ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES Estuary 674 (SHERLOCK RIVER)												
Estuary ID	674											
Name	SHERLO	OCK RIVER										
Location	NORTH	WEST (PILBARA)										
Latitude / Longitude	-20.7	117.7	Datum	GDA94								
Condition Assessment This estuary is in largely unmodified condition												
Initial Classification	In the first stage of this condition assessment this estuary was classified as being largely unmodified.											
Basis of Initial Classif	ication	This was based on the changes to the land use: grazing.										
Processed-Based Classification The way Sherlock River function is primarily a result of tide energy. It is a tide dominated estuary. This means that the estuary work have moderate sediment trapping efficiency; naturally high turbidity, well mixed circulation and there is some risk of habitat loss of to sedimentation												
Issues:		to sedimental										
General Comments / Notes: General comments relate to all Pilbara estuaries (660 Ashburton to 684 Pardoo Creek)												
				Notes, I	Data and	Supportin	g Qualita	ative Tex	xt	Rating (1-4)	Data Confidence	References
STATE COMPONENT	Г (OVERA	ALL)								2	С	
ECOSYSTEM INTEG	RITY INE	DEX									D	

Eutrophication

Chlorophyll a (µg/L) [median(80th)] HEAD

## Estuary 674 (SHERLOCK RIVER)

Chlorophyll a (µg/L) [median(80th)] MIDDLE
Chlorophyll a (µg/L) [median(80th)] MOUTH
Chlorophyll a (µg/L) [median(80th)] AVERAGE
Harmful algal blooms
Turbidity [median(80th)]
Turbidity (NTU or secchi depth) HEAD
Turbidity (NTU or secchi depth) MIDDLE
Turbidity (NTU or secchi depth) MOUTH
Turbidity (NTU or secchi depth) AVERAGE
Shellfish closures
Fish/bird kills
Pathogens
Faecal coliforms (no/100mL) [median(80th)] HEAD
Faecal coliforms (no/100mL) [median(80th)] MIDDLE
Faecal coliforms (no/100mL) [median(80th)] MOUTH

Faecal coliforms (no/100mL) [median(80th)] AVERAGE

Critical habitat loss

Anoxic and hypoxic events

Invasive species

#### ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES **Estuary 674 (SHERLOCK RIVER)** Rating Data Notes, Data and Supporting Qualitative Text (1-4)**Confidence** References Sherlock River was mapped in 2001 and the following facies HABITAT CONDITION INDEX D 2 areas were calculated: Intertidal flats 10.5 sq.km; Mangroves 10.0 sq.km; Saltmarsh/Saltflats 48.9 sq.km; Tidal sand banks 0.4 sq.km; Total facies area 69.7 sq.km. The following habitat deviations from expected were identified -1; No flood and ebb tidal delta. Seagrass species present Seagrass coverage Mangrove species present Mangrove coverage 0.143 2 Saltmarsh coverage 0.702 2 Wetland coverage Rating Data **Confidence** References Notes, Data and Supporting Qualitative Text (1-4)FISH CONDITION INDEX Large barramundi present - females D 3 Diversity Abundance Health Recruitment Rating Data Notes, Data and Supporting Qualitative Text **Confidence** References (1-4)WATER QUALITY INDEX D Nutrients [median(80th)] Eutrophication in pools upstream - nutrients from cattle 3

#### Estuary 674 (SHERLOCK RIVER)

Ammonia (µg/L) HEAD Ammonia (µg/L) MIDDLE Ammonia (µg/L) MOUTH Ammonia (µg/L) AVERAGE Oxidised nitrogen (µg/L) HEAD Oxidised nitrogen (µg/L) MIDDLE Oxidised nitrogen (µg/L) MOUTH Oxidised nitrogen (µg/L) AVERAGE Phosphate (µg/L) HEAD Phosphate (µg/L) MIDDLE Phosphate (µg/L) MOUTH Phosphate (ug/L) AVERAGE Dissolved oxygen [median(20th)] Dissolved oxygen [surface] (%sat or mg/L) HEAD Dissolved oxygen [surface] (%sat or mg/L) MIDDLE Dissolved oxygen [surface] (%sat or mg/L) MOUTH Dissolved oxygen [surface] (% sat or mg/L) AVERAGE Dissolved oxygen [bottom] (% sat or mg/L) HEAD Dissolved oxygen [bottom] (% sat or mg/L) MIDDLE Dissolved oxygen [bottom] (% sat or mg/L) MOUTH Dissolved oxygen [bottom] (%sat or mg/L) AVERAGE pН Heavy metals

Are heavy metals a problem in this estuary (Y/N)?

### Estuary 674 (SHERLOCK RIVER)

Other toxicants (including pesticides)				
Salinity				
Temperature				
Depth				
	Notes, Data and Supporting Qualitative Text	Rating (1-4)	Data Confidence	References
SEDIMENT QUALITY INDEX			D	
Sediment toxicants				
Sediment load TN				
Sediment load TP				
Invertebrate diversity				
Invertebrate abundance				
	Notes, Data and Supporting Qualitative Text	Rating (1-4)	Data Confidence	References
	Totos, Duta and Supporting Quantante Tent	(1-4)	connucliee	Iterer ences
PRESSURE COMPONENT (OVERALL)	Tores, 2 and and Supporting Quantum to Tone	3	C	References
PRESSURE COMPONENT (OVERALL) UTILISATION INDEX	Totos, 2 and and Supporting Quantum to Toto			
	Totos, 2 and and Supporting Quantum to Toto	3	С	
UTILISATION INDEX	Totos, 2 and and Supporting Quantum to 1020	3	С	
UTILISATION INDEX Recreation Pressure	roots, 2 and and Supporting Quantum re rost	3	С	
UTILISATION INDEX Recreation Pressure Aesthetic & Amenity		3	С	
UTILISATION INDEX Recreation Pressure Aesthetic & Amenity Yachting & Boating		3	С	
UTILISATION INDEX Recreation Pressure Aesthetic & Amenity Yachting & Boating Shellfish		3	С	
UTILISATION INDEX Recreation Pressure Aesthetic & Amenity Yachting & Boating Shellfish Swimming		3	С	
UTILISATION INDEX Recreation Pressure Aesthetic & Amenity Yachting & Boating Shellfish Swimming Recreational Fishing		3	С	

### Estuary 674 (SHERLOCK RIVER)

Urbanisation and urban runoff				
Dredging				
Commercial Pressure				
Industry	Some mining in catchments			3
Aquaculture	Not in estuaries			3
Reclamation / Declamation				
Commercial fishing				
Tourism	Camping			3
Agriculture	Grazing in catchments			3
Habitat clearing	Catchment modification but not clearing			3
Ports & Port Works				
Shipping Activity				
	Notes, Data and Supporting Qualitative Text	Rating (1-4)	Data Confidence	References
SUSCEPTIBILITY INDEX	Arid, sandy catchments; vulnerable systems	4	В	3
Flow-modifying structures				
Catchment loads				
Flows and flushing	Entrances generally well flushed			3
Acid sulphate soils				

RESPONSE COMPONENT (C	OVERALL)		
Institutional Arrangements			
Management Actions			
Community Initiatives			

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Estuary 674 (SHERLOCK RIVER)

Details of References

Key Contacts

1. Auditcapture database (WA state data), 2. AGSO, 3. Expert opinion through state workshop