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ENVIRONMENTAL STUDIES:- FRESH WATER STREAMS — IMPOUNDMENTS — FISH POPULATIONS

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THE DALY RIVER and its principle tributaries KATHERINE RIVER, KING RIVER, DRY RIVER, FLORA RIVER, FERGUSSON RIVER, FISH RIVER, DOUGLAS RIVER in the Northern Territory

A BIOLOGICAL RESOURCE STUDY
of
fresh waters
conducted during August - September 1980
which includes:-

An Inventory of fish, crustacean and mollusc species, their relative abundance and distribution.

Water data: the physical and chemical characteristics of streams sampled.

A description of streams sampled.

Colour transparencies of streams sampled.

A REPORT
for
THE FISHERIES DIVISION
DEPARTMENT OF PRIMARY PRODUCTION
of
THE NORTHERN TERRITORY
by
S.H.MIDGLEY

October 1980

ABSTRACT

The Study was conducted during August, September 1980.

Sixteen (16) localities were sampled.

Twenty-eight (28) fish species

Three (3) crustacean species

One (1) mollusc species

were recorded.

Two (2) fish species may be new recordings for the Daly River system.

A description of streams sampled and their physical and chemical characteristics is given.

INTRODUCTION

The Daly River flows in a northwesterly direction to Anson Bay and the Timor Sea. It is the third largest system in the Northern Territory, coming after the Roper River and the Victoria River.

The parent river with its tributaries, drains an area of 51,800 sq.km and together, they have an average annual discharge of $4,180 \times 10^6$ metric tonnes.

The system in its tidal reaches and Anson Bay, supports a substantial barramundi (Lates calcarifer) fishery.

Apart from the towns of Katherine and Pine Creek, there are no centres of urban development and the area is sparsely populated.

The main land use in the area is that of cattle raising and some agricultural activity associated with grain production on holdings, such as 'Willeroo' and 'Tipperary'.

There is considerable mining and prospecting activity in the north eastern part of the catchment and to a lesser degree in the north western area. Both these areas are generally broken escarpment country with low value for grazing or agriculture.

Apart from the usual effects of land disturbance caused by grazing and watering and the construction of fence lines, tracks, roads and fire breaks, the country generally appears to be in a natural state and streams seem little affected by land usage.

At present, there are no dams on any of the rivers. The only impediment to the free movement of fish is the presence of natural falls. With few exceptions, streams were still flowing at the time of the Study. The exceptions were the south eastern

tributaries such as the Dry River, which was almost completely dry for most of its course, the King River, which from its mid to lower reaches had dried back to a chain of widely separated pools, but was still flowing in the upper reaches .

The water of all streams sampled was clear to very clear.

No alien aquatic plants such as Salvinia sp. or Hyacinth (Eichhornia sp.) were seen during the study and the incidence of rooted aquatic plants, both submerged and emergent, was low.

The freshwater crocodile (Crocodilus johnsoni) was abundant in the mid to lower reaches of most streams sampled.

A total of twenty-eight (28) fish species, three (3) crustacean species and one (1) mollusc species were recorded.

In relation to species being Abundant, Common or Rare, A,C and R are used.

The only estimate of populations is one of relative abundance, based on all the methods of capture used and observation of species when the water clarity permitted. It applies to each sampling area only.

With some exceptions, the names of fish are those used by John S.Lake in his publication "Australian Freshwater Fishes", a Field Guide published by Thomas Nelson (Aust) Pty.Ltd. 1978. This is still the only Field Guide that gives excellent coverage to the known freshwater fish species at that time.

Since this Guide was published, a number of previously undescribed species has been identified, a number of species previously described from outside Australia has been found in this country and changes to scientific names of species have been made.

Many of these species are the subject of taxonomic determination and therefore this report attempts no specific decision about species such as Ambassis (chanda perch), Neosilurus (eel tail catfish), Oxyeleotris (sleepy cod), Glossogobius (flathead goby), ariid species (salmon catfish) and Macrobrachium (freshwater prawn).

A representative collection of fish, crustacean and mollusc species has been lodged with the Fisheries Division of the Northern Territory.

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Sampling equipment used:-

Dip nets of various mesh sizes
Gill " " " " "
Seine " " " " "
Rod and line
Set lines
Sampling was carried out both day and night.

Water data

Turbidity	-	secchi disc
pH	-	Lovibond comparator
T.D.S.	-	conductivity meter
Temperature	-	glass thermometer
Temperature Dissolved O_2	-	Hach electronic equipment
Dissolved O_2 M.Alkalinity Hardness Ca Total Mg	-	Hach titration equipment

Appendix "A"

Location of sampling stations
Stream descriptions
Water data
Fish, crustacean and mollusc species

Appendix "B"

Condensed details of fish, crustacean and mollusc species
" " " water data

Appendix "C"

Colour transparencies of sampling areas and some fish species
Index to transparencies

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SUMMARY

THE DALY RIVER AND ITS TRIBUTARIES

The Daly River is fed by seven (7) river systems and a number of sizeable creeks.

Flowing to the parent river from the north-east, are the Douglas, Fergusson, Katherine and King Rivers.

Flowing from the south and south-west, are the Fish, Flora and Dry Rivers.

With the exception of the Dry River and the mid to lower reaches of the King River, all main streams were flowing.

At the time of writing, no data was to hand giving information about average annual run off for each of the seven major tributary rivers; only the figure of $4,180 \times 10^6$ metric tonnes for the whole system.

The Daly River and its major tributaries flow in the main between high to very high, well vegetated banks, still in a stable condition, except for the inevitable erosion caused by cattle pads at watering points.

I saw no evidence from ground or limited air observation, of any clearing of timber from stream banks or immediately adjacent to stream banks. Such clearing which has occurred in many other parts of Australia, leads to the collapse of stream banks and the degeneration of the stream itself, which inevitably adversely affects the fishery.

It is to be hoped that any clearing on the upper King River catchment for proposed wood chip and ethanol production, will not be carried out in a fashion that damages the river.

Fish River

I suggest that consideration should be given to the protection of the upper reaches of this small river.

It contains a great diversity of habitats and the greatest diversity of fishes sampled from the Daly system.

WATER CHARACTERISTICS

Turbidity (secchi disc). Waters were generally clear and readings ranged from 1m at STN.8 to 4,4m at STN.11.

pH ranged from 6.8 at STN.7 to 8.5 at STN.3.

T.D.S. ranged from 10 ppm at STN.6 and STN.7 to 500 ppm at STN.3.

M Alkalinity ranged from 34 ppm at STN.s 1,2,6,7 to 445 ppm at STN.3.

Ca Hardness ranged from 17 ppm at STN.s 1,2,6,7, to 240 ppm at STN.10.

Total Hardness ranged from 34 ppm at STN.s 1,2,6,7, to 411 ppm at STN.10.

WATER CHARACTERISTICS (cont.)

Mg Hardness ranged from 17 ppm at STN.s 1,2,6,7,8 to 291 ppm at STN.3.

Surface temperatures varied from 21.5°at STN.1 to 29° at STN.s 7,12,14.

Temperatures at 1m varied from 21.5° at STN.1 to 29° at STN.14.

Temperatures at 2m varied from 23° at STN.8 to 28.5° at STN.14.

The coldest water was 21° at 4m at STN.8.

Dissolved O_2 at			
0.3m	-	5.2ppm	to 9.4ppm
1m	-	3.8 "	10.2 "
2m	-	0.4 "	8.8 "

FISH POPULATIONS

Twenty-one (21) of the twenty-eight (28) fish species recorded during the study are common to most river systems flowing to the Gulf of Carpentaria and other streams of the top end of the Northern Territory.

The remaining seven (7) species have a discontinuous distribution throughout the same area.

Salmon catfishes (ariid spp.)

Two species of this fish were recorded from the system.
One, the 'shovel nose' is common in streams flowing to the Gulf of Carpentaria, both in the Northern Territory and in Queensland.
The other, that I have termed the 'piebald' species, is one that so far I have only sampled from the Daly system.
This fish can vary in colour from a uniform, silvery grey, through a varying 'piebald' state, to creamy white.
The flesh is a pale orange colour, somewhat resembling the flesh colour of the toothless catfish (Anodontiglanis dahli), an eeltail catfish which belongs to another family of catfishes.
I have not observed this flesh colour in any other species of salmon catfish.
Maybe flesh colour, which could reflect a dietary preference, will someday be accepted as a taxonomic character?
This fish may be an undescribed species.
This 'piebald' condition occurred in only one specimen of the 'shovel nose' species of the many collected during the study. This was at STATION 11.

The sharp nose grunter (Syncomistes sp.)

This fish is probably S.butleri and has been previously recorded from the Alligator Rivers Region, the Katherine River, Fergusson River and the Ord River and Drysdale River in Western Australia.
The present study extended its range in the Daly system to the Fish River and Douglas River, where it is quite common.

FISH POPULATIONS (cont.)

The black anal fin grunter (Pingalla sp.)

There is some doubt about the specific status of this fish. In the Northern Territory, it has previously been recorded from the Alligator Rivers Region.
During this study, it was recorded from STATION 6 in the upper Katherine River and from no other station. Here it occurred in sandy pools, while Syncomistes sp.- also recorded from this Station - preferred a situation of broken rock and boulders.

Strawman (Quirichthys stramineus)

Previously thought to be restricted to the Gregory River in Queensland and the Katherine River in the Northern Territory. The present study has extended its range to most rivers of the Daly system. It was found in situations ranging from deep narrow flowing sections to quiet shallow backwaters.

Ox-eye herring (Megalops cyprinoides)

Not recorded from the McArthur, Limmen Bight or Roper Rivers, but common in the Alligator Rivers Region and the Finniss River. It appears to be a very rare fish in the Daly system.

Chanda perch (Ambassis sp.)

Abundant only in the lagoon at the junction of the King and Dry Rivers STATION 8. Only a few individuals were observed in the rest of the system. They are abundant in the Alligator Rivers Region and common in the Finniss River.
They are common throughout the Roper and Limmen Bight River systems, but occurred at only one sampling station in the McArthur River system, which was in a man made lagoon of very soft water.

Barramundi (Lates calcarifer)

An attached list gives details of barramundi sampled during the study.
The method of capture was divided about evenly between line and gill net.
The opinion of people who live on properties in the catchment and who like fishing, is that this year the barramundi is very scarce.
Based on reports from local people, the upstream limits of barramundi penetration are :-

Douglas River	-	Douglas Hot Springs
Fergusson River	-	Edith River junction
Katherine River	-	Katherine Gorge
King River	-	Dry River junction
Flora River	-	Station 11 area

FISH POPULATIONS (cont.)

The pig face turtle (Carettochelys insculpta)?

The pig face turtle was reported as being fairly common in the Daly River on 'Florina' Station in the vicinity of Station 9.

This turtle has only recently been recorded from the Alligator Rivers Region.

Freshwater Crocodile (Crocodilus johnsoni)

This fish eating crocodile was abundant in the mid to lower reaches of most streams sampled.
At present, this animal is fully protected and its numbers appear to be increasing rapidly.
At one time, its eggs were used as a food item by aboriginals.
It would be interesting to know what fish species are preferred as food and whether they are 'scale' or 'skin' fish.

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	STN.1 King R.	STN.2 Katherine R. Maude Ck. junction	STN.3 Brandy Bottle Creek	STN.4 Birrimba Hole Forrest Ck.- Dry R.
Secchi	clear	2m+	1.5m	clear
pH	7.0	7.0	8.5	7.6
T.D.S. ppm	20	20	500	190
M.Alkalinity "	34	34	445	103
Ca.Hardness "	17	17	86	68
Total " "	34	34	377	120
Mg. " "	17	17	291	52

Depth m	Temp.	DO	Temp.	DO	Temp.	DO	Temp.	DO
0.	21.5	8.4	25.5	7.8	27	9.2	25	10.4
0.3			25		26.5	9.4	24.5	10.4
0.6					26	10		
1	21.5	8.4	25		25.5	10.2		
1.5			24.5	7.8				
2								
3								
4								
5								
6								
7								
8								
9								
10								

WATER DATA FORM (S.R.M.)

	STN.5 Katherine R.	STN.6 Katherine R above gorge	STN.7 Fergusson R upper reaches	STN.8 Lagoon Dry/King R. junction
Secchi	2.4m+	2m+	2m+	1m
pH	8.0	7.0	6.8	7.0
T.D.S. ppm	310	10	10	30
M.Alkalinity "	257	34	34	51
Ca.Hardness "	137	17	17	34
Total " "	291	34	34	51
Mg. " "	154	17	17	17

Depth m	Temp.	DO	Temp.	DO	Temp.	DO	Temp.	DO
0.	27	8.8	26	6	29	6.9	25	5
0.3					28.5			
0.6					28		25.	5
1					27.5	6.9	24.5	3.8
1.5	27				27	6.8	24	0.6
2	26.5	8.8	26	6	26.5		23	0.4
3							21.5	
4							21	0.4
5								
6								
7								
8								
9								
10								

WATER DATA FORM (S.H.M.)

	STN.9 Daly R.	STN.10 Fergusson R.	STN.11 Flora R. headwaters	STN.12 Fish R.
Secchi	2.8m+	3m	4.4m	clear
pH	8.0	7.9	8.0	8.1
T.D.S. ppm	330	430	300	60
M.Alkalinity "	291	359	291	86
Ca.Hardness "	137	240	120	51
Total " "	308	411	291	86
Mg. " "	171	171	171	35

Depth m	Temp.	DO	Temp.	DO	Temp.	DO	Temp.	DO
0.	26.5	7.4	26.5	6.2	24	8	29	8.1
0.3			26.5					
0.6			26	6.2			29	8.1
1				6.1	24		28	7.1
1.5					23.5	8		
2	26.5	7.4				7.9		
3				6.1		7.8		
4			26	6	23.5	7.6		
5								
6								
7								
8								
9								
10								

APPENDIX "A"

Location of sampling stations

Stream descriptions

Water data

Fish, crustacean and mollusc species

STREAM RECORD FORM (S.H.M.) STATION 1

DATE 10th.,11th.August 1980

LOCATION King River about 40 km E.S.E. Katherine, N.T.
Lat - 14° 36' S Long - 132° 36' E

STREAM DESCRIPTION A clear, flowing, narrow stream over a sand bottom, with occasional small rapid sections.

NATURE OF STREAM BED AND BANKS Sandy bed and silt, sand and earth banks with occasional rock outcrops. Banks up to 4m high.

WIDTH up to 10m

DEPTH up to 1m

BANK VEGETATION Medium to dense Eucalyptus spp., Melaleuca spp. Pandanus sp.

ADJACENT COUNTRY DESCRIPTION Medium forest, mainly eucalypts, uncleared and used for grazing.

Secchi	-	clear
pH	-	7.0
T.D.S.	-	20 ppm.
M Alkalinity	-	34 "
Ca Hardness	-	17 "
Total "	-	34 "
Mg "	-	17 "

REMARKS

Water temps.		DO ppm.
0	21.5	8.4
30cm	-	
60cm	-	
1m	21.5	8.4
1.5m	-	
2m	-	
3m	-	
4m	-	
5m	-	
6m	-	
7m	-	
8m	-	
9m	-	
10m	-	

SPECIES LIST

STATION 1

King River - 10,11 Aug.1980

FISH

1.	Nematolosa erebi	bony bream	A
2.	Glossogobius sp.	flathead goby	R
3.	Neosilurus sp. (yellow fin)	tandan	A
4.	Hephaestus fuliginosus	black bream	R
5.	Leiopotherapon unicolor	spangled perch	A
6.	Amniataba percoides	banded grunter	C
7.	Melanotaenia australis	rainbow fish	A
8.	Glossamia aprion	mouth almighty	R
9.	Toxotes chatareus	archer fish	C
10.	Strongylura krefti	long tom	C

CRUSTACEANS

Macrobrachium sp.	freshwater prawn	R
M. rosenbergii	giant freshwater prawn	R

MOLLUSCS

Velesunio sp.	freshwater mussel	R

STREAM RECORD FORM (S.H.M.) STATION 2

DATE 13th.,14th.August 1980

LOCATION Katherine River at Maude Creek junction, about 17 km E.N.E. of Katherine, N.T.
Lat - 14° 23' S Long - 132° 23' E

STREAM DESCRIPTION A wide, shallow reach of the Katherine River. Clear flowing water.

NATURE OF STREAM BED AND BANKS Sand and stone bed, with occasional extensive rocky bars. Low banks up to 1m rising to 4m., of silt and soil

WIDTH 20m to 50m

DEPTH up to 1.5m

BANK VEGETATION Medium to dense. Mainly Melaleuca spp. with patches of Pandanus sp., Nauclea sp., Eucalyptus spp., Barringtonia sp.

ADJACENT COUNTRY DESCRIPTION Natural medium forest of mixed spp. used for cattle grazing.

Secchi	- 2m+
pH	- 7.0
T.D.S.	- 20 ppm.
M Alkalinity	- 34 "
Ca Hardness	- 17 "
Total "	- 34 "
Mg "	- 17 "

REMARKS

Water temps.		DO ppm.
0	- 25.5	- 7.8
30cm	- 25	-
60cm	- 25	-
1m	- 25	-
1.5m	- 24.5	- 7.8
2m	-	-
3m	-	-
4m	-	-
5m	-	-
6m	-	-
7m	-	-
8m	-	-
9m	-	-
10m	-	-

SPECIES LIST STATION 2

Katherine River - 13,14 Aug.1980

FISH

1.	*Lates calcarifer*	silver barramundi	C
2.	*Ambassis sp.*	chanda perch	R
3.	*Nematolosa erebi*	bony bream	C
4.	*Glossogobius sp.*	flathead goby	R
5.	*Anodontiglanis dahli*	toothless catfish	C
6.	*ariid sp. (shovel nose)*	salmon catfish	C
7.	*ariid sp. (piebald)*	salmon catfish	C
8.	*Hephaestus fuliginosus*	black bream	C
9.	*Leiopotherapon unicolor*	spangled perch	C
10.	*Amniataba percoides*	banded grunter	A
11.	*Syncomistes sp.*	sharp nose grunter	R
12.	*Melanotaenia australis*	rainbow fish	A
13.	*Craterocephalus stercusmuscarum*	line eye	C
14.	*Quirichthys stramineus*	strawman,	C
15.	*Glossamia aprion*	mouth almighty	C
16.	*Toxotes chatareus*	archer fish	C
17.	*Strongylura krefti*	long tom	C

CRUSTACEANS

Macrobrachium spp.	freshwater prawns	C

MOLLUSCS

Velesunio sp.	freshwater mussel	C

STREAM RECORD FORM (S.H.M.)

STATION 3

DATE 15th.August 1980

LOCATION Brandy bottle Creek, a southern head waters tributary of the Flora River, about 120 km S.W. Katherine.
Lat - 15° 19' S Long - 131° 33' E

STREAM DESCRIPTION A clear, very slow flowing shallow spring fed creek.

NATURE OF STREAM BED AND BANKS Bed of sand, stone and extensive areas of solid rock, with sloping banks of silt and soil up to 2m high.

WIDTH 2m to 15m

DEPTH up to 1m

BANK VEGETATION Light to scattered. Mainly Melaleuca sp. and Eucalyptus spp.

ADJACENT COUNTRY DESCRIPTION Natural open, low eucalypt forest. Undulating country with isolated low knolls and ranges used for cattle grazing.

Secchi	-	1.5m
pH	-	8.5
T.D.S.	-	500 ppm.
M Alkalinity	-	445 "
Ca Hardness	-	86 "
Total "	-	377 "
Mg "	-	291 "

REMARKS

Water temps.		DO ppm.
0	- 27	- 9.2
30cm	- 26.5	- 9.4
60cm	- 26	- 10.2
1m	- 25.5	- 10.2
1.5m	-	-
2m	-	-
3m	-	-
4m	-	-
5m	-	-
6m	-	-
7m	-	-
8m	-	-
9m	-	-
10m	-	-

SPECIES LIST STATION 3

Brandybottle Creek - 15 Aug.1980

FISH

1.	Nematolosa erebi	bony bream	C
2.	Oxyeleotris sp.	sleepy cod	R
3.	Mogurnda mogurnda	purple spotted gudgeon	C
4.	Neosilurus sp.	tandan	A
5.	Hephaestus fuliginosus	black bream	C
6.	Leiopotherapon unicolor	spangled perch	A
7.	Amniataba percoides	banded grunter	C
8.	Melanotaenia australis	rainbow fish	A
9.	Glossamia aprion	mouth almighty	R
10.	Toxotes chatareus	archer fish	C
11.	Strongylura krefti	long tom	C

CRUSTACEANS

	Macrobrachium sp.	freshwater prawn	R

MOLLUSCS

	Velesunio sp.	freshwater mussel	C

STREAM RECORD FORM (S.N.M.) STATION 4.

DATE 16th,17th.August 1980

LOCATION Birrimba Hole in Forest Creek, a headwater tributary of the Dry River about 163 km S.S.W Katherine
Lat - 15° 56' S Long - 132° 01' E

STREAM DESCRIPTION A shallow hole about 150m long, of semi-permanent water in a poorly defined and otherwise dry water course. Water clear.

NATURE OF STREAM BED AND BANKS Bed of silt, mud and small stones. Banks of black soil, rising gently to 2m.

WIDTH up to 20m

DEPTH up to 40cm.

BANK VEGETATION Scattered Eucalyptus coolabah

ADJACENT COUNTRY DESCRIPTION Open eucalypt forest and plain country in natural state, used for cattle grazing.

Secchi	-	clear
pH	-	7.6
T.D.S.	-	190 ppm.
M Alkalinity	-	103 "
Ca Hardness	-	68 "
Total "	-	120 "
Mg "	-	52 "

REMARKS

Water temps.		DO ppm.
0	- 25 -	10.4
30cm	- 24.5 -	10.4
60cm	- -	
1m	- -	
1.5m	- -	
2m	- -	
3m	- -	
4m	- -	
5m	- -	
6m	- -	
7m	- -	
8m	- -	
9m	- -	
10m	- -	

SPECIES LIST STATION 4

Birrimba Hole Forest Creek

16,17 Aug.1980

FISH

Leiopotherapon unicolor	spangled perch	A
Melanotaenia australis	rainbow fish	C

MOLLUSCS

Velesunio sp.	freshwater mussel	C

STREAM RECORD FORM (S.H.M.) STATION 5

DATE 19th.,20th.August 1980

LOCATION Katherine River, a few km below Limestone Creek junction, about 55 km W.S.W. Katherine.
Lat - 14° 43' S Long - 131° 49' E

STREAM DESCRIPTION A clear flowing stream, with long placid reaches broken by narrow shallow rapids and rocky bars.

NATURE OF STREAM BED AND BANKS A bed of sand, stone and rock. Low banks up to 2m, sloping abruptly to 15m., with extensive drifts of fine sand.

WIDTH Rapid sections 5 to 10m. Long slow reaches up to 50m.

DEPTH up to 2.5m

BANK VEGETATION Medium to dense cover of Melaleuca spp., Casuarina sp., Eucalyptus spp., Pandanus sp., Barringtonia sp. and Nauclea sp.

ADJACENT COUNTRY DESCRIPTION Medium to open forest of eucalypts and other species in an uncleared state. Used for cattle grazing.

Secchi	-	2.4m+
pH	-	8
T.D.S.	-	310 ppm.
M Alkalinity	-	257 "
Ca Hardness	-	137 "
Total "	-	291 "
Mg "	-	154 "

REMARKS

Water temps.		DO ppm.
0	27	8.8
30cm	-	
60cm	-	
1m	-	
1.5m	27	
2m	26.5	8.8
3m	-	
4m	-	
5m	-	
6m	-	
7m	-	
8m	-	
9m	-	
10m	-	

SPECIES LIST STATION 5

Katherine River - 19,20 Aug.1980

FISH

1.	*Lates calcarifer*	silver barramundi	C
2.	*Nematolosa erebi*	bony bream	C
3.	*Glossogobius sp.*	flathead goby	C
4.	*Neosilurus sp.*	tandan	C
5.	ariid sp.(shovel nose)	salmon catfish	C
6.	ariid sp. (piebald)	salmon catfish	C
7.	*Hephaestus fuliginosus*	black bream	C
8.	*Leiopotherapon unicolor*	spangled perch	C
9.	*Amniataba percoides*	banded grunter	C
10.	*Syncomistes sp.*	sharp nose grunter	R
11.	*Melanotaenia australia*	rainbow fish	C
12.	*Quirichthys stramineus*	strawman	C
13.	*Glossamia aprion*	mouth almighty	C
14.	*Toxotes chatareus*	archer fish	C
15.	*Strongylura krefti*	long tom	C
16.	*Lisa diadema*	diamond scale mullet	C

CRUSTACEANS

Macrobrachium sp.	freshwater prawn	C
M.rosenbergii	giant freshwater prawn	C

MOLLUSCS

Velesunio sp.	freshwater mussel	R

STREAM RECORD FORM (S.H.M.)

STATION 6

DATE 22nd.August 1980

LOCATION Katherine River above the gorge at junction of Birdie Creek, about 78 km N.E. of Katherine.
Lat - 13° 58' S Long - 132° 46' E

STREAM DESCRIPTION A very rocky flowing section of clear water, flowing through large rock pools.

NATURE OF STREAM BED AND BANKS Sand and stone with extensive areas of solid rock. Banks of sand, silt, soil and rock rising to 3m in a gradual slope.

WIDTH 5. to 10m

DEPTH up to 3m. Mostly under 2m

BANK VEGETATION Light to scattered Melaleuca spp., Eucalyptus spp. and Pandanus sp.

ADJACENT COUNTRY DESCRIPTION Medium to open natural forest of mostly Eucalypt spp., with some cattle and buffalo.

Secchi	-	2m+
pH	-	7.0
T.D.S.	-	10 ppm.
M Alkalinity	-	34 "
Ca Hardness	-	17 "
Total "	-	34 "
Mg "	-	17 "

Water temps.		DO ppm.
0	26	6
30cm	-	-
60cm	-	-
1m	-	-
1.5m	-	-
2m	26	6
3m	-	-
4m	-	-
5m	-	-
6m	-	-
7m	-	-
8m	-	-
9m	-	-
10m	-	-

REMARKS

SPECIES LIST STATION 6

Katherine River - 22 Aug.1980

FISH

1.	*Neosilurus sp.* (yellow fin)	tandan	C
2.	*Neosilurus sp.* (Black)	tandan	R
3.	*Hephaestus fuliginosus*	black bream	C
4.	*Leiopotherapon unicolor*	spangled perch	C
5.	*Syncomistes sp.*	sharp nose grunter	R
6.	*Pingalla sp.*	black anal fin grunter	C
7.	*Melanotaenia australis*	rainbow fish	A
8.	*Melanotaenia sp.*	rainbow fish	C

MOLLUSCS

Velesunio sp.	freshwater mussel	C

STREAM RECORD FORM (S.H.M.) STATION 7

DATE 22nd.August 1980

LOCATION Upper reaches of Fergusson River, about 54 km N of Katherine.
Lat - 13° 59' S Long - 132° 18' E

STREAM DESCRIPTION A stream dried back to a chain of waterholes of varying sizes. The hole at the sampling site appeared to be the largest in the area and was about 150m long.

NATURE OF STREAM BED AND BANKS Sand, stone and solid rock, with low banks of silt and soil on one side up to 3m high and steep banks with rocky cliffs up to 20m on the other.

WIDTH up to 30m in large pools. Narrow sections down to 3m.

DEPTH up to 2.5m. Mostly less than 1m.

BANK VEGETATION Medium to light cover of Eucalyptus sp., Melaleuca sp., Grevillia sp. and Acacia sp.

ADJACENT COUNTRY DESCRIPTION Medium to open natural forest mainly of Eucalyptus spp. Indifferent country for limited grazing by cattle and buffalo.

Secchi	-	2m+
pH	-	6.8
T.D.S.	-	10 ppm.
M Alkalinity	-	34 "
Ca Hardness	-	17 "
Total "	-	34 "
Mg "	-	17 "

REMARKS

Water temps.		DO ppm.
0	29	6.9
30cm	28.5	
60cm	28	
1m	27.5	6.9
1.5m	27	6.8
2m	26.5	
3m		
4m		
5m		
6m		
7m		
8m		
9m		
10m		

SPECIES LIST STATION 7

Fergusson River - 22 Aug.1980

FISH

1.	*Glossogobius sp.*	flathead gudgeon	C
2.	*Hephaestus fuliginosus*	black bream	C
3.	*Leiopotherapon unicolor*	spangled perch	C
4.	*Amniataba percoides*	banded grunter	A
5.	*Melanotaenia australis*	rainbow fish	C
6.	*Craterocephalus stercusmuscarum*	line eye	C
7.	*Toxotes chatareus*	archer fish	C
8.	*Strongylura krefti*	long tom	C

MOLLUSCS

	Velesunio sp.	freshwater mussel	R

STREAM RECORD FORM (S.H.M.) STATION 8

DATE 23rd.,24th.August 1980

LOCATION Large lagoon at junction of Dry River and King River, about 50 km S.S.E. of Katherine.
Lat - 14° 54' S Long - 132° 24' E

STREAM DESCRIPTION A large deep lagoon of permanent water about 500m long, with large areas of rooted aquatic plants.

NATURE OF STREAM BED AND BANKS Bottom of mud and silt, with black soil banks sloping back to 2m high.

WIDTH up to 100m

DEPTH up to 4.5m

BANK VEGETATION Open to scattered patches of Eucalyptus spp., mainly Coolabah.

ADJACENT COUNTRY DESCRIPTION Merium to open eucalypt forest in natural state, used for cattle grazing.

Secchi	-	1m
pH	-	7
T.D.S.	-	30 ppm.
M Alkalinity	-	51 "
Ca Hardness	-	34 "
Total "	-	51 "
Mg "	-	17 "

Water temps.		DO ppm.
0	25	5
30cm		
60cm	25	5
1m	24.5	3.8
1.5m	24	0.6
2m	23	0.4
3m	21.5	
4m	21	0.4
5m		
6m		
7m		
8m		
9m		
10m		

REMARKS

The dominant aquatic plant was Nymphea gigantia, which persisted to depths up to 4m.

SPECIES LIST STATION 8

Dry River-King River junction

23,24 Aug.1980

FISH

1.	*Ambassis sp.*	chanda perch	A
2.	*Nematolosa erebi*	bony bream	C
3.	*Oxyeleotris sp.*	sleepy cod	R
4.	*Anodontiglanis dahli*	toothless catfish	R
5.	*Neosilurus sp.*	tandan	C
6.	*Leiopotherapon unicolor*	spangled perch	C
7.	*Amniataba percoides*	banded grunter	R
8.	*Melanotaenia australis*	rainbow fish	A
9.	*Craterocephalus stercusmuscarum*	line eye	C
10.	*Glossamia aprion*	mouth almighty	C
11.	*Toxotes chatareus*	archer fish	C
12.	*Strongylura krefti*	long tom	R

STREAM RECORD FORM (S.H.M.)

STATION 9

DATE 25th.,26th.August 1980

LOCATION Daly River on 'Florina' Station, about 62 km W of Katherine.

Lat - 14° 29' S Long - 131° 40' E

STREAM DESCRIPTION A wide, clear flowing river between high well vegetated banks. Long, slow flowing pools separated by fast flowing sections over rocky bars.

NATURE OF STREAM BED AND BANKS Sand, silt and stone with occasional rock bars. Low banks up to 2m rising back steeply to 20m, composed of soil, sand and silt.

WIDTH up to 50m in long reaches and 20m in rapid sections.

DEPTH up to 2.8m

BANK VEGETATION Low banks - dense Melaleuca spp. with some Nauclea sp. and Casuarina sp.

High banks - Eucalyptus spp.

ADJACENT COUNTRY DESCRIPTION Open to medium forest of eucalypts and other species in natural state. Used for cattle grazing.

Secchi	-	2.8m+
pH	-	8
T.D.S.	-	330 ppm.
M Alkalinity	-	291 "
Ca Hardness	-	137 "
Total "	-	308 "
Mg "	-	171 "

Water temps.		DO ppm.
0	26.5	7.4
30cm	-	
60cm	-	
1m	-	
1.5m	-	
2m	26.5	7.4
3m	-	
4m	-	
5m	-	
6m	-	
7m	-	
8m	-	
9m	-	
10m	-	

REMARKS

SPECIES LIST STATION 9

Daly River - 25,26 Aug.1980

FISH

1.	Lates calcarifer	silver barramundi	C
2.	Nematolosa erebi	bony bream	C
3.	Oxyeleotris sp.	sleepy cod	C
4.	Anodontiglanis dahli	toothless catfish	C
5.	Neosilurus sp.	tandan	C
6.	ariid sp. (shovel nose)	salmon catfish	C
7.	ariid sp. (piebald)	salmon catfish	C
8.	Hephaestus fuliginosus	black bream	C
9.	Leiopotherapon unicolor	spangled perch	C
10.	Amniataba percoides	banded grunter	C
11.	Melanotaenia australis	rainbow fish	C
12.	Quirichthys stramineus	strawman	C
13.	Glossamia aprion	mouth almighty	C
14.	Toxotes chatareus	archer fish	C
15.	Strongylura krefti	long tom	C
16.	Dasyatis sp.	stingray	C
17.	Pristis sp.*	saw fish	C
18.	Carcharhinus sp.*	shark	C

CRUSTACEANS

	Macrobrachium sp.	freshwater prawn	C

MOLLUSCS

	Velesunio sp.	freshwater mussel	R

* not captured, but reliably reported as being common in the area

STREAM RECORD FORM (S.H.M.) STATION 10

DATE 28th.,29th.August 1980

LOCATION Fergussen River a few km below Edith River junction, about 45 km W.N.W. of Katherine.
Lat - 14° 17' S Long - 131° 53' E

STREAM DESCRIPTION A clear flowing stream over solid rock, stone and sand. Long wide pools separated by narrow fast flowing shallow sections.

NATURE OF STREAM BED AND BANKS Solid rock, stone and sand. Extensive areas of flat rock shore line on southern bank.
Low banks up to 2m high, sloping back in steps to 5m.

WIDTH Large pools 50m. Narrow sections down to 3m.

DEPTH up to 4.8m in some narrow sections of solid rock
up to 3.5m in long wide reaches

BANK VEGETATION Dense cover along banks of Melaleuca spp., Pandanus sp., Acacia sp., Eucalyptus sp., Eugenia sp., Nauclea sp.

ADJACENT COUNTRY DESCRIPTION Medium forest of mixed spp., mainly eucalypts in natural state. Used for cattle grazing.

Secchi	-	3m.
pH	-	7.9
T.D.S.	-	430 ppm.
M Alkalinity	-	359 "
Ca Hardness	-	240 "
Total "	-	411 "
Mg "	-	171 "

REMARKS

Water temps.		DO ppm.
0	26.5	6.2
30cm	26.5	
60cm	26	6.2
1m		6.1
1.5m		
2m		
3m		6.1
4m	26	6
5m		
6m		
7m		
8m		
9m		
10m		

SPECIES LIST STATION 10

Fergusson River - 28,29 Aug.1980

FISH

1.	Lates calcarifer	silver barramundi	C
2.	Ambassis sp.	chanda perch	R
3.	Nematolosa erebi	bony bream	C
4.	Glossogobius sp.	flathead gudgeon	C
5.	Neosilurus sp.	tandan	R
6.	ariid sp. (shovel nose)	salmon catfish	C
7.	ariid sp. (piebald)	salmon catfish	C
8.	Hephaestus fuliginosus	black bream	C
9.	Leiopotherapon unicolor	spangled perch	C
10.	Amniataba percoides	banded grunter	C
11.	Melanotaenia australis	rainbow fish	C
12.	Craterocephalus stercusmuscarum	line eye	R
13.	Quirichthys stramineus	strawman	A
14.	Glossamia aprion	mouth almighty	R
15.	Toxotes chatareus	archer fish	C
16.	Strongylura krefti	long tom	R
17.	Lisa diadema	mullet	R

CRUSTACEANS

Macrobrachium sp.	freshwater prawn	C
M. rosenbergii	giant freshwater prawn	C

STREAM RECORD FORM (S.H.M.)

STATION 11

DATE 31st.August, 1 September 1980

LOCATION Flora River headwaters, about 115 km W.S.W. of Katherine.
Lat - 14° 43' S Long - 131° 13' E

STREAM DESCRIPTION Long, wide, deep pools of placid clear water connected by narrow shallow sections with numerous channels. Low banks densely vegetated. Stream fed by small springs.

NATURE OF STREAM BED AND BANKS Stone, sand, silt and mud.
Banks to to 2m high.

WIDTH up to 60m in large pools. 10m in narrow sections

DEPTH up to 5m in large pools. 3m in narrow sections

BANK VEGETATION Dense cover of Pandanus sp., Melaleuca sp. and Eucalyptus spp.

ADJACENT COUNTRY DESCRIPTION Flat country with medium forest of eucalypt and other species. Used for cattle grazing.

Secchi	-	4.4m
pH	-	8
T.D.S.	-	300 ppm.
M Alkalinity	-	291 "
Ca Hardness	-	120 "
Total "	-	291 "
Mg "	-	171 "

REMARKS

Water temps.		DO ppm.
0	24	8
30cm		
60cm		
1m	24	
1.5m	23.5	8
2m		7.9
3m		7.8
4m	23.5	7.6
5m		
6m		
7m		
8m		
9m		
10m		

SPECIES LIST STATION 11

Flora River - 31Aug.,1 Sept.1980

FISH

1.	Ambassis sp.	chanda perch	R
2.	Nematolosa erebi	bony bream	C
3.	Oxyeleotris sp.	sleepy cod	R
4.	Neosilurus sp.	tandan	C
5.	ariid sp. (shovel nose)	salmon catfish	C
6.	ariid sp. (piebald)	salmon catfish	C
7.	Hephaestus fuliginosus	black bream	R
8.	Leiopotherapon unicolor	spangled perch	C
9.	Amniataba percoides	banded grunter	A
10	Melanotaenia australis	rainbow fish	C
11.	Quirichthys stramineus	strawman	C
12.	Glossamia aprion	mouth almighty	R
13.	Toxotes chatareus	archer fish	C
14.	Strongylura krefti	long tom	R

CRUSTACEANS

Cherax quadricarinatus	freshwater lobby	R
Macrobrachium rosenbergii	giant freshwater prawn	R

MOLLUSCS

Velesunio sp.	freshwater mussel	R

STREAM RECORD FORM (S.H.M.)

STATION 12

DATE 3rd.,4th.,5th.September 1980

LOCATION Fish River about 145 km W.N.W. of Katherine.
Lat - 14° 14' S Long - 130° 55' E

STREAM DESCRIPTION A clear flowing stream with a great variety of widths and depths, at present flowing through one of a number of channels. Stream bed and banks heavily timbered. Some wide, deep reaches up to 500m long.

NATURE OF STREAM BED AND BANKS Bed of sand, gravel, stone and rock. Banks of soil, sand and silt up to 4m high.

WIDTH Long narrow flowing sections from 2m to 10m.
Long wide reaches to to 60m

DEPTH Long narrow sections up to 1m
Wide deep sections up to 3m

BANK VEGETATION Stream bed vegetation - Melaleuca sp., Nauclea sp. Pandanus sp., Ficus sp.

Bank vegetation - Eucalyptus spp., Ironwood.

ADJACENT COUNTRY DESCRIPTION Open eucalypt and ironwood forest in natural state. Used for cattle grazing.

Secchi	-	clear
pH	-	8.1
T.D.S.	-	60 ppm.
M Alkalinity	-	86 "
Ca Hardness	-	51 "
Total "	-	86 "
Mg "	-	35 "

Water temps.			DO ppm.
0	- 29	-	8.1
30cm	-	-	
60cm	- 29	-	8.1
1m	- 28	-	7.1
1.5m	-	-	
2m	-	-	
3m	-	-	
4m	-	-	
5m	-	-	
6m	-	-	
7m	-	-	
8m	-	-	
9m	-	-	
10m	-	-	

REMARKS

About 4km upstream from STATION 12 the river enters an escarpment and has high rock walls and deep water.

SPECIES LIST STATION 12

Fish River - 3,4,5Sept.1980

FISH

1.	Lates calcarifer	silver barramundi	C
2.	Nematolosa erebi	bony bream	C
3.	Oxyeleotris sp.	sleepy cod	R
4.	Mogurnda mogurnda	purple spotted gudgeon	R
5.	Glossogobius sp.	flathead goby	C
6.	Neosilurus sp.	tandan	C
7.	ariid sp.(shovel nose)	salmon catfish	C
8.	ariid sp. (piebald)	salmon catfish	C
9.	Hephaestus fuliginosus	black bream	C
10.	Leiopotherapon unicolor	spangled perch	C
11	Amniataba percoides	banded grunter	C
12.	Syncomistes sp.	sharp nose grunter	C
13.	Melanotaenia australis	rainbow fish	C
14.	Craterocephalus stercusmuscarum	line eye	R
15.	Quirichthys stramineus	strawman	C
16.	Glossamia aprion	mouth almighty	R
17.	Toxotes chatareus	archer fish	C
18.	Strongylura krefti	long tom	R
19.	Lisa diadema	mullet	R
20.	Megalops cyprinoides	ox eye herring	R

CRUSTACEANS

Cherax quadricarinatus	freshwater lobby	R
Macrobrachium sp.	freshwater prawn	C
M.rosenbergii	giant freshwater prawn	C

MOLLUSCS

Velesunio sp.	freshwater mussel	R

STREAM RECORD FORM (S.H.M.)

STATION 12a

DATE 6th.September 1980

LOCATION A large isolated spring pool about 15 km E of STATION 12
Lat - 14° 14' S Long - 131° 03' E

STREAM DESCRIPTION A spring fed pool about 60m in diameter and about 1m deep, surrounded by a fringe of timber, having an outlet of flowing water 1m wide.

NATURE OF STREAM BED AND BANKS Black mud. Banks sloping to 0.5m of black soil.

WIDTH 60m

DEPTH 1m

BANK VEGETATION Pandanus sp., Ficus sp.

ADJACENT COUNTRY DESCRIPTION Open forest in natural state used for grazing.

Secchi	-	clear
pH	-	7.9
T.D.S.	-	330 ppm.
M Alkalinity	-	325 "
Ca Hardness	-	103 "
Total "	-	342 "
Mg "	-	239 "

REMARKS

Water temps.			DO ppm.
0	-	23 -	.....
30cm	-	-	
60cm	-	-	
1m	-	-	
1.5m	-	-	
2m	-	-	
3m	-	-	
4m	-	-	
5m	-	-	
6m	-	-	
7m	-	-	
8m	-	-	
9m	-	-	
10m	-	-	

SPECIES LIST STATION 12a

Spring pool - 6 Sept.1980

FISH

Mogurnda mogurnda //	purple spotted gudgeon	C
Melanotaenia australis //	rainbow fish	C

STREAM RECORD FORM (S.H.M.)

STATION 13

DATE 7th.September 1980

LOCATION Daly River-Douglas River junction, about 75 km W Pine Creek

Lat - 13° 51' S Long - 131° 09' E

STREAM DESCRIPTION A wide deep flowing clear water river with high densely vegetated banks.

NATURE OF STREAM BED AND BANKS Bed of sand, silt and mud. Banks of soil and silt sloping steeply to 15m.

WIDTH up to 100m

DEPTH up to 4.5m

BANK VEGETATION Dense covers of Melaleuca spp., Pandanus sp., Acacia Sp., Eucalyptus spp., Nauclea sp., Bamboo

ADJACENT COUNTRY DESCRIPTION Medium forest of mixed spp. used for grazing.

Secchi	-	3m
pH	-	8
T.D.S.	-	330 ppm.
M Alkalinity	-	291 "
Ca Hardness	-	154 "
Total "	-	308 "
Mg "	-	154 "

REMARKS

Water temps.			DO ppm.
0	- 28	-	8.2
30cm	-	-	
60cm	-	-	
1m	-	-	
1.5m	-	-	8.2
2m	-	-	8
3m	- 28	-	7.9
4m	- 27	-	7.6
5m	-	-	
6m	-	-	
7m	-	-	
8m	-	-	
9m	-	-	
10m	-	-	

SPECIES LIST STATION 13

Daly River - Douglas River junction 7 Sept.1980

FISH

1.	*Ambassis sp.*	chanda perch	R
2.	*Nematolosa erebi*	bony bream	C
3.	ariid sp. (shovel nose)	salmon catfish	C
4.	ariid sp. (piebald)	salmon catfish	C
5.	*Hephaestus fuliginosus*	black bream	C
6.	*Amniataba percoides*	banded grunter	C
7.	*Quirichthys stramineus*	strawman	A
8.	*Glossamia aprion*	mouth almighty	R
9.	*Toxotes chatareus*	archer fish	C
10.	*Strongylura krefti*	long tom	R
11.	*Lisa diadema*	mullet	C

CRUSTACEANS

Macrobrachium sp.	freshwater prawn	R

MOLLUSCS

Velesunio sp.	freshwater mussel	R

STREAM RECORD FORM (S.H.M.)

STATION 14

DATE 9th.,10th.September 1980

LOCATION Douglas River about 53 km W of Pine Creek
Lat - 13° 48' S Long - 131° 21' E

STREAM DESCRIPTION A clear flowing stream with dense tree cover and wide deep reaches, connected by shallow narrow fast flowing sections.

NATURE OF STREAM BED AND BANKS Bed of sand, gravel and solid rock. Banks of soil, sand and silt, sloping to 2m.

WIDTH 20m in wide sections, down to 3m in narrow sections

DEPTH up to 4.5m

BANK VEGETATION Dense cover of Melaleuca sp., Pandanus sp., Acacia sp.

ADJACENT COUNTRY DESCRIPTION Flat country of medium forest, mainly eucalypts, in natural state. Used for cattle grazing.

Secchi	-	3m.
pH	-	7.3
T.D.S.	-	230 ppm.
M Alkalinity	-	188 "
Ca Hardness	-	120 "
Total "	-	223 "
Mg "	-	103 "

Water temps.		DO ppm.
0	29	5.4
30cm	-	
60cm	-	
1m	-	5.2
1.5m	29	
2m	28.5	5
3m	-	4.8
4m	28.5	4.8
5m	-	
6m	-	
7m	-	
8m	-	
9m	-	
10m	-	

REMARKS

0.5 km downstream the river narrows and runs through a small rocky gorge with cliffs about 10m high.

SPECIES LIST STATION 14

Douglas River - 9.10 Sept.1980

FISH

1.	Nematolosa erebi	bony bream	C
2.	Oxyeleotris sp.	sleepy cod	R
3.	Mogurnda mogurnda	purple spotted gudgeon	R
4.	Glossogobius sp.	flathead goby	R
5.	Neosilurus sp.	tandan	C
6.	ariid sp. (piebald)	salmon catfish	R
7.	Hephaestus fuliginosus	black bream	C
8.	Leiopotherapon unicolor	spangled perch	C
9.	Amniataba percoides	banded grunter	C
10.	Syncomistes sp.	sharp nose grunter	C
11.	Melanotaenia australis	rainbow fish	C
12.	Quirichthys stramineus	strawman	R
13.	Glossamia aprion	mouth almighty	C
14.	Toxotes chatareus	archer fish	C
15.	Strongylura krefti	long tom	C
16.	Lisa diadema	mullet	C
17.	Megalops cyprinoides	ox eye herring	R

CRUSTACEANS

Macrobrachium sp.	freshwater prawn	C
M.rosenbergii	giant freshwater prawn	C

STREAM RECORD FORM (S.H.M.) STATION 15

DATE 12th.,13th.September 1980

LOCATION Daly River, lower freshwater reaches about 110 km W of Pine Creek.
Lat - 13° 54' S Long - 130° 48' E

STREAM DESCRIPTION A wide flowing clear river. High sloping banks with medium tree cover. Long placid reaches, broken by occasional low rapids.

NATURE OF STREAM BED AND BANKS Bed of sand and stone, with solid rock in some places. High sloping banks to to 15m of soil, sand and silt and extensive sand banks.

WIDTH 50m to 80m

DEPTH 3m in wide reaches to 1m at rapids

BANK VEGETATION Mainly Melaleuca spp. with Casuarina sp., Eucalyptus sp., Nauclea sp. and Bamboo.

ADJACENT COUNTRY DESCRIPTION Medium forest of many spp. in natural state. Used for cattle grazing.

Secchi	-	3m
pH	-	8.2
T.D.S.	-	330 ppm.
M Alkalinity	-	308 "
Ca Hardness	-	137 "
Total "	-	325 "
Mg "	-	188 "

REMARKS

Water temps.		DO ppm.
0	28	7.6
30cm	-	
60cm	-	
1m	-	
1.5m	-	
2m	-	
3m	23	7.6
4m	-	
5m	-	
6m	-	
7m	-	
8m	-	
9m	-	
10m	-	

SPECIES LIST STATION 15

Daly River - 12,13 Sept.1980

FISH

1.	Lates calcarifer	silver barramundi	C
2.	Nematolosa erebi	bony bream	C
3.	Oxyeleotris sp.	sleepy cod	R
4.	ariid sp. (shovel nose)	salmon catfish	R
5.	ariid sp. (piebald)	salmon catfish	C
6.	Hephaestus fuliginosus	black bream	C
7.	Leiopotherapon unicolor	spangled perch	C
8.	Amniataba percoides	banded grunter	C
9.	Melanotaenia australis	rainbow fish	C
10.	Quirichthys stramineus	strawman	C
11.	Glossamia aprion	mouth almighty	R
12.	Toxotes chatareus	archer fish	C
13.	Strongylura krefti	long tom	C
14.	Lisa diadema	mullet.	C
15.	Pristis sp.	sawfish	C

CRUSTACEANS

Cherax sp.	freshwater lobby	R
Macrobrachium sp.	freshwater prawn	C
M.rosenbergii	giant freshwater prawn	C

DETAILS OF BARRAMUNDI (LATES CALCARIFER) SAMPLED

STATION 2 Katherine River at Maude Ck. junction 14th.Aug.1980

1 - 420 mm S.L. 1.35 kg
1 - 410 mm S.L. 1.15 kg

STATION 9 Daly River on 'Florina' Station 26th.Aug.1980

1 - 405 mm S.L. 1.1 kg

STATION 10 Fergusson River 29th.August 1980

1 - 410 mm S.L. 1.1. kg
1 - 430 mm S.L. 1.35 kg
1 - 610 mm S.L. 3.8 kg

STATION 12 Fish River 4th.Sept. 1980

1 - 2 kg)
1 - 3 kg) estimated weights. Caught and released.

STATION 15 Daly River - lower reaches. 11th.Sept.1980

1 - 510 mm S.L. 2.7 kg
1 - 490 mm S.L. 2.05 kg
1 - 425 mm S.L. 1.6 kg
1 - 430 mm S.L. 1.8 kg

APPENDIX "B"

Condensed details of fish, crustacean and mollusc species

Condensed details of water data

FISH	STN.1 King R.	STN.2 Katherine R.	STN.3 Brandy Bottle Ck.	STN.4 Birrimba Hole	STN.5 Katherine R.	STN.6 Katherine R.	STN.7 Fergusson R.	STN.8 Dry/King R.	STN.9 Daly R.	STN.10 Fergusson R.	STN.11
1. Lates calcarifer		C			C				C	C	
2. Ambassis sp.		R						A		R	
3. Nematolosa erebi	A	C	C		C			C	C	C	
4. Oxyeleotris sp.			R					R	C		
5. Mogurnda mogurnda			C								
6. Glossogobius sp.	R	R			C		C			C	
7. Anodontiglanis dahli		C						R	C		
8. Neosilurus sp. (yellow fin)	A		A		C	C		C	C	R	
9. Neosilurus sp. (black)						R					
10. ariid sp. (shovel nose)		C			C				C	C	
11. ariid sp. (piebald)		C			C				C	C	
12. Hephaestus fuliginosus	R	C	C		C	C	C		C	C	
13. Leiopotherapon unicolor	A	C	A	A	C	C	C	C	C	C	
14. Amniataba percoides	C	A	C		C		A	R	C	C	
15. Syncomistes sp.		R			R	R					
16. Pingalla sp.						C					
17. Melanotaenia australis	A	A	A	C	C	A	C	A	C	C	
18. Melanotaenia sp.						C					
19. Craterocephalus stercusmuscarum		C					C	C		R	
20. Quirichthys stramineus		C			C				C	A	
21. Glossamia aprion	R	C	R		C			C	C	R	
22. Toxotes chatareus	C	C	C		C		C	C	C	C	
23. Strongylura krefti	C	C	C		C		C	R	C	R	
24. Lisa diadema					C					R	
25. Megalops cyprinoides											
26. Pristis sp.									C		
27. Carcharhinus sp.									C		
28. Dasyatis sp.									C		
FISH TOTALS	10	17	11	2	16	8	8	12	18	17	
CRUSTACEANS											
Macrobrachium sp.	R	C	R		C				C	C	
M.rosenbergii	R				C					C	
Cherax quadricarinatus											
MOLLUSCS											
Velesunio sp.	R	C	C	C	R	C	R		R		

R		R	R	10						C	C	R				A			C	A	R				A		R			A			STN.1 King R.
C			C	17						C	C	C	C	C		A		R	A	C	C	C	C			C	R			C	R	C	STN.2 Katherine R.
C			R	11						C	C	R				A			C	A	C				A			C	R	C			STN.3 Brandy Bottle Ck.
C				2												C				A													STN.4 Birrimba Hole
R		C	C	16					C	C	C	C	C			C		R	C	C	C	C	C		C		C			C		C	STN.5 Katherine R.
C				8											C	A	C	R		C	C			R	C								STN.6 Katherine R.
R				8						C	C			C		C			A	C	C						C						STN.7 Fergusson R.
				12						R	C	C		C		A			R	C					C	R			R	C	A		STN.8 Dry/King R.
R			C	18	C	C	C			C	C	C	C			C			C	C	C	C	C		C	C			C	C		C	STN.9 Daly R.
		C	C	17					R	R	C	R	A	R		C			C	C	C	C	C		R		C			C	R	C	STN.10 Fergusson R.
R	R	R		14						R	C	R	C			C			A	C	R	C	C		C				R	C	R		STN.11 Flora R.
R	R	C	C	20				R	R	R	C	R	C	R		C		C	C	C	C	C	C		C		C	R	R	C		C	STN.12 Fish R.
				2												C												C					STN.12a Spring pool
R			R	11					C	R	C	R	A						C		C	C	C							C	R		STN.13 Daly/Douglas
		C	C	17				R	C	C	C	C	R			C		C	C	C	C	R			C		R	R	R	C			STN.14 Douglas R.
	R	C	C	15			C		C	C	C	R	C			C			C	C	C	C	R						R	C		C	STN.15 Daly R.