

# ANEXO 4



Organismo  
de Evaluación  
y Fiscalización  
Ambiental

## Resultados de Macroinvertebrados bentónicos

Tabla 1. Resultados de macroinvertebrados bentónicos en época seca y época húmeda

Año					2017	2018	2017	2018	2017	2018	2017	2018
Fecha					*	13/03/2018	23/09/2017	13/03/2018	23/09/2017	13/03/2018	23/09/2017	14/03/2018
Hora					*	08:30	14:50	09:50	16:00	12:00	11:20	10:15
Cuerpo de agua					Quebrada D o Lambre							
Código					Quebrada D o Lambre							
Época					QdaD-1		QdaD-2		QdaD-3		QdaD-4	
PHYLUM	CLASE	ORDEN	FAMILIA	GÉNERO	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae	<i>Helobdella</i> sp.	0	0	0	0	0	0	0	0
Annelida	Clitellata	Haplotaxida	Haplotaxidae	Haplotaxidae sp.	0	0	0	0	0	0	0	0
Annelida	Clitellata	Haplotaxida	N.D.	N.D.	0	0	0	0	0	0	0	0
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculidae sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Perlidae	<i>Anacroneuria</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Gripopterygidae	<i>Claudioptera</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Rhantus</i> sp.	0	0	0	0	4	0	0	4
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	<i>Andogyrus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Cylloepus</i> sp.	0	0	0	4	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Macrelmis</i> sp.	0	0	0	0	0	0	0	11
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Stenelmis</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 1	0	0	0	0	52	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 2	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	0	0	19	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Hydroptilila</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Ochrhtrichia</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Smicridea</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydrobiosidae	<i>Cailloma</i> sp.	0	0	0	0	7	0	0	0
Arthropoda	Insecta	Trichoptera	Limnephilidae	<i>Anomalocosmoecus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Blephariceridae	Blephariceridae sp.	0	0	0	0	4	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Alluaudomyia</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogonidae sp.	0	0	289	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanytarsus</i> sp.	0	0	0	4	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Corynoneura</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Cricotopus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Onconeura</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Stictocladus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 1	0	0	215	0	37	0	96	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 2	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	0	0	485	4	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Parochlus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomopsis</i> sp.	0	0	4	0	0	0	0	0

REPORTE DE RESULTADOS

Año		2017	2018	2017	2018	2017	2018	2017	2018
Fecha		*	13/03/2018	23/09/2017	13/03/2018	23/09/2017	13/03/2018	23/09/2017	14/03/2018
Hora		*	08:30	14:50	09:50	16:00	12:00	11:20	10:15
Cuerpo de agua		Quebrada D o Lambre							
Código		QdaD-1		QdaD-2		QdaD-3		QdaD-4	
Epoca		Seca	Húmeda	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Arthropoda	Insecta	Diptera	Chironomidae	<i>Alotanypus sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Pentaneura sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.1	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.2	0	0	0	0	0
Arthropoda	Insecta	Diptera	Empididae	<i>Neoplasta sp.</i>	0	0	4	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	4	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Lispe sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Limnophora sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Muscidae sp.</i>	0	0	0	15	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Gigantodax sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Simulium sp.</i>	0	0	0	389	0
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanus sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanidae sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Limonia sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Tipula sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Hexatoma sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	0
Arthropoda	Insecta	Diptera	N.D.	N.D. Diptera	0	0	0	0	0
Arthropoda	Insecta	Odonata	Aeshenidae	Aeshenidae	0	0	0	0	0
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae sp.	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Andesiops sp.</i>	0	0	4	533	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Americabaetis sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Baetodes sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Meridialis sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Thraulodes sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Lepidoptera	N.D.	Lepidoptera	0	0	0	0	0
Arthropoda	Insecta	Lepidoptera	Cambridae	<i>Petrophila sp.</i>	0	0	0	0	0
Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Corydalis sp.</i>	0	0	0	0	0
Arthropoda	Malacostraca	Amphipoda	Hyalellidae	<i>Hyalella sp.</i>	0	0	0	0	4
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	<i>Limnesia sp.</i>	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	Limnesiidae	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	N.D. Trombidiformes	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	Acari sp.	0	0	0	0	0
Mollusca	Gastropoda	Hydrophila	Planorbidae	Planorbidae sp.	0	0	0	0	0
Mollusca	Bivalvia	Veneroida	Veneroida	Veneroida	0	0	0	0	0

**REPORTE DE RESULTADOS**

Año					2017	2018	2017	2018	2017	2018	2017	2018
Fecha					*	13/03/2018	23/09/2017	13/03/2018	23/09/2017	13/03/2018	23/09/2017	14/03/2018
Hora					*	08:30	14:50	09:50	16:00	12:00	11:20	10:15
Cuerpo de agua					Quebrada D o Lambre							
Código					QdaD-1		QdaD-2		QdaD-3		QdaD-4	
Época					Seca	Húmeda	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Platyhelminthes	Turbellaria	Tricladida	Dugesidae	Dugesidae sp.	0	0	0	0	0	0	0	0
Nematomorpha		Gordioidea		Gordioidea	0	0	0	0	0	0	0	4
Acari					0	0	0	0	0	0	0	0

7

**REPORTE DE RESULTADOS**

**Tabla 2. Resultados de macroinvertebrados bentónicos en época seca y época húmeda**

Año					2017	2018	2017	2018
Fecha					23/09/2017	13/03/2018	23/09/2017	14/03/2018
Hora					09:40	13:10	12:00	11:00
Cuerpo de agua					Quebrada Larapage			
Código					QLara1			
Época					QLara1		QLara2	
PHYLUM	CLASE	ORDEN	FAMILIA	GENERO	Seca	Húmeda	Seca	Húmeda
Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae	<i>Helobdella</i> sp.	7	0	0	0
Annelida	Clitellata	Haplotaxida	Haplotaxidae	Haplotaxidae sp.	0	0	0	0
Annelida	Clitellata	Haplotaxida	N.D.	N.D.	0	70	0	33
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculidae sp.	0	0	3	0
Arthropoda	Insecta	Plecoptera	Perlidae	<i>Anacroneuria</i> sp.	0	0	0	0
Arthropoda	Insecta	Plecoptera	Gripopterygidae	<i>Claudioperla</i> sp.	281	922	63	4
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Rhantus</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	<i>Andogyrus</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Cylloepus</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Macrelmis</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Stenelmis</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp.1	93	511	30	30
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 2	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	0	0	0	0
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	4	4	0	0
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Hydroptilila</i> sp.	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Ochrhtrichia</i> sp.	0	326	0	4
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Smicridea</i> sp.	0	22	0	0
Arthropoda	Insecta	Trichoptera	Hydrobiosidae	<i>Cailloma</i> sp.	26	11	22	0
Arthropoda	Insecta	Trichoptera	Limnephilidae	<i>Anomalocosmoecus</i> sp.	174	0	4	0
Arthropoda	Insecta	Diptera	Blephariceridae	Blephariceridae sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Alluaudomyia</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogonidae sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanytarsus</i> sp.	0	0	0	15
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Corynoneura</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Cricotopus</i> sp.	0	119	0	4
Arthropoda	Insecta	Diptera	Chironomidae	<i>Onconeura</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Stictocladus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 1	30	211	11	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp.2	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	7	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Parochlus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomopsis</i> sp.	0	0	0	0

**REPORTE DE RESULTADOS**

Año					2017	2018	2017	2018
Fecha					23/09/2017	13/03/2018	23/09/2017	14/03/2018
Hora					09:40	13:10	12:00	11:00
Cuerpo de agua					Quebrada Larapage			
Código					QLara1		QLara2	
Época					Seca	Húmeda	Seca	Húmeda
Arthropoda	Insecta	Diptera	Chironomidae	<i>Alotanypus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Pentaneura</i> sp.	0	11	0	44
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp. 1	4	0	70	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.2	0	0	7	0
Arthropoda	Insecta	Diptera	Empididae	<i>Neoplasta</i> sp.	7	0	4	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Lispe</i> sp.	0	0	0	4
Arthropoda	Insecta	Diptera	Muscidae	<i>Limnophora</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Muscidae sp.	0	0	19	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Gigantodax</i> sp.	522	67	167	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Simulium</i> sp.	7	270	0	56
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanus</i> sp.	7	0	0	11
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanidae</i> sp.	0	0	15	0
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Limonia</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Tipula</i> sp.	0	0	0	7
Arthropoda	Insecta	Diptera	Tipulidae	<i>Hexatoma</i> sp.	22	33	0	0
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae sp.	7	0	4	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0
Arthropoda	Insecta	Diptera	N.D.	N.D. Diptera	0	4	0	0
Arthropoda	Insecta	Odonata	Aeshenidae	Aeshenidae	0	0	0	0
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Andesiops</i> sp.	730	578	374	830
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Americabaetis</i> sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Baetodes</i> sp.	0	0	0	141
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Meridialis</i> sp.	37	0	81	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Thraulodes</i> sp.	0	556	0	44
Arthropoda	Insecta	Lepidoptera	N.D.	Lepidoptera	0	0	0	0
Arthropoda	Insecta	Lepidoptera	Cambridae	<i>Petrophila</i> sp.	0	0	0	0
Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Corydalis</i> sp.	0	0	0	0
Arthropoda	Malacostraca	Amphipoda	Hyalellidae	<i>Hyalella</i> sp.	93	185	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	<i>Limnesia</i> sp.	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	Limnesiidae	3	19	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	N.D. Trombidiformes	0	4	0	4
Arthropoda	Arachnida	Trombidiformes	N.D.	Acari sp.	0	0	0	0
Mollusca	Gastropoda	Hydrophila	Planorbidae	Planorbidae sp.	0	0	4	4
Mollusca	Bivalvia	Veneroida	Veneroida	Veneroida	0	0	0	0

**REPORTE DE RESULTADOS**

Año					2017	2018	2017	2018
Fecha					23/09/2017	13/03/2018	23/09/2017	14/03/2018
Hora					09:40	13:10	12:00	11:00
Cuerpo de agua					Quebrada Larapage			
Código					QLara1		QLara2	
Época					Seca	Húmeda	Seca	Húmeda
Platyhelminthes	Turbellaria	Tricladida	Dugesidae	Dugesidae sp.	78	215	4	7
Nematomorpha		Gordioidea		Gordioidea	0	0	0	0
Acari					0	0	0	0

2

**REPORTE DE RESULTADOS**

**Tabla 3. Resultados de macroinvertebrados bentónicos en época seca y época húmeda**

Año					2017	2018	2017	2018
Fecha					24/09/2017	14/03/2018	24/09/2017	14/03/2018
Hora					12:15	12:15	14:20	13:40
Cuerpo de agua					Río Para			
Código					RPara1		RPara2	
Época					Seca	Húmeda	Seca	Húmeda
PHYLUM	CLASE	ORDEN	FAMILIA	GÉNERO				
Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae	<i>Helobdella</i> sp.	0	0	0	0
Annelida	Clitellata	Haplotaxida	Haplotaxidae	Haplotaxidae sp.	0	0	0	0
Annelida	Clitellata	Haplotaxida	N.D.	N.D.	0	0	0	0
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculidae sp	0	0	0	0
Arthropoda	Insecta	Plecoptera	Perlidae	<i>Anacroneuria</i> sp.	0	0	0	0
Arthropoda	Insecta	Plecoptera	Gripopterygidae	<i>Claudioperla</i> sp.	119	0	141	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Rhantus</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	4	0	7	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	<i>Andogyrus</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Cylloepus</i> sp.	0	22	0	96
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Macrelmis</i> sp.	0	0	0	4
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Stenelmis</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp.1	19	0	19	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 2	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	0	0	0	0
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	4	0	0	0
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Hydroptilila</i> sp.	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Ochrhtrichia</i> sp.	4	0	0	0
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Smicridea</i> sp.	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydrobiosidae	<i>Cailloma</i> sp.	0	0	0	0
Arthropoda	Insecta	Trichoptera	Limnephilidae	<i>Anomalocosmoecus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Blephariceridae	Blephariceridae sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Alluaudomyia</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogonidae sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanytarsus</i> sp.	0	7	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Corynoneura</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Cricotopus</i> sp.	0	0	0	7
Arthropoda	Insecta	Diptera	Chironomidae	<i>Onconeura</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Stictocladus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 1	52	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp.2	7	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	0	0	4	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Parochlus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomopsis</i> sp.	0	0	0	0

REPORTE DE RESULTADOS

Año					2017	2018	2017	2018
Fecha					24/09/2017	14/03/2018	24/09/2017	14/03/2018
Hora					12:15	12:15	14:20	13:40
Cuerpo de agua					Río Para			
Código					RPara1		RPara2	
Época					Seca	Húmeda	Seca	Húmeda
Arthropoda	Insecta	Diptera	Chironomidae	<i>Alotanypus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Pentaneura</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp. 1	0	0	11	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.2	0	0	0	0
Arthropoda	Insecta	Diptera	Empididae	<i>Neoplasta</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Lispe sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Limnophora sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Muscidae sp.	11	0	15	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Gigantodax</i> sp.	130	0	756	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Simulium</i> sp.	4	4	2641	0
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanidae</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Limonia</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Tipula</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Hexatoma</i> sp.	0	0	0	4
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae sp.	11	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0
Arthropoda	Insecta	Diptera	N.D.	N.D. Diptera	0	0	0	0
Arthropoda	Insecta	Odonata	Aeshnidae	Aeshnidae	0	0	0	4
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Andesiops</i> sp.	637	178	696	281
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Americabaetis</i> sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Baetodes</i> sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Meridialaris</i> sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Thraulodes</i> sp.	0	0	0	0
Arthropoda	Insecta	Lepidoptera	N.D.	Lepidoptera	0	0	0	0
Arthropoda	Insecta	Lepidoptera	Cambridae	<i>Petrophila</i> sp.	0	0	0	0
Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Corydalus</i> sp.	0	0	0	0
Arthropoda	Malacostraca	Amphipoda	Hyalellidae	<i>Hyalella</i> sp.	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	<i>Limnesia</i> sp.	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	Limnesiidae	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	N.D. Trombidiformes	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	Acari sp.	0	0	0	0
Mollusca	Gastropoda	Hydrophila	Planorbidae	Planorbidae sp.	0	0	0	0
Mollusca	Bivalvia	Veneroida		Veneroida	0	0	0	0

4

## REPORTE DE RESULTADOS

Año					2017	2018	2017	2018
Fecha					24/09/2017	14/03/2018	24/09/2017	14/03/2018
Hora					12:15	12:15	14:20	13:40
Cuerpo de agua					Río Para			
Código					RPara1		RPara2	
Época					Seca	Húmeda	Seca	Húmeda
Platyhelminthes	Turbellaria	Tricladida	Dugesijidae	Dugesiidae sp.	0	0	0	0
Nematomorpha		Gordioidea		Gordioidea	0	0	0	0
Acari					0	0	0	0

**Tabla 4. Resultados de macroinvertebrados bentónicos en época seca y época húmeda**

Año					2017	2018	2017	2018	2017	2018
Fecha					21/09/2017	20/03/2018	21/09/2017	15/03/2018	21/09/2017	20/03/2018
Hora					10:15	10:40	12:40	12:00	11:00	11:30
Cuerpo de agua					Quebrada intermitente 8 o Miskiyacu		Quebrada B o Yahuarcocha			
Código					QMisk1		QdaB-2		QdaB-3	
Epoca					Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
PHYLUM	CLASE	ORDEN	FAMILIA	GÉNERO						
Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae	<i>Helobdella</i> sp.	0	0	0	0	0	0
Annelida	Clitellata	Haplotaxida	Haplotaxidae	Haplotaxidae sp.	0	0	0	0	0	0
Annelida	Clitellata	Haplotaxida	N.D.	N.D.	0	311	0	0	0	0
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Perlidae	<i>Anacroneria</i> sp.	0	0	26	0	0	0
Arthropoda	Insecta	Plecoptera	Gripopterygidae	<i>Claudioperla</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Rhantus</i> sp.	115	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	<i>Andogyrus</i> sp.	0	0	4	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Cylloepus</i> sp.	0	15	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Macrelmis</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Stenelmis</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 1	33	0	0	0	104	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 2	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	0	26	0	0	0	0
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	0	4	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Hydroptilla</i> sp.	0	15	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	0	37	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Ochrhtrichia</i> sp.	0	63	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Smicridea</i> sp.	0	0	4	0	0	0
Arthropoda	Insecta	Trichoptera	Hydrobiosidae	<i>Cailloma</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Limnephilidae	<i>Anomalocosmoecus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Blephariceridae	Blephariceridae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Alluaudomyia</i> sp.	0	4	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogonidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanytarsus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Corynoneura</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Cricotopus</i> sp.	193	241	0	0	78	26
Arthropoda	Insecta	Diptera	Chironomidae	<i>Onconeura</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Stictocladus</i> sp.	30	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 1	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 2	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	0	0	0	0	1226	4
Arthropoda	Insecta	Diptera	Chironomidae	<i>Parochlus</i> sp.	0	0	0	0	0	0

**REPORTE DE RESULTADOS**

Año		2017	2018	2017	2018	2017	2018		
Fecha		21/09/2017	20/03/2018	21/09/2017	15/03/2018	21/09/2017	20/03/2018		
Hora		10:15	10:40	12:40	12:00	11:00	11:30		
Cuerpo de agua		Quebrada intermitente 8 o Miskiyacu		Quebrada B o Yahuarcocha					
Código		QMisK1		QdaB-2		QdaB-3			
Epoca		Seca	Húmeda	Seca	Húmeda	Seca	Húmeda		
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomopsis</i> sp.	0	0	0	0	
Arthropoda	Insecta	Diptera	Chironomidae	<i>Alotanypus</i> sp.	63	0	0	0	
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0	
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0	
Arthropoda	Insecta	Diptera	Chironomidae	<i>Pentaneura</i> sp.	100	0	0	44	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp. 1	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.2	0	0	0	0	0
Arthropoda	Insecta	Diptera	Empididae	<i>Neoplasta</i> sp.	4	0	0	52	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Lispe sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Limnophora sp.	0	11	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Muscidae sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Gigantodax</i> sp.	33	33	0	0	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Simulium</i> sp.	744	0	0	0	0
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanus</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanidae</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	0	4	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Limonia</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Tipula</i> sp.	0	33	0	0	4
Arthropoda	Insecta	Diptera	Tipulidae	<i>Hexatoma</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae sp.	0	0	0	4	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	0
Arthropoda	Insecta	Diptera	N.D.	N.D. Diptera	0	0	0	0	0
Arthropoda	Insecta	Odonata	Aeshenidae	Aeshenidae	7	0	0	0	0
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae sp.	4	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Andesiops</i> sp.	26	15	89	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Americabaetis</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Baetodes</i> sp.	0	0	4	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Meridialaris</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Thraulodes</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Lepidoptera	N.D.	Lepidoptera	0	0	0	0	4
Arthropoda	Insecta	Lepidoptera	Cambridae	<i>Petrophila</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Corydalus</i> sp.	0	0	4	0	0
Arthropoda	Malacostraca	Amphipoda	Hyaletellidae	<i>Hyaella</i> sp.	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	<i>Limnesia</i> sp.	19	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	Limnesiidae	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	N.D. Trombidiformes	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	Acari sp.	4	0	0	0	0

## REPORTE DE RESULTADOS

Año		2017	2018	2017	2018	2017	2018	
Fecha		21/09/2017	20/03/2018	21/09/2017	15/03/2018	21/09/2017	20/03/2018	
Hora		10:15	10:40	12:40	12:00	11:00	11:30	
Cuerpo de agua		Quebrada intermitente 8 o Miskiyacu		Quebrada B o Yahuarcocha				
Código		QMisK1		QdaB-2		QdaB-3		
Época		Seca	Húmeda	Seca	Húmeda	Seca	Húmeda	
Mollusca	Gastropoda	Hydrophila	Planorbidae	Planorbidae sp.	0	0	0	0
Mollusca	Bivalvia	Veneroida		Veneroida	0	0	0	0
Platyhelminthes	Turbellaria	Tricladida	Dugesidae	Dugesidae sp.	0	0	0	0
Nematomorpha		Gordioidea		Gordioidea	0	0	0	0
Acari					0	4	0	0

**REPORTE DE RESULTADOS**

**Tabla 5. Resultados de macroinvertebrados bentónicos en época seca y época húmeda**

Año					2017	2018	2017	2018	2017	2018
Fecha					*	17/03/2018	*	22/03/2018	22/09/2017	17/03/2018
Hora					*	09:50	*	10:00	13:30	14:00
Cuerpo de agua					Quebrada A					
Código					QdaA-1		QdaA-3		QdaA-2	
Época					Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
PHYLUM	CLASE	ORDEN	FAMILIA	GÉNERO						
Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae	<i>Helobdella</i> sp.	0	0	0	0	0	4
Annelida	Clitellata	Haplotaxida	Haplotaxidae	Haplotaxidae sp.	0	0	0	0	0	0
Annelida	Clitellata	Haplotaxida	N.D.	N.D.	0	0	0	26	0	96
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculidae sp	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Perlidae	<i>Anacroneria</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Gripopterygidae	<i>Claudioperla</i> sp.	0	0	0	111	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Rhantus</i> sp.	0	0	0	0	15	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	<i>Andogyrus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Cylloepus</i> sp.	0	0	0	967	0	137
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Macrelmis</i> sp.	0	0	0	0	0	4
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Stenelmis</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp.1	0	0	0	0	330	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 2	0	0	0	0	115	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	0	0	0	0	7	0
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Hydroptilila</i> sp.	0	0	0	4	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	0	0	0	26	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Ochrhtrichia</i> sp.	0	0	0	63	0	30
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Smicridea</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydrobiosidae	<i>Cailloma</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Limnephilidae	<i>Anomalocosmoecus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Blephariceridae	Blephariceridae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Alluaudomyia</i> sp.	0	0	0	44	0	22
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogonidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanytarsus</i> sp.	0	81	0	0	0	11
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Corynoneura</i> sp.	0	0	0	0	0	7
Arthropoda	Insecta	Diptera	Chironomidae	<i>Cricotopus</i> sp.	0	41	0	504	807	137
Arthropoda	Insecta	Diptera	Chironomidae	<i>Onconeura</i> sp.	0	70	0	11	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Stictocladus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 1	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp.2	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	0	0	0	0	78	22
Arthropoda	Insecta	Diptera	Chironomidae	<i>Parochlus</i> sp.	0	0	0	0	0	41
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomopsis</i> sp.	0	0	0	0	0	0

REPORTE DE RESULTADOS

Año		2017	2018	2017	2018	2017	2018			
Fecha		*	17/03/2018	*	22/03/2018	22/09/2017	17/03/2018			
Hora		*	09:50	*	10:00	13:30	14:00			
Cuerpo de agua				Quebrada A						
Código				QdaA-1		QdaA-2				
Época				Seca	Húmeda	Seca	Húmeda			
Arthropoda	Insecta	Diptera	Chironomidae	<i>Alotanypus sp.</i>	0	0	0	0	78	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	126	0	0	0	19
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	4	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Pentaneura sp.</i>	0	11	0	0	356	22
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp. 1	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.2	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Empididae	<i>Neoplasta sp.</i>	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Lispe sp.</i>	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Limnophora sp.</i>	0	0	0	0	0	19
Arthropoda	Insecta	Diptera	Muscidae	Muscidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Gigantodax sp.</i>	0	0	0	867	0	252
Arthropoda	Insecta	Diptera	Simuliidae	<i>Simulium sp.</i>	0	0	0	211	0	63
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanus sp.</i>	0	0	0	4	0	4
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanidae sp.</i>	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Limonia sp.</i>	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Tipula sp.</i>	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Hexatoma sp.</i>	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	N.D.	N.D. Diptera	0	0	0	0	0	0
Arthropoda	Insecta	Odonata	Aeshenidae	Aeshenidae	0	0	0	4	0	0
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Andesiops sp.</i>	0	4	0	78	48	181
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Americabaetis sp.</i>	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Baetodes sp.</i>	0	0	0	0	0	22
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Meridialaris sp.</i>	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Thraulodes sp.</i>	0	4	0	122	0	11
Arthropoda	Insecta	Lepidoptera	N.D.	Lepidoptera	0	0	0	0	0	0
Arthropoda	Insecta	Lepidoptera	Cambridae	<i>Petrophila sp.</i>	0	0	0	0	0	0
Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Corydalus sp.</i>	0	0	0	0	0	0
Arthropoda	Malacostraca	Amphipoda	Hyalellidae	<i>Hyalella sp.</i>	0	30	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	<i>Limnesia sp.</i>	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	Limnesiidae	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	N.D. Trombidiformes	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	Acari sp.	0	0	0	0	0	0
Mollusca	Gastropoda	Hydrophila	Planorbidae	Planorbidae sp.	0	0	0	0	0	0
Mollusca	Bivalvia	Veneroidea	Veneroidea	Veneroidea	0	0	0	0	0	0

**REPORTE DE RESULTADOS**

Año					2017	2018	2017	2018	2017	2018
Fecha					*	17/03/2018	*	22/03/2018	22/09/2017	17/03/2018
Hora					*	09:50	*	10:00	13:30	14:00
Cuerpo de agua					Quebrada A					
Código					QdaA-1		QdaA-3		QdaA-2	
Época					Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Platyhelminthes	Turbellaria	Tricladida	Dugesidae	Dugesidae sp.	0	0	0	4	0	0
Nematomorpha		Gordioidea		Gordioidea	0	0	0	4	0	0
Acari					0	0	0	11	0	0

2

Tabla 6. Resultados de macroinvertebrados bentónicos en época seca y época húmeda

Año		2017	2018	2017	2018	2017	2018	2017	2018	
Fecha		*	17/03/2018	22/09/2017	17/03/2018	*	16/03/2018	22/09/2017	16/03/2018	
Hora		*	12:50	10:50	13:30	*	09:30	14:15	13:00	
Cuerpo de agua		Quebrada permanente 1								
Código		QP1				QP2				
Epoca		Seca		Húmeda		Seca		Húmeda		
PHYLUM	CLASE	ORDEN	FAMILIA	GÉNERO	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae	<i>Helobdella</i> sp.	0	189	0	0	0	0
Annelida	Clitellata	Haplotaxida	Haplotaxidae	Haplotaxidae sp.	0	0	0	0	0	0
Annelida	Clitellata	Haplotaxida	N.D.	N.D.	0	467	0	11	0	37
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Perlidae	<i>Anacroneuria</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Gripopterygidae	<i>Claudioperla</i> sp.	0	22	0	30	0	19
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Rhantus</i> sp.	0	0	0	0	0	4
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	<i>Andogyrus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Cylloepus</i> sp.	0	1015	0	0	330	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Macrelmis</i> sp.	0	0	0	0	0	207
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Stenelmis</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp.1	0	0	152	348	0	296
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 2	0	0	181	0	0	70
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	0	0	0	4	0	0
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Hydroptilila</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	0	30	0	0	0	15
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Ochrhtrichia</i> sp.	0	189	0	22	0	7
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Smicridea</i> sp.	0	0	0	0	0	19
Arthropoda	Insecta	Trichoptera	Hydrobiosidae	<i>Cailloma</i> sp.	0	0	4	0	0	4
Arthropoda	Insecta	Trichoptera	Limnephilidae	<i>Anomalocosmoecus</i> sp.	0	0	0	0	0	11
Arthropoda	Insecta	Diptera	Blephariceridae	Blephariceridae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Alluaudomyia</i> sp.	0	63	0	0	11	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogonidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanytarsus</i> sp.	0	0	0	0	0	4
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Corynoneura</i> sp.	0	26	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Cricotopus</i> sp.	0	100	0	0	11	711
Arthropoda	Insecta	Diptera	Chironomidae	<i>Onconeura</i> sp.	0	30	0	0	4	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Stictocladus</i> sp.	0	0	4	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 1	0	0	0	33	0	22
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp.2	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	0	4	0	4	0	22
Arthropoda	Insecta	Diptera	Chironomidae	<i>Parochlus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomopsis</i> sp.	0	0	0	0	11	0

**REPORTE DE RESULTADOS**

Año				2017	2018	2017	2018	2017	2018	2017	2018
Fecha				*	17/03/2018	22/09/2017	17/03/2018	*	16/03/2018	22/09/2017	16/03/2018
Hora				*	12:50	10:50	13:30	*	09:30	14:15	13:00
Cuerpo de agua				Quebrada permanente 1				Quebrada permanente 2			
Código				QP1		QP1-A		QP2		QP2-A	
Época				Seca	Húmeda	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Arthropoda	Insecta	Diptera	Chironomidae	<i>Alotanypus sp.</i>	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	15	0	0	0	7	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Pentaneura sp.</i>	0	0	33	4	0	15	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp. 1	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.2	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Empididae	<i>Neoplasta sp.</i>	0	0	0	0	0	33	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Lispe sp.	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Limnophora sp.	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Muscidae sp.	0	4	0	0	0	4	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Gigantodax sp.</i>	0	581	144	407	0	11	48
Arthropoda	Insecta	Diptera	Simuliidae	<i>Simulium sp.</i>	0	0	0	7	0	0	15
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanus sp.</i>	0	4	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanidae sp.</i>	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	0	0	0	0	4	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Limonia sp.</i>	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Tipula sp.</i>	0	4	0	4	0	4	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Hexatoma sp.</i>	0	0	0	0	33	0	4
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae sp.	0	0	4	0	0	63	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	N.D.	N.D. Diptera	0	0	0	0	0	0	0
Arthropoda	Insecta	Odonata	Aeshenidae	Aeshenidae	0	0	0	0	0	7	0
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae sp.	0	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Andesiops sp.</i>	0	0	0	159	0	204	756
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Americabaetis sp.</i>	0	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Baetodes sp.</i>	0	7	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Meridialis sp.</i>	0	0	0	0	0	11	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Thraulodes sp.</i>	0	0	0	7	0	63	204
Arthropoda	Insecta	Lepidoptera	N.D.	Lepidoptera	0	0	0	0	0	0	0
Arthropoda	Insecta	Lepidoptera	Cambridae	<i>Petrophila sp.</i>	0	0	0	0	0	0	0
Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Corydalis sp.</i>	0	0	0	0	0	0	0
Arthropoda	Malacostraca	Amphipoda	Hyalellidae	<i>Hyalella sp.</i>	0	389	0	344	0	4	4
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	<i>Limnesia sp.</i>	0	0	0	0	0	11	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	Limnesiidae	0	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	N.D. Trombidiformes	0	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	Acari sp.	0	0	0	0	0	0	0
Mollusca	Gastropoda	Hydrophila	Planorbidae	Planorbidae sp.	0	0	0	0	0	0	0
Mollusca	Bivalvia	Veneroida	Veneroida	Veneroida	0	48	0	0	0	0	0

**REPORTE DE RESULTADOS**

Año					2017	2018	2017	2018	2017	2018	2017	2018
Fecha					*	17/03/2018	22/09/2017	17/03/2018	*	16/03/2018	22/09/2017	16/03/2018
Hora					*	12:50	10:50	13:30	*	09:30	14:15	13:00
Cuerpo de agua					Quebrada permanente 1				Quebrada permanente 2			
Código					QP1				QP2			
Época					QP1-A		QP1-A		QP2		QP2-A	
					Seca	Húmeda	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Platyhelminthes	Turbellaria	Tricladida	Dugesidae	Dugesidae sp.	0	26	0	41	0	0	0	4
Nematomorpha		Gordioidea		Gordioidea	0	11	0	0	0	0	0	0
Acari					0	4	0	0	0	0	0	0

2

**Tabla 7. Resultados de macroinvertebrados bentónicos en época seca y época húmeda**

Año					2017	2018	2017	2018	2017	2018	2017	2018
Fecha					*	16/03/2018	*	16/03/2018	*	16/03/2018	22/09/2017	16/03/2018
Hora					*	10:10	*	12:30	*	10:40	09:55	12:10
Cuerpo de agua					Quebrada permanente 3				Quebrada permanente 4			
Código					QP3		QP3-A		QP4		QP4-A	
Época					Seca	Húmeda	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
PHYLUM	CLASE	ORDEN	FAMILIA	GÉNERO								
Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae	<i>Helobdella</i> sp.	0	0	0	0	0	0	0	0
Annelida	Clitellata	Haplotaxida	Haplotaxidae	<i>Haplotaxidae</i> sp.	0	0	0	0	0	0	0	0
Annelida	Clitellata	Haplotaxida	N.D.	N.D.	0	85	0	7	0	0	0	7
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	<i>Lumbriculidae</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Perlidae	<i>Anacroneuria</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Gripopterygidae	<i>Claudioperla</i> sp.	0	0	0	4	0	0	0	22
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Rhantus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	<i>Andogyrus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Cylloepus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Macrelmis</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Stenelmis</i> sp.	0	7	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp.1	0	0	0	0	0	15	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 2	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	0	11	0	0	0	0	33	0
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Hydroptilila</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Ochrhtrichia</i> sp.	0	11	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Smicridea</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydrobiosidae	<i>Cailloma</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Limnephilidae	<i>Anomalocosmoecus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Blephariceridae	Blephariceridae sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Alluaudomyia</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Ceratopogonidae</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanytarsus</i> sp.	0	44	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	0	0	0	0	0	4	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Corynoneura</i> sp.	0	215	0	4	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Cricotopus</i> sp.	0	519	0	52	0	0	26	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Onconeura</i> sp.	0	0	0	4	0	0	0	7
Arthropoda	Insecta	Diptera	Chironomidae	<i>Stictocladius</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 1	0	0	0	0	0	0	4	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp.2	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	0	0	0	59	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Parochlus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomopsis</i> sp.	0	0	0	0	0	0	0	0

REPORTE DE RESULTADOS

Año					2017	2018	2017	2018	2017	2018	2017	2018
Fecha					*	16/03/2018	*	16/03/2018	*	16/03/2018	22/09/2017	16/03/2018
Hora					*	10:10	*	12:30	*	10:40	09:55	12:10
Cuerpo de agua					Quebrada permanente 3				Quebrada permanente 4			
Código					QP3				QP3-A			
Epoca					Seca		Húmeda		Seca		Húmeda	
					QP4		QP4-A		Seca		Húmeda	
Arthropoda	Insecta	Diptera	Chironomidae	<i>Alotanypus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	85	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Pentaneura</i> sp.	0	0	0	22	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp. 1	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.2	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Empididae	<i>Neoplasta</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Lispe</i> sp.	0	0	0	4	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Limnophora</i> sp.	0	0	0	4	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Muscidae sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Gigantodax</i> sp.	0	0	0	248	0	0	0	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Simulium</i> sp.	0	22	0	115	0	0	0	0
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tabanidae	Tabanidae sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Limonia</i> sp.	0	7	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Tipula</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Hexatoma</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	4	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	N.D.	N.D. Diptera	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Odonata	Aeshenidae	Aeshenidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Andesiops</i> sp.	0	0	0	248	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Americabaetis</i> sp.	0	15	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Baetodes</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Meridialaris</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Thraulodes</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Lepidoptera	N.D.	Lepidoptera	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Lepidoptera	Cambridae	<i>Petrophila</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Corydalis</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Malacostraca	Amphipoda	Hyalellidae	<i>Hyalella</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	<i>Limnesia</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	Limnesiidae	0	0	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	N.D. Trombidiformes	0	0	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	Acarí sp.	0	0	0	0	0	0	0	0
Mollusca	Gastropoda	Hydrophila	Planorbidae	Planorbidae sp.	0	0	0	0	0	0	0	0
Mollusca	Bivalvia	Veneroidea	Veneroidea	Veneroidea	0	0	0	0	0	0	0	0

**REPORTE DE RESULTADOS**

Año				2017	2018	2017	2018	2017	2018	2017	2018
Fecha				*	16/03/2018	*	16/03/2018	*	16/03/2018	22/09/2017	16/03/2018
Hora				*	10:10	*	12:30	*	10:40	09:55	12:10
Cuerpo de agua				Quebrada permanente 3				Quebrada permanente 4			
Código				QP3		QP3-A		QP4		QP4-A	
Época				Seca	Húmeda	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Platyhelminthes	Turbellaria	Tricladida	Dugesidae	Dugesidae sp.	0	0	0	0	0	0	0
Nematomorpha		Gordioidea		Gordioidea	0	4	0	0	0	0	0
Acari					0	0	0	0	0	0	0

2

Tabla 8. Resultados de macroinvertebrados bentónicos en época seca y época húmeda

Año					2017	2018	2017	2018
Fecha					*	20/03/2018	22/09/2017	16/03/2018
Hora					*	14:20	12:30	11:30
Cuerpo de agua					Quebrada permanente 5		Quebrada Torpito	
Código					QP5		QTorp1	
Epoca					Seca	Húmeda	Seca	Húmeda
PHYLUM	CLASE	ORDEN	FAMILIA	GÉNERO				
Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae	<i>Helobdella</i> sp.	0	0	7	0
Annelida	Clitellata	Haplotaxida	Haplotaxidae	<i>Haplotaxida</i> sp.	0	0	0	0
Annelida	Clitellata	Haplotaxida	N.D.	N.D.	0	7	0	237
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	<i>Lumbriculida</i> sp.	0	0	0	0
Arthropoda	Insecta	Plecoptera	Perlidae	<i>Anacroneuria</i> sp.	0	0	0	0
Arthropoda	Insecta	Plecoptera	Gripopterygidae	<i>Claudioperla</i> sp.	0	15	4	148
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Rhantus</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	<i>Andogyrus</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Cylloepus</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Macrelmis</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Stenelmis</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 1	0	378	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 2	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	0	0	0	0
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	0	0	0	0
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Hydroptilila</i> sp.	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Ochrhtrichia</i> sp.	0	37	0	0
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Smicridea</i> sp.	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Cailloma</i> sp.	0	0	0	0
Arthropoda	Insecta	Trichoptera	Limnephilidae	<i>Anomalocosmoecus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Blephariceridae	Blephariceridae sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Alluaudomyia</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogonidae sp.	0	0	56	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanytarsus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Corynoneura</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Cricotopus</i> sp.	0	11	0	22
Arthropoda	Insecta	Diptera	Chironomidae	<i>Onconeura</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Stictocladus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 1	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp.2	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	0	0	0	7
Arthropoda	Insecta	Diptera	Chironomidae	<i>Parochlus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomopsis</i> sp.	0	0	0	0

**REPORTE DE RESULTADOS**

Año					2017	2018	2017	2018
Fecha					*	20/03/2018	22/09/2017	16/03/2018
Hora					*	14:20	12:30	11:30
Cuerpo de agua					Quebrada permanente 5		Quebrada Torpito	
Código					QP5		QTorp1	
Época					Seca	Húmeda	Seca	Húmeda
Arthropoda	Insecta	Diptera	Chironomidae	<i>Alotanypus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Pentaneura</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp. 1	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.2	0	0	0	0
Arthropoda	Insecta	Diptera	Empididae	<i>Neoplasta</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Lispe</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Limnophora</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Muscidae sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Gigantodax</i> sp.	0	93	0	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Simulium</i> sp.	0	248	0	0
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanus</i> sp.	0	4	0	0
Arthropoda	Insecta	Diptera	Tabanidae	Tabanidae sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Limonia</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Tipula</i> sp.	0	4	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Hexatoma</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0
Arthropoda	Insecta	Diptera	N.D.	N.D. Diptera	0	0	0	0
Arthropoda	Insecta	Odonata	Aeshenidae	Aeshenidae	0	0	0	0
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Andesiops</i> sp.	0	941	4	4
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Americabaetis</i> sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Baetodes</i> sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Meridialaris</i> sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Thraulodes</i> sp.	0	130	0	0
Arthropoda	Insecta	Lepidoptera	N.D.	Lepidoptera	0	0	0	0
Arthropoda	Insecta	Lepidoptera	Cambridae	<i>Petrophila</i> sp.	0	0	0	0
Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Corydalis</i> sp.	0	0	0	0
Arthropoda	Insecta	Megaloptera	Hyalellidae	<i>Hyalella</i> sp.	0	0	33	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	<i>Limnesia</i> sp.	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	Limnesiidae	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	N.D. Trombidiformes	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	Acari sp.	0	0	0	0
Mollusca	Gastropoda	Hydrophila	Planorbidae	Planorbidae sp.	0	0	0	0
Mollusca	Bivalvia	Veneroida	Veneroida	Veneroida	0	0	0	0

2

Año					2017	2018	2017	2018
Fecha					*	20/03/2018	22/09/2017	16/03/2018
Hora					*	14:20	12:30	11:30
Cuerpo de agua					Quebrada permanente 5		Quebrada Torpito	
Código					QP5		QTorp1	
Época					Seca	Húmeda	Seca	Húmeda
Platyhelminthes	Turbellaria	Tricladida	Dugesidae	Dugesidae sp.	0	0	19	0
Nematomorpha		Gordioidea		Gordioidea	0	0	0	0
Acari					0	0	0	0

**REPORTE DE RESULTADOS**

**Tabla 9. Resultados de macroinvertebrados bentónicos en época seca y época húmeda**

Año					2017	2018	2017	2018	2017	2018
Fecha					*	20/03/2018	*	18/03/2018	20/09/2017	*
Hora					*	13:40	*	12:30	13:20	*
Cuerpo de agua					Quebrada Jarhuisique					
Código					QJarh1		QJarh2		QJarh1*	
Epoca					Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
PHYLUM	CLASE	ORDEN	FAMILIA	GÉNERO						
Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae	<i>Helobdella</i> sp.	0	0	0	0	0	0
Annelida	Clitellata	Haplotaxida	Haplotaxidae	<i>Haplotaxidae</i> sp.	0	0	0	0	0	0
Annelida	Clitellata	Haplotaxida	N.D.	N.D.	0	0	0	0	0	0
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	<i>Lumbriculidae</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Perlidae	<i>Anacroneria</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Gripopterygidae	<i>Claudioperla</i> sp.	0	111	0	4	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Rhantus</i> sp.	0	0	0	0	4	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	<i>Andogyrus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Cylloepus</i> sp.	0	0	0	75	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Macrelmis</i> sp.	0	26	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Stenelmis</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp.1	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 2	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Hydroptilila</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	0	0	0	4	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Ochrtrichia</i> sp.	0	4	0	11	0	0
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Smicridea</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydrobiosidae	<i>Cailloma</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Limnephilidae	<i>Anomalocosmoecus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Blephariceridae	Blephariceridae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Alluaudomyia</i> sp.	0	0	0	4	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogonidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanytarsus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Corynoneura</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Cricotopus</i> sp.	0	0	0	85	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Onconeura</i> sp.	0	4	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Stictocladius</i> sp.	0	0	0	0	7	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 1	0	0	0	0	30	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp.2	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Parochlus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomopsis</i> sp.	0	0	0	0	0	0

**REPORTE DE RESULTADOS**

Año					2017	2018	2017	2018	2017	2018
Fecha					*	20/03/2018	*	18/03/2018	20/09/2017	*
Hora					*	13:40	*	12:30	13:20	*
Cuerpo de agua					Quebrada Jarhuisique					
Código					QJarh1		QJarh2		QJarh1*	
Época					Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Arthropoda	Insecta	Diptera	Chironomidae	<i>Alotanypus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Pentaneura</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.1	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.2	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Empididae	<i>Neoplasta</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Lispe</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	<i>Limnophora</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Muscidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Gigantodax</i> sp.	0	44	0	0	0	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Simulium</i> sp.	0	11	0	26	241	0
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanus</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tabanidae	Tabanidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Limonia</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Tipula</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Hexatoma</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	N.D.	N.D. Diptera	0	0	0	0	0	0
Arthropoda	Insecta	Odonata	Aeshenidae	Aeshenidae	0	0	0	0	0	0
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae sp.	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Andesiops</i> sp.	0	0	0	152	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Americabaetis</i> sp.	0	11	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Baetodes</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Meridialis</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Thraulodes</i> sp.	0	0	0	15	0	0
Arthropoda	Insecta	Lepidoptera	N.D.	Lepidoptera	0	0	0	0	0	0
Arthropoda	Insecta	Lepidoptera	Cambriidae	<i>Petrophila</i> sp.	0	0	0	0	0	0
Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Corydalis</i> sp.	0	0	0	0	0	0
Arthropoda	Malacostraca	Amphipoda	Hyalellidae	<i>Hyalella</i> sp.	0	0	0	4	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	<i>Limnesia</i> sp.	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	Limnesiidae	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	N.D. Trombidiformes	0	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	Acari sp.	0	0	0	0	0	0
Mollusca	Gastropoda	Hydrophila	Planorbidae	Planorbidae sp.	0	0	0	0	0	0
Mollusca	Bivalvia	Veneroida	Veneroida	Veneroida	0	0	0	0	0	0

**REPORTE DE RESULTADOS**

Año					2017	2018	2017	2018	2017	2018
Fecha					*	20/03/2018	*	18/03/2018	20/09/2017	*
Hora					*	13:40	*	12:30	13:20	*
Cuerpo de agua					Quebrada Jarhuisique					
Código					QJarh1		QJarh2		QJarh1*	
Época					Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Platyhelminthes	Turbellaria	Tricladida	Dugesidae	Dugesidae sp.	0	0	0	0	0	0
Nematomorpha		Gordioidea		Gordioidea	0	0	0	4	0	0
Acari					0	0	0	0	0	0

2

Tabla 10. Resultados de macroinvertebrados bentónicos en época seca y época húmeda

Año					2017	2018	2017	2018
Fecha					20/09/2017	18/03/2018	20/09/2017	18/03/2018
Hora					12:40	14:30	11:30	13:50
Cuerpo de agua					Quebrada Jutja		Quebrada Huishue	
Código					QFutj1		QHuis1	
Época					Seca	Húmeda	Seca	Húmeda
PHYLUM	CLASE	ORDEN	FAMILIA	GÉNERO				
Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae	<i>Helobdella</i> sp.	0	0	0	0
Annelida	Clitellata	Haplotaxida	Haplotaxidae	Haplotaxidae sp.	0	0	0	0
Annelida	Clitellata	Haplotaxida	N.D.	N.D.	7	11	107	56
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculidae sp.	0	0	0	0
Arthropoda	Insecta	Plecoptera	Perlidae	<i>Anacroneuria</i> sp.	0	0	0	0
Arthropoda	Insecta	Plecoptera	Gripopterygidae	<i>Claudioperla</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Rhantus</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	<i>Andogyrus</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Cylloepus</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Macrelmis</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Stenelmis</i> sp.	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp.1	611	267	189	812
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 2	0	0	48	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	0	0	0	0
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	0	0	0	0
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Hydroptilila</i> sp.	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Ochrhtrichia</i> sp.	0	644	96	822
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Smicridea</i> sp.	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydrobiosidae	<i>Cailloma</i> sp.	11	19	4	0
Arthropoda	Insecta	Trichoptera	Limnephilidae	<i>Anomalocosmoecus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Blephariceridae	Blephariceridae sp.	0	0	0	4
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Alluaudomyia</i> sp.	0	4	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogonidae sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanytarsus</i> sp.	0	15	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Diametinae	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Corynoneura</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Cricotopus</i> sp.	0	4	304	15
Arthropoda	Insecta	Diptera	Chironomidae	<i>Onconeura</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Stictocladius</i> sp.	4	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 1	0	0	0	237
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp.2	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Parochlus</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomopsis</i> sp.	0	0	0	0

**REPORTE DE RESULTADOS**

Año					2017	2018	2017	2018
Fecha					20/09/2017	18/03/2018	20/09/2017	18/03/2018
Hora					12:40	14:30	11:30	13:50
Cuerpo de agua					Quebrada Jutja		Quebrada Huishue	
Código					QFutj1		QHuis1	
Época					Seca	Húmeda	Seca	Húmeda
Arthropoda	Insecta	Diptera	Chironomidae	<i>Alotanypus</i> sp.	11	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Pentaneura</i> sp.	4	56	4	100
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.1	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.2	0	0	0	0
Arthropoda	Insecta	Diptera	Empididae	<i>Neoplasta</i> sp.	0	0	19	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Lispe sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Limnophora sp.	0	0	0	26
Arthropoda	Insecta	Diptera	Muscidae	Muscidae sp.	7	0	4	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Gigantodax</i> sp.	0	7	4	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Simulium</i> sp.	185	0	63	63
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanus</i> sp.	0	0	4	0
Arthropoda	Insecta	Diptera	Tabanidae	Tabanidae sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Limonia</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Tipula</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Hexatoma</i> sp.	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae sp.	4	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0
Arthropoda	Insecta	Diptera	N.D.	N.D. Diptera	0	0	0	0
Arthropoda	Insecta	Odonata	Aeshenidae	Aeshenidae	0	0	7	4
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae sp.	0	0	0	15
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Andesiops</i> sp.	4	1200	0	93
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Americabaetis</i> sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Baetodes</i> sp.	26	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Meridialaris</i> sp.	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Thraulodes</i> sp.	0	0	0	0
Arthropoda	Insecta	Lepidoptera	N.D.	Lepidoptera	0	0	0	0
Arthropoda	Insecta	Lepidoptera	Cambridae	<i>Petrophila</i> sp.	0	0	0	4
Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Corydalis</i> sp.	0	4	0	44
Arthropoda	Malacostraca	Amphipoda	Hyalellidae	<i>Hyalella</i> sp.	0	0	0	4
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	<i>Limnesia</i> sp.	0	0	74	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	Limnesiidae	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	N.D. Trombidiformes	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	Acari sp.	0	0	0	0
Mollusca	Gastropoda	Hydrophila	Planorbidae	Planorbidae sp.	0	0	0	0
Mollusca	Bivalvia	Veneroida	Veneroida	Veneroida	0	0	0	0

2

REPORTE DE RESULTADOS

Año					2017	2018	2017	2018
Fecha					20/09/2017	18/03/2018	20/09/2017	18/03/2018
Hora					12:40	14:30	11:30	13:50
Cuerpo de agua					Quebrada Jutja		Quebrada Huishue	
Código					QFutj1		QHuis1	
Epoca					Seca	Húmeda	Seca	Húmeda
Platyhelminthes	Turbellaria	Tricladida	Dugesidae	Dugesidae sp.	0	0	0	0
Nematomorpha		Gordioidea		Gordioidea	0	0	0	0
Acari					0	0	0	0

2

**REPORTE DE RESULTADOS**

**Tabla 11. Resultados de macroinvertebrados bentónicos en época seca y época húmeda**

Año					2017	2018	2017	2018	2017	2018	2017	2018
Fecha					*	21/03/2018	*	21/03/2018	20/09/2017	*	20/09/2017	*
Hora					*	11:30	*	12:15	15:50	*	15:10	*
Cuerpo de agua					Río Sancos							
Código					RSanc0		RSanc1		RSanc1*		RSanc2	
Época					Seca	Húmeda	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
PHYLUM	CLASE	ORDEN	FAMILIA	GÉNERO								
Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae	<i>Helobdella</i> sp.	0	0	0	0	0	0	0	0
Annelida	Clitellata	Haplotaxida	Haplotaxidae	Haplotaxidae sp.	0	0	0	0	0	0	144	0
Annelida	Clitellata	Haplotaxida	N.D.	N.D.	0	0	0	0	0	0	0	0
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculidae sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Perlidae	<i>Anacroneuria</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Plecoptera	Gripopterygidae	<i>Claudioperla</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Rhantus</i> sp.	0	0	0	0	4	0	0	0
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	<i>Andogyrus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Cylloepus</i> sp.	0	0	0	8	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Macrelmis</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Stenelmis</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp.1	0	1081	0	0	744	0	0	0
Arthropoda	Insecta	Coleoptera	Elmidae	<i>Austrelmis</i> sp. 2	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Hydroptilia</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	0	0	0	4	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydroptilidae	<i>Ochrhtrichia</i> sp.	0	474	0	15	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydropsychidae	<i>Smicridea</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Trichoptera	Hydrobiosidae	<i>Cailloma</i> sp.	0	0	0	0	4	0	0	0
Arthropoda	Insecta	Trichoptera	Limnephilidae	<i>Anomalocosmoecus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Blephariceridae	Blephariceridae sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Alluaudomyia</i> sp.	0	0	0	4	0	0	0	0
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogonidae sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanytarsus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Diametinae	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Corynoneura</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Cricotopus</i> sp.	0	0	0	11	263	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Onconeura</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Stictocladus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp. 1	0	0	0	0	0	0	59	0
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae sp.2	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	0	0	0	4	0	0	644	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Parochlus</i> sp.	0	0	0	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomopsis</i> sp.	0	0	0	0	0	0	0	0

REPORTE DE RESULTADOS

Año		2017	2018	2017	2018	2017	2018	2017	2018
Fecha		*	21/03/2018	*	21/03/2018	20/09/2017	*	20/09/2017	*
Hora		*	11:30	*	12:15	15:50	*	15:10	*
Cuerpo de agua		Río Sancos							
Código		RSanc0		RSanc1		RSanc1*		RSanc2	
Epoca		Seca	Húmeda	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Arthropoda	Insecta	Diptera	Chironomidae	<i>Alotanypus</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopiini	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	<i>Pentaneura</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp. 1	0	0	0	0	0
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae sp.2	0	0	0	0	0
Arthropoda	Insecta	Diptera	Empididae	<i>Neoplasta</i> sp.	0	0	0	7	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	11
Arthropoda	Insecta	Diptera	Muscidae	<i>Lispe</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Limnophora sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Muscidae	Muscidae sp.	0	0	0	4	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Gigantodax</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Simuliidae	<i>Simulium</i> sp.	0	56	0	4	122
Arthropoda	Insecta	Diptera	Tabanidae	<i>Tabanus</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tabanidae	Tabanidae sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Limonia</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Tipula</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	<i>Hexatoma</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae sp.	0	0	0	0	0
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	0	0	0	0	0
Arthropoda	Insecta	Diptera	N.D.	N.D. Diptera	0	0	0	0	0
Arthropoda	Insecta	Odonata	Aeshenidae	Aeshenidae	0	0	0	0	0
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae sp.	0	4	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Andesiops</i> sp.	0	2248	0	448	33
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Americabaetis</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Baetidae	<i>Baetodes</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Meridialaris</i> sp.	0	0	0	4	0
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	<i>Thraulodes</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Lepidoptera	N.D.	Lepidoptera	0	0	0	0	0
Arthropoda	Insecta	Lepidoptera	Cambridae	<i>Petrophila</i> sp.	0	0	0	0	0
Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Corydalis</i> sp.	0	0	0	0	0
Arthropoda	Malacostraca	Amphipoda	Hyalellidae	<i>Hyalella</i> sp.	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	<i>Limnesia</i> sp.	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	Limnesiidae	Limnesiidae	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	N.D. Trombidiformes	0	0	0	0	0
Arthropoda	Arachnida	Trombidiformes	N.D.	Acari sp.	0	0	0	0	0
Mollusca	Gastropoda	Hydrophila	Planorbidae	Planorbidae sp.	0	0	0	0	0
Mollusca	Bivalvia	Veneroida	Veneroida	Veneroida	0	0	0	0	0

**REPORTE DE RESULTADOS**

Año				2017	2018	2017	2018	2017	2018	2017	2018
Fecha				*	21/03/2018	*	21/03/2018	20/09/2017	*	20/09/2017	*
Hora				*	11:30	*	12:15	15:50	*	15:10	*
Cuerpo de agua				Río Sancos							
Código				RSanc0		RSanc1		RSanc1*		RSanc2	
Época				Seca	Húmeda	Seca	Húmeda	Seca	Húmeda	Seca	Húmeda
Platyhelminthes	Turbellaria	Tricladida	Dugesidae	Dugesidae sp.	0	0	0	0	0	0	0
Nematomorpha		Gordioidea		Gordioidea	0	0	0	0	0	0	0
Acari					0	0	0	0	0	0	0

2

# ANEXO 5



Organismo  
de Evaluación  
y Fiscalización  
Ambiental

## Resultados de perifiton y Macroinvertebrados Bentónicos-Otros

**REPORTE DE RESULTADOS**

**Tabla 1.** Resultados de perifiton tomados en el cauce por donde discurre el agua de los manantiales Mana1, Mana2, Mana3 y Mana11

					2017	2017	2017	2017
					24/09/17	24/09/17	25/09/17	21/09/17
					15:35	16:10	13:50	14:40
Nombre del cuerpo de agua					Manantiales			
Código					HID-Mana1	HID-Mana2	HID-Mana3	HID-QYana1
Época					Seca	Seca	Seca	Seca
PHYLUM	CLASE	ORDEN	FAMILIA	NOMBRE DE ESPECIE	Seca	Seca	Seca	Seca
Bacillariophyta	Bacillariophyceae	Cocconeidales	Achnanthidiaceae	<i>Achnanthidium cf. gracillimum</i>	0	546	0	0
Bacillariophyta	Bacillariophyceae	Cocconeidales	Achnanthidiaceae	<i>Achnanthidium sp. 1</i>	0	1366	1093	0
Bacillariophyta	Bacillariophyceae	Cocconeidales	Achnanthidiaceae	<i>Achnanthidium sp. 2</i>	273	1093	0	1366
Bacillariophyta	Bacillariophyceae	Cocconeidales	Achnanthidiaceae	<i>Planothidium lanceolatum</i>	0	3552	0	0
Bacillariophyta	Bacillariophyceae	Cocconeidales	Achnanthidiaceae	<i>Planothidium frequentissimum</i>	546	5191	0	0
Bacillariophyta	Bacillariophyceae	Cocconeidales	Achnanthidiaceae	<i>Planothidium dubium</i>	0	1366	0	0
Bacillariophyta	Bacillariophyceae	Cocconeidales	Achnanthidiaceae	<i>Planothidium cf. delicatum</i>	0	1093	0	0
Bacillariophyta	Bacillariophyceae	Cocconeidales	Achnanthidiaceae	<i>Psammothidium rossii</i>	0	546	0	0
Bacillariophyta	Bacillariophyceae	Cocconeidales	Cocconeidaceae	<i>Cocconeis placentula</i>	0	273	1913	0
Bacillariophyta	Bacillariophyceae	Bacillariales	Bacillariaceae	<i>Hantzschia sp. 1</i>	546	0	0	0
Bacillariophyta	Bacillariophyceae	Bacillariales	Bacillariaceae	<i>Nitzschia cf. subtilis</i>	0	546	0	0
Bacillariophyta	Bacillariophyceae	Bacillariales	Bacillariaceae	<i>Nitzschia commutata</i>	0	1093	0	0
Bacillariophyta	Bacillariophyceae	Bacillariales	Bacillariaceae	<i>Nitzschia amphibioides</i>	0	0	1366	0
Bacillariophyta	Bacillariophyceae	Bacillariales	Bacillariaceae	<i>Nitzschia palea</i>	0	0	0	273
Bacillariophyta	Bacillariophyceae	Cymbellales	Anomoeoneidaceae	<i>Adlafia suchlandtii</i>	0	0	0	1093
Bacillariophyta	Bacillariophyceae	Cymbellales	Cymbellaceae	<i>Cymbella tumida</i>	0	0	546	0
Bacillariophyta	Bacillariophyceae	Cymbellales	Cymbellaceae	<i>Cymbella sp.</i>	0	0	273	0
Bacillariophyta	Bacillariophyceae	Cymbellales	Gomphonemataceae	<i>Encyonema cf. neogracile</i>	0	0	1366	0
Bacillariophyta	Bacillariophyceae	Cymbellales	Gomphonemataceae	<i>Encyonema cf. vulgare</i>	0	0	2186	0
Bacillariophyta	Bacillariophyceae	Cymbellales	Gomphonemataceae	<i>Gomphonema lagenula</i>	0	820	546	0
Bacillariophyta	Bacillariophyceae	Cymbellales	Gomphonemataceae	<i>Gomphonema truncatum</i>	0	0	273	0
Bacillariophyta	Bacillariophyceae	Cymbellales	Gomphonemataceae	<i>Gomphonema minutum</i>	0	0	820	0
Bacillariophyta	Bacillariophyceae	Cymbellales	Gomphonemataceae	<i>Gomphonema sp.</i>	0	1913	5738	0
Bacillariophyta	Bacillariophyceae	Cymbellales	Rhoicospheniaceae	<i>Rhoicosphenia abbreviata</i>	0	0	546	0
Bacillariophyta	Bacillariophyceae	Eunotiales	Eunotiaceae	<i>Eunotia exigua</i>	0	0	0	1913
Bacillariophyta	Bacillariophyceae	Eunotiales	Eunotiaceae	<i>Eunotia arcus</i>	0	0	0	1366
Bacillariophyta	Bacillariophyceae	Eunotiales	Eunotiaceae	<i>Eunotia tenella</i>	0	0	0	4372
Bacillariophyta	Bacillariophyceae	Eunotiales	Eunotiaceae	<i>Eunotia sp. 2</i>	0	0	0	273
Bacillariophyta	Bacillariophyceae	Naviculales	Amphipleuraceae	<i>Frustulia saxonica</i>	0	0	0	273
Bacillariophyta	Bacillariophyceae	Naviculales	Amphipleuraceae	<i>Frustulia amphipleuroides</i>	0	0	0	273
Bacillariophyta	Bacillariophyceae	Naviculales	Diadesmidaceae	<i>Luticola nivalis</i>	546	0	0	0
Bacillariophyta	Bacillariophyceae	Naviculales	Diadesmidaceae	<i>Luticola mutica</i>	820	0	0	0
Bacillariophyta	Bacillariophyceae	Naviculales	Naviculaceae	<i>Caloneis undulatiformis</i>	0	0	0	3005
Bacillariophyta	Bacillariophyceae	Naviculales	Naviculaceae	<i>Navicula cf. cryptocephala</i>	0	546	1639	0
Bacillariophyta	Bacillariophyceae	Naviculales	Naviculaceae	<i>Navicula aff. notha</i>	0	820	0	0
Bacillariophyta	Bacillariophyceae	Naviculales	Naviculaceae	<i>Nupela cf. lapidosa</i>	546	820	0	0

2

REPORTE DE RESULTADOS

Año					2017	2017	2017	2017
Fecha					24/09/17	24/09/17	25/09/17	21/09/17
Hora					15:35	16:10	13:50	14:40
Nombre del cuerpo de agua					Manantiales			
Código					HID-Mana1	HID-Mana2	HID-Mana3	HID-QYana1
Época					Seca	Seca	Seca	Seca
PHYLUM	CLASE	ORDEN	FAMILIA	NOMBRE DE ESPECIE				
Bacillariophyta	Bacillariophyceae	Naviculales	Pinnulariaceae	<i>Pinnularia subcapitata</i>	0	0	0	7377
Bacillariophyta	Bacillariophyceae	Naviculales	Pinnulariaceae	<i>Pinnularia aff. divergentissima</i>	0	0	0	2459
Bacillariophyta	Bacillariophyceae	Naviculales	Pinnulariaceae	<i>Pinnularia subgibba</i>	0	0	0	1093
Bacillariophyta	Bacillariophyceae	Naviculales	Pinnulariaceae	<i>Pinnularia cf. divergens</i>	0	0	0	546
Bacillariophyta	Bacillariophyceae	Naviculales	Pinnulariaceae	<i>Pinnularia cf. kuetzingii</i>	0	0	0	3552
Bacillariophyta	Bacillariophyceae	Naviculales	Pinnulariaceae	<i>Pinnularia aff. rabenhorstii</i>	0	0	0	546
Bacillariophyta	Bacillariophyceae	Rhopalodiales	Rhopalodiaceae	<i>Epithemia argus var. alpestris</i>	273	0	0	0
Bacillariophyta	Bacillariophyceae	Rhopalodiales	Rhopalodiaceae	<i>Epithemia sorex</i>	0	0	546	0
Bacillariophyta	Bacillariophyceae	Rhopalodiales	Rhopalodiaceae	<i>Epithemia sp.</i>	273	0	0	0
Bacillariophyta	Bacillariophyceae	Rhopalodiales	Rhopalodiaceae	<i>Rhopalodia gibba</i>	273	0	0	0
Bacillariophyta	Bacillariophyceae	Fragilariales	Fragilariaceae	<i>Fragilaria tenera</i>	0	546	1093	0
Bacillariophyta	Bacillariophyceae	Licmophorales	Ulnariaceae	<i>Ulnaria ulna</i>	0	820	0	0
Cyanobacteria	Cyanophyceae	Chroococcales	Chroococcaceae	<i>Asterocapsa sp.</i>	546	0	0	0
Cyanobacteria	Cyanophyceae	Chroococcales	Chroococcaceae	<i>Chroococcus dispersus</i>	0	0	1366	0
Cyanobacteria	Cyanophyceae	Nostocales	Aphanizomenonaceae	<i>Anabaenopsis sp.</i>	273	0	0	0
Cyanobacteria	Cyanophyceae	Nostocales	Aphanizomenonaceae	<i>Nodularia sp.</i>	0	0	820	0
Cyanobacteria	Cyanophyceae	Nostocales	Rivulariaceae	<i>Calothrix cf. braunii</i>	0	0	820	0
Cyanobacteria	Cyanophyceae	Oscillatoriales	Oscillatoriaceae	<i>Phormidium sp. 1</i>	0	0	1366	0
Cyanobacteria	Cyanophyceae	Oscillatoriales	Oscillatoriaceae	<i>Phormidium sp. 2</i>	0	0	546	0
Cyanobacteria	Cyanophyceae	Pleurocapsales	Dermocarpellaceae	<i>Cyanocystis sp.</i>	273	0	0	0
Cyanobacteria	Cyanophyceae	Pleurocapsales	Xenococcaceae	<i>Xenotholos cf. kernerii</i>	546	0	0	0
Cyanobacteria	Cyanophyceae	Synechococcales	Leptolyngbyaceae	<i>Leptolyngbya sp.</i>	1366	0	1366	0
Cyanobacteria	Cyanophyceae	Synechococcales	Merismopediaceae	<i>Aphanocapsa cf. muscicola</i>	0	0	820	0
Cyanobacteria	Cyanophyceae	Synechococcales	Merismopediaceae	<i>Aphanocapsa parasitica</i>	0	0	1913	0
Cyanobacteria	Cyanophyceae	Synechococcales	Pseudanabaenaceae	<i>Pseudanabaena mucicola</i>	0	0	820	0
Cyanobacteria	Cyanophyceae	Synechococcales	Pseudanabaenaceae	<i>Pseudanabaena catenata</i>	546	0	0	0
Cyanobacteria	Cyanophyceae	Synechococcales	Pseudanabaenaceae	<i>Pseudanabaena sp.</i>	1639	0	2459	0
Chlorophyta	Chlorophyceae	Chaetophorales	Chaetophoraceae	<i>Stigeoclonium sp.</i>	27	0	82	0
Chlorophyta	Chlorophyceae	Oedogoniales	Oedogoniaceae	<i>Oedogonium sp.</i>	0	0	109	0
Chlorophyta	Chlorophyceae	Sphaeropleales	Microsporaceae	<i>Microspora sp.</i>	0	0	0	82
Chlorophyta	Chlorophyceae	Sphaeropleales	Scenedesmaceae	<i>Tetrademus dimorphus</i>	0	0	273	0
Chlorophyta	Trebouxiophyceae	Chloreriales	Oocystaceae	<i>Oocystis apiculata</i>	0	0	546	0
Charophyta	Conjugatophyceae	Desmidiiales	Desmidiaceae	<i>Cosmarium sp.</i>	0	0	273	0
Charophyta	Conjugatophyceae	Zygnematales	Zygnemataceae	<i>Mougeotia sp.</i>	0	0	82	0
Charophyta	Conjugatophyceae	Zygnematales	Zygnemataceae	<i>Zygnema sp.</i>	0	0	0	82
Euglenozoa	Euglenophyceae	Euglenales	Euglenaceae	<i>Euglena sp.</i>	0	0	273	0
Euglenozoa	Euglenophyceae	Eutreptiales	Astasiaceae	<i>Astasia sp.</i>	0	0	546	0

**Tabla 2.** Resultados de macroinvertebrados bentónicos tomados en el cauce por donde discurre el agua del manantial Mana11

Año					2017
Fecha					21/09/17
Hora					14:40
Nombre del cuerpo de agua					Manantial
Código					HID-QYana1
Época					Seca
Organismos/m2					
Phylum	Clase	Orden	Familia	Especie	
Arthropoda	Insecta	Coleoptera	Dytiscidae	<i>Lancetes</i> sp.	10
Arthropoda	Insecta	Diptera	Ceratopogonidae	<i>Ceratopogonidae</i> sp.	1
Arthropoda	Insecta	Diptera	Chironomidae	<i>Orthoclaadiinae</i> sp.	2
Arthropoda	Insecta	Diptera	Chironomidae	<i>Podonomus</i> sp.	1
Arthropoda	Insecta	Diptera	Chironomidae	<i>Tanypodinae</i> sp.	154
Arthropoda	Arachnida	Trombidiformes	N.D.	<i>Acari</i> sp.	1

2