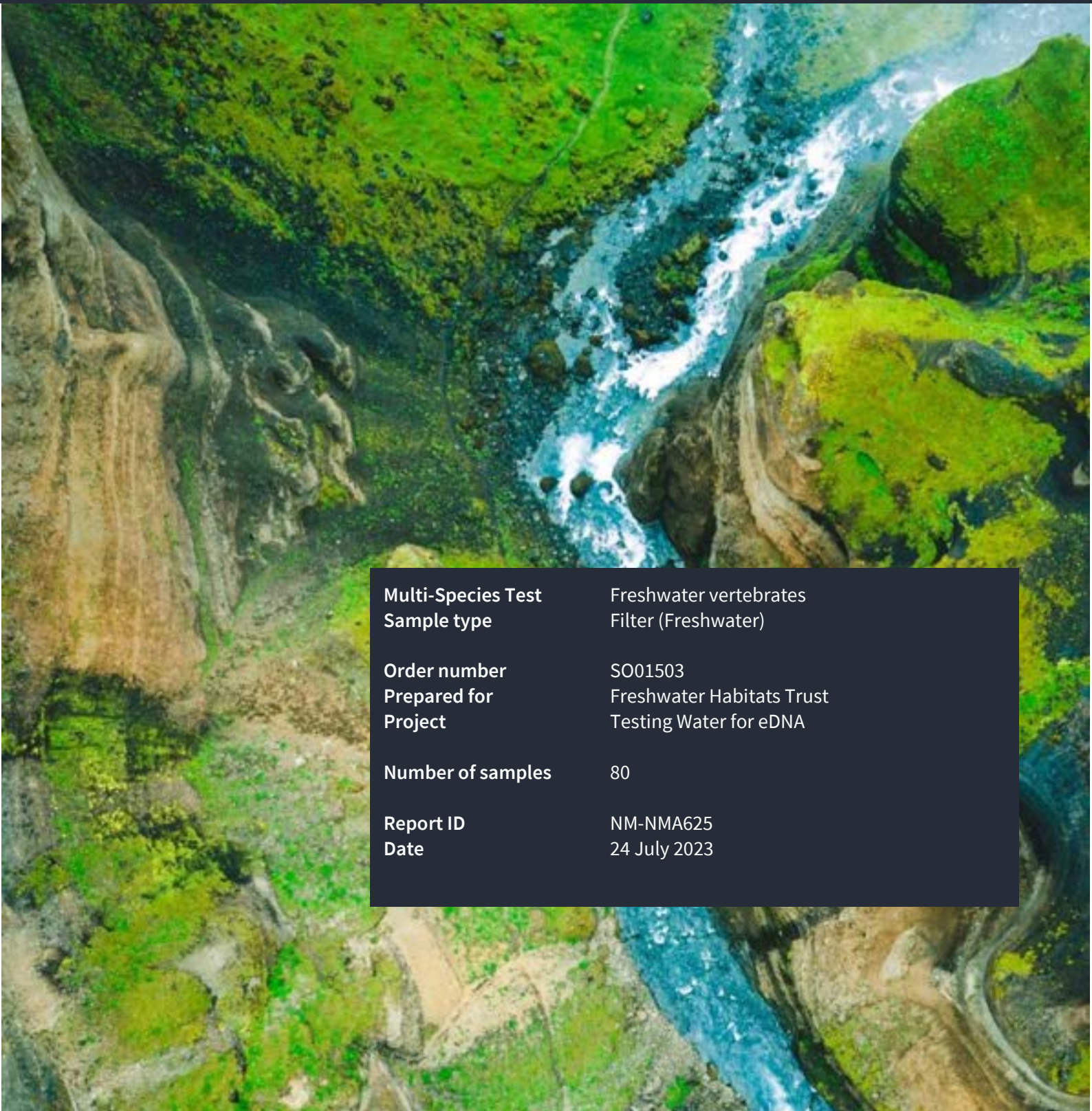




Environmental DNA Report

Freshwater vertebrates



Multi-Species Test	Freshwater vertebrates
Sample type	Filter (Freshwater)
Order number	SO01503
Prepared for Project	Freshwater Habitats Trust Testing Water for eDNA
Number of samples	80
Report ID	NM-NMA625
Date	24 July 2023



Thank you for choosing NatureMetrics

Welcome to your report. We are the leading provider of powerful, scalable biodiversity data delivered using environmental DNA.

Your report consists of:

This document: providing you with our world class insights and metrics.

Data Tables: Accompanying spreadsheet with results at the individual sample level: metrics, quality control and species detected. NM-NMA625.SO01503.Vertebrales.Results.xlsx.

Throughout the report you'll see reference to OTUs. This stands for Operational Taxonomic Unit; an OTU is broadly equivalent to a species in most cases.

Please be careful when sharing this report, it contains biodiversity information that may be sensitive, particularly with respect to endangered or protected species. Please share responsibly. If the report is shared, we kindly ask that the report is shared in its entirety - to limit the possibility of any information being taken out of context.

New to our reports? Our [Report Interpretation Guide](#) is here to help.

Something exciting or unexpected that you'd like to discuss further, our team of experts are looking forward to speaking with you.

Executive Summary

Field Samples submitted:	80
Field Samples reported:	29
Field Blanks submitted:	0
Total number of OTUs detected:	27
Average number of OTUs per sample:	3
Total number of IUCN Threatened Species:	1
Total number of Invasive Species:	2

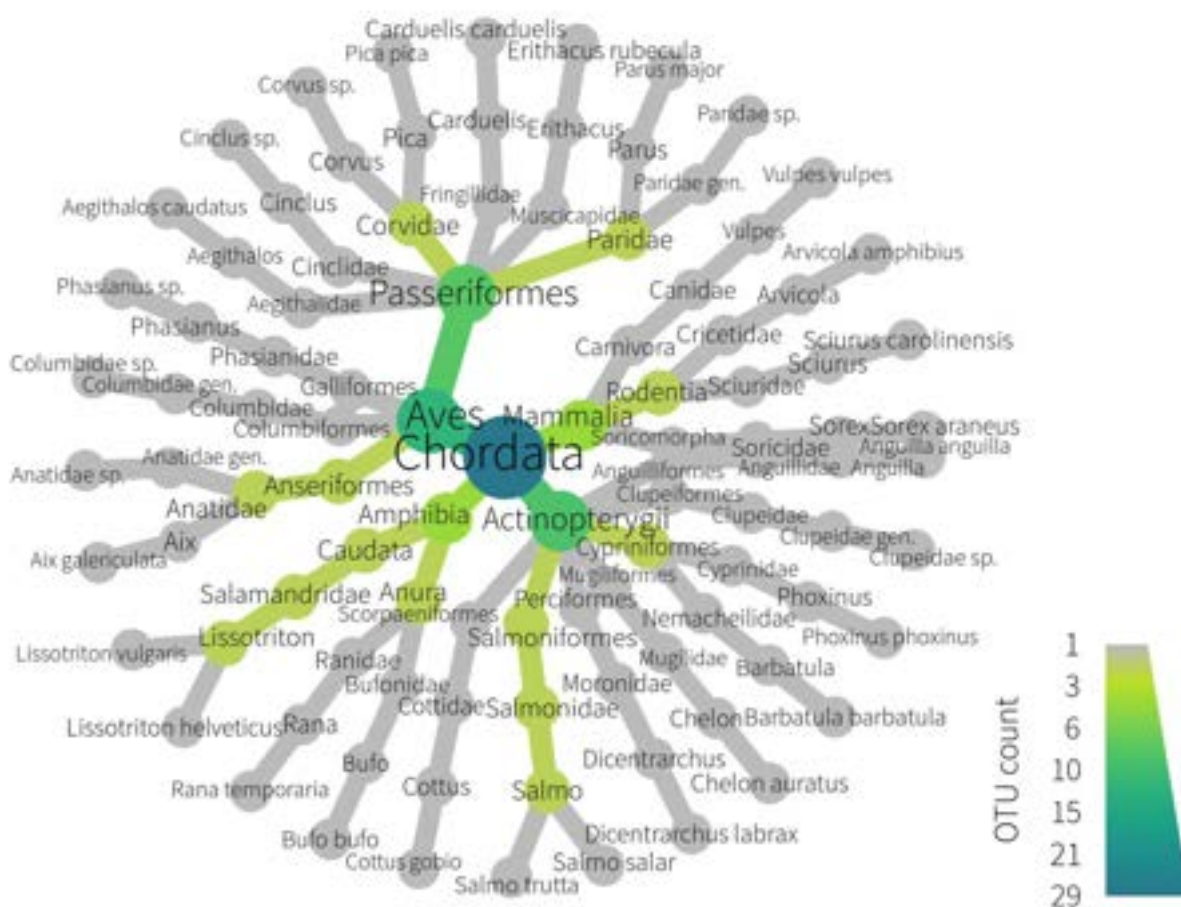
Reported samples are those that passed Quality Control and are included in the Species Data Table



REPORT

Overview of Species Detected

This chart provides a tree-of-life view of the species detected in your samples and their taxonomic relationship, (names on the same branch are more similar than those on different branches). The chart is structured with the highest taxonomic rank at the centre (e.g., kingdom, phylum, class), moving through the ranks of order, family, genus, species as you move to the outer edge. Note that the centre and outer ranks will change depending on the **test** applied and the number of species detected. The legend in the bottom right of the chart indicates how to relate the colour in the branches to the number of species. The colour scale goes from grey indicating very few species to blue indicating a lot of species.





Taxonomic Resolution

This table provides the number of **OTUs** detected and the percentage of OTUs identified to each taxonomic level.

Depending on completeness of **reference databases** for the region where you sampled, some OTUs may not match to a reference at species level. Global DNA reference databases contain millions of barcodes, but gaps remain, particularly in regions and taxonomic groups that are more diverse and less studied. Coverage is expected to improve over time and data tables can be updated to include new information at a future date.

Number of OTUs	Phylum	Class	Order	Family	Genus	Species
27	100%	100%	100%	100%	86.21%	75.86%

Want to increase the number of species named to species level?

If you have specimens of species you have identified, we can sequence the DNA and add the species to our reference databases. We will then be able to enhance the reference library and report if the species is detected. Please contact us about this service and we can send you our barcoding kits but note that we only offer these kits for fish and amphibians.

IUCN Threatened Species

These are the IUCN (International Union for Conservation of Nature) Red List species detected in your samples. These are detected species that are designated as one of the IUCN Red List Threatened Categories (Vulnerable, Endangered and Critically Endangered). An increase in the number of threatened species is generally associated with a positive trend in **biodiversity** or habitat condition.

Species	Common name	Threat Status
<i>Anguilla anguilla</i>	European Eel	Critically Endangered
Number of species		1

The Data Tables contain further information for all species, including their designations as Least Concern or Near Threatened status.

Invasive Species

These are **Invasive species** detected in your samples. These species are invasive according to the Global Register of Introduced and Invasive Species (GRIIS) in the country where sampling occurred. GRIIS is an IUCN Invasive Species Specialist Group initiative. An invasive species is a species whose introduction and/or spread threatens biological diversity (Convention on Biological Diversity). An increase in the number of invasive species is generally associated with enhanced pressures at your site and reduced resilience of the native community. Note that this label is only available for animals.



Species	Common name
<i>Aix galericulata</i>	Mandarin Duck
<i>Sciurus carolinensis</i>	Grey Squirrel
Number of species	2

Community Composition

This chart lists the species found in each sample. A bubble means a species was detected in that sample. The chart displays at species level, unless the number of species is too great to display clearly in the document. In this case, the chart displays at a higher taxonomic level. The full species level chart is provided as an appendix.

The size of the bubbles represents the proportion of **DNA sequences** within a sample. A larger bubble size can indicate a stronger **eDNA** signal. This signal may be linked to abundance of species in the environment but should be interpreted only as a coarse measure because the signal is also impacted by biological (e.g., biomass, life stage, activity, body condition), environmental (e.g., temperature, pH, salinity, conductivity), and technical factors (e.g., **primer bias**, **PCR** stochasticity).

Looking for something more?

We also offer comparative reporting. This includes statistical comparison of metrics and communities according to categories that you define. For instance, these might include waterbody, Site, Management Regime, or anything else that is a focus of your project. Please contact us for further details.

END OF REPORT

Contact: [Customer Support Helpdesk](#)



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DNA-BASED MONITORING

Thank you for choosing NatureMetrics

Please read the following information to help you understand the data in this file. For more information on how to interpret your results please see our Report Interpretation Guide. This file contains four tables: Species Data Table Percentages, Species Data Table Read Counts, Metrics by Sample Table, Quality Control Table

Species Data Table Percentages

This table provides a list of all the species detected in each of your samples. Where a species was detected in a sample, the percentage of DNA sequences assigned to that species is provided. A dash indicates that the species was not detected in the sample. Additionally, for each species the following is included:

- The OTU DNA sequence
- The taxonomic identification: Kingdom, Phylum, Class, Order, Family, Genus, Species
- The Common Name*
- IUCN Threat Status^
- Invasive status: A Yes/No status indicating whether the species is listed as invasive in the country the sample was taken from*
- Target Status: Our tests are targeted to detect certain groups of species, but species outside these targeted groups are sometimes detected incidentally. We call these Non-Targets. Non-Targets can

* Only available for species named at the species level

^ Only available for species named at the species level and not applicable for Bacteria

Species Data Table Read Counts

This table is very similar to the Species Data Table Percentages table, but Read Counts (the number of DNA sequences assigned to a species) are reported for each species in each sample rather than the percentage of DNA sequences. This is useful if you intend to publish results or intend to run further

Metrics by Sample Table

This table provides the metric values for each sample for each applicable metric. More information on how each metric is calculated is provided in the Report Interpretation Guide. The available metrics are:

- Species Richness
- Evolutionary Diversity
- IUCN Threatened Species (Not applicable to: Bacteria)
- Invasive Species (Not applicable to: Bacteria, Soil Fungi, Marine Sediment Eukaryotes, Marine Aquatic Eukaryotes)
- Bacterial Functional Diversity (Applicable only to: Bacteria)
- Fungal Functional Diversity (Applicable only to: Soil Fungi)
- Fungal:Bacterial Ratio (Applicable only to: soil samples)
- Fish Food-Chain Integrity (Applicable only to: Fish (excl sharks & rays), Vertebrates, marine samples)
- Fish: Commercial Value (Applicable only to: Fish (excl sharks & rays), Vertebrates, marine samples)

Quality Control Table

This table provides information on each sample, an overview of how each sample progressed through each of our quality control steps and shows the outcome of what is reported. More information on each Quality Control step is provided in the Report Interpretation Guide. The table is comprised of four sections

Sample Information

- Kit ID
- Client Label: The name you gave to your sample
- Sample Type: This will be either 'Field sample' or 'Field blank'
- Volume Filtered (Applicable only to aquatic kits)
- Date Received – This is the date the sample was received at NM labs

Quality Control

- DNA Amplified (Yes/No): This shows if target DNA was amplified and sequenced
- Passed Data QC (Yes/No): This shows if a sequenced sample contained high quality data
- Target OTUs Detected (Yes/No): This shows if target species were detected. Our tests are targeted to detect certain groups of species

Percentage Reads

- % Target: The percentage of target species DNA sequences that were identified in the sample
- % Non-Target: The percentage of reads belonging to non- target species DNA sequences that were identified in the sample

Result



**NATURE
METRICS**
DNA-BASED MONITORING

Species Data Table Percentages

NMSeqID	Sequence	Kingdom	Phylum	Class
IM-L377V5	ACTATGCTCAAK	Animalia	Chordata	Actinopterygii
IM-86PMO8	ACTATGCCCCG	Animalia	Chordata	Actinopterygii
IM-861BTZ	ACTATGCTCAG	Animalia	Chordata	Actinopterygii
IM-QE7Y37	ACTATGCTCAG	Animalia	Chordata	Actinopterygii
IM-PF52TE	ACTATGCTCAG	Animalia	Chordata	Actinopterygii
IM-2B48R7	ACTATGCTTAG	Animalia	Chordata	Actinopterygii
IM-0V5LY3	ACTATGCCTAG	Animalia	Chordata	Actinopterygii
IM-1D75S8	ACTATGCCTAG	Animalia	Chordata	Actinopterygii
IM-6R967N	ACTATGCCTAG	Animalia	Chordata	Actinopterygii
IM-6I643J	ACTATGCCCAG	Animalia	Chordata	Amphibia
IM-959UI4	ACTATGCCTAG	Animalia	Chordata	Amphibia
IM-8XC92G	ACTATGCCAGC	Animalia	Chordata	Amphibia
IM-877UM2	ACTATGCCTAG	Animalia	Chordata	Amphibia
IM-CJ1A65	ACTATGCCTGG	Animalia	Chordata	Aves
IM-P2068J	ACTATGCCTGG	Animalia	Chordata	Aves
IM-352H4W	ACTATGCCTGG	Animalia	Chordata	Aves
IM-013VZ2	ACTATGCCTGG	Animalia	Chordata	Aves
IM-1Q54N0	ACTATGCCTGG	Animalia	Chordata	Aves
IM-XJ85S2	ACTATGCCTGG	Animalia	Chordata	Aves
IM-AK4913	ACTATGCCTGG	Animalia	Chordata	Aves
IM-5E65H4	ACTATGCCTGG	Animalia	Chordata	Aves
IM-P970W1	ACTATGCCTGG	Animalia	Chordata	Aves
IM-I1M849	ACTATGCCTGG	Animalia	Chordata	Aves
IM-475ET8	ACTATGCCTGG	Animalia	Chordata	Aves
IM-84AD87	ACTATGCCTGG	Animalia	Chordata	Aves
IM-T876J8	ACTATGCTTAG	Animalia	Chordata	Mammalia
IM-P0220R	ACTATGCTTAG	Animalia	Chordata	Mammalia
IM-52E2S4	ACTATGCTTAG	Animalia	Chordata	Mammalia
IM-7UD837	ACTATGCTTAG	Animalia	Chordata	Mammalia

Order	Family	Genus	Species
Anguilliformes	Anguillidae	<i>Anguilla</i>	<i>Anguilla anguilla</i>
Clupeiformes	Clupeidae		
Cypriniformes	Cyprinidae	<i>Phoxinus</i>	<i>Phoxinus phoxinus</i>
Cypriniformes	Nemacheilidae	<i>Barbatula</i>	<i>Barbatula barbatula</i>
Mugiliformes	Mugilidae	<i>Chelon</i>	<i>Chelon auratus</i>
Perciformes	Moronidae	<i>Dicentrarchus</i>	<i>Dicentrarchus labrax</i>
Salmoniformes	Salmonidae	<i>Salmo</i>	<i>Salmo salar</i>
Salmoniformes	Salmonidae	<i>Salmo</i>	<i>Salmo trutta</i>
Scorpaeniformes	Cottidae	<i>Cottus</i>	<i>Cottus gobio</i>
Anura	Bufo	<i>Bufo</i>	<i>Bufo bufo</i>
Anura	Ranidae	<i>Rana</i>	<i>Rana temporaria</i>
Caudata	Salamandridae	<i>Lissotriton</i>	<i>Lissotriton helveticus</i>
Caudata	Salamandridae	<i>Lissotriton</i>	<i>Lissotriton vulgaris</i>
Anseriformes	Anatidae	<i>Aix</i>	<i>Aix galericulata</i>
Anseriformes	Anatidae		
Columbiformes	Columbidae		
Galliformes	Phasianidae	<i>Phasianus</i>	
Passeriformes	Aegithalidae	<i>Aegithalos</i>	<i>Aegithalos caudatus</i>
Passeriformes	Cinclidae	<i>Cinclus</i>	
Passeriformes	Corvidae	<i>Corvus</i>	
Passeriformes	Corvidae	<i>Pica</i>	<i>Pica pica</i>
Passeriformes	Fringillidae	<i>Carduelis</i>	<i>Carduelis carduelis</i>
Passeriformes	Muscicapidae	<i>Erithacus</i>	<i>Erithacus rubecula</i>
Passeriformes	Paridae	<i>Parus</i>	<i>Parus major</i>
Passeriformes	Paridae		
Carnivora	Canidae	<i>Vulpes</i>	<i>Vulpes vulpes</i>
Rodentia	Cricetidae	<i>Arvicola</i>	<i>Arvicola amphibius</i>
Rodentia	Sciuridae	<i>Sciurus</i>	<i>Sciurus carolinensis</i>
Soricomorpha	Soricidae	<i>Sorex</i>	<i>Sorex araneus</i>

Common Name	IUCN Threat Status	Target Status	Invasive
European Eel	CR	Target	
		Target	
Eurasian Minnow	LC	Target	
Stone Loach	LC	Target	
Golden Grey Mullet	LC	Target	
European Seabass	LC	Target	
Atlantic Salmon	LR-LC	Target	
Brown Trout	LC	Target	
European Bullhead	LC	Target	
Common Toad	LC	Target	
Common Frog	LC	Target	
Palmate Newt	LC	Target	
Smooth Newt	LC	Target	
Mandarin Duck		Target	Yes
		Target	
		Target	
		Target	
Long-Tailed Tit	LC	Target	
		Target	
		Target	
Eurasian Magpie	LC	Target	
European Goldfinch	LC	Target	
European Robin	LC	Target	
Great Tit	LC	Target	
		Target	
Red Fox	LC	Target	
European Water Vole	LC	Target	
Grey Squirrel		Target	Yes
Common Shrew	LC	Target	

Comments	Number of samples in which OTU occurs	11
	1	-
	1	-
	7	100.00
	1	-
	0	-
	0	-
	2	-
	4	-
There is lower support for this t	1	-
	11	-
	10	-
There is lower support for this t	8	-
	1	-
	1	-
	8	-
	1	-
	1	-
	1	-
There is lower support for this t	1	-
	3	-
	2	-
There is lower support for this t	1	-
	1	-
	1	-
	1	-
	1	-
	6	-
	1	-
	1	-

16	17	19	20	22
-	-	-	-	-
-	-	100.00	-	-
-	-	-	-	23.35
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	1.86
-	100.00	-	-	18.89
-	-	-	-	-
-	-	-	2.76	8.10
-	-	-	-	36.99
-	-	-	-	0.98
-	-	-	-	-
-	-	-	16.42	-
100.00	-	-	80.82	4.86
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	4.96
-	-	-	-	-
-	-	-	-	-

23	26	35	36	37
-	-	-	-	-
-	-	-	-	-
-	48.29	-	-	-
-	34.66	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	17.05	-	-	73.77
-	-	97.51	100.00	24.99
-	-	2.49	-	1.16
-	-	-	-	-
-	-	-	-	0.08
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
100.00	-	-	-	-
-	-	-	-	-
-	-	-	-	-

4	41	47	48	49
-	-	-	-	-
-	-	-	-	-
52.34	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
2.78	15.50	-	100.00	5.47
-	64.05	-	-	0.51
-	17.85	49.47	-	91.49
-	-	-	-	2.54
-	-	-	-	-
-	0.73	-	-	-
-	1.87	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	50.37	-	-
-	-	0.16	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
44.88	-	-	-	-
-	-	-	-	-
-	-	-	-	-

61	65	68	71	74
-	-	0.06	-	-
-	-	-	-	-
100.00	-	22.70	-	100.00
-	-	-	-	-
-	-	-	-	-
-	-	3.07	-	-
-	-	16.80	-	-
-	-	53.58	-	-
-	100.00	2.54	-	-
-	-	0.66	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	100.00	-
-	-	-	-	-
-	-	0.10	-	-
-	-	0.18	-	-
-	-	-	-	-
-	-	0.06	-	-
-	-	-	-	-
-	-	-	-	-
-	-	0.11	-	-
-	-	-	-	-
-	-	-	-	-
-	-	0.12	-	-
-	-	-	-	-
-	-	-	-	-

84	92	97
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	70.50
-	-	-
100.00	-	-
-	-	-
-	-	-
-	-	-
-	-	1.07
-	-	-
-	-	-
-	-	1.17
-	-	1.47
-	-	-
-	-	0.77
-	-	12.09
-	-	-
-	-	2.28
-	-	1.37
-	100.00	7.33
-	-	1.04
-	-	0.90



Species Data Table Read Counts

NMSeqID	Sequence	Kingdom	Phylum	Class
IM-L377V5	ACTATGCTCAAC	Animalia	Chordata	Actinopterygii
IM-86PMO8	ACTATGCCCCG	Animalia	Chordata	Actinopterygii
IM-861BTZ	ACTATGCTCAG	Animalia	Chordata	Actinopterygii
IM-QE7Y37	ACTATGCTCAG	Animalia	Chordata	Actinopterygii
IM-PF52TE	ACTATGCTCAG	Animalia	Chordata	Actinopterygii
IM-2B48R7	ACTATGCTTAG	Animalia	Chordata	Actinopterygii
IM-0V5LY3	ACTATGCCTAG	Animalia	Chordata	Actinopterygii
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IM-6R967N	ACTATGCCTAG	Animalia	Chordata	Actinopterygii
IM-6I643J	ACTATGCCCAG	Animalia	Chordata	Amphibia
IM-959UI4	ACTATGCCTAG	Animalia	Chordata	Amphibia
IM-8XC92G	ACTATGCCAGC	Animalia	Chordata	Amphibia
IM-877UM2	ACTATGCCTAG	Animalia	Chordata	Amphibia
IM-CJ1A65	ACTATGCCTGG	Animalia	Chordata	Aves
IM-P2068J	ACTATGCCTGG	Animalia	Chordata	Aves
IM-352H4W	ACTATGCCTGG	Animalia	Chordata	Aves
IM-013VZ2	ACTATGCCTGG	Animalia	Chordata	Aves
IM-1Q54N0	ACTATGCCTGG	Animalia	Chordata	Aves
IM-XJ85S2	ACTATGCCTGG	Animalia	Chordata	Aves
IM-AK4913	ACTATGCCTGG	Animalia	Chordata	Aves
IM-5E65H4	ACTATGCCTGG	Animalia	Chordata	Aves
IM-P970W1	ACTATGCCTGG	Animalia	Chordata	Aves
IM-I1M849	ACTATGCCTGG	Animalia	Chordata	Aves
IM-475ET8	ACTATGCCTGG	Animalia	Chordata	Aves
IM-84AD87	ACTATGCCTGG	Animalia	Chordata	Aves
IM-T876J8	ACTATGCTTAG	Animalia	Chordata	Mammalia
IM-P0220R	ACTATGCTTAG	Animalia	Chordata	Mammalia
IM-52E2S4	ACTATGCTTAG	Animalia	Chordata	Mammalia
IM-7UD837	ACTATGCTTAG	Animalia	Chordata	Mammalia

Order	Family	Genus	Species
Anguilliformes	Anguillidae	<i>Anguilla</i>	<i>Anguilla anguilla</i>
Clupeiformes	Clupeidae		
Cypriniformes	Cyprinidae	<i>Phoxinus</i>	<i>Phoxinus phoxinus</i>
Cypriniformes	Nemacheilidae	<i>Barbatula</i>	<i>Barbatula barbatula</i>
Mugiliformes	Mugilidae	<i>Chelon</i>	<i>Chelon auratus</i>
Perciformes	Moronidae	<i>Dicentrarchus</i>	<i>Dicentrarchus labrax</i>
Salmoniformes	Salmonidae	<i>Salmo</i>	<i>Salmo salar</i>
Salmoniformes	Salmonidae	<i>Salmo</i>	<i>Salmo trutta</i>
Scorpaeniformes	Cottidae	<i>Cottus</i>	<i>Cottus gobio</i>
Anura	Bufo	<i>Bufo</i>	<i>Bufo bufo</i>
Anura	Ranidae	<i>Rana</i>	<i>Rana temporaria</i>
Caudata	Salamandridae	<i>Lissotriton</i>	<i>Lissotriton helveticus</i>
Caudata	Salamandridae	<i>Lissotriton</i>	<i>Lissotriton vulgaris</i>
Anseriformes	Anatidae	<i>Aix</i>	<i>Aix galericulata</i>
Anseriformes	Anatidae		
Columbiformes	Columbidae		
Galliformes	Phasianidae	<i>Phasianus</i>	
Passeriformes	Aegithalidae	<i>Aegithalos</i>	<i>Aegithalos caudatus</i>
Passeriformes	Cinclidae	<i>Cinclus</i>	
Passeriformes	Corvidae	<i>Corvus</i>	
Passeriformes	Corvidae	<i>Pica</i>	<i>Pica pica</i>
Passeriformes	Fringillidae	<i>Carduelis</i>	<i>Carduelis carduelis</i>
Passeriformes	Muscicapidae	<i>Erithacus</i>	<i>Erithacus rubecula</i>
Passeriformes	Paridae	<i>Parus</i>	<i>Parus major</i>
Passeriformes	Paridae		
Carnivora	Canidae	<i>Vulpes</i>	<i>Vulpes vulpes</i>
Rodentia	Cricetidae	<i>Arvicola</i>	<i>Arvicola amphibius</i>
Rodentia	Sciuridae	<i>Sciurus</i>	<i>Sciurus carolinensis</i>
Soricomorpha	Soricidae	<i>Sorex</i>	<i>Sorex araneus</i>

Common Name	IUCN Threat Status	Target Status	Invasive
European Eel	CR	Target	
		Target	
Eurasian Minnow	LC	Target	
Stone Loach	LC	Target	
Golden Grey Mullet	LC	Target	
European Seabass	LC	Target	
Atlantic Salmon	LR-LC	Target	
Brown Trout	LC	Target	
European Bullhead	LC	Target	
Common Toad	LC	Target	
Common Frog	LC	Target	
Palmate Newt	LC	Target	
Smooth Newt	LC	Target	
Mandarin Duck		Target	Yes
		Target	
		Target	
		Target	
Long-Tailed Tit	LC	Target	
		Target	
		Target	
Eurasian Magpie	LC	Target	
European Goldfinch	LC	Target	
European Robin	LC	Target	
Great Tit	LC	Target	
		Target	
Red Fox	LC	Target	
European Water Vole	LC	Target	
Grey Squirrel		Target	Yes
Common Shrew	LC	Target	

Comments	Number of samples in which OTU occurs	11	16
	1	-	-
	1	-	-
	7	28431	-
	1	-	-
	0	-	-
	0	-	-
	2	-	-
	4	-	-
There is lower support for this t	1	-	-
	11	-	-
	10	-	-
There is lower support for this t	8	-	-
	1	-	-
	1	-	-
	8	-	8365
	1	-	-
	1	-	-
	1	-	-
There is lower support for this t	1	-	-
	3	-	-
	2	-	-
There is lower support for this t	1	-	-
	1	-	-
	1	-	-
	1	-	-
	1	-	-
	6	-	-
	1	-	-
	1	-	-

17	19	20	22	23
-	-	-	-	-
-	4492	-	-	-
-	-	-	16719	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	1332	-
18051	-	-	13529	-
-	-	-	-	-
-	-	89	5804	-
-	-	-	26489	-
-	-	-	705	-
-	-	-	-	-
-	-	529	-	-
-	-	2604	3480	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	3553	16605
-	-	-	-	-
-	-	-	-	-

26	35	36	37	4
-	-	-	-	-
-	-	-	-	-
23285	-	-	-	2559
16710	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
8221	-	-	65469	136
-	127290	10831	22182	-
-	3247	-	1029	-
-	-	-	-	-
-	-	-	-	-
-	-	-	70	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	2194
-	-	-	-	-
-	-	-	-	-

65	68	71	74	84
-	28	-	-	-
-	-	-	-	-
-	9831	-	43247	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	1329	-	-	-
-	7277	-	-	-
-	23203	-	-	-
8764	1101	-	-	41624
-	284	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	64493	-	-
-	-	-	-	-
-	42	-	-	-
-	80	-	-	-
-	-	-	-	-
-	28	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	47	-	-	-
-	-	-	-	-
-	-	-	-	-
-	54	-	-	-
-	-	-	-	-
-	-	-	-	-

92	97
-	-
-	-
-	-
-	-
-	-
-	-
-	2105
-	-
-	-
-	-
-	-
-	32
-	-
-	-
-	35
-	44
-	-
-	23
-	361
-	-
-	68
-	41
16827	219
-	31
-	27



Metrics by Sample Table

Client Label	Sample Type	Species Richness (number of OTUs)
11	Client sample	1
16	Client sample	1
17	Client sample	1
19	Client sample	1
20	Client sample	3
22	Client sample	8
23	Client sample	1
26	Client sample	3
35	Client sample	2
36	Client sample	1
37	Client sample	4
4	Client sample	3
41	Client sample	5
47	Client sample	3
48	Client sample	1
49	Client sample	4
50	Client sample	1
52	Client sample	1
53	Client sample	1
56	Client sample	3
60	Client sample	1
61	Client sample	1
65	Client sample	1
68	Client sample	12
71	Client sample	1
74	Client sample	1
84	Client sample	1
92	Client sample	1
97	Client sample	11

Number of OTUs named at species level	Evolutionary Diversity
1	NA
0	NA
1	NA
0	NA
2	0.4
7	1.25
1	NA
3	0.42
2	0.43
1	NA
3	0.75
3	0.55
3	0.8
2	0.43
1	NA
4	0.71
1	NA
1	NA
1	NA
2	0.62
1	NA
1	NA
1	NA
10	1.39
0	NA
1	NA
1	NA
1	NA
7	0.96



**NATURE
METRICS**
DNA-BASED MONITORING

Quality Control Table

Kit ID	Client Label	Sample Type	Volume Filtered
ASD-01-02280	11	Client Sample	2000ml
ASD-01-02238	16	Client Sample	1600ml
ASD-01-02218	17	Client Sample	2000ml
ASD-01-02210	19	Client Sample	2000ml
ASD-01-02264	20	Client Sample	2000ml
ASD-01-02247	22	Client Sample	2000ml
ASD-01-02214	23	Client Sample	2000ml
ASD-01-02274	26	Client Sample	1980ml
ASD-01-02243	35	Client Sample	660ml
ASD-01-02207	36	Client Sample	2000ml
ASD-01-02211	37	Client Sample	1000ml
ASD-01-02224	4	Client Sample	2000ml
ASD-01-02225	41	Client Sample	2000ml
ASD-01-02277	47	Client Sample	600ml
ASD-01-02235	48	Client Sample	180ml
ASD-01-02272	49	Client Sample	2000ml
ASD-01-02275	50	Client Sample	1200ml
ASD-01-02241	52	Client Sample	NA
ASD-01-02262	53	Client Sample	2000ml
ASD-01-02282	56	Client Sample	1000ml
ASD-01-02242	60	Client Sample	2000ml
ASD-01-02219	61	Client Sample	2000ml
ASD-01-02220	65	Client Sample	2000ml
ASD-01-02738	68	Client Sample	1980ml
ASD-01-02276	71	Client Sample	2000ml
ASD-01-02270	74	Client Sample	2500ml
ASD-01-02254	84	Client Sample	1980ml
ASD-01-02271	92	Client Sample	2000ml
ASD-01-02739	97	Client Sample	1980ml
ASD-01-02215	13	Client Sample	2000ml
ASD-01-02267	12	Client Sample	2000ml
ASD-01-02265	81	Client Sample	2000ml
ASD-01-02217	8	Client Sample	2000ml
ASD-01-02236	88	Client Sample	2000ml

ASD-01-02205	33	Client Sample	2000ml
ASD-01-02259	2	Client Sample	2000ml
ASD-01-02249	67	Client Sample	1980ml
ASD-01-02226	95	Client Sample	1980ml
ASD-01-02266	10	Client Sample	2000ml
ASD-01-02230	14	Client Sample	2000ml
ASD-01-02222	27	Client Sample	2000ml
ASD-01-02221	28	Client Sample	2500ml
ASD-01-02212	29	Client Sample	2500ml
ASD-01-02209	100	Client Sample	2000ml
ASD-01-02258	80	Client Sample	1500ml
ASD-01-02257	77	Client Sample	2000ml
ASD-01-02223	76	Client Sample	2000ml
ASD-01-02245	82	Client Sample	2000ml
ASD-01-02253	70	Client Sample	2000ml
ASD-01-02278	73	Client Sample	2000ml
ASD-01-02283	75	Client Sample	2000ml
ASD-01-02268	38	Client Sample	2000ml
ASD-01-02256	5	Client Sample	2000ml
ASD-01-02273	66	Client Sample	2000ml
ASD-01-02250	69	Client Sample	2000ml
ASD-01-02255	63	Client Sample	2000ml
ASD-01-02234	62	Client Sample	2000ml
ASD-01-02237	90	Client Sample	2000ml
ASD-01-02246	93	Client Sample	2000ml
ASD-01-02269	91	Client Sample	2000ml
ASD-01-02231	21	Client Sample	2000ml
ASD-01-02284	30	Client Sample	2000ml
ASD-01-02279	32	Client Sample	1800ml
ASD-01-02233	18	Client Sample	2000ml
ASD-01-02227	9	Client Sample	2000ml
ASD-01-02208	24	Client Sample	2000ml
ASD-01-02281	34	Client Sample	2000ml
ASD-01-02213	6	Client Sample	2000ml
ASD-01-02248	86	Client Sample	2000ml
ASD-01-02251	83	Client Sample	2000ml
ASD-01-02216	78	Client Sample	2000ml
ASD-01-02252	25	Client Sample	2000ml
ASD-01-02261	15	Client Sample	NA
ASD-01-02239	31	Client Sample	1200ml
ASD-01-02206	3	Client Sample	2000ml
ASD-01-02229	7	Client Sample	2000ml
ASD-01-02263	1	Client Sample	1980ml

ASD-01-02232	64	Client Sample	1800ml
ASD-01-02240	99	Client Sample	1980ml
ASD-01-02228	98	Client Sample	1980ml

Date Received	DNA Amplified	Sequencing QC	Target OTUs Detected
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
26/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	Yes	Yes	Yes
03/5/23	No	N/A	N/A
03/5/23	No	N/A	N/A
03/5/23	No	N/A	N/A
03/5/23	No	N/A	N/A
03/5/23	No	N/A	N/A

03/5/23	No	N/A	N/A
03/5/23	No	N/A	N/A
26/5/23	No	N/A	N/A
26/5/23	No	N/A	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
03/5/23	Yes	No	N/A
26/5/23	Yes	No	N/A

26/5/23	Yes	No	N/A
26/5/23	Yes	No	N/A
26/5/23	Yes	No	N/A

% Target	% Non-Target	Reported	Comment
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
100	0	Yes	Sample reported
N/A	N/A	No	No amplifiable DNA, no species reported
N/A	N/A	No	No amplifiable DNA, no species reported
N/A	N/A	No	No amplifiable DNA, no species reported
N/A	N/A	No	No amplifiable DNA, no species reported
N/A	N/A	No	No amplifiable DNA, no species reported

N/A	N/A	No	Data QC failed, no species reported
N/A	N/A	No	Data QC failed, no species reported
N/A	N/A	No	Data QC failed, no species reported