

## APPENDIX 1 – Fish List

Family	Genus	Species	Creole	Makushi
Ageniosidae	Ageniosus	brevifilis	Dawalu	pîrapîrari
Auchenipteridae	Parauchenipterus	galeatus	Imehri	anuiya
Auchenipteridae	Trachycorystes	trachycorystes	Boots	amîri
Callichthyidae	Hoplosternum	thoracatum	Round-headed	kîriwou
			Hassar	
Characidae	Acestrorhynchus	falcatus	Fox Fish	maikan
Characidae	Astyanax	sp.	Big-eye serebe	kamîya, sapuru
Characidae	Brycon	falcatus	Curumai	purumai
Characidae	Metynnis	hypsauchen	White Pacu	kumaru, waita
Characidae	Myleus	раси	Cartabac	kamana
Characidae	Pygocentrus	nattereri	Cashew Perai	suyu arai
Characidae	Serrasalmus	niger	Black Perai	riktun arai
Characidae	Triportheus	rotundatus	Basket Fish	pîkarumá
Cichlidae	Cichla	ocellaris	Lukunani	kamakara
Cichlidae	Crenicichla	alta	Sunfish	kurapi
Cichlidae	Geophagus	surinemensis	Sand Grinder	saimaka
Ctenoluciidae	Boulengerella	cuvieri	Sword Fish	moruwi
Curimatidae	Leporinus	friderici	Dare	kîmîiyari
Curimatidae	Prochilodus	rubrotaeniatus	Yakutu	kîmîta
Cynodontidae	Hydrolycus	scomberoides	Baiara	
Cynodontidae	Hydrolycus	armatus	Creek Baiara	wînni, paya
Doradidae	Hassar	notospilus	Bitter Head	maipupai
Doradidae	Pseudodoras	niger	Zip Fish	kuyun kuyun
Erythrinidae	Hoploerythrinus	unitaeniatus	Yarrow	karasai
Erythrinidae	Hoplias	aimara	Haimara	aima
Erythrinidae	Hoplias	malabaricus	Huri	patakai
Erythrinidae	Erythrinus	erythrinus	Bush Yarrow	woyomari
Gymnotidae	Electrophorus	electricus	Electric eel	a'rinra
Loricariidae	Ancistrus	hoplogenys	Banjuman	ariwa
Osteoglossidae	Arapaima	gigas	Arapaima	warapai
Osteoglossidae	Osteoglossum	bichirrosum	Arawana	arauwuna
Pimelodidae	Pimelodus	blochii	Johnny Mangy, Larima	katîrîna
Pimelodidae	Pseudoplatystoma	tigrinum	Long-head Cullet	ararama
Pimelodidae	Pseudoplatystoma	fasciatum	Short-head Cullet	kurutu, karama
Pimelodidae	Rhamdia	quelen	Kassi	rekî
Potamotrygonidae	Potamotrygon	sp.	String Ray	sipare
Sciaenidae	Pachypops	grunniens	Small Basha	siriki
Sciaenidae	Plagioscion	sqamosissimus	Basha	pakupa



## Appendix 2 – Wetland Bird List

Family and Common Names	Scientific Name
Phalacrocoracidae (Cormorants)	
Neotropical Cormorant	Phalacrocorax brasilianus
Anhingidae (Anhingas)	
Anhinga	Anhinga anhinga
Anatidae (Ducks and Geese)	
Blue-winged Teal	Anas discors
Muscovy Duck	Cairina moschata
Black-bellied Whistling Duck	Dendrocygna autumnalis
Ardeidae (Herons and Egret)	
Great Egret	Ardea alba
Cattle Egret	Bubulcus ibis
Snowy Egret	Egretta thula
White-necked Heron (Cocoi Heron)	Ardea cocoi
Capped Heron	Pilherodius pileatus
Striated Heron	Buturides striatus
Little Blue Heron	Egretta caerula
Tricoloured Heron	Hydranassa tricolor
Rufescent Tiger Heron	Trigrisoma lineatum
Chestnut-bellied Heron (Agami Heron)	Agamia agami
Zigzag Heron	Zebrilus undulates
Cochleariidae (Boat-billed Herons)	
Boat-billed Heron	Cochlearius coclearius
Ciconiidae (Storks)	
Jabiru	Jabiru mycteria
American Wood Ibis	Mycteria americana
Maguari Stork	Euxenura maguari
Threskiornithidae (Ibises, Spoonbills)	
Green Ibis	Mesembrinibis cayennensis
Glossy Ibis	Plegadis falcinellus

Family and Common Names	Scientific Name
Roseate Spoonbill	Ajaia ajaja
Cathartidae (New World Vultures)	
Black Vulture	Coragyps atratus
Greater Yellow-headed Vulture	Cathartes melambrotus
Lesser Yellow-headed Vulture	Cathartes burrovianus
Accipitridae (Kites, Hawks, Eagles)	
Black-collared Hawk	Busarellus nigricollis
Common Black Hawk	Buteogallus anthracinus
Snail Kite	Rostrhamus sociabilis
Savannah Hawk	Heterospizias meridionalis
Pandionidae (Osprey)	
Osprey	Pandion haliaetus
Falconidae (Falcons, Caracaras)	
Black Caracara	Daptrius ater
Yellow-headed Caracara	Milvago chimachima
Crested Caracara	Polyborus plancus
Rallidae (Coots and Rails)	
Gray-necked Wood Rail	Aramides cajanea
Purple Gallinule	Porphyrula martinica
Azure Gallinule	Porphyrula flavirostris
Eurypygidae (Sunbittern)	
Sunbittern	Eurypyga helias
Heliornithidae (Sungrebe)	
Sungrebe	Heliornis fulica
Jacanidae (Jacanas)	
Wattled Jacana	Jacana jacana
Charadriidae (Lapwings and Plovers)	
Southern Lapwings	Vanellus chilensis
Pied Plover	Hoploxypterus cayanus
Scolopacidae (Sandpipers and Snipes)	
Solitary Sandpiper	Tringa solitaria

Family and Common Names	Scientific Name
Laridae (Gulls and Terns)	
Large-billed Tern	Phaetusa simplex
Least Tern	Sterna albifrons
Yellow-billed Tern	Sterna superciliaris
Rynchopidae (Skimmers)	
Black Skimmer	Rynchops niger
Alcedinidae (Kingfishers)	
Ringed Kingfisher	Ceryle torquata
Amazon Kingfisher	Chloroceryle amazona
Green Kingfisher	Chloroceryle americana
Green and Rufous Kingfisher	Chloroceryle inda
Pygmy Kingfisher	Chloroceryle aenea



## ${\bf Appendix} \ {\bf 3-Wildlife} \ {\bf List} \ {\bf for} \ {\bf Monitoring} \ / \ {\bf Consumption} \ {\bf Monitoring}$

Local Name	Scientific Name	Makushi Name	English Common Name
Bush Cow	Tapirus terristris	waira	Brazilian Tapir
Watras	Hydrochaeris hydrochaeris	pranwei	Capybara
Savannah Deer	-	kîri yakî	White Tailed Deer
Bush Deer		kusari	Red Brocket Deer
Land Turtle	Geochelone carbonaria/denticulata		Red and Yellow Footed Tortoise
Yaci		kiekan	Armadillo
Agouti/John	Agouti paca	kuri	Red Rumped Agouti
Labba	Dasyprocta agouti	warana	Paca
Tartuga	Podocnemis expansa	warara	Giant River Turtle
Caiman	Caiman crocodiles	kare	Spectacled Caiman
Caiman	Melanosuchus niger	karatu	Black Caiman
Water Dog	Pteronura brasiliensis	turara	Giant River Otter
Jaguar	Panthera onca	kaikushi	Jaguar
Wild Hog	Pecari tajacu	praka	Collared Peccary
Wild Hog	Tajassu pecari	pinkî	White Lipped Peccary
Anteater	Myrmecophaga tridactyla	tamanuwa	Giant Anteater
Deer Tiger	Felis concolor	sariwara	Puma



### Appendix 4 - Macro-Invertebrate Identification Plate Adapted from the Virginia Stream Study

# **Gilled Snails Caddisfly Larvae Dragonfly Riffle Beetle Adult** Crayfish **Stonefly Larvae Water Penny Freshwater Bivalve Mayfly Larvae Damselfly Lunged Snail Aquatic Worms Blackfly Larvae** Leeches Midge Larvae

1			-		nitoring For the Rupunt				
484		****	iana Monit	ornig ili	the Rupunt	4111			
Site details									
Site Name									
Site Code									
Date of survey									
Weather condi									
Name of surve	yors								
Time survey st	tartod								
Type of Wat		dv							
River type	.erbo	ау	Main River	Channel					
			Creek						
Pond or lake th	nat flo	ods directly from river	Cut-off cha	nnel (inle	t with connect	ion to riv	ver)		
			Former cha	annel (sep	arate from riv	er)			
			Ox-bow lak	ce (separa	te from river)				
	nat flo	ods back up small creek	Former cha	annel (sep	arate from riv	er)			
from river			Ox-bow lak	ke (separa	te from river)				
		oonds have no direct input	Permanent	pond					
from the river	nooan	ig)	Pond that	dries out					
Hydrologica	ıl attr	ibutes							
Hydrological	Grou	ındwater discharge							
	Surfa	ace overbank inundation fro	m a river						
	Surfa	ace overbank inundation fro	m a rise in wa	ater level o	of a waterbody	1			
	Prec	ipitation							
	Othe	r							
Flooding	Wate	r present							
regime	Wate	r not present							
Water colour	Blac	k							
	Whit	e							
	Clea	*							
	Brow	/n							
Waterbody	dime	nsions and features							
Waterbody WA	TER v	vidth (metres)							
Waterbody WA	TER o	lepth (metres)							
Waterbody WA	TER I	ength (metres)							
Bank features	No	ne		Bank material	Not visible		Bottom substrate	Not visible	
	No	t visible			Gravel/sand			Boulder	
	Ere	oding earth bank		1	Clay		1	Sand	
	Sta	able earth bank		1	Silt		1	Silt	
Bank vegetation	n Un	vegetated bank base		1			1	Clay	

features

Vegetated bank base

Habitat charae	cterisation											
Habitat types	Forest - Flood	ed										
around waterbody	Forest - Non-f	flooded										
	Savannah – Fl	ooded										
	Savannah – N	on-flooded										
Species present	Wallaba		Water Ced	ar								
around waterbody	Palm		Inga Spp									
	Mora		Aripipi Pa	la								
	Scrub		Gauvaba	li								
	Lana		Old Man Ba	ack								
	Bamboo											
and associated	Isolated/scatte	red		Ва	nk vegeta types	ation	Bryoph (mosse					
features	Regularly spac	ed, single					Short herbs/c grasses		ı			
	Occasional clu	mps					Tall herbs/g	rasses				
	Semi-continuo	us					Shrubs					
	Continuous						Climber	s				
	Shading of wat	terbody					Trees a sapling					
	Overhanging to	rees					Water veget		Floating			
	Exposed banks	side roots					typ		Emergent	t		
	Underwater tre	e roots							Submerg	ed		
	Fallen trees											
	Coarse woody	debris						_				
Habitat niches	Otter dens and	d campsites										
		onica (Big Lily)										
	Floating grass											
	Nymphaea (Small Lily)											
	Guavaballi											
	Maaho											
	Moco moco											
	Tapir entrance	<b>!S</b>										
	Arapipi Palm											
	Water Hyacint											
	Busy Busy (Sp	DIKEC rush)										
Land use							41 1					
Land use (please note that there	Fishing - Cor	mmercial		Waterbody 50m of bank to								
are more categories on the												
following page)	Farming – SI	ash/burn without										
	pesticide											

	Farming – Slash/burn with pesticide		
	Farming - Ranching		
	Farming – Agro-forestry		
	Hunting		
	Trapping		
	Mining - Riverbed		
	Mining - Land		
	Tourism – Sport fishing		
	Tourism - Trekking		
	Tourism - Riding		
	Tourism – Boat trips		
	Tourism - accommodation		
	Tourism - Sight seeing		
	Settlement		
	Burning		
	Logging - commercial		
	Logging – local construction		
	Transportation - river		
	Transportation - land		
	Cultural significance / practice		
	Scientific research		
	Biodiversity conservation		
	Brick making		
	Gathering - Honey		
	Gathering - Seeds		
	Gathering - Plants		
	Gathering - Firewood		
	Gathering – other non-timber forest products		
	Recreation		
EXTRA NOTES			

Bird Surve	eys		
	Time bird survey started	06:00	16:00
	Time bird survey finished	07:00	17:00
	No disturbance at water body		
	Disturbance from people, animals or weather		
	Common Name	Number	Number
			-
			<del>                                     </del>

Caiman	Time survey started	Time End					
Surveys	Species Type	Length of head (inches)	Time observed	Number of Individuals	Comments		
Giant River C	Otter Dens & Campsi	tes Direc	t Observations				
Incidental Fa	unal Observations						

North Rupununi Wetlands Monitoring
Water Quality Sheet
Site Name
Date

	Scientific	Pollution		Total Sensitivity			
Common Name	Group	Sensitivity	Present/Absent	Number			
Mayfly nymph	Ephemeroptera	10					
Caddis Fly Larvae	Trichoptera	10					
Stonefly Nymph	Plecoptera	9					
Riffle Beetle Adult	Coleoptera	8					
Riffle Beetle Larvae	Coleoptera	8					
Crane Fly Larvae	Diptera	6					
Water Mite	Acariformes	6					
Black Fly Larvae	Diptera	5					
Damselfly Larvae	Odonata	4					
Dragonfly Larvae	Odonata	4					
Scud	Amphipoda	4					
Freshwater Shrimp	Decapoda	4					
Biting Midge Larvae	Diptera	4					
Water Scorpion	Hemiptera	3					
Freshwater Mussel	Bivalvia	3					
Mosquito Larvae/Pupae	Diptera	3					
Flatworm	Turbellaria	3					
Freshwater Crab	Decapoda	2					
Freshwater Snail	Gastropoda	2					
Leech	Hirudinea	2					
Predacious Beetle Adult	Coleoptera	2					
Predacious Beetle Larvae	Coleoptera	2					
Roundworm	Nematode	2					
Water Boatman	Hemiptera	1					
Segmented Worm	Oilgachaetae	1					
	o gao ao tao						
Add total number of types of macro - invertebrates here = TAXA to get the POLLUTIO RICHNESS INDEX							
TAXA RICHNESS	How healthy is the	e site					
Zero to Four	Poor environment for macro-invertebrates						
Five to Nine	Environment that only a few different types macro-invertebrates can use						
Ten to Fourteen	Environment that is moderately healthy for macro-invertebrates						
Fourteen to Sixteen							



# Appendix 6 – Rainfall Data Sheet

Community Data Sheet for Rainfall Monitoring NAME of Community -				
Month -	i		•	Year -
	Date	Time	Daily Rainfall / ml	Recorder Name
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
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29				
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31				



# Appendix 7 - List of Figures

Figure Number	Figure Title	Photo Credit/Drawing by
1	Monitoring Sites for Wetlands Project	Map by I.Roopsind
2	Dialogue Box – Project Summary	Giant Otter Drawing by – D. Davis
3	Dialogue Box – Why Monitor	Makushi Girl Drawing by -L.Haynes
4	Dialogue Box – What are wetlands	Giant Otter Drawing by – D. Davis
5	Community Manual Village Discussion Sessions	Photos by Wetland Project
6	Dialogue Box – Monitoring Checklist	Makushi Girl Drawing by –L.Haynes
7	Data Storage Model	Drawing by – I.Roopsind
8	Dialogue Box – Talking about the North Rupununi Wetlands	Makushi Girl Drawing by – L.Haynes
9	Dialogue Box – Importance of Wetlands	Giant Otter Drawing by – D.Davis
10	Seasonally Flooded Forest	Photo by Wetland Project
11	Riverine Flooded Forest	Photo by Wetland Project
12	Seasonally Flooded Savannah	Photo by Wetland Project
13	Non Flooded Savannah	Photo by Wetland Project
14	Bryophytes	Photo by Wetland Project
15	Tall herbs	Photo by Wetland Project
16	Grasses	Photo by Wetland Project
17	Creeping Grasses	Photo by Wetland Project
18	Shrub	Photo by Wetland Project
19	Trees and Saplings	Photo by Wetland Project
20	<b>Emergent Plants</b>	Photo by Wetland Project
21	Floating Plants	Photo by Wetland Project
22	Submerged Plants	Photo by Wetland Project
23	Eroding Earth Bank	Photo by Wetland Project
24	Stable Earth Bank	Photo by Wetland Project
25	Boulder in Essequibo River	Photo by S.James
26	Hydrological Inputs and Outputs	Drawing by I.Roopsind
27	Black Water	Photo by Wetland Project
28	White Water	Photo by Wetland Project
29	Clear Water	Photo by Wetland Project
30	Brown Water	Photo by Wetland Project
31	Site selection for macro- invertebrate sampling	Photo by Wetland Project
32	Kick Sampling Method	Photo by Wetland Project
33	Pond Profile	Drawing by I.Roopsind
34	Bird Survey Techniques	Photo by Wetland Project
35	Black Caiman	www.enchantedlearning.com
36	Spectacled Caiman	www.enchantedlearning.com
37	Histogram show bird data comparison	
38	Histogram showing wild life sighting against water level	

#### Appendix 8 – Community Manual Review Team

### **Community Manual Community Monitoring Manual Review Teams**

Yupukari	Contact Information
Eutis Francis	Francis_G@yahoo.com
Kingslie Vincent	Kaikumbe
Laurel Nazarene	Kaikumbe
Mark Holding	Yupukari

Wowetta	Contact Information
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Persaud Moses	Wowetta, Annai District
Rebecca Xavier	Wowetta, Annai District
Edverio Edwards	Wowetta, Annai District

Annai Central	Contact Information
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Pauline Brown	Annai Central, Annai District
Gulene Salty	Annai Central, Annai District
Ronald Perreira	Annai Central, Annai District
Keith Sandy	Annai Central, Annai District
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Yakarinta	Contact Information
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Glenn Alexander	Yakrainta Village
Glenny King	Yakrainta Village
Esau Joel	Yakrainta Village

Kwatamang	Contact Information
Norma Cambridge	Kwatamang, Annai
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Oren Sandy	Kwatamang, Annai
Amanda Cambridge	Kwatamang, Annai
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Crashwater	Contact Information
Torres Dargan	Crashwater Village
Veralene Henry	Crashwater Village
Beverly Henry	Crashwater Village
Alpheaus Thomas	Crashwater Village
Leo Dargan	Crashwater Village
Travy Benjamin	Crashwater Village

Rupertee	Contact Information
Kenrick Elliot	Senior Councillor, Rupertee,
Hendrick Samuel	Councillor, Rupertee
Kellon Gomes	Rupertee, Annai District
Benita Roberts	MRU, Rupertee, Annai District
Dawn Daniels	Rupertee, Annai District
Edris Scipio	Rupertee, Annai District
Debora Vanlong	Rupertee, Annai District
Gloria Duarte	Rupertee, Annai District

Apoteri	Contact Information
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Benedict Joseph	Apoteri Village
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Edgill Bowen	Apoteri Village

Fairview	Contact Information
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Claire Bernard	Fairview Village

Massara	Contact Information
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Lio Gregory	Massara Village
Renita Gregory	Massara Village
Rodrigues John	Massara Village
Joycelyn John	Massara Village

Rewa	Contact Information
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Niles Ignacio	Rewa Village
Urselva Honorio	Rewa Village
Alick Honorio	Rewa Village
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Romeo Alvin	Rewa Village

Surama	Contact Information
Jackie Allicock	Surama Village
Sydney Allicock	Surama Village
Milner Captain	Surama Village