#### Historical Map 1942









Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

### **Points of Interest**

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
509520	Wharf	Wharf	137m	South
509522	Wharf	Wharf	449m	South West
510364	Natural Waterbody	TOM THUMBS LAGOON	501m	South West
509525	Wharf	Wharf	751m	South West
509292	Sewage Works	Sewage Works	805m	North
509524	Wharf	Wharf	819m	South
509913	Wharf	Wharf	829m	West
509396	Lookout	AUSTRALIA'S INDUSTRY WORLD LOOKOUT	840m	North

Topographic Data Source: © Land and Property Information (2015)

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### Tanks (Areas)

What are the Tank Areas located within the dataset buffer?

Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
	No records in buffer					

### Tanks (Points)

What are the Tank Points located within the dataset buffer? Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
46792	Undefined	Operational		09/04/2006	937m	North West
46791	Undefined	Operational		09/04/2006	944m	North West

Tanks Data Source: © Land and Property Information (2015)

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### **Major Easements**

What Major Easements exist within the dataset buffer?

Note. Easements provided by LPI are not at the detail of local governments. They are limited to major easements such as Right of Carriageway, Electrical Lines (66kVa etc.), Easement to drain water & Significant subterranean pipelines (gas, water etc.).

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
120118336	Primary	Undefined		31m	North West

Easements Data Source: © Land and Property Information (2015)

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### **State Forest**

What State Forest exist within the dataset buffer?

State Forest Number	State Forest Name	Distance	Direction
N/A	No records in buffer		

State Forest Data Source: © Land and Property Information (2015)

Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

### **National Parks and Wildlife Service Reserves**

What NPWS Reserves exist within the dataset buffer?

Reserve Number	Reserve Type	Reserve Name	Gazetted Date	Distance	Direction
N/A	No records in buffer				

NPWS Data Source: © Land and Property Information (2015)

#### **Elevation Contours (m AHD)**





# Hydrogeology & Groundwater

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### Hydrogeology

Description of aquifers on-site:

#### Description

Fractured or fissured, extensive aquifers of low to moderate productivity

Description of aquifers within the dataset buffer:

#### Description

Fractured or fissured, extensive aquifers of low to moderate productivity

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia) Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

#### **Botany Groundwater Management Zones**

Groundwater management zones relating to the Botany Sand Beds aquifer within the dataset buffer:

Management Zone No.	Restriction	Distance	Direction
N/A	No records in buffer		

Botany Groundwater Management Zones Data Source : NSW Department of Primary Industries

#### **Groundwater Boreholes**





# Hydrogeology & Groundwater

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### **Groundwater Boreholes**

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Purpose	Contractor	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Dist	Dir
GW112707	10BL605035	Bore	Private	Monitoring	Douglas Partners Pty Ltd	22/11/2011	6.50	6.50				123m	South
GW112708	10BL605035	Bore	Private	Monitoring	Douglas Partners Pty Ltd	22/11/2011	7.50	7.50				245m	South
GW112710	10BL605035	Bore	Private	Monitoring	Douglas Partners Pty Ltd	23/11/2011	7.00	7.00				377m	South
GW112709	10BL605035	Bore	Private	Monitoring	Douglas Partners Pty Ltd	23/11/2011	6.00	6.00				581m	South
GW113527	10BL605295	Bore	Private	Monitoring	Rockwell Drilling	14/12/2012	2.80	2.80				1492 m	South
GW113525	10BL605295	Bore	Private	Monitoring	Rockwell Drilling	22/01/2014	12.00	12.00				1502 m	South
GW113526	10BL605295	Bore	Private	Monitoring	Rockwell Drilling	11/12/2012	1.80	1.80				1505 m	South
GW113524	10BL605295	Bore	Private	Monitoring	Rockwell Drilling	10/12/2012	10.00	10.00				1515 m	South
GW113521	10BL605295	Bore	Private	Monitoring	Rockwell Drilling	13/12/2012	1.70	1.70				1525 m	South
GW113522	10BL605295	Bore	Private	Monitoring	Rockwell Drilling	11/12/2012	10.00	10.00				1527 m	South
GW113523	10BL605295	Bore	Private	Monitoring	Rockwell Drilling	14/12/2012	16.00	16.00				1538 m	South
GW113520	10BL605295	Bore	Private	Monitoring	Rockwell Drilling	12/12/2012	14.00	14.00				1546 m	South
GW113519	10BL605295	Bore	Private	Monitoring	Rockwell Drilling	13/12/2012	15.00	15.00				1550 m	South
GW113518	10BL605295	Bore	Private	Monitoring	Rockwell Drilling	11/12/2012	4.50	4.50				1562 m	South
GW113517	10BL605295	Bore	Private	Monitoring	Rockwell Drilling	10/02/2012	6.00	6.00				1573 m	South
GW112924	10BL604900	Bore	Private	Monitoring	Coffey Environments	03/03/2011	5.30	5.30				1642 m	South
GW112718	10BL604502	Bore	Private	Monitoring	TERRATEST		4.60	4.60		1.20		1701 m	South
GW112717	10BL604502	Bore	Private	Monitoring	TERRATEST	03/03/2011	6.00	6.00		1.30		1711 m	South
GW112716	10BL604502	Bore	Private	Monitoring	TERRATEST	03/03/2011	5.30	5.30		1.20		1720 m	South
GW112929	10BL604900	Bore	Private	Monitoring	Coffey Environments	26/05/2011	6.70	6.70				1724 m	South
GW112928	10BL604900	Bore	Private	Monitoring	Coffey Environments	26/05/2011	7.50	7.50				1735 m	South
GW112927	10BL604900	Bore	Private	Monitoring	Coffey Environments	26/11/2004	5.50	5.50				1747 m	South
GW112926	10BL604900	Bore	Private	Monitoring	Coffey Environments	03/03/2011	4.60	4.60				1759 m	South
GW112925	10BL604900	Bore	Private	Monitoring	Coffey Environments	03/03/2011	4.00	4.00				1775 m	South
GW100678	10BL156580	Bore	Private	Monitoring	KH Adams & Sons Pty Ltd	22/03/1995	65.00	65.00	2200	8.20	7.500	1895 m	West

Borehole Data Source : NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation for all bores prefixed with GW. All other bores © Commonwealth of Australia (Bureau of Meteorology) 2015. Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

# Hydrogeology & Groundwater

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

## **Driller's Logs**

Drill log data relevant to the boreholes within the dataset buffer:

Groundwater No	Drillers Log	Distance	Direction
GW100678	0.00m-0.60m TOPSOIL 0.60m-3.80m WEATHERED BASALT 3.80m-9.00m BASALT 9.00m-16.00m INDURATED SHALE 16.00m-65.00m SANDSTONE	1895m	West

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

## Geology 1:100,000





# Geology

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

### **Geological Units**

#### What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Qal	quartz and lithic "fluvial" sand, silt, and clay						Wollongong & Port Hacking	1:100,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Psud	melanocratic, coarse-grained and porphyritic latite	Dapto Latite Member	Shoalhaven Group				Wollongong & Port Hacking	1:100,000
Qal	quartz and lithic "fluvial" sand, silt, and clay						Wollongong & Port Hacking	1:100,000
Qhb	"marine" quartz sand, medium to coarse, with shelly fragments						Wollongong & Port Hacking	1:100,000
Qhf	"marine quartz sand , fine to medium, shelly. Leached to varying degrees						Wollongong & Port Hacking	1:100,000
water							Wollongong & Port Hacking	1:100,000

#### **Geological Structures**

What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

#### What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

Geological Data Source : NSW Department of Industry, Resources & Energy

 $\ensuremath{\mathbb C}$  State of New South Wales through the NSW Department of Industry, Resources & Energy

# **Naturally Occurring Asbestos Potential**

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

### **Naturally Occurring Asbestos Potential**

Naturally Occurring Asbestos Potential within the dataset buffer:

Potential	Sym	Strat Name	Group	Formation	Scale	Min Age	Max Age	Rock Type	Dom Lith	Description	Dist	Dir
No records in buffer												

Mining Subsidence District Data Source: © State of New South Wales through NSW Department of Industry, Resources & Energy

#### **Soil Landscapes**





## Soils

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

### **Soil Landscapes**

#### What are the onsite Soil Landscapes?

Soil Code	Name	Group	Process	Map Sheet	Scale
DTxx	DISTURBED TERRAIN		DISTURBED TERRAIN	Wollongong & Port Hacking	1:100,000

What are the Soil Landscapes within the dataset buffer?

Soil Code	Name	Group	Process	Map Sheet	Scale
BEwg	WOLLONGONG		BEACH	Wollongong & Port Hacking	1:100,000
DTxx	DISTURBED TERRAIN		DISTURBED TERRAIN	Wollongong & Port Hacking	1:100,000
WATER	WATER		WATER	Wollongong & Port Hacking	1:100,000

Soils Landscapes Data Source : NSW Office of Environment and Heritage

### **Atlas of Australian Soils**





## Soils

#### Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### **Atlas of Australian Soils**

Soil mapping units and Australian Soil Classification orders within the dataset buffer:

Map Unit Code	Soil Order	Map Unit Description	Distance
Me2	Dermosol	Steep hilly to mountainous with incised stream valleys: steep but more or less rounded hill slopes of brown friable earths (Gn3.21 and Gn3.22) and possibly some (Gn4) soils, in association with: at the higher altitudes, steep hill slopes of sandy soils (Uc4.2), loamy soils having an A2 horizon (Um4.2) with yellow-brown earths (Gn2.44), and possibly (Uc6.11) and (Um5.41) soils; and at the lower altitudes, moderate to steep slopes of hard acidic yellow mottled soils (Dy3 21 and Dy3.41), hard acidic red soils (Dr2.21), and yellow leached friable earths (Gn3.54); and narrow incised stream valleys of various soils including (Um6.11) and (Dy) soils. This unit is a broad one. In some areas the (Um4.2) and (Gn2.44) soils and in others the (Dy) and (Dr) soils rather than the (Gn3 soils could be dominant.	0m
Ca6	Podosol	Dunes of leached sands (Uc2.2) with some areas of (Uc2.3) soils in low-lying situations, also (Dy5.41) soils in some localities, and flanked by some dunes of calcareous sands (Uc1.11) along the coast.	753m

Atlas of Australian Soils Data Source: CSIRO

# Acid Sulfate Soils

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### **Standard Local Environmental Plan Acid Sulfate Soils**

What is the on-site Acid Sulfate Soil Plan Class that presents the largest environmental risk?

Soil Class	Description	LEP
N/A		

If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	LEP	Distance	Direction
N/A				

Acid Sulfate Data Source Accessed 07/10/2016: NSW Crown Copyright - Planning and Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

### **Atlas of Australian Acid Sulfate Soils**





# **Acid Sulfate Soils**

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### **Atlas of Australian Acid Sulfate Soils**

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

Class	Description	Distance
В	Low Probability of occurrence. 6-70% chance of occurrence.	0m
A	High Probability of occurrence. >70% chance of occurrence.	109m
С	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	320m

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

# **Dryland Salinity**

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### **Dryland Salinity - National Assessment**

Is there Dryland Salinity - National Assessment data onsite?

#### No

Is there Dryland Salinity - National Assessment data within the dataset buffer?

No

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
N/A	N/A	N/A	N/A	N/A

Dryland Salinity Data Source : National Land and Water Resources Audit

The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.

In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

### **Dryland Salinity Potential of Western Sydney**

#### Dryland Salinity Potential of Western Sydney within the dataset buffer?

Feature Id	Classification	Description	Distance	Direction
N/A	Outside Data Coverage			

Dryland Salinity Potential of Western Sydney Data Source : NSW Office of Environment and Heritage Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

# **Mining Subsidence Districts**

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

### **Mining Subsidence Districts**

Mining Subsidence Districts within the dataset buffer:

District	Distance	Direction
There are no Mining Subsidence Districts within the report buffer		

Mining Subsidence District Data Source: © Land and Property Information (2016) Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

#### **State Environmental Planning Policy**





# **Environmental Zoning**

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

### State Environmental Planning Policy Protected Areas

Are there any State Environmental Planning Policy Protected Areas onsite or within the dataset buffer?

Dataset	Onsite	Within Site Buffer	Distance
SEPP14 - Coastal Wetlands	No	No	N/A
SEPP26 - Littoral Rainforests	No	No	N/A
SEPP71 - Coastal Protection Zone	Yes - SEPP71 covers 100% of the site	Yes	0m

SEPP Protected Areas Data Source: NSW Department of Planning & Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

### State Environmental Planning Policy Major Developments (2005)

State Environmental Planning Policy Major Developments within the dataset buffer:

Map Id	Feature	Effective Date	Distance	Direction
68269	Three Ports - Port Kembla	24/07/2009	0m	Onsite

SEPP Major Development Data Source: NSW Department of Planning & Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

### State Environmental Planning Policy Strategic Land Use Areas

State Environmental Planning Policy Strategic Land Use Areas onsite or within the dataset buffer:

Strategic Land Use	SEPPNo	Effective Date	Amendment	Amendment Year	Distance	Direction
No records within buffer						

SEPP Strategic Land Use Data Source: NSW Department of Planning & Environment

#### **LEP Planning Zones**





# Local Environmental Plan

#### Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

## Land Zoning

What Local Environmental Plan Land Zones exist within the dataset buffer?

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
SP2	Infrastructure	Sewerage System	Wollongong Local Environmental Plan 2009	26/02/2010	26/02/2010	16/02/2018		335m	North
RE1	Public Recreation		Wollongong Local Environmental Plan 2009	26/02/2010	26/02/2010	16/02/2018		654m	North
SP2	Infrastructure	Heliport and Parking	Wollongong Local Environmental Plan 2009	26/02/2010	26/02/2010	16/02/2018		725m	North
E2	Environmental Conservation		Wollongong Local Environmental Plan 2009	26/02/2010	26/02/2010	16/02/2018		976m	North West

Local Environment Plan Data Source: NSW Crown Copyright - Planning & Environment

## Local Environmental Plan

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### **Minimum Subdivision Lot Size**

What are the onsite Local Environmental Plan Minimum Subdivision Lot Sizes?

Symbol	Minimum Lot Size	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

#### **Maximum Height of Building**

What are the onsite Local Environmental Plan Maximum Height of Buildings?

Symbol	Maximum Height of Building	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

#### Floor Space Ratio

What are the onsite Local Environmental Plan Floor Space Ratios?

Symbol	Floor Space Ratio	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

### Land Application

What are the onsite Local Environmental Plan Land Applications?

Application Type	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data						

#### Land Reservation Acquisition

What are the onsite Local Environmental Plan Land Reservation Acquisitions?

Reservation	LEP	Published Date	Commenced Date	Currency Date	Amendment	Comments	Percentage of Site Area
No Data							

Local Environment Plan Data Source: NSW Crown Copyright - Planning & Environment

## Heritage

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### **State Heritage Items**

What are the State Heritage Items located within the dataset buffer?

Map Id	Name	Address	LGA	Listing Date	Listing No	Plan No	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: NSW Crown Copyright - Planning & Environment

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### Local Heritage Items

What are the Local Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
N/A	No records in buffer								

Heritage Data Source: NSW Crown Copyright - Planning & Environment

## **Natural Hazards**

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

### **Bush Fire Prone Land**

What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
No records within buffer		

NSW Bush Fire Prone Land - © NSW Rural Fire Service under Creative Commons 4.0 International Licence

### **Ecological Constraints - Vegetation & RAMSAR Wetlands**





# **Ecological Constraints**

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

### Native Vegetation of the Illawarra Escarpment & Coastal Plain

What Native Vegetation of the Illawarra Escarpment & Coastal Plain exists within the dataset buffer?

Veg Code	Vegetation Community	Disturbance Class	Disturbance Type	Understorey	Broad Vegetation Type	Endangered Ecological Community	Distance	Direction
MU57e	Estuarine Lagoons and Channels	Unassessed			Wetlands		107m	South West
MU56e	Modified Lands	Weeds and Exotics			Cleared		155m	North West
MU55a	Seagrass Meadows and Estuarine Flats	Unassessed			Seagrass		179m	North West
MU57a	Artificial Wetlands	Unassessed			Wetlands		185m	North West
MU57i	Water	Water			Water		201m	East
MU57b	Beach Sand	Unassessed			Rocks		209m	North East
MU56c	Weeds and Exotics	Weeds and Exotics			Weeds and Exotics		316m	North
MU45	Coastal Sand Scrub	High Disturbance	Weeds	Not Described	Native Vegetation		340m	North
MU53	Estuarine Alluvial Wetland	Unassessed			Native Vegetation	Sydney Coastal Estuary Swamp Complex	566m	North

Native Vegetation of the Illawarra Escarpment & Coastal Plain : NSW Office of Environment and Heritage Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

### **RAMSAR Wetlands**

#### What RAMSAR Wetland areas exist within the dataset buffer?

Map Id	RAMSAR Name	Wetland Name	Designation Date	Source	Distance	Direction
N/A	No records in buffer					

RAMSAR Wetlands Data Source: © Commonwealth of Australia - Department of Environment

**Ecological Constraints - Groundwater Dependent Ecosystems Atlas** 





# **Ecological Constraints**

Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

### **Groundwater Dependent Ecosystems Atlas**

Туре	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	High potential GDE - from regional studies	Deeply dissected sandstone plateaus.	Vegetation		112m
Terrestrial	Low potential GDE - from regional studies	Deeply dissected sandstone plateaus.	Vegetation		124m

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology

Ecological Constraints - Inflow Dependent Ecosystems Likelihood





# **Ecological Constraints**

#### Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### Inflow Dependent Ecosystems Likelihood

Туре	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	2	Deeply dissected sandstone plateaus.	Vegetation		112m
Terrestrial	8	Deeply dissected sandstone plateaus.	Vegetation		124m
Terrestrial	7	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Vegetation		145m
Terrestrial	6	Deeply dissected sandstone plateaus.	Vegetation		244m
Terrestrial	3	Deeply dissected sandstone plateaus.	Vegetation		246m
Terrestrial	5	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Vegetation		326m

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology

# **Ecological Constraints**

#### Proposed Gas Pipeline & Berth 101, Port Kembla, NSW 2505 (Section 5)

#### **NSW BioNet Atlas**

Species on the NSW BioNet Atlas that have a NSW or federal conservation status, a NSW sensitivity status, or are listed under a migratory species agreement, and are within 10km of the site?

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Amphibia	Pseudophryne australis	Red-crowned Toadlet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Actitis hypoleucos	Common Sandpiper	Not Listed	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Anseranas semipalmata	Magpie Goose	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Not Sensitive	Critically Endangered	
Animalia	Aves	Apus pacificus	Fork-tailed Swift	Not Listed	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Ardea ibis	Cattle Egret	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Ardenna carneipes	Flesh-footed Shearwater	Vulnerable	Not Sensitive	Not Listed	Rokamba;Jamba
Animalia	Aves	Ardenna grisea	Sooty Shearwater	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Ardenna pacificus	Wedge-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Ardenna tenuirostris	Short-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	Rokamba;Jamba
Animalia	Aves	Arenaria interpres	Ruddy Turnstone	Not Listed	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Botaurus poiciloptilus	Australasian Bittern	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Calidris acuminata	Sharp-tailed Sandpiper	Not Listed	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Calidris alba	Sanderling	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris canutus	Red Knot	Not Listed	Not Sensitive	Endangered	Rokamba;camba; Jamba
Animalia	Aves	Calidris ferruginea	Curlew Sandpiper	Endangered	Not Sensitive	Critically Endangered	Rokamba;camba; Jamba
Animalia	Aves	Calidris melanotos	Pectoral Sandpiper	Not Listed	Not Sensitive	Not Listed	Rokamba;Jamba
Animalia	Aves	Calidris ruficollis	Red-necked Stint	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris tenuirostris	Great Knot	Vulnerable	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Calonectris leucomelas	Streaked Shearwater	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calyptorhynchus lathami	Glossy Black- Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Charadrius leschenaultii	Greater Sand- plover	Vulnerable	Not Sensitive	Vulnerable	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Charadrius mongolus	Lesser Sand- plover	Vulnerable	Not Sensitive	Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Chlidonias leucopterus	White-winged Black Tern	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Circus assimilis	Spotted Harrier	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Coracina lineata	Barred Cuckoo- shrike	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Diomedea exulans	Wandering Albatross	Endangered	Not Sensitive	Endangered	JAMBA
Animalia	Aves	Diomedea gibsoni	Gibson's Albatross	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Aves	Egretta sacra	Eastern Reef Egret	Not Listed	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Ephippiorhynchus asiaticus	Black-necked Stork	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Epthianura albifrons	White-fronted Chat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Fregata ariel	Lesser Frigatebird	Not Listed	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Grantiella picta	Painted Honeyeater	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Aves	Gygis alba	White Tern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus fuliginosus	Sooty Oystercatcher	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus longirostris	Pied Oystercatcher	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Hydroprogne caspia	Caspian Tern	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Ixobrychus flavicollis	Black Bittern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
Animalia	Aves	Limicola falcinellus	Broad-billed Sandpiper	Vulnerable	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Limosa lapponica	Bar-tailed Godwit	Not Listed	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Limosa limosa	Black-tailed Godwit	Vulnerable	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Macronectes giganteus	Southern Giant Petrel	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Macronectes halli	Northern Giant- Petrel	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Aves	Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Neophema pulchella	Turquoise Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Numenius madagascariensi s	Eastern Curlew	Not Listed	Not Sensitive	Critically Endangered	Rokamba;camba; Jamba
Animalia	Aves	Numenius phaeopus	Whimbrel	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Onychoprion fuscata	Sooty Tern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Oxyura australis	Blue-billed Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pachycephala olivacea	Olive Whistler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pandion cristatus	Eastern Osprey	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Petroica phoenicea	Flame Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica rodinogaster	Pink Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Phaethon lepturus	White-tailed Tropicbird	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Pluvialis fulva	Pacific Golden Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Polytelis anthopeplus monarchoides	Regent Parrot (eastern subspecies)	Endangered	Category 3	Vulnerable	
Animalia	Aves	Polytelis swainsonii	Superb Parrot	Vulnerable	Category 3	Vulnerable	
Animalia	Aves	Pterodroma leucoptera leucoptera	Gould's Petrel	Vulnerable	Not Sensitive	Endangered	
Animalia	Aves	Ptilinopus magnificus	Wompoo Fruit- Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus regina	Rose-crowned Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus superbus	Superb Fruit- Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Puffinus assimilis	Little Shearwater	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Stercorarius parasiticus	Arctic Jaeger	Not Listed	Not Sensitive	Not Listed	Rokamba;Jamba
Animalia	Aves	Stercorarius pomarinus	Pomarine Jaeger	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Sterna hirundo	Common Tern	Not Listed	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Sternula albifrons	Little Tern	Endangered	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Sula leucogaster	Brown Booby	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Thalassarche impavida	Campbell Albatross	Not Listed	Not Sensitive	Vulnerable	
Animalia	Aves	Thalassarche melanophris	Black-browed Albatross	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Aves	Thalassarche salvini	Salvin's Albatross	Not Listed	Not Sensitive	Vulnerable	
Animalia	Aves	Thinornis rubricollis	Hooded Plover	Critically Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Tringa brevipes	Grey-tailed Tattler		Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Tringa incana	Wandering Tattler	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Tringa nebularia	Common Greenshank	Not Listed	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Aves	Tringa stagnatilis	Marsh Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Tyto tenebricosa	Sooty Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Xenus cinereus	Terek Sandpiper	Vulnerable	Not Sensitive	Not Listed	Rokamba;camba; Jamba
Animalia	Mammalia	Arctocephalus pusillus doriferus	Australian Fur- seal	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Mammalia	Cercartetus nanus	Eastern Pygmy- possum	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	
Animalia	Mammalia	Dasyurus viverrinus	Eastern Quoll	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Dugong dugon	Dugong	Endangered	Not Sensitive	Not Listed	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Megaptera novaeangliae	Humpback Whale	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Miniopterus australis	Little Bentwing- bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Mormopterus norfolkensis	Eastern Freetail- bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petauroides volans	Greater Glider	Not Listed	Not Sensitive	Vulnerable	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Physeter macrocephalus	Sperm Whale	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad- nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Caretta caretta	Loggerhead Turtle	Endangered	Not Sensitive	Endangered	
Animalia	Reptilia	Chelonia mydas	Green Turtle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Acacia baueri subsp. aspera		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia bynoeana	Bynoe's Wattle	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Arthropteris palisotii	Lesser Creeping Fern	Endangered	Category 3	Not Listed	
Plantae	Flora	Cynanchum elegans	White-flowered Wax Plant	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Epacris purpurascens subsp. purpurascens		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Eucalyptus largeana	Craven Grey Box	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Eucalyptus scoparia	Wallangarra White Gum	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Gossia acmenoides	Scrub Ironwood	Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Persoonia hirsuta	Hairy Geebung	Endangered	Category 3	Endangered	
Plantae	Flora	Pultenaea aristata	Prickly Bush-pea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Senna acclinis	Rainforest Cassia	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Solanum celatum		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Zieria granulata	Illawarra Zieria	Endangered	Not Sensitive	Endangered	

Data does not include NSW category 1 sensitive species. NSW BioNet: C State of NSW and Office of Environment and Heritage Data obtained 18/07/2018

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