track alignments within the five regions.

The maximum distance to compliance for the Coastal; Bogie River; Bowen River; Newlands; and Isaac regions are 90 m; 102 m; 147 m; 121 m; and 228 m respectively

Particulates PM2.5

The daily **mean PM2.5 air quality objective** is met within a distance of 223 m, on either side of the track, for all representative track alignments within the five regions.

The maximum distance to compliance for the Coastal; Bogie River; Bowen River; Newlands; and Isaac regions are 71 m; 99 m; 143 m; 115 m; and 223 m respectively

Coal Dust Emissions

These particulate emissions are primarily coal dust and in this case no safe level of exposure to coal dust by the World health Organisation has yet been found so the dust standards are not appropriate when considering health impacts from coal dust exposure.

Coal dust is reported in the Port of Hay Point dust deposition monitoring data as far as 8km from the coal stockpiles, so coal dust can be expected to travel at least that far from the coal trains.

5.2.2 Locomotive emissions

With **four locomotives per train**, each train will be able to obtain speeds of up to 100 km/h when unloaded and a maximum speed of 80 km/h when loaded. Trains will be operated in a line-haul mode and emissions as grams per power output are listed in Table 5-1 (DieselNet, 2008).

Capacity of the rail line to be 100 Mtpa. Each train load is 25,000 tonnes.

100 Mtpa / 25,000 tonnes = **4,000 train trips per year.**

Table 5-4 Proposed train consist configurations for the maximum coal transport rate

Parameter	Configuration
Number of locomotives per consist	4
Wagon total axle load (t)	32.5
Number of wagons per consist	240
Payload per wagon (t)	108
Total payload per train (t)	25,920
Loaded (up) trains per day	14
Empty (down) trains per day	14
Total trains per day	28
Loaded (up) trains per hour	0.58
Empty (down) trains per hour	0.58

Diesel Locomotive Emissions

4,000 train trips per year x 9.9 to 15.5 kg per train trip = 39,600 to 62,000 kg of dust particulates a year of emissions, not including coal dust blown from the wagons

i.e. 39.6 to 62 tonnes per year

1.7.9 How to make a submission

Written submissions on the draft EIS can be made by any interested party during the submission period **through Feb 11.**

All submissions will be compiled by the Coordinator-General and provided to Adani to inform preparation of additional information to the EIS. *There may be a supplementary EIS required by the Coordinator-General*

A 'properly made' submission

- Made in writing to the Coordinator-General
- Received on or before the deadline for submissions
- Stating the name and address of each submitter
- Signed by each submitter
- Stating the grounds of the submissions and the facts and circumstances relied on in support of the grounds.

Any submissions to the Coordinator-General should be addressed to:
The Coordinator-General
c/- EIS Project Manager – North Galilee Basin Rail
Coordinated Project Delivery
PO Box 15517
City East QLD 4002 Australia