



**Basins, Catchments and
Receiving Waters of the
Black Ross Water Quality
Improvement Plan Area**

Appendix B

OzEstuaries Profiles

OzEstuaries Profiles

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OzEstuary ID 397 Crystal Creek**Condition assessment**

This estuary is in largely unmodified condition.

This initial classification was based on the changes to land use: agriculture.

Process based classification

The way Crystal Creek functions is primarily a result of river energy. It is a wave-dominated delta. This means that the estuary would have low sediment trapping efficiency; naturally low turbidity, salt wedge/ partially mixed circulation and there is a low risk of habitat loss due to sedimentation.

Habitat Condition Index

Crystal Creek was mapped in 2000 and the following facies areas were calculated:

Flood and ebb tidal delta 0.1 sq.km; Mangroves 0.1 sq.km; Saltmarsh/Saltflats 0.1 sq.km.

Total facies area 0.3 sq.km.

The following habitat deviations from expected were identified -1; no fluvial-bayhead delta (Ref 2).

Mangrove coverage 0.378 sq km

Saltmarsh coverage 0.174 sq km

Pressure Component (Overall)**Utilisation Index**

1995 BRS data: Crop/pasture & Plantations comprise 36.9579% of the catchment. Native woody vegetation comprises 59.8583% of the catchment (Ref 3).

Commercial fishing

A maximum of 5 boats fished Crystal Creek + Ollera Creek in 1999, for a total catch of 9.04 tonnes. Commercial fishing effort (days fished) by method comprised line (6), net (68), pot (18), trawl (9), not stated (44) (Ref 1).

1. QLD state data, 2. AGSO, 3. Derived from BRS landcover data

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)

OzEstuary ID 398 Ollera Creek**Condition assessment**

This estuary is in largely unmodified condition.

This initial classification was based on the changes to land use: agriculture.

Could be upgraded to near pristine. Has some agriculture and clearing in the catchment and a road. Unmodified coastal plain.

Process based classification

The way Crystal Creek functions is primarily a result of river energy. It is a wave-dominated delta. This means that the estuary would have low sediment trapping efficiency; naturally low turbidity, salt wedge/ partially mixed circulation and there is a low risk of habitat loss due to sedimentation.

Habitat Condition Index

Ollera Creek was mapped in 2000 and the following facies areas were calculated: Intertidal flats 0.1 sq.km; Mangroves 0.4 sq.km; Saltmarsh/Saltflats 0.1 sq.km; Total facies area 0.6 sq.km. The following habitat deviations from expected were identified -2; no fluvial-bayhead delta/no intertidal flats (Ref 2).

Mangrove coverage 0.564 sq km

Saltmarsh coverage 0.182 sq km

Pressure Component (Overall)**Utilisation Index**

1995 BRS data: Crop/pasture & Plantations comprise 36.9579% of the catchment. Native woody vegetation comprises 59.8583% of the catchment (Ref 4).

Commercial fishing

A maximum of 5 boats fished Crystal Creek + Ollera Creek in 1999, for a total catch of 9.04 tonnes. Commercial fishing effort (days fished) by method comprised line (6), net (68), pot (18), trawl (9), not stated (44) (Ref 1).

1. QLD state data, 2. AGSO, 3. Expert opinion through state workshop, 4. Derived from BRS landcover data

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)

OzEstuary ID 399 Rollingstone Creek**Condition assessment**

This estuary is in largely unmodified condition.

This initial classification was based on the changes to land use: aquaculture

Habitat Condition Index

Rollingstone Creek was mapped in 2000 and the following facies areas were calculated: Intertidal flats 0.1 sq.km; Mangroves 0.1 sq.km; Total facies area 0.3 sq.km. The following habitat deviations from expected were identified -4; no barrier or back barrier/no fluvial-bayhead delta/no flood and ebb tidal delta/no saltmarsh or saltflats (Ref 2).

Mangrove coverage: 0.549 sq km

Fish Condition Index

In the 1997 RFISH diary program (not a comprehensive geographical survey), ranked recreational catch for Rollingstone Creek included Bream, Grunter, Fingermark, Mangrove Jack (4 species total) (Ref 1).

Pressure Component (Overall)**Utilisation Index**

1995 BRS data: Crop/pasture & Plantations comprise 36.9579 % of the catchment. Native woody vegetation comprises 59.8583 % of the catchment (Ref 3).

Recreational Fishing

Total estimated recreational catch (harvest & released) for Rollingstone Creek in 1997 was 8,115 fish (0.01% of Qld total) from 541 trips (0.005% of Qld total). Estimated catch (no.) Bream 3,246, Grunter 2,705, Fingermark 1,623, Mangrove Jack 541 (Ref 1).

Commercial fishing

A maximum of <5 boats fished Rollingstone Creek in 1999. Commercial fishing effort (days fished) by method comprised line (0), net (71), pot (7), trawl (4), not stated (15) (Ref 1).

1. QLD state data, 2. AGSO, 3. Derived from BRS landcover data

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)

OzEstuary ID 400 Leichhardt Creek**Condition assessment**

This estuary is in largely unmodified condition.

This initial classification was based on the changes to land use: aquaculture.

Upgraded to near pristine. Original classification based on aquaculture - intact habitat 95% up to Rollingstone.

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)

OzEstuary ID 401 Sleeper Log Creek**Condition assessment**

This estuary is in largely unmodified condition.

This initial classification was based on the changes to land use: urban.

Process based classification

The way Sleeper Log Creek function is primarily a result of river energy. It is a wave- dominated delta. This means that the estuary would have low sediment trapping efficiency; naturally low turbidity, salt wedge/ partially mixed circulation and there is a low risk of habitat loss due to sedimentation.

Habitat Condition Index

Sleeper Log Creek was mapped in 2000 and the following facies areas were calculated: Flood and ebb tidal delta 0.1 sq. km; Intertidal flats 0. 1 sq. km; Mangroves 0.5 sq. km; Saltmarsh/ Saltflats 0.4 sq. km; Total facies area 1.1 sq. km. The following habitat deviations from expected were identified -2; no barrier or back barrier/ no fluvial- bayhead delta (Ref 2).

Mangrove coverage 0.463 sq km

Saltmarsh coverage 0.395sq km

Fish Condition Index

In the 1997 RFISH diary program (not a comprehensive geographical survey), ranked recreational catch for Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek included Mullet, Whiting, Sardine, Herring (Bait), Mud Crab, Garfish, Flathead, Grunter, Stripey, Coral Cod (14 species total) (Ref 1).

Pressure Component (Overall)**Utilisation Index**

1995 BRS data: Crop/ pasture & Plantations comprise 14. 3256 % of the catchment. Native woody vegetation comprises 81. 7408 % of the catchment (Ref 4).

Recreational fishing

Total estimated recreational catch (harvest & released) for Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek in 1997 was 32, 550 fish (0. 06% of Qld total) from 2,697 trips (0. 03% of Qld total). Estimated catch (top 5 species by no.) Mullet 15, 876, Whiting 6,357, Sardine 6,027, Herring (Bait) 1,470, Mud Crab 735 (Ref 1).

Commercial fishing

A maximum of 8 boats fished Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek in 1999, for a total catch of 17. 56 tonnes. Commercial fishing effort (days fished) by method comprised line (4), net (130), pot (1), trawl (65), not stated (52) (Ref 1).

Details of References 1. QLD state data, 2. AGSO, 3. Expert opinion through state workshop, 4. Derived from BRS landcover data.

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)

OzEstuary ID 402 Bluewater Creek**Condition assessment**

This estuary is in largely unmodified condition.

This initial classification was based on the changes to land use: urban.

Process based classification

The way Bluewater Creek function is primarily a result of river energy. It is a wave- dominated delta. This means that the estuary would have low sediment trapping efficiency; naturally low turbidity, salt wedge/ partially mixed circulation and there is a low risk of habitat loss due to sedimentation.

Habitat Condition Index

Bluewater Creek was mapped in 2000 and the following facies areas were calculated: Flood and ebb tidal delta 0.7 sq. km; Intertidal flats 0. 1 sq. km; Mangroves 0.2 sq. km; Saltmarsh/ Saltflats 0.1 sq. km; Total facies area 1.0 sq. km. The following habitat deviations from expected were identified -2 / +1; no fluvial- bayhead delta/ contains tidal sand banks (Ref 2).

Mangrove coverage 0.207 sq km

Saltmarsh coverage 0.095 sq km

Fish Condition Index

In the 1997 RFISH diary program (not a comprehensive geographical survey), ranked recreational catch for Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek included Mullet, Whiting, Sardine, Herring (Bait), Mud Crab, Garfish, Flathead, Grunter, Stripey, Coral Cod (14 species total) (Ref 1).

Pressure Component (Overall)**Utilisation Index**

1995 BRS data: Crop/ pasture & Plantations comprise 14. 3256 % of the catchment. Native woody vegetation comprises 81. 7408 % of the catchment (Ref 3).

Recreational fishing

Total estimated recreational catch (harvest & released) for Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek in 1997 was 32, 550 fish (0. 06% of Qld total) from 2,697 trips (0. 03% of Qld total). Estimated catch (top 5 species by no.) Mullet 15, 876, Whiting 6,357, Sardine 6,027, Herring (Bait) 1,470, Mud Crab 735 1 (Ref 1).

Commercial fishing

A maximum of 8 boats fished Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek in 1999, for a total catch of 17. 56 tonnes. Commercial fishing effort (days fished) by method comprised line (4), net (130), pot (1), trawl (65), not stated (52). (Ref 1).

Details of References 1. QLD state data, 2. AGSO, 3. Derived from BRS landcover data

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)

OzEstuary ID 403 Althaus Creek**Condition assessment**

This estuary is in largely unmodified condition.

Process based classification

The way Althaus Creek function is primarily a result of river energy. It is a wave- dominated delta. This means that the estuary would have low sediment trapping efficiency; naturally low turbidity, salt wedge/ partially mixed circulation and there is a low risk of habitat loss due to sedimentation.

Habitat Condition Index

Althaus Creek was mapped in 2000 and the following facies areas were calculated: Flood and ebb tidal delta 0.3 sq. km; Intertidal flats 0. 1 sq. km; Mangroves 0.4 sq. km; Saltmarsh/ Saltflats 0.6 sq. km; Total facies area 1.4 sq. km. The following habitat deviations from expected were identified -1; no fluvial- bayhead delta

Mangrove coverage 0.261 sq km

Saltmarsh coverage 0.445 sq km

Fish Condition Index

In the 1997 RFISH diary program (not a comprehensive geographical survey), ranked recreational catch for Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek included Mullet, Whiting, Sardine, Herring (Bait), Mud Crab, Garfish, Flathead, Grunter, Stripey, Coral Cod (14 species total) (Ref 1).

Pressure Component (Overall)**Utilisation Index**

1995 BRS data: Crop/ pasture & Plantations comprise 14. 3256 % of the catchment. Native woody vegetation comprises 81. 7408 % of the catchment (Ref 3)

Recreational fishing

Total estimated recreational catch (harvest & released) for Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek in 1997 was 32, 550 fish (0. 06% of Qld total) from 2,697 trips (0. 03% of Qld total). Estimated catch (top 5 species by no.) Mullet 15, 876, Whiting 6,357, Sardine 6,027, Herring (Bait) 1,470, Mud Crab 735 1 (Ref 1).

Commercial fishing

A maximum of 8 boats fished Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek in 1999, for a total catch of 17. 56 tonnes. Commercial fishing effort (days fished) by method comprised line (4), net (130), pot (1), trawl (65), not stated (52). (Ref 1).

Details of References 1. QLD state data, 2. AGSO, 3. Derived from BRS landcover data

OzEstuary ID 404 Black River**Condition assessment**

This estuary is in modified condition.

This initial classification was based on the changes to land use: urban.

Process based classification

The way Black River function is primarily a result of river energy. It is a wave- dominated delta. This means that the estuary would have low sediment trapping efficiency; naturally low turbidity, salt wedge/ partially mixed circulation and there is a low risk of habitat loss due to sedimentation.

Habitat Condition Index

Black River was mapped in 2000 and the following facies areas were calculated: Flood and ebb tidal delta 1. 8 sq. km; Intertidal flats 0.7 sq. km; Mangroves 0. 4 sq. km; Saltmarsh/ Saltflats 0.1 sq. km; Total facies area 3.1 sq. km. The following habitat deviations from expected were identified -2 / +1; no fluvial- bayhead delta/ contains tidal sand banks (Ref 2).

Mangrove coverage 0.144 sq km

Saltmarsh coverage 0.043 sq km

Fish Condition Index

In the 1997 RFISH diary program (not a comprehensive geographical survey), ranked recreational catch for Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek included Mullet, Whiting, Sardine, Herring (Bait), Mud Crab, Garfish, Flathead, Grunter, Stripey, Coral Cod (14 species total) (Ref 1).

Pressure Component (Overall)**Utilisation Index**

1995 BRS data: Crop/ pasture & Plantations comprise 14. 3256 % of the catchment. Native woody vegetation comprises 81. 7408 % of the catchment (Ref 3).

Recreational fishing

Total estimated recreational catch (harvest & released) for Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek in 1997 was 32, 550 fish (0. 06% of Qld total) from 2,697 trips (0. 03% of Qld total). Estimated catch (top 5 species by no.) Mullet 15, 876, Whiting 6,357, Sardine 6,027, Herring (Bait) 1,470, Mud Crab 735 (Ref 1).

Commercial fishing

A maximum of 8 boats fished Leichardt Creek + Althaus Creek + Black River + Sleeper Log Creek + Bluewater Creek in 1999, for a total catch of 17. 56 tonnes. Commercial fishing effort (days fished) by method comprised line (4), net (130), pot (1), trawl (65), not stated (52) (Ref 1).

Details of References 1. QLD state data, 2. AGSO, 3. Derived from BRS landcover data

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)

OzEstuary ID 405 Bohle River**Condition assessment**

This estuary is in modified condition.

This initial classification was based on the changes to land use: urban.

Process based classification

The way Bohle River function is primarily a result of river energy. It is a tide- dominated delta. This means that the estuary would have low sediment trapping efficiency; naturally high turbidity, well mixed circulation and there is a low risk of habitat loss due to sedimentation.

Habitat Condition Index

Bohle River was mapped in 2000 and the following facies areas were calculated: Flood and ebb tidal delta 2. 2 sq. km; Intertidal flats 1.5 sq. km; Mangroves 3. 8 sq. km; Saltmarsh/ Saltflats 12.9 sq. km; Total facies area 20.4 sq. km. No habitat deviation was identified (Ref 2).

Mangrove coverage 18.6% - Extensive stands of mangroves present

Saltmarsh coverage 63.1% - Extensive areas of saltmarsh and unvegetated claypans present (Ref 2,3).

Fish Condition Index

In the 1997 RFISH diary program (not a comprehensive geographical survey), ranked recreational catch for Bohle River included Poppy Mullet, Whiting, Longtom, Bream, Box Fish, Mud Crab, Shark (7 species total); Fisheries values: barramundi, blue salmon, bream, estuary cod, flathead, grey mackerel, grunter, mangrove jack, queenfish, recreational fishing, sea mullet, school mackerel tiger prawns, banana prawns, blue legged king prawns (Ref 1,3).

Pressure Component (Overall)**Utilisation Index**

1995 BRS data: Crop/ pasture & Plantations comprise 37. 9235 % of the catchment. Native woody vegetation comprises 43. 6138 % of the catchment (Ref 4).

Recreational fishing

Total estimated recreational catch (harvest & released) for Bohle River in 1997 was 20, 467 fish (0.04% of Qld total) from 2,095 trips (0. 02% of Qld total). Estimated catch (top 5 species by no.) Poppy Mullet 16,771, Whiting 1,416, Longtom 1, 082, Bream 541, Box Fish 287 (Ref 1).

Commercial fishing

A maximum of 5 boats fished Bohle River in 1999, for a total catch of 4. 29 tonnes. Commercial fishing effort (days fished) by method comprised line (0), net (60), pot (2), trawl (15), not stated (54) (Ref 1).

Details of References 1. QLD state data, 2. AGSO, 3. Beumer J et al. 1997. Declared Fish Habitat Areas in Queensland, 4. Derived from BRS landcover data

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)

OzEstuary ID 406 Ross River**Condition assessment**

This estuary is in modified condition.

Initial classification was severely modified.

This initial classification was based on the changes to land use: urban.

Process based classification

The way Ross

River function is primarily a result of tide energy. It is classified as a tidal flat/tidal creek. This means that the estuary would have low sediment trapping efficiency; naturally high turbidity, well mixed circulation and there is a low risk of habitat loss due to sedimentation.

Habitat Condition Index

Bohle River was mapped in 2000 and the following facies areas were calculated: Flood and ebb tidal delta 1.1 sq. km; Intertidal flats 1.0 sq. km; Mangroves 2.7 sq. km; Saltmarsh/ Saltflats 0.7 sq. km; Total facies area 5.5 sq. km. The following habitat deviations from expected were identified; -1, no tidal sand banks (Ref 2).

Mangrove coverage 0.487

Saltmarsh coverage 0.13

(Ref 2,2).

Fish Condition Index

In the 1997 RFISH diary program (not a comprehensive geographical survey), ranked recreational catch for Ross River + Sandfly Creek included Grunter, Mud Crab, Silver Bream, Barramundi, Trevally, Bream, Whiting, Red Bream, Butter Bream, Cod (75 species total) (Ref 1).

Pressure Component (Overall)**Utilisation Index**

1995 BRS data: Crop/ pasture & Plantations comprise 37.9235 % of the catchment. Native woody vegetation comprises 43.6138 % of the catchment (Ref 4).

Recreational fishing

Total estimated recreational catch (harvest & released) for Ross River + Sandfly Creek in 1997 was 494,831 fish (0.89% of Qld total) from 74,161 trips (0.69% of Qld total). Estimated catch (top 5 species by no.) Grunter 79,997, Mud Crab 58,072, Silver Bream 52,512, Barramundi 33,744, Trevally 27,306 (Ref 1).

Commercial fishing

A maximum of 6 boats fished Ross River + Sandfly Creek in 1999, for a total catch of 3.91 tonnes.

Commercial fishing effort (days fished) by method comprised line (3), net (76), pot (74), trawl (17), not stated (6) (Ref 1).

Susceptibility Index

Flow modifying structures

Mostly impounded system

Rating 4

Details of References 1. QLD state data, 2. AGSO, 3. Derived from BRS landcover data

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)

OzEstuary ID 407 Sandfly Creek**Condition assessment**

This estuary is in modified condition.

This initial classification was based on the changes to catchment hydrology: STP.

Process based classification

The way Sandfly Creek functions is primarily a result of tide energy. It is classed as a tidal flat/ tidal creek. This means that the estuary would have low sediment trapping efficiency; naturally high turbidity, well mixed circulation and there is low risk of sedimentation.

Habitat Condition Index

Sandfly Creek was mapped in 2000 and the following facies areas were calculated: Intertidal flats 0.1 sq. km; Mangroves 0.8 sq. km; Saltmarsh/ Saltflats 4.3 sq. km; Total facies area 5.2 sq. km. The following habitat deviations from expected were identified -2; no flood and ebb tidal delta/ no tidal sand banks (Ref 2).

Mangrove coverage 0.153 sq km

Saltmarsh coverage 0.824 sq km

Fish Condition Index

In the 1997 RFISH diary program (not a comprehensive geographical survey), ranked recreational catch for Ross River + Sandfly Creek included Grunter, Mud Crab, Silver Bream, Barramundi, Trevally, Bream, Whiting, Red Bream, Butter Bream, Cod (75 species total) (Ref 1).

Pressure Component (Overall)**Utilisation Index**

1995 BRS data: Crop/ pasture & Plantations comprise 42.2428 % of the catchment. Native woody vegetation comprises 36.0567 % of the catchment (Ref 3).

Recreational fishing

Total estimated recreational catch (harvest & released) for Ross River + Sandfly Creek in 1997 was 494,831 fish (0.89% of Qld total) from 74,161 trips (0.69% of Qld total). Estimated catch (top 5 species by no.) Grunter 79,997, Mud Crab 58,072, Silver Bream 52,512, Barramundi 33,744, Trevally 27,306 (Ref 1).

Commercial fishing

A maximum of 6 boats fished Ross River + Sandfly Creek in 1999, for a total catch of 3.91 tonnes.

Commercial fishing effort (days fished) by method comprised line (3), net (76), pot (74), trawl (17), not stated (6) (Ref 1).

Details of References 1. QLD state data, 2. AGSO, 3. Derived from BRS landcover data

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)

OzEstuary ID 408 Alligator Creek**Condition assessment**

This estuary is in largely unmodified condition.

This initial classification was based on the changes to land use: agriculture.

Process based classification

The way Alligator Creek functions is primarily a result of river energy. It is a tide- dominated delta. This means that the estuary would have low sediment trapping efficiency; naturally high turbidity, well mixed circulation and there is a low risk of habitat loss due to sedimentation.

Habitat Condition Index

Alligator Creek was mapped in 2000 and the following facies areas were calculated: Flood and ebb tidal delta 2.3 sq. km; Intertidal flats 0. 4 sq. km; Mangroves 4.9 sq. km; Saltmarsh/ Saltflats 5.0 sq. km; Total facies area 12. 6 sq. km. The following habitat deviations from expected were identified -1; no tidal sand banks (Ref 2).

Mangrove coverage 0.39 sq km

Saltmarsh coverage 0.399 sq km

Pressure Component (Overall)**Utilisation Index**

1995 BRS data: Crop/ pasture & Plantations comprise 12. 8728 % of the catchment. Native woody vegetation comprises 65. 4939 % of the catchment (Ref 5).

Recreational fishing

Medium pressure - adjacent fisherman's retreat (Ref 3).

Commercial fishing

Gill net fishery; A maximum of <5 boats fished Alligator Creek + Crocodile Creek in 1999. Commercial fishing effort (days fished) by method comprised line (0), net (41), pot (11), trawl (0), not stated (2) (Ref 3).

Urbanisation and urban runoff

Rural residential adjacent.

Industry

Industrial meat works (historical).

Ports & Port Works

Absent - used to be a port

Details of References 1. QLD state data, 2. AGSO, 3. Expert opinion through state workshop, 4. Derived from BRS landcover data

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)

OzEstuary ID 409 Crocodile Creek**Condition assessment**

This estuary is in near pristine condition.

Source: ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES 2000 (ANRA)