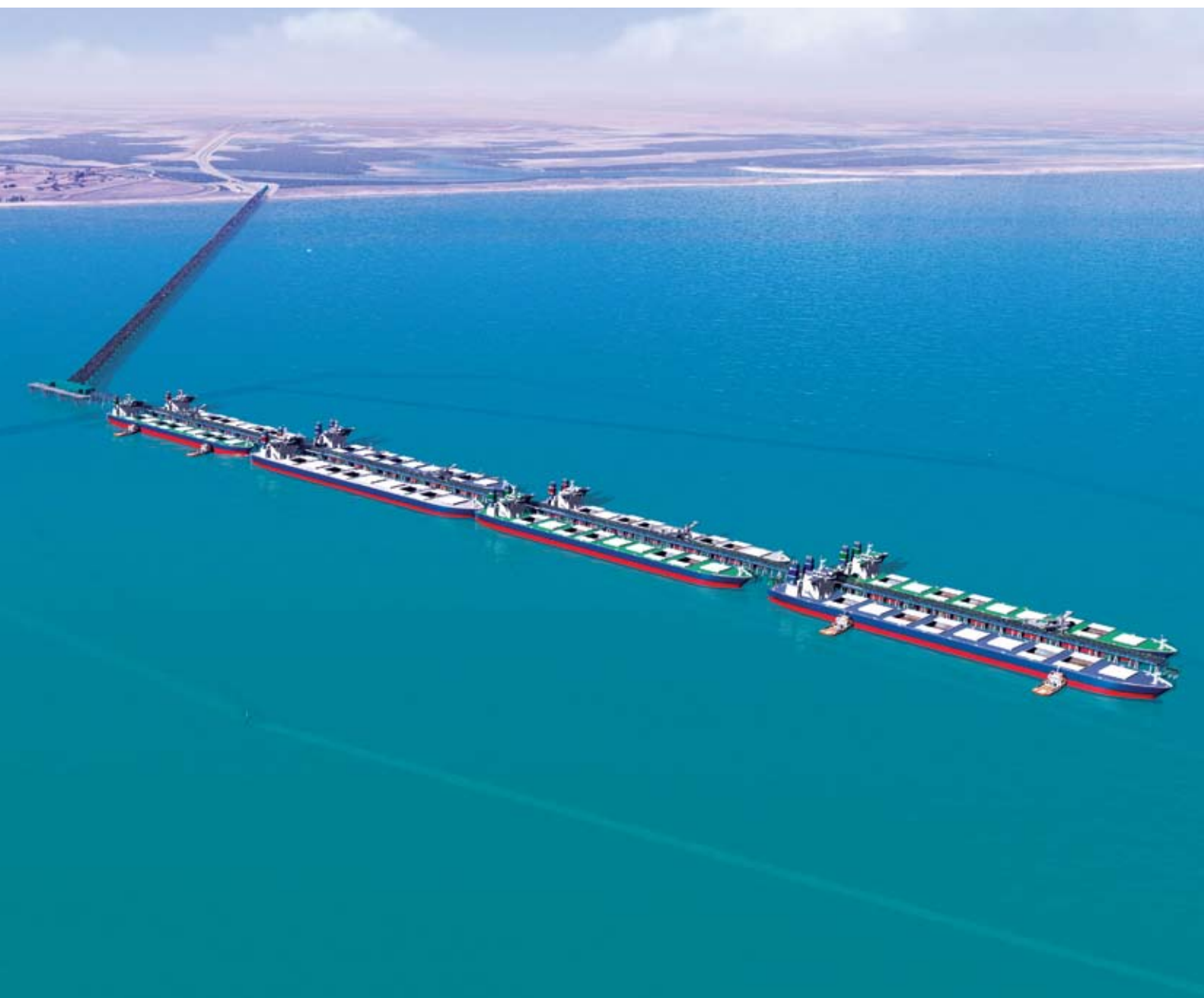




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Section 13  
Glossary and References





## 13 Glossary

Abiotic	Non living. For example, abiotic substrate includes the sand, rubble and rock component rather than the benthos living on and within it.
Ablution	Cleansing with water or other liquids.
Alluvium	Loose unconsolidated soil or sediments, eroded, deposited and reshaped by water in some form in a non-marine setting.
Assemblage	Recognisable grouping or collection of individuals or organisms.
Athalassic	Non marine saline waters.
Aquifer	A wet underground layer of water-bearing permeable rock or unconsolidated materials from which groundwater can be extracted using a water well.
Avifauna	The birds of a specific region or period.
Ballast Water	Fresh or salt water, sometimes containing sediments, held in tanks and cargo holds of ships to increase stability and maneuverability during transit.
Bathymetry	Measurement of the changing ocean depth to determine the sea floor topography.
Benthic	Bottom dwelling.
Benthic Primary Producer (BPP)	Predominantly marine plants (e.g. seagrasses, mangroves, seaweeds and turf algae) but include invertebrates such as scleractinian corals, which acquire a significant proportion of their energy from symbiotic microalgae that live in coral polyps.
Benthic Primary Producer communities (BPP communities)	Biological communities, including the plants and animals within which the benthic primary producers defined above predominate.
Benthic Primary Producer Habitat (BPPH)	Both the BPP communities and the substrata that can/does support these communities.
Benthos	All biota living upon or in the sediment of an aquatic habitat.
Bilge Water	Water that collects in the lowest inner part of the ship's hull which is frequently contaminated with oil and other lubricants from the engine room.
Bioregion	Any geographical region characterised by a distinctive flora and fauna (also termed ecoregion).
Billabong	A stagnant pool of water in the bed of a stream that flows intermittently.
Bioavailable	Able to be absorbed by a living organism.
Bioclimatic	Of or concerned with the relations of climate and living organisms.
Biogeography	Study of the geographical distribution of animals and plants.
Biota	The plants, animals and micro-organisms of a region.
Bollard Pull	A measure of a tug's pulling power.
Bommie	A protrusion on the seabed, e.g. rock or coral.
Calcareous	Composed of or containing or resembling calcium carbonate or calcite or chalk.
Calclutite	A fine grained (silt and clay sized) limestone.
Calcrete	A hardened surface formed by weathering process involving cementation of the surface soils and weathered rock by calcite.
Cay	A small, low-elevation island, formed of sand on the surface of coral reefs.
Chart Datum (CD)	The level of water that charted depths are measured from. In Australia the CD is based on the Lowest Astronomical Tide.
Coastal Hydrodynamics	Study of coastal waters in motion.
Colluvium	Soil material, rock fragments, or both moved by creep, slide, or local wash and deposited at the base of steep slopes.
Community	Ecologically, any naturally occurring group of different organisms sharing a particular habitat.
Corallivore	An animal that eats coral polyps.
Culvert	A transverse and totally enclosed drain under a road or railway.
Cyanobacteria	Blue-green algae that obtain their energy through photosynthesis.
Deadweight Tonnage (DWT)	Maximum weight including cargo, ballast, and stores that can be loaded into a vessel.
DEM	Digital Elevation Model. A digital representation of ground surface topography.
Density	The number of organisms per unit area.
Detritivore	An organism which feeds on and breaks down dead plant or animal matter.

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Dewatering	The removal of water from solid material or soil by wet classification, centrifugation, filtration, or similar solid-liquid separation processes.
Dinoflagellates	Minute phytoplankton which move by means of flagellae (long whip like appendages).
Diurnal	Daily.
Echinodermata	The group of animals containing sea stars, brittle stars, urchins, crinoids and sea cucumbers.
Echolocation	A system used by many cetaceans to navigate, orient themselves and search for food. It is accomplished by sending out sounds and interpreting the echoes produced.
Ecotoxicity	The potential for biological, chemical or physical stressors to affect ecosystems or the environment.
Elutriate	To purify, separate, or remove by washing, decanting, and settling.
Embayment	Forming into a bay or a formation resembling a bay.
Ephemeral	Short-lived, or of brief duration.
Epibenthic	Living on the surface of the ocean bottom.
Encrust	To cover over a hard surface with sessile invertebrates.
Endemic	Native species confined to a given region.
Environment	The surroundings of an organism including the other biota with which it interacts.
Epifauna	Benthic animals that move about on the sea bed or are firmly attached to it.
Epiphyte	Plant which grows attached to the surface of another plant or animal.
Ethnography	The study of culture and cultural processes that uses multiple ways to research, observe, and document people, events, or artifacts.
Fauna	Collectively, the animal life of any particular region.
Flora	Collectively, the plant life of any particular region.
Fluvial	The processes associated with rivers and streams and the deposits and landforms created by them.
Gamete	A mature sexual reproductive cell having a single set of unpaired chromosomes.
Geomorphology	The scientific study of landforms and the processes that shape them.
Habitat	The place where the physical and biological elements of ecosystems provide a suitable environment including the food, cover, and space resources needed for plant and animal livelihood.
Heterocyst	A specialised nitrogen-fixing cell formed by some filamentous cyanobacteria, and facilitates nitrogen fixation in an oxygen-free environment.
Hydrocarbons	Compounds containing mainly carbon and hydrogen, used as a source of energy, but possibly a form of environmental pollution.
Hydroids	Small invertebrates whose colonies can take many growth forms including flower-like, tree-like or feathery.
Impact	The change in the chemical, physical (including habitat) or biological quality or condition of a water body caused by external sources.
Infauna	Animals that live within the sediments of aquatic environments.
Interstitial Spaces	Spaces between tissues or organ parts.
Intertidal	Lying between the high and low tide marks.
Invertebrate	Collective term for all animals which do not have a backbone or spinal column.
Isobath	A line on a chart joining places of equal depth of water; a depth contour.
Jack up Barges (JUB)	A type of mobile platform that is able to stand still on the sea floor, resting on a number of supporting legs.
LAT	Lowest Astronomical Tide. The height of water at the lowest theoretical tide.
LiDAR	Light Detection and Ranging: A technique used to construct an image representing the terrain of an area by firing rapid pulses of light at the landscape and a sensor measures the return of light once it bounces off the landscape surface. The time taken for the light to return to the sensor allows distance and therefore topography to be measured.
Light attenuation	Light reduction (usually refers to a decrease in available light which occurs with increasing depth of water).
Luffing	A term used to describe the flapping of a sail in the wind.
Macroalgae	A diverse group of aquatic plant-like organisms. The larger members of this group that occur in the marine environment, are called seaweeds and the microscopic members that float in the water are called phytoplankton.

Macro-invertebrates	Organisms without a backbone, generally visible to the naked eye.
Macro-tidal	Where the mean spring tide range is between 4 and 6 metres.
Modelling Domain	The spatial extent represented by predictive models.
Molluscs	Soft-bodied invertebrates of the phylum Mollusca usually partly or wholly enclosed within a calcium carbonate shell.
Neap tides	Sets of moderate tides which recur every two weeks and alternate with spring tides.
Nearshore	Offshore to 10 m bathymetric contour
Oceanography	The branch of science dealing with physical and biological aspects of the oceans.
Offshore	Offshore beyond 10 m bathymetric contour
Oolite	A limestone consisting largely of spherical grains of calcium carbonate in concentric spherical layers.
Photosynthesis	The chemical process that enables plants and some bacteria to capture the sun's energy and turn it into food and oxygen.
Population	Aggregate of individuals of a biological species that are geographically isolated from other members of the species and are actually or potentially interbreeding.
Quaternary	The geologic period beginning two to three million years ago and extending to the present.
Reference site	Specific locality on a water body which is unimpaired or minimally impaired and is representative of the expected biological integrity of other localities on the same water body or nearby water bodies.
Riparian vegetation	Plant communities along the interface between land and rivers / streams.
Sea level (mean)	Mean Sea Level is often abbreviated as MSL. It is necessary to convert the pressure readings to equivalent mean sea level pressures, otherwise the important horizontal changes in pressure would be overwhelmed by vertical variations simply due to differences in height between observing stations. In this way, a Mean Sea Level Pressure map will then show pressures affected by changing weather conditions, not because of changing altitude.
Sedimentation Rate	The measurement of suspended particles falling onto the seabed or benthic organisms over a given period.
Scats	
Sessile	Attached to a substrate and thus non-mobile.
Shear Stress	A measure of the force of friction from a fluid acting in a body in the path of that fluid. In the case of open water flow, it is the force of moving water against the sea bed.
Sidecast Ridge	The name given to a ridge that runs along the edge of the existing channel where dredged material excavated during construction of this channel was sidecast directly to its edges where it has consolidated and remains as a bathymetric feature today.
Species	A group of organisms that, under normal circumstances, can interbreed.
Spring tides	Extremely high and low tides which alternate with neap tides and recur every two weeks.
Subtidal	Below the low tide mark.
Supratidal	Above the high tide mark.
Suspended Solids	Any solid substance present in water in an undissolved state.
Transpiration	The process by which moisture is carried through plants from roots to small pores on the underside of leaves, where it changes to vapour and is released to the atmosphere.
Turbidity	Measure of the amount of light scatter caused by suspended materials in the water column.
Tussock	
Zincalume®	A brand of steel sheet with a zinc/aluminium alloy coating on both sides and comes in various profiles including corrugated.

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### 13.1 Abbreviations

Abbreviation	Definition
AASS	Actual Acid Sulphate Soils
ADP	Asset Development Projects
AHD	Australian Height Datum
ALARP	As low as reasonably practicable
ANC	Acid Neutralising Capacity
ANC <sub>e</sub>	Effective Acid Neutralising Capacity
AMSA	Australian Maritime Safety Authority
AQIS	Australian Quarantine and Inspection Service
ARI	Assessment on Referral Information
ASS	Acid Sulphate Soils
ASSMP	Acid Sulphate Soils Management Plan
BAM	Beta Attenuation Monitor
BHPBIO	BHP Billiton Iron Ore
BoM	Bureau of Meteorology
BPPH	Benthic Primary Producer Habitat
CAMBA	China-Australia Migratory Bird Agreement
CCG	Coastal Community Group
CEO	Chief Executive Officer
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CEMP	Construction Environmental Management Plan
dB	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root mean square pressure of the sound field and the reference pressure (0.00002 N/m <sup>2</sup> ). Zero dB is the threshold of hearing; 140 dB is the threshold of pain. A change of 10 dB corresponds approximately to halving or doubling the loudness of sound.
dB(A)	A measure of the overall noise level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
DEC	Department of Environment and Conservation
DEWHA	Commonwealth Department of the Environment, Water, Heritage and the Arts
DIA	Department of Indigenous Affairs
DMA	Decision making authority
DMMA	Dredged Material Management Area/s
DO	Dissolved oxygen
DoF	Department of Fisheries
DoH	Department of Health
DoIR	Department of Industry and Resources
DoITRDG	Department of Infrastructure, Transport, Regional Development and Local Government
DoW	Department of Water
DPI	Department for Planning and Infrastructure
DRF	Declared Rare Flora
DWT	dead weight tonnes

<b>Abbreviation</b>	<b>Definition</b>
EC	Electrical Conductivity
EIL	Ecological Investigation Level
EIA	Environmental Impact Assessment
EIS/ERMP	Environmental Impact Statement/ Environmental Review and Management Program
EMP	Environmental Management Plan
EMS	Environmental Management System
ENV	ENV Australia
EPA	Environmental Protection Authority
EPASU	Environmental Protection Authority Service Unit
EP Act	<i>Environmental Protection Act 1986</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EQO	Environmental Quality Objective
ERM	Environmental Resources Management
ERD	Environmental Referral Document
FIFO	Fly-In Fly-Out
FMG	Fortescue Metals Group
GEMS	Global Environmental Modelling Systems
GHG	Greenhouse Gas
HAT	Highest Astronomical Tide
HBI	Hot Briquetted Iron
HCWA	Heritage Council of Western Australia
HIL	Health Investigation Level
HiVol	High Volume (sampler)
HSEC	Health, Safety, Environment and Community
IBRA	Interim Biogeographic Regionalisation for Australia
IMS	Introduced Marine Species
ISQG	Interim Sediment Quality Guideline
JAMBA	Japan-Australia Migratory Bird Agreement
LA <sub>10</sub>	The 'A' weighted sound pressure level of the noise in decibels which is exceeded for 10 per cent of a given time.
LA <sub>90</sub>	The 'A' weighted sound pressure level of the residual noise in decibels which is exceeded for 90 per cent of a given time. The L <sub>A90</sub> measure is used to describe background noise levels.
LAT	Lowest Astronomical Tide
LEP	Levels of Ecological Protection
LiDAR	Light Detection and Ranging
LMP	Land Use Management Plan
LOF	Load Out Facility
MCEMP	Marine Construction Environmental Management Plan
m AHD	metres (Australian Height Datum)
mbgl	metres below ground level
MBO	Monosulphidic black oozes
m CD	metres (Chart Datum)

<b>Abbreviation</b>	<b>Definition</b>
Mm <sup>3</sup>	Million cubic metres
MMP	Mangrove Management Plan
MPL	Marapikurrinya Proprietary Limited
MRWA	Main Roads Western Australia
Mtpa	Million tonnes per annum
NAGD	National Assessment Guidelines for Dredging
NASS	Non-Acid Sulphate Soils
NATA	National Association of Testing Authorities
NEPM	National Environmental Protection Measure
NES	National Environmental Significance
NGO	Non-government organisations
nm	Nautical miles
NODGDM	National Ocean Disposal Guidelines for Dredged Material
NTU	Nephelometric Turbidity Units
PACE	Product and Capacity Expansion
PAH	Polycyclic aromatic hydrocarbons
PAR	Photosynthetically available radiation
PASS	Potential Acid Sulphate Soil
PEAHR	Project Environmental and Aboriginal Heritage Review
PER/EIS	Public Environmental Review/ Environmental Impact Statement
PHPA	Port Hedland Port Authority
PM <sub>2.5</sub>	particulate matter less than 2.5 microns in diameter
PM <sub>10</sub>	particulate matter less than 10 microns in diameter
PQL	Practical Quantitation Limit
PSD	Particle size distribution
PSI	Preliminary Site Investigation
RGP	Rapid Growth Project
SAP	Sampling and Analysis Plan
S <sub>CR</sub>	Chromium reducible sulphur
SIA	Social Impact Assessment
SRE	Shore-range Endemic
TCEMP	Terrestrial Construction Environmental Management Plan
TBT	Tributyltin
ToPH	Town of Port Hedland
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TSP	Total Suspended Particulates
TSS	Total Suspended Solids
TTA	Total Titratable Acidity
UCL	Upper Confidence Level
WAPC	Western Australian Planning Commission