DRAFT

Appendix N

Biological Community Metrics Filtered for Salinity Sensitive Species

DRAFT

Lower Hillsborough River Recovery Strategy MFL - Appendix O, analysis days, salinity sensitive

Southwest Florida Water Management District

Last Compiled on: 2025-07-21

1 ABOUT

Data used to prepare these tables and figures are Analysis Days subsetted for salinity sensitive species.

These descriptive plots and statistics include:

- Timeseries plot of the data with color coded reference to defined minimum flows implementation “periods”.
- Histograms of data distribution with normal density curve overlay.
- Tables of distributional statistics by minimum flows implementation period, river segment, and taxon.
- Boxplots of distribution by minimum flows implementation period and river segment.

Data are presented grouped by biological response variable: abundance, density, diversity, or richness.

2 METHODS

2.1 GENERAL

Morris Bridge sink data were excluded. Taxa were synonymized. Non Analysis Days were excluded.

2.2 ABUNDANCE

Abundance was determined by calculating the sum of the n variable (number of individuals observed for a given species on a given date at a given site). An overall

abundance, a taxon abundance, and abundances grouped by MFL period and river segment were calculated.

2.3 Density

Density was determined by calculating the sum of the result_m3 variable (density of individuals observed for a given species on a given date at a given site). For these analyses, qualitative observations were not included. An overall density, a taxon density, and densities grouped by MFL period and river segment were calculated.

2.4 Diversity

Diversity was determined using the R vegan package function diversity(), specifying for Shannon-Wiener and base exp(1). An overall diversity, a site diversity, and diversity grouped by MFL period and river segment were calculated.

2.5 Richness

Richness was determined using the R vegan package function specnumber(). Species never observed were removed. An overall richness and richness grouped by MFL period and river segment were calculated.

---

3 ZOOPLANKTON

3.1 Abundance

3.1.1 Tables

3.1.1.1 Total abundance of the data set.

Total Abundance
9500

DRAFT

3.1.1.2 Total abundance of each taxon, and MFL period:River segment abundance, sorted by most abundant.

Final Taxa	Total Abun	Period 1 Middle	Period 1 Lower	Period 1 Downstream	Period 2 Middle	Period 2 Lower	Period 2 Downstream	Period 3 Middle	Period 3 Lower	Period 3 Downstream	Period 4 Middle	Period 4 Lower	Period 4 Downstream	Period 5 Upper	Period 5 Middle	Period 5 Lower
Cassidinidea ovalis	2068	1	0	13	161	60	34	114	46	27	28	13	13	1543	10	5
oligochaetes	1553	0	0	4	6	3	55	20	37	1426	0	0	0	1	1	0
unidentified freshwater cyclopoids	1012	0	0	0	0	0	0	0	12	5	6	1	988	0	0	0
dipterans, chironomid larvae	890	6	10	10	127	42	39	58	48	78	18	15	45	219	79	96
Cyclops sp.	825	47	3	3	15	494	247	6	6	3	0	0	0	0	0	1
Diaptomus sp.	763	14	11	0	47	667	9	7	3	1	2	2	0	0	0	0
Gobiosoma robustum juveniles	402	17	8	96	24	200	53	0	1	2	0	0	0	0	1	0
Menidia spp. preflexion larvae	296	20	3	5	124	24	38	9	12	20	9	15	8	0	4	5
nematodes	257	0	0	0	8	5	53	2	15	162	0	4	0	0	1	7
Menidia spp. juveniles	254	111	80	14	26	4	8	0	3	0	3	1	3	0	1	0
Gobiosoma bosc juveniles	158	8	20	84	0	3	12	0	1	24	0	0	0	3	0	3
dipteran, Chaoborus punctipennis larvae	130	6	0	0	26	28	25	8	24	9	0	0	0	3	1	0
Gambusia holbrooki adults	103	96	2	0	5	0	0	0	0	0	0	0	0	0	0	0
Mesocyclops edax	91	8	0	5	4	1	0	0	5	2	19	3	0	37	6	1
Anopsilana jonesi	85	2	4	3	15	4	15	9	2	19	2	0	3	7	0	0
Gambusia holbrooki juveniles	66	42	2	0	8	1	2	4	4	1	1	0	0	1	0	0
Leiostomus xanthurus juveniles	59	0	0	59	0	0	0	0	0	0	0	0	0	0	0	0
Diaphanosoma brachyurum	49	0	0	0	0	0	0	29	20	0	0	0	0	0	0	0
Microgobius gulosus juveniles	47	5	3	11	4	2	18	0	1	0	0	0	2	0	1	0
hemipterans, gerrid adults	37	0	0	0	17	1	0	1	0	0	0	0	0	17	1	0
xanthid juveniles	29	0	0	1	0	3	22	0	0	0	0	0	0	3	0	0
Macrocyclops albidus	25	0	0	0	1	0	0	6	17	1	0	0	0	0	0	0
coleopterans, curculionid adults	24	0	0	19	1	1	1	0	0	0	0	0	0	1	0	1
lepidopterans, pyralid larvae	23	0	0	0	0	1	0	5	7	4	2	0	3	1	0	0
Opsanus beta juveniles	20	0	0	19	0	0	0	0	0	1	0	0	0	0	0	0
Poecilia latipinna juveniles	20	7	12	0	0	1	0	0	0	0	0	0	0	0	0	0
ephemeropteran larvae	18	0	0	0	5	0	0	0	0	0	0	2	5	4	2	0
trichopteran larvae	17	0	0	0	1	1	0	1	0	1	1	0	0	12	0	0
Taphromysis bowmani	16	0	0	0	0	12	0	0	0	0	0	1	2	0	0	1
Ilyocryptus sp.	10	0	0	0	0	0	1	0	8	0	0	0	0	1	0	0
Microgobius gulosus adults	10	2	0	6	0	0	2	0	0	0	0	0	0	0	0	0
dipterans, stratiomyid larvae	10	0	1	0	1	0	0	2	5	0	0	0	0	1	0	0

DRAFT

hemipterans, corixid adults	10	0	0	0	0	0	0	3	2	3	0	0	0	0	2	0
odonates, zygopteran larvae	10	1	2	0	1	0	0	1	3	0	0	0	0	1	0	1
Lucania parva juveniles	9	2	1	0	1	2	0	1	0	0	2	0	0	0	0	0
Tilapia melanotheron juveniles	9	5	1	0	3	0	0	0	0	0	0	0	0	0	0	0
Simocephalus vetulus	8	1	0	0	2	0	0	0	0	4	0	0	0	1	0	0
Leydigia sp.	7	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0
coleopterans, gyrinid larvae	7	0	0	0	0	0	0	5	2	0	0	0	0	0	0	0
Acari	6	0	0	1	1	3	0	0	0	0	0	0	0	1	0	0
cladocerans, Daphnia spp.	6	0	0	0	2	0	0	2	0	2	0	0	0	0	0	0
Lepomis macrochirus juveniles	3	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0
Orthocyclops modestus	3	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Syngnathus scovelli adults	3	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0
coleopterans, dytiscid adults	3	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0
coleopterans, elmid larvae	3	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0
coleopterans, noterid adults	3	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0
gobiid eggs	3	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0
hemipterans, belostomatid adults	3	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0
hemipterans, pleid adults	3	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0
Fundulus seminolis postflexion larvae	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Fundulus spp. postflexion larvae	2	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
Gobiosoma bosc adults	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Heterandria formosa juveniles	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Labidesthes sicculus preflexion larvae	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Lepisosteus sp. postflexion larvae	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Strongylura spp. postflexion larvae	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
coleopterans, haliplid larvae	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
coleopterans, noterid larvae	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
coleopterans, scirtid larvae	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
dipterans, ephydrid larvae	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Dorosoma spp. preflexion larvae	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Eurytemora affinis	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Ictalurus punctatus juveniles	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Labidesthes sicculus juveniles	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

DRAFT

Labidesthes sicculus postflexion larvae	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Lepomis punctatus juveniles	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Lucania goodei postflexion larvae	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Micropterus salmoides juveniles	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
anuran larvae	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
coleopterans, dytiscid larvae	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
coleopterans, elmid adults	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
dipterans, ceratopogonid larvae	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

3.1.1.3 Total Abundance over river segments by MFL period.

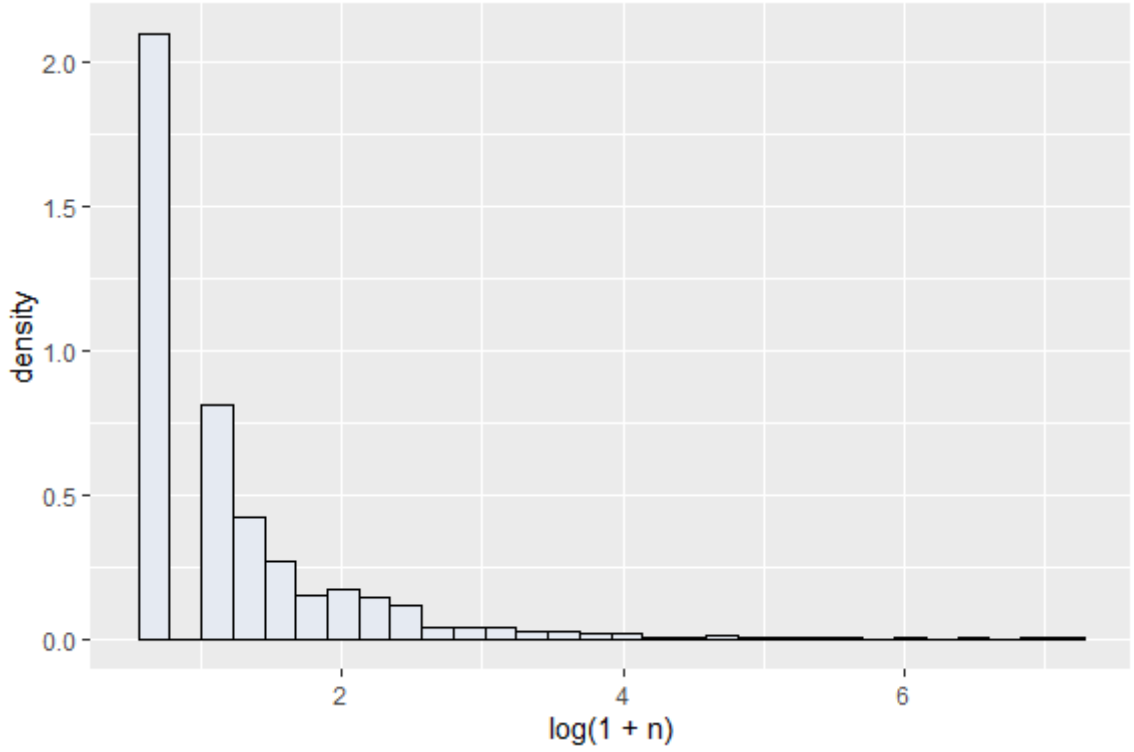
River Segment	Period 1	Period 2	Period 3	Period 4	Period 5	total
Upper	NA	NA	NA	NA	1858	1858
Middle	404	641	303	96	110	1554
Lower	167	1565	301	58	121	2212
Downstream	362	636	1802	1076	NA	3876

3.1.1.4 Total Abundance of MFL period by River segment.

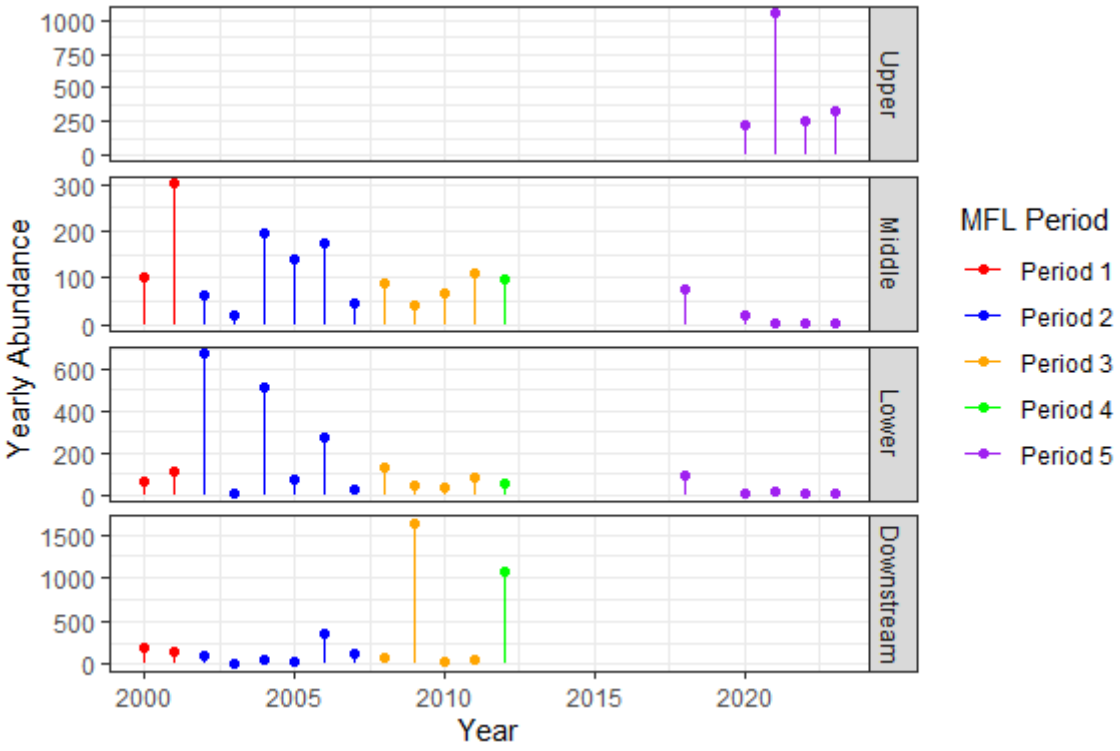
MFL Period	Lower	Middle	Upper	Downstream	total
Period 1	167	404	NA	362	571
Period 2	1565	641	NA	636	2206
Period 3	301	303	NA	1802	604
Period 4	58	96	NA	1076	154
Period 5	121	110	1858	NA	2089

3.1.2 FIGURES

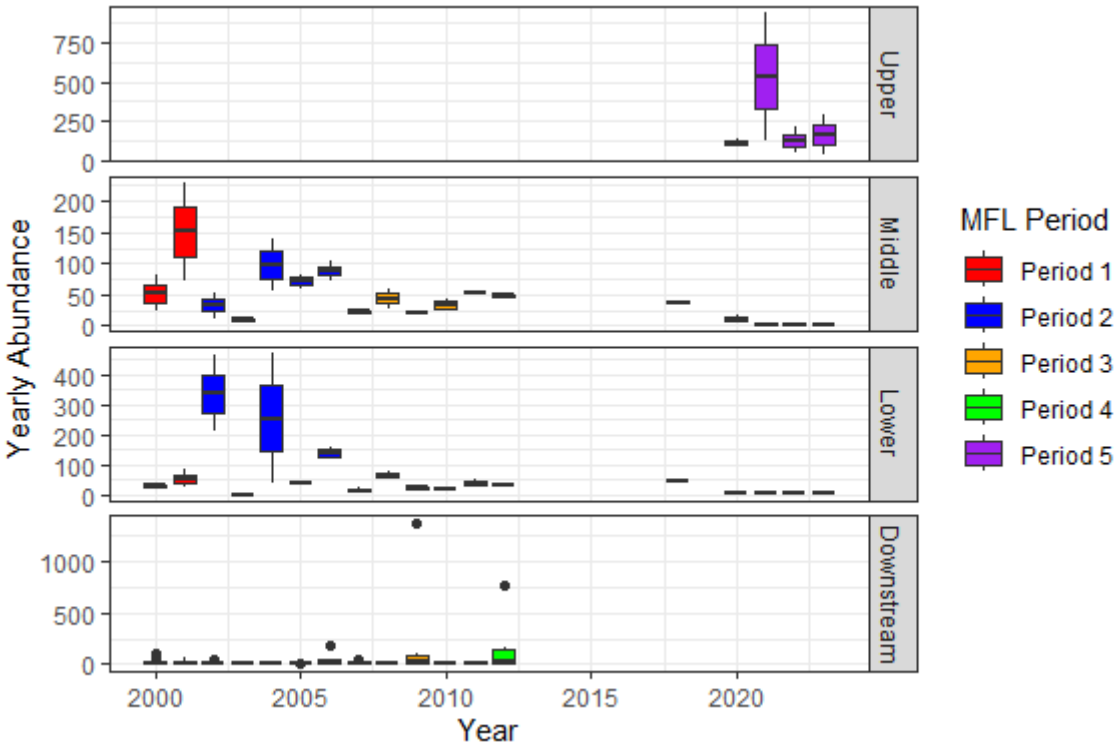
3.1.2.1 Histogram of species abundance.



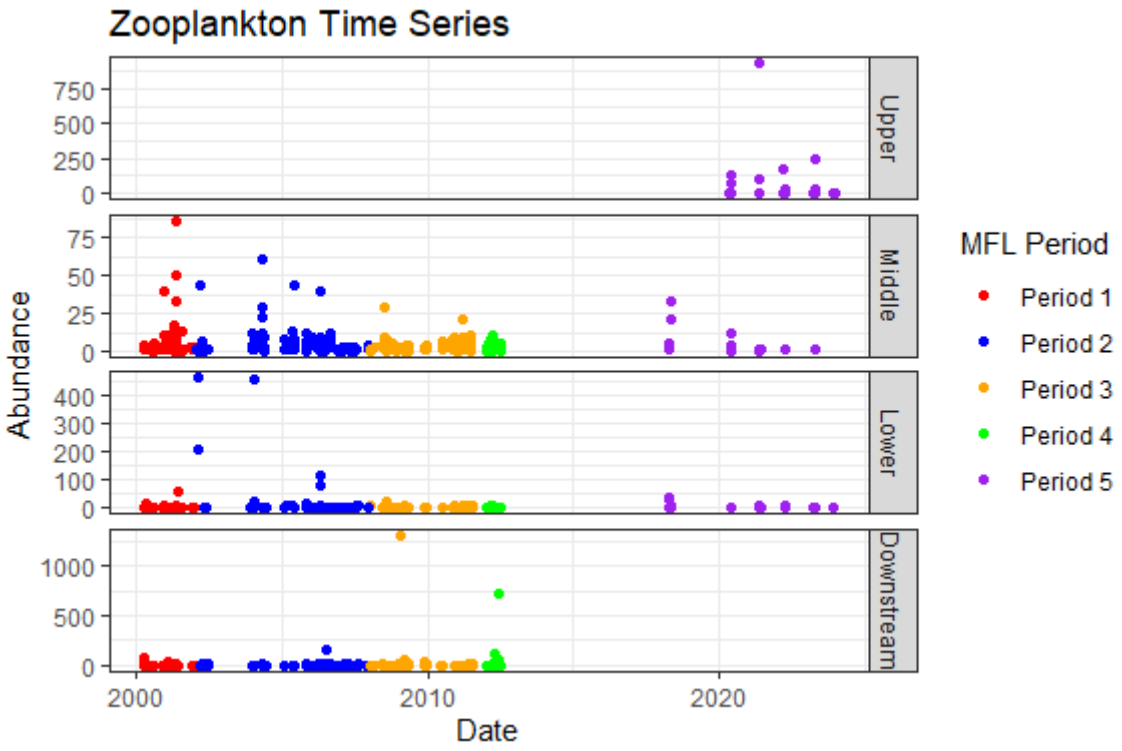
3.1.2.2 A graph of total abundance over time, grouped by year of sampling.



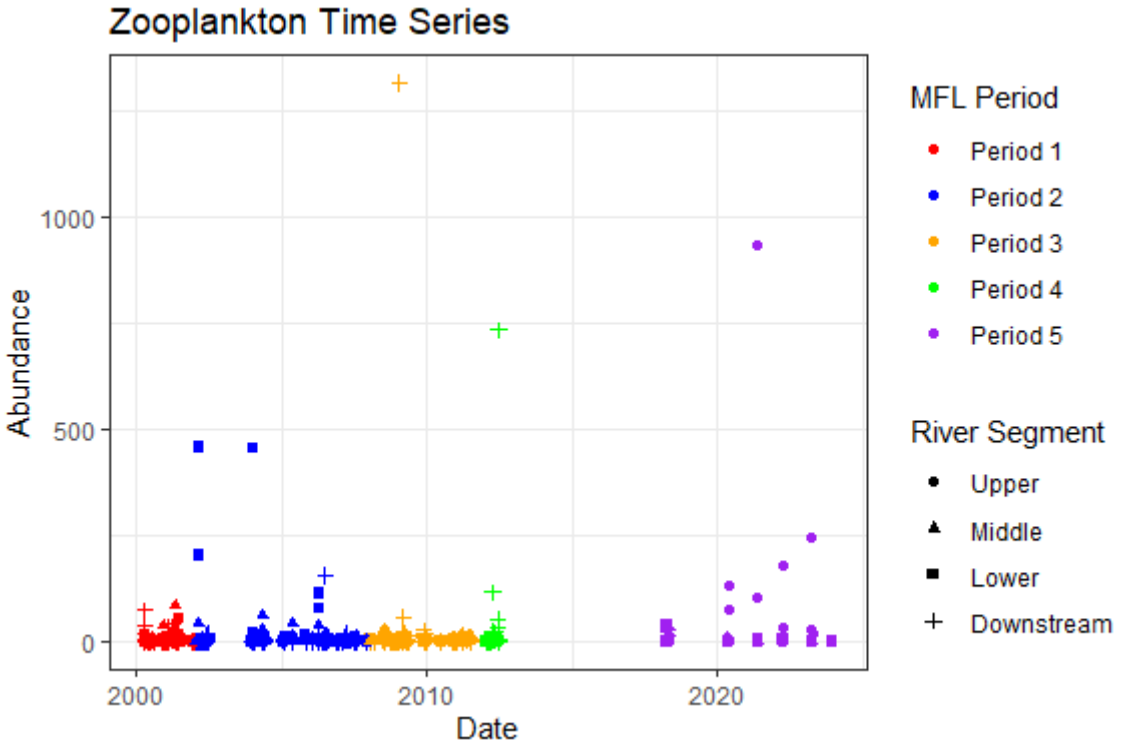
3.1.2.3 Boxplots of individuals, grouped by year, by MFL period and river segment.



3.1.2.4 Abundance by year, MFL period, and river segment.

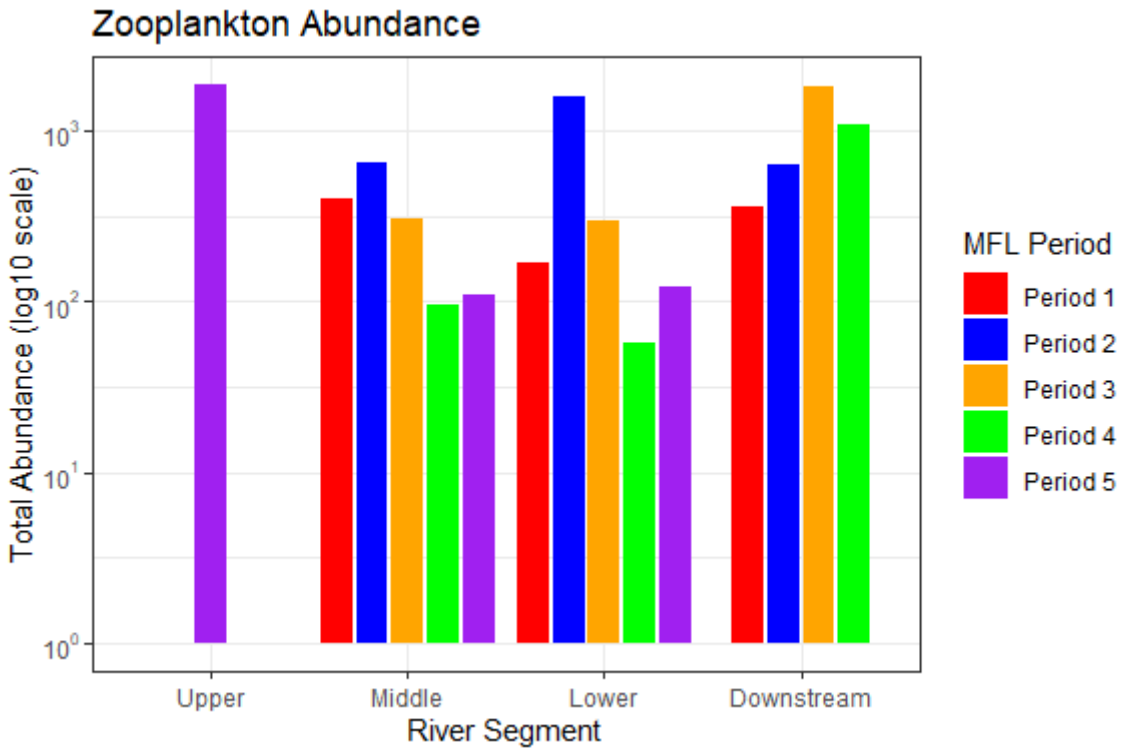


3.1.2.5 Total abundance by river segment, MFL period, and date.



3.1.2.6 Total abundance by MFL period and river segment.

DRAFT



3.2 Density

3.2.1 Tables

3.2.1.1 Total average density of the data set.

Total Avg Density
4.1

3.2.1.2 Total average density of each taxon.

Final Taxa	Total Avg Density
dipterans, chironomid larvae	22.73
Mesocyclops edax	8.63
ephemeropteran larvae	4.98
Gobiosoma bosc juveniles	2.84
Menidia spp. preflexion larvae	2.37
Cassidinidea ovalis	1.24
unidentified freshwater cyclopoids	0.72
Menidia spp. juveniles	0.63
dipteran, Chaoborus punctipennis larvae	0.62
oligochaetes	0.52
Diaptomus sp.	0.30
xanthid juveniles	0.26
Cyclops sp.	0.25
Diaphanosoma brachyurum	0.25
Leiostomus xanthurus juveniles	0.23
Gambusia holbrooki adults	0.12
Gobiosoma robustum juveniles	0.09
nematodes	0.09
Labidesthes sicculus postflexion larvae	0.08

hemipterans, gerrid adults	0.07
trichopteran larvae	0.07
coleopterans, curculionid adults	0.06
Ilyocryptus sp.	0.06
Taphromysis bowmani	0.05
Leydigia sp.	0.05
Poecilia latipinna juveniles	0.04
Macrocyclops albidus	0.04
Gambusia holbrooki juveniles	0.04
Anopsilana jonesi	0.04
Microgobius gulosus juveniles	0.03
Strongylura spp. postflexion larvae	0.03
Microgobius gulosus adults	0.03
coleopterans, gyrinid larvae	0.03
Opsanus beta juveniles	0.03
gobiid eggs	0.03
Tilapia melanotheron juveniles	0.03
dipterans, ephydrid larvae	0.03
hemipterans, corixid adults	0.03
Simocephalus vetulus	0.03
coleopterans, scirtid larvae	0.03
cladocerans, Daphnia spp.	0.03
coleopterans, noterid larvae	0.03
Acari	0.03
coleopterans, haliplid larvae	0.02
Lepisosteus sp. postflexion larvae	0.02
odonates, zygopteran larvae	0.02
dipterans, stratiomyid larvae	0.02
coleopterans, dytiscid adults	0.02
Orthocyclops modestus	0.02
coleopterans, noterid adults	0.02
lepidopterans, pyralid larvae	0.02
Syngnathus scovelli adults	0.02
coleopterans, elmid larvae	0.02
dipterans, ceratopogonid larvae	0.02
coleopterans, elmid adults	0.02
hemipterans, pleid adults	0.01
Lucania parva juveniles	0.01
anuran larvae	0.01
Ictalurus punctatus juveniles	0.01
Heterandria formosa juveniles	0.01
Fundulus spp. postflexion larvae	0.01
Labidesthes sicculus preflexion larvae	0.01
Gobiosoma bosc adults	0.01
Lucania goodei postflexion larvae	0.01
Dorosoma spp. preflexion larvae	0.01
hemipterans, belostomatid adults	0.01
coleopterans, dytiscid larvae	0.01
Eurytemora affinis	0.01
Lepomis punctatus juveniles	0.01
Lepomis macrochirus juveniles	0.01
Micropterus salmoides juveniles	0.01
Fundulus seminolis postflexion larvae	0.01
Labidesthes sicculus juveniles	0.01

3.2.1.3 Total average density of each taxon by MFL period and river segment.

DRAFT

River Segment	MFL Period	Final Taxa	Total Avg Density
Middle	Period 1	Cyclops sp.	0.20
Middle	Period 1	Gambusia holbrooki adults	0.20
Middle	Period 1	Menidia spp. juveniles	0.16
Middle	Period 1	Microgobius gulosus juveniles	0.08
Middle	Period 1	Diaptomus sp.	0.08
Middle	Period 1	Gambusia holbrooki juveniles	0.07
Middle	Period 1	Tilapia melanotheron juveniles	0.06
Middle	Period 1	Mesocyclops edax	0.05
Middle	Period 1	Gobiosoma robustum juveniles	0.05
Middle	Period 1	dipteran, Chaoborus punctipennis larvae	0.04
Middle	Period 1	Menidia spp. preflexion larvae	0.03
Middle	Period 1	Poecilia latipinna juveniles	0.03
Middle	Period 1	Gobiosoma bosc juveniles	0.03
Middle	Period 1	Orthocyclops modestus	0.03
Middle	Period 1	dipterans, chironomid larvae	0.02
Middle	Period 1	Microgobius gulosus adults	0.02
Middle	Period 1	Anopsilana jonesi	0.01
Middle	Period 1	Simocephalus vetulus	0.01
Middle	Period 1	coleopterans, dytiscid adults	0.01
Middle	Period 1	odonates, zygopteran larvae	0.01
Middle	Period 1	Lucania parva juveniles	0.01
Middle	Period 1	Cassidinidea ovalis	0.01
Lower	Period 1	Menidia spp. juveniles	0.16
Lower	Period 1	Gobiosoma bosc juveniles	0.13
Lower	Period 1	Diaptomus sp.	0.13
Lower	Period 1	Anopsilana jonesi	0.06
Lower	Period 1	Poecilia latipinna juveniles	0.06
Lower	Period 1	Microgobius gulosus juveniles	0.04
Lower	Period 1	Cyclops sp.	0.04
Lower	Period 1	Gobiosoma robustum juveniles	0.02
Lower	Period 1	Gambusia holbrooki juveniles	0.02
Lower	Period 1	odonates, zygopteran larvae	0.02
Lower	Period 1	Menidia spp. preflexion larvae	0.02
Lower	Period 1	dipterans, ceratopogonid larvae	0.02
Lower	Period 1	dipterans, chironomid larvae	0.02
Lower	Period 1	Heterandria formosa juveniles	0.01
Lower	Period 1	dipterans, stratiomyid larvae	0.01
Lower	Period 1	Lucania parva juveniles	0.01
Lower	Period 1	Tilapia melanotheron juveniles	0.01
Lower	Period 1	coleopterans, dytiscid larvae	0.01
Lower	Period 1	Gambusia holbrooki adults	0.01
Lower	Period 1	Fundulus seminolis postflexion larvae	0.01
Downstream	Period 1	coleopterans, curculionid adults	0.26
Downstream	Period 1	Leiostomus xanthurus juveniles	0.23
Downstream	Period 1	Gobiosoma bosc juveniles	0.19
Downstream	Period 1	dipterans, chironomid larvae	0.09
Downstream	Period 1	Anopsilana jonesi	0.08
Downstream	Period 1	Gobiosoma robustum juveniles	0.06
Downstream	Period 1	Microgobius gulosus adults	0.05
Downstream	Period 1	Cyclops sp.	0.05
Downstream	Period 1	Microgobius gulosus juveniles	0.04
Downstream	Period 1	Mesocyclops edax	0.04
Downstream	Period 1	Opsanus beta juveniles	0.03
Downstream	Period 1	Strongylura spp. postflexion larvae	0.03
Downstream	Period 1	Cassidinidea ovalis	0.03
Downstream	Period 1	Syngnathus scovelli adults	0.02

Downstream	Period 1	Menidia spp. juveniles	0.02
Downstream	Period 1	oligochaetes	0.02
Downstream	Period 1	Menidia spp. preflexion larvae	0.01
Downstream	Period 1	Fundulus spp. postflexion larvae	0.01
Downstream	Period 1	Gobiosoma bosc adults	0.01
Downstream	Period 1	Acari	0.01
Downstream	Period 1	Fundulus seminolis postflexion larvae	0.01
Downstream	Period 1	xanthid juveniles	0.01
Downstream	Period 1	coleopterans, dytiscid adults	0.01
Middle	Period 2	Diaptomus sp.	0.14
Middle	Period 2	dipterans, chironomid larvae	0.09
Middle	Period 2	Gobiosoma robustum juveniles	0.08
Middle	Period 2	Cassidinidea ovalis	0.08
Middle	Period 2	dipteran, Chaoborus punctipennis larvae	0.08
Middle	Period 2	Menidia spp. preflexion larvae	0.08
Middle	Period 2	hemipterans, gerrid adults	0.07
Middle	Period 2	Microgobius gulosus juveniles	0.06
Middle	Period 2	Menidia spp. juveniles	0.05
Middle	Period 2	gobiid eggs	0.04
Middle	Period 2	nematodes	0.03
Middle	Period 2	Cyclops sp.	0.03
Middle	Period 2	cladocerans, Daphnia spp.	0.03
Middle	Period 2	Mesocyclops edax	0.03
Middle	Period 2	Simocephalus vetulus	0.02
Middle	Period 2	Anopsilana jonesi	0.02
Middle	Period 2	Gambusia holbrooki adults	0.02
Middle	Period 2	Gambusia holbrooki juveniles	0.02
Middle	Period 2	Tilapia melanotheron juveniles	0.02
Middle	Period 2	ephemeropteran larvae	0.02
Middle	Period 2	hemipterans, pleid adults	0.02
Middle	Period 2	dipterans, stratiomyid larvae	0.01
Middle	Period 2	Acari	0.01
Middle	Period 2	oligochaetes	0.01
Middle	Period 2	Lucania parva juveniles	0.01
Middle	Period 2	Dorosoma spp. preflexion larvae	0.01
Middle	Period 2	trichopteran larvae	0.01
Middle	Period 2	Macrocyclops albidus	0.01
Middle	Period 2	coleopterans, curculionid adults	0.01
Middle	Period 2	odonates, zygopteran larvae	0.01
Middle	Period 2	Orthocyclops modestus	0.01
Lower	Period 2	Diaptomus sp.	1.38
Lower	Period 2	Cyclops sp.	0.74
Lower	Period 2	Gobiosoma robustum juveniles	0.39
Lower	Period 2	Taphromysis bowmani	0.15
Lower	Period 2	dipteran, Chaoborus punctipennis larvae	0.06
Lower	Period 2	Cassidinidea ovalis	0.06
Lower	Period 2	dipterans, chironomid larvae	0.05
Lower	Period 2	Menidia spp. preflexion larvae	0.05
Lower	Period 2	Acari	0.04
Lower	Period 2	Anopsilana jonesi	0.04
Lower	Period 2	Microgobius gulosus juveniles	0.03
Lower	Period 2	Menidia spp. juveniles	0.03
Lower	Period 2	nematodes	0.03
Lower	Period 2	Lucania parva juveniles	0.03
Lower	Period 2	oligochaetes	0.02
Lower	Period 2	xanthid juveniles	0.02
Lower	Period 2	Gobiosoma bosc juveniles	0.01

Lower	Period 2	Poecilia latipinna juveniles	0.01
Lower	Period 2	anuran larvae	0.01
Lower	Period 2	Ictalurus punctatus juveniles	0.01
Lower	Period 2	Mesocyclops edax	0.01
Lower	Period 2	lepidopterans, pyralid larvae	0.01
Lower	Period 2	trichopteran larvae	0.01
Lower	Period 2	coleopterans, curculionid adults	0.01
Lower	Period 2	hemipterans, gerrid adults	0.01
Lower	Period 2	Gambusia holbrooki juveniles	0.01
Downstream	Period 2	xanthid juveniles	0.36
Downstream	Period 2	Cyclops sp.	0.26
Downstream	Period 2	nematodes	0.11
Downstream	Period 2	Gobiosoma bosc juveniles	0.06
Downstream	Period 2	Gobiosoma robustum juveniles	0.05
Downstream	Period 2	oligochaetes	0.05
Downstream	Period 2	dipteran, Chaoborus punctipennis larvae	0.05
Downstream	Period 2	Menidia spp. juveniles	0.04
Downstream	Period 2	dipterans, chironomid larvae	0.03
Downstream	Period 2	Menidia spp. preflexion larvae	0.03
Downstream	Period 2	Microgobius gulosus juveniles	0.02
Downstream	Period 2	Cassidinidea ovalis	0.02
Downstream	Period 2	Anopsilana jonesi	0.02
Downstream	Period 2	gobiid eggs	0.02
Downstream	Period 2	Diaptomus sp.	0.02
Downstream	Period 2	Microgobius gulosus adults	0.01
Downstream	Period 2	Gambusia holbrooki juveniles	0.01
Downstream	Period 2	Syngnathus scovelli adults	0.01
Downstream	Period 2	Ilyocryptus sp.	0.01
Downstream	Period 2	coleopterans, curculionid adults	0.01
Middle	Period 3	Diaphanosoma brachyurum	0.44
Middle	Period 3	oligochaetes	0.10
Middle	Period 3	Cassidinidea ovalis	0.06
Middle	Period 3	Anopsilana jonesi	0.05
Middle	Period 3	dipterans, chironomid larvae	0.05
Middle	Period 3	Menidia spp. preflexion larvae	0.04
Middle	Period 3	Macrocyclops albidus	0.04
Middle	Period 3	coleopterans, gyrinid larvae	0.03
Middle	Period 3	Gambusia holbrooki juveniles	0.03
Middle	Period 3	coleopterans, noterid adults	0.03
Middle	Period 3	cladocerans, Daphnia spp.	0.03
Middle	Period 3	nematodes	0.03
Middle	Period 3	dipteran, Chaoborus punctipennis larvae	0.03
Middle	Period 3	coleopterans, noterid larvae	0.03
Middle	Period 3	coleopterans, haliplid larvae	0.02
Middle	Period 3	Diaptomus sp.	0.02
Middle	Period 3	Cyclops sp.	0.02
Middle	Period 3	hemipterans, corixid adults	0.02
Middle	Period 3	lepidopterans, pyralid larvae	0.02
Middle	Period 3	coleopterans, elmid adults	0.02
Middle	Period 3	odonates, zygopteran larvae	0.02
Middle	Period 3	dipterans, stratiomyid larvae	0.01
Middle	Period 3	hemipterans, pleid adults	0.01
Middle	Period 3	Lucania parva juveniles	0.01
Middle	Period 3	trichopteran larvae	0.01
Middle	Period 3	Lepomis punctatus juveniles	0.01
Middle	Period 3	hemipterans, belostomatid adults	0.01
Middle	Period 3	hemipterans, gerrid adults	0.01

Lower	Period 3	oligochaetes	0.18
Lower	Period 3	Diaphanosoma brachyurum	0.15
Lower	Period 3	Ilyocryptus sp.	0.12
Lower	Period 3	Cyclops sp.	0.09
Lower	Period 3	nematodes	0.06
Lower	Period 3	dipterans, chironomid larvae	0.05
Lower	Period 3	Leydigia sp.	0.05
Lower	Period 3	Macrocyclops albidus	0.05
Lower	Period 3	odonates, zygopteran larvae	0.04
Lower	Period 3	Mesocyclops edax	0.04
Lower	Period 3	Menidia spp. juveniles	0.04
Lower	Period 3	unidentified freshwater cyclopoids	0.04
Lower	Period 3	Cassidinidea ovalis	0.04
Lower	Period 3	Diaptomus sp.	0.04
Lower	Period 3	dipterans, stratiomyid larvae	0.03
Lower	Period 3	dipteran, Chaoborus punctipennis larvae	0.03
Lower	Period 3	coleopterans, gyrinid larvae	0.03
Lower	Period 3	Menidia spp. preflexion larvae	0.03
Lower	Period 3	dipterans, ephydrid larvae	0.03
Lower	Period 3	coleopterans, scirtid larvae	0.03
Lower	Period 3	hemipterans, corixid adults	0.03
Lower	Period 3	Anopsilana jonesi	0.03
Lower	Period 3	coleopterans, elmid larvae	0.02
Lower	Period 3	lepidopterans, pyralid larvae	0.02
Lower	Period 3	Gambusia holbrooki juveniles	0.02
Lower	Period 3	hemipterans, pleid adults	0.01
Lower	Period 3	Gobiosoma bosc juveniles	0.01
Lower	Period 3	Microgobius gulosus juveniles	0.01
Lower	Period 3	Heterandria formosa juveniles	0.01
Lower	Period 3	Eurytemora affinis	0.01
Lower	Period 3	coleopterans, noterid adults	0.01
Lower	Period 3	Gobiosoma robustum juveniles	0.01
Downstream	Period 3	oligochaetes	1.85
Downstream	Period 3	nematodes	0.11
Downstream	Period 3	Gobiosoma bosc juveniles	0.07
Downstream	Period 3	Simocephalus vetulus	0.05
Downstream	Period 3	Mesocyclops edax	0.04
Downstream	Period 3	dipterans, chironomid larvae	0.04
Downstream	Period 3	dipteran, Chaoborus punctipennis larvae	0.04
Downstream	Period 3	hemipterans, corixid adults	0.04
Downstream	Period 3	Anopsilana jonesi	0.03
Downstream	Period 3	cladocerans, Daphnia spp.	0.03
Downstream	Period 3	Cassidinidea ovalis	0.02
Downstream	Period 3	Menidia spp. preflexion larvae	0.02
Downstream	Period 3	Opsanus beta juveniles	0.02
Downstream	Period 3	Cyclops sp.	0.02
Downstream	Period 3	unidentified freshwater cyclopoids	0.02
Downstream	Period 3	lepidopterans, pyralid larvae	0.02
Downstream	Period 3	Macrocyclops albidus	0.01
Downstream	Period 3	Diaptomus sp.	0.01
Downstream	Period 3	Gambusia holbrooki juveniles	0.01
Downstream	Period 3	Gobiosoma robustum juveniles	0.01
Downstream	Period 3	hemipterans, belostomatid adults	0.01
Downstream	Period 3	trichopteran larvae	0.01
Downstream	Period 3	Labidesthes sicculus preflexion larvae	0.01
Downstream	Period 3	Fundulus spp. postflexion larvae	0.01
Downstream	Period 3	Lepomis macrochirus juveniles	0.01

Downstream	Period 3	Lucania goodei postflexion larvae	0.01
Downstream	Period 3	Labidesthes sicculus juveniles	0.01
Middle	Period 4	Mesocyclops edax	0.11
Middle	Period 4	unidentified freshwater cyclopoids	0.05
Middle	Period 4	Cassidinidea ovalis	0.04
Middle	Period 4	Menidia spp. preflexion larvae	0.03
Middle	Period 4	dipterans, chironomid larvae	0.03
Middle	Period 4	Anopsilana jonesi	0.02
Middle	Period 4	Menidia spp. juveniles	0.02
Middle	Period 4	Gambusia holbrooki juveniles	0.01
Middle	Period 4	Lepomis macrochirus juveniles	0.01
Middle	Period 4	Micropterus salmoides juveniles	0.01
Middle	Period 4	Lucania parva juveniles	0.01
Middle	Period 4	trichopteran larvae	0.01
Middle	Period 4	Diaptomus sp.	0.01
Middle	Period 4	lepidopterans, pyralid larvae	0.01
Middle	Period 4	coleopterans, elmid larvae	0.01
Lower	Period 4	Menidia spp. preflexion larvae	0.07
Lower	Period 4	nematodes	0.05
Lower	Period 4	Cassidinidea ovalis	0.04
Lower	Period 4	dipterans, chironomid larvae	0.03
Lower	Period 4	ephemeropteran larvae	0.03
Lower	Period 4	Mesocyclops edax	0.02
Lower	Period 4	Taphromysis bowmani	0.01
Lower	Period 4	unidentified freshwater cyclopoids	0.01
Lower	Period 4	hemipterans, belostomatid adults	0.01
Lower	Period 4	Diaptomus sp.	0.01
Lower	Period 4	Menidia spp. juveniles	0.01
Downstream	Period 4	unidentified freshwater cyclopoids	1.81
Downstream	Period 4	Labidesthes sicculus postflexion larvae	0.08
Downstream	Period 4	dipterans, chironomid larvae	0.07
Downstream	Period 4	Anopsilana jonesi	0.05
Downstream	Period 4	Cassidinidea ovalis	0.04
Downstream	Period 4	lepidopterans, pyralid larvae	0.04
Downstream	Period 4	Menidia spp. juveniles	0.04
Downstream	Period 4	Menidia spp. preflexion larvae	0.03
Downstream	Period 4	ephemeropteran larvae	0.03
Downstream	Period 4	Microgobius gulosus juveniles	0.03
Downstream	Period 4	Taphromysis bowmani	0.03
Downstream	Period 4	Lepisosteus sp. postflexion larvae	0.02
Downstream	Period 4	Lepomis macrochirus juveniles	0.01
Upper	Period 5	Cassidinidea ovalis	4.21
Upper	Period 5	dipterans, chironomid larvae	1.31
Upper	Period 5	Mesocyclops edax	0.35
Upper	Period 5	trichopteran larvae	0.22
Upper	Period 5	hemipterans, gerrid adults	0.11
Upper	Period 5	Anopsilana jonesi	0.11
Upper	Period 5	xanthid juveniles	0.09
Upper	Period 5	ephemeropteran larvae	0.06
Upper	Period 5	Gobiosoma bosc juveniles	0.04
Upper	Period 5	coleopterans, dytiscid adults	0.04
Upper	Period 5	Acari	0.03
Upper	Period 5	Ilyocryptus sp.	0.03
Upper	Period 5	dipterans, stratiomyid larvae	0.03
Upper	Period 5	odonates, zygopteran larvae	0.03
Upper	Period 5	Gambusia holbrooki juveniles	0.03
Upper	Period 5	Simocephalus vetulus	0.03

Upper	Period 5	dipteran, Chaoborus punctipennis larvae	0.03
Upper	Period 5	coleopterans, curculionid adults	0.03
Upper	Period 5	lepidopterans, pyralid larvae	0.03
Upper	Period 5	oligochaetes	0.03
Middle	Period 5	dipterans, chironomid larvae	140.01
Middle	Period 5	Menidia spp. preflexion larvae	96.69
Middle	Period 5	Mesocyclops edax	72.81
Middle	Period 5	ephemeropteran larvae	49.51
Middle	Period 5	Cassidinidea ovalis	24.44
Middle	Period 5	Menidia spp. juveniles	24.17
Middle	Period 5	dipteran, Chaoborus punctipennis larvae	24.17
Middle	Period 5	Gobiosoma robustum juveniles	0.04
Middle	Period 5	hemipterans, corixid adults	0.03
Middle	Period 5	Microgobius gulosus juveniles	0.03
Middle	Period 5	hemipterans, gerrid adults	0.03
Middle	Period 5	nematodes	0.02
Middle	Period 5	oligochaetes	0.02
Lower	Period 5	dipterans, chironomid larvae	219.63
Lower	Period 5	Menidia spp. preflexion larvae	64.74
Lower	Period 5	Gobiosoma bosc juveniles	38.68
Lower	Period 5	Mesocyclops edax	25.22
Lower	Period 5	Cassidinidea ovalis	5.07
Lower	Period 5	nematodes	0.18
Lower	Period 5	Taphromysis bowmani	0.03
Lower	Period 5	odonates, zygopteran larvae	0.03
Lower	Period 5	Cyclops sp.	0.02
Lower	Period 5	coleopterans, curculionid adults	0.02

3.2.1.4 Overall Taxon Density with columns of MFL period and river segment density

Final Taxa	Avg Density	Period 1 Middle	Period 1 Lower	Period 1 Downstream	Period 2 Middle	Period 2 Lower	Period 2 Downstream	Period 3 Middle	Period 3 Lower	Period 3 Downstream	Period 4 Middle	Period 4 Lower	Period 4 Downstream	Period 5 Upper	Period 5 Middle	Period 5 Lower
dipterans, chironomid larvae	22.73	0.02	0.02	0.09	0.09	0.05	0.03	0.05	0.05	0.04	0.03	0.03	0.07	1.31	140.01	219.63
Mesocyclops edax	8.63	0.05	0.00	0.04	0.03	0.01	0.00	0.00	0.04	0.04	0.11	0.02	0.00	0.35	72.81	25.22
ephemeropteran larvae	4.98	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.06	49.51	0.00
Gobiosoma bosc juveniles	2.84	0.03	0.13	0.19	0.00	0.01	0.06	0.00	0.01	0.07	0.00	0.00	0.00	0.04	0.00	38.68
Menidia spp. preflexion larvae	2.37	0.03	0.02	0.01	0.08	0.05	0.03	0.04	0.03	0.02	0.03	0.07	0.03	0.00	96.69	64.74
Cassidinidea ovalis	1.24	0.01	0.00	0.03	0.08	0.06	0.02	0.06	0.04	0.02	0.04	0.04	0.04	4.21	24.44	5.07
unidentified freshwater cyclopoids	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.05	0.01	1.81	0.00	0.00	0.00
Menidia spp. juveniles	0.63	0.16	0.16	0.02	0.05	0.03	0.04	0.00	0.04	0.00	0.02	0.01	0.04	0.00	24.17	0.00
dipteran, Chaoborus punctipennis larvae	0.62	0.04	0.00	0.00	0.08	0.06	0.05	0.03	0.03	0.04	0.00	0.00	0.00	0.03	24.17	0.00
oligochaetes	0.52	0.00	0.00	0.02	0.01	0.02	0.05	0.10	0.18	1.85	0.00	0.00	0.00	0.03	0.02	0.00
Diaptomus sp.	0.30	0.08	0.13	0.00	0.14	1.38	0.02	0.02	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.00
xanthid juveniles	0.26	0.00	0.00	0.01	0.00	0.02	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00
Cyclops sp.	0.25	0.20	0.04	0.05	0.03	0.74	0.26	0.02	0.09	0.02	0.00	0.00	0.00	0.00	0.00	0.02
Diaphanosoma brachyurum	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Leiostomus xanthurus juveniles	0.23	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gambusia holbrooki adults	0.12	0.20	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gobiosoma robustum juveniles	0.09	0.05	0.02	0.06	0.08	0.39	0.05	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.04	0.00
nematodes	0.09	0.00	0.00	0.00	0.03	0.03	0.11	0.03	0.06	0.11	0.00	0.05	0.00	0.00	0.02	0.18
Labidesthes sicculus postflexion larvae	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00
hemipterans, gerrid adults	0.07	0.00	0.00	0.00	0.07	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.11	0.03	0.00
trichopteran larvae	0.07	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.22	0.00	0.00
coleopterans, curculionid adults	0.06	0.00	0.00	0.26	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.02
Ilyocryptus sp.	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.12	0.00	0.00	0.00	0.00	0.03	0.00	0.00
Taphromysis bowmani	0.05	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.03
Leydigia sp.	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poecilia latipinna juveniles	0.04	0.03	0.06	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Macrocyclops albidus	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.04	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Gambusia holbrooki juveniles	0.04	0.07	0.02	0.00	0.02	0.01	0.01	0.03	0.02	0.01	0.01	0.00	0.00	0.03	0.00	0.00
Anopsilana jonesi	0.04	0.01	0.06	0.08	0.02	0.04	0.02	0.05	0.03	0.03	0.02	0.00	0.05	0.11	0.00	0.00
Microgobius gulosus juveniles	0.03	0.08	0.04	0.04	0.06	0.03	0.02	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.03	0.00

DRAFT

Strongylura spp. postflexion larvae	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Microgobius gulosus adults	0.03	0.02	0.00	0.05	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
coleopterans, gyrinid larvae	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opsanus beta juveniles	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
gobiid eggs	0.03	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tilapia melanotheron juveniles	0.03	0.06	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
dipterans, ephydrid larvae	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
hemipterans, corixid adults	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.04	0.00	0.00	0.00	0.00	0.03	0.00
Simocephalus vetulus	0.03	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.03	0.00	0.00
coleopterans, scirtid larvae	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
cladocerans, Daphnia spp.	0.03	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
coleopterans, noterid larvae	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Acari	0.03	0.00	0.00	0.01	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
coleopterans, haliplid larvae	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lepisosteus sp. postflexion larvae	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
odonates, zygopteran larvae	0.02	0.01	0.02	0.00	0.01	0.00	0.00	0.02	0.04	0.00	0.00	0.00	0.00	0.03	0.00	0.03
dipterans, stratiomyid larvae	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.03	0.00	0.00
coleopterans, dytiscid adults	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
Orthocyclops modestus	0.02	0.03	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
coleopterans, noterid adults	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
lepidopterans, pyralid larvae	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.02	0.02	0.01	0.00	0.04	0.03	0.00	0.00
Syngnathus scovelli adults	0.02	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
coleopterans, elmid larvae	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00
dipterans, ceratopogonid larvae	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
coleopterans, elmid adults	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
hemipterans, pleid adults	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lucania parva juveniles	0.01	0.01	0.01	0.00	0.01	0.03	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
anuran larvae	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ictalurus punctatus juveniles	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heterandria formosa juveniles	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fundulus spp. postflexion larvae	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Labidesthes sicculus preflexion larvae	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Gobiosoma bosc adults	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lucania goodei postflexion larvae	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00

DRAFT

Dorosoma spp. preflexion larvae	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
hemipterans, belostomatid adults	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
coleopterans, dytiscid larvae	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eurytemora affinis	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lepomis punctatus juveniles	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lepomis macrochirus juveniles	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00
Micropterus salmoides juveniles	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Fundulus seminolis postflexion larvae	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labidesthes sicculus juveniles	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00

3.2.1.5 Summary statistics of density of organisms.

variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
result_m3	1117	0.01	1103	0.03	0.01	0.06	0.04	0.02	4.1	52	1.6	3

3.2.1.6 Summary statistics of densities by MFL Period

MFL Period	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Period 1	result_m3	200	0.01	1.1	0.02	0.01	0.05	0.04	0.01	0.07	0.14	0.01	0.02
Period 2	result_m3	409	0.01	5.5	0.02	0.01	0.05	0.04	0.01	0.10	0.46	0.02	0.04
Period 3	result_m3	308	0.01	20.5	0.03	0.01	0.05	0.04	0.02	0.12	1.17	0.07	0.13
Period 4	result_m3	100	0.01	9.3	0.03	0.01	0.06	0.05	0.02	0.16	0.94	0.09	0.19
Period 5	result_m3	100	0.02	1103.4	0.07	0.03	4.80	4.77	0.07	45.10	169.18	16.92	33.57

3.2.1.7 Summary statistics of densities by River Segment

River Segment	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Upper	result_m3	46	0.03	23	0.07	0.03	0.24	0.21	0.07	1.15	3.7	0.55	1.10
Middle	result_m3	377	0.01	888	0.03	0.01	0.06	0.04	0.02	5.36	55.3	2.85	5.60
Lower	result_m3	272	0.01	1103	0.03	0.01	0.06	0.05	0.02	9.12	82.7	5.01	9.87
Downstream	result_m3	422	0.01	21	0.02	0.01	0.05	0.04	0.02	0.14	1.1	0.05	0.11

3.2.1.8 Summary statistics of densities by MFL period and River segment

River Segment	MFL Period	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Middle	Period 1	result_m3	70	0.01	1.06	0.02	0.01	0.05	0.03	0.01	0.08	0.17	0.02	0.04
Lower	Period 1	result_m3	45	0.01	0.70	0.01	0.01	0.06	0.05	0.00	0.06	0.11	0.02	0.03
Downstream	Period 1	result_m3	85	0.01	1.04	0.01	0.01	0.05	0.04	0.01	0.06	0.14	0.01	0.03
Middle	Period 2	result_m3	148	0.01	0.76	0.03	0.01	0.06	0.04	0.02	0.06	0.10	0.01	0.02
Lower	Period 2	result_m3	84	0.01	5.53	0.03	0.01	0.06	0.04	0.02	0.23	0.89	0.10	0.19
Downstream	Period 2	result_m3	177	0.01	3.02	0.02	0.01	0.04	0.03	0.01	0.08	0.30	0.02	0.04
Middle	Period 3	result_m3	89	0.01	0.44	0.03	0.01	0.05	0.04	0.02	0.04	0.06	0.01	0.01
Lower	Period 3	result_m3	91	0.01	0.34	0.03	0.01	0.05	0.04	0.02	0.05	0.05	0.00	0.01
Downstream	Period 3	result_m3	128	0.01	20.53	0.03	0.01	0.05	0.04	0.02	0.22	1.81	0.16	0.32
Middle	Period 4	result_m3	41	0.01	0.13	0.02	0.01	0.04	0.03	0.02	0.03	0.03	0.00	0.01
Lower	Period 4	result_m3	27	0.01	0.11	0.03	0.01	0.04	0.03	0.02	0.03	0.03	0.00	0.01
Downstream	Period 4	result_m3	32	0.01	9.26	0.05	0.03	0.08	0.05	0.04	0.43	1.64	0.29	0.59
Upper	Period 5	result_m3	46	0.03	23.43	0.07	0.03	0.24	0.21	0.07	1.15	3.70	0.55	1.10
Middle	Period 5	result_m3	29	0.02	888.24	0.07	0.03	49.51	49.48	0.07	69.06	191.15	35.50	72.71
Lower	Period 5	result_m3	25	0.02	1103.42	0.06	0.03	50.44	50.41	0.06	98.16	260.92	52.18	107.70

3.2.1.9 Summary statistics of density of organisms by river segment and MFL period

River Segment	MFL Period	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Upper	Period 5	result_m3	46	0.03	23.43	0.07	0.03	0.24	0.21	0.07	1.15	3.70	0.55	1.10
Middle	Period 1	result_m3	70	0.01	1.06	0.02	0.01	0.05	0.03	0.01	0.08	0.17	0.02	0.04
Middle	Period 2	result_m3	148	0.01	0.76	0.03	0.01	0.06	0.04	0.02	0.06	0.10	0.01	0.02
Middle	Period 3	result_m3	89	0.01	0.44	0.03	0.01	0.05	0.04	0.02	0.04	0.06	0.01	0.01
Middle	Period 4	result_m3	41	0.01	0.13	0.02	0.01	0.04	0.03	0.02	0.03	0.03	0.00	0.01
Middle	Period 5	result_m3	29	0.02	888.24	0.07	0.03	49.51	49.48	0.07	69.06	191.15	35.50	72.71
Lower	Period 1	result_m3	45	0.01	0.70	0.01	0.01	0.06	0.05	0.00	0.06	0.11	0.02	0.03
Lower	Period 2	result_m3	84	0.01	5.53	0.03	0.01	0.06	0.04	0.02	0.23	0.89	0.10	0.19
Lower	Period 3	result_m3	91	0.01	0.34	0.03	0.01	0.05	0.04	0.02	0.05	0.05	0.00	0.01
Lower	Period 4	result_m3	27	0.01	0.11	0.03	0.01	0.04	0.03	0.02	0.03	0.03	0.00	0.01
Lower	Period 5	result_m3	25	0.02	1103.42	0.06	0.03	50.44	50.41	0.06	98.16	260.92	52.18	107.70
Downstream	Period 1	result_m3	85	0.01	1.04	0.01	0.01	0.05	0.04	0.01	0.06	0.14	0.01	0.03
Downstream	Period 2	result_m3	177	0.01	3.02	0.02	0.01	0.04	0.03	0.01	0.08	0.30	0.02	0.04
Downstream	Period 3	result_m3	128	0.01	20.53	0.03	0.01	0.05	0.04	0.02	0.22	1.81	0.16	0.32
Downstream	Period 4	result_m3	32	0.01	9.26	0.05	0.03	0.08	0.05	0.04	0.43	1.64	0.29	0.59

3.2.1.10 Summary statistics of density by taxon, river segment, and MFL period

River Segment	MFL Period	Final Taxa	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Downstream	Period 4	unidentified freshwater cyclopoids	result_m3	7	0.06	9.26	0.43	0.30	1.16	0.86	0.55	1.81	3.32	1.25	3.07
Downstream	Period 4	Labidesthes sicculus postflexion larvae	result_m3	1	0.08	0.08	0.08	0.08	0.08	0.00	0.00	0.08	NA	NA	NaN
Downstream	Period 4	dipterans, chironomid larvae	result_m3	8	0.01	0.27	0.05	0.03	0.08	0.05	0.04	0.07	0.08	0.03	0.07
Downstream	Period 4	Anopsilana jonesi	result_m3	1	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	NA	NA	NaN
Downstream	Period 4	Cassidinidea ovalis	result_m3	4	0.01	0.06	0.04	0.02	0.06	0.04	0.03	0.04	0.03	0.01	0.04
Downstream	Period 4	Menidia spp. juveniles	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Downstream	Period 4	lepidopterans, pyralid larvae	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Downstream	Period 4	Menidia spp. preflexion larvae	result_m3	3	0.01	0.06	0.03	0.02	0.04	0.02	0.02	0.03	0.03	0.01	0.06
Downstream	Period 4	ephemeropteran larvae	result_m3	2	0.01	0.05	0.03	0.02	0.04	0.02	0.03	0.03	0.03	0.02	0.25
Downstream	Period 4	Microgobius gulosus juveniles	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Downstream	Period 4	Taphromysis bowmani	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Downstream	Period 4	Lepisosteus sp. postflexion larvae	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Downstream	Period 4	Lepomis macrochirus juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 3	oligochaetes	result_m3	12	0.01	20.53	0.06	0.02	0.21	0.18	0.06	1.85	5.89	1.70	3.74
Downstream	Period 3	nematodes	result_m3	21	0.01	0.38	0.09	0.02	0.13	0.11	0.11	0.11	0.11	0.02	0.05
Downstream	Period 3	Gobiosoma bosc juveniles	result_m3	5	0.01	0.18	0.03	0.02	0.10	0.08	0.02	0.07	0.07	0.03	0.09
Downstream	Period 3	Simocephalus vetulus	result_m3	1	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	NA	NA	NaN
Downstream	Period 3	Mesocyclops edax	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Downstream	Period 3	dipterans, chironomid larvae	result_m3	25	0.01	0.19	0.03	0.02	0.05	0.03	0.02	0.04	0.04	0.01	0.02
Downstream	Period 3	dipteran, Chaoborus punctipennis larvae	result_m3	4	0.01	0.09	0.03	0.03	0.04	0.02	0.01	0.04	0.03	0.02	0.05
Downstream	Period 3	hemipterans, corixid adults	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Downstream	Period 3	Anopsilana jonesi	result_m3	8	0.01	0.10	0.01	0.01	0.05	0.03	0.00	0.03	0.03	0.01	0.03
Downstream	Period 3	cladocerans, Daphnia spp.	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Downstream	Period 3	Cassidinidea ovalis	result_m3	15	0.01	0.06	0.01	0.01	0.03	0.02	0.00	0.02	0.02	0.00	0.01
Downstream	Period 3	Menidia spp. preflexion larvae	result_m3	12	0.01	0.07	0.01	0.01	0.03	0.01	0.00	0.02	0.02	0.00	0.01
Downstream	Period 3	Opsanus beta juveniles	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Downstream	Period 3	Cyclops sp.	result_m3	2	0.01	0.03	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.08
Downstream	Period 3	unidentified freshwater cyclopoids	result_m3	3	0.01	0.03	0.02	0.02	0.03	0.01	0.00	0.02	0.01	0.00	0.02
Downstream	Period 3	lepidopterans, pyralid larvae	result_m3	3	0.01	0.03	0.01	0.01	0.02	0.01	0.00	0.02	0.01	0.00	0.02
Downstream	Period 3	Diaptomus sp.	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 3	Gambusia holbrooki juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 3	Gobiosoma robustum juveniles	result_m3	2	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01
Downstream	Period 3	Macrocyclops albidus	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 3	hemipterans, belostomatid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 3	trichopteran larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN

DRAFT

Downstream	Period 3	Fundulus spp. postflexion larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 3	Labidesthes sicculus preflexion larvae	result_m3	2	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01
Downstream	Period 3	Lepomis macrochirus juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 3	Lucania goodei postflexion larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 3	Labidesthes sicculus juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 2	xanthid juveniles	result_m3	9	0.01	3.02	0.03	0.01	0.03	0.02	0.02	0.36	1.00	0.33	0.77
Downstream	Period 2	Cyclops sp.	result_m3	16	0.01	2.03	0.03	0.01	0.15	0.14	0.02	0.26	0.56	0.14	0.30
Downstream	Period 2	nematodes	result_m3	15	0.01	1.07	0.02	0.01	0.04	0.02	0.01	0.11	0.27	0.07	0.15
Downstream	Period 2	Gobiosoma bosc juveniles	result_m3	3	0.01	0.13	0.03	0.02	0.08	0.06	0.02	0.06	0.06	0.04	0.16
Downstream	Period 2	Gobiosoma robustum juveniles	result_m3	21	0.01	0.34	0.01	0.01	0.04	0.03	0.00	0.05	0.09	0.02	0.04
Downstream	Period 2	dipteran, Chaoborus punctipennis larvae	result_m3	7	0.01	0.14	0.03	0.02	0.07	0.05	0.02	0.05	0.05	0.02	0.05
Downstream	Period 2	oligochaetes	result_m3	15	0.01	0.26	0.03	0.01	0.04	0.03	0.02	0.05	0.07	0.02	0.04
Downstream	Period 2	Menidia spp. juveniles	result_m3	4	0.01	0.07	0.03	0.01	0.05	0.04	0.03	0.04	0.03	0.01	0.05
Downstream	Period 2	dipterans, chironomid larvae	result_m3	16	0.01	0.12	0.02	0.01	0.05	0.04	0.01	0.03	0.03	0.01	0.02
Downstream	Period 2	Menidia spp. preflexion larvae	result_m3	18	0.01	0.11	0.01	0.01	0.04	0.03	0.00	0.03	0.03	0.01	0.01
Downstream	Period 2	Microgobius gulosus juveniles	result_m3	10	0.01	0.06	0.01	0.01	0.03	0.01	0.00	0.03	0.02	0.00	0.01
Downstream	Period 2	Cassidinidea ovalis	result_m3	19	0.01	0.07	0.01	0.01	0.03	0.01	0.00	0.02	0.02	0.00	0.01
Downstream	Period 2	Anopsilana jonesi	result_m3	9	0.01	0.07	0.02	0.01	0.03	0.01	0.01	0.02	0.02	0.01	0.01
Downstream	Period 2	gobiid eggs	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Downstream	Period 2	Diaptomus sp.	result_m3	7	0.01	0.05	0.01	0.01	0.03	0.01	0.00	0.02	0.01	0.00	0.01
Downstream	Period 2	Microgobius gulosus adults	result_m3	2	0.01	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.02
Downstream	Period 2	Gambusia holbrooki juveniles	result_m3	2	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.02
Downstream	Period 2	Ilyocryptus sp.	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 2	Syngnathus scovelli adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 2	coleopterans, curculionid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 1	coleopterans, curculionid adults	result_m3	1	0.26	0.26	0.26	0.26	0.26	0.00	0.00	0.26	NA	NA	NaN
Downstream	Period 1	Leiostomus xanthurus juveniles	result_m3	3	0.01	0.42	0.27	0.14	0.34	0.20	0.22	0.23	0.21	0.12	0.51
Downstream	Period 1	Gobiosoma bosc juveniles	result_m3	6	0.01	1.04	0.01	0.01	0.05	0.04	0.00	0.19	0.42	0.17	0.44
Downstream	Period 1	dipterans, chironomid larvae	result_m3	5	0.01	0.37	0.01	0.01	0.02	0.01	0.00	0.09	0.16	0.07	0.20
Downstream	Period 1	Anopsilana jonesi	result_m3	1	0.08	0.08	0.08	0.08	0.08	0.00	0.00	0.08	NA	NA	NaN
Downstream	Period 1	Gobiosoma robustum juveniles	result_m3	21	0.01	0.49	0.03	0.01	0.07	0.06	0.02	0.06	0.11	0.02	0.05
Downstream	Period 1	Microgobius gulosus adults	result_m3	3	0.03	0.11	0.03	0.03	0.07	0.04	0.01	0.06	0.05	0.03	0.12
Downstream	Period 1	Cyclops sp.	result_m3	1	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	NA	NA	NaN
Downstream	Period 1	Mesocyclops edax	result_m3	2	0.03	0.04	0.04	0.03	0.04	0.01	0.01	0.04	0.01	0.01	0.10
Downstream	Period 1	Microgobius gulosus juveniles	result_m3	4	0.01	0.07	0.03	0.02	0.05	0.03	0.02	0.04	0.02	0.01	0.04
Downstream	Period 1	Opsanus beta juveniles	result_m3	7	0.01	0.10	0.01	0.01	0.04	0.03	0.00	0.03	0.03	0.01	0.03
Downstream	Period 1	Strongylura spp. postflexion larvae	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Downstream	Period 1	Cassidinidea ovalis	result_m3	6	0.01	0.06	0.01	0.01	0.04	0.03	0.00	0.03	0.02	0.01	0.02
Downstream	Period 1	Syngnathus scovelli adults	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Downstream	Period 1	Menidia spp. juveniles	result_m3	9	0.01	0.03	0.01	0.01	0.03	0.01	0.01	0.02	0.01	0.00	0.01
Downstream	Period 1	oligochaetes	result_m3	3	0.01	0.02	0.01	0.01	0.02	0.01	0.00	0.02	0.01	0.00	0.02
Downstream	Period 1	Menidia spp. preflexion larvae	result_m3	4	0.01	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.01
Downstream	Period 1	Fundulus spp. postflexion larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 1	Acari	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 1	Fundulus seminolis postflexion larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 1	Gobiosoma bosc adults	result_m3	2	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Downstream	Period 1	xanthid juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Downstream	Period 1	coleopterans, dytiscid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 5	dipterans, chironomid larvae	result_m3	10	0.02	1103.42	0.13	0.05	211.67	211.61	0.16	219.63	391.47	123.79	280.04
Lower	Period 5	Menidia spp. preflexion larvae	result_m3	2	53.83	75.66	64.74	59.28	70.20	10.91	16.18	64.74	15.44	10.91	138.69
Lower	Period 5	Gobiosoma bosc juveniles	result_m3	2	26.91	50.44	38.67	32.79	44.56	11.76	17.44	38.67	16.64	11.76	149.46
Lower	Period 5	Mesocyclops edax	result_m3	1	25.22	25.22	25.22	25.22	25.22	0.00	0.00	25.22	NA	NA	NaN
Lower	Period 5	Cassidinidea ovalis	result_m3	5	0.02	25.22	0.03	0.03	0.03	0.00	0.00	5.07	11.27	5.04	13.99
Lower	Period 5	nematodes	result_m3	1	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.18	NA	NA	NaN
Lower	Period 5	Taphromysis bowmani	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Lower	Period 5	odonates, zygopteran larvae	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Lower	Period 5	Cyclops sp.	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN

Lower	Period 5	coleopterans, curculionid adults	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Lower	Period 4	Menidia spp. preflexion larvae	result_m3	4	0.04	0.11	0.07	0.04	0.09	0.05	0.04	0.07	0.03	0.02	0.05
Lower	Period 4	nematodes	result_m3	3	0.01	0.11	0.03	0.02	0.07	0.05	0.02	0.05	0.05	0.03	0.13
Lower	Period 4	Cassidinidea ovalis	result_m3	4	0.03	0.07	0.03	0.03	0.05	0.02	0.01	0.04	0.02	0.01	0.04
Lower	Period 4	dipterans, chironomid larvae	result_m3	7	0.01	0.04	0.04	0.01	0.04	0.03	0.00	0.03	0.01	0.00	0.01
Lower	Period 4	ephemeropteran larvae	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Lower	Period 4	Mesocyclops edax	result_m3	2	0.01	0.02	0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.07
Lower	Period 4	Taphromysis bowmani	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 4	Diaptomus sp.	result_m3	2	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Lower	Period 4	Menidia spp. juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 4	hemipterans, belostomatid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 4	unidentified freshwater cyclopoids	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 3	oligochaetes	result_m3	3	0.03	0.34	0.19	0.11	0.26	0.16	0.22	0.18	0.16	0.09	0.38
Lower	Period 3	Diaphanosoma brachyurum	result_m3	2	0.12	0.18	0.15	0.13	0.17	0.03	0.05	0.15	0.05	0.03	0.43
Lower	Period 3	Ilyocryptus sp.	result_m3	1	0.12	0.12	0.12	0.12	0.12	0.00	0.00	0.12	NA	NA	NaN
Lower	Period 3	Cyclops sp.	result_m3	1	0.09	0.09	0.09	0.09	0.09	0.00	0.00	0.09	NA	NA	NaN
Lower	Period 3	nematodes	result_m3	4	0.01	0.16	0.03	0.01	0.08	0.06	0.03	0.06	0.07	0.03	0.11
Lower	Period 3	Leydigia sp.	result_m3	2	0.04	0.06	0.05	0.05	0.06	0.01	0.01	0.05	0.01	0.01	0.11
Lower	Period 3	dipterans, chironomid larvae	result_m3	12	0.01	0.19	0.04	0.01	0.07	0.06	0.03	0.05	0.05	0.01	0.03
Lower	Period 3	Macrocyclops albidus	result_m3	5	0.01	0.09	0.04	0.04	0.07	0.03	0.04	0.05	0.03	0.01	0.04
Lower	Period 3	odonates, zygopteran larvae	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Lower	Period 3	Mesocyclops edax	result_m3	2	0.01	0.07	0.04	0.03	0.06	0.03	0.04	0.04	0.04	0.03	0.34
Lower	Period 3	Menidia spp. juveniles	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Lower	Period 3	unidentified freshwater cyclopoids	result_m3	4	0.01	0.10	0.02	0.01	0.05	0.03	0.01	0.04	0.04	0.02	0.07
Lower	Period 3	Cassidinidea ovalis	result_m3	15	0.01	0.13	0.03	0.01	0.04	0.02	0.02	0.04	0.03	0.01	0.02
Lower	Period 3	Diaptomus sp.	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Lower	Period 3	dipterans, stratiomyid larvae	result_m3	2	0.03	0.04	0.04	0.03	0.04	0.00	0.01	0.04	0.01	0.00	0.06
Lower	Period 3	dipteran, Chaoborus punctipennis larvae	result_m3	10	0.01	0.06	0.03	0.01	0.05	0.04	0.02	0.03	0.02	0.01	0.02
Lower	Period 3	Menidia spp. preflexion larvae	result_m3	5	0.01	0.06	0.02	0.01	0.05	0.04	0.02	0.03	0.02	0.01	0.03
Lower	Period 3	coleopterans, gyrinid larvae	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Lower	Period 3	dipterans, ephydrid larvae	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Lower	Period 3	coleopterans, scirtid larvae	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Lower	Period 3	hemipterans, corixid adults	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Lower	Period 3	Anopsilana jonesi	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Lower	Period 3	coleopterans, elmid larvae	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Lower	Period 3	lepidopterans, pyralid larvae	result_m3	4	0.01	0.04	0.02	0.01	0.03	0.01	0.01	0.02	0.01	0.01	0.02
Lower	Period 3	Gambusia holbrooki juveniles	result_m3	3	0.01	0.03	0.01	0.01	0.02	0.01	0.00	0.02	0.01	0.00	0.01
Lower	Period 3	hemipterans, pleid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 3	Gobiosoma bosc juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 3	Heterandria formosa juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 3	Microgobius gulosus juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 3	Eurytemora affinis	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 3	coleopterans, noterid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 3	Gobiosoma robustum juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 2	Diaptomus sp.	result_m3	6	0.01	5.53	0.02	0.01	2.03	2.02	0.01	1.38	2.30	0.94	2.41
Lower	Period 2	Cyclops sp.	result_m3	8	0.01	5.39	0.03	0.01	0.16	0.15	0.02	0.74	1.88	0.66	1.57
Lower	Period 2	Gobiosoma robustum juveniles	result_m3	7	0.01	1.62	0.02	0.01	0.54	0.53	0.01	0.40	0.66	0.25	0.61
Lower	Period 2	Taphromysis bowmani	result_m3	1	0.15	0.15	0.15	0.15	0.15	0.00	0.00	0.15	NA	NA	NaN
Lower	Period 2	dipteran, Chaoborus punctipennis larvae	result_m3	6	0.01	0.11	0.06	0.05	0.07	0.02	0.02	0.06	0.03	0.01	0.03
Lower	Period 2	Cassidinidea ovalis	result_m3	13	0.01	0.19	0.04	0.03	0.07	0.04	0.04	0.06	0.05	0.01	0.03
Lower	Period 2	Menidia spp. preflexion larvae	result_m3	6	0.01	0.11	0.04	0.03	0.07	0.04	0.04	0.05	0.03	0.01	0.04
Lower	Period 2	dipterans, chironomid larvae	result_m3	11	0.01	0.13	0.05	0.03	0.05	0.03	0.03	0.05	0.04	0.01	0.03
Lower	Period 2	Acari	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Lower	Period 2	Anopsilana jonesi	result_m3	2	0.03	0.05	0.04	0.03	0.04	0.01	0.01	0.04	0.01	0.01	0.12
Lower	Period 2	Microgobius gulosus juveniles	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Lower	Period 2	Menidia spp. juveniles	result_m3	2	0.01	0.04	0.03	0.02	0.04	0.01	0.02	0.03	0.02	0.01	0.18
Lower	Period 2	Lucania parva juveniles	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN

DRAFT

Lower	Period 2	nematodes	result_m3	3	0.01	0.03	0.03	0.02	0.03	0.01	0.00	0.03	0.01	0.01	0.03
Lower	Period 2	oligochaetes	result_m3	2	0.01	0.03	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.09
Lower	Period 2	xanthid juveniles	result_m3	2	0.02	0.02	0.02	0.02	0.02	0.00	0.01	0.02	0.01	0.00	0.05
Lower	Period 2	Gobiosoma bosc juveniles	result_m3	3	0.01	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Lower	Period 2	Ictalurus punctatus juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 2	Mesocyclops edax	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 2	Poecilia latipinna juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 2	anuran larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 2	lepidopterans, pyralid larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 2	coleopterans, curculionid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 2	hemipterans, gerrid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 2	trichopteran larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 2	Gambusia holbrooki juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 1	Menidia spp. juveniles	result_m3	7	0.01	0.70	0.09	0.01	0.13	0.12	0.11	0.16	0.24	0.09	0.23
Lower	Period 1	Gobiosoma bosc juveniles	result_m3	2	0.04	0.22	0.13	0.09	0.18	0.09	0.13	0.13	0.13	0.09	1.14
Lower	Period 1	Diaptomus sp.	result_m3	2	0.06	0.20	0.13	0.10	0.16	0.07	0.10	0.13	0.10	0.07	0.88
Lower	Period 1	Anopsilana jonesi	result_m3	2	0.01	0.11	0.06	0.04	0.08	0.05	0.07	0.06	0.07	0.05	0.60
Lower	Period 1	Poecilia latipinna juveniles	result_m3	4	0.01	0.11	0.05	0.03	0.07	0.04	0.04	0.06	0.04	0.02	0.06
Lower	Period 1	Microgobius gulosus juveniles	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Lower	Period 1	Cyclops sp.	result_m3	2	0.01	0.07	0.04	0.03	0.05	0.03	0.04	0.04	0.04	0.03	0.35
Lower	Period 1	Gobiosoma robustum juveniles	result_m3	4	0.01	0.06	0.01	0.01	0.03	0.01	0.00	0.03	0.03	0.01	0.04
Lower	Period 1	Gambusia holbrooki juveniles	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Lower	Period 1	odonates, zygopteran larvae	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Lower	Period 1	Menidia spp. preflexion larvae	result_m3	2	0.01	0.02	0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.07
Lower	Period 1	dipterans, ceratopogonid larvae	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Lower	Period 1	dipterans, chironomid larvae	result_m3	8	0.01	0.03	0.01	0.01	0.02	0.00	0.00	0.01	0.00	0.00	0.00
Lower	Period 1	Heterandria formosa juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 1	Lucania parva juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 1	dipterans, stratiomyid larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 1	Gambusia holbrooki adults	result_m3	2	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Lower	Period 1	Tilapia melanotheron juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 1	coleopterans, dytiscid larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Lower	Period 1	Fundulus seminolis postflexion larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 5	dipterans, chironomid larvae	result_m3	11	0.02	888.24	0.12	0.03	36.84	36.81	0.15	140.01	301.64	90.95	202.64
Middle	Period 5	Menidia spp. preflexion larvae	result_m3	1	96.69	96.69	96.69	96.69	96.69	0.00	0.00	96.69	NA	NA	NaN
Middle	Period 5	Mesocyclops edax	result_m3	2	24.75	120.87	72.81	48.78	96.84	48.06	71.25	72.81	67.96	48.06	610.61
Middle	Period 5	ephemeropteran larvae	result_m3	1	49.51	49.51	49.51	49.51	49.51	0.00	0.00	49.51	NA	NA	NaN
Middle	Period 5	Cassidinidea ovalis	result_m3	5	0.03	72.52	0.07	0.06	49.51	49.45	0.07	24.44	34.37	15.37	42.67
Middle	Period 5	Menidia spp. juveniles	result_m3	1	24.17	24.17	24.17	24.17	24.17	0.00	0.00	24.17	NA	NA	NaN
Middle	Period 5	dipteran, Chaoborus punctipennis larvae	result_m3	1	24.17	24.17	24.17	24.17	24.17	0.00	0.00	24.17	NA	NA	NaN
Middle	Period 5	Gobiosoma robustum juveniles	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Middle	Period 5	hemipterans, corixid adults	result_m3	2	0.03	0.04	0.03	0.03	0.04	0.00	0.00	0.03	0.00	0.00	0.04
Middle	Period 5	Microgobius gulosus juveniles	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Middle	Period 5	hemipterans, gerrid adults	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Middle	Period 5	nematodes	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Middle	Period 5	oligochaetes	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Middle	Period 4	Mesocyclops edax	result_m3	2	0.10	0.13	0.11	0.10	0.12	0.02	0.03	0.11	0.03	0.02	0.22
Middle	Period 4	unidentified freshwater cyclopoids	result_m3	3	0.03	0.07	0.04	0.03	0.06	0.03	0.02	0.04	0.03	0.01	0.06
Middle	Period 4	Cassidinidea ovalis	result_m3	9	0.01	0.07	0.04	0.03	0.04	0.02	0.02	0.04	0.02	0.01	0.01
Middle	Period 4	Menidia spp. preflexion larvae	result_m3	5	0.01	0.07	0.02	0.02	0.04	0.01	0.02	0.03	0.02	0.01	0.03
Middle	Period 4	dipterans, chironomid larvae	result_m3	8	0.01	0.06	0.02	0.01	0.04	0.03	0.01	0.03	0.02	0.01	0.02
Middle	Period 4	Anopsilana jonesi	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Middle	Period 4	Menidia spp. juveniles	result_m3	2	0.01	0.03	0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.09
Middle	Period 4	Gambusia holbrooki juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 4	Diaptomus sp.	result_m3	2	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Middle	Period 4	Lepomis macrochirus juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 4	Lucania parva juveniles	result_m3	2	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00

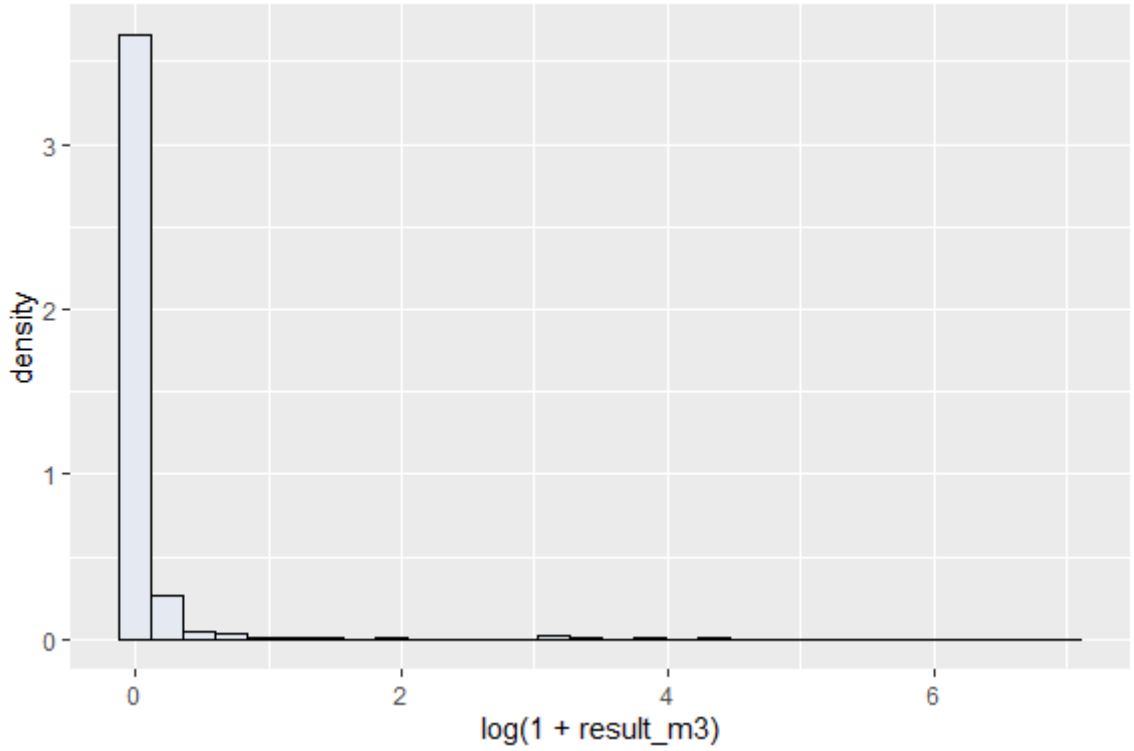
DRAFT

Middle	Period 4	Micropterus salmoides juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 4	lepidopterans, pyralid larvae	result_m3	2	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Middle	Period 4	trichopteran larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 4	coleopterans, elmid larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 3	Diaphanosoma brachyurum	result_m3	1	0.44	0.44	0.44	0.44	0.44	0.00	0.00	0.44	NA	NA	NaN
Middle	Period 3	oligochaetes	result_m3	3	0.04	0.13	0.12	0.08	0.12	0.04	0.01	0.10	0.05	0.03	0.12
Middle	Period 3	Cassidinidea ovalis	result_m3	26	0.01	0.13	0.04	0.03	0.09	0.06	0.04	0.06	0.04	0.01	0.02
Middle	Period 3	Anopsilana jonesi	result_m3	2	0.05	0.06	0.05	0.05	0.06	0.00	0.00	0.05	0.00	0.00	0.03
Middle	Period 3	dipterans, chironomid larvae	result_m3	15	0.01	0.27	0.03	0.01	0.04	0.02	0.02	0.05	0.07	0.02	0.04
Middle	Period 3	Menidia spp. preflexion larvae	result_m3	3	0.03	0.06	0.04	0.04	0.05	0.01	0.02	0.04	0.01	0.01	0.03
Middle	Period 3	Macrocyclops albidus	result_m3	2	0.02	0.05	0.04	0.03	0.04	0.01	0.02	0.04	0.02	0.01	0.14
Middle	Period 3	coleopterans, gyrinid larvae	result_m3	2	0.01	0.05	0.03	0.02	0.04	0.02	0.03	0.03	0.03	0.02	0.23
Middle	Period 3	Gambusia holbrooki juveniles	result_m3	2	0.02	0.04	0.03	0.02	0.04	0.01	0.02	0.03	0.02	0.01	0.17
Middle	Period 3	coleopterans, noterid adults	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Middle	Period 3	cladocerans, Daphnia spp.	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Middle	Period 3	coleopterans, noterid larvae	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Middle	Period 3	dipteran, Chaoborus punctipennis larvae	result_m3	4	0.01	0.05	0.02	0.01	0.03	0.02	0.01	0.03	0.02	0.01	0.03
Middle	Period 3	nematodes	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Middle	Period 3	coleopterans, haliplid larvae	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Middle	Period 3	Diaptomus sp.	result_m3	4	0.01	0.03	0.02	0.02	0.03	0.00	0.00	0.02	0.01	0.00	0.01
Middle	Period 3	Cyclops sp.	result_m3	4	0.01	0.04	0.01	0.01	0.02	0.01	0.00	0.02	0.01	0.01	0.02
Middle	Period 3	hemipterans, corixid adults	result_m3	2	0.01	0.03	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.08
Middle	Period 3	coleopterans, elmid adults	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Middle	Period 3	lepidopterans, pyralid larvae	result_m3	4	0.01	0.03	0.02	0.01	0.02	0.00	0.00	0.02	0.01	0.00	0.01
Middle	Period 3	odonates, zygopteran larvae	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Middle	Period 3	dipterans, stratiomyid larvae	result_m3	2	0.01	0.02	0.01	0.01	0.02	0.00	0.00	0.01	0.00	0.00	0.03
Middle	Period 3	hemipterans, pleid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 3	Lucania parva juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 3	Lepomis punctatus juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 3	trichopteran larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 3	hemipterans, belostomatid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 3	hemipterans, gerrid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 2	Diaptomus sp.	result_m3	4	0.01	0.51	0.02	0.01	0.15	0.14	0.01	0.14	0.25	0.12	0.39
Middle	Period 2	dipterans, chironomid larvae	result_m3	19	0.01	0.52	0.02	0.01	0.06	0.04	0.01	0.09	0.14	0.03	0.07
Middle	Period 2	Gobiosoma robustum juveniles	result_m3	4	0.01	0.14	0.09	0.05	0.13	0.08	0.06	0.08	0.06	0.03	0.10
Middle	Period 2	Cassidinidea ovalis	result_m3	26	0.01	0.76	0.03	0.01	0.09	0.07	0.03	0.08	0.15	0.03	0.06
Middle	Period 2	dipteran, Chaoborus punctipennis larvae	result_m3	5	0.01	0.12	0.10	0.05	0.11	0.06	0.03	0.08	0.04	0.02	0.06
Middle	Period 2	Menidia spp. preflexion larvae	result_m3	24	0.01	0.56	0.04	0.02	0.09	0.07	0.03	0.08	0.12	0.02	0.05
Middle	Period 2	hemipterans, gerrid adults	result_m3	3	0.04	0.10	0.09	0.06	0.09	0.03	0.01	0.07	0.03	0.02	0.07
Middle	Period 2	Microgobius gulosus juveniles	result_m3	1	0.06	0.06	0.06	0.06	0.06	0.00	0.00	0.06	NA	NA	NaN
Middle	Period 2	Menidia spp. juveniles	result_m3	7	0.01	0.18	0.03	0.01	0.06	0.05	0.02	0.05	0.06	0.02	0.06
Middle	Period 2	gobiid eggs	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Middle	Period 2	Cyclops sp.	result_m3	7	0.01	0.06	0.03	0.01	0.04	0.03	0.03	0.03	0.02	0.01	0.02
Middle	Period 2	nematodes	result_m3	4	0.01	0.04	0.03	0.02	0.04	0.03	0.02	0.03	0.02	0.01	0.03
Middle	Period 2	Mesocyclops edax	result_m3	2	0.01	0.04	0.03	0.02	0.03	0.01	0.02	0.03	0.02	0.01	0.16
Middle	Period 2	cladocerans, Daphnia spp.	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Middle	Period 2	Anopsilana jonesi	result_m3	9	0.01	0.06	0.01	0.01	0.03	0.01	0.00	0.02	0.02	0.00	0.01
Middle	Period 2	Gambusia holbrooki adults	result_m3	3	0.01	0.04	0.01	0.01	0.03	0.02	0.00	0.02	0.02	0.01	0.05
Middle	Period 2	Simocephalus vetulus	result_m3	1	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	NA	NA	NaN
Middle	Period 2	Gambusia holbrooki juveniles	result_m3	5	0.01	0.06	0.01	0.01	0.01	0.00	0.00	0.02	0.02	0.01	0.02
Middle	Period 2	Tilapia melanotheron juveniles	result_m3	2	0.01	0.03	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.08
Middle	Period 2	ephemeropteran larvae	result_m3	4	0.01	0.03	0.01	0.01	0.02	0.00	0.00	0.02	0.01	0.00	0.01
Middle	Period 2	dipterans, stratiomyid larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 2	hemipterans, pleid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 2	Acari	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 2	Lucania parva juveniles	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 2	oligochaetes	result_m3	6	0.01	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00

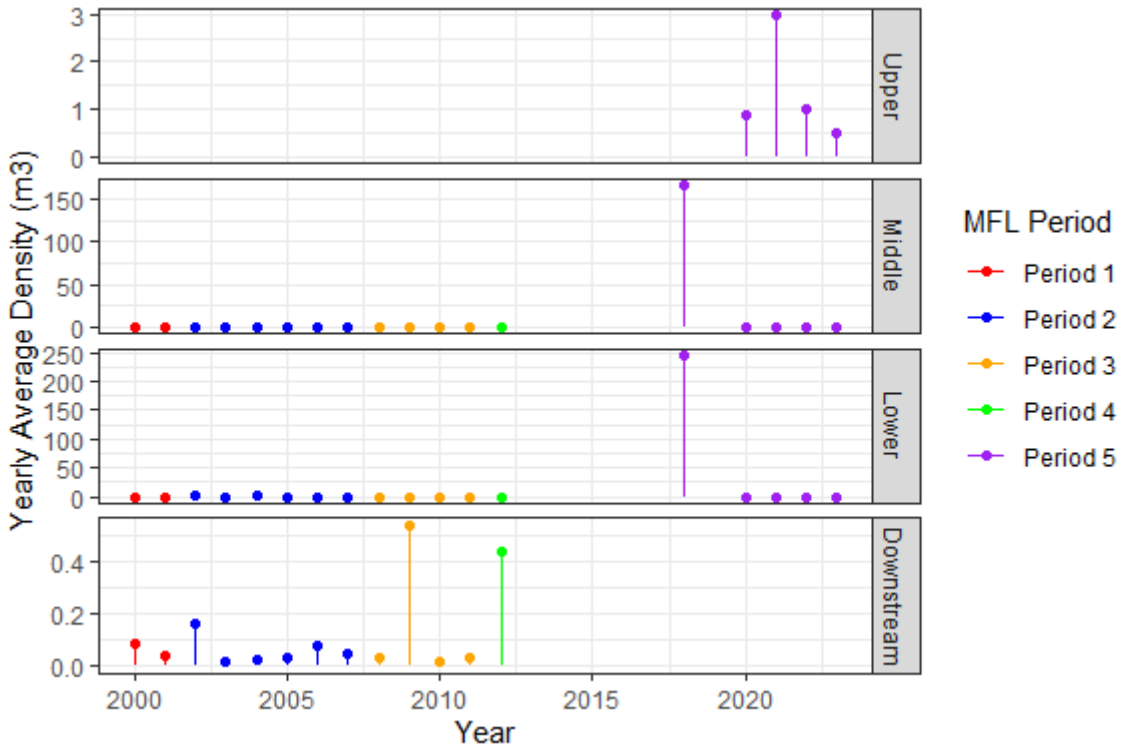
Middle	Period 2	Dorosoma spp. preflexion larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 2	Macrocyclops albidus	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 2	Orthocyclops modestus	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 2	coleopterans, curculionid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 2	odonates, zygopteran larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 2	trichopteran larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 1	Cyclops sp.	result_m3	4	0.01	0.71	0.04	0.01	0.22	0.21	0.03	0.20	0.34	0.17	0.54
Middle	Period 1	Gambusia holbrooki adults	result_m3	6	0.01	1.06	0.03	0.02	0.04	0.02	0.02	0.20	0.42	0.17	0.44
Middle	Period 1	Menidia spp. juveniles	result_m3	9	0.01	0.62	0.12	0.01	0.21	0.20	0.16	0.16	0.20	0.06	0.15
Middle	Period 1	Microgobius gulosus juveniles	result_m3	1	0.08	0.08	0.08	0.08	0.08	0.00	0.00	0.08	NA	NA	NaN
Middle	Period 1	Diaptomus sp.	result_m3	3	0.01	0.20	0.03	0.02	0.11	0.09	0.02	0.08	0.10	0.06	0.25
Middle	Period 1	Gambusia holbrooki juveniles	result_m3	7	0.01	0.41	0.02	0.01	0.03	0.02	0.01	0.07	0.15	0.06	0.14
Middle	Period 1	Tilapia melanotheron juveniles	result_m3	1	0.06	0.06	0.06	0.06	0.06	0.00	0.00	0.06	NA	NA	NaN
Middle	Period 1	Mesocyclops edax	result_m3	2	0.01	0.09	0.05	0.03	0.07	0.04	0.06	0.05	0.06	0.04	0.51
Middle	Period 1	Gobiosoma robustum juveniles	result_m3	5	0.01	0.14	0.02	0.01	0.05	0.03	0.01	0.05	0.06	0.03	0.07
Middle	Period 1	dipteran, Chaoborus punctipennis larvae	result_m3	2	0.02	0.06	0.04	0.03	0.05	0.02	0.02	0.04	0.02	0.02	0.20
Middle	Period 1	Menidia spp. preflexion larvae	result_m3	8	0.01	0.13	0.01	0.01	0.03	0.01	0.00	0.03	0.04	0.01	0.04
Middle	Period 1	Gobiosoma bosc juveniles	result_m3	4	0.01	0.05	0.03	0.01	0.04	0.03	0.02	0.03	0.02	0.01	0.03
Middle	Period 1	Poecilia latipinna juveniles	result_m3	3	0.01	0.04	0.04	0.03	0.04	0.01	0.00	0.03	0.01	0.01	0.04
Middle	Period 1	Orthocyclops modestus	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Middle	Period 1	dipterans, chironomid larvae	result_m3	4	0.01	0.04	0.01	0.01	0.02	0.01	0.00	0.02	0.01	0.01	0.02
Middle	Period 1	Microgobius gulosus adults	result_m3	2	0.01	0.02	0.02	0.01	0.02	0.00	0.00	0.02	0.00	0.00	0.02
Middle	Period 1	Anopsilana jonesi	result_m3	2	0.01	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01
Middle	Period 1	Simocephalus vetulus	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 1	coleopterans, dytiscid adults	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 1	Cassidinidea ovalis	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Middle	Period 1	Lucania parva juveniles	result_m3	2	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Middle	Period 1	odonates, zygopteran larvae	result_m3	1	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	NA	NA	NaN
Upper	Period 5	Cassidinidea ovalis	result_m3	10	0.09	23.43	1.75	0.32	3.93	3.62	2.26	4.21	7.12	2.25	5.09
Upper	Period 5	dipterans, chironomid larvae	result_m3	6	0.04	6.42	0.08	0.07	0.90	0.84	0.04	1.31	2.54	1.04	2.67
Upper	Period 5	Mesocyclops edax	result_m3	3	0.04	0.88	0.14	0.09	0.51	0.42	0.15	0.35	0.46	0.27	1.15
Upper	Period 5	trichopteran larvae	result_m3	2	0.04	0.40	0.22	0.13	0.31	0.18	0.27	0.22	0.25	0.18	2.29
Upper	Period 5	hemipterans, gerrid adults	result_m3	5	0.04	0.16	0.14	0.05	0.16	0.11	0.04	0.11	0.06	0.03	0.07
Upper	Period 5	Anopsilana jonesi	result_m3	2	0.08	0.13	0.11	0.09	0.12	0.02	0.04	0.11	0.03	0.02	0.30
Upper	Period 5	xanthid juveniles	result_m3	1	0.09	0.09	0.09	0.09	0.09	0.00	0.00	0.09	NA	NA	NaN
Upper	Period 5	ephemeropteran larvae	result_m3	2	0.06	0.07	0.06	0.06	0.07	0.01	0.01	0.06	0.01	0.01	0.10
Upper	Period 5	Gobiosoma bosc juveniles	result_m3	2	0.03	0.06	0.04	0.04	0.05	0.01	0.02	0.04	0.02	0.01	0.17
Upper	Period 5	coleopterans, dytiscid adults	result_m3	1	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.04	NA	NA	NaN
Upper	Period 5	Acari	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Upper	Period 5	Ilyocryptus sp.	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Upper	Period 5	dipterans, stratiomyid larvae	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Upper	Period 5	odonates, zygopteran larvae	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Upper	Period 5	Gambusia holbrooki juveniles	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Upper	Period 5	Simocephalus vetulus	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Upper	Period 5	dipteran, Chaoborus punctipennis larvae	result_m3	3	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	0.00	0.00	0.00
Upper	Period 5	coleopterans, curculionid adults	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Upper	Period 5	lepidopterans, pyralid larvae	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Upper	Period 5	oligochaetes	result_m3	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN

3.2.2 FIGURES

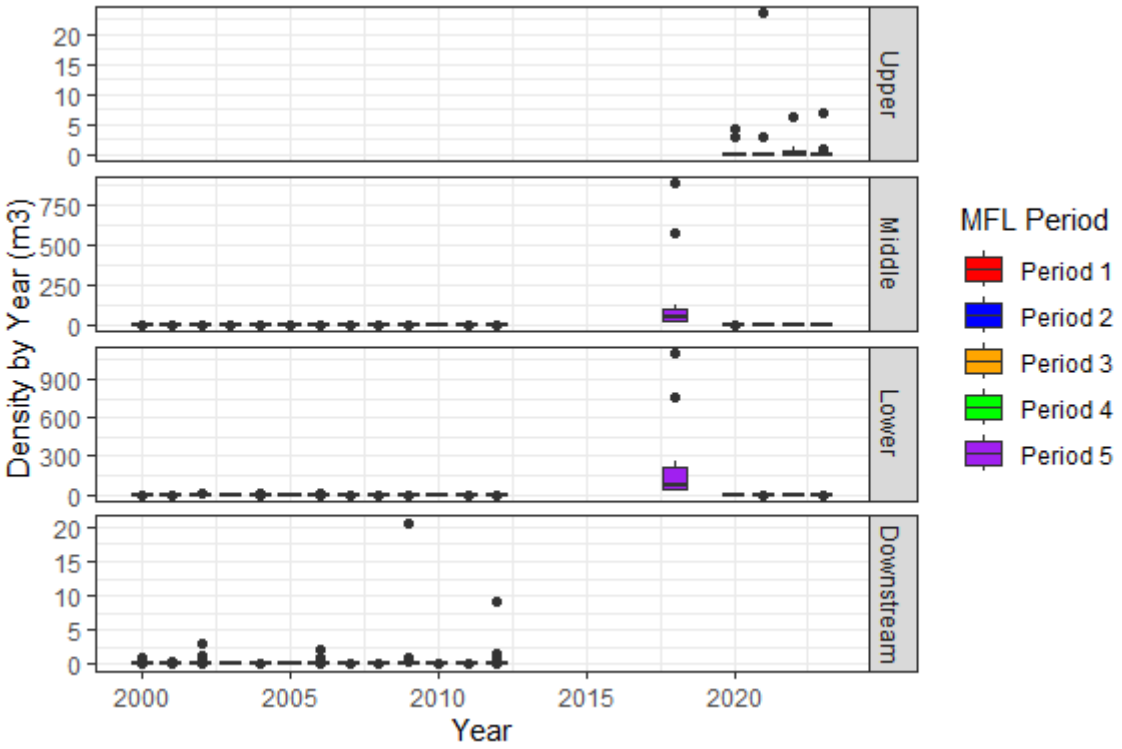
3.2.2.1 Histogram of species density



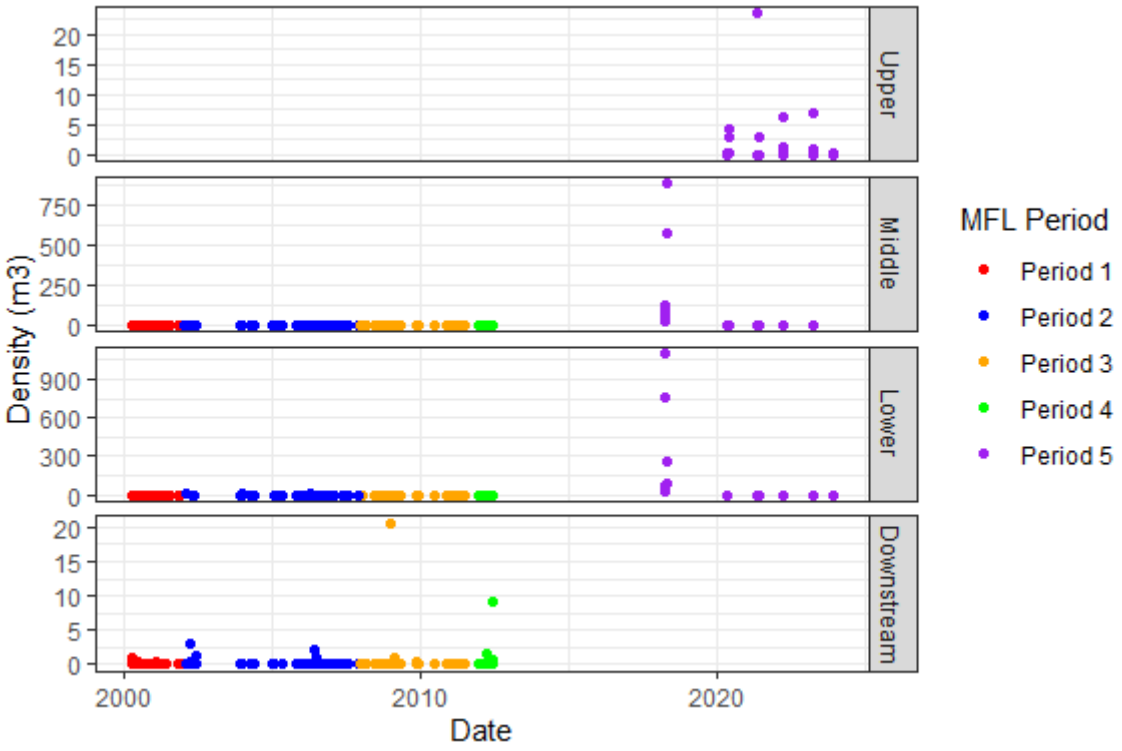
3.2.2.2 Average density over time, grouped by year of sampling.



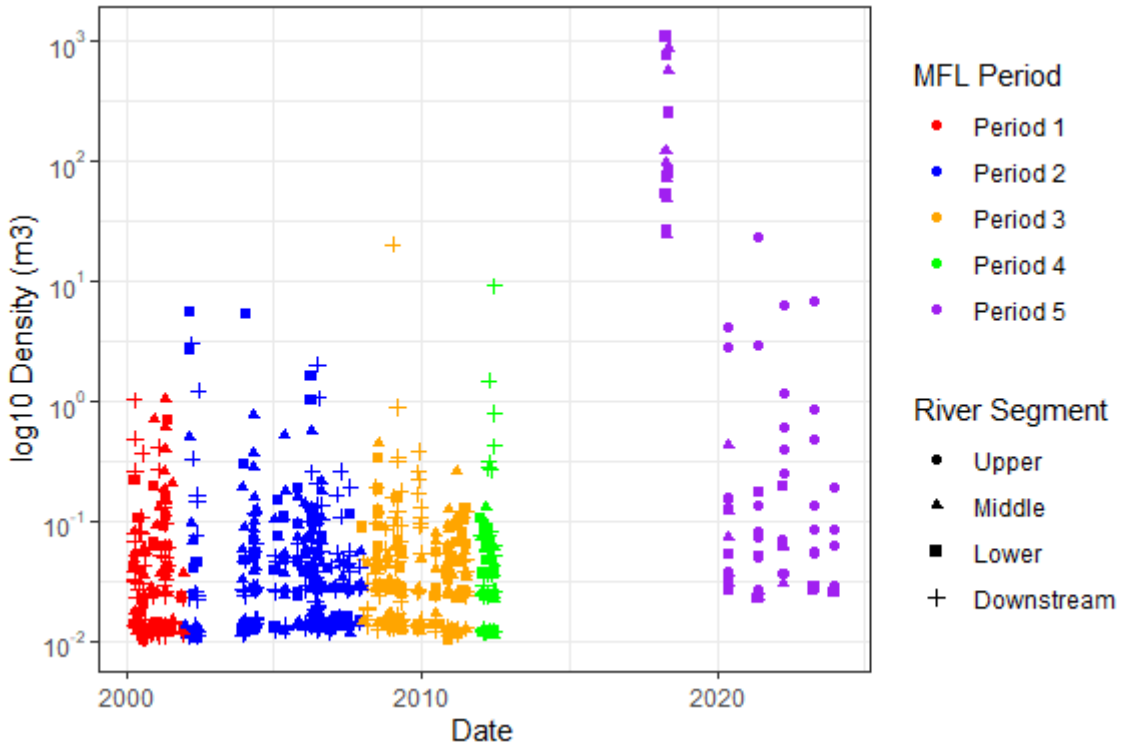
3.2.2.3 Boxplots of individual densities, grouped by year, by MFL period and river segment.



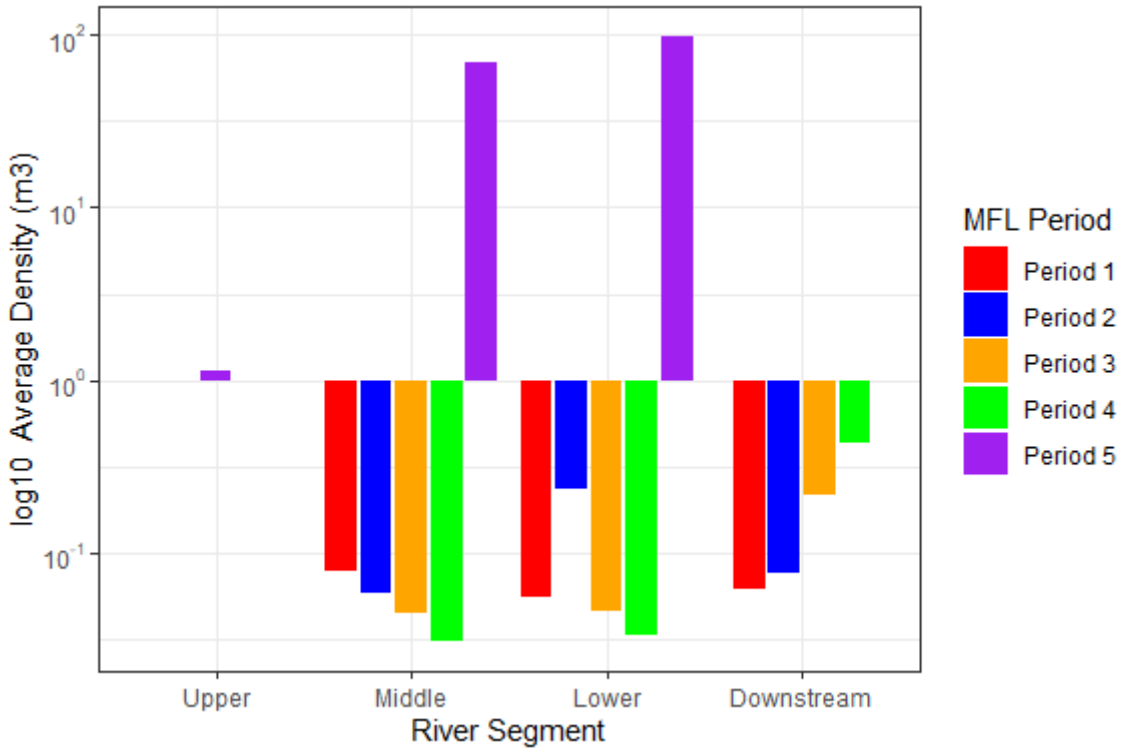
3.2.2.4 Density of individuals by MFL period and river segment.



3.2.2.5 Density of individuals by river segment and MFL period.



3.2.2.6 Density by MFL period and river segment.



3.3 DIVERSITY

3.3.1 TABLES

3.3.1.1 Table 5.3.1 Zooplankton diversity by Site

Site	River Segment	MFL Period	Date	Shan_div
HR100749	Downstream	Period 1	2000-04-12	0.00
HR100749	Downstream	Period 1	2000-08-09	0.00
HR100749	Downstream	Period 1	2001-02-06	0.00
HR100749	Downstream	Period 2	2003-12-09	0.00
HR100749	Downstream	Period 2	2005-01-20	0.00
HR100749	Downstream	Period 2	2006-01-25	0.00
HR100749	Downstream	Period 2	2006-05-24	0.00
HR100749	Downstream	Period 2	2006-07-06	0.00
HR100749	Downstream	Period 2	2007-05-10	0.00
HR100749	Downstream	Period 2	2007-06-27	0.00
HR100749	Downstream	Period 3	2008-03-04	0.00
HR100749	Downstream	Period 3	2008-07-15	0.00
HR100749	Downstream	Period 3	2009-01-08	0.00
HR100749	Downstream	Period 3	2009-02-03	0.00
HR100749	Downstream	Period 3	2009-11-23	0.00
HR100749	Downstream	Period 4	2012-02-02	0.00
HR100749	Downstream	Period 4	2012-04-03	0.00
HR101204	Downstream	Period 1	2000-04-12	0.00
HR101204	Downstream	Period 1	2000-08-09	0.64
HR101204	Downstream	Period 1	2000-12-06	0.00
HR101204	Downstream	Period 2	2002-05-23	0.00
HR101204	Downstream	Period 2	2004-01-08	0.69
HR101204	Downstream	Period 2	2004-04-29	0.00
HR101204	Downstream	Period 2	2004-05-27	0.00
HR101204	Downstream	Period 2	2005-01-20	0.00
HR101204	Downstream	Period 2	2005-05-16	0.00
HR101204	Downstream	Period 2	2006-01-25	0.69
HR101204	Downstream	Period 2	2006-04-11	0.69
HR101204	Downstream	Period 2	2006-05-24	0.69
HR101204	Downstream	Period 2	2006-06-22	0.64
HR101204	Downstream	Period 2	2006-07-06	0.45
HR101204	Downstream	Period 2	2006-12-06	0.00
HR101204	Downstream	Period 3	2008-03-04	0.00
HR101204	Downstream	Period 3	2008-06-12	0.00
HR101204	Downstream	Period 3	2008-11-06	0.00
HR101204	Downstream	Period 3	2009-03-08	0.00
HR101204	Downstream	Period 3	2009-11-23	0.27
HR101204	Downstream	Period 3	2009-12-16	0.00
HR101204	Downstream	Period 3	2010-06-23	0.00
HR101204	Downstream	Period 3	2010-11-16	0.00
HR204062	Downstream	Period 1	2000-06-12	0.00
HR204062	Downstream	Period 1	2000-11-07	0.69
HR204062	Downstream	Period 1	2001-05-03	0.69
HR204062	Downstream	Period 1	2001-06-04	0.69
HR204062	Downstream	Period 2	2002-06-06	1.33
HR204062	Downstream	Period 2	2004-01-08	0.00
HR204062	Downstream	Period 2	2004-05-27	0.00
HR204062	Downstream	Period 2	2005-01-20	0.00
HR204062	Downstream	Period 2	2005-05-16	0.00
HR204062	Downstream	Period 2	2006-01-25	0.00

DRAFT

HR204062Downstream	Period 2	2006-06-22	1.10
HR204062Downstream	Period 2	2006-07-06	1.10
HR204062Downstream	Period 2	2006-08-16	0.64
HR204062Downstream	Period 2	2007-06-27	0.00
HR204062Downstream	Period 2	2007-07-25	0.00
HR204062Downstream	Period 2	2007-12-04	0.00
HR204062Downstream	Period 3	2008-01-10	0.00
HR204062Downstream	Period 3	2008-03-04	0.00
HR204062Downstream	Period 3	2008-06-12	0.00
HR204062Downstream	Period 3	2008-07-15	0.69
HR204062Downstream	Period 3	2008-10-07	0.69
HR204062Downstream	Period 3	2008-11-06	0.00
HR204062Downstream	Period 3	2009-01-08	1.39
HR204062Downstream	Period 3	2009-03-08	0.59
HR204062Downstream	Period 3	2009-04-21	0.00
HR204062Downstream	Period 3	2009-11-23	0.24
HR204062Downstream	Period 3	2009-12-16	0.00
HR204062Downstream	Period 3	2010-06-23	1.04
HR204062Downstream	Period 4	2012-03-06	0.00
HR204062Downstream	Period 4	2012-04-03	0.00
HR204062Downstream	Period 4	2012-06-13	0.00
HR204438Downstream	Period 1	2000-06-12	0.64
HR204438Downstream	Period 1	2001-01-09	0.69
HR204438Downstream	Period 1	2001-05-03	0.35
HR204438Downstream	Period 2	2002-01-10	0.00
HR204438Downstream	Period 2	2002-03-27	0.33
HR204438Downstream	Period 2	2002-04-24	0.00
HR204438Downstream	Period 2	2002-06-06	0.69
HR204438Downstream	Period 2	2004-05-27	0.00
HR204438Downstream	Period 2	2005-01-20	0.00
HR204438Downstream	Period 2	2005-05-16	0.00
HR204438Downstream	Period 2	2005-10-25	0.00
HR204438Downstream	Period 2	2006-01-25	1.01
HR204438Downstream	Period 2	2006-05-24	0.95
HR204438Downstream	Period 2	2006-06-22	0.00
HR204438Downstream	Period 2	2006-07-06	0.00
HR204438Downstream	Period 2	2006-11-07	0.00
HR204438Downstream	Period 2	2006-12-06	0.00
HR204438Downstream	Period 2	2007-02-15	0.00
HR204438Downstream	Period 2	2007-03-29	0.00
HR204438Downstream	Period 2	2007-07-25	0.68
HR204438Downstream	Period 2	2007-12-04	0.00
HR204438Downstream	Period 3	2008-03-04	0.00
HR204438Downstream	Period 3	2008-07-15	0.64
HR204438Downstream	Period 3	2008-10-07	0.00
HR204438Downstream	Period 3	2009-02-03	0.00
HR204438Downstream	Period 3	2009-03-08	0.58
HR204438Downstream	Period 3	2009-05-06	0.00
HR204438Downstream	Period 3	2009-11-23	0.21
HR204438Downstream	Period 3	2009-12-16	0.00
HR204438Downstream	Period 3	2010-06-23	0.87
HR204438Downstream	Period 3	2011-01-04	0.00
HR204438Downstream	Period 3	2011-03-16	0.00
HR204438Downstream	Period 4	2012-02-02	0.00
HR305768Downstream	Period 1	2000-04-12	0.00
HR305768Downstream	Period 1	2000-06-12	0.69
HR305768Downstream	Period 1	2000-07-11	0.00

DRAFT

HR305768Downstream	Period 1	2000-11-07	0.69
HR305768Downstream	Period 1	2001-01-09	0.69
HR305768Downstream	Period 1	2001-02-06	0.17
HR305768Downstream	Period 1	2001-04-18	1.29
HR305768Downstream	Period 1	2001-05-03	1.10
HR305768Downstream	Period 1	2001-06-04	0.00
HR305768Downstream	Period 1	2001-12-12	0.69
HR305768Downstream	Period 2	2002-05-23	0.00
HR305768Downstream	Period 2	2002-06-06	0.69
HR305768Downstream	Period 2	2004-01-08	0.69
HR305768Downstream	Period 2	2004-05-27	0.00
HR305768Downstream	Period 2	2005-01-20	0.00
HR305768Downstream	Period 2	2006-01-25	0.00
HR305768Downstream	Period 2	2006-05-24	0.00
HR305768Downstream	Period 2	2006-06-22	1.33
HR305768Downstream	Period 2	2006-07-06	0.00
HR305768Downstream	Period 2	2006-08-16	0.45
HR305768Downstream	Period 2	2007-01-31	0.00
HR305768Downstream	Period 2	2007-03-29	0.00
HR305768Downstream	Period 2	2007-07-25	0.50
HR305768Downstream	Period 2	2007-12-04	0.64
HR305768Downstream	Period 3	2008-06-12	0.00
HR305768Downstream	Period 3	2008-07-15	0.00
HR305768Downstream	Period 3	2008-10-07	0.64
HR305768Downstream	Period 3	2009-02-03	0.00
HR305768Downstream	Period 3	2009-03-08	0.00
HR305768Downstream	Period 3	2009-11-23	1.04
HR305768Downstream	Period 3	2009-12-16	0.38
HR305768Downstream	Period 3	2010-06-23	1.10
HR305768Downstream	Period 3	2011-03-16	0.69
HR305768Downstream	Period 4	2012-04-03	0.00
HR305768Downstream	Period 4	2012-05-02	0.00
HR305768Downstream	Period 4	2012-06-13	0.00
HR306339Downstream	Period 1	2000-04-12	0.00
HR306339Downstream	Period 1	2000-07-11	0.00
HR306339Downstream	Period 1	2000-08-09	0.00
HR306339Downstream	Period 1	2000-11-07	0.00
HR306339Downstream	Period 1	2000-12-06	0.00
HR306339Downstream	Period 1	2001-02-06	0.00
HR306339Downstream	Period 1	2001-04-18	0.45
HR306339Downstream	Period 1	2001-05-03	0.90
HR306339Downstream	Period 1	2001-06-04	0.00
HR306339Downstream	Period 1	2001-11-14	0.00
HR306339Downstream	Period 2	2002-04-24	0.69
HR306339Downstream	Period 2	2002-05-23	0.00
HR306339Downstream	Period 2	2002-06-06	0.69
HR306339Downstream	Period 2	2004-01-08	1.04
HR306339Downstream	Period 2	2004-04-29	0.00
HR306339Downstream	Period 2	2006-05-24	0.00
HR306339Downstream	Period 2	2006-06-22	0.08
HR306339Downstream	Period 2	2006-07-06	0.00
HR306339Downstream	Period 2	2006-08-16	0.00
HR306339Downstream	Period 2	2006-12-06	0.00
HR306339Downstream	Period 2	2007-04-26	0.00
HR306339Downstream	Period 2	2007-05-10	0.00
HR306339Downstream	Period 2	2007-06-27	0.00
HR306339Downstream	Period 2	2007-07-25	0.26

DRAFT

HR306339Downstream	Period 3	2008-06-12	0.00
HR306339Downstream	Period 3	2008-07-15	0.00
HR306339Downstream	Period 3	2008-12-09	0.00
HR306339Downstream	Period 3	2009-01-08	0.03
HR306339Downstream	Period 3	2009-03-08	0.43
HR306339Downstream	Period 3	2009-04-21	0.00
HR306339Downstream	Period 3	2009-11-23	1.05
HR306339Downstream	Period 3	2009-12-16	0.00
HR306339Downstream	Period 3	2010-06-23	0.00
HR306339Downstream	Period 3	2010-12-01	0.69
HR306339Downstream	Period 3	2011-01-04	0.00
HR306339Downstream	Period 3	2011-05-25	0.00
HR306339Downstream	Period 3	2011-06-27	0.64
HR306339Downstream	Period 4	2012-01-03	0.00
HR306339Downstream	Period 4	2012-02-02	0.64
HR306339Downstream	Period 4	2012-04-03	0.43
HR306339Downstream	Period 4	2012-06-13	0.04
HR408008Downstream	Period 1	2000-04-12	0.26
HR408008Downstream	Period 1	2000-05-15	0.64
HR408008Downstream	Period 1	2000-06-12	0.64
HR408008Downstream	Period 1	2000-07-11	0.00
HR408008Downstream	Period 1	2000-08-09	0.00
HR408008Downstream	Period 1	2000-12-06	0.00
HR408008Downstream	Period 1	2001-02-06	0.00
HR408008Downstream	Period 1	2001-03-07	0.00
HR408008Downstream	Period 1	2001-04-18	0.45
HR408008Downstream	Period 1	2001-05-03	0.56
HR408008Downstream	Period 1	2001-06-04	0.00
HR408008Downstream	Period 2	2002-02-21	0.69
HR408008Downstream	Period 2	2002-04-24	0.00
HR408008Downstream	Period 2	2002-05-23	0.00
HR408008Downstream	Period 2	2003-12-09	0.00
HR408008Downstream	Period 2	2004-01-08	0.87
HR408008Downstream	Period 2	2004-04-29	1.21
HR408008Downstream	Period 2	2004-05-27	0.00
HR408008Downstream	Period 2	2005-01-20	0.00
HR408008Downstream	Period 2	2005-05-16	0.00
HR408008Downstream	Period 2	2006-04-11	0.38
HR408008Downstream	Period 2	2006-05-24	0.41
HR408008Downstream	Period 2	2006-06-22	0.78
HR408008Downstream	Period 2	2007-06-27	1.33
HR408008Downstream	Period 2	2007-07-25	1.08
HR408008Downstream	Period 3	2008-03-04	0.00
HR408008Downstream	Period 3	2008-07-15	1.10
HR408008Downstream	Period 3	2008-10-07	0.00
HR408008Downstream	Period 3	2008-12-09	0.00
HR408008Downstream	Period 3	2009-01-08	0.00
HR408008Downstream	Period 3	2009-04-21	0.00
HR408008Downstream	Period 3	2009-11-23	0.00
HR408008Downstream	Period 3	2010-06-23	1.61
HR408008Downstream	Period 3	2010-11-16	0.00
HR408008Downstream	Period 3	2010-12-01	0.69
HR408008Downstream	Period 3	2011-03-16	0.00
HR408008Downstream	Period 3	2011-05-25	0.00
HR408008Downstream	Period 3	2011-06-27	1.10
HR408008Downstream	Period 4	2012-02-02	0.00
HR408008Downstream	Period 4	2012-04-03	0.64

DRAFT

HR408008Downstream	Period 4	2012-05-02	0.37
HR408008Downstream	Period 4	2012-06-13	0.60
HR409261Downstream	Period 1	2000-04-12	0.84
HR409261Downstream	Period 1	2000-05-15	0.00
HR409261Downstream	Period 1	2000-06-12	0.00
HR409261Downstream	Period 1	2000-08-09	0.69
HR409261Downstream	Period 1	2001-04-18	0.64
HR409261Downstream	Period 1	2001-05-03	0.64
HR409261Downstream	Period 1	2001-06-04	0.00
HR409261Downstream	Period 1	2001-12-12	1.04
HR409261Downstream	Period 2	2002-02-21	0.64
HR409261Downstream	Period 2	2002-04-24	1.04
HR409261Downstream	Period 2	2002-05-23	0.73
HR409261Downstream	Period 2	2002-06-06	0.00
HR409261Downstream	Period 2	2004-01-08	0.69
HR409261Downstream	Period 2	2004-04-29	0.94
HR409261Downstream	Period 2	2004-05-27	0.00
HR409261Downstream	Period 2	2005-10-25	0.00
HR409261Downstream	Period 2	2006-04-11	0.97
HR409261Downstream	Period 2	2006-05-24	0.69
HR409261Downstream	Period 2	2006-06-22	0.54
HR409261Downstream	Period 2	2006-12-06	1.10
HR409261Downstream	Period 2	2007-01-31	0.00
HR409261Downstream	Period 2	2007-02-15	0.00
HR409261Downstream	Period 2	2007-03-29	0.00
HR409261Downstream	Period 2	2007-06-27	0.00
HR409261Downstream	Period 2	2007-12-04	0.00
HR409261Downstream	Period 3	2008-01-10	0.00
HR409261Downstream	Period 3	2008-10-07	0.69
HR409261Downstream	Period 3	2008-11-06	0.64
HR409261Downstream	Period 3	2008-12-09	0.69
HR409261Downstream	Period 3	2009-03-08	0.00
HR409261Downstream	Period 3	2009-04-21	0.00
HR409261Downstream	Period 3	2009-05-06	0.64
HR409261Downstream	Period 3	2010-06-23	0.69
HR409261Downstream	Period 3	2010-12-01	0.00
HR409261Downstream	Period 3	2011-03-16	0.64
HR409261Downstream	Period 3	2011-06-27	1.15
HR409261Downstream	Period 4	2012-04-03	1.07
HR409261Downstream	Period 4	2012-05-02	0.00
HR409261Downstream	Period 4	2012-06-13	0.69
HR511340Lower	Period 1	2000-04-12	0.00
HR511340Lower	Period 1	2000-06-12	0.69
HR511340Lower	Period 1	2000-07-11	0.00
HR511340Lower	Period 1	2000-08-09	1.33
HR511340Lower	Period 1	2000-12-06	0.60
HR511340Lower	Period 1	2001-01-09	0.00
HR511340Lower	Period 1	2001-03-07	0.00
HR511340Lower	Period 1	2001-04-18	0.00
HR511340Lower	Period 1	2001-05-03	1.00
HR511340Lower	Period 1	2001-06-04	0.29
HR511340Lower	Period 1	2001-11-14	0.00
HR511340Lower	Period 2	2002-02-21	0.00
HR511340Lower	Period 2	2002-04-24	0.00
HR511340Lower	Period 2	2002-05-23	1.10
HR511340Lower	Period 2	2004-01-08	0.05
HR511340Lower	Period 2	2004-04-29	1.15

DRAFT

HR511340Lower	Period 2	2004-05-27	0.64
HR511340Lower	Period 2	2005-02-22	0.64
HR511340Lower	Period 2	2005-10-25	0.66
HR511340Lower	Period 2	2006-01-25	0.00
HR511340Lower	Period 2	2006-04-11	0.57
HR511340Lower	Period 2	2006-05-24	1.33
HR511340Lower	Period 2	2006-08-16	1.67
HR511340Lower	Period 2	2006-12-06	0.00
HR511340Lower	Period 2	2007-02-15	0.00
HR511340Lower	Period 2	2007-05-10	0.00
HR511340Lower	Period 2	2007-07-25	0.64
HR511340Lower	Period 2	2007-12-04	0.00
HR511340Lower	Period 3	2008-01-10	0.00
HR511340Lower	Period 3	2008-06-12	0.00
HR511340Lower	Period 3	2008-07-15	1.92
HR511340Lower	Period 3	2008-10-07	0.69
HR511340Lower	Period 3	2008-11-06	0.69
HR511340Lower	Period 3	2008-12-09	0.00
HR511340Lower	Period 3	2009-01-08	0.69
HR511340Lower	Period 3	2009-03-08	1.39
HR511340Lower	Period 3	2009-04-21	1.21
HR511340Lower	Period 3	2009-05-06	0.64
HR511340Lower	Period 3	2009-11-23	0.00
HR511340Lower	Period 3	2009-12-16	0.00
HR511340Lower	Period 3	2010-06-23	0.69
HR511340Lower	Period 3	2010-11-16	1.10
HR511340Lower	Period 3	2010-12-01	0.95
HR511340Lower	Period 3	2011-01-04	0.50
HR511340Lower	Period 3	2011-03-16	0.87
HR511340Lower	Period 3	2011-05-25	0.69
HR511340Lower	Period 3	2011-06-27	1.52
HR511340Lower	Period 4	2012-01-03	0.69
HR511340Lower	Period 4	2012-02-02	0.00
HR511340Lower	Period 4	2012-03-06	0.94
HR511340Lower	Period 4	2012-04-03	0.74
HR511340Lower	Period 4	2012-05-02	0.00
HR511340Lower	Period 4	2012-06-13	1.05
HR511340Lower	Period 5	2018-04-10	0.29
HR511340Lower	Period 5	2018-05-08	0.00
HR511370Lower	Period 1	2000-04-12	1.24
HR511370Lower	Period 1	2000-05-15	0.69
HR511370Lower	Period 1	2000-07-11	0.00
HR511370Lower	Period 1	2000-08-09	1.05
HR511370Lower	Period 1	2000-11-07	0.69
HR511370Lower	Period 1	2000-12-06	0.56
HR511370Lower	Period 1	2001-02-06	0.00
HR511370Lower	Period 1	2001-03-07	0.00
HR511370Lower	Period 1	2001-05-03	0.29
HR511370Lower	Period 1	2001-06-04	1.48
HR511370Lower	Period 1	2001-07-18	0.69
HR511370Lower	Period 1	2001-12-12	0.00
HR511370Lower	Period 2	2002-02-21	0.00
HR511370Lower	Period 2	2002-04-24	1.04
HR511370Lower	Period 2	2002-05-23	0.69
HR511370Lower	Period 2	2003-12-09	0.00
HR511370Lower	Period 2	2004-01-08	0.17
HR511370Lower	Period 2	2004-04-29	1.24

DRAFT

HR511370Lower	Period 2	2004-05-27	0.00
HR511370Lower	Period 2	2005-01-20	0.56
HR511370Lower	Period 2	2005-02-22	0.00
HR511370Lower	Period 2	2005-05-16	0.62
HR511370Lower	Period 2	2005-10-25	0.96
HR511370Lower	Period 2	2006-01-25	0.00
HR511370Lower	Period 2	2006-04-11	0.47
HR511370Lower	Period 2	2006-05-24	0.69
HR511370Lower	Period 2	2006-06-22	0.00
HR511370Lower	Period 2	2006-07-06	0.00
HR511370Lower	Period 2	2006-08-16	1.54
HR511370Lower	Period 2	2006-11-07	0.69
HR511370Lower	Period 2	2006-12-06	0.00
HR511370Lower	Period 2	2007-01-31	0.00
HR511370Lower	Period 2	2007-06-27	0.00
HR511370Lower	Period 2	2007-07-25	0.69
HR511370Lower	Period 2	2007-12-04	0.00
HR511370Lower	Period 3	2008-07-15	1.83
HR511370Lower	Period 3	2008-11-06	0.00
HR511370Lower	Period 3	2008-12-09	1.10
HR511370Lower	Period 3	2009-03-08	1.02
HR511370Lower	Period 3	2009-04-21	1.01
HR511370Lower	Period 3	2009-11-23	0.00
HR511370Lower	Period 3	2009-12-16	1.10
HR511370Lower	Period 3	2010-06-23	0.96
HR511370Lower	Period 3	2010-11-16	0.69
HR511370Lower	Period 3	2010-12-01	0.74
HR511370Lower	Period 3	2011-01-04	0.96
HR511370Lower	Period 3	2011-03-16	0.97
HR511370Lower	Period 3	2011-05-25	0.53
HR511370Lower	Period 3	2011-06-27	0.94
HR511370Lower	Period 4	2012-02-02	1.10
HR511370Lower	Period 4	2012-03-06	1.21
HR511370Lower	Period 4	2012-04-03	1.01
HR511370Lower	Period 4	2012-05-02	0.00
HR511370Lower	Period 4	2012-06-13	0.56
HR511370Lower	Period 5	2018-04-10	0.73
HR511370Lower	Period 5	2018-05-08	0.00
HR612733Middle	Period 1	2000-04-12	0.66
HR612733Middle	Period 1	2000-05-15	0.69
HR612733Middle	Period 1	2000-06-12	0.00
HR612733Middle	Period 1	2000-07-11	1.48
HR612733Middle	Period 1	2000-08-09	1.15
HR612733Middle	Period 1	2000-11-07	1.04
HR612733Middle	Period 1	2000-12-06	0.52
HR612733Middle	Period 1	2001-01-09	0.38
HR612733Middle	Period 1	2001-02-06	0.00
HR612733Middle	Period 1	2001-03-07	0.00
HR612733Middle	Period 1	2001-04-18	0.21
HR612733Middle	Period 1	2001-05-03	1.07
HR612733Middle	Period 1	2001-06-04	0.56
HR612733Middle	Period 1	2001-07-18	0.69
HR612733Middle	Period 1	2001-11-14	0.00
HR612733Middle	Period 1	2001-12-12	0.56
HR612733Middle	Period 2	2002-01-10	0.00
HR612733Middle	Period 2	2002-02-21	0.11
HR612733Middle	Period 2	2002-03-27	0.00

DRAFT

HR612733Middle	Period 2	2002-04-24	0.69
HR612733Middle	Period 2	2003-12-09	0.50
HR612733Middle	Period 2	2004-01-08	0.00
HR612733Middle	Period 2	2004-04-29	1.28
HR612733Middle	Period 2	2004-05-27	1.28
HR612733Middle	Period 2	2005-01-20	0.64
HR612733Middle	Period 2	2005-02-22	0.00
HR612733Middle	Period 2	2005-05-16	0.73
HR612733Middle	Period 2	2005-10-25	1.59
HR612733Middle	Period 2	2006-01-25	0.64
HR612733Middle	Period 2	2006-04-11	1.66
HR612733Middle	Period 2	2006-05-24	1.05
HR612733Middle	Period 2	2006-06-22	0.96
HR612733Middle	Period 2	2006-07-06	0.00
HR612733Middle	Period 2	2006-08-16	0.64
HR612733Middle	Period 2	2006-11-07	0.00
HR612733Middle	Period 2	2006-12-06	0.00
HR612733Middle	Period 2	2007-01-31	0.64
HR612733Middle	Period 2	2007-03-29	0.00
HR612733Middle	Period 2	2007-04-26	0.00
HR612733Middle	Period 2	2007-05-10	1.05
HR612733Middle	Period 2	2007-06-27	0.00
HR612733Middle	Period 2	2007-07-25	0.00
HR612733Middle	Period 2	2007-12-04	0.00
HR612733Middle	Period 3	2008-03-04	0.00
HR612733Middle	Period 3	2008-06-12	0.00
HR612733Middle	Period 3	2008-07-15	0.99
HR612733Middle	Period 3	2008-11-06	0.56
HR612733Middle	Period 3	2008-12-09	0.64
HR612733Middle	Period 3	2009-02-03	0.69
HR612733Middle	Period 3	2009-03-08	0.00
HR612733Middle	Period 3	2009-04-21	0.87
HR612733Middle	Period 3	2009-05-06	0.87
HR612733Middle	Period 3	2009-11-23	0.64
HR612733Middle	Period 3	2009-12-16	0.00
HR612733Middle	Period 3	2010-06-23	1.15
HR612733Middle	Period 3	2010-11-16	0.60
HR612733Middle	Period 3	2010-12-01	0.53
HR612733Middle	Period 3	2011-01-04	0.69
HR612733Middle	Period 3	2011-03-16	0.96
HR612733Middle	Period 3	2011-05-25	1.10
HR612733Middle	Period 3	2011-06-27	0.76
HR612733Middle	Period 4	2012-01-03	0.69
HR612733Middle	Period 4	2012-02-02	0.95
HR612733Middle	Period 4	2012-03-06	0.75
HR612733Middle	Period 4	2012-04-03	1.56
HR612733Middle	Period 4	2012-06-13	1.73
HR612733Middle	Period 5	2018-04-10	1.35
HR612733Middle	Period 5	2018-05-08	0.00
HR612971Middle	Period 1	2000-04-12	0.56
HR612971Middle	Period 1	2000-05-15	0.69
HR612971Middle	Period 1	2000-07-11	0.69
HR612971Middle	Period 1	2000-08-09	1.63
HR612971Middle	Period 1	2001-01-09	1.04
HR612971Middle	Period 1	2001-03-07	1.24
HR612971Middle	Period 1	2001-04-18	0.80
HR612971Middle	Period 1	2001-05-03	1.26

DRAFT

HR612971Middle	Period 1	2001-06-04	0.00
HR612971Middle	Period 1	2001-07-18	0.00
HR612971Middle	Period 1	2001-11-14	0.00
HR612971Middle	Period 1	2001-12-12	0.69
HR612971Middle	Period 2	2002-01-10	0.69
HR612971Middle	Period 2	2002-03-27	0.00
HR612971Middle	Period 2	2002-04-24	0.00
HR612971Middle	Period 2	2002-05-23	0.00
HR612971Middle	Period 2	2002-06-06	0.00
HR612971Middle	Period 2	2003-12-09	0.41
HR612971Middle	Period 2	2004-01-08	0.41
HR612971Middle	Period 2	2004-04-29	1.40
HR612971Middle	Period 2	2004-05-27	1.12
HR612971Middle	Period 2	2005-01-20	0.69
HR612971Middle	Period 2	2005-02-22	0.56
HR612971Middle	Period 2	2005-05-16	1.56
HR612971Middle	Period 2	2005-10-25	0.82
HR612971Middle	Period 2	2006-01-25	0.00
HR612971Middle	Period 2	2006-04-11	1.20
HR612971Middle	Period 2	2006-05-24	1.47
HR612971Middle	Period 2	2006-06-22	1.75
HR612971Middle	Period 2	2006-07-06	1.33
HR612971Middle	Period 2	2006-08-16	0.50
HR612971Middle	Period 2	2006-12-06	0.00
HR612971Middle	Period 2	2007-01-31	1.04
HR612971Middle	Period 2	2007-02-15	0.00
HR612971Middle	Period 2	2007-03-29	0.00
HR612971Middle	Period 2	2007-04-26	1.39
HR612971Middle	Period 2	2007-05-10	1.39
HR612971Middle	Period 2	2007-06-27	1.48
HR612971Middle	Period 2	2007-07-25	0.00
HR612971Middle	Period 2	2007-12-04	0.00
HR612971Middle	Period 3	2008-01-10	0.69
HR612971Middle	Period 3	2008-06-12	0.00
HR612971Middle	Period 3	2008-07-15	0.70
HR612971Middle	Period 3	2008-10-07	0.00
HR612971Middle	Period 3	2008-11-06	1.00
HR612971Middle	Period 3	2008-12-09	0.69
HR612971Middle	Period 3	2009-02-03	0.69
HR612971Middle	Period 3	2009-03-08	0.69
HR612971Middle	Period 3	2009-04-21	0.64
HR612971Middle	Period 3	2009-05-06	0.69
HR612971Middle	Period 3	2009-11-23	0.69
HR612971Middle	Period 3	2009-12-16	1.10
HR612971Middle	Period 3	2010-06-23	1.04
HR612971Middle	Period 3	2010-11-16	0.64
HR612971Middle	Period 3	2010-12-01	1.50
HR612971Middle	Period 3	2011-01-04	1.28
HR612971Middle	Period 3	2011-03-16	0.95
HR612971Middle	Period 3	2011-05-25	0.00
HR612971Middle	Period 3	2011-06-27	0.98
HR612971Middle	Period 4	2012-01-03	0.00
HR612971Middle	Period 4	2012-02-02	1.24
HR612971Middle	Period 4	2012-03-06	1.35
HR612971Middle	Period 4	2012-04-03	0.74
HR612971Middle	Period 4	2012-05-02	0.97
HR612971Middle	Period 4	2012-06-13	1.27

HR612971	Middle	Period 5	2018-04-10	1.58
HR612971	Middle	Period 5	2018-05-08	0.00
Lower A	Lower	Period 5	2020-05-17	0.64
Lower A	Lower	Period 5	2021-05-23	1.39
Lower A	Lower	Period 5	2022-03-27	0.00
Lower A	Lower	Period 5	2023-04-06	0.00
Lower B	Lower	Period 5	2020-05-17	0.00
Lower B	Lower	Period 5	2021-05-23	0.53
Lower B	Lower	Period 5	2022-03-27	0.00
Lower B	Lower	Period 5	2023-04-06	0.69
Lower B	Lower	Period 5	2023-12-12	0.00
Middle A	Middle	Period 5	2020-05-17	0.87
Middle A	Middle	Period 5	2021-05-23	1.10
Middle A	Middle	Period 5	2022-03-27	0.64
Middle B	Middle	Period 5	2020-05-17	0.82
Middle B	Middle	Period 5	2021-05-23	0.69
Middle B	Middle	Period 5	2022-03-27	0.00
Middle B	Middle	Period 5	2023-04-06	0.69
Upper A	Upper	Period 5	2020-05-17	0.36
Upper A	Upper	Period 5	2021-05-23	0.05
Upper A	Upper	Period 5	2022-03-27	0.54
Upper A	Upper	Period 5	2023-04-06	0.53
Upper A	Upper	Period 5	2023-12-12	0.56
Upper B	Upper	Period 5	2020-05-17	0.33
Upper B	Upper	Period 5	2021-05-23	0.39
Upper B	Upper	Period 5	2022-03-27	0.77
Upper B	Upper	Period 5	2023-04-06	0.89
Upper B	Upper	Period 5	2023-12-12	1.46

3.3.1.2 Zooplankton Diversity by segment

River Segment	Shan_div
Upper	0.67
Middle	2.69
Lower	2.28
Downstream	2.03

3.3.1.3 Zooplankton Diversity by period

MFL Period	Shan_div
Period 1	2.66
Period 2	2.21
Period 3	1.65
Period 4	0.88
Period 5	0.87

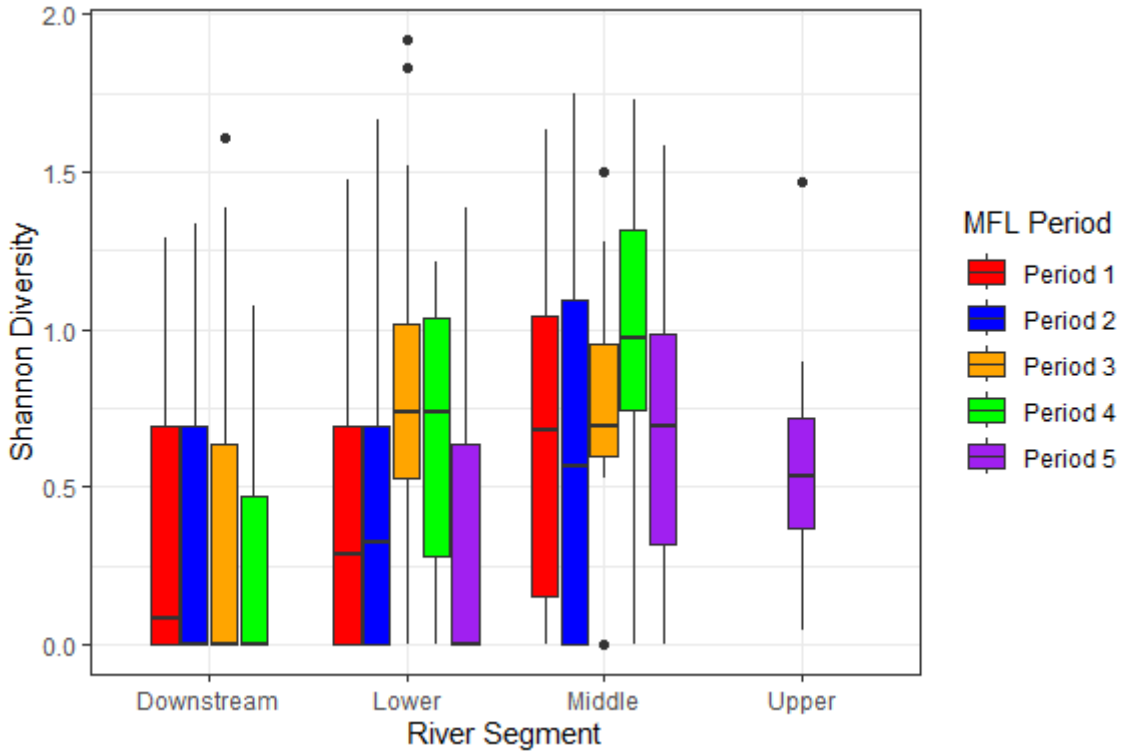
3.3.1.4 Zooplankton Diversity by segment and period

River Segment	MFL Period	Shan_div
Upper	Period 5	0.67
Middle	Period 1	2.20
Middle	Period 2	2.30
Middle	Period 3	2.22
Middle	Period 4	2.06
Middle	Period 5	1.18
Lower	Period 1	1.97
Lower	Period 2	1.54
Lower	Period 3	2.80

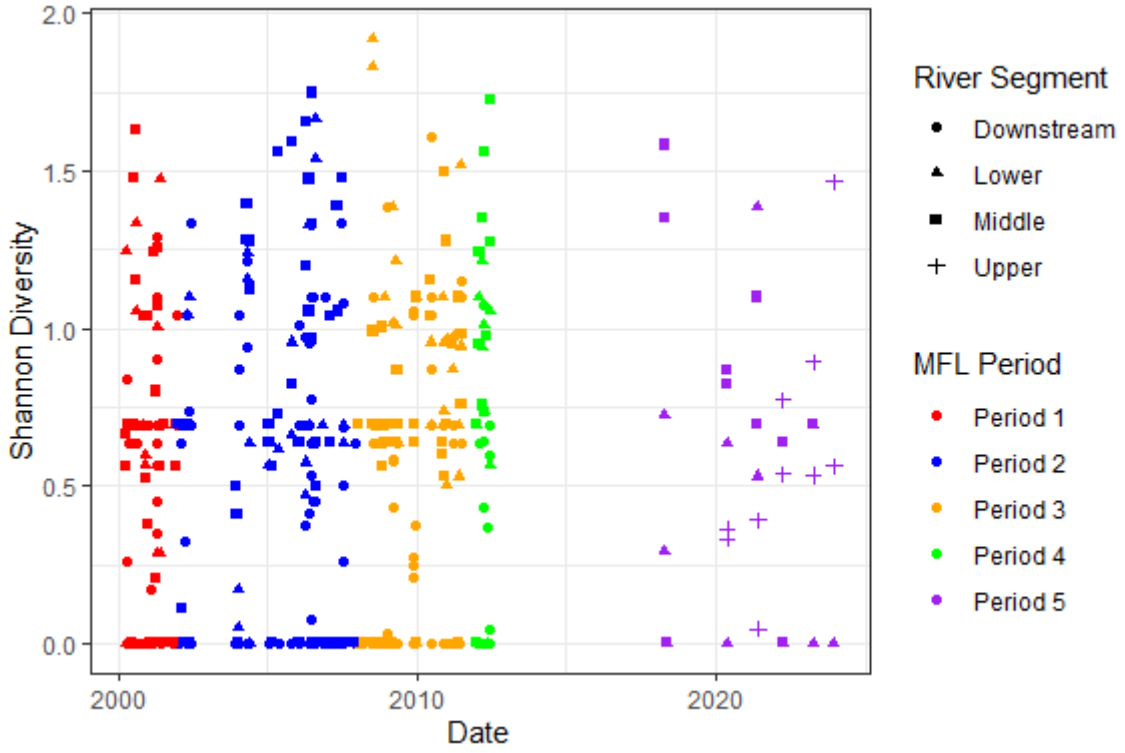
Lower	Period 4	1.88
Lower	Period 5	0.90
Downstream	Period 1	2.23
Downstream	Period 2	2.19
Downstream	Period 3	0.92
Downstream	Period 4	0.42

3.3.2 FIGURES

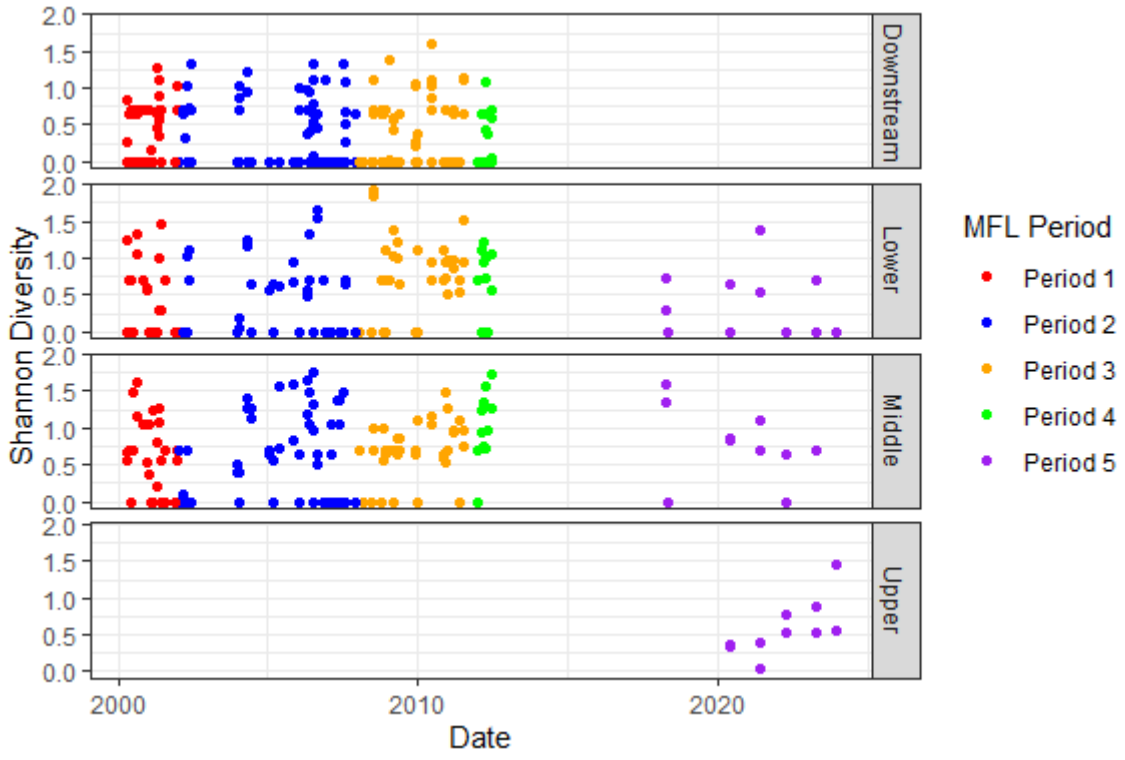
3.3.2.1 Boxplot of site level shannon diversity by MFL period and river segment



3.3.2.2 Site level shannon diversity over time



3.3.2.3 Site level shannon diversity over time by MFL period and river segment



3.4 RICHNESS

3.4.1 TABLES

3.4.1.1 The total number of taxa (richness) of organisms found in the entire data set.

x
73

3.4.1.2 Zooplankton Richness across MFL periods by river segment.

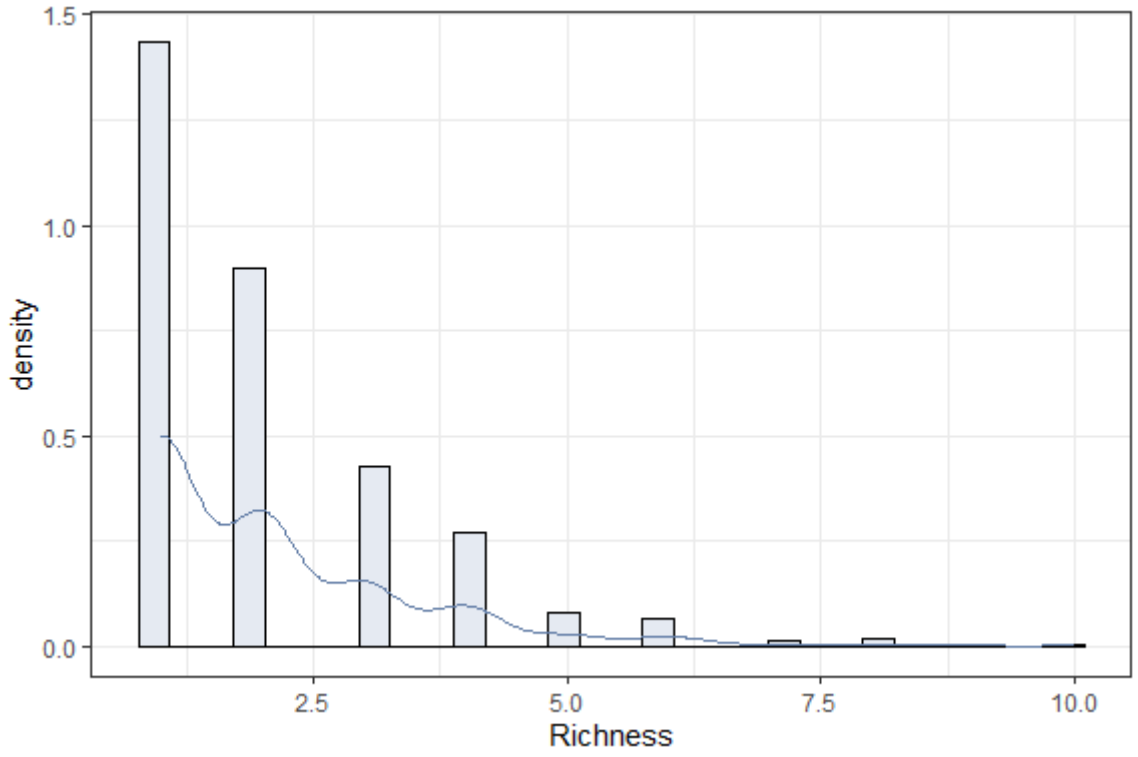
River Segment	Period 1	Period 2	Period 3	Period 4	Period 5	Segment Richness
Upper	NA	NA	NA	NA	20	20
Middle	22	31	28	15	13	49
Lower	20	26	32	11	10	49
Downstream	23	20	27	13	NA	45

3.4.1.3 Richness across river segments by MFL period.

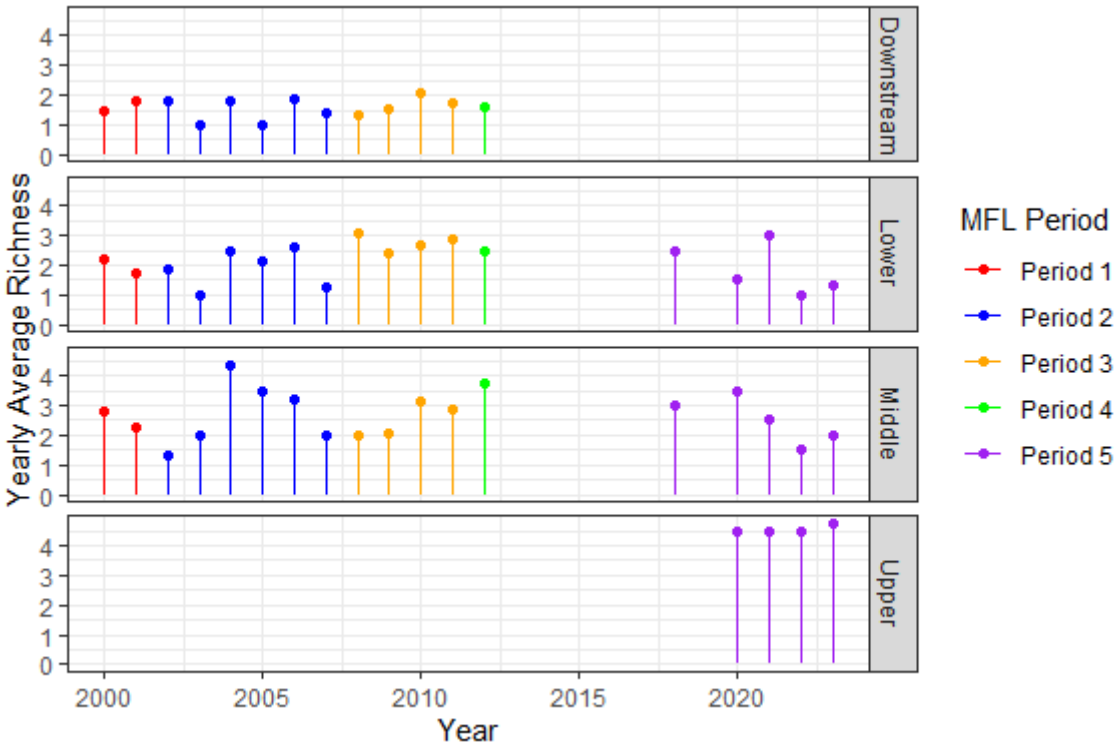
MFL Period	Upper	Middle	Lower	Downstream	Period Richness
Period 1	NA	22	20	23	37
Period 2	NA	31	26	20	41
Period 3	NA	28	32	27	48
Period 4	NA	15	11	13	22
Period 5	20	13	10	NA	28

3.4.2 FIGURES

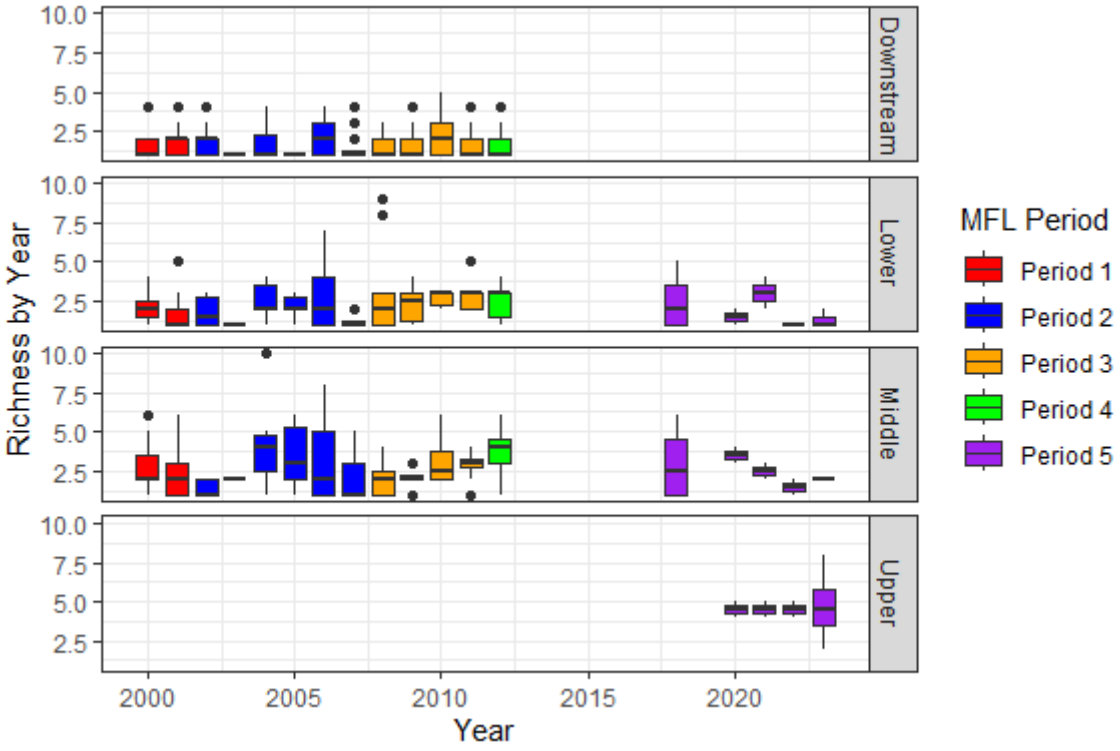
3.4.2.1 Figure 5.4.1 Histogram of species richness



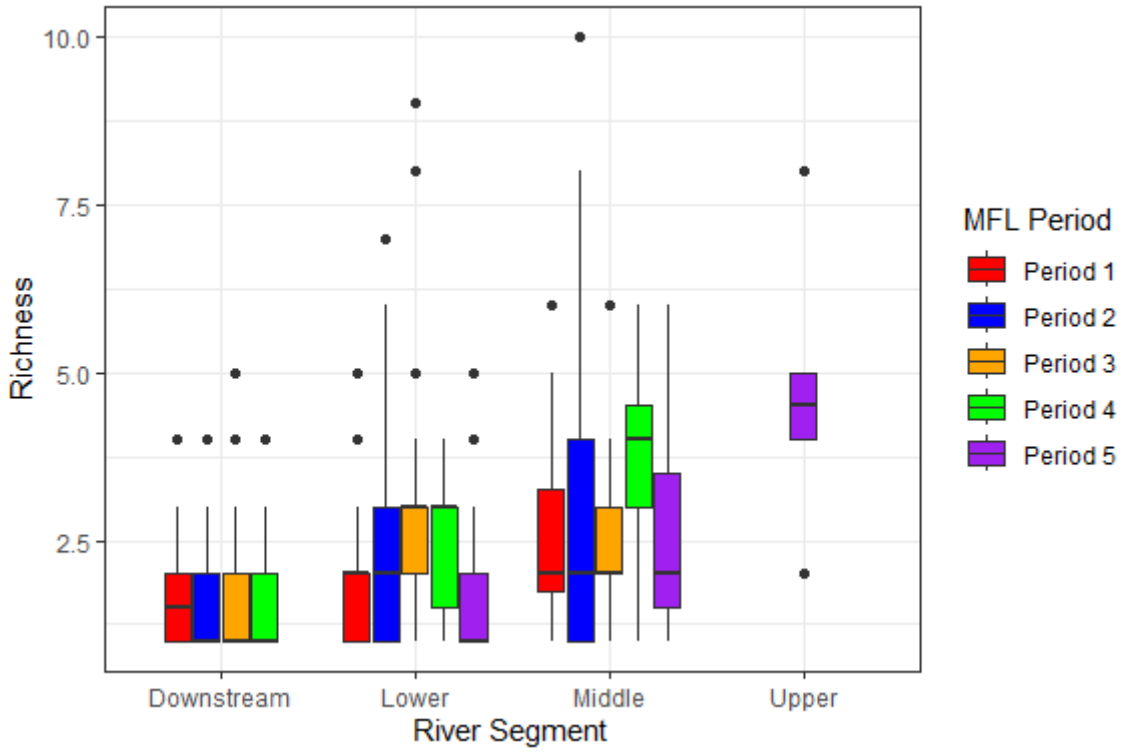
3.4.2.2 Average richness over time, grouped by year of samplin, by MFL period and river segment.



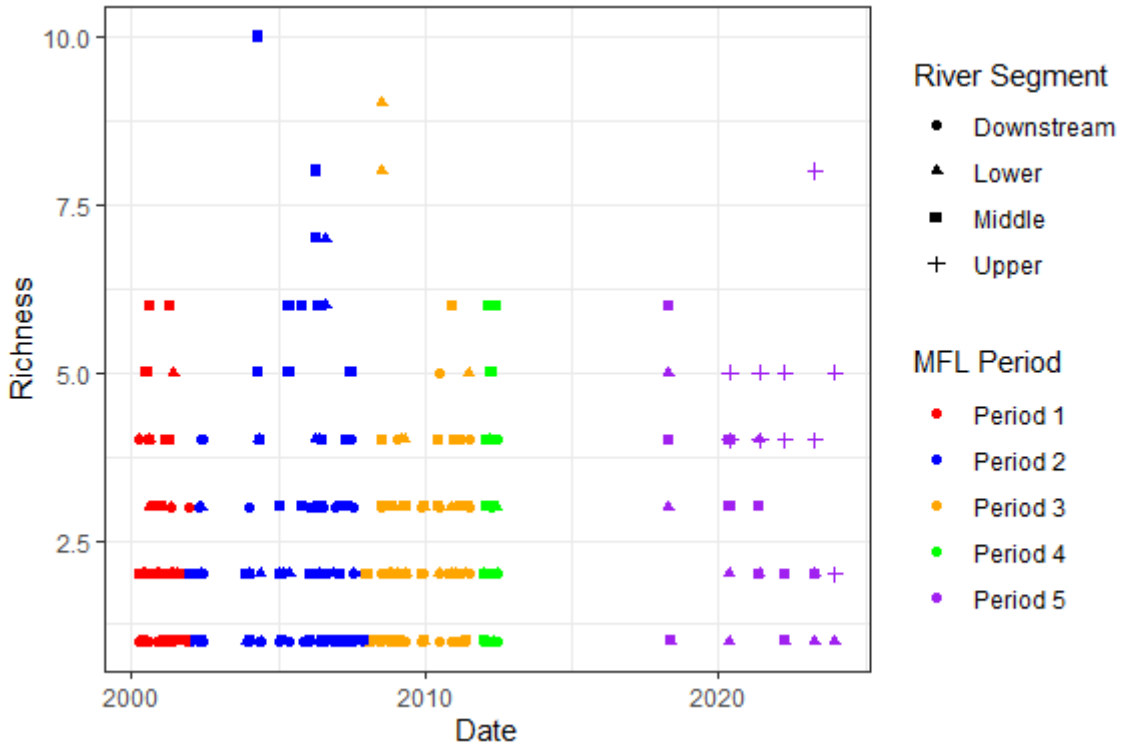
3.4.2.3 Boxplots of richness, grouped by year, by MFL period and river segment.



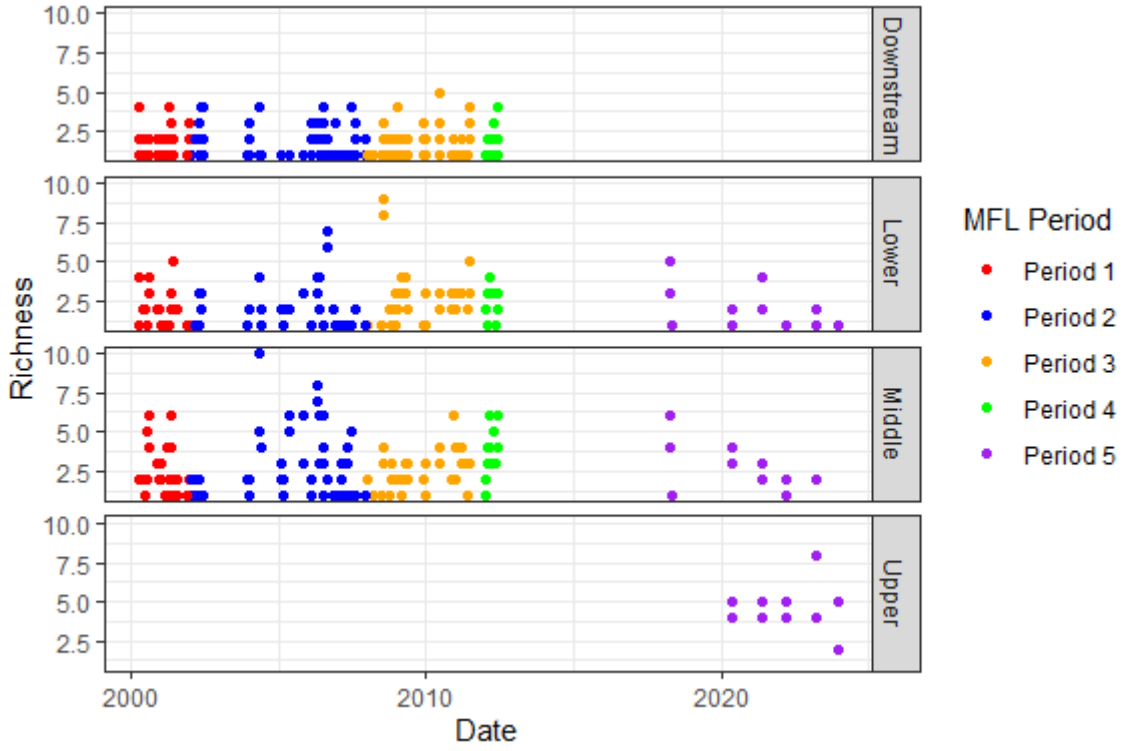
3.4.2.4 Boxplot of site level richness by MFL period and river segment.



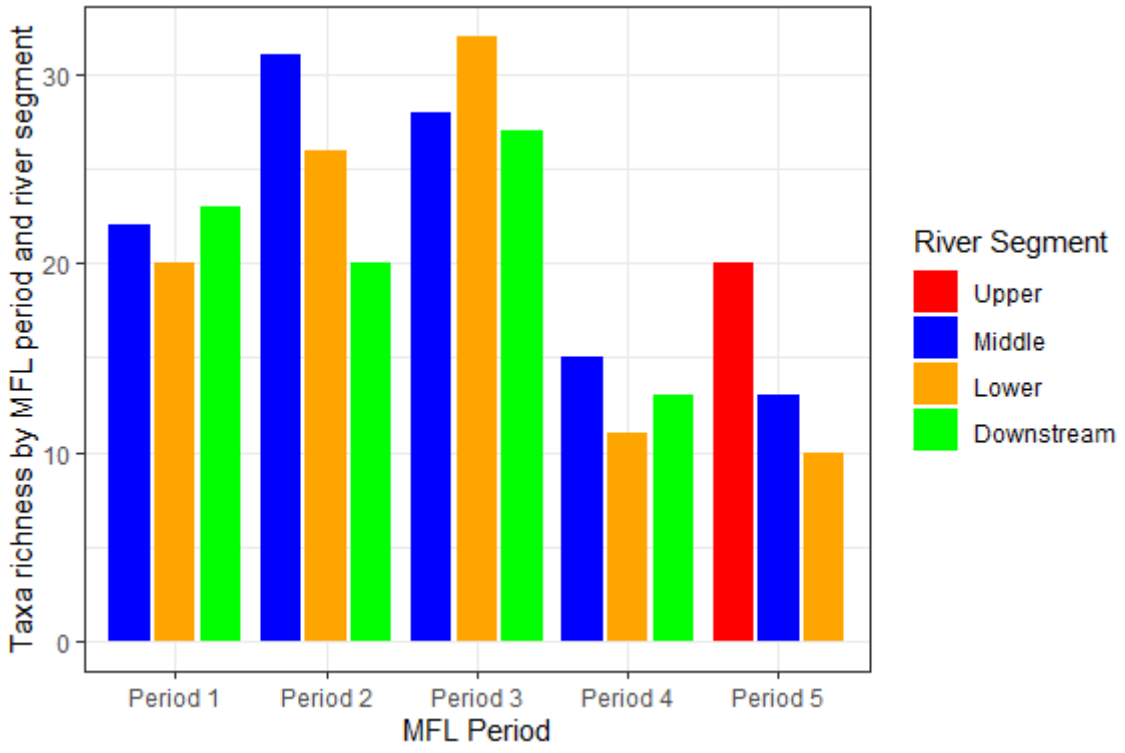
3.4.2.5 Site level richness over time



3.4.2.6 Site level richness over time by MFL period and river segment



3.4.2.7 Taxa richness by MFL period and river segment



DRAFT

4 BENTHIC MACROINVERTEBRATES

4.1 ABUNDANCE

4.1.1 TABLES

4.1.1.1 Total abundance of the data set.

Total Abundance
48674

DRAFT

4.1.1.2 Total abundance of each taxon, and MFL period:River segment abundance, sorted by most abundant.

Final Taxa	Total Abun	Period 1 Upper	Period 1 Middle	Period 1 Lower	Period 1 Downstream	Period 2 Upper	Period 2 Middle	Period 2 Lower	Period 2 Downstream	Period 3 Upper	Period 3 Middle	Period 3 Lower	Period 3 Downstream	Period 5 Upper	Period 5 Middle	Period 5 Lower
Naididae	14216	248	197	46	1195	962	962	382	6099	372	50	0	3703	0	0	0
Mytilopsis leucophaeata	6579	57	6	2	1264	133	180	430	828	131	343	49	2703	28	237	188
Melanoides tuberculata	6500	23	6	4	5	1258	1303	166	505	1036	518	270	807	325	151	123
Pyrgophorus platyrachis	5328	105	0	7	0	1273	573	697	1931	365	158	14	26	79	21	79
Polypedilum halterale grp.	4220	0	0	0	7	121	47	39	3514	32	6	0	0	325	123	6
Corbicula fluminea	1797	216	72	12	5	593	290	133	253	95	11	0	0	96	20	1
Chironomus sp.	1451	22	3	1	13	76	160	17	456	31	143	117	244	6	95	67
Limnodrilus hoffmeisteri	1115	0	0	0	0	248	148	23	2	67	1	0	0	400	200	26
Limnodriloides sp.	1037	0	0	0	3	0	0	0	16	0	0	3	1015	0	0	0
Polypedilum scalaenum grp.	732	0	0	0	9	85	5	24	439	0	2	0	3	157	8	0
Rhithropanopeus harrisii	721	32	1	1	82	17	14	21	229	1	10	6	148	121	30	8
Hyalella azteca	711	0	0	0	0	108	2	0	1	564	1	0	1	34	0	0
Polypedilum sp.	517	0	0	1	4	4	0	1	481	10	0	0	0	12	4	0
Hobsonia florida	363	0	0	0	22	0	0	0	289	0	0	0	52	0	0	0
Dicrotendipes sp.	284	0	0	0	0	160	5	0	8	58	34	4	9	0	5	1
Cryptochironomus sp.	276	0	0	6	1	29	58	20	131	6	2	0	0	4	0	19
Paranais litoralis	246	0	0	0	0	0	0	0	11	3	0	0	232	0	0	0
Procladius (Holotanypus) sp.	226	0	0	0	0	34	11	4	145	21	2	0	0	8	1	0
Dicrotendipes neomodestus	189	0	0	0	0	17	0	40	9	3	2	1	0	114	0	3
Uromunna reynoldsi	165	0	0	0	0	135	0	0	16	11	0	0	0	0	3	0
Helobdella stagnalis	148	0	0	0	0	37	0	0	0	22	0	0	0	89	0	0
Polymesoda caroliniana	127	0	0	0	6	0	0	2	80	0	0	1	38	0	0	0
Ablabesmyia rhamphe grp.	126	0	0	0	0	39	0	2	0	32	16	0	0	37	0	0
Dicrotendipes lobus	100	45	0	0	3	5	5	0	0	0	0	0	31	0	10	1
Ablabesmyia sp.	83	0	0	0	0	16	6	7	44	1	1	0	0	8	0	0
Chironomus decorus grp.	80	0	0	0	0	0	0	0	0	0	0	0	0	3	47	30
Procladius sp.	80	0	0	0	0	7	0	0	4	2	0	0	0	49	17	1
Chaoborus sp.	73	0	0	0	0	1	4	2	6	20	35	2	3	0	0	0
Chironomidae	69	0	0	10	0	4	1	1	22	13	10	1	6	1	0	0
Pristina (Pristinella) sima	69	0	0	0	0	69	0	0	0	0	0	0	0	0	0	0
Erpobdella punctata	66	0	0	0	5	1	6	2	34	0	1	0	17	0	0	0
Boccardiella ligerica	61	0	0	0	0	11	0	1	0	43	4	0	2	0	0	0
Aulophorus flabelliger	58	0	0	0	0	0	0	0	58	0	0	0	0	0	0	0

DRAFT

Asheum beckae	52	1	0	0	0	8	4	13	16	9	0	0	0	1	0	0
Gloiobdella elongata	42	0	0	0	0	2	0	0	0	40	0	0	0	0	0	0
Goeldichironomus sp.	38	0	0	0	0	4	0	1	9	24	0	0	0	0	0	0
Tanypodinae	36	0	0	0	0	1	0	0	35	0	0	0	0	0	0	0
Ceratopogonide	34	1	0	0	0	5	11	0	5	11	0	0	1	0	0	0
Hydroptila sp.	31	0	0	0	0	16	0	0	0	1	0	0	0	14	0	0
Sphaerium sp.	30	0	0	0	0	13	0	0	14	0	0	0	0	2	1	0
Tanytarsus sp. G of Epler, 2001	30	0	0	0	0	5	4	0	11	0	10	0	0	0	0	0
Tanytarsus sp.	25	0	0	0	0	11	0	0	2	0	0	0	1	11	0	0
Hyalella sp.	22	0	0	0	0	0	0	0	1	18	1	1	0	1	0	0
Pristina sp.	21	0	0	0	0	5	0	0	0	2	0	0	0	14	0	0
Dicrotendipes modestus	19	0	0	0	0	0	0	0	0	0	0	0	13	6	0	0
Hyalella sp. C	18	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0
Tarebia granifera	18	0	0	0	0	0	0	0	0	5	10	0	0	2	1	0
Oecetis sp.	17	0	0	0	0	4	5	1	3	3	0	0	0	1	0	0
Stenochironomus sp.	16	0	0	0	0	0	0	0	7	8	0	0	0	1	0	0
Djalmabatista pulcher variant	15	0	0	0	0	0	0	1	14	0	0	0	0	0	0	0
Trichoptera	15	0	0	0	0	0	13	1	1	0	0	0	0	0	0	0
Dero nivea	14	0	0	0	0	3	1	0	10	0	0	0	0	0	0	0
Limnodriloidinae	14	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0
Bezzia/Palpomyia grp.	13	0	0	0	0	2	1	0	0	0	0	0	0	7	2	1
Ancylidae	10	0	0	0	0	1	0	0	0	0	0	0	0	9	0	0
Djalmabatista sp.	10	0	0	0	0	0	0	2	8	0	0	0	0	0	0	0
Helobdella elongata	10	0	0	0	0	2	0	0	0	0	0	0	0	8	0	0
Helobdella papillata	9	0	0	0	0	7	0	0	0	0	0	0	0	2	0	0
Parachironomus sp.	9	1	0	0	0	2	0	0	0	6	0	0	0	0	0	0
Parachironomus tenuicaudatus	9	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0
Polypedilum beckae	9	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
Aphylla williamsoni	8	0	0	0	0	0	0	0	1	2	3	0	0	2	0	0
Libellulidae	8	0	0	0	0	3	1	0	2	1	0	0	0	1	0	0
Collembola	7	0	0	0	0	1	0	1	1	0	0	0	1	1	0	2
Dero pectinata	7	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0
Dicrotendipes nervosus	7	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0
Hyalella sp. A	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nais variabilis	7	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0
Oecetis inconspicua complex	7	0	0	0	0	0	3	1	0	0	0	0	0	3	0	0

DRAFT

Paralauterborniella nigrohalteralis	7	0	0	0	0	5	0	0	2	0	0	0	0	0	0	0
Pisidium sp.	7	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0
Tanytarsus sp. G	7	0	0	0	0	6	0	0	0	1	0	0	0	0	0	0
Caenis sp.	6	0	0	0	0	0	3	0	2	0	0	0	0	1	0	0
Cladopelma sp.	6	0	0	0	0	1	2	0	0	0	0	0	0	2	1	0
Dero sp.	6	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0
Ephemeroptera	6	0	0	0	0	3	0	0	1	1	0	1	0	0	0	0
Oecetis nocturna	6	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0
Parachironomus directus	6	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
Pyrgophorus tuberculatus	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0
Caenis diminuta	5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
Chaoborus punctipennis	5	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0
Cricotopus bicinctus	5	0	0	0	0	2	2	0	0	0	0	0	0	1	0	0
Cyrnellus fraternus	5	0	0	0	0	1	0	1	0	1	0	0	0	2	0	0
Enallagma sp.	5	0	0	0	0	2	0	0	0	2	0	0	0	1	0	0
Euhirudinea sp.	5	0	0	0	0	0	0	0	0	3	1	0	1	0	0	0
Larsia sp.	5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
Nais communis sp. complex	5	0	0	0	0	3	0	0	2	0	0	0	0	0	0	0
Leptoceridae	4	0	0	0	0	2	0	1	0	0	0	0	0	1	0	0
Libellula sp.	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
Peltodytes sp.	4	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
Ablabesmyia mallochi	3	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0
Coelotanypus sp.	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
Cryptotendipes sp.	3	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0
Hebetancylus excentricus	3	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Pisidium punctiferum	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Planorbella scalaris	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Pristina (Pristina) proboscidea	3	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0
Pristina (Pristinella) sp.	3	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0
Pseudochironomus sp.	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Tryonia aequicostata	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
Ablabesmyia (Karelia) sp.	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Arhynchobdellida sp.	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Bratislavia unidentata	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Callibaetis sp.	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Cladotanytarsus sp.	2	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0

DRAFT

Coenagrionidae	2	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
Daphnia sp.	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Dero obtusa	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Dicrotendipes simpsoni	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Djalmabatista pulcher	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Goeldichironomus carus	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Hirudinea	2	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
Hydroptilidae	2	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
Labrundinia pilosella	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Naidinae sp. A of EPC	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Neureclipsis sp.	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Odonata	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
Parachironomus carinatus	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Parachironomus frequens	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Tanypus sp.	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Tanytarsus sp. K	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Tricladida	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Apedilum sp.	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Berosus sp.	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Branchiobdellidae	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Ceriodaphnia sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Cladotanytarsus sp. F	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Clinotanypus sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Dubiraphia sp.	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Dubiraphia vittata	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Ferrissia cf. hendersoni	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Glossiphoniidae sp.	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Libellula incesta	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Nanocladius sp.	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Oecetis inconspicua	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Oecetis sp. A of Epler, 2001	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Oribatida	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Paranais sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Placobdella ornata	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Polycladida sp.	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Polypedilum illinoense grp.	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Pristina (Pristinella) cf. osborni	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

DRAFT

Pristina leidyi	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Procladius bellus var.1 Epler	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Prostoma sp.	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psychodidae	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Rhabditophora sp.	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Sparganophilus sp.	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Stenelmis sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Zygoptera	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

4.1.1.3 Total Abundance over river segments by MFL period.

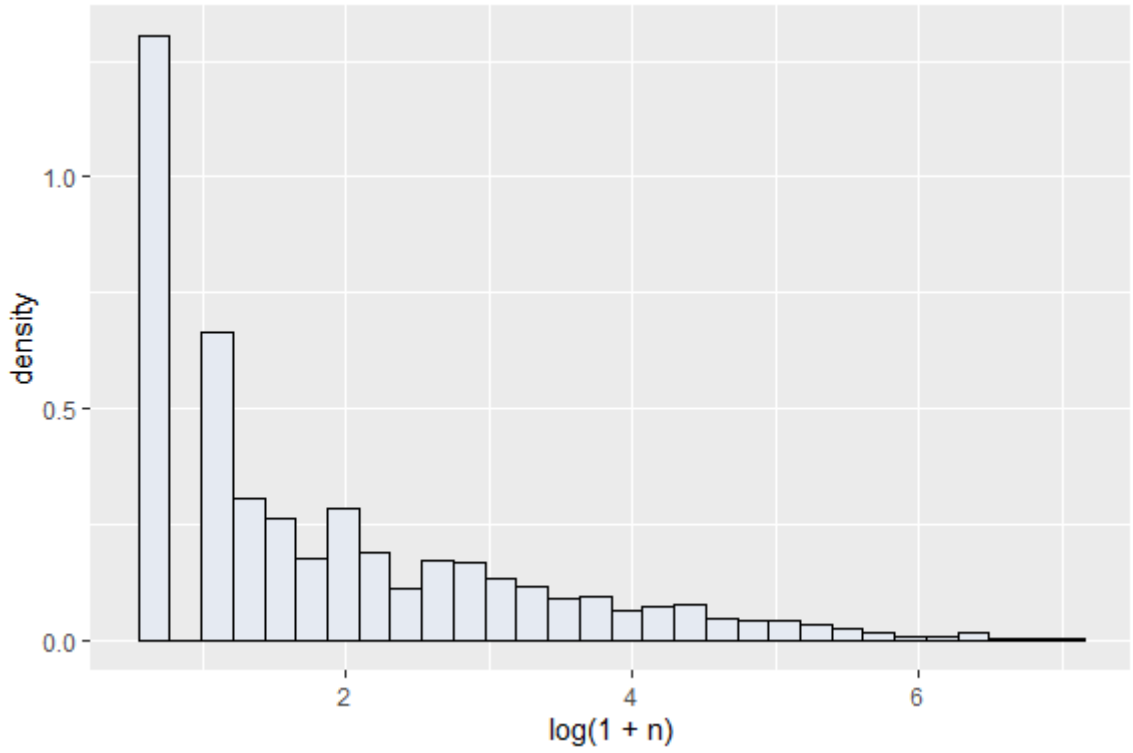
River Segment	Period 1	Period 2	Period 3	Period 5	total
Upper	761	5601	3130	2042	11534
Middle	285	3843	1381	985	6494
Lower	90	2043	472	558	3163
Downstream	2648	15775	9060	NA	27483

4.1.1.4 Total Abundance of MFL period by River segment.

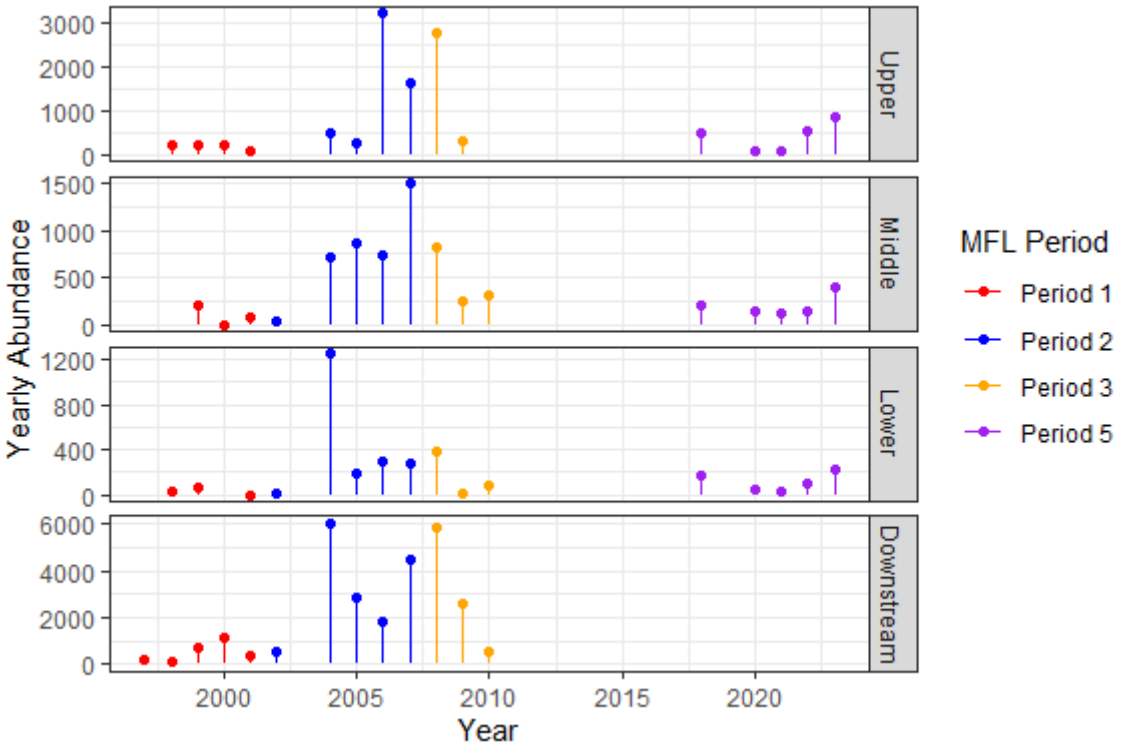
MFL Period	Lower	Middle	Upper	Downstream	total
Period 1	90	285	761	2648	1136
Period 2	2043	3843	5601	15775	11487
Period 3	472	1381	3130	9060	4983
Period 5	558	985	2042	NA	3585

4.1.2 FIGURES

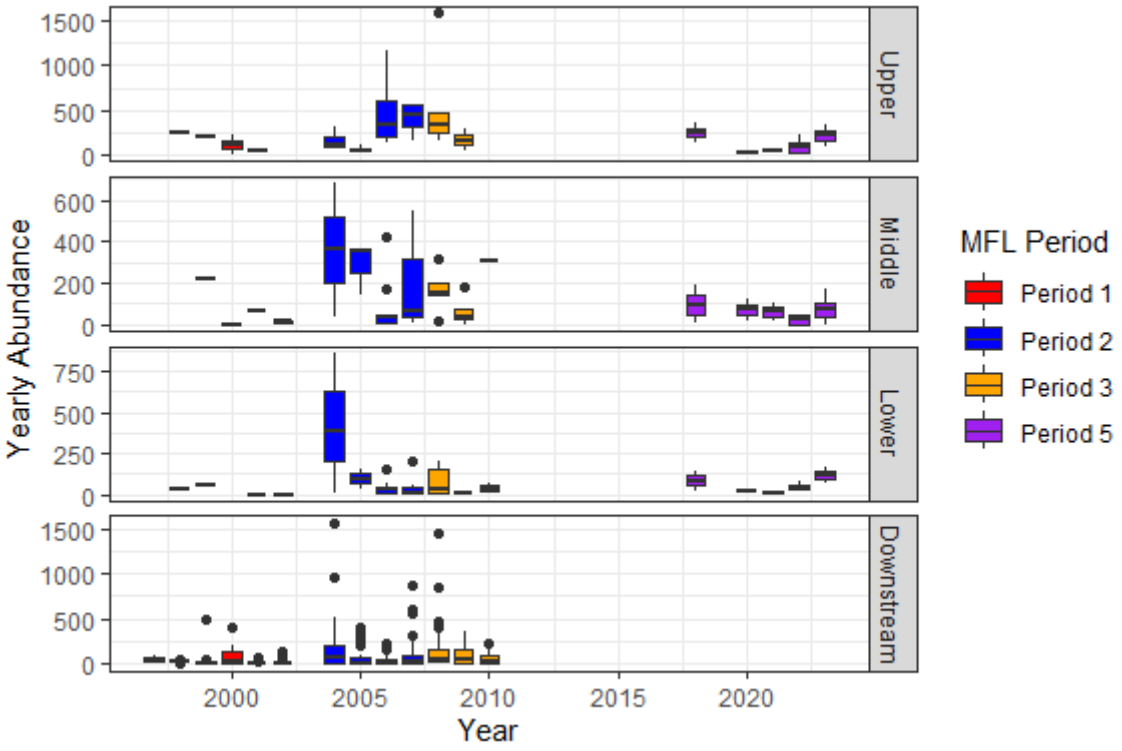
4.1.2.1 Histogram of species abundance.



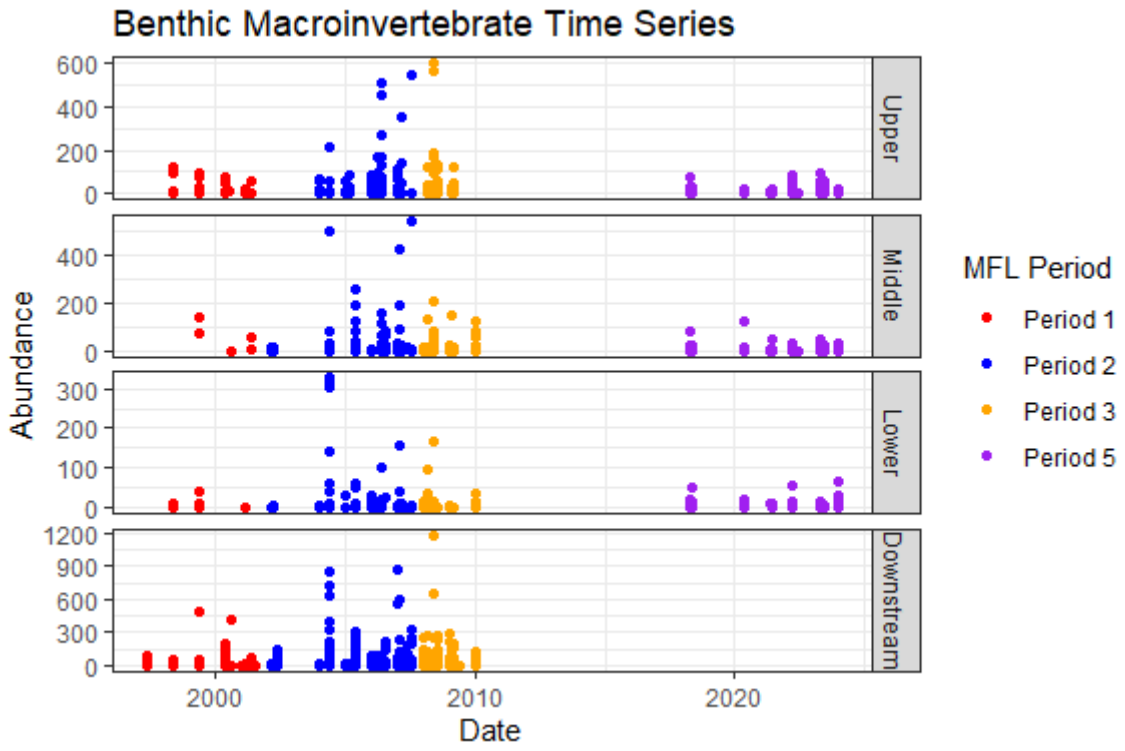
4.1.2.2 A graph of total abundance over time, grouped by year of sampling.



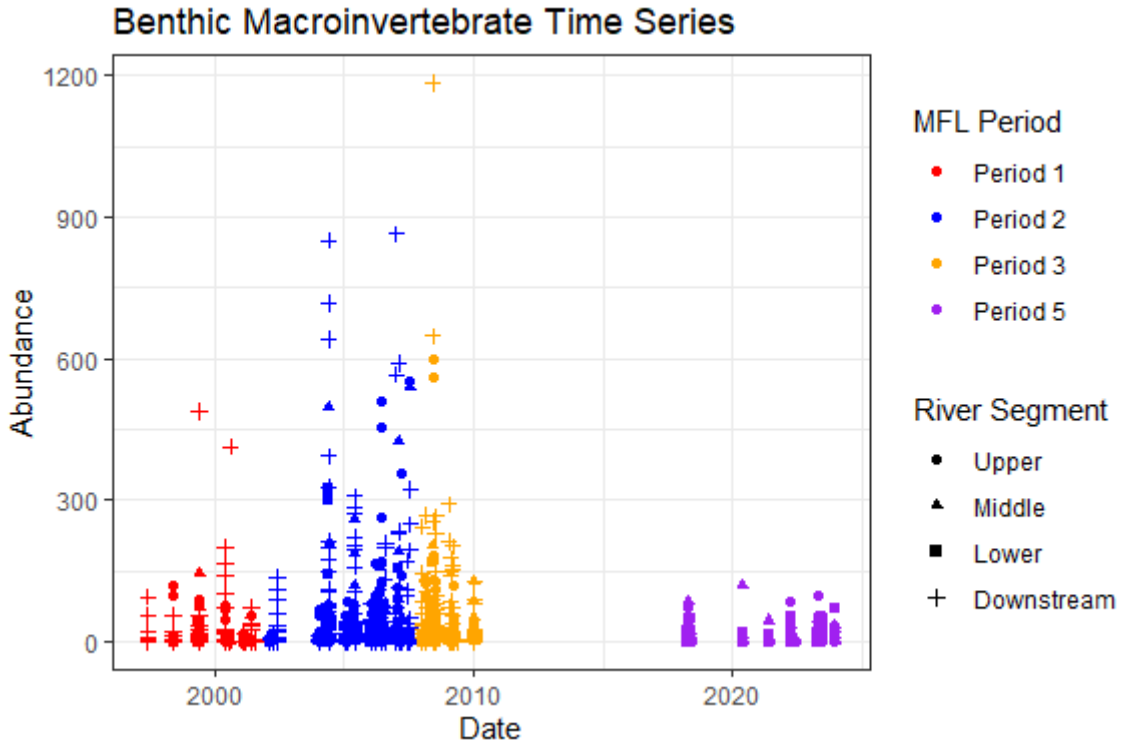
4.1.2.3 Boxplots of individuals, grouped by year, by MFL period and river segment.



4.1.2.4 Abundance by year, MFL period, and river segment.

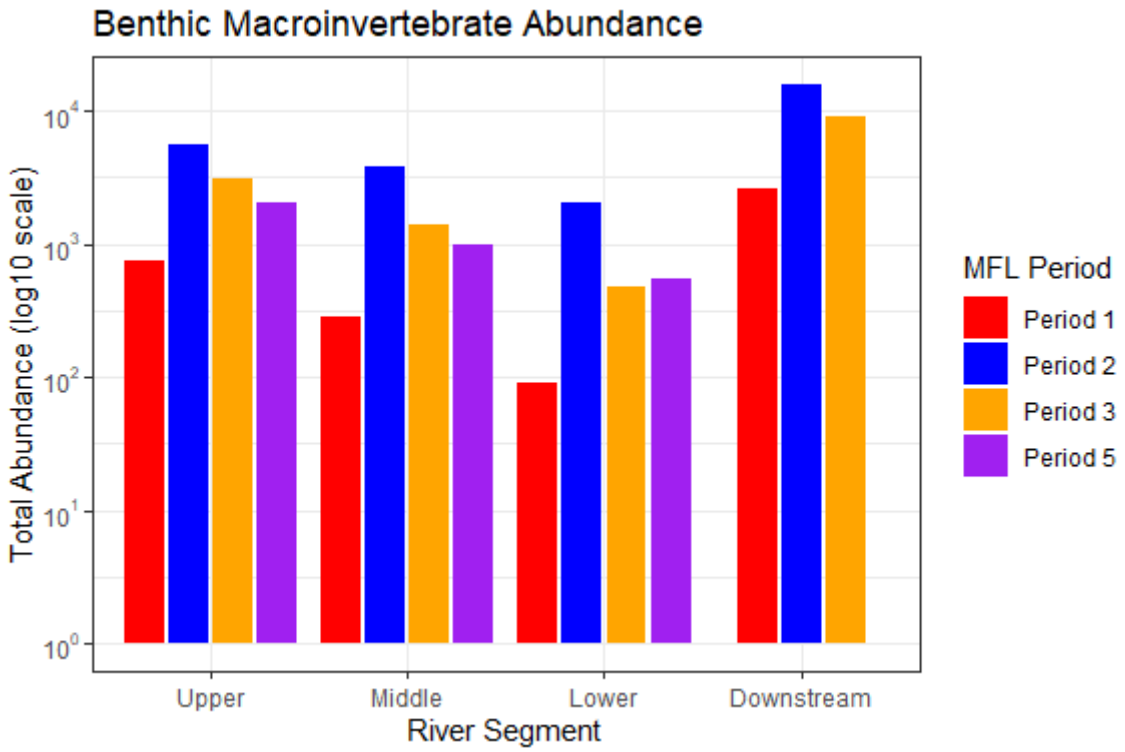


4.1.2.5 Total abundance by river segment, MFL period, and date.



4.1.2.6 Total abundance by MFL period and river segment.

DRAFT



4.2 DENSITY

4.2.1 TABLES

4.2.1.1 Total average density of the data set.

Total Avg Density
589

4.2.1.2 Total average density of each taxon.

Final Taxa	Total Avg Density
Pyrgophorus platyrachis	1642.1
Polypedilum halterale grp.	1388.0
Naididae	1260.3
Hyalella azteca	1046.7
Melanoides tuberculata	1009.1
Mytilopsis leucophaeata	864.0
Limnodriloides sp.	720.1
Limnodrilus hoffmeisteri	657.4
Corbicula fluminea	643.4
Pristina (Pristinella) sima	575.0
Paranais litoralis	512.5
Hyalella sp. C	391.3
Helobdella stagnalis	381.8
Chironomus sp.	361.3
Gloiobdella elongata	350.0
Limnodriloidinae	350.0
Polypedilum scalaenum grp.	338.9
Polypedilum sp.	338.4
Aulophorus flabelliger	290.0

DRAFT

Dicrotendipes lobus	287.3
Pyrgophorus tuberculatus	260.9
Dicrotendipes neomodestus	254.9
Boccardiella ligerica	254.2
Chironomus decorus grp.	248.4
Parachironomus tenuicaudatus	225.0
Larsia sp.	217.4
Ancylidae	208.2
Ablabesmyia rhamphe grp.	207.5
Procladius (Holotanypus) sp.	200.6
Helobdella elongata	198.9
Dicrotendipes modestus	195.3
Hyalella sp. A	175.0
Pisidium sp.	175.0
Cryptochironomus sp.	174.4
Dicrotendipes sp.	170.4
Uromunna reynoldsi	160.4
Goeldichironomus sp.	158.3
Parachironomus directus	150.0
Hobsonia florida	146.4
Tarebia granifera	139.5
Sphaerium sp.	135.0
Helobdella papillata	131.0
Pristina sp.	130.6
Dero sp.	130.4
Procladius sp.	124.5
Rhithropanopeus harrisii	116.3
Tanypodinae	112.5
Asheum beckae	109.9
Hyalella sp.	105.0
Polymesoda caroliniana	102.4
Dicrotendipes nervosus	101.5
Chaoborus sp.	101.4
Libellula sp.	100.0
Trichoptera	93.8
Ablabesmyia sp.	92.5
Hydroptila sp.	91.1
Dero nivea	87.5
Dero pectinata	87.5
Paralauterborniella nigrohalteralis	87.5
Callibaetis sp.	87.0
Stenochironomus sp.	83.7
Djalmabatista sp.	83.3
Parachironomus sp.	75.0
Pisidium punctiferum	75.0
Planorbella scalaris	75.0
Tryonia aequicostata	75.0
Tanytarsus sp. G of Epler, 2001	68.2
Chaoborus punctipennis	62.5
Djalmabatista pulcher variant	62.5
Chironomidae	60.1
Tanytarsus sp. G	58.3
Oecetis inconspicua complex	57.6
Ceratopogonide	56.7
Caenis diminuta	54.4
Bezzia/Palpomyia grp.	51.0
Ablabesmyia (Karelia) sp.	50.0

DRAFT

Arhynchobdellida sp.	50.0
Bratislavia unidentata	50.0
Daphnia sp.	50.0
Dicrotendipes simpsoni	50.0
Goeldichironomus carus	50.0
Labrundinia pilosella	50.0
Oecetis nocturna	50.0
Parachironomus carinatus	50.0
Parachironomus frequens	50.0
Peltodytes sp.	50.0
Tanypus sp.	50.0
Tanytarsus sp. K	50.0
Cricotopus bicinctus	47.8
Tanytarsus sp.	47.5
Nais variabilis	43.8
Branchiobdellidae	43.5
Ceriodaphnia sp.	43.5
Clinotanypus sp.	43.5
Dubiraphia vittata	43.5
Libellula incesta	43.5
Oecetis inconspicua	43.5
Oribatida	43.5
Paranais sp.	43.5
Placobdella ornata	43.5
Procladius bellus var.1 Epler	43.5
Stenelmis sp.	43.5
Erpobdella punctata	43.4
Caenis sp.	42.1
Euhirudinea sp.	41.7
Nais communis sp. complex	41.7
Cladopelma sp.	41.1
Aphylla williamsoni	39.5
Collembola	38.4
Ablabesmyia mallochi	37.5
Coelotanypus sp.	37.5
Cryptotendipes sp.	37.5
Hebetancylus excentricus	37.5
Pristina (Pristina) proboscidea	37.5
Pristina (Pristinella) sp.	37.5
Pseudochironomus sp.	37.5
Libellulidae	36.4
Oecetis sp.	36.4
Cyrnellus fraternus	34.6
Cladotanytarsus sp.	34.2
Hirudinea	34.2
Ephemeroptera	30.0
Leptoceridae	29.6
Apedilum sp.	25.0
Berosus sp.	25.0
Cladotanytarsus sp. F	25.0
Dero obtusa	25.0
Djalmabatista pulcher	25.0
Dubiraphia sp.	25.0
Ferrissia cf. hendersoni	25.0
Glossiphoniidae sp.	25.0
Hydroptilidae	25.0
Naidinae sp. A of EPC	25.0

Nanocladius sp.	25.0
Odonata	25.0
Oecetis sp. A of Epler, 2001	25.0
Polycladida sp.	25.0
Polypedilum illinoense grp.	25.0
Pristina (Pristinella) cf. osborni	25.0
Pristina leidyi	25.0
Prostoma sp.	25.0
Psychodidae	25.0
Rhabditophora sp.	25.0
Sparganophilus sp.	25.0
Tricladida	25.0
Zygoptera	25.0
Enallagma sp.	19.1
Polypedilum beckae	14.1
Coenagrionidae	13.3
Neureclipsis sp.	3.1

4.2.1.3 Total average density of each taxon by MFL period and river segment.

River Segment	MFL Period	Final Taxa	Total Avg Density
Upper	Period 1	Corbicula fluminea	1800.0
Upper	Period 1	Naididae	1550.0
Upper	Period 1	Dicrotendipes lobus	1125.0
Upper	Period 1	Mytilopsis leucophaeata	712.5
Upper	Period 1	Pyrgophorus platyrachis	656.2
Upper	Period 1	Rhithropanopeus harrisii	400.0
Upper	Period 1	Melanoides tuberculata	191.7
Upper	Period 1	Chironomus sp.	183.3
Upper	Period 1	Hyalella sp. A	175.0
Upper	Period 1	Hebetancylus excentricus	50.0
Upper	Period 1	Asheum beckae	25.0
Upper	Period 1	Ceratopogonide	25.0
Upper	Period 1	Parachironomus sp.	25.0
Upper	Period 1	Prostoma sp.	25.0
Middle	Period 1	Naididae	2462.5
Middle	Period 1	Corbicula fluminea	1800.0
Middle	Period 1	Melanoides tuberculata	150.0
Middle	Period 1	Mytilopsis leucophaeata	150.0
Middle	Period 1	Chironomus sp.	75.0
Middle	Period 1	Rhithropanopeus harrisii	25.0
Lower	Period 1	Naididae	575.0
Lower	Period 1	Corbicula fluminea	300.0
Lower	Period 1	Chironomidae	250.0
Lower	Period 1	Cryptochironomus sp.	150.0
Lower	Period 1	Melanoides tuberculata	100.0
Lower	Period 1	Pyrgophorus platyrachis	87.5
Lower	Period 1	Mytilopsis leucophaeata	50.0
Lower	Period 1	Chironomus sp.	25.0
Lower	Period 1	Polypedilum sp.	25.0
Lower	Period 1	Rhithropanopeus harrisii	25.0
Downstream	Period 1	Mytilopsis leucophaeata	1128.6
Downstream	Period 1	Naididae	807.4
Downstream	Period 1	Limnodriloidinae	350.0
Downstream	Period 1	Polypedilum halterale grp.	175.0
Downstream	Period 1	Chironomus sp.	162.5
Downstream	Period 1	Corbicula fluminea	125.0

Downstream	Period 1	Melanoides tuberculata	125.0
Downstream	Period 1	Polypedilum scalaenum grp.	112.5
Downstream	Period 1	Chaoborus punctipennis	100.0
Downstream	Period 1	Polypedilum sp.	100.0
Downstream	Period 1	Rhithropanopeus harrisii	89.1
Downstream	Period 1	Limnodriloides sp.	75.0
Downstream	Period 1	Tryonia aequicostata	75.0
Downstream	Period 1	Hobsonia florida	55.0
Downstream	Period 1	Erpobdella punctata	41.7
Downstream	Period 1	Dicrotendipes lobus	37.5
Downstream	Period 1	Polymesoda caroliniana	37.5
Downstream	Period 1	Cryptochironomus sp.	25.0
Downstream	Period 1	Djalmabatista pulcher	25.0
Downstream	Period 1	Tricladida	25.0
Upper	Period 2	Melanoides tuberculata	3931.2
Upper	Period 2	Pyrgophorus platyrachis	2677.2
Upper	Period 2	Naididae	2405.0
Upper	Period 2	Corbicula fluminea	1053.6
Upper	Period 2	Mytilopsis leucophaeata	818.8
Upper	Period 2	Pristina (Pristinella) sima	575.0
Upper	Period 2	Polypedilum scalaenum grp.	531.2
Upper	Period 2	Limnodrilus hoffmeisteri	476.9
Upper	Period 2	Helobdella stagnalis	462.5
Upper	Period 2	Dicrotendipes sp.	373.7
Upper	Period 2	Hyalella azteca	348.4
Upper	Period 2	Polypedilum halterale grp.	295.3
Upper	Period 2	Chironomus sp.	271.4
Upper	Period 2	Uromunna reynoldsi	255.9
Upper	Period 2	Procladius (Holotanypus) sp.	212.5
Upper	Period 2	Asheum beckae	200.0
Upper	Period 2	Helobdella papillata	175.0
Upper	Period 2	Sphaerium sp.	162.5
Upper	Period 2	Boccardiella ligerica	137.5
Upper	Period 2	Paralauterborniella nigrohalteralis	125.0
Upper	Period 2	Cryptochironomus sp.	120.8
Upper	Period 2	Ablabesmyia sp.	106.2
Upper	Period 2	Chironomidae	100.0
Upper	Period 2	Goeldichironomus sp.	100.0
Upper	Period 2	Libellula sp.	100.0
Upper	Period 2	Procladius sp.	87.5
Upper	Period 2	Dero nivea	75.0
Upper	Period 2	Nais communis sp. complex	75.0
Upper	Period 2	Planorbella scalaris	75.0
Upper	Period 2	Tanytarsus sp. G	75.0
Upper	Period 2	Ceratopogonide	62.5
Upper	Period 2	Pristina sp.	62.5
Upper	Period 2	Ablabesmyia mallochi	50.0
Upper	Period 2	Bezzia/Palpomyia grp.	50.0
Upper	Period 2	Cricotopus bicinctus	50.0
Upper	Period 2	Goeldichironomus carus	50.0
Upper	Period 2	Helobdella elongata	50.0
Upper	Period 2	Parachironomus sp.	50.0
Upper	Period 2	Tanytarsus sp. K	50.0
Upper	Period 2	Rhithropanopeus harrisii	46.4
Upper	Period 2	Tanytarsus sp. G of Epler, 2001	41.7
Upper	Period 2	Ephemeroptera	37.5
Upper	Period 2	Libellulidae	37.5

Upper	Period 2	Pseudochironomus sp.	37.5
Upper	Period 2	Oecetis sp.	33.3
Upper	Period 2	Dicrotendipes neomodestus	33.1
Upper	Period 2	Tanytarsus sp.	32.0
Upper	Period 2	Hydroptila sp.	31.8
Upper	Period 2	Polypedilum sp.	25.5
Upper	Period 2	Ancylidae	25.0
Upper	Period 2	Berosus sp.	25.0
Upper	Period 2	Chaoborus sp.	25.0
Upper	Period 2	Cladopelma sp.	25.0
Upper	Period 2	Cladotanytarsus sp.	25.0
Upper	Period 2	Collembola	25.0
Upper	Period 2	Djalmabatista pulcher	25.0
Upper	Period 2	Erpobdella punctata	25.0
Upper	Period 2	Gloiobdella elongata	25.0
Upper	Period 2	Hirudinea	25.0
Upper	Period 2	Hydroptilidae	25.0
Upper	Period 2	Leptoceridae	25.0
Upper	Period 2	Naidinae sp. A of EPC	25.0
Upper	Period 2	Oecetis sp. A of Epler, 2001	25.0
Upper	Period 2	Pristina (Pristina) proboscidea	25.0
Upper	Period 2	Pristina (Pristinella) cf. osborni	25.0
Upper	Period 2	Tanypodinae	25.0
Upper	Period 2	Ablabesmyia rhamphe grp.	23.4
Upper	Period 2	Polypedilum beckae	14.1
Upper	Period 2	Enallagma sp.	13.3
Upper	Period 2	Dicrotendipes lobus	7.8
Upper	Period 2	Neureclipsis sp.	3.1
Upper	Period 2	Coenagrionidae	1.6
Upper	Period 2	Cyrnellus fraternus	1.6
Middle	Period 2	Melanoides tuberculata	2171.7
Middle	Period 2	Naididae	1603.3
Middle	Period 2	Pyrgophorus platyrachis	1591.7
Middle	Period 2	Limnodrilus hoffmeisteri	925.0
Middle	Period 2	Corbicula fluminea	805.6
Middle	Period 2	Chironomus sp.	500.0
Middle	Period 2	Mytilopsis leucophaeata	300.0
Middle	Period 2	Cryptochironomus sp.	290.0
Middle	Period 2	Polypedilum halterale grp.	235.0
Middle	Period 2	Trichoptera	162.5
Middle	Period 2	Ablabesmyia sp.	150.0
Middle	Period 2	Dicrotendipes lobus	125.0
Middle	Period 2	Asheum beckae	100.0
Middle	Period 2	Ceratopogonide	91.7
Middle	Period 2	Procladius (Holotanypus) sp.	91.7
Middle	Period 2	Caenis sp.	75.0
Middle	Period 2	Erpobdella punctata	75.0
Middle	Period 2	Oecetis inconspicua complex	75.0
Middle	Period 2	Pisidium punctiferum	75.0
Middle	Period 2	Oecetis sp.	62.5
Middle	Period 2	Polypedilum scalaenum grp.	62.5
Middle	Period 2	Rhithropanopeus harrisii	58.3
Middle	Period 2	Chaoborus sp.	50.0
Middle	Period 2	Cladopelma sp.	50.0
Middle	Period 2	Cricotopus bicinctus	50.0
Middle	Period 2	Daphnia sp.	50.0
Middle	Period 2	Hyalella azteca	50.0

Middle	Period 2	Pristina (Pristinella) sp.	50.0
Middle	Period 2	Tanytarsus sp. G of Epler, 2001	50.0
Middle	Period 2	Dicrotendipes sp.	31.2
Middle	Period 2	Bezzia/Palpomyia grp.	25.0
Middle	Period 2	Chironomidae	25.0
Middle	Period 2	Dero nivea	25.0
Middle	Period 2	Dero obtusa	25.0
Middle	Period 2	Ferrissia cf. hendersoni	25.0
Middle	Period 2	Libellulidae	25.0
Middle	Period 2	Odonata	25.0
Middle	Period 2	Rhabditophora sp.	25.0
Middle	Period 2	Sparganophilus sp.	25.0
Lower	Period 2	Pyrgophorus platyrachis	4356.2
Lower	Period 2	Naididae	1364.3
Lower	Period 2	Mytilopsis leucophaeata	1194.4
Lower	Period 2	Corbicula fluminea	1108.3
Lower	Period 2	Dicrotendipes neomodestus	1000.0
Lower	Period 2	Melanoides tuberculata	345.8
Lower	Period 2	Polypedilum halterale grp.	243.8
Lower	Period 2	Limnodrilus hoffmeisteri	191.7
Lower	Period 2	Rhithropanopeus harrisii	175.0
Lower	Period 2	Cryptochironomus sp.	166.7
Lower	Period 2	Asheum beckae	162.5
Lower	Period 2	Polypedilum scalaenum grp.	120.0
Lower	Period 2	Chironomus sp.	106.2
Lower	Period 2	Procladius (Holotanypus) sp.	100.0
Lower	Period 2	Ablabesmyia sp.	87.5
Lower	Period 2	Ablabesmyia rhamphe grp.	50.0
Lower	Period 2	Chaoborus sp.	50.0
Lower	Period 2	Dicrotendipes simpsoni	50.0
Lower	Period 2	Djalmabatista sp.	50.0
Lower	Period 2	Tanypus sp.	50.0
Lower	Period 2	Ablabesmyia mallochi	25.0
Lower	Period 2	Boccardiella ligerica	25.0
Lower	Period 2	Chironomidae	25.0
Lower	Period 2	Collembola	25.0
Lower	Period 2	Cyrnellus fraternus	25.0
Lower	Period 2	Djalmabatista pulcher variant	25.0
Lower	Period 2	Erpobdella punctata	25.0
Lower	Period 2	Goeldichironomus sp.	25.0
Lower	Period 2	Leptoceridae	25.0
Lower	Period 2	Nanocladius sp.	25.0
Lower	Period 2	Oecetis inconspicua complex	25.0
Lower	Period 2	Oecetis sp.	25.0
Lower	Period 2	Polymesoda caroliniana	25.0
Lower	Period 2	Polypedilum sp.	25.0
Lower	Period 2	Trichoptera	25.0
Downstream	Period 2	Polypedilum halterale grp.	3137.5
Downstream	Period 2	Pyrgophorus platyrachis	2681.9
Downstream	Period 2	Naididae	1191.2
Downstream	Period 2	Polypedilum sp.	445.4
Downstream	Period 2	Limnodriloides sp.	400.0
Downstream	Period 2	Corbicula fluminea	395.3
Downstream	Period 2	Melanoides tuberculata	382.6
Downstream	Period 2	Mytilopsis leucophaeata	356.9
Downstream	Period 2	Polypedilum scalaenum grp.	354.0
Downstream	Period 2	Aulophorus flabelliger	290.0

Downstream	Period 2	Chironomus sp.	259.1
Downstream	Period 2	Procladius (Holotanypus) sp.	258.9
Downstream	Period 2	Hobsonia florida	218.9
Downstream	Period 2	Cryptochironomus sp.	163.8
Downstream	Period 2	Polymesoda caroliniana	142.9
Downstream	Period 2	Dero nivea	125.0
Downstream	Period 2	Tanypodinae	125.0
Downstream	Period 2	Sphaerium sp.	116.7
Downstream	Period 2	Goeldichironomus sp.	112.5
Downstream	Period 2	Ablabesmyia sp.	100.0
Downstream	Period 2	Asheum beckae	100.0
Downstream	Period 2	Djalmabatista sp.	100.0
Downstream	Period 2	Uromunna reynoldsi	100.0
Downstream	Period 2	Tanytarsus sp. G of Epler, 2001	91.7
Downstream	Period 2	Rhithropanopeus harrisii	85.5
Downstream	Period 2	Djalmabatista pulcher variant	70.0
Downstream	Period 2	Paranais litoralis	68.8
Downstream	Period 2	Chironomidae	61.1
Downstream	Period 2	Stenochironomus sp.	58.3
Downstream	Period 2	Erpobdella punctata	53.1
Downstream	Period 2	Ablabesmyia (Karelia) sp.	50.0
Downstream	Period 2	Labrundinia pilosella	50.0
Downstream	Period 2	Libellulidae	50.0
Downstream	Period 2	Paralauterborniella nigrohalteralis	50.0
Downstream	Period 2	Dicrotendipes neomodestus	45.0
Downstream	Period 2	Nais variabilis	43.8
Downstream	Period 2	Coelotanypus sp.	37.5
Downstream	Period 2	Dicrotendipes sp.	33.3
Downstream	Period 2	Procladius sp.	33.3
Downstream	Period 2	Ceratopogonide	31.2
Downstream	Period 2	Chaoborus sp.	30.0
Downstream	Period 2	Aphylla williamsoni	25.0
Downstream	Period 2	Caenis sp.	25.0
Downstream	Period 2	Collembola	25.0
Downstream	Period 2	Ephemeroptera	25.0
Downstream	Period 2	Hebetancylus excentricus	25.0
Downstream	Period 2	Hyalella azteca	25.0
Downstream	Period 2	Hyalella sp.	25.0
Downstream	Period 2	Limnodrilus hoffmeisteri	25.0
Downstream	Period 2	Nais communis sp. complex	25.0
Downstream	Period 2	Odonata	25.0
Downstream	Period 2	Oecetis sp.	25.0
Downstream	Period 2	Pristina (Pristinella) sp.	25.0
Downstream	Period 2	Tanytarsus sp.	25.0
Downstream	Period 2	Trichoptera	25.0
Upper	Period 3	Hyalella azteca	7050.0
Upper	Period 3	Melanoides tuberculata	3700.0
Upper	Period 3	Pyrgophorus platyrachis	1825.0
Upper	Period 3	Naididae	1328.6
Upper	Period 3	Mytilopsis leucophaeata	1091.7
Upper	Period 3	Boccardiella ligerica	1075.0
Upper	Period 3	Gloiobdella elongata	1000.0
Upper	Period 3	Corbicula fluminea	593.8
Upper	Period 3	Helobdella stagnalis	550.0
Upper	Period 3	Dicrotendipes sp.	483.3
Upper	Period 3	Chironomus sp.	387.5
Upper	Period 3	Limnodrilus hoffmeisteri	335.0

DRAFT

Upper	Period 3	Goeldichironomus sp.	300.0
Upper	Period 3	Polypedilum halterale grp.	266.7
Upper	Period 3	Procladius (Holotanypus) sp.	262.5
Upper	Period 3	Chaoborus sp.	250.0
Upper	Period 3	Polypedilum sp.	250.0
Upper	Period 3	Hyalella sp.	225.0
Upper	Period 3	Parachironomus tenuicaudatus	225.0
Upper	Period 3	Stenochironomus sp.	200.0
Upper	Period 3	Pisidium sp.	175.0
Upper	Period 3	Ablabesmyia rhamphe grp.	160.0
Upper	Period 3	Cryptochironomus sp.	150.0
Upper	Period 3	Parachironomus directus	150.0
Upper	Period 3	Parachironomus sp.	150.0
Upper	Period 3	Tarebia granifera	125.0
Upper	Period 3	Asheum beckae	112.5
Upper	Period 3	Uromunna reynoldsi	91.7
Upper	Period 3	Dero pectinata	87.5
Upper	Period 3	Dicrotendipes neomodestus	75.0
Upper	Period 3	Euhirudinea sp.	75.0
Upper	Period 3	Paranais litoralis	75.0
Upper	Period 3	Ceratopogonide	68.8
Upper	Period 3	Oecetis nocturna	62.5
Upper	Period 3	Chironomidae	54.2
Upper	Period 3	Aphylla williamsoni	50.0
Upper	Period 3	Arhynchobdellida sp.	50.0
Upper	Period 3	Bratislavia unidentata	50.0
Upper	Period 3	Parachironomus carinatus	50.0
Upper	Period 3	Peltodytes sp.	50.0
Upper	Period 3	Oecetis sp.	37.5
Upper	Period 3	Ablabesmyia sp.	25.0
Upper	Period 3	Apedilum sp.	25.0
Upper	Period 3	Chaoborus punctipennis	25.0
Upper	Period 3	Cladotanytarsus sp. F	25.0
Upper	Period 3	Coenagrionidae	25.0
Upper	Period 3	Cryptotendipes sp.	25.0
Upper	Period 3	Cyrnellus fraternus	25.0
Upper	Period 3	Enallagma sp.	25.0
Upper	Period 3	Ephemeroptera	25.0
Upper	Period 3	Glossiphoniidae sp.	25.0
Upper	Period 3	Hydroptila sp.	25.0
Upper	Period 3	Libellulidae	25.0
Upper	Period 3	Polycladida sp.	25.0
Upper	Period 3	Pristina leidyi	25.0
Upper	Period 3	Pristina sp.	25.0
Upper	Period 3	Procladius sp.	25.0
Upper	Period 3	Rhithropanopeus harrisii	25.0
Upper	Period 3	Tanytarsus sp. G	25.0
Upper	Period 3	Zygoptera	25.0
Middle	Period 3	Melanoides tuberculata	1618.8
Middle	Period 3	Pyrgophorus platyrachis	987.5
Middle	Period 3	Mytilopsis leucophaeata	952.8
Middle	Period 3	Chironomus sp.	446.9
Middle	Period 3	Ablabesmyia rhamphe grp.	400.0
Middle	Period 3	Chaoborus sp.	291.7
Middle	Period 3	Tarebia granifera	250.0
Middle	Period 3	Naididae	208.3
Middle	Period 3	Dicrotendipes sp.	170.0

Middle	Period 3	Polypedilum halterale grp.	150.0
Middle	Period 3	Corbicula fluminea	137.5
Middle	Period 3	Rhithropanopeus harrisii	125.0
Middle	Period 3	Boccardiella ligerica	100.0
Middle	Period 3	Tanytarsus sp. G of Epler, 2001	83.3
Middle	Period 3	Chironomidae	62.5
Middle	Period 3	Cryptochironomus sp.	50.0
Middle	Period 3	Cryptotendipes sp.	50.0
Middle	Period 3	Dicrotendipes neomodestus	50.0
Middle	Period 3	Parachironomus frequens	50.0
Middle	Period 3	Polypedilum scalaenum grp.	50.0
Middle	Period 3	Procladius (Holotanypus) sp.	50.0
Middle	Period 3	Aphylla williamsoni	37.5
Middle	Period 3	Ablabesmyia sp.	25.0
Middle	Period 3	Erpobdella punctata	25.0
Middle	Period 3	Euhirudinea sp.	25.0
Middle	Period 3	Hyalella azteca	25.0
Middle	Period 3	Hyalella sp.	25.0
Middle	Period 3	Hydroptilidae	25.0
Middle	Period 3	Limnodrilus hoffmeisteri	25.0
Middle	Period 3	Oecetis nocturna	25.0
Lower	Period 3	Melanoides tuberculata	843.8
Lower	Period 3	Chironomus sp.	731.2
Lower	Period 3	Pyrgophorus platyrachis	350.0
Lower	Period 3	Mytilopsis leucophaeata	204.2
Lower	Period 3	Limnodriloides sp.	75.0
Lower	Period 3	Chaoborus sp.	50.0
Lower	Period 3	Dicrotendipes sp.	50.0
Lower	Period 3	Rhithropanopeus harrisii	37.5
Lower	Period 3	Chironomidae	25.0
Lower	Period 3	Dicrotendipes neomodestus	25.0
Lower	Period 3	Dubiraphia sp.	25.0
Lower	Period 3	Ephemeroptera	25.0
Lower	Period 3	Hyalella sp.	25.0
Lower	Period 3	Polymesoda caroliniana	25.0
Lower	Period 3	Psychodidae	25.0
Downstream	Period 3	Mytilopsis leucophaeata	1930.7
Downstream	Period 3	Naididae	1446.5
Downstream	Period 3	Paranais litoralis	828.6
Downstream	Period 3	Limnodriloides sp.	768.9
Downstream	Period 3	Melanoides tuberculata	593.4
Downstream	Period 3	Chironomus sp.	554.5
Downstream	Period 3	Dicrotendipes lobus	387.5
Downstream	Period 3	Dicrotendipes modestus	325.0
Downstream	Period 3	Pyrgophorus platyrachis	216.7
Downstream	Period 3	Rhithropanopeus harrisii	108.8
Downstream	Period 3	Polymesoda caroliniana	95.0
Downstream	Period 3	Hobsonia florida	68.4
Downstream	Period 3	Dicrotendipes sp.	56.2
Downstream	Period 3	Boccardiella ligerica	50.0
Downstream	Period 3	Pristina (Pristina) proboscidea	50.0
Downstream	Period 3	Chironomidae	37.5
Downstream	Period 3	Erpobdella punctata	32.7
Downstream	Period 3	Ceratopogonide	25.0
Downstream	Period 3	Chaoborus sp.	25.0
Downstream	Period 3	Collembola	25.0
Downstream	Period 3	Euhirudinea sp.	25.0

DRAFT

Downstream	Period 3	Hyalella azteca	25.0
Downstream	Period 3	Polypedilum illinoense grp.	25.0
Downstream	Period 3	Polypedilum scalaenum grp.	25.0
Downstream	Period 3	Tanytarsus sp.	25.0
Upper	Period 5	Limnodrilus hoffmeisteri	915.3
Upper	Period 5	Melanoides tuberculata	883.1
Upper	Period 5	Polypedilum halterale grp.	743.7
Upper	Period 5	Polypedilum scalaenum grp.	620.5
Upper	Period 5	Dicrotendipes neomodestus	450.6
Upper	Period 5	Hyalella sp. C	391.3
Upper	Period 5	Ancylidae	391.3
Upper	Period 5	Pyrgophorus platyrachis	372.0
Upper	Period 5	Helobdella stagnalis	351.8
Upper	Period 5	Helobdella elongata	347.8
Upper	Period 5	Corbicula fluminea	344.2
Upper	Period 5	Ablabesmyia rhamphe grp.	321.7
Upper	Period 5	Pristina sp.	304.4
Upper	Period 5	Hyalella azteca	295.6
Upper	Period 5	Rhithropanopeus harrisii	292.3
Upper	Period 5	Larsia sp.	217.4
Upper	Period 5	Mytilopsis leucophaeata	202.9
Upper	Period 5	Procladius sp.	193.7
Upper	Period 5	Polypedilum sp.	173.9
Upper	Period 5	Hydroptila sp.	152.2
Upper	Period 5	Chironomus sp.	130.4
Upper	Period 5	Dero sp.	130.4
Upper	Period 5	Dicrotendipes modestus	130.4
Upper	Period 5	Procladius (Holotanypus) sp.	115.9
Upper	Period 5	Dicrotendipes nervosus	101.5
Upper	Period 5	Ablabesmyia sp.	87.0
Upper	Period 5	Callibaetis sp.	87.0
Upper	Period 5	Cryptochironomus sp.	87.0
Upper	Period 5	Cyrnellus fraternus	87.0
Upper	Period 5	Helobdella papillata	87.0
Upper	Period 5	Oecetis inconspicua complex	65.2
Upper	Period 5	Bezzia/Palpomyia grp.	60.9
Upper	Period 5	Tanytarsus sp.	59.8
Upper	Period 5	Caenis diminuta	54.4
Upper	Period 5	Aphylla williamsoni	43.5
Upper	Period 5	Asheum beckae	43.5
Upper	Period 5	Branchiobdellidae	43.5
Upper	Period 5	Caenis sp.	43.5
Upper	Period 5	Chironomidae	43.5
Upper	Period 5	Chironomus decorus grp.	43.5
Upper	Period 5	Cladopelma sp.	43.5
Upper	Period 5	Cladotanytarsus sp.	43.5
Upper	Period 5	Clinotanypus sp.	43.5
Upper	Period 5	Collembola	43.5
Upper	Period 5	Cricotopus bicinctus	43.5
Upper	Period 5	Dubiraphia vittata	43.5
Upper	Period 5	Hirudinea	43.5
Upper	Period 5	Leptoceridae	43.5
Upper	Period 5	Libellula incesta	43.5
Upper	Period 5	Libellulidae	43.5
Upper	Period 5	Oecetis inconspicua	43.5
Upper	Period 5	Paranais sp.	43.5
Upper	Period 5	Stenelmis sp.	43.5

Upper	Period 5	Stenochironomus sp.	43.5
Upper	Period 5	Tarebia granifera	43.5
Middle	Period 5	Mytilopsis leucophaeata	858.7
Middle	Period 5	Chironomus sp.	826.1
Middle	Period 5	Limnodrilus hoffmeisteri	790.5
Middle	Period 5	Polypedilum halterale grp.	594.2
Middle	Period 5	Melanoides tuberculata	437.7
Middle	Period 5	Dicrotendipes lobus	434.8
Middle	Period 5	Chironomus decorus grp.	291.9
Middle	Period 5	Pyrgophorus tuberculatus	260.9
Middle	Period 5	Dicrotendipes sp.	217.4
Middle	Period 5	Rhithropanopeus harrisii	186.3
Middle	Period 5	Pyrgophorus platyrachis	152.2
Middle	Period 5	Corbicula fluminea	144.9
Middle	Period 5	Uromunna reynoldsi	130.4
Middle	Period 5	Procladius sp.	105.6
Middle	Period 5	Polypedilum scalaenum grp.	87.0
Middle	Period 5	Polypedilum sp.	87.0
Middle	Period 5	Bezzia/Palpomyia grp.	43.5
Middle	Period 5	Ceriodaphnia sp.	43.5
Middle	Period 5	Cladopelma sp.	43.5
Middle	Period 5	Procladius (Holotanypus) sp.	43.5
Middle	Period 5	Procladius bellus var.1 Epler	43.5
Lower	Period 5	Mytilopsis leucophaeata	743.1
Lower	Period 5	Pyrgophorus platyrachis	687.0
Lower	Period 5	Limnodrilus hoffmeisteri	565.2
Lower	Period 5	Melanoides tuberculata	534.8
Lower	Period 5	Chironomus sp.	416.1
Lower	Period 5	Cryptochironomus sp.	413.0
Lower	Period 5	Chironomus decorus grp.	326.1
Lower	Period 5	Dicrotendipes neomodestus	130.4
Lower	Period 5	Polypedilum halterale grp.	130.4
Lower	Period 5	Collembola	87.0
Lower	Period 5	Rhithropanopeus harrisii	87.0
Lower	Period 5	Bezzia/Palpomyia grp.	43.5
Lower	Period 5	Corbicula fluminea	43.5
Lower	Period 5	Dicrotendipes lobus	43.5
Lower	Period 5	Dicrotendipes sp.	43.5
Lower	Period 5	Oribatida	43.5
Lower	Period 5	Placobdella ornata	43.5
Lower	Period 5	Procladius sp.	43.5

4.2.1.4 Overall Taxon Density with columns of MFL period and river segment density

Final Taxa	Avg Density	Period 1 Upper	Period 1 Middle	Period 1 Lower	Period 1 Downstream	Period 2 Upper	Period 2 Middle	Period 2 Lower	Period 2 Downstream	Period 3 Upper	Period 3 Middle	Period 3 Lower	Period 3 Downstream	Period 5 Upper	Period 5 Middle	Period 5 Lower
Pyrgophorus platyrachis	1642.1	656	0	88	0	2677.2	1592	4356	2682	1825	988	350	217	372	152	687
Polypedilum halterale grp.	1388.0	0	0	0	175	295.3	235	244	3138	267	150	0	0	744	594	130
Naididae	1260.3	1550	2462	575	807	2405.0	1603	1364	1191	1329	208	0	1446	0	0	0
Hyalella azteca	1046.7	0	0	0	0	348.4	50	0	25	7050	25	0	25	296	0	0
Melanoides tuberculata	1009.1	192	150	100	125	3931.2	2172	346	383	3700	1619	844	593	883	438	535
Mytilopsis leucophaeata	864.0	712	150	50	1129	818.8	300	1194	357	1092	953	204	1931	203	859	743
Limnodriloides sp.	720.1	0	0	0	75	0.0	0	0	400	0	0	75	769	0	0	0
Limnodrilus hoffmeisteri	657.4	0	0	0	0	476.9	925	192	25	335	25	0	0	915	791	565
Corbicula fluminea	643.4	1800	1800	300	125	1053.6	806	1108	395	594	138	0	0	344	145	43
Pristina (Pristinella) sima	575.0	0	0	0	0	575.0	0	0	0	0	0	0	0	0	0	0
Paranais litoralis	512.5	0	0	0	0	0.0	0	0	69	75	0	0	829	0	0	0
Hyalella sp. C	391.3	0	0	0	0	0.0	0	0	0	0	0	0	0	391	0	0
Helobdella stagnalis	381.8	0	0	0	0	462.5	0	0	0	550	0	0	0	352	0	0
Chironomus sp.	361.3	183	75	25	162	271.4	500	106	259	388	447	731	555	130	826	416
Gloiobdella elongata	350.0	0	0	0	0	25.0	0	0	0	1000	0	0	0	0	0	0
Limnodriloidinae	350.0	0	0	0	350	0.0	0	0	0	0	0	0	0	0	0	0
Polypedilum scalaenum grp.	338.9	0	0	0	112	531.2	62	120	354	0	50	0	25	621	87	0
Polypedilum sp.	338.4	0	0	25	100	25.5	0	25	445	250	0	0	0	174	87	0
Aulophorus flabelliger	290.0	0	0	0	0	0.0	0	0	290	0	0	0	0	0	0	0
Dicrotendipes lobus	287.3	1125	0	0	38	7.8	125	0	0	0	0	0	388	0	435	43
Pyrgophorus tuberculatus	260.9	0	0	0	0	0.0	0	0	0	0	0	0	0	0	261	0
Dicrotendipes neomodestus	254.9	0	0	0	0	33.1	0	1000	45	75	50	25	0	451	0	130
Boccardiella ligerica	254.2	0	0	0	0	137.5	0	25	0	1075	100	0	50	0	0	0
Chironomus decorus grp.	248.4	0	0	0	0	0.0	0	0	0	0	0	0	0	43	292	326
Parachironomus tenuicaudatus	225.0	0	0	0	0	0.0	0	0	0	225	0	0	0	0	0	0
Larsia sp.	217.4	0	0	0	0	0.0	0	0	0	0	0	0	0	217	0	0
Ancylidae	208.2	0	0	0	0	25.0	0	0	0	0	0	0	0	391	0	0
Ablabesmyia rhamphe grp.	207.5	0	0	0	0	23.4	0	50	0	160	400	0	0	322	0	0
Procladius (Holotanypus) sp.	200.6	0	0	0	0	212.5	92	100	259	262	50	0	0	116	43	0
Helobdella elongata	198.9	0	0	0	0	50.0	0	0	0	0	0	0	0	348	0	0
Dicrotendipes modestus	195.3	0	0	0	0	0.0	0	0	0	0	0	0	325	130	0	0
Hyalella sp. A	175.0	175	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0
Pisidium sp.	175.0	0	0	0	0	0.0	0	0	0	175	0	0	0	0	0	0

DRAFT

Cryptochironomus sp.	174.4	0	0	150	25	120.8	290	167	164	150	50	0	0	87	0	413
Dicrotendipes sp.	170.4	0	0	0	0	373.7	31	0	33	483	170	50	56	0	217	43
Uromunna reynoldsi	160.4	0	0	0	0	255.9	0	0	100	92	0	0	0	0	130	0
Goeldichironomus sp.	158.3	0	0	0	0	100.0	0	25	112	300	0	0	0	0	0	0
Parachironomus directus	150.0	0	0	0	0	0.0	0	0	0	150	0	0	0	0	0	0
Hobsonia florida	146.4	0	0	0	55	0.0	0	0	219	0	0	0	68	0	0	0
Tarebia granifera	139.5	0	0	0	0	0.0	0	0	0	125	250	0	0	43	0	0
Sphaerium sp.	135.0	0	0	0	0	162.5	0	0	117	0	0	0	0	0	0	0
Helobdella papillata	131.0	0	0	0	0	175.0	0	0	0	0	0	0	0	87	0	0
Pristina sp.	130.6	0	0	0	0	62.5	0	0	0	25	0	0	0	304	0	0
Dero sp.	130.4	0	0	0	0	0.0	0	0	0	0	0	0	0	130	0	0
Procladius sp.	124.5	0	0	0	0	87.5	0	0	33	25	0	0	0	194	106	43
Rhithropanopeus harrisii	116.3	400	25	25	89	46.4	58	175	85	25	125	38	109	292	186	87
Tanypodinae	112.5	0	0	0	0	25.0	0	0	125	0	0	0	0	0	0	0
Asheum beckae	109.9	25	0	0	0	200.0	100	162	100	112	0	0	0	43	0	0
Hyalella sp.	105.0	0	0	0	0	0.0	0	0	25	225	25	25	0	0	0	0
Polymesoda caroliniana	102.4	0	0	0	38	0.0	0	25	143	0	0	25	95	0	0	0
Dicrotendipes nervosus	101.5	0	0	0	0	0.0	0	0	0	0	0	0	0	101	0	0
Chaoborus sp.	101.4	0	0	0	0	25.0	50	50	30	250	292	50	25	0	0	0
Libellula sp.	100.0	0	0	0	0	100.0	0	0	0	0	0	0	0	0	0	0
Trichoptera	93.8	0	0	0	0	0.0	162	25	25	0	0	0	0	0	0	0
Ablabesmyia sp.	92.5	0	0	0	0	106.2	150	88	100	25	25	0	0	87	0	0
Hydroptila sp.	91.1	0	0	0	0	31.8	0	0	0	25	0	0	0	152	0	0
Dero nivea	87.5	0	0	0	0	75.0	25	0	125	0	0	0	0	0	0	0
Dero pectinata	87.5	0	0	0	0	0.0	0	0	0	88	0	0	0	0	0	0
Paralauterborniella nigrohalteralis	87.5	0	0	0	0	125.0	0	0	50	0	0	0	0	0	0	0
Callibaetis sp.	87.0	0	0	0	0	0.0	0	0	0	0	0	0	0	87	0	0
Stenochironomus sp.	83.7	0	0	0	0	0.0	0	0	58	200	0	0	0	43	0	0
Djalmabatista sp.	83.3	0	0	0	0	0.0	0	50	100	0	0	0	0	0	0	0
Parachironomus sp.	75.0	25	0	0	0	50.0	0	0	0	150	0	0	0	0	0	0
Pisidium punctiferum	75.0	0	0	0	0	0.0	75	0	0	0	0	0	0	0	0	0
Planorbella scalaris	75.0	0	0	0	0	75.0	0	0	0	0	0	0	0	0	0	0
Tryonia aequicostata	75.0	0	0	0	75	0.0	0	0	0	0	0	0	0	0	0	0
Tanytarsus sp. G of Epler, 2001	68.2	0	0	0	0	41.7	50	0	92	0	83	0	0	0	0	0
Chaoborus punctipennis	62.5	0	0	0	100	0.0	0	0	0	25	0	0	0	0	0	0
Djalmabatista pulcher variant	62.5	0	0	0	0	0.0	0	25	70	0	0	0	0	0	0	0

DRAFT

Chironomidae	60.1	0	0	250	0	100.0	25	25	61	54	62	25	38	43	0	0
Tanytarsus sp. G	58.3	0	0	0	0	75.0	0	0	0	25	0	0	0	0	0	0
Oecetis inconspicua complex	57.6	0	0	0	0	0.0	75	25	0	0	0	0	0	65	0	0
Ceratopogonide	56.7	25	0	0	0	62.5	92	0	31	69	0	0	25	0	0	0
Caenis diminuta	54.4	0	0	0	0	0.0	0	0	0	0	0	0	0	54	0	0
Bezzia/Palpomyia grp.	51.0	0	0	0	0	50.0	25	0	0	0	0	0	0	61	43	43
Ablabesmyia (Karelia) sp.	50.0	0	0	0	0	0.0	0	0	50	0	0	0	0	0	0	0
Arhynchobdellida sp.	50.0	0	0	0	0	0.0	0	0	0	50	0	0	0	0	0	0
Bratislavia unidentata	50.0	0	0	0	0	0.0	0	0	0	50	0	0	0	0	0	0
Daphnia sp.	50.0	0	0	0	0	0.0	50	0	0	0	0	0	0	0	0	0
Dicrotendipes simpsoni	50.0	0	0	0	0	0.0	0	50	0	0	0	0	0	0	0	0
Goeldichironomus carus	50.0	0	0	0	0	50.0	0	0	0	0	0	0	0	0	0	0
Labrundinia pilosella	50.0	0	0	0	0	0.0	0	0	50	0	0	0	0	0	0	0
Oecetis nocturna	50.0	0	0	0	0	0.0	0	0	0	62	25	0	0	0	0	0
Parachironomus carinatus	50.0	0	0	0	0	0.0	0	0	0	50	0	0	0	0	0	0
Parachironomus frequens	50.0	0	0	0	0	0.0	0	0	0	0	50	0	0	0	0	0
Peltodytes sp.	50.0	0	0	0	0	0.0	0	0	0	50	0	0	0	0	0	0
Tanypus sp.	50.0	0	0	0	0	0.0	0	50	0	0	0	0	0	0	0	0
Tanytarsus sp. K	50.0	0	0	0	0	50.0	0	0	0	0	0	0	0	0	0	0
Cricotopus bicinctus	47.8	0	0	0	0	50.0	50	0	0	0	0	0	0	43	0	0
Tanytarsus sp.	47.5	0	0	0	0	32.0	0	0	25	0	0	0	25	60	0	0
Nais variabilis	43.8	0	0	0	0	0.0	0	0	44	0	0	0	0	0	0	0
Branchiobdellidae	43.5	0	0	0	0	0.0	0	0	0	0	0	0	0	43	0	0
Ceriodaphnia sp.	43.5	0	0	0	0	0.0	0	0	0	0	0	0	0	0	43	0
Clinotanypus sp.	43.5	0	0	0	0	0.0	0	0	0	0	0	0	0	43	0	0
Dubiraphia vittata	43.5	0	0	0	0	0.0	0	0	0	0	0	0	0	43	0	0
Libellula incesta	43.5	0	0	0	0	0.0	0	0	0	0	0	0	0	43	0	0
Oecetis inconspicua	43.5	0	0	0	0	0.0	0	0	0	0	0	0	0	43	0	0
Oribatida	43.5	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	43
Paranais sp.	43.5	0	0	0	0	0.0	0	0	0	0	0	0	0	43	0	0
Placobdella ornata	43.5	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	43
Procladius bellus var.1 Epler	43.5	0	0	0	0	0.0	0	0	0	0	0	0	0	0	43	0
Stenelmis sp.	43.5	0	0	0	0	0.0	0	0	0	0	0	0	0	43	0	0
Erpobdella punctata	43.4	0	0	0	42	25.0	75	25	53	0	25	0	33	0	0	0
Caenis sp.	42.1	0	0	0	0	0.0	75	0	25	0	0	0	0	43	0	0
Euhirudinea sp.	41.7	0	0	0	0	0.0	0	0	0	75	25	0	25	0	0	0
Nais communis sp. complex	41.7	0	0	0	0	75.0	0	0	25	0	0	0	0	0	0	0

DRAFT

Cladopelma sp.	41.1	0	0	0	0	25.0	50	0	0	0	0	0	0	43	43	0
Aphylla williamsoni	39.5	0	0	0	0	0.0	0	0	25	50	38	0	0	43	0	0
Collembola	38.4	0	0	0	0	25.0	0	25	25	0	0	0	25	43	0	87
Ablabesmyia mallochi	37.5	0	0	0	0	50.0	0	25	0	0	0	0	0	0	0	0
Coelotanypus sp.	37.5	0	0	0	0	0.0	0	0	38	0	0	0	0	0	0	0
Cryptotendipes sp.	37.5	0	0	0	0	0.0	0	0	0	25	50	0	0	0	0	0
Hebetancylus excentricus	37.5	50	0	0	0	0.0	0	0	25	0	0	0	0	0	0	0
Pristina (Pristina) proboscidea	37.5	0	0	0	0	25.0	0	0	0	0	0	0	50	0	0	0
Pristina (Pristinella) sp.	37.5	0	0	0	0	0.0	50	0	25	0	0	0	0	0	0	0
Pseudochironomus sp.	37.5	0	0	0	0	37.5	0	0	0	0	0	0	0	0	0	0
Libellulidae	36.4	0	0	0	0	37.5	25	0	50	25	0	0	0	43	0	0
Oecetis sp.	36.4	0	0	0	0	33.3	62	25	25	38	0	0	0	0	0	0
Cyrnellus fraternus	34.6	0	0	0	0	1.6	0	25	0	25	0	0	0	87	0	0
Cladotanytarsus sp.	34.2	0	0	0	0	25.0	0	0	0	0	0	0	0	43	0	0
Hirudinea	34.2	0	0	0	0	25.0	0	0	0	0	0	0	0	43	0	0
Ephemeroptera	30.0	0	0	0	0	37.5	0	0	25	25	0	25	0	0	0	0
Leptoceridae	29.6	0	0	0	0	25.0	0	25	0	0	0	0	0	43	0	0
Apedilum sp.	25.0	0	0	0	0	0.0	0	0	0	25	0	0	0	0	0	0
Berosus sp.	25.0	0	0	0	0	25.0	0	0	0	0	0	0	0	0	0	0
Cladotanytarsus sp. F	25.0	0	0	0	0	0.0	0	0	0	25	0	0	0	0	0	0
Dero obtusa	25.0	0	0	0	0	0.0	25	0	0	0	0	0	0	0	0	0
Djalmabatista pulcher	25.0	0	0	0	25	25.0	0	0	0	0	0	0	0	0	0	0
Dubiraphia sp.	25.0	0	0	0	0	0.0	0	0	0	0	0	25	0	0	0	0
Ferrissia cf. hendersoni	25.0	0	0	0	0	0.0	25	0	0	0	0	0	0	0	0	0
Glossiphoniidae sp.	25.0	0	0	0	0	0.0	0	0	0	25	0	0	0	0	0	0
Hydroptilidae	25.0	0	0	0	0	25.0	0	0	0	0	25	0	0	0	0	0
Naidinae sp. A of EPC	25.0	0	0	0	0	25.0	0	0	0	0	0	0	0	0	0	0
Nanocladius sp.	25.0	0	0	0	0	0.0	0	25	0	0	0	0	0	0	0	0
Odonata	25.0	0	0	0	0	0.0	25	0	25	0	0	0	0	0	0	0
Oecetis sp. A of Epler, 2001	25.0	0	0	0	0	25.0	0	0	0	0	0	0	0	0	0	0
Polycladida sp.	25.0	0	0	0	0	0.0	0	0	0	25	0	0	0	0	0	0
Polypedilum illinoense grp.	25.0	0	0	0	0	0.0	0	0	0	0	0	0	25	0	0	0
Pristina (Pristinella) cf. osborni	25.0	0	0	0	0	25.0	0	0	0	0	0	0	0	0	0	0
Pristina leidyi	25.0	0	0	0	0	0.0	0	0	0	25	0	0	0	0	0	0
Prostoma sp.	25.0	25	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0
Psychodidae	25.0	0	0	0	0	0.0	0	0	0	0	0	25	0	0	0	0
Rhabditophora sp.	25.0	0	0	0	0	0.0	25	0	0	0	0	0	0	0	0	0

DRAFT

Sparganophilus sp.	25.0	0	0	0	0	0.0	25	0	0	0	0	0	0	0	0	0
Tricladida	25.0	0	0	0	25	0.0	0	0	0	0	0	0	0	0	0	0
Zygoptera	25.0	0	0	0	0	0.0	0	0	0	25	0	0	0	0	0	0
Enallagma sp.	19.1	0	0	0	0	13.3	0	0	0	25	0	0	0	0	0	0
Polypedilum beckae	14.1	0	0	0	0	14.1	0	0	0	0	0	0	0	0	0	0
Coenagrionidae	13.3	0	0	0	0	1.6	0	0	0	25	0	0	0	0	0	0
Neureclipsis sp.	3.1	0	0	0	0	3.1	0	0	0	0	0	0	0	0	0	0

4.2.1.5 Summary statistics of density of organisms.

variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
result_m2	2158	0	29600	100	43	350	307	111	589	1762	38	74

4.2.1.6 Summary statistics of densities by MFL Period

MFL Period	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Period 1	result_m2	170	25	12225	100	25	350	325	111	556	1431	110	217
Period 2	result_m2	1086	0	21625	75	25	300	275	74	616	1938	59	115
Period 3	result_m2	513	25	29600	100	25	425	400	111	684	2022	89	175
Period 5	result_m2	389	43	5217	130	43	478	435	129	399	645	33	64

4.2.1.7 Summary statistics of densities by River Segment

River Segment	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Upper	result_m2	579	0	14975	87	43	349	305	92	541	1491	62	122
Middle	result_m2	316	25	13500	125	43	406	363	148	571	1455	82	161
Lower	result_m2	187	25	8150	100	43	350	307	111	478	1152	84	166
Downstream	result_m2	1076	25	29600	100	25	325	300	111	639	2044	62	122

4.2.1.8 Summary statistics of densities by MFL period and River segment

River Segment	MFL Period	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Upper	Period 1	result_m2	28	25	3025	150	25	1188	1162	185	679	916	173	355
Middle	Period 1	result_m2	7	25	3575	150	112	1575	1462	185	1018	1332	503	1232
Lower	Period 1	result_m2	12	25	1000	100	44	175	131	93	188	271	78	172
Downstream	Period 1	result_m2	123	25	12225	100	25	288	262	111	538	1590	143	284
Upper	Period 2	result_m2	202	0	13775	75	25	244	219	74	633	1850	130	257
Middle	Period 2	result_m2	134	25	13500	75	25	425	400	74	717	2001	173	342
Lower	Period 2	result_m2	85	25	8150	75	25	300	275	74	601	1552	168	335
Downstream	Period 2	result_m2	665	25	21625	75	25	250	225	74	593	1998	77	152
Upper	Period 3	result_m2	117	25	14975	75	25	375	350	74	669	2028	187	371
Middle	Period 3	result_m2	74	25	5100	112	25	375	350	130	467	925	108	214
Lower	Period 3	result_m2	34	25	4200	75	25	275	250	74	347	810	139	283
Downstream	Period 3	result_m2	288	25	29600	112	44	550	506	130	786	2303	136	267
Upper	Period 5	result_m2	232	43	4261	130	43	435	391	129	381	617	40	80
Middle	Period 5	result_m2	101	43	5217	130	43	435	391	129	423	737	73	145
Lower	Period 5	result_m2	56	43	3000	196	43	620	576	226	433	592	79	159

4.2.1.9 Summary statistics of density of organisms by river segment and MFL period

River Segment	MFL Period	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Upper	Period 1	result_m2	28	25	3025	150	25	1188	1162	185	679	916	173	355
Upper	Period 2	result_m2	202	0	13775	75	25	244	219	74	633	1850	130	257
Upper	Period 3	result_m2	117	25	14975	75	25	375	350	74	669	2028	187	371
Upper	Period 5	result_m2	232	43	4261	130	43	435	391	129	381	617	40	80
Middle	Period 1	result_m2	7	25	3575	150	112	1575	1462	185	1018	1332	503	1232
Middle	Period 2	result_m2	134	25	13500	75	25	425	400	74	717	2001	173	342
Middle	Period 3	result_m2	74	25	5100	112	25	375	350	130	467	925	108	214
Middle	Period 5	result_m2	101	43	5217	130	43	435	391	129	423	737	73	145
Lower	Period 1	result_m2	12	25	1000	100	44	175	131	93	188	271	78	172
Lower	Period 2	result_m2	85	25	8150	75	25	300	275	74	601	1552	168	335
Lower	Period 3	result_m2	34	25	4200	75	25	275	250	74	347	810	139	283
Lower	Period 5	result_m2	56	43	3000	196	43	620	576	226	433	592	79	159
Downstream	Period 1	result_m2	123	25	12225	100	25	288	262	111	538	1590	143	284
Downstream	Period 2	result_m2	665	25	21625	75	25	250	225	74	593	1998	77	152
Downstream	Period 3	result_m2	288	25	29600	112	44	550	506	130	786	2303	136	267

4.2.1.10 Summary statistics of density by taxon, river segment, and MFL period

River Segment	Final Taxa	MFL Period	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Downstream	Mytilopsis leucophaeata	Period 3	result_m2	35	25.00	29600.0	200.0	37.5	1150.0	1112.5	259	1930.7	5609	948.0	1926.7
Downstream	Naididae	Period 3	result_m2	64	25.00	7300.0	625.0	168.8	1925.0	1756.2	778	1446.5	1883	235.4	470.4
Downstream	Paranais litoralis	Period 3	result_m2	7	25.00	4075.0	75.0	25.0	787.5	762.5	74	828.6	1523	575.8	1409.0
Downstream	Limnodriloides sp.	Period 3	result_m2	33	25.00	3850.0	400.0	75.0	625.0	550.0	482	768.9	1100	191.4	389.9
Downstream	Melanoides tuberculata	Period 3	result_m2	34	25.00	5725.0	162.5	81.2	381.2	300.0	130	593.4	1142	195.8	398.3
Downstream	Chironomus sp.	Period 3	result_m2	11	25.00	2200.0	200.0	37.5	875.0	837.5	259	554.5	738	222.4	495.6
Downstream	Dicrotendipes lobus	Period 3	result_m2	2	25.00	750.0	387.5	206.2	568.8	362.5	537	387.5	513	362.5	4606.0
Downstream	Dicrotendipes modestus	Period 3	result_m2	1	325.00	325.0	325.0	325.0	325.0	0.0	0	325.0	NA	NA	NaN
Downstream	Pyrgophorus platyrachis	Period 3	result_m2	3	25.00	425.0	200.0	112.5	312.5	200.0	259	216.7	201	115.8	498.1
Downstream	Rhithropanopeus harrisii	Period 3	result_m2	34	25.00	475.0	75.0	31.2	125.0	93.8	74	108.8	106	18.2	37.0
Downstream	Polymesoda caroliniana	Period 3	result_m2	10	25.00	350.0	37.5	25.0	68.8	43.8	19	95.0	123	38.9	87.9
Downstream	Hobsonia florida	Period 3	result_m2	19	25.00	250.0	50.0	25.0	75.0	50.0	37	68.4	62	14.2	29.8
Downstream	Dicrotendipes sp.	Period 3	result_m2	4	25.00	125.0	37.5	25.0	68.8	43.8	19	56.2	47	23.7	75.3
Downstream	Boccardiella ligerica	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Downstream	Pristina (Pristina) proboscidea	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Downstream	Chironomidae	Period 3	result_m2	4	25.00	50.0	37.5	25.0	50.0	25.0	19	37.5	14	7.2	23.0
Downstream	Erpobdella punctata	Period 3	result_m2	13	25.00	50.0	25.0	25.0	50.0	25.0	0	32.7	12	3.3	7.3
Downstream	Ceratopogonide	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Chaoborus sp.	Period 3	result_m2	3	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Downstream	Collembola	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Euhirudinea sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Hyalella azteca	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Polypedilum illinoense grp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Polypedilum scalaenum grp.	Period 3	result_m2	3	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Downstream	Tanytarsus sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Polypedilum halterale grp.	Period 2	result_m2	28	25.00	17925.0	862.5	168.8	5012.5	4843.8	1205	3137.5	4744	896.4	1839.3
Downstream	Pyrgophorus platyrachis	Period 2	result_m2	18	25.00	21275.0	687.5	106.2	2562.5	2456.2	982	2681.9	5151	1214.0	2561.4
Downstream	Naididae	Period 2	result_m2	128	25.00	21625.0	187.5	50.0	843.8	793.8	241	1191.2	2894	255.8	506.1
Downstream	Polypedilum sp.	Period 2	result_m2	27	25.00	2650.0	175.0	50.0	650.0	600.0	185	445.4	631	121.3	249.4
Downstream	Limnodriloides sp.	Period 2	result_m2	1	400.00	400.0	400.0	400.0	400.0	0.0	0	400.0	NA	NA	NaN
Downstream	Corbicula fluminea	Period 2	result_m2	16	25.00	1600.0	225.0	131.2	418.8	287.5	204	395.3	449	112.3	239.4
Downstream	Melanoides tuberculata	Period 2	result_m2	33	25.00	5000.0	50.0	25.0	200.0	175.0	37	382.6	974	169.6	345.4
Downstream	Mytilopsis leucophaeata	Period 2	result_m2	58	25.00	7725.0	75.0	31.2	200.0	168.8	74	356.9	1121	147.2	294.7
Downstream	Polypedilum scalaenum grp.	Period 2	result_m2	31	25.00	2050.0	150.0	50.0	450.0	400.0	185	354.0	486	87.3	178.3

DRAFT

Downstream	Aulophorus flabelliger	Period 2	result_m2	5	25.00	1025.0	100.0	25.0	275.0	250.0	111	290.0	423	189.3	525.7
Downstream	Chironomus sp.	Period 2	result_m2	44	25.00	2700.0	50.0	50.0	200.0	150.0	37	259.1	519	78.2	157.7
Downstream	Procladius (Holotanypus) sp.	Period 2	result_m2	14	50.00	1075.0	100.0	50.0	150.0	100.0	74	258.9	364	97.2	210.0
Downstream	Hobsonia florida	Period 2	result_m2	33	25.00	2125.0	50.0	25.0	225.0	200.0	37	218.9	403	70.2	143.0
Downstream	Cryptochironomus sp.	Period 2	result_m2	20	25.00	450.0	150.0	87.5	231.2	143.8	130	163.8	105	23.5	49.3
Downstream	Polymesoda caroliniana	Period 2	result_m2	14	25.00	525.0	62.5	25.0	162.5	137.5	56	142.9	168	45.0	97.2
Downstream	Dero nivea	Period 2	result_m2	2	50.00	200.0	125.0	87.5	162.5	75.0	111	125.0	106	75.0	953.0
Downstream	Tanypodinae	Period 2	result_m2	7	25.00	350.0	50.0	50.0	175.0	125.0	37	125.0	125	47.2	115.6
Downstream	Sphaerium sp.	Period 2	result_m2	3	50.00	150.0	150.0	100.0	150.0	50.0	0	116.7	58	33.3	143.4
Downstream	Goeldichironomus sp.	Period 2	result_m2	2	50.00	175.0	112.5	81.2	143.8	62.5	93	112.5	88	62.5	794.1
Downstream	Ablabesmyia sp.	Period 2	result_m2	11	25.00	425.0	50.0	50.0	100.0	50.0	0	100.0	113	34.2	76.2
Downstream	Asheum beckae	Period 2	result_m2	4	25.00	300.0	37.5	25.0	112.5	87.5	19	100.0	134	66.9	213.0
Downstream	Djalmabatista sp.	Period 2	result_m2	2	50.00	150.0	100.0	75.0	125.0	50.0	74	100.0	71	50.0	635.3
Downstream	Uromunna reynoldsi	Period 2	result_m2	4	25.00	150.0	112.5	81.2	131.2	50.0	37	100.0	54	27.0	85.9
Downstream	Tanytarsus sp. G of Epler, 2001	Period 2	result_m2	3	25.00	200.0	50.0	37.5	125.0	87.5	37	91.7	95	54.6	235.1
Downstream	Rhithropanopeus harrisii	Period 2	result_m2	67	25.00	400.0	50.0	25.0	100.0	75.0	37	85.5	76	9.3	18.5
Downstream	Djalmabatista pulcher variant	Period 2	result_m2	5	25.00	125.0	50.0	50.0	100.0	50.0	37	70.0	41	18.4	51.0
Downstream	Paranais litoralis	Period 2	result_m2	4	25.00	125.0	62.5	43.8	87.5	43.8	37	68.8	43	21.4	67.9
Downstream	Chironomidae	Period 2	result_m2	9	25.00	175.0	50.0	25.0	50.0	25.0	37	61.1	49	16.2	37.4
Downstream	Stenochironomus sp.	Period 2	result_m2	3	25.00	125.0	25.0	25.0	75.0	50.0	0	58.3	58	33.3	143.4
Downstream	Erpobdella punctata	Period 2	result_m2	16	25.00	175.0	25.0	25.0	50.0	25.0	0	53.1	50	12.5	26.6
Downstream	Ablabesmyia (Karelia) sp.	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Downstream	Labrundinia pilosella	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Downstream	Libellulidae	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Downstream	Paralauterborniella nigrohalteralis	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Downstream	Dicrotendipes neomodestus	Period 2	result_m2	5	25.00	50.0	50.0	50.0	50.0	0.0	0	45.0	11	5.0	13.9
Downstream	Nais variabilis	Period 2	result_m2	4	25.00	50.0	50.0	43.8	50.0	6.2	0	43.8	12	6.2	19.9
Downstream	Coelotanypus sp.	Period 2	result_m2	2	25.00	50.0	37.5	31.2	43.8	12.5	19	37.5	18	12.5	158.8
Downstream	Dicrotendipes sp.	Period 2	result_m2	6	25.00	50.0	25.0	25.0	43.8	18.8	0	33.3	13	5.3	13.6
Downstream	Procladius sp.	Period 2	result_m2	3	25.00	50.0	25.0	25.0	37.5	12.5	0	33.3	14	8.3	35.9
Downstream	Ceratopogonide	Period 2	result_m2	4	25.00	50.0	25.0	25.0	31.2	6.2	0	31.2	12	6.2	19.9
Downstream	Chaoborus sp.	Period 2	result_m2	5	25.00	50.0	25.0	25.0	25.0	0.0	0	30.0	11	5.0	13.9
Downstream	Aphylla williamsoni	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Caenis sp.	Period 2	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Downstream	Collembola	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Ephemeroptera	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Hebetancylus excentricus	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN

DRAFT

Downstream	Hyalella azteca	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Hyalella sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Limnodrilus hoffmeisteri	Period 2	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Downstream	Nais communis sp. complex	Period 2	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Downstream	Odonata	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Oecetis sp.	Period 2	result_m2	3	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Downstream	Pristina (Pristinella) sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Tanytarsus sp.	Period 2	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Downstream	Trichoptera	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Mytilopsis leucophaeata	Period 1	result_m2	28	25.00	12225.0	112.5	50.0	506.2	456.2	111	1128.6	2932	554.1	1136.9
Downstream	Naididae	Period 1	result_m2	37	25.00	4975.0	225.0	100.0	900.0	800.0	297	807.4	1194	196.2	398.0
Downstream	Limnodriloidinae	Period 1	result_m2	1	350.00	350.0	350.0	350.0	350.0	0.0	0	350.0	NA	NA	NaN
Downstream	Polypedilum halterale grp.	Period 1	result_m2	1	175.00	175.0	175.0	175.0	175.0	0.0	0	175.0	NA	NA	NaN
Downstream	Chironomus sp.	Period 1	result_m2	2	25.00	300.0	162.5	93.8	231.2	137.5	204	162.5	194	137.5	1747.1
Downstream	Corbicula fluminea	Period 1	result_m2	1	125.00	125.0	125.0	125.0	125.0	0.0	0	125.0	NA	NA	NaN
Downstream	Melanoides tuberculata	Period 1	result_m2	1	125.00	125.0	125.0	125.0	125.0	0.0	0	125.0	NA	NA	NaN
Downstream	Polypedilum scalaenum grp.	Period 1	result_m2	2	75.00	150.0	112.5	93.8	131.2	37.5	56	112.5	53	37.5	476.5
Downstream	Chaoborus punctipennis	Period 1	result_m2	1	100.00	100.0	100.0	100.0	100.0	0.0	0	100.0	NA	NA	NaN
Downstream	Polypedilum sp.	Period 1	result_m2	1	100.00	100.0	100.0	100.0	100.0	0.0	0	100.0	NA	NA	NaN
Downstream	Rhithropanopeus harrisii	Period 1	result_m2	23	25.00	450.0	50.0	25.0	87.5	62.5	37	89.1	112	23.4	48.5
Downstream	Limnodriloides sp.	Period 1	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Downstream	Tryonia aequicostata	Period 1	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Downstream	Hobsonia florida	Period 1	result_m2	10	25.00	125.0	37.5	25.0	87.5	62.5	19	55.0	39	12.2	27.7
Downstream	Erpobdella punctata	Period 1	result_m2	3	25.00	50.0	50.0	37.5	50.0	12.5	0	41.7	14	8.3	35.9
Downstream	Dicrotendipes lobus	Period 1	result_m2	2	25.00	50.0	37.5	31.2	43.8	12.5	19	37.5	18	12.5	158.8
Downstream	Polymesoda caroliniana	Period 1	result_m2	4	25.00	50.0	37.5	25.0	50.0	25.0	19	37.5	14	7.2	23.0
Downstream	Cryptochironomus sp.	Period 1	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Djalmabatista pulcher	Period 1	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Downstream	Tricladida	Period 1	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Lower	Mytilopsis leucophaeata	Period 5	result_m2	11	173.91	3000.0	565.2	391.3	717.4	326.1	258	743.1	782	235.7	525.2
Lower	Pyrgophorus platyrachis	Period 5	result_m2	5	43.48	2130.4	217.4	43.5	1000.0	956.5	258	687.0	899	401.9	1115.8
Lower	Limnodrilus hoffmeisteri	Period 5	result_m2	2	391.30	739.1	565.2	478.3	652.2	173.9	258	565.2	246	173.9	2209.8
Lower	Melanoides tuberculata	Period 5	result_m2	10	43.48	2391.3	130.4	130.4	608.7	478.3	129	534.8	763	241.2	545.7
Lower	Chironomus sp.	Period 5	result_m2	7	43.48	956.5	347.8	108.7	673.9	565.2	451	416.1	359	135.8	332.3
Lower	Cryptochironomus sp.	Period 5	result_m2	2	217.39	608.7	413.0	315.2	510.9	195.7	290	413.0	277	195.7	2486.0
Lower	Chironomus decorus grp.	Period 5	result_m2	4	86.96	739.1	239.1	152.2	413.0	260.9	161	326.1	289	144.8	460.6
Lower	Dicrotendipes neomodestus	Period 5	result_m2	1	130.44	130.4	130.4	130.4	130.4	0.0	0	130.4	NA	NA	NaN

DRAFT

Lower	Polypedilum halterale grp.	Period 5	result_m2	2	86.96	173.9	130.4	108.7	152.2	43.5	64	130.4	61	43.5	552.4
Lower	Collembola	Period 5	result_m2	1	86.96	87.0	87.0	87.0	87.0	0.0	0	87.0	NA	NA	NaN
Lower	Rhithropanopeus harrisii	Period 5	result_m2	4	43.48	217.4	43.5	43.5	87.0	43.5	0	87.0	87	43.5	138.4
Lower	Bezzia/Palpomyia grp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Lower	Corbicula fluminea	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Lower	Dicrotendipes lobus	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Lower	Dicrotendipes sp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Lower	Oribatida	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Lower	Placobdella ornata	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Lower	Procladius sp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Lower	Melanoides tuberculata	Period 3	result_m2	8	50.00	4200.0	250.0	93.8	906.2	812.5	278	843.8	1404	496.4	1173.8
Lower	Chironomus sp.	Period 3	result_m2	4	25.00	2375.0	262.5	118.8	875.0	756.2	259	731.2	1105	552.7	1758.9
Lower	Pyrgophorus platyrachis	Period 3	result_m2	1	350.00	350.0	350.0	350.0	350.0	0.0	0	350.0	NA	NA	NaN
Lower	Mytilopsis leucophaeata	Period 3	result_m2	6	25.00	350.0	187.5	175.0	275.0	100.0	93	204.2	113	46.3	119.0
Lower	Limnodriloides sp.	Period 3	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Lower	Chaoborus sp.	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Lower	Dicrotendipes sp.	Period 3	result_m2	2	25.00	75.0	50.0	37.5	62.5	25.0	37	50.0	35	25.0	317.6
Lower	Rhithropanopeus harrisii	Period 3	result_m2	4	25.00	50.0	37.5	25.0	50.0	25.0	19	37.5	14	7.2	23.0
Lower	Chironomidae	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Dicrotendipes neomodestus	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Dubiraphia sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Ephemeroptera	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Hyalella sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Polymesoda caroliniana	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Psychodidae	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Pyrgophorus platyrachis	Period 2	result_m2	4	100.00	8150.0	4587.5	981.2	7962.5	6981.2	5096	4356.2	4265	2132.3	6785.9
Lower	Naididae	Period 2	result_m2	7	150.00	3875.0	525.0	337.5	2162.5	1825.0	519	1364.3	1628	615.5	1506.0
Lower	Mytilopsis leucophaeata	Period 2	result_m2	9	25.00	7525.0	25.0	25.0	300.0	275.0	0	1194.4	2514	838.0	1932.4
Lower	Corbicula fluminea	Period 2	result_m2	3	250.00	1575.0	1500.0	875.0	1537.5	662.5	111	1108.3	744	429.7	1848.9
Lower	Dicrotendipes neomodestus	Period 2	result_m2	1	1000.00	1000.0	1000.0	1000.0	1000.0	0.0	0	1000.0	NA	NA	NaN
Lower	Melanoides tuberculata	Period 2	result_m2	12	25.00	1050.0	250.0	50.0	437.5	387.5	297	345.8	377	108.8	239.4
Lower	Polypedilum halterale grp.	Period 2	result_m2	4	25.00	800.0	75.0	25.0	293.8	268.8	74	243.8	374	186.9	594.8
Lower	Limnodrilus hoffmeisteri	Period 2	result_m2	3	75.00	400.0	100.0	87.5	250.0	162.5	37	191.7	181	104.4	449.3
Lower	Rhithropanopeus harrisii	Period 2	result_m2	3	50.00	275.0	200.0	125.0	237.5	112.5	111	175.0	115	66.1	284.6
Lower	Cryptochironomus sp.	Period 2	result_m2	3	75.00	300.0	125.0	100.0	212.5	112.5	74	166.7	118	68.2	293.5
Lower	Asheum beckae	Period 2	result_m2	2	25.00	300.0	162.5	93.8	231.2	137.5	204	162.5	194	137.5	1747.1
Lower	Polypedilum scalaenum grp.	Period 2	result_m2	5	25.00	225.0	100.0	50.0	200.0	150.0	111	120.0	89	39.8	110.6

DRAFT

Lower	Chironomus sp.	Period 2	result_m2	4	25.00	175.0	112.5	62.5	156.2	93.8	74	106.2	69	34.4	109.5
Lower	Procladius (Holotanypus) sp.	Period 2	result_m2	1	100.00	100.0	100.0	100.0	100.0	0.0	0	100.0	NA	NA	NaN
Lower	Ablabesmyia sp.	Period 2	result_m2	2	25.00	150.0	87.5	56.2	118.8	62.5	93	87.5	88	62.5	794.1
Lower	Ablabesmyia rhamphe grp.	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Lower	Chaoborus sp.	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Lower	Dicrotendipes simpsoni	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Lower	Djalmabatista sp.	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Lower	Tanypus sp.	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Lower	Ablabesmyia mallochi	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Boccardiella ligerica	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Chironomidae	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Collembola	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Cyrnellus fraternus	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Djalmabatista pulcher variant	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Erpobdella punctata	Period 2	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Lower	Goeldichironomus sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Leptoceridae	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Nanocladius sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Oecetis inconspicua complex	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Oecetis sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Polymesoda caroliniana	Period 2	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Lower	Polypedilum sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Trichoptera	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Naididae	Period 1	result_m2	2	150.00	1000.0	575.0	362.5	787.5	425.0	630	575.0	601	425.0	5400.1
Lower	Corbicula fluminea	Period 1	result_m2	1	300.00	300.0	300.0	300.0	300.0	0.0	0	300.0	NA	NA	NaN
Lower	Chironomidae	Period 1	result_m2	1	250.00	250.0	250.0	250.0	250.0	0.0	0	250.0	NA	NA	NaN
Lower	Cryptochironomus sp.	Period 1	result_m2	1	150.00	150.0	150.0	150.0	150.0	0.0	0	150.0	NA	NA	NaN
Lower	Melanoides tuberculata	Period 1	result_m2	1	100.00	100.0	100.0	100.0	100.0	0.0	0	100.0	NA	NA	NaN
Lower	Pyrgophorus platyrachis	Period 1	result_m2	2	75.00	100.0	87.5	81.2	93.8	12.5	19	87.5	18	12.5	158.8
Lower	Mytilopsis leucophaeata	Period 1	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Lower	Chironomus sp.	Period 1	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Polypedilum sp.	Period 1	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Lower	Rhithropanopeus harrisii	Period 1	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Mytilopsis leucophaeata	Period 5	result_m2	12	43.48	5217.4	347.8	76.1	934.8	858.7	451	858.7	1451	418.9	922.1
Middle	Chironomus sp.	Period 5	result_m2	5	43.48	1956.5	608.7	391.3	1130.4	739.1	774	826.1	745	333.1	924.9
Middle	Limnodrilus hoffmeisteri	Period 5	result_m2	11	86.96	3652.2	391.3	304.4	891.3	587.0	387	790.5	1003	302.5	673.9
Middle	Polypedilum halterale grp.	Period 5	result_m2	9	43.48	2130.4	130.4	130.4	869.6	739.1	129	594.2	704	234.7	541.2

DRAFT

Middle	Melanoides tuberculata	Period 5	result_m2	15	43.48	1956.5	173.9	65.2	630.4	565.2	193	437.7	587	151.7	325.3
Middle	Dicrotendipes lobus	Period 5	result_m2	1	434.78	434.8	434.8	434.8	434.8	0.0	0	434.8	NA	NA	NaN
Middle	Chironomus decorus grp.	Period 5	result_m2	7	86.96	1130.4	130.4	87.0	260.9	173.9	64	291.9	385	145.7	356.4
Middle	Pyrgophorus tuberculatus	Period 5	result_m2	1	260.87	260.9	260.9	260.9	260.9	0.0	0	260.9	NA	NA	NaN
Middle	Dicrotendipes sp.	Period 5	result_m2	1	217.39	217.4	217.4	217.4	217.4	0.0	0	217.4	NA	NA	NaN
Middle	Rhithropanopeus harrisii	Period 5	result_m2	7	43.48	434.8	130.4	43.5	304.4	260.9	129	186.3	162	61.3	149.9
Middle	Pyrgophorus platyrachis	Period 5	result_m2	6	43.48	391.3	87.0	43.5	228.3	184.8	64	152.2	145	59.1	152.0
Middle	Corbicula fluminea	Period 5	result_m2	6	43.48	347.8	65.2	43.5	250.0	206.5	32	144.9	142	58.0	149.0
Middle	Uromunna reynoldsi	Period 5	result_m2	1	130.44	130.4	130.4	130.4	130.4	0.0	0	130.4	NA	NA	NaN
Middle	Procladius sp.	Period 5	result_m2	7	43.48	347.8	43.5	43.5	108.7	65.2	0	105.6	117	44.4	108.5
Middle	Polypedilum scalaenum grp.	Period 5	result_m2	4	43.48	130.4	87.0	43.5	130.4	87.0	64	87.0	50	25.1	79.9
Middle	Polypedilum sp.	Period 5	result_m2	2	86.96	87.0	87.0	87.0	87.0	0.0	0	87.0	0	0.0	0.0
Middle	Bezzia/Palpomyia grp.	Period 5	result_m2	2	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	0	0.0	0.0
Middle	Ceriodaphnia sp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Middle	Cladopelma sp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Middle	Procladius (Holotanypus) sp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Middle	Procladius bellus var.1 Epler	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Middle	Melanoides tuberculata	Period 3	result_m2	8	75.00	5100.0	912.5	362.5	2300.0	1937.5	1112	1618.8	1785	631.1	1492.4
Middle	Pyrgophorus platyrachis	Period 3	result_m2	4	25.00	2100.0	912.5	681.2	1218.8	537.5	667	987.5	852	425.8	1355.1
Middle	Mytilopsis leucophaeata	Period 3	result_m2	9	25.00	3650.0	325.0	250.0	400.0	150.0	111	952.8	1398	465.9	1074.4
Middle	Chironomus sp.	Period 3	result_m2	8	25.00	1525.0	287.5	87.5	512.5	425.0	315	446.9	521	184.3	435.9
Middle	Ablabesmyia rhamphe grp.	Period 3	result_m2	1	400.00	400.0	400.0	400.0	400.0	0.0	0	400.0	NA	NA	NaN
Middle	Chaoborus sp.	Period 3	result_m2	3	100.00	500.0	275.0	187.5	387.5	200.0	259	291.7	201	115.8	498.1
Middle	Tarebia granifera	Period 3	result_m2	1	250.00	250.0	250.0	250.0	250.0	0.0	0	250.0	NA	NA	NaN
Middle	Naididae	Period 3	result_m2	6	25.00	900.0	87.5	37.5	118.8	81.2	74	208.3	341	139.3	358.1
Middle	Dicrotendipes sp.	Period 3	result_m2	5	25.00	500.0	125.0	25.0	175.0	150.0	148	170.0	196	87.5	242.8
Middle	Polypedilum halterale grp.	Period 3	result_m2	1	150.00	150.0	150.0	150.0	150.0	0.0	0	150.0	NA	NA	NaN
Middle	Corbicula fluminea	Period 3	result_m2	2	50.00	225.0	137.5	93.8	181.2	87.5	130	137.5	124	87.5	1111.8
Middle	Rhithropanopeus harrisii	Period 3	result_m2	2	25.00	225.0	125.0	75.0	175.0	100.0	148	125.0	141	100.0	1270.6
Middle	Boccardiella ligerica	Period 3	result_m2	1	100.00	100.0	100.0	100.0	100.0	0.0	0	100.0	NA	NA	NaN
Middle	Tanytarsus sp. G of Epler, 2001	Period 3	result_m2	3	25.00	125.0	100.0	62.5	112.5	50.0	37	83.3	52	30.1	129.3
Middle	Chironomidae	Period 3	result_m2	4	25.00	150.0	37.5	25.0	75.0	50.0	19	62.5	60	29.8	94.7
Middle	Cryptochironomus sp.	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Middle	Cryptotendipes sp.	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Middle	Dicrotendipes neomodestus	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Middle	Parachironomus frequens	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Middle	Polypedilum scalaenum grp.	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN

DRAFT

Middle	Procladius (Holotanypus) sp.	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Middle	Aphylla williamsoni	Period 3	result_m2	2	25.00	50.0	37.5	31.2	43.8	12.5	19	37.5	18	12.5	158.8
Middle	Ablabesmyia sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Erpobdella punctata	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Euhirudinea sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Hyalella azteca	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Hyalella sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Hydroptilidae	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Limnodrilus hoffmeisteri	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Oecetis nocturna	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Melanoides tuberculata	Period 2	result_m2	15	25.00	13500.0	375.0	137.5	712.5	575.0	445	2171.7	4214	1088.0	2333.6
Middle	Naididae	Period 2	result_m2	15	25.00	6475.0	600.0	200.0	2150.0	1950.0	852	1603.3	1990	513.9	1102.1
Middle	Pyrgophorus platyrachis	Period 2	result_m2	9	50.00	12425.0	225.0	75.0	275.0	200.0	222	1591.7	4070	1356.8	3128.8
Middle	Limnodrilus hoffmeisteri	Period 2	result_m2	4	150.00	1700.0	925.0	168.8	1681.2	1512.5	1130	925.0	881	440.3	1401.2
Middle	Corbicula fluminea	Period 2	result_m2	9	25.00	3025.0	425.0	50.0	725.0	675.0	556	805.6	1035	345.1	795.9
Middle	Chironomus sp.	Period 2	result_m2	8	25.00	2850.0	50.0	25.0	443.8	418.8	37	500.0	973	343.9	813.1
Middle	Mytilopsis leucophaeata	Period 2	result_m2	15	25.00	800.0	175.0	50.0	512.5	462.5	222	300.0	274	70.8	151.8
Middle	Cryptochironomus sp.	Period 2	result_m2	5	25.00	600.0	300.0	75.0	450.0	375.0	334	290.0	244	109.1	303.0
Middle	Polypedilum halterale grp.	Period 2	result_m2	5	25.00	750.0	50.0	50.0	300.0	250.0	37	235.0	309	138.2	383.7
Middle	Trichoptera	Period 2	result_m2	2	25.00	300.0	162.5	93.8	231.2	137.5	204	162.5	194	137.5	1747.1
Middle	Ablabesmyia sp.	Period 2	result_m2	1	150.00	150.0	150.0	150.0	150.0	0.0	0	150.0	NA	NA	NaN
Middle	Dicrotendipes lobus	Period 2	result_m2	1	125.00	125.0	125.0	125.0	125.0	0.0	0	125.0	NA	NA	NaN
Middle	Asheum beckae	Period 2	result_m2	1	100.00	100.0	100.0	100.0	100.0	0.0	0	100.0	NA	NA	NaN
Middle	Ceratopogonide	Period 2	result_m2	3	25.00	175.0	75.0	50.0	125.0	75.0	74	91.7	76	44.1	189.7
Middle	Procladius (Holotanypus) sp.	Period 2	result_m2	3	75.00	100.0	100.0	87.5	100.0	12.5	0	91.7	14	8.3	35.9
Middle	Caenis sp.	Period 2	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Middle	Erpobdella punctata	Period 2	result_m2	2	25.00	125.0	75.0	50.0	100.0	50.0	74	75.0	71	50.0	635.3
Middle	Oecetis inconspicua complex	Period 2	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Middle	Pisidium punctiferum	Period 2	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Middle	Oecetis sp.	Period 2	result_m2	2	50.00	75.0	62.5	56.2	68.8	12.5	19	62.5	18	12.5	158.8
Middle	Polypedilum scalaenum grp.	Period 2	result_m2	2	50.00	75.0	62.5	56.2	68.8	12.5	19	62.5	18	12.5	158.8
Middle	Rhithropanopeus harrisii	Period 2	result_m2	6	25.00	125.0	37.5	25.0	87.5	62.5	19	58.3	44	17.9	45.9
Middle	Chaoborus sp.	Period 2	result_m2	2	25.00	75.0	50.0	37.5	62.5	25.0	37	50.0	35	25.0	317.6
Middle	Cladopelma sp.	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Middle	Cricotopus bicinctus	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Middle	Daphnia sp.	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Middle	Hyalella azteca	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN

DRAFT

Middle	Pristina (Pristinella) sp.	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Middle	Tanytarsus sp. G of Epler, 2001	Period 2	result_m2	2	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	0	0.0	0.0
Middle	Dicrotendipes sp.	Period 2	result_m2	4	25.00	50.0	25.0	25.0	31.2	6.2	0	31.2	12	6.2	19.9
Middle	Bezzia/Palpomyia grp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Chironomidae	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Dero nivea	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Dero obtusa	Period 2	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Middle	Ferrissia cf. hendersoni	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Libellulidae	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Odonata	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Rhabditophora sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Sparganophilus sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Middle	Naididae	Period 1	result_m2	2	1350.00	3575.0	2462.5	1906.2	3018.8	1112.5	1649	2462.5	1573	1112.5	14135.6
Middle	Corbicula fluminea	Period 1	result_m2	1	1800.00	1800.0	1800.0	1800.0	1800.0	0.0	0	1800.0	NA	NA	NaN
Middle	Melanoides tuberculata	Period 1	result_m2	1	150.00	150.0	150.0	150.0	150.0	0.0	0	150.0	NA	NA	NaN
Middle	Mytilopsis leucophaeata	Period 1	result_m2	1	150.00	150.0	150.0	150.0	150.0	0.0	0	150.0	NA	NA	NaN
Middle	Chironomus sp.	Period 1	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Middle	Rhithropanopeus harrisii	Period 1	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Limnodrilus hoffmeisteri	Period 5	result_m2	19	43.48	3087.0	652.2	413.0	1087.0	673.9	451	915.3	837	191.9	403.2
Upper	Melanoides tuberculata	Period 5	result_m2	16	86.96	3652.2	500.0	130.4	1141.3	1010.9	548	883.1	1053	263.1	560.9
Upper	Polypedilum halterale grp.	Period 5	result_m2	19	86.96	2478.3	434.8	173.9	1065.2	891.3	516	743.7	755	173.2	363.9
Upper	Polypedilum scalaenum grp.	Period 5	result_m2	11	43.48	4260.9	87.0	43.5	565.2	521.7	64	620.5	1253	377.9	841.9
Upper	Dicrotendipes neomodestus	Period 5	result_m2	11	43.48	1782.6	87.0	43.5	739.1	695.6	64	450.6	604	182.2	406.1
Upper	Ancylidae	Period 5	result_m2	1	391.30	391.3	391.3	391.3	391.3	0.0	0	391.3	NA	NA	NaN
Upper	Hyalella sp. C	Period 5	result_m2	2	43.48	739.1	391.3	217.4	565.2	347.8	516	391.3	492	347.8	4419.6
Upper	Pyrgophorus platyrachis	Period 5	result_m2	9	43.48	1260.9	173.9	87.0	478.3	391.3	129	372.0	417	138.8	320.2
Upper	Helobdella stagnalis	Period 5	result_m2	11	43.48	1260.9	217.4	108.7	478.3	369.6	193	351.8	366	110.2	245.6
Upper	Helobdella elongata	Period 5	result_m2	1	347.83	347.8	347.8	347.8	347.8	0.0	0	347.8	NA	NA	NaN
Upper	Corbicula fluminea	Period 5	result_m2	12	86.96	782.6	260.9	163.0	565.2	402.2	226	344.2	246	71.1	156.5
Upper	Ablabesmyia rhamphe grp.	Period 5	result_m2	5	130.44	782.6	260.9	173.9	260.9	87.0	129	321.7	264	118.0	327.5
Upper	Pristina sp.	Period 5	result_m2	2	86.96	521.7	304.4	195.7	413.0	217.4	322	304.4	307	217.4	2762.2
Upper	Hyalella azteca	Period 5	result_m2	5	43.48	1000.0	130.4	43.5	260.9	217.4	129	295.6	404	180.5	501.2
Upper	Rhithropanopeus harrisii	Period 5	result_m2	18	43.48	1739.1	130.4	43.5	282.6	239.1	129	292.3	432	101.9	215.0
Upper	Larsia sp.	Period 5	result_m2	1	217.39	217.4	217.4	217.4	217.4	0.0	0	217.4	NA	NA	NaN
Upper	Mytilopsis leucophaeata	Period 5	result_m2	6	43.48	652.2	108.7	87.0	195.7	108.7	64	202.9	228	93.0	239.1
Upper	Procladius sp.	Period 5	result_m2	11	43.48	826.1	87.0	43.5	260.9	217.4	64	193.7	236	71.2	158.6
Upper	Polypedilum sp.	Period 5	result_m2	3	130.44	260.9	130.4	130.4	195.7	65.2	0	173.9	75	43.5	187.1

DRAFT

Upper	Hydroptila sp.	Period 5	result_m2	4	43.48	260.9	152.2	43.5	260.9	217.4	161	152.2	126	62.8	199.7
Upper	Chironomus sp.	Period 5	result_m2	2	43.48	217.4	130.4	87.0	173.9	87.0	129	130.4	123	87.0	1104.9
Upper	Dero sp.	Period 5	result_m2	2	86.96	173.9	130.4	108.7	152.2	43.5	64	130.4	61	43.5	552.4
Upper	Dicrotendipes modestus	Period 5	result_m2	2	86.96	173.9	130.4	108.7	152.2	43.5	64	130.4	61	43.5	552.4
Upper	Procladius (Holotanypus) sp.	Period 5	result_m2	3	43.48	217.4	87.0	65.2	152.2	87.0	64	115.9	91	52.2	224.8
Upper	Dicrotendipes nervosus	Period 5	result_m2	3	43.48	217.4	43.5	43.5	130.4	87.0	0	101.5	100	58.0	249.4
Upper	Ablabesmyia sp.	Period 5	result_m2	4	43.48	173.9	65.2	43.5	108.7	65.2	32	87.0	61	30.7	97.8
Upper	Callibaetis sp.	Period 5	result_m2	1	86.96	87.0	87.0	87.0	87.0	0.0	0	87.0	NA	NA	NaN
Upper	Cryptochironomus sp.	Period 5	result_m2	2	43.48	130.4	87.0	65.2	108.7	43.5	64	87.0	61	43.5	552.4
Upper	Cyrnellus fraternus	Period 5	result_m2	1	86.96	87.0	87.0	87.0	87.0	0.0	0	87.0	NA	NA	NaN
Upper	Helobdella papillata	Period 5	result_m2	1	86.96	87.0	87.0	87.0	87.0	0.0	0	87.0	NA	NA	NaN
Upper	Oecetis inconspicua complex	Period 5	result_m2	2	43.48	87.0	65.2	54.4	76.1	21.7	32	65.2	31	21.7	276.2
Upper	Bezzia/Palpomyia grp.	Period 5	result_m2	5	43.48	87.0	43.5	43.5	87.0	43.5	0	60.9	24	10.6	29.6
Upper	Tanytarsus sp.	Period 5	result_m2	8	43.48	173.9	43.5	43.5	43.5	0.0	0	59.8	46	16.3	38.5
Upper	Caenis diminuta	Period 5	result_m2	4	43.48	87.0	43.5	43.5	54.4	10.9	0	54.4	22	10.9	34.6
Upper	Aphylla williamsoni	Period 5	result_m2	2	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	0	0.0	0.0
Upper	Asheum beckae	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Branchiobdellidae	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Caenis sp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Chironomidae	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Chironomus decorus grp.	Period 5	result_m2	3	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	0	0.0	0.0
Upper	Cladopelma sp.	Period 5	result_m2	2	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	0	0.0	0.0
Upper	Cladotanytarsus sp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Clinotanypus sp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Collembola	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Cricotopus bicinctus	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Dubiraphia vittata	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Hirudinea	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Leptoceridae	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Libellula incesta	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Libellulidae	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Oecetis inconspicua	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Paranais sp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Stenelmis sp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Stenochironomus sp.	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Tarebia granifera	Period 5	result_m2	1	43.48	43.5	43.5	43.5	43.5	0.0	0	43.5	NA	NA	NaN
Upper	Hyalella azteca	Period 3	result_m2	2	25.00	14075.0	7050.0	3537.5	10562.5	7025.0	10415	7050.0	9935	7025.0	89261.1

DRAFT

Upper	Melanoides tuberculata	Period 3	result_m2	7	300.00	14975.0	1525.0	900.0	3650.0	2750.0	1816	3700.0	5176	1956.2	4786.6
Upper	Pyrgophorus platyrachis	Period 3	result_m2	5	25.00	4250.0	1200.0	325.0	3325.0	3000.0	1742	1825.0	1872	837.0	2323.9
Upper	Naididae	Period 3	result_m2	7	25.00	3075.0	800.0	100.0	2600.0	2500.0	1149	1328.6	1386	524.0	1282.1
Upper	Mytilopsis leucophaeata	Period 3	result_m2	3	25.00	3200.0	50.0	37.5	1625.0	1587.5	37	1091.7	1826	1054.2	4535.8
Upper	Boccardiella ligerica	Period 3	result_m2	1	1075.00	1075.0	1075.0	1075.0	1075.0	0.0	0	1075.0	NA	NA	NaN
Upper	Gloiobdella elongata	Period 3	result_m2	1	1000.00	1000.0	1000.0	1000.0	1000.0	0.0	0	1000.0	NA	NA	NaN
Upper	Corbicula fluminea	Period 3	result_m2	4	50.00	1300.0	512.5	237.5	868.8	631.2	500	593.8	547	273.6	870.6
Upper	Helobdella stagnalis	Period 3	result_m2	1	550.00	550.0	550.0	550.0	550.0	0.0	0	550.0	NA	NA	NaN
Upper	Dicrotendipes sp.	Period 3	result_m2	3	25.00	1325.0	100.0	62.5	712.5	650.0	111	483.3	730	421.4	1813.1
Upper	Chironomus sp.	Period 3	result_m2	2	150.00	625.0	387.5	268.8	506.2	237.5	352	387.5	336	237.5	3017.7
Upper	Limnodrilus hoffmeisteri	Period 3	result_m2	5	25.00	800.0	375.0	25.0	450.0	425.0	519	335.0	325	145.5	403.9
Upper	Goeldichironomus sp.	Period 3	result_m2	2	75.00	525.0	300.0	187.5	412.5	225.0	334	300.0	318	225.0	2858.9
Upper	Polypedilum halterale grp.	Period 3	result_m2	3	25.00	725.0	50.0	37.5	387.5	350.0	37	266.7	397	229.3	986.5
Upper	Procladius (Holotanypus) sp.	Period 3	result_m2	2	50.00	475.0	262.5	156.2	368.8	212.5	315	262.5	301	212.5	2700.1
Upper	Chaoborus sp.	Period 3	result_m2	2	150.00	350.0	250.0	200.0	300.0	100.0	148	250.0	141	100.0	1270.6
Upper	Polypedilum sp.	Period 3	result_m2	1	250.00	250.0	250.0	250.0	250.0	0.0	0	250.0	NA	NA	NaN
Upper	Hyalella sp.	Period 3	result_m2	2	25.00	425.0	225.0	125.0	325.0	200.0	297	225.0	283	200.0	2541.2
Upper	Parachironomus tenuicaudatus	Period 3	result_m2	1	225.00	225.0	225.0	225.0	225.0	0.0	0	225.0	NA	NA	NaN
Upper	Stenochironomus sp.	Period 3	result_m2	1	200.00	200.0	200.0	200.0	200.0	0.0	0	200.0	NA	NA	NaN
Upper	Pisidium sp.	Period 3	result_m2	1	175.00	175.0	175.0	175.0	175.0	0.0	0	175.0	NA	NA	NaN
Upper	Ablabesmyia rhamphe grp.	Period 3	result_m2	5	75.00	375.0	125.0	100.0	125.0	25.0	37	160.0	122	54.5	151.4
Upper	Cryptochironomus sp.	Period 3	result_m2	1	150.00	150.0	150.0	150.0	150.0	0.0	0	150.0	NA	NA	NaN
Upper	Parachironomus directus	Period 3	result_m2	1	150.00	150.0	150.0	150.0	150.0	0.0	0	150.0	NA	NA	NaN
Upper	Parachironomus sp.	Period 3	result_m2	1	150.00	150.0	150.0	150.0	150.0	0.0	0	150.0	NA	NA	NaN
Upper	Tarebia granifera	Period 3	result_m2	1	125.00	125.0	125.0	125.0	125.0	0.0	0	125.0	NA	NA	NaN
Upper	Asheum beckae	Period 3	result_m2	2	100.00	125.0	112.5	106.2	118.8	12.5	19	112.5	18	12.5	158.8
Upper	Uromunna reynoldsi	Period 3	result_m2	3	25.00	150.0	100.0	62.5	125.0	62.5	74	91.7	63	36.3	156.3
Upper	Dero pectinata	Period 3	result_m2	2	25.00	150.0	87.5	56.2	118.8	62.5	93	87.5	88	62.5	794.1
Upper	Dicrotendipes neomodestus	Period 3	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Upper	Euhirudinea sp.	Period 3	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Upper	Paranais litoralis	Period 3	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Upper	Ceratopogonide	Period 3	result_m2	4	25.00	100.0	75.0	43.8	100.0	56.2	37	68.8	38	18.8	59.7
Upper	Oecetis nocturna	Period 3	result_m2	2	25.00	100.0	62.5	43.8	81.2	37.5	56	62.5	53	37.5	476.5
Upper	Chironomidae	Period 3	result_m2	6	25.00	175.0	25.0	25.0	43.8	18.8	0	54.2	60	24.5	63.0
Upper	Aphylla williamsoni	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Upper	Arhynchobdellida sp.	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Upper	Bratislavia unidentata	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN

DRAFT

Upper	Parachironomus carinatus	Period 3	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Upper	Peltodytes sp.	Period 3	result_m2	2	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	0	0.0	0.0
Upper	Oecetis sp.	Period 3	result_m2	2	25.00	50.0	37.5	31.2	43.8	12.5	19	37.5	18	12.5	158.8
Upper	Ablabesmyia sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Apedilum sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Chaoborus punctipennis	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Cladotanytarsus sp. F	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Coenagrionidae	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Cryptotendipes sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Cyrnellus fraternus	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Enallagma sp.	Period 3	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Upper	Ephemeroptera	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Glossiphoniidae sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Hydroptila sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Libellulidae	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Polycladida sp.	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Pristina leidyi	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Pristina sp.	Period 3	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Upper	Procladius sp.	Period 3	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Upper	Rhithropanopeus harrisii	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Tanytarsus sp. G	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Zygoptera	Period 3	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Melanoides tuberculata	Period 2	result_m2	8	75.00	13775.0	887.5	143.8	7200.0	7056.2	1168	3931.2	5239	1852.4	4380.2
Upper	Pyrgophorus platyrachis	Period 2	result_m2	10	0.02	12775.0	225.0	147.7	1125.0	977.3	132	2677.2	4992	1578.6	3571.0
Upper	Naididae	Period 2	result_m2	10	75.00	5250.0	1987.5	1200.0	3968.8	2768.8	2372	2405.0	1795	567.5	1283.7
Upper	Corbicula fluminea	Period 2	result_m2	14	0.00	4175.0	425.0	37.5	1912.5	1875.0	612	1053.6	1265	338.2	730.6
Upper	Mytilopsis leucophaeata	Period 2	result_m2	4	0.00	3200.0	37.5	18.8	837.5	818.8	37	818.8	1588	793.8	2526.3
Upper	Pristina (Pristinella) sima	Period 2	result_m2	3	25.00	1650.0	50.0	37.5	850.0	812.5	37	575.0	931	537.5	2312.9
Upper	Polypedilum scalaenum grp.	Period 2	result_m2	4	50.00	1475.0	300.0	68.8	762.5	693.8	352	531.2	666	333.0	1059.7
Upper	Limnodrilus hoffmeisteri	Period 2	result_m2	13	75.00	1300.0	275.0	125.0	625.0	500.0	259	476.9	458	127.0	276.6
Upper	Helobdella stagnalis	Period 2	result_m2	2	150.00	775.0	462.5	306.2	618.8	312.5	463	462.5	442	312.5	3970.7
Upper	Dicrotendipes sp.	Period 2	result_m2	6	25.00	1075.0	158.6	104.3	593.8	489.4	142	373.7	426	173.9	447.1
Upper	Hyalella azteca	Period 2	result_m2	6	25.00	1900.0	45.3	28.9	50.0	21.1	19	348.4	760	310.4	797.8
Upper	Polypedilum halterale grp.	Period 2	result_m2	10	0.00	1700.0	125.0	31.2	300.0	268.8	164	295.3	511	161.6	365.6
Upper	Chironomus sp.	Period 2	result_m2	7	25.00	1475.0	100.0	37.5	112.5	75.0	74	271.4	532	201.2	492.2
Upper	Uromunna reynoldsi	Period 2	result_m2	5	0.00	650.0	125.0	104.7	400.0	295.3	185	255.9	265	118.7	329.4
Upper	Procladius (Holotanypus) sp.	Period 2	result_m2	4	25.00	550.0	137.5	62.5	287.5	225.0	130	212.5	237	118.4	376.7

DRAFT

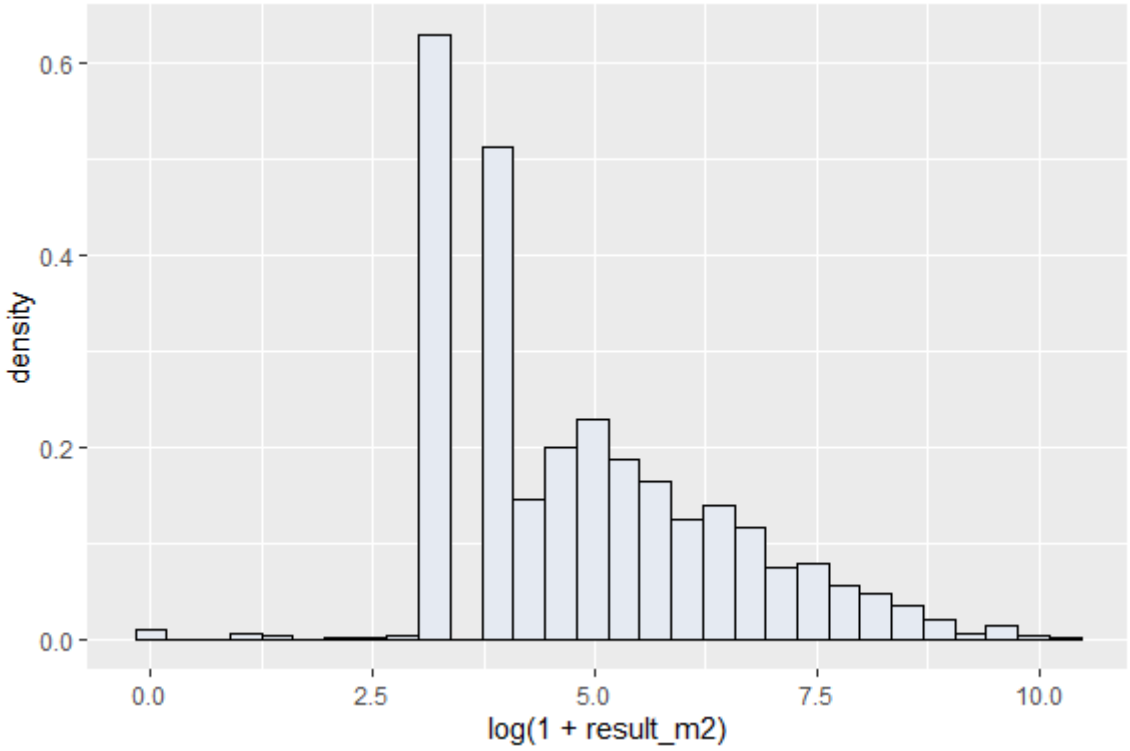
Upper	Asheum beckae	Period 2	result_m2	1	200.00	200.0	200.0	200.0	200.0	0.0	0	200.0	NA	NA	NaN
Upper	Helobdella papillata	Period 2	result_m2	1	175.00	175.0	175.0	175.0	175.0	0.0	0	175.0	NA	NA	NaN
Upper	Sphaerium sp.	Period 2	result_m2	2	25.00	300.0	162.5	93.8	231.2	137.5	204	162.5	194	137.5	1747.1
Upper	Boccardiella ligerica	Period 2	result_m2	2	125.00	150.0	137.5	131.2	143.8	12.5	19	137.5	18	12.5	158.8
Upper	Paralauterborniella nigrohalteralis	Period 2	result_m2	1	125.00	125.0	125.0	125.0	125.0	0.0	0	125.0	NA	NA	NaN
Upper	Cryptochironomus sp.	Period 2	result_m2	6	25.00	450.0	62.5	50.0	75.0	25.0	19	120.8	162	66.3	170.4
Upper	Ablabesmyia sp.	Period 2	result_m2	2	12.50	200.0	106.2	59.4	153.1	93.8	139	106.2	133	93.8	1191.2
Upper	Chironomidae	Period 2	result_m2	1	100.00	100.0	100.0	100.0	100.0	0.0	0	100.0	NA	NA	NaN
Upper	Goeldichironomus sp.	Period 2	result_m2	1	100.00	100.0	100.0	100.0	100.0	0.0	0	100.0	NA	NA	NaN
Upper	Libellula sp.	Period 2	result_m2	1	100.00	100.0	100.0	100.0	100.0	0.0	0	100.0	NA	NA	NaN
Upper	Procladius sp.	Period 2	result_m2	2	25.00	150.0	87.5	56.2	118.8	62.5	93	87.5	88	62.5	794.1
Upper	Dero nivea	Period 2	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Upper	Nais communis sp. complex	Period 2	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Upper	Planorbella scalaris	Period 2	result_m2	1	75.00	75.0	75.0	75.0	75.0	0.0	0	75.0	NA	NA	NaN
Upper	Tanytarsus sp. G	Period 2	result_m2	2	25.00	125.0	75.0	50.0	100.0	50.0	74	75.0	71	50.0	635.3
Upper	Ceratopogonide	Period 2	result_m2	2	25.00	100.0	62.5	43.8	81.2	37.5	56	62.5	53	37.5	476.5
Upper	Pristina sp.	Period 2	result_m2	2	25.00	100.0	62.5	43.8	81.2	37.5	56	62.5	53	37.5	476.5
Upper	Ablabesmyia mallochi	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Upper	Bezzia/Palpomyia grp.	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Upper	Cricotopus bicinctus	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Upper	Goeldichironomus carus	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Upper	Helobdella elongata	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Upper	Parachironomus sp.	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Upper	Tanytarsus sp. K	Period 2	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Upper	Rhithropanopeus harrisii	Period 2	result_m2	6	0.00	100.0	50.0	8.6	75.0	66.4	53	46.4	42	17.3	44.5
Upper	Tanytarsus sp. G of Epler, 2001	Period 2	result_m2	3	25.00	50.0	50.0	37.5	50.0	12.5	0	41.7	14	8.3	35.9
Upper	Ephemeroptera	Period 2	result_m2	2	25.00	50.0	37.5	31.2	43.8	12.5	19	37.5	18	12.5	158.8
Upper	Libellulidae	Period 2	result_m2	2	25.00	50.0	37.5	31.2	43.8	12.5	19	37.5	18	12.5	158.8
Upper	Pseudochironomus sp.	Period 2	result_m2	2	25.00	50.0	37.5	31.2	43.8	12.5	19	37.5	18	12.5	158.8
Upper	Oecetis sp.	Period 2	result_m2	3	25.00	50.0	25.0	25.0	37.5	12.5	0	33.3	14	8.3	35.9
Upper	Dicrotendipes neomodestus	Period 2	result_m2	5	0.00	75.0	25.0	15.6	50.0	34.4	37	33.1	30	13.2	36.8
Upper	Tanytarsus sp.	Period 2	result_m2	2	14.06	50.0	32.0	23.1	41.0	18.0	27	32.0	25	18.0	228.3
Upper	Hydroptila sp.	Period 2	result_m2	3	20.31	50.0	25.0	22.7	37.5	14.8	7	31.8	16	9.2	39.6
Upper	Polypedilum sp.	Period 2	result_m2	3	1.56	50.0	25.0	13.3	37.5	24.2	35	25.5	24	14.0	60.2
Upper	Ancylidae	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Berosus sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Chaoborus sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN

DRAFT

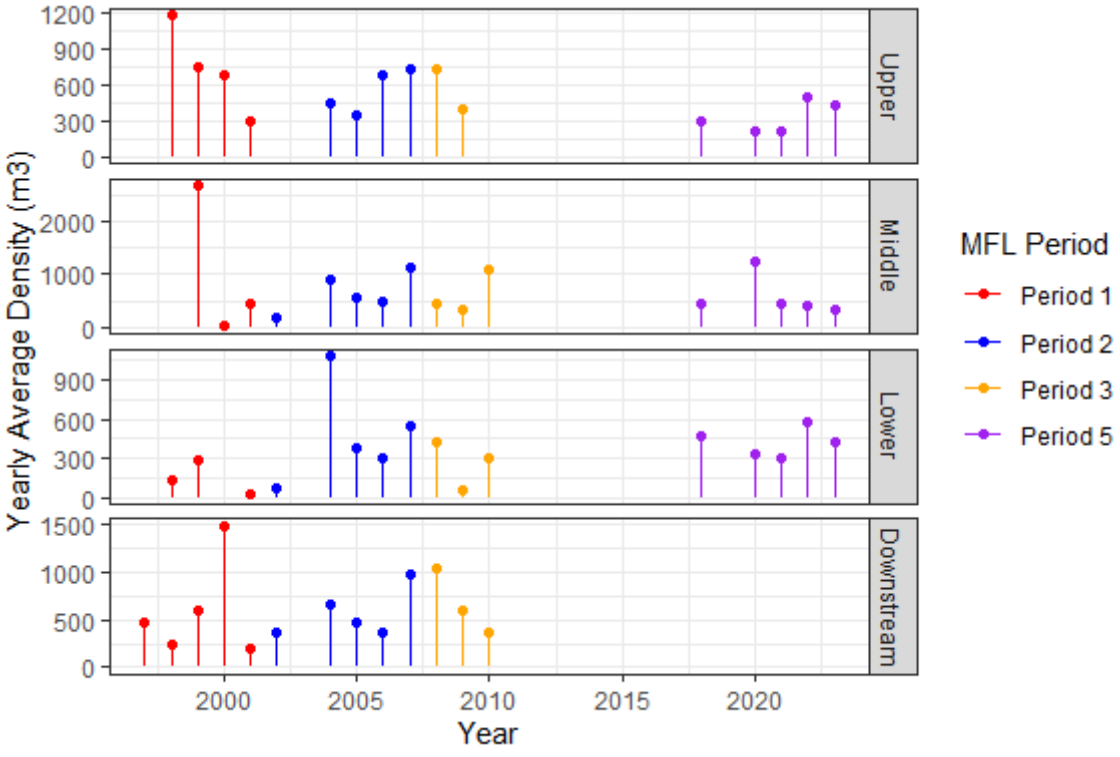
Upper	Cladopelma sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Cladotanytarsus sp.	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Collembola	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Djalmabatista pulcher	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Erpobdella punctata	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Gloiobdella elongata	Period 2	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Upper	Hirudinea	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Hydroptilidae	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Leptoceridae	Period 2	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Upper	Naidinae sp. A of EPC	Period 2	result_m2	2	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	0	0.0	0.0
Upper	Oecetis sp. A of Epler, 2001	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Pristina (Pristina) proboscidea	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Pristina (Pristinella) cf. osborni	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Tanypodinae	Period 2	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Ablabesmyia rhamphe grp.	Period 2	result_m2	2	0.00	46.9	23.4	11.7	35.2	23.4	35	23.4	33	23.4	297.8
Upper	Polypedilum beckae	Period 2	result_m2	1	14.06	14.1	14.1	14.1	14.1	0.0	0	14.1	NA	NA	NaN
Upper	Enallagma sp.	Period 2	result_m2	2	1.56	25.0	13.3	7.4	19.1	11.7	17	13.3	17	11.7	148.9
Upper	Dicrotendipes lobus	Period 2	result_m2	1	7.81	7.8	7.8	7.8	7.8	0.0	0	7.8	NA	NA	NaN
Upper	Neureclipsis sp.	Period 2	result_m2	1	3.12	3.1	3.1	3.1	3.1	0.0	0	3.1	NA	NA	NaN
Upper	Coenagrionidae	Period 2	result_m2	1	1.56	1.6	1.6	1.6	1.6	0.0	0	1.6	NA	NA	NaN
Upper	Cyrnellus fraternus	Period 2	result_m2	1	1.56	1.6	1.6	1.6	1.6	0.0	0	1.6	NA	NA	NaN
Upper	Corbicula fluminea	Period 1	result_m2	3	75.00	3025.0	2300.0	1187.5	2662.5	1475.0	1075	1800.0	1537	887.5	3818.7
Upper	Naididae	Period 1	result_m2	4	25.00	2450.0	1862.5	1318.8	2093.8	775.0	519	1550.0	1058	528.9	1683.0
Upper	Dicrotendipes lobus	Period 1	result_m2	1	1125.00	1125.0	1125.0	1125.0	1125.0	0.0	0	1125.0	NA	NA	NaN
Upper	Mytilopsis leucophaeata	Period 1	result_m2	2	50.00	1375.0	712.5	381.2	1043.8	662.5	982	712.5	937	662.5	8417.9
Upper	Pyrgophorus platyrachis	Period 1	result_m2	4	25.00	1950.0	325.0	250.0	731.2	481.2	222	656.2	874	437.0	1390.8
Upper	Rhithropanopeus harrisii	Period 1	result_m2	2	25.00	775.0	400.0	212.5	587.5	375.0	556	400.0	530	375.0	4764.8
Upper	Melanoides tuberculata	Period 1	result_m2	3	100.00	350.0	125.0	112.5	237.5	125.0	37	191.7	138	79.5	342.0
Upper	Chironomus sp.	Period 1	result_m2	3	25.00	475.0	50.0	37.5	262.5	225.0	37	183.3	253	146.0	628.2
Upper	Hyalella sp. A	Period 1	result_m2	1	175.00	175.0	175.0	175.0	175.0	0.0	0	175.0	NA	NA	NaN
Upper	Hebetancylus excentricus	Period 1	result_m2	1	50.00	50.0	50.0	50.0	50.0	0.0	0	50.0	NA	NA	NaN
Upper	Asheum beckae	Period 1	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Ceratopogonide	Period 1	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Parachironomus sp.	Period 1	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN
Upper	Prostoma sp.	Period 1	result_m2	1	25.00	25.0	25.0	25.0	25.0	0.0	0	25.0	NA	NA	NaN

4.2.2 FIGURES

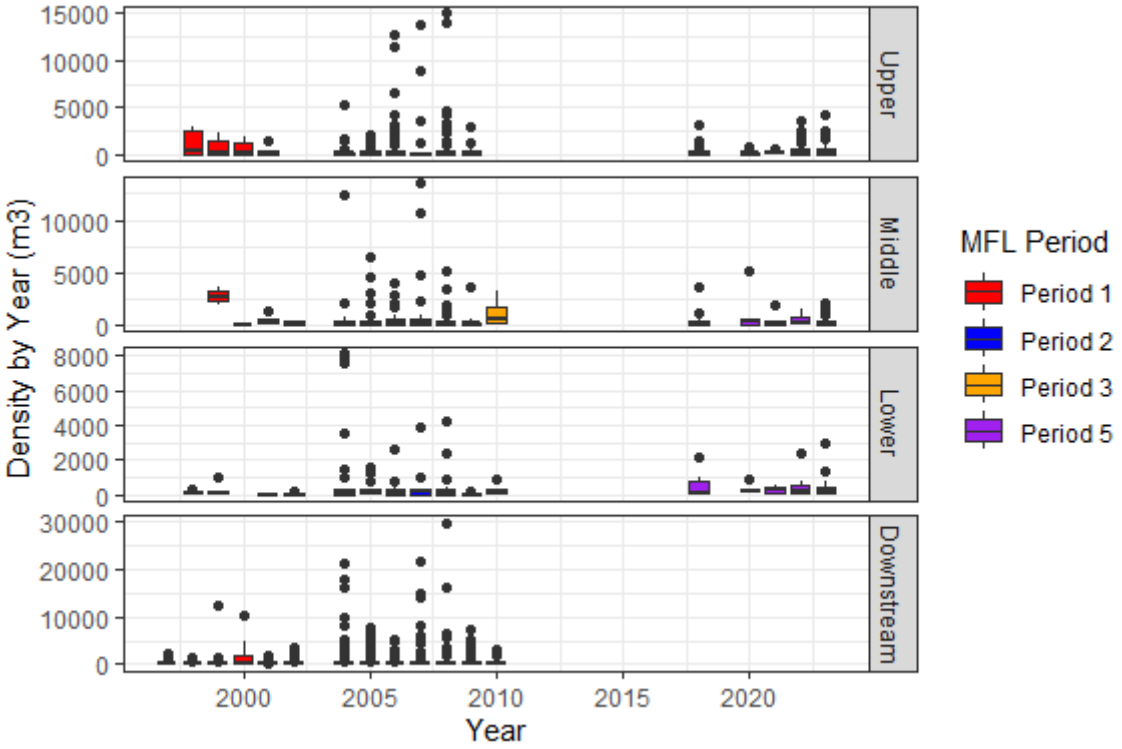
4.2.2.1 Histogram of species density



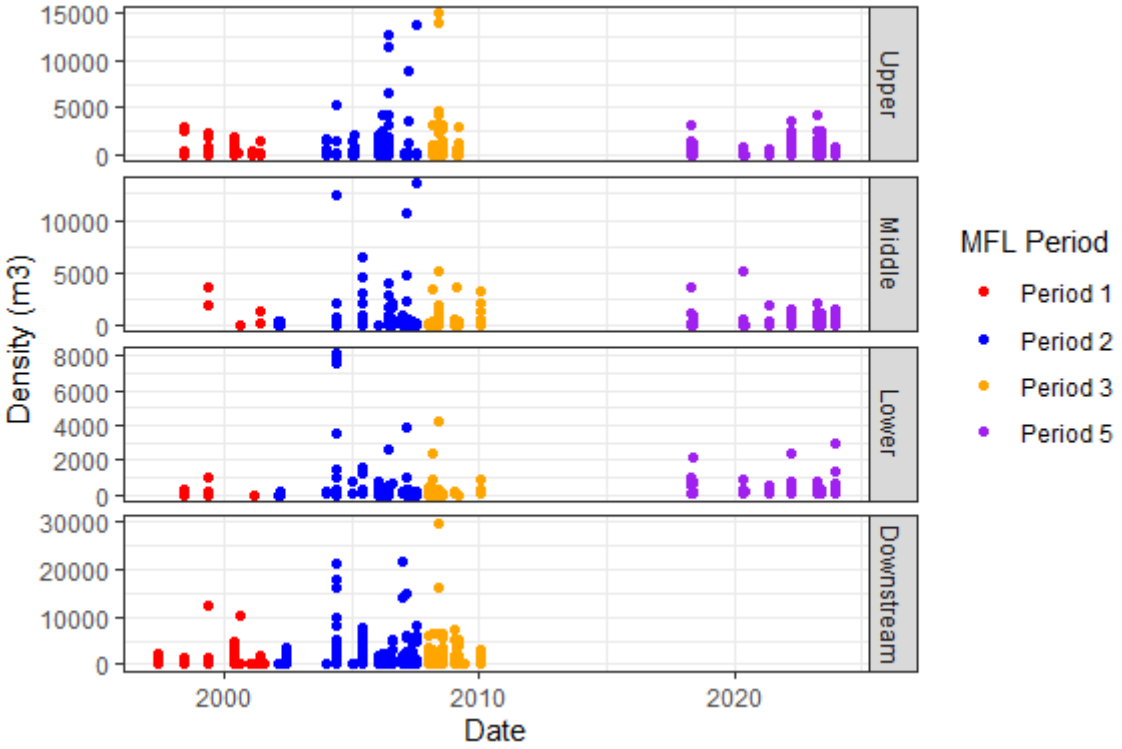
4.2.2.2 Average density over time, grouped by year of sampling.



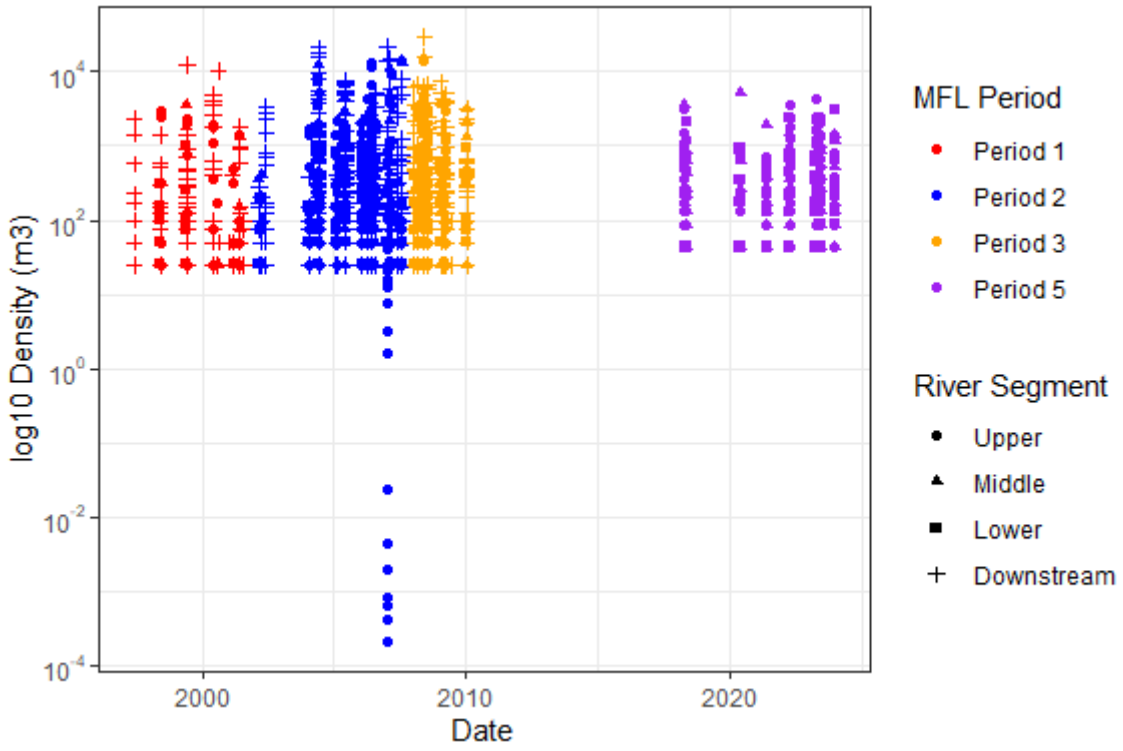
4.2.2.3 Boxplots of individual densities, grouped by year, by MFL period and river segment.



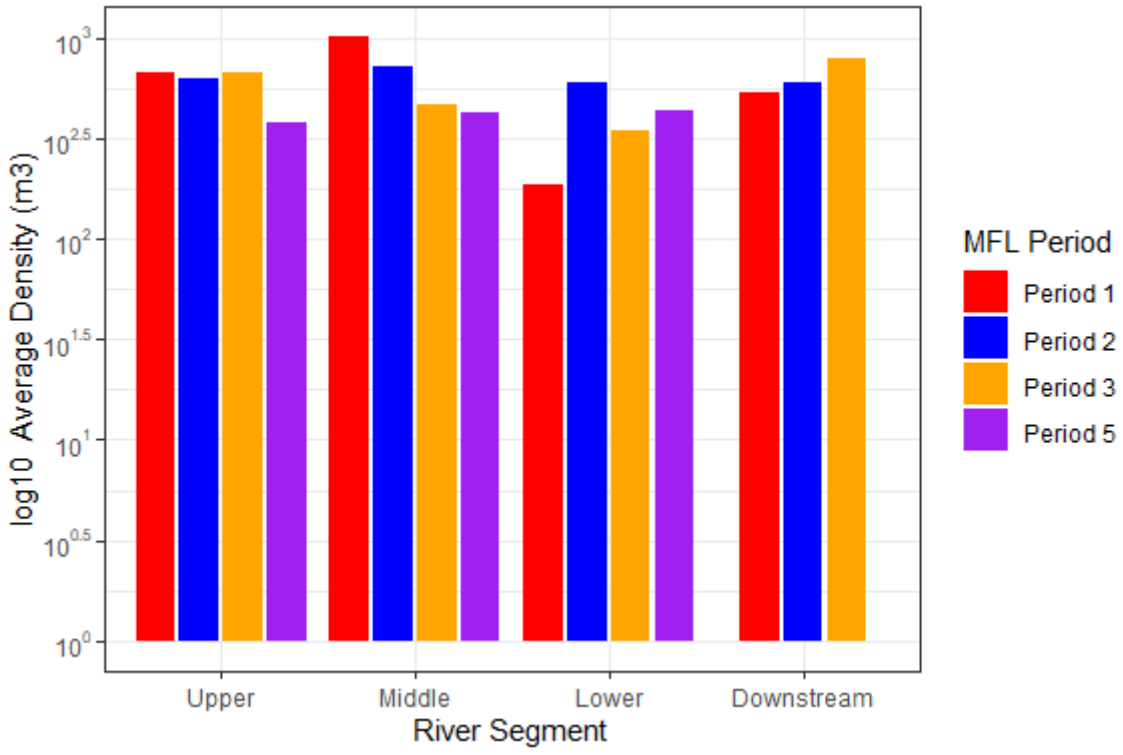
4.2.2.4 Density of individuals by MFL period and river segment.



4.2.2.5 Density of individuals by river segment and MFL period.



4.2.2.6 Density by MFL period and river segment.



4.3 DIVERSITY

4.3.1 TABLES

4.3.1.1 Table 5.3.1 Zooplankton diversity by Site

Site	River Segment	MFL Period	Date	Shan_div
00HR064	Downstream	Period 1	2000-06-01	0.00
00HR065	Downstream	Period 1	2000-06-01	0.04
00HR069	Downstream	Period 1	2000-06-01	0.07
00HR099	Downstream	Period 1	2000-06-01	0.34
00HR121	Downstream	Period 1	2000-06-01	0.68
00HR122	Downstream	Period 1	2000-06-01	0.00
00HR126	Downstream	Period 1	2000-06-01	0.00
00HR136	Downstream	Period 1	2000-06-01	0.00
00HR156	Downstream	Period 1	2000-06-01	0.45
00HR177	Downstream	Period 1	2000-06-01	0.08
00HR183	Downstream	Period 1	2000-06-01	0.00
00HR196	Upper	Period 1	2000-06-01	1.35
01HR125	Downstream	Period 1	2001-06-01	0.45
01HR127	Downstream	Period 1	2001-06-01	0.00
01HR129	Middle	Period 1	2001-06-01	0.75
01HR130	Downstream	Period 1	2001-06-01	0.00
01HR132	Downstream	Period 1	2001-06-01	1.09
01HR133	Downstream	Period 1	2001-06-01	0.28
01HR137	Downstream	Period 1	2001-06-01	0.00
01HR138	Downstream	Period 1	2001-06-01	1.04
01HR140	Downstream	Period 1	2001-06-01	0.79
01HR141	Downstream	Period 1	2001-06-01	0.65
01HR144	Downstream	Period 1	2001-06-01	0.12
01HR145	Downstream	Period 1	2001-06-01	0.00
01HR146	Downstream	Period 1	2001-06-01	0.00
01HR149	Upper	Period 1	2001-06-01	0.53
01HR151	Downstream	Period 1	2001-06-01	0.00
01HR152	Downstream	Period 1	2001-06-01	0.56
02HR122	Downstream	Period 2	2002-06-01	0.53
02HR124	Downstream	Period 2	2002-06-01	0.00
02HR130	Downstream	Period 2	2002-06-01	0.00
02HR136	Downstream	Period 2	2002-06-01	0.00
02HR137	Downstream	Period 2	2002-06-01	0.29
02HR139	Downstream	Period 2	2002-06-01	0.64
02HR140	Downstream	Period 2	2002-06-01	0.69
02HR143	Downstream	Period 2	2002-06-01	0.00
02HR144	Downstream	Period 2	2002-06-01	0.45
02HR145	Downstream	Period 2	2002-06-01	0.46
02HR147	Downstream	Period 2	2002-06-01	0.00
02HR148	Downstream	Period 2	2002-06-01	0.00
02HR151	Downstream	Period 2	2002-06-01	0.00
02HR153	Downstream	Period 2	2002-06-01	0.00
02HR154	Downstream	Period 2	2002-06-01	0.00
02HR155	Downstream	Period 2	2002-06-01	0.00
02HR156	Downstream	Period 2	2002-06-01	0.00
02HR159	Downstream	Period 2	2002-06-01	0.08
02HR164	Downstream	Period 2	2002-06-01	0.00
02HR168	Downstream	Period 2	2002-06-01	0.00
04HR245	Middle	Period 2	2004-06-01	1.38
04HR247	Downstream	Period 2	2004-06-01	0.89

DRAFT

04HR248	Downstream	Period 2	2004-06-01	0.46
04HR249	Downstream	Period 2	2004-06-01	0.78
04HR250	Downstream	Period 2	2004-06-01	0.40
04HR251	Downstream	Period 2	2004-06-01	1.28
04HR252	Downstream	Period 2	2004-06-01	0.66
04HR253	Downstream	Period 2	2004-06-01	2.09
04HR257	Downstream	Period 2	2004-06-01	0.64
04HR258	Downstream	Period 2	2004-06-01	1.84
04HR259	Downstream	Period 2	2004-06-01	0.99
04HR262	Middle	Period 2	2004-06-01	1.04
04HR265	Downstream	Period 2	2004-06-01	1.49
04HR266	Downstream	Period 2	2004-06-01	0.82
04HR268	Lower	Period 2	2004-06-01	0.66
04HR269	Downstream	Period 2	2004-06-01	1.15
04HR272	Downstream	Period 2	2004-06-01	1.24
04HR273	Downstream	Period 2	2004-06-01	1.00
04HR276	Downstream	Period 2	2004-06-01	2.20
04HR277	Downstream	Period 2	2004-06-01	0.83
04HR278	Downstream	Period 2	2004-06-01	1.09
04HR279	Downstream	Period 2	2004-06-01	0.73
04HR280	Downstream	Period 2	2004-06-01	1.54
04HR282	Downstream	Period 2	2004-06-01	1.68
04HR289	Lower	Period 2	2004-06-01	1.44
04HR290	Upper	Period 2	2004-06-01	1.21
04HR295	Downstream	Period 2	2004-06-01	1.74
04HR298	Downstream	Period 2	2004-06-01	2.02
04HR299	Downstream	Period 2	2004-06-01	1.37
05HR306	Downstream	Period 2	2005-06-01	0.90
05HR309	Downstream	Period 2	2005-06-01	0.77
05HR311	Lower	Period 2	2005-06-01	1.59
05HR314	Downstream	Period 2	2005-06-01	0.64
05HR319	Middle	Period 2	2005-06-01	1.21
05HR321	Downstream	Period 2	2005-06-01	0.57
05HR323	Downstream	Period 2	2005-06-01	0.50
05HR325	Downstream	Period 2	2005-06-01	0.99
05HR326	Downstream	Period 2	2005-06-01	0.95
05HR327	Downstream	Period 2	2005-06-01	1.93
05HR328	Downstream	Period 2	2005-06-01	1.30
05HR330	Downstream	Period 2	2005-06-01	0.00
05HR336	Downstream	Period 2	2005-06-01	0.87
05HR342	Downstream	Period 2	2005-06-01	0.78
05HR346	Downstream	Period 2	2005-06-01	0.80
05HR356	Downstream	Period 2	2005-06-01	1.20
05HR361	Downstream	Period 2	2005-06-01	1.04
05HR367	Downstream	Period 2	2005-06-01	1.04
05HR368	Middle	Period 2	2005-06-01	1.33
05HR369	Middle	Period 2	2005-06-01	1.16
05HR371	Downstream	Period 2	2005-06-01	1.22
05HR372	Downstream	Period 2	2005-06-01	0.77
05HR376	Downstream	Period 2	2005-06-01	1.20
05HR381	Downstream	Period 2	2005-06-01	1.96
05HR382	Downstream	Period 2	2005-06-01	0.35
05HR384	Downstream	Period 2	2005-06-01	1.21
05HR387	Downstream	Period 2	2005-06-01	1.04
05HR400	Downstream	Period 2	2005-06-01	0.21
06HR401	Downstream	Period 2	2006-06-01	0.59
06HR408	Downstream	Period 2	2006-06-01	0.00

DRAFT

06HR413	Middle	Period 2	2006-06-01	1.12
06HR416	Upper	Period 2	2006-06-01	1.64
06HR420	Downstream	Period 2	2006-06-01	0.69
06HR422	Upper	Period 2	2006-06-01	1.88
06HR424	Middle	Period 2	2006-06-01	0.00
06HR428	Downstream	Period 2	2006-06-01	0.56
06HR429	Downstream	Period 2	2006-06-01	0.60
06HR435	Middle	Period 2	2006-06-01	1.61
06HR437	Downstream	Period 2	2006-06-01	0.32
06HR438	Downstream	Period 2	2006-06-01	0.00
06HR449	Downstream	Period 2	2006-06-01	0.06
06HR455	Downstream	Period 2	2006-06-01	0.00
06HR456	Downstream	Period 2	2006-06-01	0.25
06HR457	Lower	Period 2	2006-06-01	0.69
06HR461	Downstream	Period 2	2006-06-01	0.65
06HR463	Lower	Period 2	2006-06-01	1.07
06HR470	Lower	Period 2	2006-06-01	0.56
06HR471	Downstream	Period 2	2006-06-01	0.63
06HR479	Downstream	Period 2	2006-06-01	0.08
06HR486	Middle	Period 2	2006-06-01	0.69
06HR488	Upper	Period 2	2006-06-01	1.32
06HR489	Downstream	Period 2	2006-06-01	1.04
06HR492	Upper	Period 2	2006-06-01	1.49
06HR497	Downstream	Period 2	2006-06-01	0.16
06HR499	Downstream	Period 2	2006-06-01	0.21
07HR507	Downstream	Period 2	2007-06-01	0.00
07HR508	Downstream	Period 2	2007-06-01	0.31
07HR509	Downstream	Period 2	2007-06-01	0.52
07HR514	Downstream	Period 2	2007-06-01	0.10
07HR522	Downstream	Period 2	2007-06-01	0.00
07HR541	Downstream	Period 2	2007-06-01	0.00
07HR542	Downstream	Period 2	2007-06-01	0.48
07HR547	Downstream	Period 2	2007-06-01	0.00
07HR551	Middle	Period 2	2007-06-01	0.00
07HR552	Downstream	Period 2	2007-06-01	0.00
07HR553	Downstream	Period 2	2007-06-01	0.00
07HR555	Middle	Period 2	2007-06-01	0.82
07HR563	Downstream	Period 2	2007-06-01	0.25
07HR570	Downstream	Period 2	2007-06-01	0.00
07HR581	Downstream	Period 2	2007-06-01	0.18
07HR587	Lower	Period 2	2007-06-01	0.00
07HR592	Downstream	Period 2	2007-06-01	0.00
08HR603	Upper	Period 3	2008-06-01	1.85
08HR607	Downstream	Period 3	2008-06-01	0.76
08HR610	Downstream	Period 3	2008-06-01	0.00
08HR619	Middle	Period 3	2008-06-01	2.07
08HR621	Downstream	Period 3	2008-06-01	0.46
08HR629	Downstream	Period 3	2008-06-01	0.69
08HR634	Downstream	Period 3	2008-06-01	1.28
08HR637	Downstream	Period 3	2008-06-01	0.56
08HR640	Middle	Period 3	2008-06-01	1.65
08HR648	Upper	Period 3	2008-06-01	1.62
08HR650	Downstream	Period 3	2008-06-01	0.97
08HR651	Downstream	Period 3	2008-06-01	0.00
08HR652	Downstream	Period 3	2008-06-01	0.92
08HR654	Downstream	Period 3	2008-06-01	0.00
08HR662	Downstream	Period 3	2008-06-01	0.00

DRAFT

08HR664	Downstream	Period 3	2008-06-01	0.76
08HR666	Middle	Period 3	2008-06-01	1.25
08HR680	Downstream	Period 3	2008-06-01	0.45
08HR688	Downstream	Period 3	2008-06-01	0.13
08HR689	Lower	Period 3	2008-06-01	0.67
09HB05	Downstream	Period 3	2009-06-01	0.87
1	Upper	Period 5	2022-06-07	1.95
1.5	Upper	Period 5	2022-06-07	0.69
2	Middle	Period 5	2022-06-07	0.00
3	Middle	Period 5	2023-05-24	0.00
97HR15	Downstream	Period 1	1997-06-01	0.11
97HR23	Downstream	Period 1	1997-06-01	0.54
97HR53	Downstream	Period 1	1997-06-01	1.02
97HR57	Downstream	Period 1	1997-06-01	0.23
98HB006	Downstream	Period 1	1998-06-01	0.00
98HR105	Upper	Period 1	1998-06-01	0.93
98HR16	Downstream	Period 1	1998-06-01	0.50
98HR20	Downstream	Period 1	1998-06-01	1.49
98HR28	Downstream	Period 1	1998-06-01	0.91
98HR44	Lower	Period 1	1998-06-01	1.55
98HRUS41	Downstream	Period 1	1998-06-01	0.60
99HR063	Upper	Period 1	1999-06-01	1.18
99HR089	Downstream	Period 1	1999-06-01	0.00
99HR091	Downstream	Period 1	1999-06-01	1.44
99HR097	Downstream	Period 1	1999-06-01	0.82
99HR101	Downstream	Period 1	1999-06-01	0.38
99HR107	Downstream	Period 1	1999-06-01	0.33
99HR113	Downstream	Period 1	1999-06-01	0.00
99HR116	Downstream	Period 1	1999-06-01	0.00
99HR134	Downstream	Period 1	1999-06-01	0.00
99HR142	Downstream	Period 1	1999-06-01	0.40
99HR155	Downstream	Period 1	1999-06-01	1.28
99HR157	Downstream	Period 1	1999-06-01	0.00
99HR159	Downstream	Period 1	1999-06-01	0.66
99HR160	Lower	Period 1	1999-06-01	0.97
99HR184	Downstream	Period 1	1999-06-01	0.00
99HR189	Downstream	Period 1	1999-06-01	0.05
99HR191	Downstream	Period 1	1999-06-01	0.96
99HR215	Middle	Period 1	1999-06-01	0.64
HR100109	Downstream	Period 3	2008-03-03	0.00
HR100231	Downstream	Period 2	2006-08-04	0.03
HR100239	Downstream	Period 3	2008-07-16	0.00
HR100438	Downstream	Period 3	2009-03-17	0.37
HR100643	Downstream	Period 2	2006-07-28	0.46
HR100828	Downstream	Period 2	2007-02-13	0.07
HR100837	Downstream	Period 2	2006-07-28	0.59
HR100948	Downstream	Period 2	2006-03-29	1.08
HR101098	Downstream	Period 2	2007-02-13	0.07
HR101132	Downstream	Period 3	2008-03-03	0.00
HR101143	Downstream	Period 3	2009-01-13	0.00
HR101166	Downstream	Period 3	2009-02-10	0.17
HR101276	Downstream	Period 3	2008-01-10	0.12
HR101335	Downstream	Period 2	2004-01-19	0.00
HR101335	Downstream	Period 2	2006-01-20	0.18
HR101437	Downstream	Period 3	2010-01-12	1.01
HR101536	Downstream	Period 2	2004-01-19	0.00
HR101539	Downstream	Period 3	2009-02-10	0.38

DRAFT

HR101615	Downstream	Period 2	2002-03-26	0.00
HR101619	Downstream	Period 2	2006-01-20	0.00
HR101635	Downstream	Period 3	2008-07-16	0.15
HR101664	Downstream	Period 2	2007-01-05	0.01
HR101698	Downstream	Period 2	2006-08-04	0.59
HR101760	Downstream	Period 2	2007-01-05	0.00
HR101845	Downstream	Period 2	2007-07-23	0.00
HR101891	Downstream	Period 1	2001-07-26	0.00
HR101948	Downstream	Period 3	2009-01-13	0.00
HR101964	Downstream	Period 3	2009-03-17	0.26
HR102030	Downstream	Period 2	2006-03-29	1.00
HR102042	Downstream	Period 3	2010-01-12	0.00
HR102081	Downstream	Period 3	2008-01-10	0.64
HR102132	Downstream	Period 2	2007-07-23	0.00
HR102149	Downstream	Period 2	2002-02-25	0.00
HR202634	Downstream	Period 3	2009-02-10	0.98
HR202701	Downstream	Period 2	2006-03-29	0.71
HR202723	Downstream	Period 2	2006-03-29	0.49
HR202726	Downstream	Period 3	2009-03-16	0.96
HR202792	Downstream	Period 3	2009-02-10	0.49
HR202854	Downstream	Period 3	2009-01-13	0.00
HR202872	Downstream	Period 2	2004-01-19	0.00
HR202876	Downstream	Period 2	2004-01-19	0.41
HR202915	Downstream	Period 2	2007-03-14	0.59
HR202919	Downstream	Period 2	2006-07-28	0.00
HR202999	Downstream	Period 2	2005-02-21	0.64
HR203235	Downstream	Period 2	2007-01-05	0.14
HR203355	Downstream	Period 2	2007-01-05	0.14
HR203424	Downstream	Period 2	2007-07-23	0.00
HR203428	Downstream	Period 2	2006-01-20	1.06
HR203432	Downstream	Period 3	2010-01-12	1.02
HR203493	Downstream	Period 1	2001-02-23	0.00
HR203575	Downstream	Period 3	2008-03-03	0.48
HR203978	Downstream	Period 3	2010-01-12	1.66
HR204014	Downstream	Period 3	2008-07-16	1.21
HR204032	Downstream	Period 1	2001-07-26	0.68
HR204207	Downstream	Period 3	2008-03-03	0.30
HR204277	Downstream	Period 2	2007-02-13	0.05
HR204311	Downstream	Period 1	2000-08-16	0.03
HR204314	Downstream	Period 2	2007-02-13	0.10
HR204334	Downstream	Period 1	2001-02-23	0.00
HR204389	Downstream	Period 2	2002-03-28	0.00
HR204405	Downstream	Period 2	2005-01-21	0.22
HR204433	Downstream	Period 1	2001-07-26	0.00
HR204438	Downstream	Period 3	2008-01-10	1.52
HR204441	Downstream	Period 3	2009-03-17	1.84
HR204575	Downstream	Period 2	2006-01-20	0.89
HR204705	Downstream	Period 2	2002-02-25	0.00
HR204782	Downstream	Period 3	2009-01-13	0.58
HR204801	Downstream	Period 3	2008-07-16	0.75
HR204848	Downstream	Period 2	2007-07-23	0.28
HR204900	Downstream	Period 1	2001-03-07	0.00
HR204902	Downstream	Period 3	2008-01-10	0.60
HR204924	Downstream	Period 2	2006-07-28	0.00
HR204953	Downstream	Period 2	2006-08-04	0.69
HR305318	Downstream	Period 2	2006-03-29	0.82
HR305356	Downstream	Period 2	2007-03-14	0.00

DRAFT

HR305441	Downstream	Period 3	2009-03-16	1.47
HR305568	Downstream	Period 1	2001-07-26	0.00
HR305568	Downstream	Period 2	2005-01-21	0.00
HR305601	Downstream	Period 3	2010-01-12	1.44
HR305616	Downstream	Period 3	2008-03-03	0.74
HR305691	Downstream	Period 2	2006-01-20	0.80
HR305738	Downstream	Period 2	2007-02-13	0.97
HR305738	Downstream	Period 3	2009-02-10	1.26
HR305795	Downstream	Period 3	2009-02-10	1.03
HR305816	Downstream	Period 2	2004-01-19	0.00
HR305818	Downstream	Period 3	2008-01-10	0.82
HR305882	Downstream	Period 2	2007-07-23	0.55
HR306013	Downstream	Period 2	2005-02-21	0.56
HR306030	Downstream	Period 2	2002-02-25	0.00
HR306047	Downstream	Period 3	2008-07-16	1.12
HR306168	Downstream	Period 2	2007-07-23	0.69
HR306204	Downstream	Period 3	2009-01-13	1.49
HR306354	Downstream	Period 2	2006-01-20	0.52
HR306389	Downstream	Period 2	2007-01-05	1.40
HR306393	Downstream	Period 1	2001-02-23	0.64
HR306638	Downstream	Period 3	2008-07-16	0.83
HR306675	Downstream	Period 2	2002-03-28	0.00
HR306701	Downstream	Period 2	2007-02-13	0.00
HR306753	Downstream	Period 3	2008-01-10	1.11
HR306781	Downstream	Period 2	2005-01-21	0.56
HR306837	Downstream	Period 3	2009-03-16	1.01
HR306842	Downstream	Period 2	2006-08-04	1.24
HR307226	Downstream	Period 3	2009-01-13	1.76
HR307250	Downstream	Period 2	2006-03-29	1.50
HR307400	Downstream	Period 3	2010-01-12	0.00
HR307467	Downstream	Period 2	2004-01-19	0.67
HR307569	Downstream	Period 2	2007-01-05	0.00
HR407697	Downstream	Period 2	2004-01-19	0.56
HR407714	Downstream	Period 2	2002-03-28	0.00
HR407728	Downstream	Period 2	2005-01-21	0.00
HR407752	Downstream	Period 2	2002-02-25	0.98
HR407765	Downstream	Period 1	2000-07-30	0.00
HR407978	Downstream	Period 2	2006-03-31	1.32
HR408016	Downstream	Period 2	2007-07-23	0.00
HR408065	Downstream	Period 3	2008-01-10	0.94
HR408101	Downstream	Period 3	2009-02-10	1.05
HR408158	Downstream	Period 2	2006-08-04	0.47
HR408159	Downstream	Period 3	2009-02-10	1.47
HR408178	Downstream	Period 3	2009-03-16	0.82
HR408194	Downstream	Period 3	2009-01-13	1.37
HR408287	Downstream	Period 2	2007-01-05	0.64
HR408349	Downstream	Period 1	2001-02-23	0.00
HR408471	Downstream	Period 2	2007-03-14	1.28
HR408568	Downstream	Period 3	2009-01-13	0.00
HR408667	Downstream	Period 2	2007-02-13	0.00
HR408667	Downstream	Period 3	2010-01-12	1.00
HR408693	Downstream	Period 1	2001-02-23	0.64
HR408785	Downstream	Period 3	2008-03-03	0.69
HR408981	Downstream	Period 1	2001-01-15	0.00
HR409013	Downstream	Period 2	2005-01-21	0.69
HR409087	Downstream	Period 3	2008-01-10	1.30
HR409141	Downstream	Period 2	2007-01-05	1.59

DRAFT

HR409175	Downstream	Period 2	2007-07-23	0.68
HR409184	Downstream	Period 2	2005-02-21	0.64
HR409376	Downstream	Period 3	2010-01-12	1.44
HR409497	Downstream	Period 2	2006-01-20	1.22
HR409528	Downstream	Period 2	2007-02-13	0.72
HR409574	Downstream	Period 3	2009-03-16	1.31
HR409678	Downstream	Period 2	2002-03-28	0.00
HR409720	Downstream	Period 3	2008-03-03	1.19
HR409720	Downstream	Period 3	2008-07-16	1.08
HR410020	Downstream	Period 2	2007-03-14	1.14
HR410083	Downstream	Period 2	2006-01-20	1.86
HR410088	Downstream	Period 2	2006-03-31	1.06
HR510277	Downstream	Period 2	2005-02-21	0.64
HR510285	Downstream	Period 2	2007-01-05	1.34
HR510304	Downstream	Period 2	2004-01-19	0.00
HR510373	Downstream	Period 2	2006-03-31	1.04
HR510390	Downstream	Period 2	2007-03-14	0.64
HR510397	Downstream	Period 2	2005-02-21	0.00
HR510438	Downstream	Period 2	2007-07-23	1.23
HR510455	Downstream	Period 3	2009-02-10	0.00
HR510461	Downstream	Period 3	2009-01-14	1.34
HR510462	Downstream	Period 3	2008-01-10	0.88
HR510475	Downstream	Period 3	2009-03-16	1.58
HR510583	Lower	Period 2	2007-07-23	0.80
HR510595	Lower	Period 3	2010-01-12	1.21
HR510646	Lower	Period 2	2007-03-14	0.27
HR510748	Lower	Period 2	2007-02-13	0.53
HR510790	Lower	Period 2	2004-01-19	0.56
HR510854	Lower	Period 2	2007-01-05	0.47
HR510863	Lower	Period 2	2006-08-04	0.00
HR511246	Lower	Period 2	2005-01-21	0.49
HR511299	Lower	Period 2	2006-01-20	0.85
HR511354	Lower	Period 3	2008-01-10	1.03
HR511410	Lower	Period 3	2009-03-16	1.10
HR511425	Lower	Period 3	2008-03-03	0.95
HR511540	Lower	Period 2	2002-02-25	0.00
HR511604	Lower	Period 2	2006-03-31	0.38
HR511734	Lower	Period 2	2007-02-13	0.55
HR511857	Lower	Period 3	2009-01-14	0.53
HR511986	Lower	Period 3	2008-07-16	0.56
HR512010	Lower	Period 2	2006-01-20	1.61
HR512016	Lower	Period 3	2008-03-03	1.21
HR512060	Lower	Period 2	2002-03-28	0.82
HR512315	Lower	Period 3	2010-01-12	0.00
HR512345	Lower	Period 2	2002-02-25	0.00
HR512512	Lower	Period 1	2001-03-07	0.00
HR612788	Middle	Period 3	2009-02-10	0.88
HR612813	Middle	Period 3	2010-01-12	1.43
HR612825	Middle	Period 3	2008-03-03	0.41
HR612833	Middle	Period 2	2002-03-28	0.00
HR612971	Middle	Period 2	2006-01-20	0.64
HR612984	Middle	Period 2	2007-07-23	0.10
HR613205	Middle	Period 3	2009-01-14	0.00
HR613247	Middle	Period 2	2007-01-05	1.18
HR613252	Middle	Period 2	2002-03-28	0.50
HR613322	Middle	Period 3	2008-01-10	0.76
HR613358	Middle	Period 3	2009-03-16	1.40

DRAFT

HR613359	Middle	Period 2	2006-07-28	1.44
HR613385	Middle	Period 2	2002-02-25	0.24
HR613402	Middle	Period 2	2007-01-05	0.76
HR613412	Middle	Period 2	2006-08-04	0.37
HR613433	Middle	Period 2	2006-08-04	1.05
HR613632	Middle	Period 2	2007-02-13	0.51
HR613712	Middle	Period 2	2007-02-13	0.80
HR613719	Middle	Period 3	2009-01-14	1.07
HR613849	Middle	Period 1	2000-08-16	0.00
HR614172	Middle	Period 2	2006-07-28	1.05
HR614193	Middle	Period 2	2007-03-14	1.13
HR614528	Upper	Period 3	2009-02-10	1.38
HR614597	Upper	Period 2	2007-03-14	0.96
HR614626	Upper	Period 2	2005-02-21	1.03
HR614720	Upper	Period 3	2008-07-16	1.82
HR614880	Upper	Period 1	2000-07-30	0.00
HR614886	Upper	Period 2	2005-01-21	0.24
HR614992	Upper	Period 1	2001-02-23	0.86
HR614994	Upper	Period 2	2006-03-31	1.51
HR615134	Upper	Period 2	2006-03-31	1.08
HR615215	Upper	Period 2	2004-01-19	1.18
HR615288	Upper	Period 2	2005-02-21	0.73
HR615303	Upper	Period 3	2008-03-03	1.69
HR615330	Upper	Period 2	2004-01-19	0.45
HR615336	Upper	Period 3	2009-03-16	1.65
HR615397	Upper	Period 2	2006-01-20	2.32
HR615598	Upper	Period 3	2008-07-16	1.40
HR615745	Upper	Period 2	2007-07-23	0.11
HR616062	Upper	Period 2	2005-01-21	1.95
Lower A	Lower	Period 5	2018-04-10	1.20
Lower A	Lower	Period 5	2018-05-09	1.06
Lower A	Lower	Period 5	2020-05-17	0.86
Lower A	Lower	Period 5	2021-05-23	0.65
Lower A	Lower	Period 5	2022-03-27	0.75
Lower A	Lower	Period 5	2023-04-06	1.64
Lower A	Lower	Period 5	2023-06-01	1.42
Lower A	Lower	Period 5	2023-12-13	0.92
Lower B	Lower	Period 5	2018-04-10	0.21
Lower B	Lower	Period 5	2018-05-09	1.07
Lower B	Lower	Period 5	2020-05-17	0.44
Lower B	Lower	Period 5	2021-05-23	0.00
Lower B	Lower	Period 5	2022-03-27	0.95
Lower B	Lower	Period 5	2023-04-06	0.59
Lower B	Lower	Period 5	2023-12-13	1.03
Middle A	Middle	Period 5	2018-04-10	0.69
Middle A	Middle	Period 5	2018-05-09	0.00
Middle A	Middle	Period 5	2020-05-17	0.77
Middle A	Middle	Period 5	2021-05-23	1.27
Middle A	Middle	Period 5	2022-03-27	0.00
Middle A	Middle	Period 5	2023-04-06	0.95
Middle A	Middle	Period 5	2023-06-01	0.00
Middle A	Middle	Period 5	2023-12-13	0.67
Middle B	Middle	Period 5	2018-04-10	0.82
Middle B	Middle	Period 5	2018-05-09	2.05
Middle B	Middle	Period 5	2020-05-17	0.05
Middle B	Middle	Period 5	2021-05-23	1.02
Middle B	Middle	Period 5	2022-03-27	1.27

Middle B	Middle	Period 5	2023-04-06	1.80
Middle B	Middle	Period 5	2023-06-01	0.84
Middle B	Middle	Period 5	2023-12-13	0.40
Middle C	Middle	Period 5	2022-03-27	0.78
Middle C	Middle	Period 5	2023-04-06	1.47
Middle C	Middle	Period 5	2023-06-01	0.56
Middle C	Middle	Period 5	2023-12-13	1.06
Middle D	Middle	Period 5	2022-03-27	1.07
Middle D	Middle	Period 5	2023-04-06	1.21
Middle D	Middle	Period 5	2023-06-01	1.10
Middle D	Middle	Period 5	2023-12-13	0.73
TP482HILLS_HD	Upper	Period 2	2007-01-17	2.10
TP482HILLS_SCI	Upper	Period 2	2007-01-17	0.95
Upper A	Upper	Period 5	2018-04-10	2.41
Upper A	Upper	Period 5	2018-05-09	2.57
Upper A	Upper	Period 5	2020-05-17	1.63
Upper A	Upper	Period 5	2021-05-23	1.88
Upper A	Upper	Period 5	2022-03-27	2.10
Upper A	Upper	Period 5	2023-04-06	2.07
Upper A	Upper	Period 5	2023-06-01	1.40
Upper A	Upper	Period 5	2023-12-13	1.54
Upper B	Upper	Period 5	2018-04-10	2.09
Upper B	Upper	Period 5	2018-05-09	2.33
Upper B	Upper	Period 5	2020-05-17	1.50
Upper B	Upper	Period 5	2021-05-23	1.81
Upper B	Upper	Period 5	2022-03-27	2.05
Upper B	Upper	Period 5	2023-04-06	1.65
Upper B	Upper	Period 5	2023-06-01	1.04
Upper B	Upper	Period 5	2023-12-13	2.19
Upper C	Upper	Period 5	2022-03-27	1.37
Upper C	Upper	Period 5	2023-04-06	1.49
Upper C	Upper	Period 5	2023-06-01	0.89
Upper C	Upper	Period 5	2023-12-13	1.36
Upper D	Upper	Period 5	2022-03-27	1.06
Upper D	Upper	Period 5	2023-04-06	1.01
Upper D	Upper	Period 5	2023-06-01	0.00
Upper D	Upper	Period 5	2023-12-13	1.24

4.3.1.2 Diversity by segment

River Segment	Shan_div
Upper	2.7
Middle	2.2
Lower	2.1
Downstream	2.0

4.3.1.3 Diversity by period

MFL Period	Shan_div
Period 1	1.5
Period 2	2.3
Period 3	2.1
Period 5	2.7

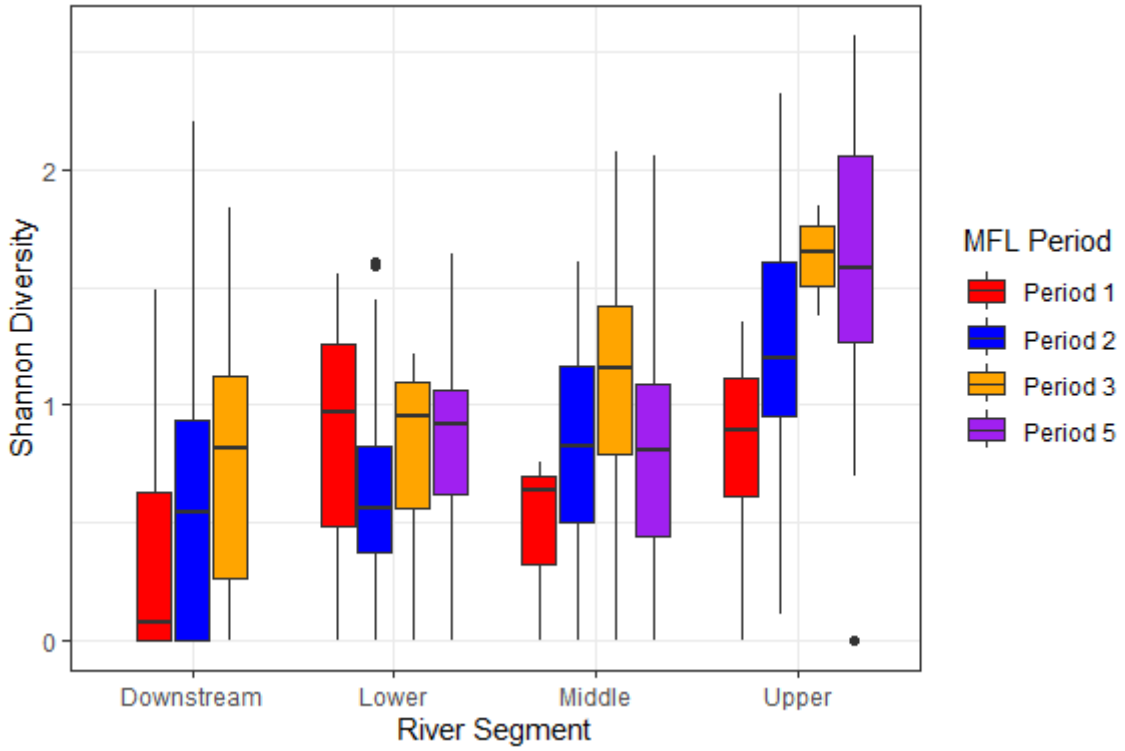
4.3.1.4 Diversity by segment and period

River Segment	MFL Period	Shan_div
Upper	Period 1	1.79

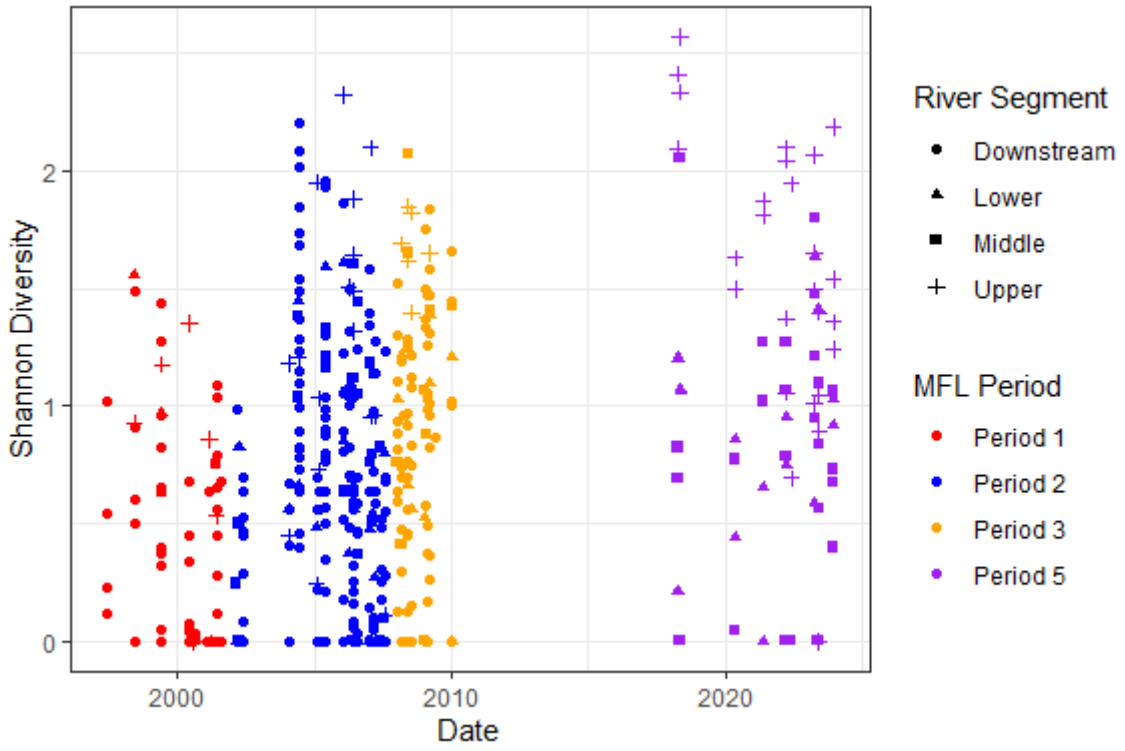
Upper	Period 2	2.38
Upper	Period 3	2.32
Upper	Period 5	2.66
Middle	Period 1	0.83
Middle	Period 2	1.92
Middle	Period 3	1.89
Middle	Period 5	2.16
Lower	Period 1	1.61
Lower	Period 2	1.94
Lower	Period 3	1.25
Lower	Period 5	1.88
Downstream	Period 1	1.05
Downstream	Period 2	2.01
Downstream	Period 3	1.58

4.3.2 FIGURES

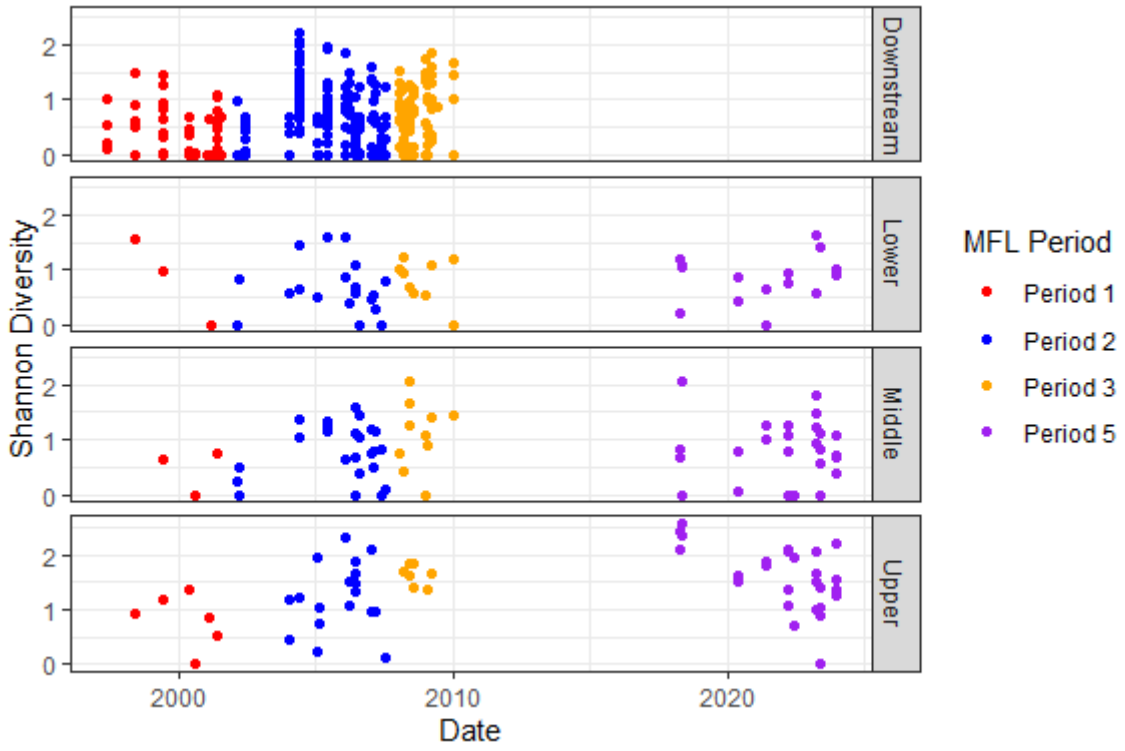
4.3.2.1 Boxplot of site level shannon diversity by MFL period and river segment



4.3.2.2 Site level shannon diversity over time



4.3.2.3 Site level shannon diversity over time by MFL period and river segment



4.4 RICHNESS

4.4.1 TABLES

4.4.1.1 The total number of taxa (richness) of organisms found in the entire data set.

x
150

4.4.1.2 Richness across MFL periods by river segment.

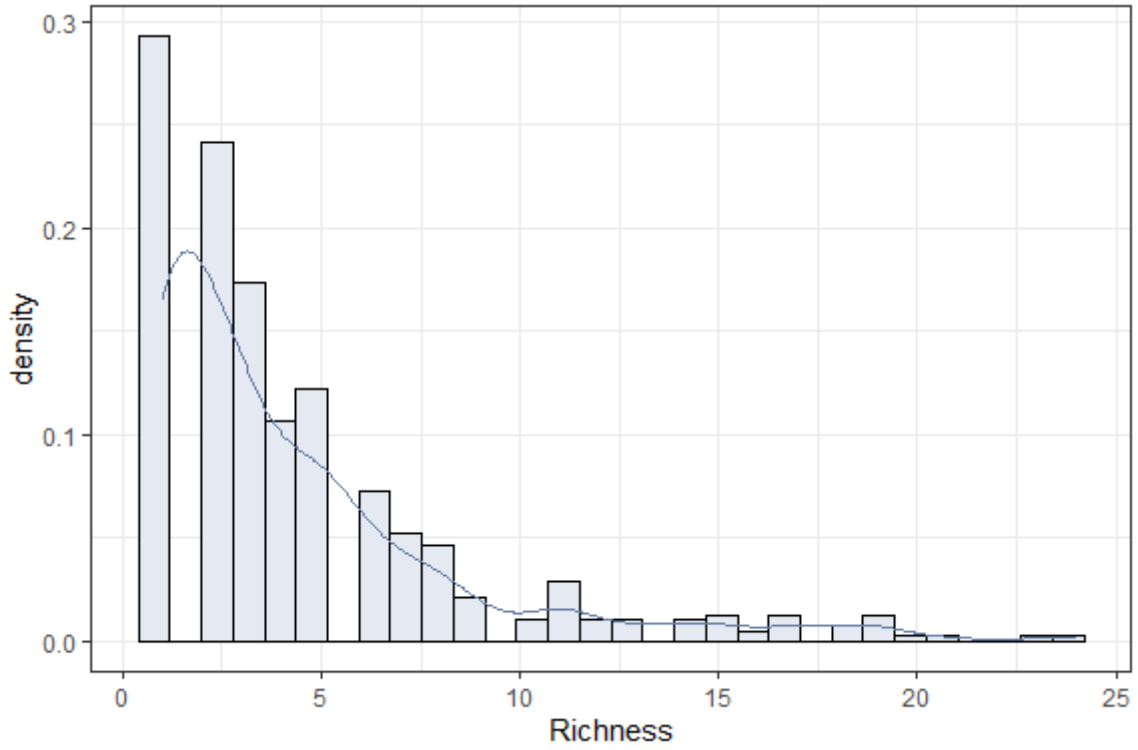
River Segment	Period 1	Period 2	Period 3	Period 5	Segment Richness
Upper	14	73	60	59	116
Middle	6	39	30	23	58
Lower	10	35	15	18	47
Downstream	20	55	25	NA	66

4.4.1.3 Richness across river segments by MFL period.

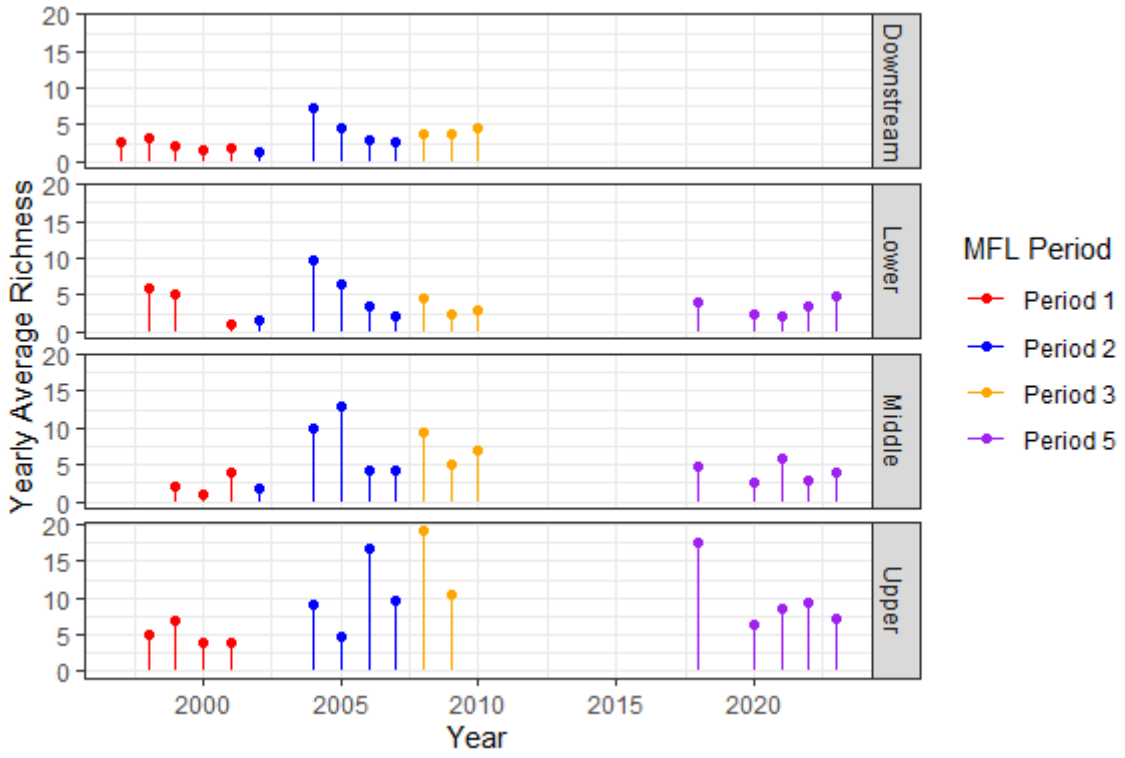
MFL Period	Upper	Middle	Lower	Downstream	Period Richness
Period 1	14	6	10	20	28
Period 2	73	39	35	55	102
Period 3	60	30	15	25	76
Period 5	59	23	18	NA	67

4.4.2 FIGURES

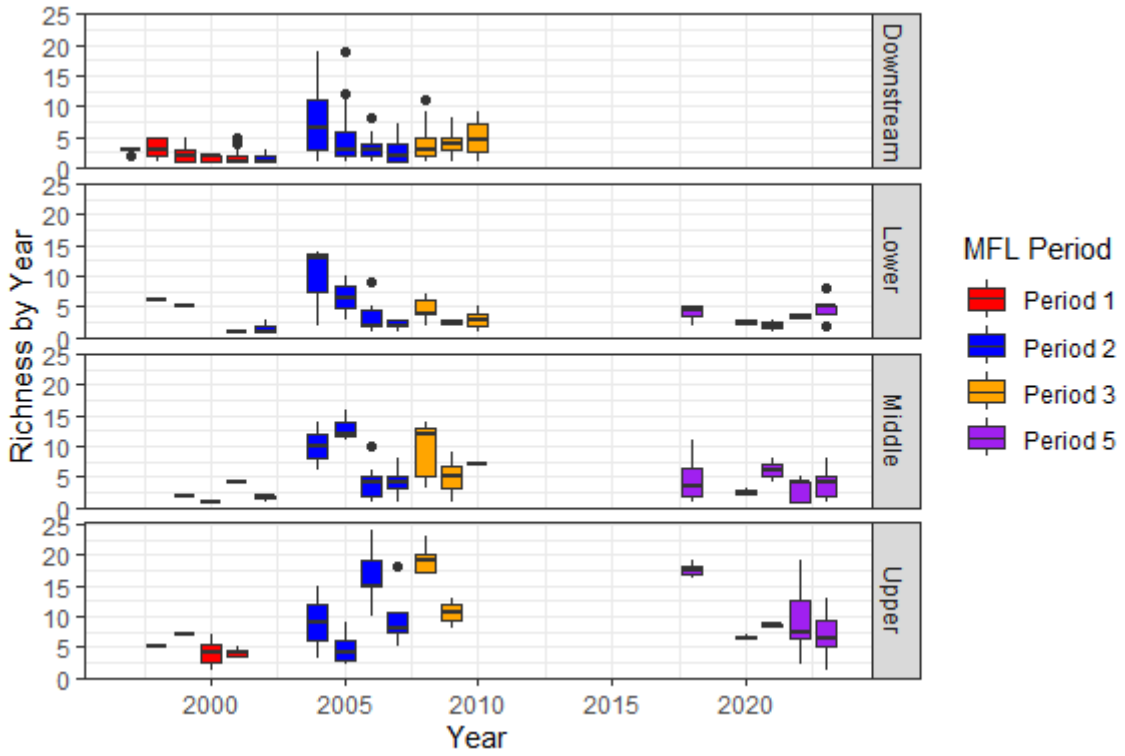
4.4.2.1 Histogram of species richness



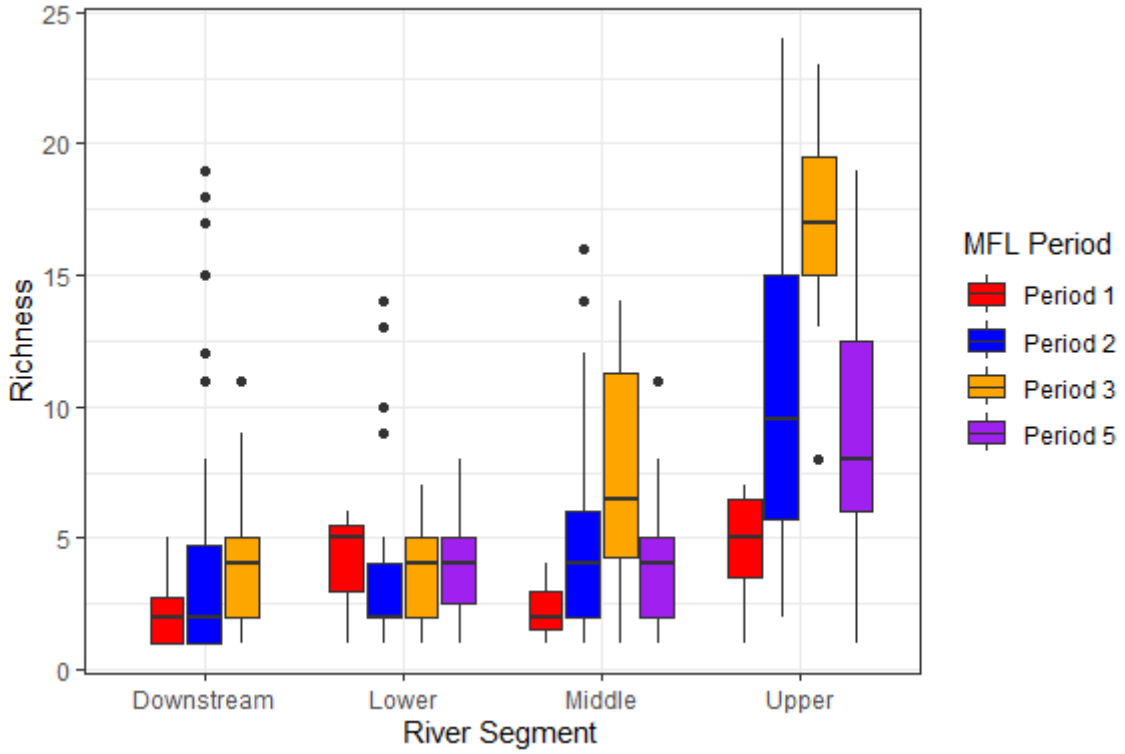
4.4.2.2 Average richness over time, grouped by year of samplin, by MFL period and river segment.



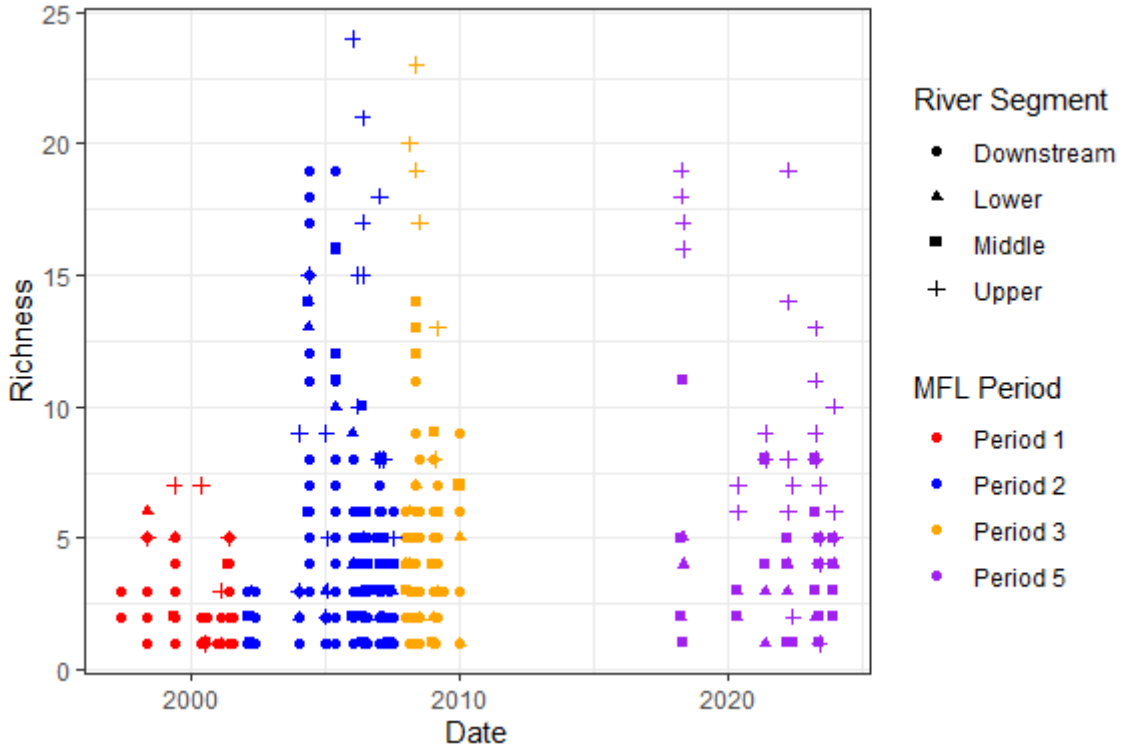
4.4.2.3 Boxplots of richness, grouped by year, by MFL period and river segment.



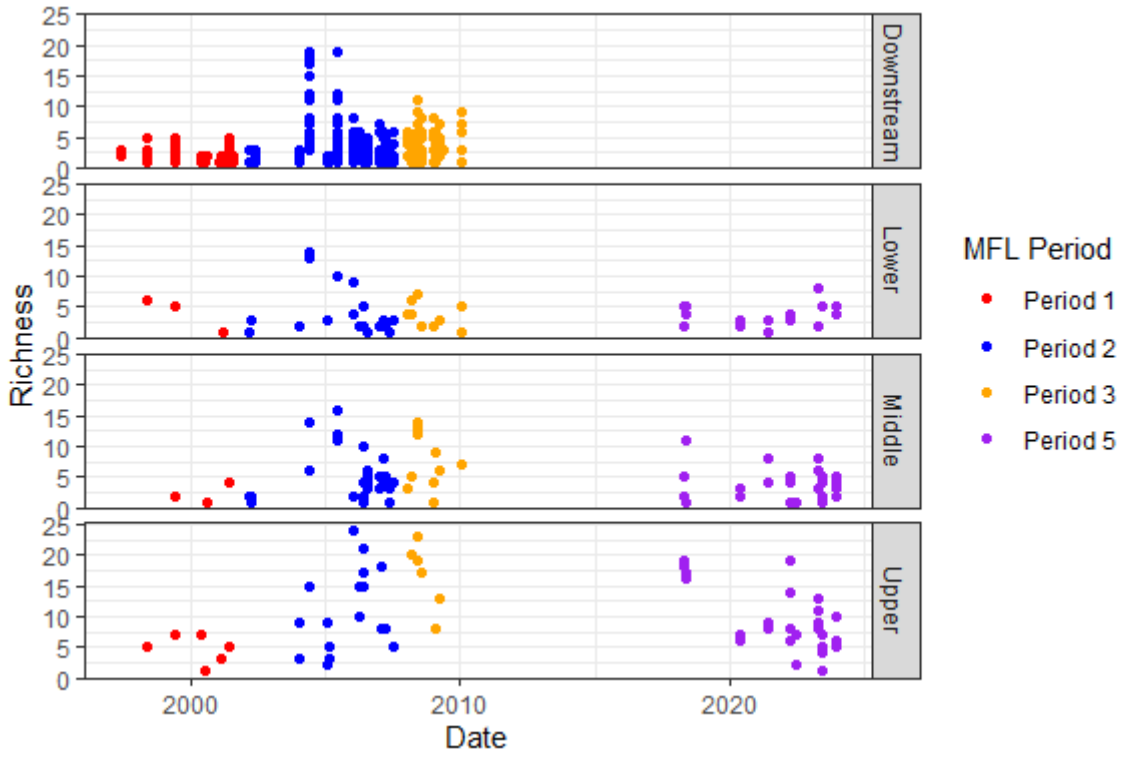
4.4.2.4 Boxplot of site level richness by MFL period and river segment.



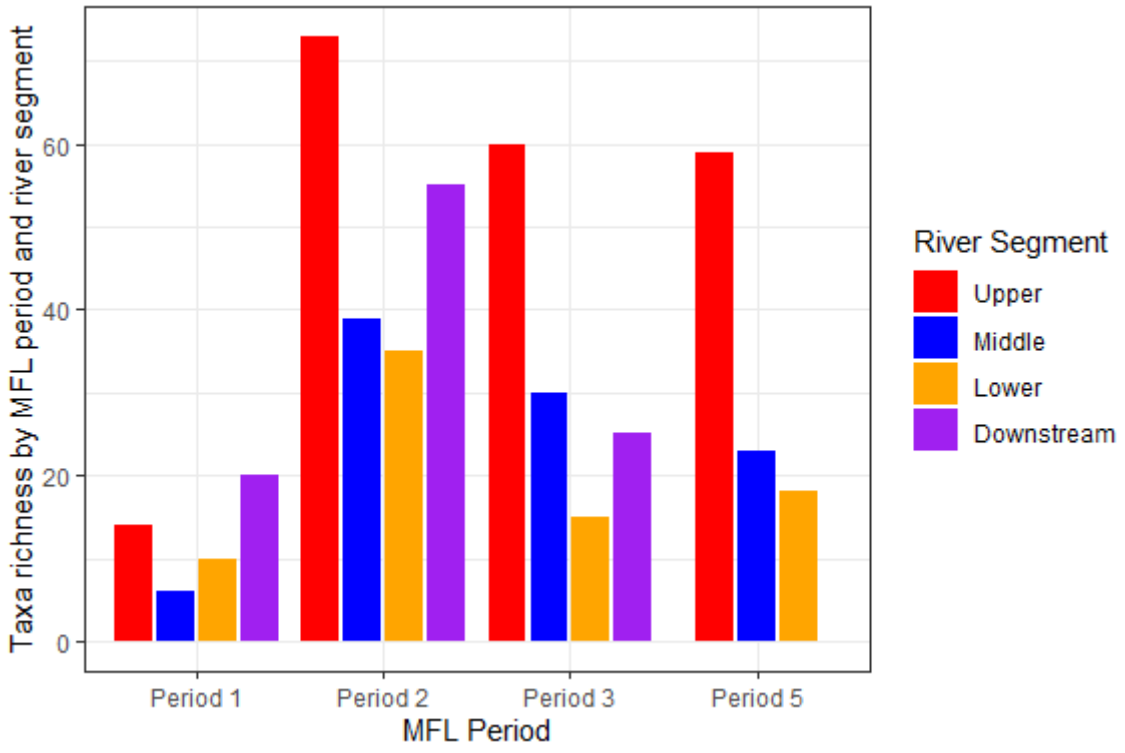
4.4.2.5 Site level richness over time



4.4.2.6 Site level richness over time by MFL period and river segment



4.4.2.7 Taxa richness by MFL period and river segment



DRAFT

5 NEKTON

5.1 ABUNDANCE

5.1.1 TABLES

5.1.1.1 Total abundance of the data set.

Total Abundance
110051

5.1.1.2 Total abundance of each taxon, and MFL period:River segment abundance, sorted by most abundant.

Final Taxa	Total Abun	Period 1 Upper	Period 1 Middle	Period 1 Lower	Period 1 Downstream	Period 2 Upper	Period 2 Middle	Period 2 Lower	Period 2 Downstream	Period 3 Upper	Period 3 Middle	Period 3 Lower	Period 3 Downstream	Period 4 Upper	Period 4 Middle	Period 4 Lower	Period 4 Downstream	Period 5 Upper	Period 5 Middle	Period 5 Lower
Palaemonetes pugio	68354	3205	11060	7521	21177	186	1131	2897	10020	58	167	2779	7575	0	13	107	456	0	0	2
Gambusia holbrooki	16952	2683	4306	351	219	1196	1919	875	630	712	1247	1371	470	13	2	147	13	358	269	171
Mugil cephalus	16114	0	10	80	2838	0	1	440	4509	0	4	271	7419	0	0	2	107	1	9	423
Trinectes maculatus	5263	69	106	205	687	104	150	205	1162	61	56	144	1645	17	16	106	187	71	220	52
Opsanus beta	594	0	0	0	82	0	0	0	206	0	0	0	295	0	0	0	11	0	0	0
Fundulus seminolis	588	0	0	0	0	133	21	5	1	86	64	37	15	3	0	2	0	115	48	58
Eugerres plumieri	494	0	25	53	40	1	10	14	80	0	34	33	100	0	0	27	51	0	2	24
Lepomis macrochirus	445	5	1	0	0	99	18	4	5	9	35	6	3	142	0	33	6	65	14	0
Micropterus salmoides	363	0	0	0	0	97	17	7	10	32	19	16	10	15	0	0	0	71	44	25
Labidesthes sicculus	324	0	0	0	0	127	31	1	0	31	127	4	1	0	0	2	0	0	0	0
Lucania goodei	151	1	0	0	0	4	0	14	3	0	2	5	3	1	0	0	0	102	0	16
Lepomis microlophus	150	0	2	0	0	43	20	1	0	3	13	1	0	21	0	26	0	16	2	2
Notropis petersoni	80	0	0	0	0	76	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Oreochromis aureus	34	0	0	0	0	0	0	0	0	0	20	13	0	0	0	0	0	0	1	0
Lepomis punctatus	29	0	0	0	0	5	8	1	9	2	0	0	0	3	0	0	0	1	0	0
Heterandria formosa	25	0	0	1	0	3	0	0	0	7	4	1	1	0	0	3	0	2	3	0
Notropis maculatus	16	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Etheostoma fusiforme	15	0	0	0	0	1	0	0	0	1	6	0	0	0	0	0	0	7	0	0
Lepomis sp.	14	0	0	0	0	10	1	0	2	0	1	0	0	0	0	0	0	0	0	0
Microgobius thalassinus	14	0	0	0	2	0	0	0	3	0	0	0	9	0	0	0	0	0	0	0
Lepomis auritus	13	0	0	0	0	1	1	1	0	1	1	0	0	2	3	0	0	3	0	0
Lepomis marginatus	5	1	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Trachemys scripta	5	0	0	0	0	1	0	0	2	1	0	1	0	0	0	0	0	0	0	0
Lupinoblennius nicholsi	3	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0

DRAFT

Notemigonus crysoleucas	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Pomoxis nigromaculatus	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Chelydra serpentina osceola	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Fundulus chrysotus	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

5.1.1.3 Total Abundance over river segments by MFL period.

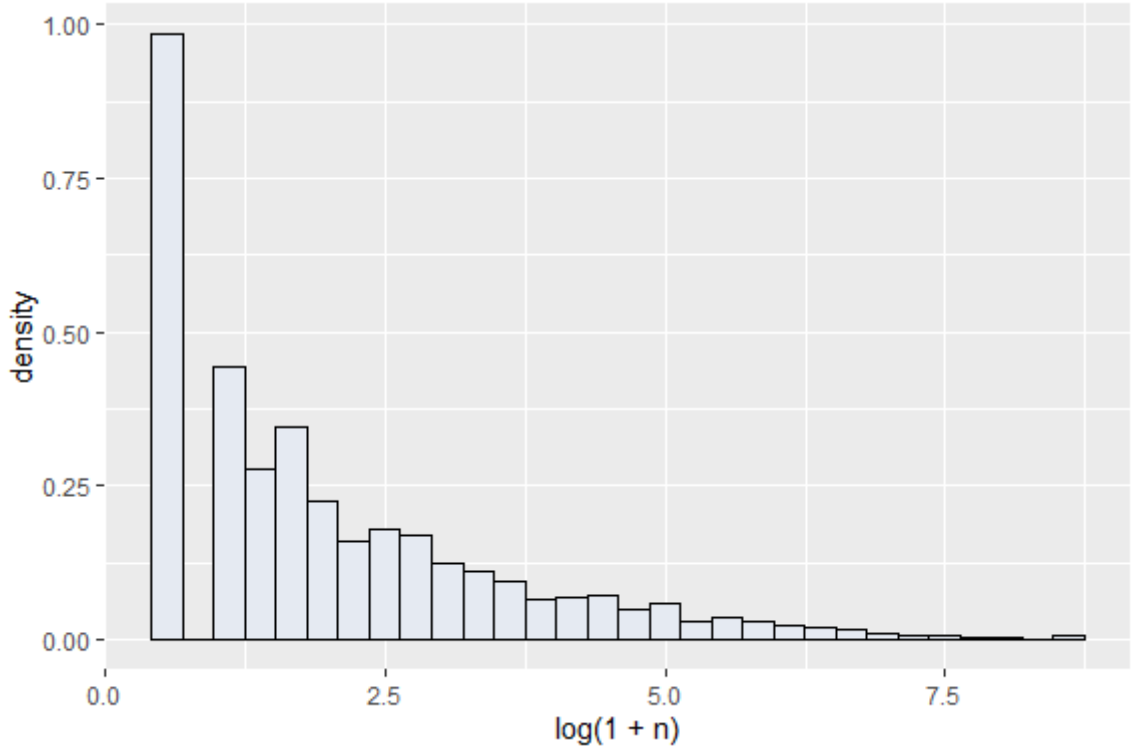
River Segment	Period 1	Period 2	Period 3	Period 4	Period 5	total
Upper	5964	2106	1004	217	812	10103
Middle	15510	3333	1802	34	613	21292
Lower	8211	4465	4684	455	773	18588
Downstream	25045	16644	17548	831	NA	60068

5.1.1.4 Total Abundance of MFL period by River segment.

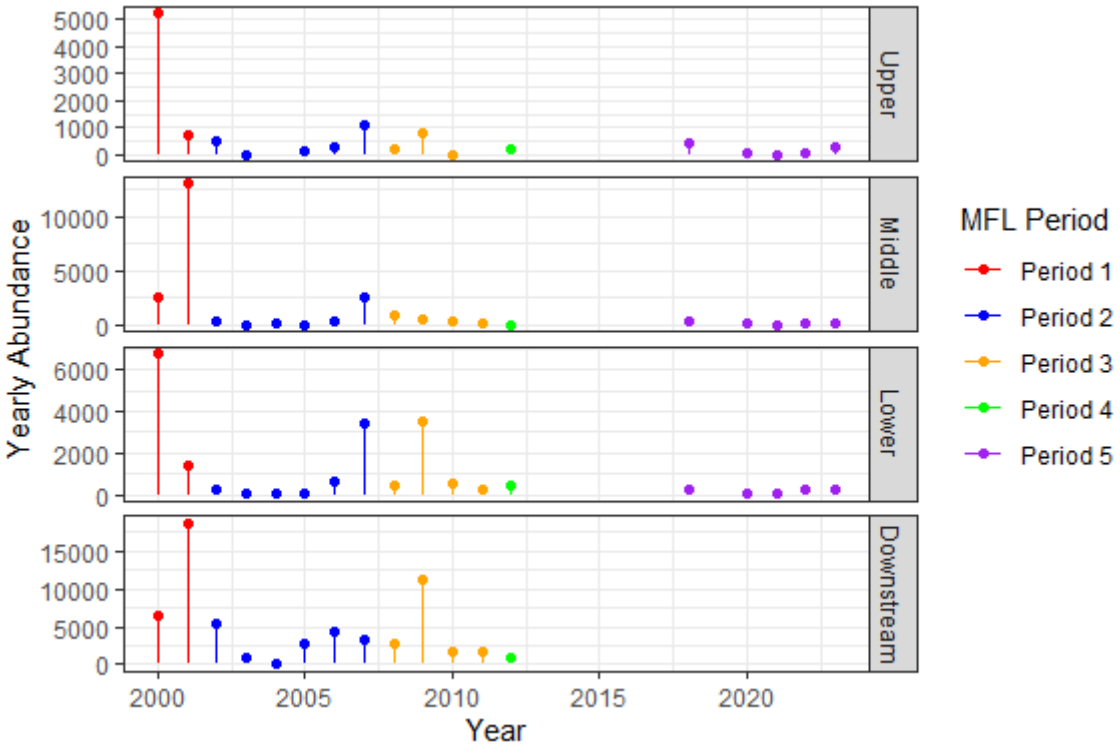
MFL Period	Lower	Middle	Upper	Downstream	total
Period 1	8211	15510	5964	25045	29685
Period 2	4465	3333	2106	16644	9904
Period 3	4684	1802	1004	17548	7490
Period 4	455	34	217	831	706
Period 5	773	613	812	NA	2198

5.1.2 FIGURES

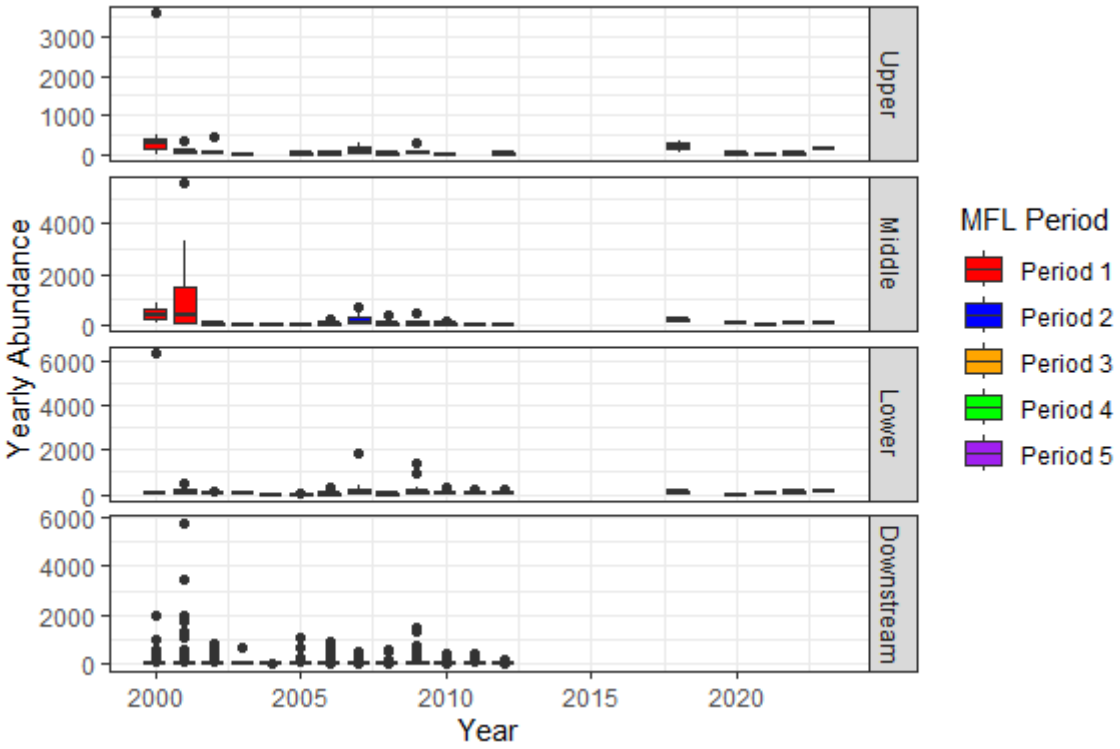
5.1.2.1 Histogram of species abundance.



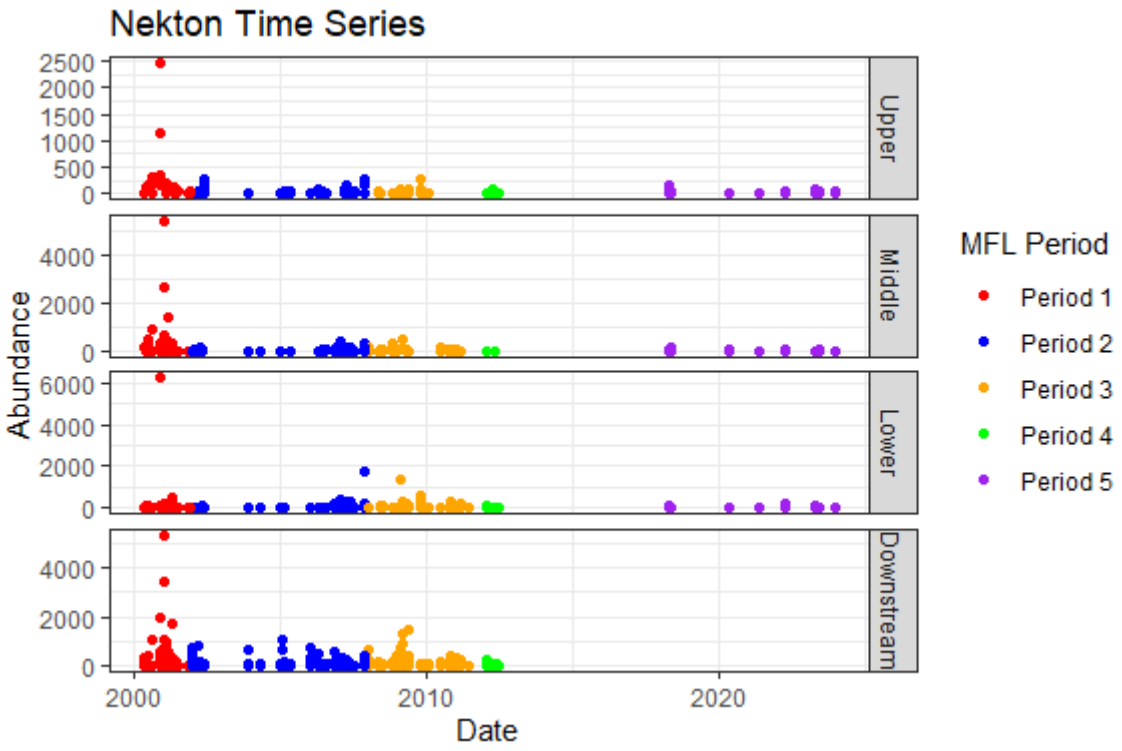
5.1.2.2 Total abundance over time, grouped by year of sampling.



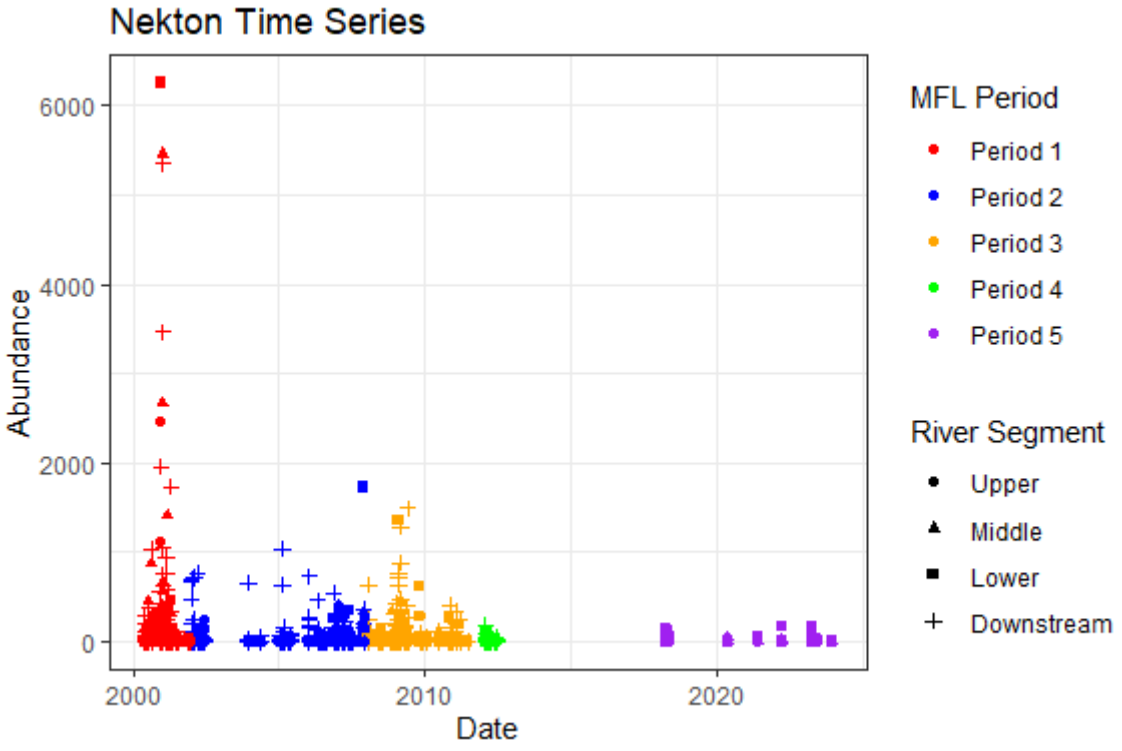
5.1.2.3 Boxplots of individuals, grouped by year, by MFL period and river segment.



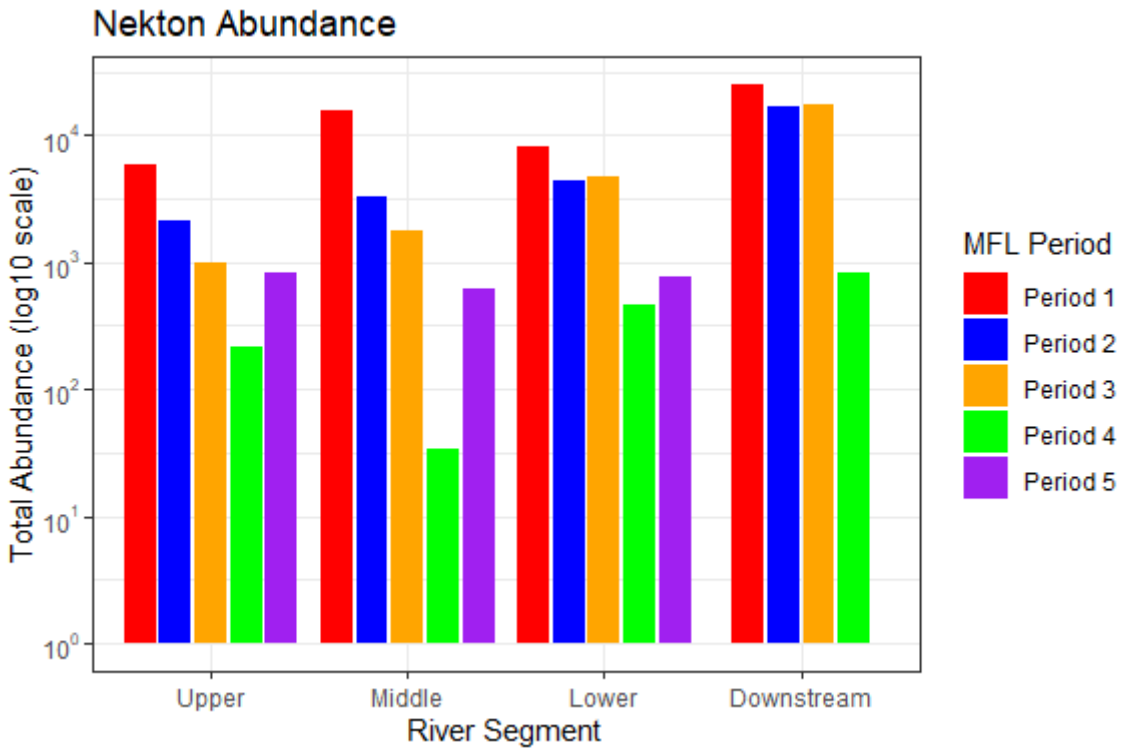
5.1.2.4 Abundance by year, MFL period, and river segment.



5.1.2.5 Total abundance by river segment, MFL period, and date.



5.1.2.6 Total abundance by MFL period and river segment.



5.2 DENSITY

5.2.1 TABLES

5.2.1.1 Total average density of the data set.

Total Avg Density
69

5.2.1.2 Total average density of each taxon.

Final Taxa	Total Avg Density
Palaemonetes pugio	199.60
Mugil cephalus	113.38
Gambusia holbrooki	83.47
Oreochromis aureus	16.67
Labidesthes sicculus	14.89
Notropis petersoni	14.71
Notropis maculatus	11.76
Fundulus seminolis	9.91
Eugerres plumieri	8.86
Lepomis macrochirus	8.77
Trinectes maculatus	8.11
Micropterus salmoides	5.90
Lepomis microlophus	5.06
Lucania goodei	4.27
Lepomis sp.	3.43
Etheostoma fusiforme	3.19
Notemigonus crysoleucas	2.94
Lepomis punctatus	2.51
Heterandria formosa	2.27

Lepomis auritus	1.61
Chelydra serpentina osceola	1.47
Lepomis marginatus	1.47
Lupinoblennius nicholsi	1.47
Pomoxis nigromaculatus	1.47
Trachemys scripta	1.47
Opsanus beta	0.74
Microgobius thalassinus	0.33
Fundulus chrysotus	0.03

5.2.1.3 Total average density of each taxon by MFL period and river segment.

River Segment	MFL Period	Final Taxa	Total Avg Density
Upper	Period 1	Palaemonetes pugio	589.15
Upper	Period 1	Gambusia holbrooki	281.83
Upper	Period 1	Trinectes maculatus	16.70
Upper	Period 1	Lepomis macrochirus	3.68
Upper	Period 1	Lepomis marginatus	1.47
Upper	Period 1	Lucania goodei	1.47
Middle	Period 1	Palaemonetes pugio	1355.39
Middle	Period 1	Gambusia holbrooki	422.16
Middle	Period 1	Trinectes maculatus	14.17
Middle	Period 1	Eugerres plumieri	9.19
Middle	Period 1	Mugil cephalus	7.35
Middle	Period 1	Lepomis microlophus	2.94
Middle	Period 1	Lepomis macrochirus	1.47
Lower	Period 1	Palaemonetes pugio	847.61
Lower	Period 1	Gambusia holbrooki	43.01
Lower	Period 1	Trinectes maculatus	25.12
Lower	Period 1	Mugil cephalus	23.53
Lower	Period 1	Eugerres plumieri	10.94
Lower	Period 1	Heterandria formosa	1.47
Downstream	Period 1	Palaemonetes pugio	457.57
Downstream	Period 1	Mugil cephalus	173.90
Downstream	Period 1	Gambusia holbrooki	16.10
Downstream	Period 1	Trinectes maculatus	10.36
Downstream	Period 1	Eugerres plumieri	5.88
Downstream	Period 1	Microgobius thalassinus	1.47
Downstream	Period 1	Opsanus beta	0.61
Upper	Period 2	Gambusia holbrooki	83.75
Upper	Period 2	Palaemonetes pugio	34.19
Upper	Period 2	Notropis petersoni	18.63
Upper	Period 2	Fundulus seminolis	17.78
Upper	Period 2	Labidesthes sicculus	16.98
Upper	Period 2	Lepomis macrochirus	12.13
Upper	Period 2	Micropterus salmoides	11.89
Upper	Period 2	Notropis maculatus	11.76
Upper	Period 2	Trinectes maculatus	7.65
Upper	Period 2	Lepomis microlophus	7.03
Upper	Period 2	Lucania goodei	5.88
Upper	Period 2	Lepomis sp.	4.90
Upper	Period 2	Heterandria formosa	4.41
Upper	Period 2	Lepomis punctatus	2.45
Upper	Period 2	Etheostoma fusiforme	1.47
Upper	Period 2	Eugerres plumieri	1.47
Upper	Period 2	Lepomis auritus	1.47
Upper	Period 2	Lepomis marginatus	1.47

DRAFT

Upper	Period 2	Trachemys scripta	1.47
Middle	Period 2	Gambusia holbrooki	117.59
Middle	Period 2	Palaemonetes pugio	87.54
Middle	Period 2	Trinectes maculatus	9.97
Middle	Period 2	Labidesthes sicculus	7.60
Middle	Period 2	Lepomis microlophus	5.88
Middle	Period 2	Fundulus seminolis	5.15
Middle	Period 2	Eugerres plumieri	4.90
Middle	Period 2	Lepomis punctatus	3.92
Middle	Period 2	Lepomis macrochirus	3.78
Middle	Period 2	Micropterus salmoides	3.57
Middle	Period 2	Notropis petersoni	2.94
Middle	Period 2	Lepomis auritus	1.47
Middle	Period 2	Lepomis marginatus	1.47
Middle	Period 2	Lepomis sp.	1.47
Middle	Period 2	Mugil cephalus	1.47
Lower	Period 2	Palaemonetes pugio	170.41
Lower	Period 2	Mugil cephalus	64.71
Lower	Period 2	Gambusia holbrooki	42.89
Lower	Period 2	Trinectes maculatus	10.43
Lower	Period 2	Lucania goodei	6.86
Lower	Period 2	Eugerres plumieri	5.15
Lower	Period 2	Fundulus seminolis	3.68
Lower	Period 2	Micropterus salmoides	3.43
Lower	Period 2	Lepomis macrochirus	1.96
Lower	Period 2	Labidesthes sicculus	1.47
Lower	Period 2	Lepomis auritus	1.47
Lower	Period 2	Lepomis microlophus	1.47
Lower	Period 2	Lepomis punctatus	1.47
Downstream	Period 2	Palaemonetes pugio	85.96
Downstream	Period 2	Mugil cephalus	84.99
Downstream	Period 2	Gambusia holbrooki	23.76
Downstream	Period 2	Eugerres plumieri	9.05
Downstream	Period 2	Trinectes maculatus	6.84
Downstream	Period 2	Lepomis punctatus	3.31
Downstream	Period 2	Lepomis sp.	2.94
Downstream	Period 2	Micropterus salmoides	2.94
Downstream	Period 2	Lucania goodei	2.21
Downstream	Period 2	Lepomis macrochirus	1.84
Downstream	Period 2	Chelydra serpentina osceola	1.47
Downstream	Period 2	Fundulus seminolis	1.47
Downstream	Period 2	Lupinoblennius nicholsi	1.47
Downstream	Period 2	Trachemys scripta	1.47
Downstream	Period 2	Opsanus beta	0.81
Downstream	Period 2	Microgobius thalassinus	0.13
Upper	Period 3	Gambusia holbrooki	74.79
Upper	Period 3	Fundulus seminolis	15.81
Upper	Period 3	Palaemonetes pugio	10.66
Upper	Period 3	Micropterus salmoides	9.41
Upper	Period 3	Trinectes maculatus	8.97
Upper	Period 3	Labidesthes sicculus	6.51
Upper	Period 3	Heterandria formosa	5.15
Upper	Period 3	Lepomis macrochirus	2.65
Upper	Period 3	Lepomis microlophus	2.21
Upper	Period 3	Etheostoma fusiforme	1.47
Upper	Period 3	Lepomis auritus	1.47
Upper	Period 3	Lepomis punctatus	1.47

DRAFT

Upper	Period 3	Trachemys scripta	1.47
Middle	Period 3	Gambusia holbrooki	122.25
Middle	Period 3	Labidesthes sicculus	62.25
Middle	Period 3	Oreochromis aureus	29.41
Middle	Period 3	Eugerres plumieri	16.67
Middle	Period 3	Fundulus seminolis	15.69
Middle	Period 3	Palaemonetes pugio	13.64
Middle	Period 3	Lepomis macrochirus	12.87
Middle	Period 3	Trinectes maculatus	5.88
Middle	Period 3	Etheostoma fusiforme	4.41
Middle	Period 3	Lepomis microlophus	3.82
Middle	Period 3	Micropterus salmoides	3.10
Middle	Period 3	Lucania goodei	2.94
Middle	Period 3	Mugil cephalus	1.96
Middle	Period 3	Heterandria formosa	1.47
Middle	Period 3	Lepomis auritus	1.47
Middle	Period 3	Lepomis sp.	1.47
Middle	Period 3	Pomoxis nigromaculatus	1.47
Lower	Period 3	Mugil cephalus	199.26
Lower	Period 3	Palaemonetes pugio	177.69
Lower	Period 3	Gambusia holbrooki	100.81
Lower	Period 3	Oreochromis aureus	19.12
Lower	Period 3	Trinectes maculatus	14.03
Lower	Period 3	Eugerres plumieri	8.09
Lower	Period 3	Fundulus seminolis	6.80
Lower	Period 3	Micropterus salmoides	4.71
Lower	Period 3	Labidesthes sicculus	2.94
Lower	Period 3	Lepomis macrochirus	2.94
Lower	Period 3	Notemigonus crysoleucas	2.94
Lower	Period 3	Heterandria formosa	1.47
Lower	Period 3	Lepomis microlophus	1.47
Lower	Period 3	Lucania goodei	1.47
Lower	Period 3	Trachemys scripta	1.47
Downstream	Period 3	Mugil cephalus	181.84
Downstream	Period 3	Palaemonetes pugio	105.71
Downstream	Period 3	Gambusia holbrooki	18.68
Downstream	Period 3	Eugerres plumieri	14.57
Downstream	Period 3	Fundulus seminolis	4.41
Downstream	Period 3	Lepomis macrochirus	4.41
Downstream	Period 3	Micropterus salmoides	3.68
Downstream	Period 3	Trinectes maculatus	3.65
Downstream	Period 3	Heterandria formosa	1.47
Downstream	Period 3	Labidesthes sicculus	1.47
Downstream	Period 3	Lucania goodei	1.47
Downstream	Period 3	Lupinoblennius nicholsi	1.47
Downstream	Period 3	Opsanus beta	0.79
Downstream	Period 3	Microgobius thalassinus	0.15
Upper	Period 4	Lepomis macrochirus	34.80
Upper	Period 4	Lepomis microlophus	10.29
Upper	Period 4	Gambusia holbrooki	6.37
Upper	Period 4	Micropterus salmoides	3.68
Upper	Period 4	Trinectes maculatus	3.57
Upper	Period 4	Fundulus seminolis	2.21
Upper	Period 4	Lepomis auritus	1.47
Upper	Period 4	Lepomis punctatus	1.47
Upper	Period 4	Lucania goodei	1.47
Middle	Period 4	Palaemonetes pugio	6.37

DRAFT

Middle	Period 4	Trinectes maculatus	5.88
Middle	Period 4	Lepomis auritus	4.41
Middle	Period 4	Gambusia holbrooki	2.94
Lower	Period 4	Gambusia holbrooki	72.06
Lower	Period 4	Palaemonetes pugio	52.45
Lower	Period 4	Trinectes maculatus	15.59
Lower	Period 4	Eugerres plumieri	9.93
Lower	Period 4	Lepomis macrochirus	8.09
Lower	Period 4	Lepomis microlophus	6.37
Lower	Period 4	Heterandria formosa	4.41
Lower	Period 4	Fundulus seminolis	2.94
Lower	Period 4	Labidesthes sicculus	2.94
Lower	Period 4	Mugil cephalus	2.94
Downstream	Period 4	Palaemonetes pugio	37.25
Downstream	Period 4	Mugil cephalus	15.74
Downstream	Period 4	Eugerres plumieri	10.71
Downstream	Period 4	Trinectes maculatus	6.83
Downstream	Period 4	Gambusia holbrooki	3.82
Downstream	Period 4	Lepomis macrochirus	2.94
Downstream	Period 4	Opsanus beta	0.40
Upper	Period 5	Gambusia holbrooki	27.75
Upper	Period 5	Fundulus seminolis	13.01
Upper	Period 5	Trinectes maculatus	7.00
Upper	Period 5	Micropterus salmoides	6.69
Upper	Period 5	Lucania goodei	6.36
Upper	Period 5	Lepomis macrochirus	5.51
Upper	Period 5	Etheostoma fusiforme	3.70
Upper	Period 5	Lepomis microlophus	1.75
Upper	Period 5	Lepomis punctatus	1.47
Upper	Period 5	Mugil cephalus	1.47
Upper	Period 5	Lepomis auritus	0.99
Upper	Period 5	Heterandria formosa	0.05
Middle	Period 5	Trinectes maculatus	15.55
Middle	Period 5	Fundulus seminolis	8.64
Middle	Period 5	Lepomis macrochirus	6.86
Middle	Period 5	Gambusia holbrooki	4.58
Middle	Period 5	Micropterus salmoides	3.82
Middle	Period 5	Eugerres plumieri	2.94
Middle	Period 5	Lepomis microlophus	2.94
Middle	Period 5	Oreochromis aureus	1.47
Middle	Period 5	Mugil cephalus	0.12
Middle	Period 5	Heterandria formosa	0.08
Middle	Period 5	Fundulus chrysotus	0.03
Lower	Period 5	Mugil cephalus	51.21
Lower	Period 5	Gambusia holbrooki	46.83
Lower	Period 5	Micropterus salmoides	9.19
Lower	Period 5	Lucania goodei	7.36
Lower	Period 5	Trinectes maculatus	6.73
Lower	Period 5	Eugerres plumieri	3.69
Lower	Period 5	Lepomis microlophus	2.94
Lower	Period 5	Fundulus seminolis	2.90
Lower	Period 5	Palaemonetes pugio	0.03

5.2.1.4 Overall Taxon Density with columns of MFL period and river segment density

Final Taxa	Avg Density	Period 1 Upper	Period 1 Middle	Period 1 Lower	Period 1 Downstream	Period 2 Upper	Period 2 Middle	Period 2 Lower	Period 2 Downstream	Period 3 Upper	Period 3 Middle	Period 3 Lower	Period 3 Downstream	Period 4 Upper	Period 4 Middle	Period 4 Lower	Period 4 Downstream	Period 5 Upper	Period 5 Middle	Period 5 Lower
Palaemonetes pugio	199.60	589.1	1355.4	847.6	457.57	34.2	87.5	170.4	85.96	10.7	13.6	177.7	105.71	0.0	6.4	52.5	37.2	0.00	0.00	0.03
Mugil cephalus	113.38	0.0	7.3	23.5	173.90	0.0	1.5	64.7	84.99	0.0	2.0	199.3	181.84	0.0	0.0	2.9	15.7	1.47	0.12	51.21
Gambusia holbrooki	83.47	281.8	422.2	43.0	16.10	83.8	117.6	42.9	23.76	74.8	122.2	100.8	18.68	6.4	2.9	72.1	3.8	27.75	4.58	46.83
Oreochromis aureus	16.67	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.00	0.0	29.4	19.1	0.00	0.0	0.0	0.0	0.0	0.00	1.47	0.00
Labidesthes sicculus	14.89	0.0	0.0	0.0	0.00	17.0	7.6	1.5	0.00	6.5	62.2	2.9	1.47	0.0	0.0	2.9	0.0	0.00	0.00	0.00
Notropis petersoni	14.71	0.0	0.0	0.0	0.00	18.6	2.9	0.0	0.00	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Notropis maculatus	11.76	0.0	0.0	0.0	0.00	11.8	0.0	0.0	0.00	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Fundulus seminolis	9.91	0.0	0.0	0.0	0.00	17.8	5.2	3.7	1.47	15.8	15.7	6.8	4.41	2.2	0.0	2.9	0.0	13.01	8.64	2.90
Eugerres plumieri	8.86	0.0	9.2	10.9	5.88	1.5	4.9	5.2	9.05	0.0	16.7	8.1	14.57	0.0	0.0	9.9	10.7	0.00	2.94	3.69
Lepomis macrochirus	8.77	3.7	1.5	0.0	0.00	12.1	3.8	2.0	1.84	2.6	12.9	2.9	4.41	34.8	0.0	8.1	2.9	5.51	6.86	0.00
Trinectes maculatus	8.11	16.7	14.2	25.1	10.36	7.6	10.0	10.4	6.84	9.0	5.9	14.0	3.65	3.6	5.9	15.6	6.8	7.00	15.55	6.73
Micropterus salmoides	5.90	0.0	0.0	0.0	0.00	11.9	3.6	3.4	2.94	9.4	3.1	4.7	3.68	3.7	0.0	0.0	0.0	6.69	3.82	9.19
Lepomis microlophus	5.06	0.0	2.9	0.0	0.00	7.0	5.9	1.5	0.00	2.2	3.8	1.5	0.00	10.3	0.0	6.4	0.0	1.75	2.94	2.94
Lucania goodei	4.27	1.5	0.0	0.0	0.00	5.9	0.0	6.9	2.21	0.0	2.9	1.5	1.47	1.5	0.0	0.0	0.0	6.36	0.00	7.36
Lepomis sp.	3.43	0.0	0.0	0.0	0.00	4.9	1.5	0.0	2.94	0.0	1.5	0.0	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Etheostoma fusiforme	3.19	0.0	0.0	0.0	0.00	1.5	0.0	0.0	0.00	1.5	4.4	0.0	0.00	0.0	0.0	0.0	0.0	3.70	0.00	0.00
Notemigonus crysoleucas	2.94	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.00	0.0	0.0	2.9	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Lepomis punctatus	2.51	0.0	0.0	0.0	0.00	2.4	3.9	1.5	3.31	1.5	0.0	0.0	0.00	1.5	0.0	0.0	0.0	1.47	0.00	0.00
Heterandria formosa	2.27	0.0	0.0	1.5	0.00	4.4	0.0	0.0	0.00	5.2	1.5	1.5	1.47	0.0	0.0	4.4	0.0	0.05	0.08	0.00
Lepomis auritus	1.61	0.0	0.0	0.0	0.00	1.5	1.5	1.5	0.00	1.5	1.5	0.0	0.00	1.5	4.4	0.0	0.0	0.99	0.00	0.00
Chelydra serpentina osceola	1.47	0.0	0.0	0.0	0.00	0.0	0.0	0.0	1.47	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Lepomis marginatus	1.47	1.5	0.0	0.0	0.00	1.5	1.5	0.0	0.00	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Lupinoblennius nicholsi	1.47	0.0	0.0	0.0	0.00	0.0	0.0	0.0	1.47	0.0	0.0	0.0	1.47	0.0	0.0	0.0	0.0	0.00	0.00	0.00

DRAFT

Pomoxis nigromaculatus	1.47	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.00	0.0	1.5	0.0	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Trachemys scripta	1.47	0.0	0.0	0.0	0.00	1.5	0.0	0.0	1.47	1.5	0.0	1.5	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Opsanus beta	0.74	0.0	0.0	0.0	0.61	0.0	0.0	0.0	0.81	0.0	0.0	0.0	0.79	0.0	0.0	0.0	0.4	0.00	0.00	0.00
Microgobius thalassinus	0.33	0.0	0.0	0.0	1.47	0.0	0.0	0.0	0.13	0.0	0.0	0.0	0.15	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Fundulus chrysotus	0.03	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.00	0.03	0.00

DRAFT

5.2.1.5 Summary statistics of density of organisms.

variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
result_100m2	2275	0.03	9193	4.4	1.5	18	16	5.9	69	391	8.2	16

5.2.1.6 Summary statistics of densities by MFL Period

MFL Period	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Period 1	result_100m2	371	0.11	9193	8.8	1.47	64.7	63.2	12.4	216	888	46.1	90.7
Period 2	result_100m2	907	0.12	2540	4.4	1.47	16.2	14.7	5.2	42	155	5.2	10.1
Period 3	result_100m2	672	0.12	2199	2.9	1.47	18.9	17.5	4.1	51	187	7.2	14.2
Period 4	result_100m2	164	0.12	281	4.4	1.47	8.8	7.3	4.4	14	32	2.5	5.0
Period 5	result_100m2	161	0.03	244	2.0	0.23	7.3	7.1	2.8	11	30	2.4	4.7

5.2.1.7 Summary statistics of densities by River Segment

River Segment	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Upper	result_100m2	326	0.03	3612	4.4	1.5	16	15	4.4	44	228	12.6	25
Middle	result_100m2	299	0.03	8024	5.9	1.5	19	18	6.5	103	548	31.7	62
Lower	result_100m2	341	0.03	9193	5.9	1.5	26	25	6.5	79	533	28.9	57
Downstream	result_100m2	1309	0.11	7872	2.9	1.5	16	15	4.1	65	332	9.2	18

5.2.1.8 Summary statistics of densities by MFL period and River segment

River Segment	MFL Period	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Upper	Period 1	result_100m2	32	0.19	3612	76.5	5.88	222.8	216.9	111.2	274.0	680.0	120.2	245.2
Middle	Period 1	result_100m2	46	1.47	8024	68.4	5.88	409.9	404.0	98.1	495.8	1324.5	195.3	393.3
Lower	Period 1	result_100m2	50	0.11	9193	13.2	4.41	64.7	60.3	17.4	240.7	1297.1	183.4	368.6
Downstream	Period 1	result_100m2	243	0.11	7872	4.4	1.47	25.0	23.5	6.3	150.6	678.4	43.5	85.7
Upper	Period 2	result_100m2	127	1.47	388	4.4	2.94	13.2	10.3	4.4	24.4	60.6	5.4	10.6
Middle	Period 2	result_100m2	108	0.15	585	5.9	1.47	17.6	16.2	6.5	45.4	116.4	11.2	22.2
Lower	Period 2	result_100m2	112	0.14	2540	8.1	1.47	26.5	25.0	9.8	58.5	252.8	23.9	47.3
Downstream	Period 2	result_100m2	560	0.12	1531	2.9	1.47	14.7	13.2	4.0	42.0	151.1	6.4	12.5
Upper	Period 3	result_100m2	66	1.47	418	4.4	1.47	20.2	18.8	4.4	22.4	57.2	7.0	14.1
Middle	Period 3	result_100m2	92	1.47	649	4.4	1.47	15.1	13.6	4.4	28.8	89.2	9.3	18.5
Lower	Period 3	result_100m2	94	0.15	2007	7.3	1.47	40.4	39.0	8.7	73.3	237.7	24.5	48.7
Downstream	Period 3	result_100m2	420	0.12	2199	2.9	0.68	15.5	14.8	4.1	55.6	202.2	9.9	19.4
Upper	Period 4	result_100m2	33	1.47	103	2.9	1.47	7.3	5.9	2.2	9.7	19.8	3.4	7.0

Middle	Period 4	result_100m2	9	1.47	12	4.4	2.94	8.8	5.9	4.4	5.6	3.6	1.2	2.8
Lower	Period 4	result_100m2	36	1.47	176	5.9	2.94	17.6	14.7	6.5	18.6	32.9	5.5	11.1
Downstream	Period 4	result_100m2	86	0.12	281	2.9	1.47	7.3	5.9	4.0	13.7	36.8	4.0	7.9
Upper	Period 5	result_100m2	68	0.03	128	1.5	0.20	7.3	7.2	2.1	8.5	18.3	2.2	4.4
Middle	Period 5	result_100m2	44	0.03	66	1.7	0.41	7.3	6.9	2.3	7.9	14.6	2.2	4.4
Lower	Period 5	result_100m2	49	0.03	244	2.9	0.16	8.8	8.7	4.2	16.8	48.3	6.9	13.9

5.2.1.9 Summary statistics of density of organisms by river segment and MFL period

River Segment	MFL Period	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Upper	Period 1	result_100m2	32	0.19	3612	76.5	5.88	222.8	216.9	111.2	274.0	680.0	120.2	245.2
Upper	Period 2	result_100m2	127	1.47	388	4.4	2.94	13.2	10.3	4.4	24.4	60.6	5.4	10.6
Upper	Period 3	result_100m2	66	1.47	418	4.4	1.47	20.2	18.8	4.4	22.4	57.2	7.0	14.1
Upper	Period 4	result_100m2	33	1.47	103	2.9	1.47	7.3	5.9	2.2	9.7	19.8	3.4	7.0
Upper	Period 5	result_100m2	68	0.03	128	1.5	0.20	7.3	7.2	2.1	8.5	18.3	2.2	4.4
Middle	Period 1	result_100m2	46	1.47	8024	68.4	5.88	409.9	404.0	98.1	495.8	1324.5	195.3	393.3
Middle	Period 2	result_100m2	108	0.15	585	5.9	1.47	17.6	16.2	6.5	45.4	116.4	11.2	22.2
Middle	Period 3	result_100m2	92	1.47	649	4.4	1.47	15.1	13.6	4.4	28.8	89.2	9.3	18.5
Middle	Period 4	result_100m2	9	1.47	12	4.4	2.94	8.8	5.9	4.4	5.6	3.6	1.2	2.8
Middle	Period 5	result_100m2	44	0.03	66	1.7	0.41	7.3	6.9	2.3	7.9	14.6	2.2	4.4
Lower	Period 1	result_100m2	50	0.11	9193	13.2	4.41	64.7	60.3	17.4	240.7	1297.1	183.4	368.6
Lower	Period 2	result_100m2	112	0.14	2540	8.1	1.47	26.5	25.0	9.8	58.5	252.8	23.9	47.3
Lower	Period 3	result_100m2	94	0.15	2007	7.3	1.47	40.4	39.0	8.7	73.3	237.7	24.5	48.7
Lower	Period 4	result_100m2	36	1.47	176	5.9	2.94	17.6	14.7	6.5	18.6	32.9	5.5	11.1
Lower	Period 5	result_100m2	49	0.03	244	2.9	0.16	8.8	8.7	4.2	16.8	48.3	6.9	13.9
Downstream	Period 1	result_100m2	243	0.11	7872	4.4	1.47	25.0	23.5	6.3	150.6	678.4	43.5	85.7
Downstream	Period 2	result_100m2	560	0.12	1531	2.9	1.47	14.7	13.2	4.0	42.0	151.1	6.4	12.5
Downstream	Period 3	result_100m2	420	0.12	2199	2.9	0.68	15.5	14.8	4.1	55.6	202.2	9.9	19.4
Downstream	Period 4	result_100m2	86	0.12	281	2.9	1.47	7.3	5.9	4.0	13.7	36.8	4.0	7.9

5.2.1.10 Summary statistics of density by taxon, river segment, and MFL period

River Segment	MFL Period	Final Taxa	variable	n	min	max	median	q1	q3	iqr	mad	mean	sd	se	ci
Downstream	Period 4	Palaemonetes pugio	result_100m2	18	1.47	280.88	10.29	4.41	25.00	20.59	10.90	37.26	70.03	16.51	34.83
Downstream	Period 4	Mugil cephalus	result_100m2	10	2.94	98.53	6.62	3.31	7.35	4.04	4.36	15.73	29.41	9.30	21.04
Downstream	Period 4	Eugerres plumieri	result_100m2	7	1.47	36.76	5.88	2.94	12.50	9.56	4.36	10.71	12.70	4.80	11.74
Downstream	Period 4	Trinectes maculatus	result_100m2	36	0.12	77.94	1.47	0.27	4.78	4.51	1.98	6.83	16.20	2.70	5.48

DRAFT

Downstream	Period 4	Gambusia holbrooki	result_100m2	5	1.47	10.29	1.47	1.47	4.41	2.94	0.00	3.82	3.84	1.72	4.76
Downstream	Period 4	Lepomis macrochirus	result_100m2	3	1.47	4.41	2.94	2.21	3.68	1.47	2.18	2.94	1.47	0.85	3.65
Downstream	Period 4	Opsanus beta	result_100m2	7	0.14	1.47	0.14	0.14	0.39	0.25	0.00	0.40	0.49	0.18	0.45
Downstream	Period 3	Mugil cephalus	result_100m2	60	1.47	1892.65	24.26	4.41	127.57	123.16	33.80	181.84	369.48	47.70	95.45
Downstream	Period 3	Palaemonetes pugio	result_100m2	105	0.14	2198.53	17.65	4.41	88.24	83.82	23.98	105.71	262.36	25.60	50.77
Downstream	Period 3	Gambusia holbrooki	result_100m2	37	1.47	141.18	2.94	1.47	19.12	17.65	2.18	18.68	33.19	5.46	11.06
Downstream	Period 3	Eugerres plumieri	result_100m2	10	0.15	83.82	2.21	1.47	9.19	7.72	2.07	14.57	26.69	8.44	19.09
Downstream	Period 3	Fundulus seminolis	result_100m2	5	1.47	13.23	2.94	1.47	2.94	1.47	2.18	4.41	4.99	2.23	6.19
Downstream	Period 3	Lepomis macrochirus	result_100m2	1	4.41	4.41	4.41	4.41	4.41	0.00	0.00	4.41	NA	NA	NaN
Downstream	Period 3	Micropterus salmoides	result_100m2	4	1.47	10.29	1.47	1.47	3.68	2.21	0.00	3.68	4.41	2.21	7.02
Downstream	Period 3	Trinectes maculatus	result_100m2	116	0.12	51.47	1.47	0.54	3.30	2.76	1.73	3.64	6.36	0.59	1.17
Downstream	Period 3	Heterandria formosa	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Downstream	Period 3	Labidesthes sicculus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Downstream	Period 3	Lucania goodei	result_100m2	3	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	0.00	0.00	0.00
Downstream	Period 3	Lupinoblennius nicholsi	result_100m2	2	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	0.00	0.00	0.00
Downstream	Period 3	Opsanus beta	result_100m2	66	0.12	13.63	0.27	0.14	0.54	0.41	0.20	0.79	1.93	0.24	0.47
Downstream	Period 3	Microgobius thalassinus	result_100m2	9	0.12	0.22	0.14	0.12	0.15	0.03	0.02	0.15	0.03	0.01	0.03
Downstream	Period 2	Palaemonetes pugio	result_100m2	169	0.12	1530.88	7.35	1.47	29.41	27.94	9.81	85.97	240.01	18.46	36.45
Downstream	Period 2	Mugil cephalus	result_100m2	78	0.14	1060.29	16.18	3.31	98.90	95.59	21.80	84.99	163.91	18.56	36.96
Downstream	Period 2	Gambusia holbrooki	result_100m2	39	1.47	288.24	4.41	1.47	13.97	12.50	4.36	23.76	59.21	9.48	19.19
Downstream	Period 2	Eugerres plumieri	result_100m2	13	1.47	26.47	5.88	2.94	13.23	10.29	4.36	9.05	8.21	2.28	4.96
Downstream	Period 2	Trinectes maculatus	result_100m2	178	0.12	92.65	1.47	0.69	7.35	6.66	1.98	6.84	12.46	0.93	1.84
Downstream	Period 2	Lepomis punctatus	result_100m2	4	1.47	8.82	1.47	1.47	3.31	1.84	0.00	3.31	3.68	1.84	5.85
Downstream	Period 2	Lepomis sp.	result_100m2	1	2.94	2.94	2.94	2.94	2.94	0.00	0.00	2.94	NA	NA	NaN
Downstream	Period 2	Micropterus salmoides	result_100m2	5	1.47	7.35	1.47	1.47	2.94	1.47	0.00	2.94	2.55	1.14	3.16
Downstream	Period 2	Lucania goodei	result_100m2	2	1.47	2.94	2.21	1.84	2.57	0.74	1.09	2.21	1.04	0.74	9.34
Downstream	Period 2	Lepomis macrochirus	result_100m2	4	1.47	2.94	1.47	1.47	1.84	0.37	0.00	1.84	0.74	0.37	1.17
Downstream	Period 2	Chelydra serpentina osceola	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Downstream	Period 2	Fundulus seminolis	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Downstream	Period 2	Lupinoblennius nicholsi	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Downstream	Period 2	Trachemys scripta	result_100m2	2	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	0.00	0.00	0.00
Downstream	Period 2	Opsanus beta	result_100m2	59	0.12	5.88	0.41	0.14	1.28	1.15	0.40	0.81	1.00	0.13	0.26
Downstream	Period 2	Microgobius thalassinus	result_100m2	3	0.12	0.14	0.14	0.13	0.14	0.01	0.00	0.13	0.01	0.00	0.02
Downstream	Period 1	Palaemonetes pugio	result_100m2	68	0.54	7872.06	33.82	11.40	254.78	243.38	47.97	457.57	1216.49	147.52	294.45
Downstream	Period 1	Mugil cephalus	result_100m2	24	1.47	1388.23	17.65	5.15	107.72	102.57	23.98	173.90	344.25	70.27	145.37
Downstream	Period 1	Gambusia holbrooki	result_100m2	20	1.47	63.24	7.35	2.94	23.53	20.59	8.72	16.10	18.54	4.15	8.68
Downstream	Period 1	Trinectes maculatus	result_100m2	88	0.11	97.06	2.94	1.47	11.77	10.29	3.84	10.36	18.61	1.98	3.94

DRAFT

Downstream	Period 1	Eugerres plumieri	result_100m2	10	1.47	25.00	3.68	1.47	4.41	2.94	3.27	5.88	7.40	2.34	5.30
Downstream	Period 1	Microgobius thalassinus	result_100m2	2	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	0.00	0.00	0.00
Downstream	Period 1	Opsanus beta	result_100m2	31	0.12	4.41	0.24	0.15	0.64	0.49	0.16	0.61	0.85	0.15	0.31
Lower	Period 5	Mugil cephalus	result_100m2	8	0.16	244.12	11.77	3.13	62.87	59.74	16.24	51.22	83.33	29.46	69.67
Lower	Period 5	Gambusia holbrooki	result_100m2	5	0.03	230.88	0.23	0.05	2.94	2.89	0.31	46.83	102.90	46.02	127.76
Lower	Period 5	Micropterus salmoides	result_100m2	4	1.47	14.71	10.29	4.78	14.71	9.93	6.54	9.19	6.62	3.31	10.53
Lower	Period 5	Lucania goodei	result_100m2	3	0.03	17.65	4.41	2.22	11.03	8.81	6.50	7.36	9.17	5.30	22.79
Lower	Period 5	Trinectes maculatus	result_100m2	9	0.03	41.18	2.94	0.13	4.41	4.28	2.18	6.73	13.05	4.35	10.04
Lower	Period 5	Eugerres plumieri	result_100m2	8	0.03	10.29	2.21	1.12	5.52	4.39	3.19	3.69	3.92	1.39	3.27
Lower	Period 5	Lepomis microlophus	result_100m2	1	2.94	2.94	2.94	2.94	2.94	0.00	0.00	2.94	NA	NA	NaN
Lower	Period 5	Fundulus seminolis	result_100m2	9	0.03	10.29	1.47	0.26	2.94	2.68	2.14	2.90	3.90	1.30	3.00
Lower	Period 5	Palaemonetes pugio	result_100m2	2	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	0.00	0.00	0.00
Lower	Period 4	Gambusia holbrooki	result_100m2	3	2.94	176.47	36.76	19.85	106.62	86.76	50.15	72.06	91.99	53.11	228.52
Lower	Period 4	Palaemonetes pugio	result_100m2	3	27.94	85.29	44.12	36.03	64.71	28.68	23.98	52.45	29.57	17.07	73.46
Lower	Period 4	Trinectes maculatus	result_100m2	10	1.47	55.88	8.09	4.41	13.60	9.19	7.63	15.59	19.45	6.15	13.91
Lower	Period 4	Eugerres plumieri	result_100m2	4	2.94	22.06	7.35	2.94	14.34	11.40	6.54	9.93	9.10	4.55	14.47
Lower	Period 4	Lepomis macrochirus	result_100m2	6	1.47	16.18	8.09	2.94	12.13	9.19	8.72	8.09	6.01	2.45	6.31
Lower	Period 4	Lepomis microlophus	result_100m2	6	1.47	25.00	2.94	1.47	4.41	2.94	2.18	6.37	9.24	3.77	9.70
Lower	Period 4	Heterandria formosa	result_100m2	1	4.41	4.41	4.41	4.41	4.41	0.00	0.00	4.41	NA	NA	NaN
Lower	Period 4	Fundulus seminolis	result_100m2	1	2.94	2.94	2.94	2.94	2.94	0.00	0.00	2.94	NA	NA	NaN
Lower	Period 4	Labidesthes sicculus	result_100m2	1	2.94	2.94	2.94	2.94	2.94	0.00	0.00	2.94	NA	NA	NaN
Lower	Period 4	Mugil cephalus	result_100m2	1	2.94	2.94	2.94	2.94	2.94	0.00	0.00	2.94	NA	NA	NaN
Lower	Period 3	Mugil cephalus	result_100m2	2	116.18	282.35	199.26	157.72	240.81	83.09	123.19	199.26	117.50	83.09	1055.74
Lower	Period 3	Palaemonetes pugio	result_100m2	23	1.47	2007.35	33.82	5.15	107.35	102.21	45.79	177.68	424.70	88.56	183.65
Lower	Period 3	Gambusia holbrooki	result_100m2	20	1.47	910.29	38.97	12.87	95.59	82.72	52.33	100.81	199.54	44.62	93.39
Lower	Period 3	Oreochromis aureus	result_100m2	1	19.12	19.12	19.12	19.12	19.12	0.00	0.00	19.12	NA	NA	NaN
Lower	Period 3	Trinectes maculatus	result_100m2	15	0.15	77.94	2.94	1.47	15.44	13.97	4.14	14.03	21.45	5.54	11.88
Lower	Period 3	Eugerres plumieri	result_100m2	6	1.47	17.65	5.88	2.57	13.60	11.03	6.54	8.09	7.13	2.91	7.48
Lower	Period 3	Fundulus seminolis	result_100m2	8	1.47	16.18	3.68	2.94	10.29	7.35	2.18	6.80	5.77	2.04	4.83
Lower	Period 3	Micropterus salmoides	result_100m2	5	1.47	11.77	2.94	1.47	5.88	4.41	2.18	4.71	4.34	1.94	5.39
Lower	Period 3	Labidesthes sicculus	result_100m2	2	1.47	4.41	2.94	2.21	3.68	1.47	2.18	2.94	2.08	1.47	18.69
Lower	Period 3	Lepomis macrochirus	result_100m2	3	1.47	5.88	1.47	1.47	3.68	2.21	0.00	2.94	2.55	1.47	6.33
Lower	Period 3	Notemigonus crysoleucas	result_100m2	1	2.94	2.94	2.94	2.94	2.94	0.00	0.00	2.94	NA	NA	NaN
Lower	Period 3	Heterandria formosa	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Lower	Period 3	Lepomis microlophus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Lower	Period 3	Lucania goodei	result_100m2	5	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	0.00	0.00	0.00
Lower	Period 3	Trachemys scripta	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN

DRAFT

Lower	Period 2	Palaemonetes pugio	result_100m2	25	1.47	2539.71	17.65	2.94	76.47	73.53	23.98	170.41	510.65	102.13	210.78
Lower	Period 2	Mugil cephalus	result_100m2	10	1.47	501.47	10.29	6.25	33.09	26.84	13.08	64.71	154.23	48.77	110.33
Lower	Period 2	Gambusia holbrooki	result_100m2	30	1.47	369.12	16.91	4.41	36.76	32.35	21.80	42.89	78.42	14.32	29.28
Lower	Period 2	Trinectes maculatus	result_100m2	28	0.14	39.71	5.88	2.57	14.71	12.13	7.23	10.43	11.07	2.09	4.29
Lower	Period 2	Lucania goodei	result_100m2	3	1.47	11.77	7.35	4.41	9.56	5.15	6.54	6.86	5.16	2.98	12.83
Lower	Period 2	Eugerres plumieri	result_100m2	4	1.47	13.23	2.94	1.47	6.62	5.15	2.18	5.15	5.57	2.78	8.86
Lower	Period 2	Fundulus seminolis	result_100m2	2	1.47	5.88	3.68	2.57	4.78	2.21	3.27	3.68	3.12	2.21	28.03
Lower	Period 2	Micropterus salmoides	result_100m2	3	1.47	7.35	1.47	1.47	4.41	2.94	0.00	3.43	3.40	1.96	8.44
Lower	Period 2	Lepomis macrochirus	result_100m2	3	1.47	2.94	1.47	1.47	2.21	0.74	0.00	1.96	0.85	0.49	2.11
Lower	Period 2	Labidesthes sicculus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Lower	Period 2	Lepomis auritus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Lower	Period 2	Lepomis microlophus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Lower	Period 2	Lepomis punctatus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Lower	Period 1	Palaemonetes pugio	result_100m2	13	4.18	9192.65	45.59	22.06	326.47	304.41	61.38	847.61	2515.16	697.58	1519.90
Lower	Period 1	Gambusia holbrooki	result_100m2	12	2.94	122.06	23.53	4.41	66.18	61.76	30.52	43.02	44.31	12.79	28.15
Lower	Period 1	Trinectes maculatus	result_100m2	12	1.47	142.65	5.15	2.94	21.32	18.38	5.45	25.12	42.40	12.24	26.94
Lower	Period 1	Mugil cephalus	result_100m2	5	1.47	64.71	8.82	7.35	35.29	27.94	10.90	23.53	26.45	11.83	32.84
Lower	Period 1	Eugerres plumieri	result_100m2	7	0.11	57.35	4.41	1.47	5.88	4.41	4.36	10.94	20.61	7.79	19.06
Lower	Period 1	Heterandria formosa	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Middle	Period 5	Trinectes maculatus	result_100m2	13	0.16	66.18	1.47	0.86	22.06	21.20	1.95	15.55	23.46	6.51	14.18
Middle	Period 5	Fundulus seminolis	result_100m2	7	0.18	29.41	5.88	2.21	10.29	8.09	6.54	8.64	10.00	3.78	9.25
Middle	Period 5	Lepomis macrochirus	result_100m2	3	1.47	13.23	5.88	3.68	9.56	5.88	6.54	6.86	5.94	3.43	14.76
Middle	Period 5	Gambusia holbrooki	result_100m2	5	0.39	16.18	1.96	0.86	3.52	2.66	2.32	4.58	6.59	2.95	8.19
Middle	Period 5	Micropterus salmoides	result_100m2	9	0.05	22.06	1.47	0.13	2.94	2.81	2.10	3.82	7.02	2.34	5.40
Middle	Period 5	Eugerres plumieri	result_100m2	1	2.94	2.94	2.94	2.94	2.94	0.00	0.00	2.94	NA	NA	NaN
Middle	Period 5	Lepomis microlophus	result_100m2	1	2.94	2.94	2.94	2.94	2.94	0.00	0.00	2.94	NA	NA	NaN
Middle	Period 5	Oreochromis aureus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Middle	Period 5	Mugil cephalus	result_100m2	2	0.03	0.21	0.12	0.07	0.16	0.09	0.14	0.12	0.13	0.09	1.16
Middle	Period 5	Heterandria formosa	result_100m2	1	0.08	0.08	0.08	0.08	0.08	0.00	0.00	0.08	NA	NA	NaN
Middle	Period 5	Fundulus chrysotus	result_100m2	1	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	NA	NA	NaN
Middle	Period 4	Palaemonetes pugio	result_100m2	3	4.41	8.82	5.88	5.15	7.35	2.21	2.18	6.37	2.25	1.30	5.58
Middle	Period 4	Trinectes maculatus	result_100m2	4	1.47	11.77	5.15	1.47	9.56	8.09	5.45	5.88	5.23	2.62	8.33
Middle	Period 4	Lepomis auritus	result_100m2	1	4.41	4.41	4.41	4.41	4.41	0.00	0.00	4.41	NA	NA	NaN
Middle	Period 4	Gambusia holbrooki	result_100m2	1	2.94	2.94	2.94	2.94	2.94	0.00	0.00	2.94	NA	NA	NaN
Middle	Period 3	Gambusia holbrooki	result_100m2	15	4.41	648.53	26.47	14.71	97.06	82.35	32.70	122.25	194.94	50.33	107.96
Middle	Period 3	Labidesthes sicculus	result_100m2	3	1.47	169.12	16.18	8.82	92.65	83.82	21.80	62.26	92.84	53.60	230.62
Middle	Period 3	Oreochromis aureus	result_100m2	1	29.41	29.41	29.41	29.41	29.41	0.00	0.00	29.41	NA	NA	NaN

DRAFT

Middle	Period 3	Eugerres plumieri	result_100m2	3	1.47	44.12	4.41	2.94	24.26	21.32	4.36	16.67	23.82	13.75	59.17
Middle	Period 3	Fundulus seminolis	result_100m2	6	1.47	48.53	8.82	1.47	22.79	21.32	10.90	15.69	18.82	7.68	19.76
Middle	Period 3	Palaemonetes pugio	result_100m2	18	1.47	42.65	11.03	3.68	14.71	11.03	7.63	13.64	12.47	2.94	6.20
Middle	Period 3	Lepomis macrochirus	result_100m2	4	2.94	30.88	8.82	4.04	17.65	13.60	7.63	12.87	12.84	6.42	20.43
Middle	Period 3	Trinectes maculatus	result_100m2	14	1.47	33.82	2.94	1.47	4.04	2.57	2.18	5.88	8.67	2.32	5.01
Middle	Period 3	Etheostoma fusiforme	result_100m2	2	1.47	7.35	4.41	2.94	5.88	2.94	4.36	4.41	4.16	2.94	37.37
Middle	Period 3	Lepomis microlophus	result_100m2	5	1.47	5.88	4.41	1.47	5.88	4.41	2.18	3.82	2.23	1.00	2.77
Middle	Period 3	Micropterus salmoides	result_100m2	9	1.47	5.88	2.94	1.47	4.41	2.94	2.18	3.10	1.55	0.52	1.19
Middle	Period 3	Lucania goodei	result_100m2	1	2.94	2.94	2.94	2.94	2.94	0.00	0.00	2.94	NA	NA	NaN
Middle	Period 3	Mugil cephalus	result_100m2	3	1.47	2.94	1.47	1.47	2.21	0.74	0.00	1.96	0.85	0.49	2.11
Middle	Period 3	Heterandria formosa	result_100m2	4	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	0.00	0.00	0.00
Middle	Period 3	Lepomis auritus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Middle	Period 3	Lepomis sp.	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Middle	Period 3	Pomoxis nigromaculatus	result_100m2	2	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	0.00	0.00	0.00
Middle	Period 2	Gambusia holbrooki	result_100m2	24	1.47	541.18	41.18	4.04	193.38	189.34	56.69	117.59	165.54	33.79	69.90
Middle	Period 2	Palaemonetes pugio	result_100m2	19	1.47	585.29	10.29	5.15	33.09	27.94	13.08	87.54	176.14	40.41	84.90
Middle	Period 2	Trinectes maculatus	result_100m2	22	0.15	50.00	6.62	2.94	13.97	11.03	7.63	9.97	10.96	2.34	4.86
Middle	Period 2	Labidesthes sicculus	result_100m2	6	1.47	17.65	6.62	4.78	8.46	3.68	3.27	7.60	5.54	2.26	5.81
Middle	Period 2	Lepomis microlophus	result_100m2	5	1.47	10.29	4.41	2.94	10.29	7.35	4.36	5.88	4.16	1.86	5.16
Middle	Period 2	Fundulus seminolis	result_100m2	6	1.47	20.59	1.47	1.47	3.68	2.21	0.00	5.15	7.66	3.12	8.03
Middle	Period 2	Eugerres plumieri	result_100m2	3	2.94	7.35	4.41	3.68	5.88	2.21	2.18	4.90	2.25	1.30	5.58
Middle	Period 2	Lepomis punctatus	result_100m2	3	1.47	8.82	1.47	1.47	5.15	3.68	0.00	3.92	4.24	2.45	10.55
Middle	Period 2	Lepomis macrochirus	result_100m2	7	1.47	7.35	2.94	1.47	5.88	4.41	2.18	3.78	2.67	1.01	2.46
Middle	Period 2	Micropterus salmoides	result_100m2	7	1.47	8.82	2.94	1.47	4.41	2.94	2.18	3.57	2.80	1.06	2.59
Middle	Period 2	Notropis petersoni	result_100m2	2	1.47	4.41	2.94	2.21	3.68	1.47	2.18	2.94	2.08	1.47	18.69
Middle	Period 2	Lepomis auritus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Middle	Period 2	Lepomis marginatus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Middle	Period 2	Lepomis sp.	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Middle	Period 2	Mugil cephalus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Middle	Period 1	Palaemonetes pugio	result_100m2	12	4.41	8023.53	232.35	76.10	1249.27	1173.16	337.95	1355.39	2402.66	693.59	1526.58
Middle	Period 1	Gambusia holbrooki	result_100m2	15	11.77	1288.23	251.47	127.21	641.18	513.97	292.16	422.16	380.54	98.26	210.74
Middle	Period 1	Trinectes maculatus	result_100m2	11	1.47	66.18	5.88	2.21	15.44	13.23	6.54	14.17	19.99	6.03	13.43
Middle	Period 1	Eugerres plumieri	result_100m2	4	2.94	20.59	6.62	5.15	10.66	5.52	3.27	9.19	7.82	3.91	12.44
Middle	Period 1	Mugil cephalus	result_100m2	2	1.47	13.23	7.35	4.41	10.29	5.88	8.72	7.35	8.32	5.88	74.74
Middle	Period 1	Lepomis microlophus	result_100m2	1	2.94	2.94	2.94	2.94	2.94	0.00	0.00	2.94	NA	NA	NaN
Middle	Period 1	Lepomis macrochirus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 5	Gambusia holbrooki	result_100m2	7	0.18	127.94	5.88	2.91	27.21	24.30	8.45	27.75	46.00	17.39	42.55

DRAFT

Upper	Period 5	Fundulus seminolis	result_100m2	9	0.03	52.94	1.47	0.10	14.71	14.60	2.10	13.01	21.15	7.05	16.26
Upper	Period 5	Trinectes maculatus	result_100m2	11	0.08	19.12	5.88	0.87	10.29	9.43	8.33	7.00	7.13	2.15	4.79
Upper	Period 5	Micropterus salmoides	result_100m2	10	0.03	26.47	2.21	0.70	11.03	10.33	3.10	6.68	8.96	2.84	6.41
Upper	Period 5	Lucania goodei	result_100m2	7	0.03	32.35	1.47	0.81	4.54	3.72	1.95	6.36	11.72	4.43	10.84
Upper	Period 5	Lepomis macrochirus	result_100m2	10	0.10	23.53	3.68	0.70	6.98	6.28	4.99	5.51	7.04	2.23	5.04
Upper	Period 5	Etheostoma fusiforme	result_100m2	2	0.05	7.35	3.70	1.88	5.53	3.65	5.41	3.70	5.16	3.65	46.38
Upper	Period 5	Lepomis microlophus	result_100m2	6	0.03	4.41	1.54	0.09	2.94	2.85	2.12	1.75	1.91	0.78	2.01
Upper	Period 5	Lepomis punctatus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 5	Mugil cephalus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 5	Lepomis auritus	result_100m2	3	0.03	1.47	1.47	0.75	1.47	0.72	0.00	0.99	0.83	0.48	2.07
Upper	Period 5	Heterandria formosa	result_100m2	1	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	NA	NA	NaN
Upper	Period 4	Lepomis macrochirus	result_100m2	6	4.41	102.94	20.59	6.25	49.26	43.02	22.89	34.80	38.84	15.86	40.76
Upper	Period 4	Lepomis microlophus	result_100m2	3	4.41	13.23	13.23	8.82	13.23	4.41	0.00	10.29	5.09	2.94	12.65
Upper	Period 4	Gambusia holbrooki	result_100m2	3	1.47	8.82	8.82	5.15	8.82	3.68	0.00	6.37	4.24	2.45	10.55
Upper	Period 4	Micropterus salmoides	result_100m2	6	1.47	10.29	2.21	1.47	4.04	2.57	1.09	3.68	3.45	1.41	3.62
Upper	Period 4	Trinectes maculatus	result_100m2	7	1.47	7.35	2.94	1.47	5.15	3.68	2.18	3.57	2.67	1.01	2.46
Upper	Period 4	Fundulus seminolis	result_100m2	2	1.47	2.94	2.21	1.84	2.57	0.74	1.09	2.21	1.04	0.74	9.34
Upper	Period 4	Lepomis auritus	result_100m2	2	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	0.00	0.00	0.00
Upper	Period 4	Lepomis punctatus	result_100m2	3	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	0.00	0.00	0.00
Upper	Period 4	Lucania goodei	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 3	Gambusia holbrooki	result_100m2	14	1.47	417.65	28.68	11.03	105.15	94.12	33.80	74.79	110.29	29.48	63.68
Upper	Period 3	Fundulus seminolis	result_100m2	8	2.94	48.53	11.03	4.04	20.96	16.91	11.99	15.81	15.72	5.56	13.14
Upper	Period 3	Palaemonetes pugio	result_100m2	8	1.47	30.88	3.68	2.57	17.65	15.07	3.27	10.66	11.97	4.23	10.00
Upper	Period 3	Micropterus salmoides	result_100m2	5	1.47	32.35	4.41	2.94	5.88	2.94	2.18	9.41	12.93	5.78	16.05
Upper	Period 3	Trinectes maculatus	result_100m2	10	1.47	26.47	5.15	2.21	14.71	12.50	5.45	8.97	9.10	2.88	6.51
Upper	Period 3	Labidesthes sicculus	result_100m2	7	1.47	20.59	4.41	2.21	7.35	5.15	4.36	6.51	6.68	2.52	6.18
Upper	Period 3	Heterandria formosa	result_100m2	2	1.47	8.82	5.15	3.31	6.98	3.68	5.45	5.15	5.20	3.68	46.71
Upper	Period 3	Lepomis macrochirus	result_100m2	5	1.47	4.41	1.47	1.47	4.41	2.94	0.00	2.65	1.61	0.72	2.00
Upper	Period 3	Lepomis microlophus	result_100m2	2	1.47	2.94	2.21	1.84	2.57	0.74	1.09	2.21	1.04	0.74	9.34
Upper	Period 3	Etheostoma fusiforme	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 3	Lepomis auritus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 3	Lepomis punctatus	result_100m2	2	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	0.00	0.00	0.00
Upper	Period 3	Trachemys scripta	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 2	Gambusia holbrooki	result_100m2	21	1.47	388.24	38.24	4.41	104.41	100.00	54.51	83.75	119.81	26.14	54.54
Upper	Period 2	Palaemonetes pugio	result_100m2	8	1.47	245.59	3.68	2.57	5.88	3.31	2.18	34.19	85.46	30.22	71.45
Upper	Period 2	Notropis petersoni	result_100m2	6	4.41	39.71	11.77	8.46	30.52	22.06	8.72	18.63	15.47	6.32	16.24
Upper	Period 2	Fundulus seminolis	result_100m2	11	1.47	73.53	5.88	2.94	14.71	11.77	6.54	17.78	26.56	8.01	17.84

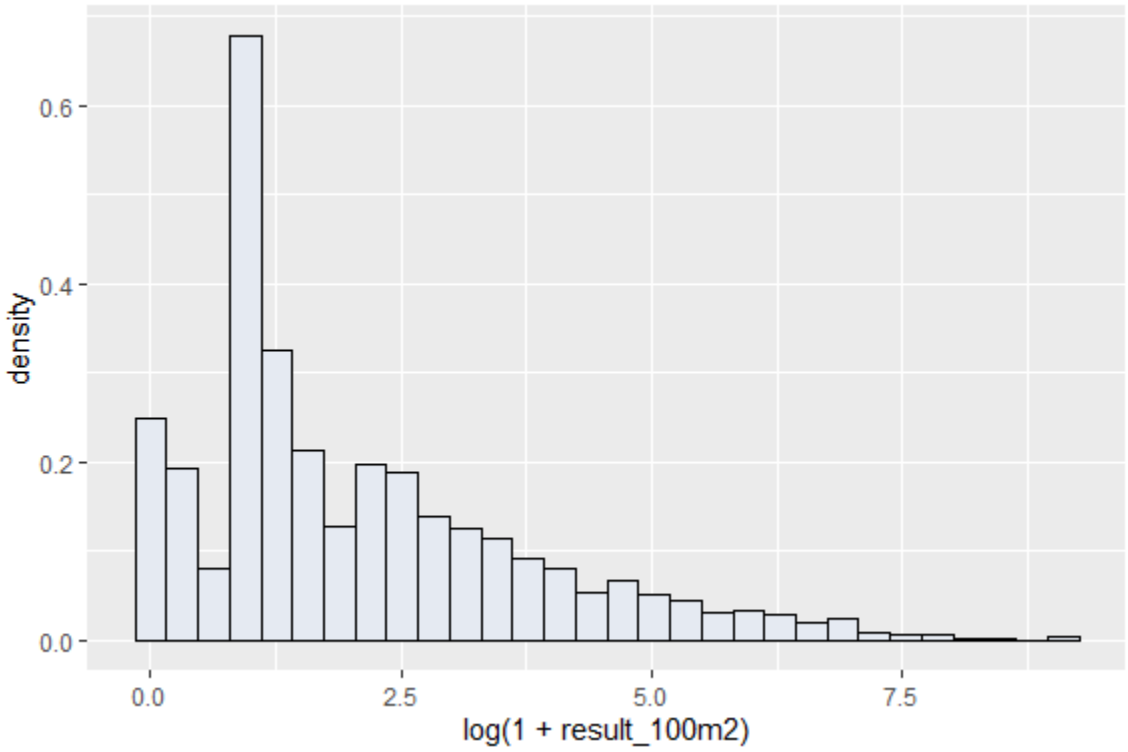
DRAFT

Upper	Period 2	Labidesthes sicculus	result_100m2	11	1.47	132.35	4.41	2.94	9.56	6.62	2.18	16.98	38.41	11.58	25.81
Upper	Period 2	Lepomis macrochirus	result_100m2	12	1.47	44.12	8.09	2.57	13.23	10.66	7.63	12.13	14.02	4.05	8.91
Upper	Period 2	Micropterus salmoides	result_100m2	12	1.47	45.59	8.09	2.94	11.77	8.82	7.63	11.89	14.30	4.13	9.09
Upper	Period 2	Notropis maculatus	result_100m2	2	2.94	20.59	11.77	7.35	16.18	8.82	13.08	11.77	12.48	8.82	112.11
Upper	Period 2	Trinectes maculatus	result_100m2	20	1.47	32.35	5.15	2.94	9.56	6.62	4.36	7.65	7.83	1.75	3.67
Upper	Period 2	Lepomis microlophus	result_100m2	9	1.47	20.59	4.41	2.94	8.82	5.88	4.36	7.03	6.89	2.30	5.30
Upper	Period 2	Lucania goodei	result_100m2	1	5.88	5.88	5.88	5.88	5.88	0.00	0.00	5.88	NA	NA	NaN
Upper	Period 2	Lepomis sp.	result_100m2	3	2.94	8.82	2.94	2.94	5.88	2.94	0.00	4.90	3.40	1.96	8.44
Upper	Period 2	Heterandria formosa	result_100m2	1	4.41	4.41	4.41	4.41	4.41	0.00	0.00	4.41	NA	NA	NaN
Upper	Period 2	Lepomis punctatus	result_100m2	3	1.47	4.41	1.47	1.47	2.94	1.47	0.00	2.45	1.70	0.98	4.22
Upper	Period 2	Etheostoma fusiforme	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 2	Eugerres plumieri	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 2	Lepomis auritus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 2	Lepomis marginatus	result_100m2	3	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	0.00	0.00	0.00
Upper	Period 2	Trachemys scripta	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 1	Palaemonetes pugio	result_100m2	8	5.88	3611.76	180.88	18.02	285.29	267.28	245.28	589.15	1231.56	435.42	1029.61
Upper	Period 1	Gambusia holbrooki	result_100m2	14	26.47	1658.82	181.62	88.24	260.66	172.43	141.72	281.83	413.80	110.59	238.92
Upper	Period 1	Trinectes maculatus	result_100m2	6	0.19	75.00	2.94	1.84	13.97	12.13	3.13	16.70	29.27	11.95	30.71
Upper	Period 1	Lepomis macrochirus	result_100m2	2	1.47	5.88	3.68	2.57	4.78	2.21	3.27	3.68	3.12	2.21	28.03
Upper	Period 1	Lepomis marginatus	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN
Upper	Period 1	Lucania goodei	result_100m2	1	1.47	1.47	1.47	1.47	1.47	0.00	0.00	1.47	NA	NA	NaN

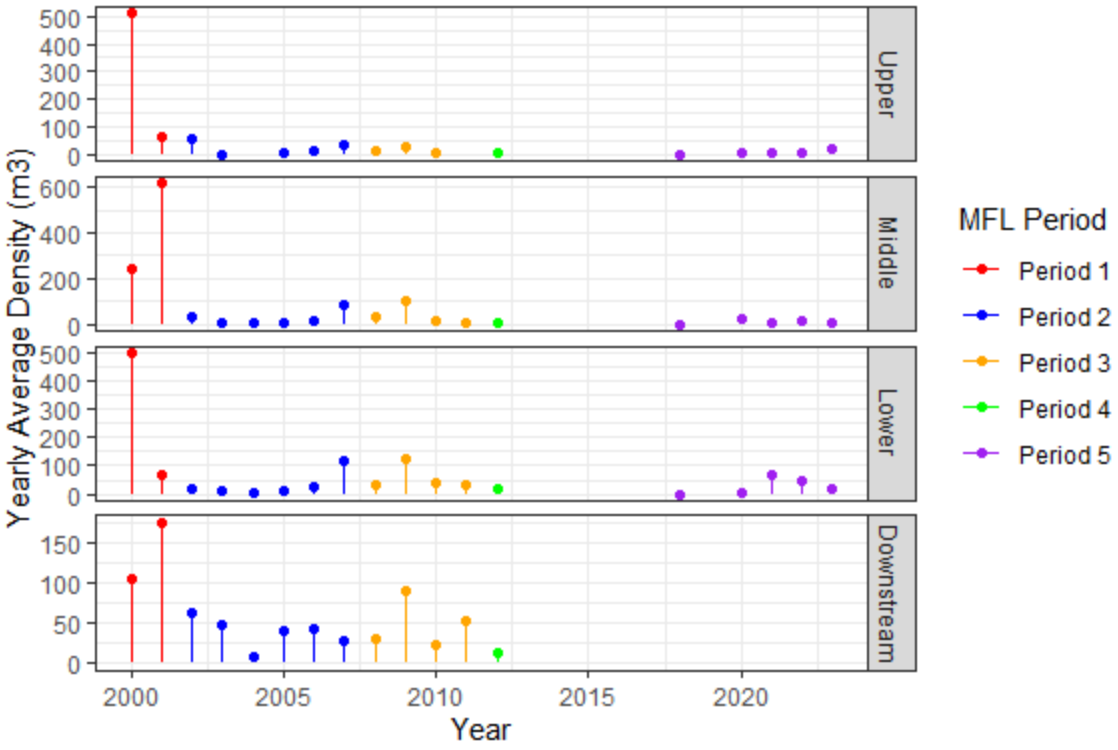
DRAFT

5.2.2 FIGURES

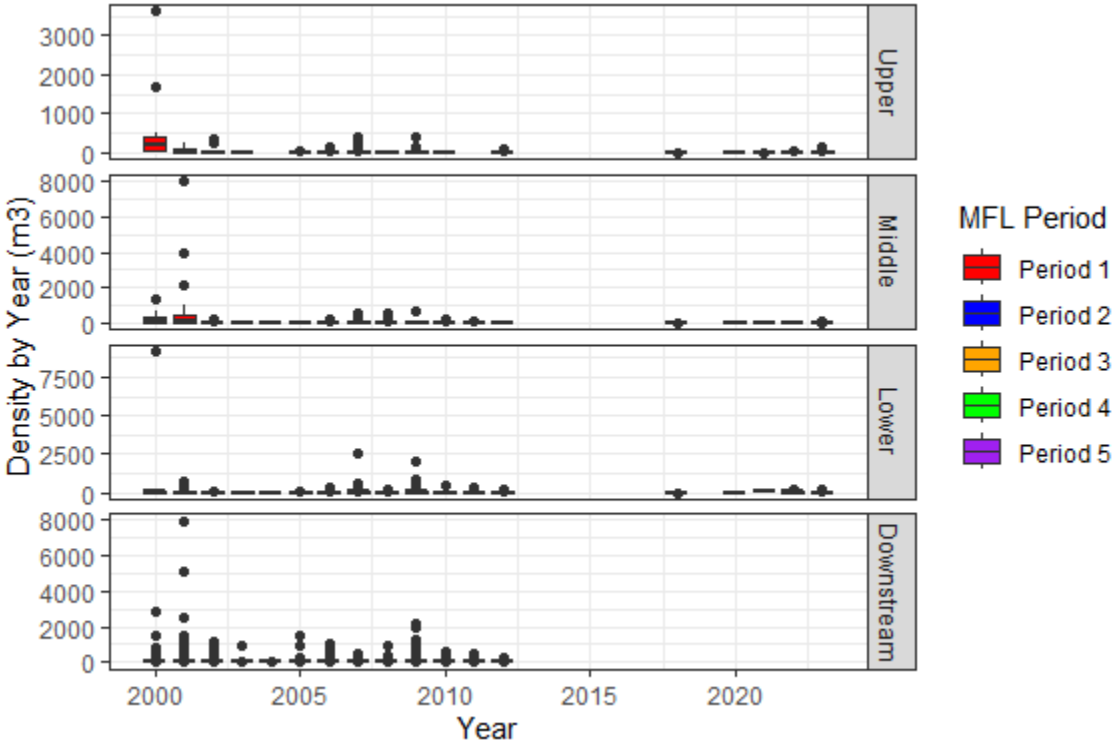
5.2.2.1 Histogram of species density



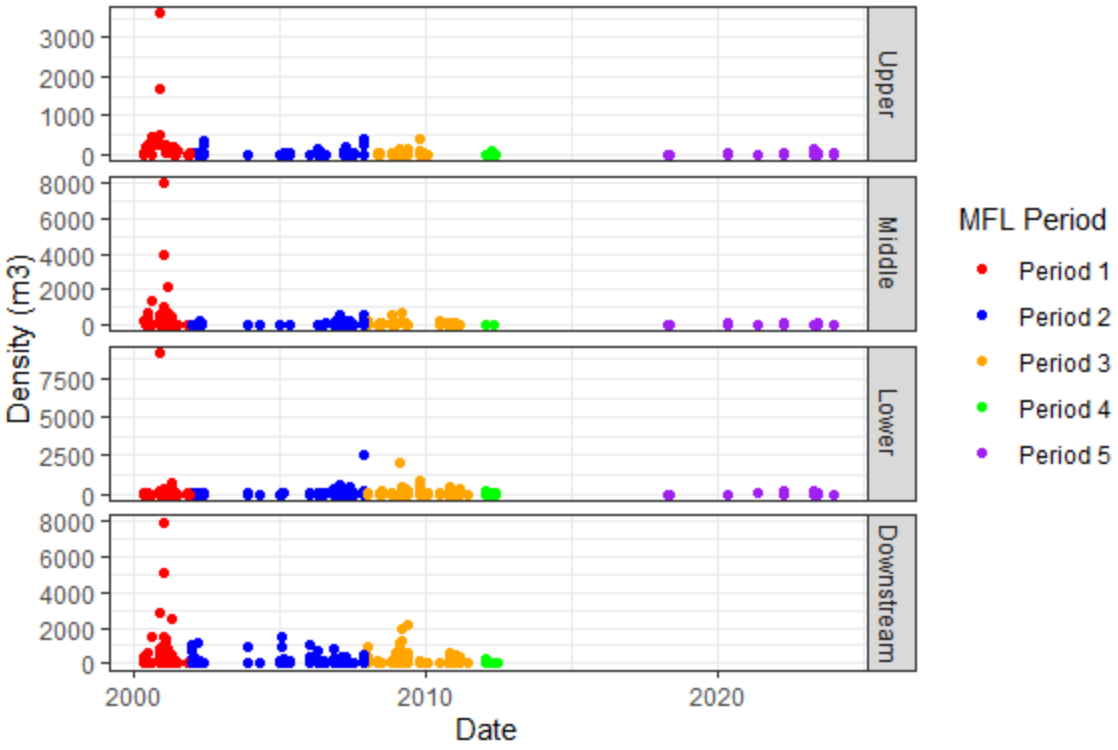
5.2.2.2 Average density over time, grouped by year of sampling.



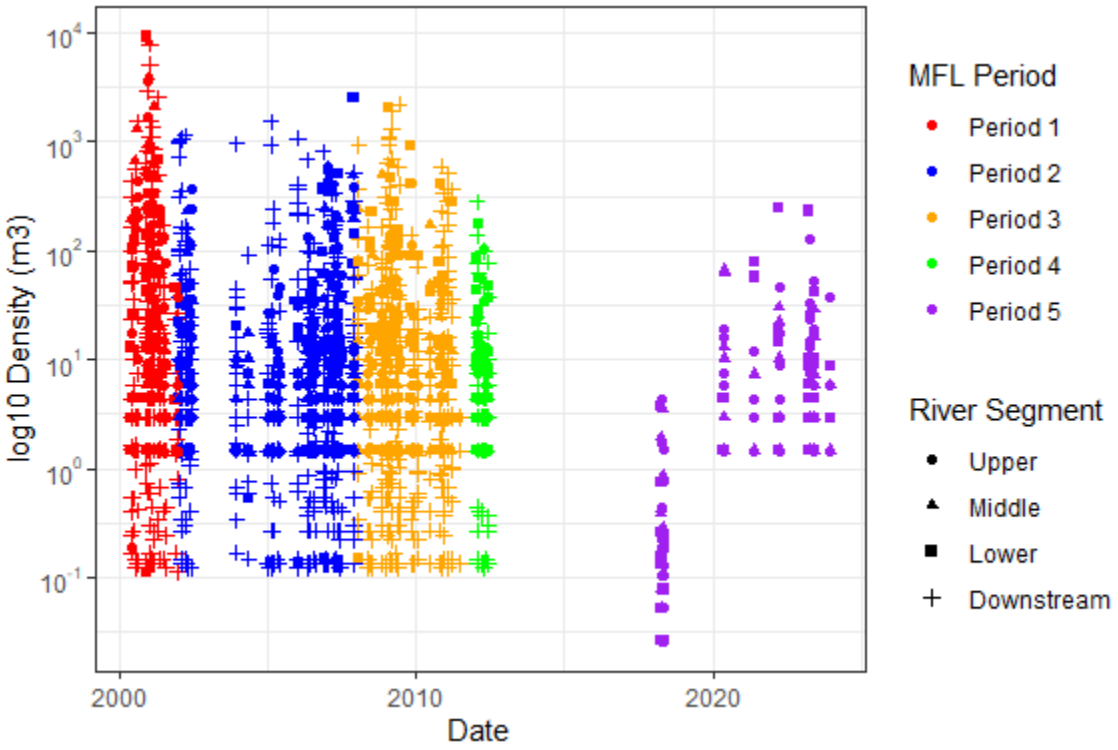
5.2.2.3 Boxplots of individual densities, grouped by year, by MFL period and river segment.



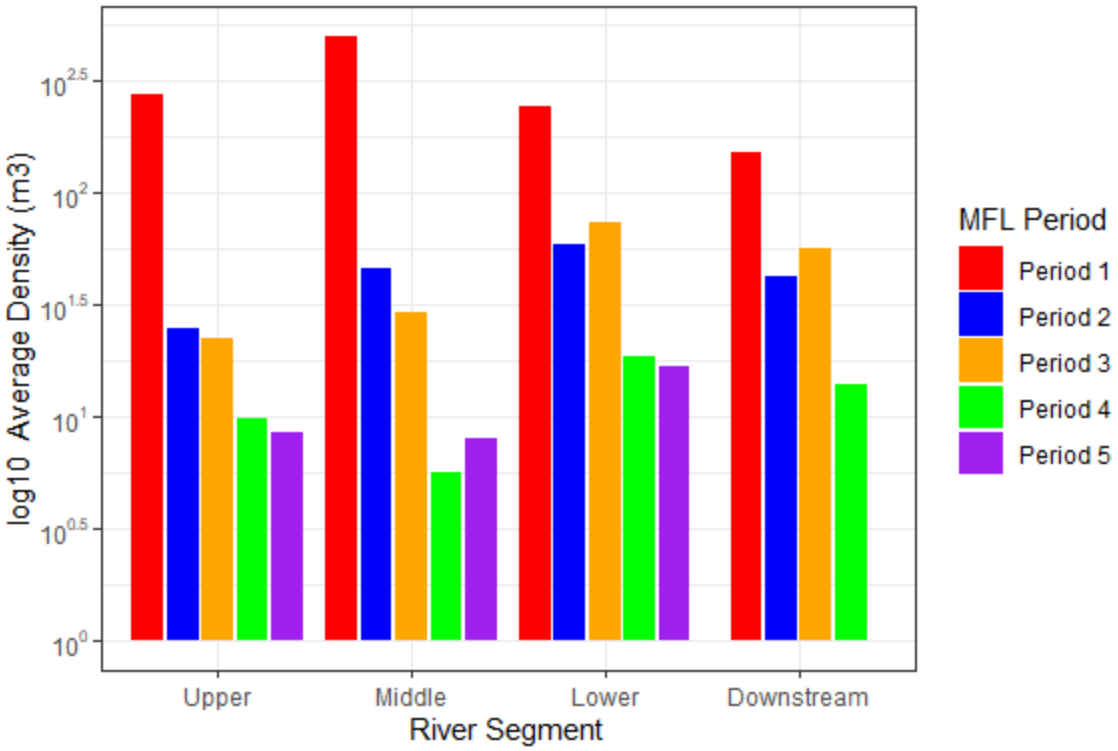
5.2.2.4 Density of individuals by MFL period and river segment.



5.2.2.5 Density of individuals by river segment and MFL period.



5.2.2.6 Density by MFL period and river segment.



5.3 DIVERSITY

5.3.1 TABLES

5.3.1.1 Zooplankton diversity by Site

Site	River Segment	MFL Period	Date	Shan_div
HR100007	Downstream	Period 2	2006-06-13	0.35
HR100015	Downstream	Period 2	2002-01-03	0.05
HR100026	Downstream	Period 2	2006-04-27	0.04
HR100088	Downstream	Period 4	2012-03-12	0.00
HR100118	Downstream	Period 1	2000-06-16	0.00
HR100139	Downstream	Period 3	2010-12-06	0.00
HR100178	Downstream	Period 3	2010-12-06	0.66
HR100187	Downstream	Period 2	2005-01-06	0.00
HR100212	Downstream	Period 2	2002-05-20	0.00
HR100254	Downstream	Period 3	2011-01-24	0.00
HR100263	Downstream	Period 1	2001-01-08	0.00
HR100287	Downstream	Period 2	2006-08-08	0.19
HR100334	Downstream	Period 2	2006-12-13	0.00
HR100345	Downstream	Period 2	2005-02-08	0.00
HR100368	Downstream	Period 1	2000-08-16	0.00
HR100371	Downstream	Period 3	2010-10-20	0.64
HR100397	Downstream	Period 1	2000-12-12	0.00
HR100409	Downstream	Period 2	2002-01-03	0.00
HR100421	Downstream	Period 3	2011-01-24	0.93
HR100450	Downstream	Period 3	2009-01-06	0.00

DRAFT

HR100463	Downstream	Period 1	2000-06-16	0.00
HR100483	Downstream	Period 3	2008-12-16	0.00
HR100485	Downstream	Period 2	2002-02-04	0.75
HR100485	Downstream	Period 3	2009-11-02	0.00
HR100515	Downstream	Period 3	2008-10-27	0.00
HR100522	Downstream	Period 3	2008-05-19	0.00
HR100541	Downstream	Period 1	2001-03-05	0.02
HR100557	Downstream	Period 3	2008-11-13	0.00
HR100559	Downstream	Period 3	2009-06-03	0.00
HR100581	Downstream	Period 2	2004-05-10	0.69
HR100591	Downstream	Period 3	2008-12-16	0.17
HR100613	Downstream	Period 1	2001-05-14	0.00
HR100617	Downstream	Period 2	2002-04-17	0.00
HR100645	Downstream	Period 2	2002-02-04	0.00
HR100652	Downstream	Period 2	2005-02-08	0.64
HR100661	Downstream	Period 2	2007-02-20	0.00
HR100706	Downstream	Period 3	2010-01-20	1.15
HR100707	Downstream	Period 3	2011-06-20	0.00
HR100709	Downstream	Period 2	2006-05-08	0.00
HR100716	Downstream	Period 2	2002-01-03	0.15
HR100725	Downstream	Period 2	2005-03-08	0.56
HR100727	Downstream	Period 3	2009-02-04	0.00
HR100752	Downstream	Period 1	2000-07-12	0.00
HR100752	Downstream	Period 3	2009-01-06	0.00
HR100760	Downstream	Period 3	2009-12-07	0.00
HR100771	Downstream	Period 3	2008-12-16	0.00
HR100781	Downstream	Period 4	2012-01-24	0.00
HR100798	Downstream	Period 3	2008-01-22	0.00
HR100808	Downstream	Period 3	2008-06-18	0.00
HR100819	Downstream	Period 4	2012-05-14	0.00
HR100873	Downstream	Period 1	2000-12-12	0.00
HR100886	Downstream	Period 3	2008-11-13	0.00
HR100892	Downstream	Period 3	2010-06-23	0.56
HR100914	Downstream	Period 2	2005-04-27	0.00
HR100916	Downstream	Period 2	2007-04-09	0.00
HR100926	Downstream	Period 2	2007-05-16	0.00
HR100934	Downstream	Period 2	2007-11-26	0.50
HR100935	Downstream	Period 2	2006-01-09	0.57
HR100946	Downstream	Period 3	2010-10-20	0.00
HR100950	Downstream	Period 1	2001-07-24	0.00
HR100961	Downstream	Period 3	2009-06-03	0.67
HR100963	Downstream	Period 3	2010-11-08	0.00
HR100967	Downstream	Period 2	2003-12-15	1.04
HR100999	Downstream	Period 2	2007-11-26	0.00
HR101021	Downstream	Period 2	2005-04-27	0.00
HR101024	Downstream	Period 3	2009-05-18	0.00
HR101029	Downstream	Period 3	2011-01-24	0.68
HR101043	Downstream	Period 1	2001-02-13	0.00
HR101051	Downstream	Period 3	2008-10-27	0.00
HR101063	Downstream	Period 2	2007-03-21	0.00
HR101071	Downstream	Period 1	2001-04-17	0.69
HR101082	Downstream	Period 3	2008-01-22	0.00
HR101090	Downstream	Period 3	2009-03-04	0.50

DRAFT

HR101103	Downstream	Period 1	2001-11-28	0.50
HR101112	Downstream	Period 3	2009-02-04	0.55
HR101135	Downstream	Period 3	2011-03-16	0.00
HR101146	Downstream	Period 3	2009-04-20	0.00
HR101158	Downstream	Period 2	2007-07-11	0.56
HR101194	Downstream	Period 1	2000-05-22	0.00
HR101195	Downstream	Period 2	2003-12-15	0.29
HR101196	Downstream	Period 3	2009-03-04	0.65
HR101259	Downstream	Period 2	2005-03-08	0.60
HR101273	Downstream	Period 2	2006-06-13	0.50
HR101279	Downstream	Period 2	2007-03-21	0.00
HR101315	Downstream	Period 2	2007-12-05	0.00
HR101320	Downstream	Period 2	2005-01-06	0.00
HR101329	Downstream	Period 3	2009-05-18	0.25
HR101338	Downstream	Period 1	2001-06-20	0.00
HR101339	Downstream	Period 3	2008-01-22	0.00
HR101341	Downstream	Period 1	2001-12-11	0.00
HR101342	Downstream	Period 3	2010-11-08	0.45
HR101356	Downstream	Period 1	2000-07-12	0.35
HR101358	Downstream	Period 2	2007-02-20	0.00
HR101376	Downstream	Period 3	2008-11-13	0.00
HR101382	Downstream	Period 3	2010-01-20	0.00
HR101387	Downstream	Period 3	2009-04-20	0.00
HR101392	Downstream	Period 2	2005-02-08	0.00
HR101394	Downstream	Period 3	2010-12-06	0.67
HR101401	Downstream	Period 3	2009-02-04	0.00
HR101403	Downstream	Period 4	2012-03-12	0.00
HR101407	Downstream	Period 1	2001-02-13	0.00
HR101419	Downstream	Period 1	2001-05-14	0.00
HR101439	Downstream	Period 3	2009-03-04	0.46
HR101442	Downstream	Period 1	2000-11-27	0.00
HR101446	Downstream	Period 2	2006-05-08	0.00
HR101464	Downstream	Period 2	2007-02-20	0.00
HR101473	Downstream	Period 2	2003-12-15	0.00
HR101473	Downstream	Period 2	2007-12-05	0.00
HR101496	Downstream	Period 1	2000-12-12	0.00
HR101501	Downstream	Period 4	2012-06-11	0.00
HR101515	Downstream	Period 3	2010-06-23	0.67
HR101519	Downstream	Period 4	2012-06-11	0.00
HR101526	Downstream	Period 2	2006-07-17	0.00
HR101547	Downstream	Period 3	2008-07-07	0.69
HR101565	Downstream	Period 3	2009-01-06	0.00
HR101576	Downstream	Period 2	2007-04-09	0.00
HR101619	Downstream	Period 2	2002-03-18	0.00
HR101632	Downstream	Period 3	2011-03-16	0.00
HR101681	Downstream	Period 4	2012-02-07	0.00
HR101682	Downstream	Period 2	2007-01-18	0.00
HR101718	Downstream	Period 2	2006-01-09	0.29
HR101734	Downstream	Period 1	2001-01-08	0.00
HR101735	Downstream	Period 2	2002-03-18	0.24
HR101752	Downstream	Period 2	2002-02-04	0.69
HR101766	Downstream	Period 2	2002-06-05	0.00
HR101770	Downstream	Period 2	2007-03-21	0.00

DRAFT

HR101797	Downstream	Period 2	2002-05-20	0.00
HR101841	Downstream	Period 1	2001-11-28	0.64
HR101864	Downstream	Period 3	2008-10-27	0.00
HR101865	Downstream	Period 3	2008-12-16	0.00
HR101867	Downstream	Period 1	2001-05-14	0.00
HR101898	Downstream	Period 3	2008-01-22	0.00
HR101924	Downstream	Period 1	2001-12-11	0.00
HR101924	Downstream	Period 2	2005-02-08	1.10
HR101940	Downstream	Period 1	2000-11-27	0.00
HR101943	Downstream	Period 3	2008-11-13	0.00
HR101958	Downstream	Period 2	2006-11-13	0.45
HR101976	Downstream	Period 3	2009-12-07	0.00
HR102003	Downstream	Period 3	2011-01-24	0.00
HR102004	Downstream	Period 1	2001-04-17	0.00
HR102043	Downstream	Period 2	2005-01-06	0.23
HR102065	Downstream	Period 3	2009-12-07	0.69
HR102083	Downstream	Period 3	2009-06-03	0.53
HR102108	Downstream	Period 3	2008-10-27	0.64
HR102115	Downstream	Period 4	2012-02-07	0.00
HR102118	Downstream	Period 2	2007-01-18	0.00
HR102139	Downstream	Period 1	2001-04-17	0.00
HR102166	Downstream	Period 1	2001-01-08	0.00
HR102182	Downstream	Period 4	2012-04-10	0.00
HR102199	Downstream	Period 2	2002-03-18	0.47
HR102208	Downstream	Period 2	2005-03-08	0.00
HR102218	Downstream	Period 2	2006-07-17	0.53
HR102221	Downstream	Period 1	2001-01-08	0.00
HR102240	Downstream	Period 3	2011-03-16	0.41
HR102244	Downstream	Period 4	2012-02-07	0.69
HR102250	Downstream	Period 3	2009-03-04	0.69
HR102259	Downstream	Period 2	2006-01-09	0.41
HR102282	Downstream	Period 2	2007-06-04	0.69
HR102287	Downstream	Period 2	2006-11-13	0.69
HR102308	Downstream	Period 1	2001-07-24	0.00
HR102314	Downstream	Period 4	2012-03-12	0.00
HR102319	Downstream	Period 3	2008-07-07	0.00
HR102330	Downstream	Period 1	2001-03-05	0.09
HR102334	Downstream	Period 2	2006-08-08	0.00
HR102340	Downstream	Period 2	2007-06-04	0.69
HR102341	Downstream	Period 2	2005-05-18	0.00
HR102382	Downstream	Period 2	2006-07-17	0.22
HR102390	Downstream	Period 1	2001-03-05	0.64
HR102398	Downstream	Period 2	2006-11-13	0.69
HR102402	Downstream	Period 1	2001-11-28	0.00
HR102409	Downstream	Period 2	2003-12-15	0.00
HR102432	Downstream	Period 2	2005-04-27	0.30
HR102432	Downstream	Period 3	2009-05-18	0.50
HR102435	Downstream	Period 1	2000-06-16	0.64
HR102451	Downstream	Period 2	2007-01-18	0.00
HR102459	Downstream	Period 2	2007-07-11	0.00
HR102465	Downstream	Period 2	2007-04-09	0.35
HR102526	Downstream	Period 2	2007-03-21	0.00
HR102539	Downstream	Period 2	2002-06-05	0.00

DRAFT

HR202570Downstream	Period 3	2010-10-20	0.00
HR202580Downstream	Period 2	2002-01-03	0.33
HR202610Downstream	Period 3	2008-12-16	0.00
HR202638Downstream	Period 2	2006-07-17	0.68
HR202677Downstream	Period 1	2000-11-27	0.35
HR202711Downstream	Period 2	2006-05-08	0.00
HR202747Downstream	Period 3	2010-11-08	0.56
HR202799Downstream	Period 1	2001-06-20	0.00
HR202812Downstream	Period 3	2009-02-04	0.28
HR202840Downstream	Period 1	2000-12-12	0.08
HR202858Downstream	Period 3	2009-05-18	0.00
HR202876Downstream	Period 2	2007-04-09	0.85
HR202895Downstream	Period 3	2009-04-20	0.00
HR202900Downstream	Period 2	2005-02-08	0.00
HR202903Downstream	Period 2	2002-02-04	0.69
HR202917Downstream	Period 3	2009-06-03	0.67
HR202921Downstream	Period 3	2009-02-04	0.42
HR202928Downstream	Period 4	2012-06-11	0.00
HR202930Downstream	Period 2	2002-02-04	0.20
HR202943Downstream	Period 1	2000-08-16	0.00
HR202948Downstream	Period 2	2005-02-08	0.22
HR202951Downstream	Period 3	2008-05-19	0.00
HR202960Downstream	Period 2	2002-04-17	0.00
HR202970Downstream	Period 2	2007-04-09	0.00
HR202977Downstream	Period 2	2002-05-20	0.00
HR202987Downstream	Period 2	2003-12-15	0.04
HR202990Downstream	Period 2	2007-01-18	0.00
HR202996Downstream	Period 3	2011-03-16	0.17
HR203008Downstream	Period 3	2010-06-23	0.09
HR203014Downstream	Period 2	2007-02-20	0.66
HR203021Downstream	Period 1	2001-01-08	0.26
HR203021Downstream	Period 4	2012-04-10	0.00
HR203026Downstream	Period 2	2005-04-27	0.00
HR203037Downstream	Period 3	2010-11-08	0.38
HR203052Downstream	Period 2	2005-03-08	0.56
HR203054Downstream	Period 3	2010-12-06	0.38
HR203055Downstream	Period 1	2000-11-27	0.00
HR203060Downstream	Period 2	2002-01-03	0.10
HR203076Downstream	Period 3	2009-04-20	0.00
HR203079Downstream	Period 3	2008-11-13	0.00
HR203089Downstream	Period 3	2009-05-18	0.56
HR203090Downstream	Period 3	2008-06-18	0.50
HR203093Downstream	Period 2	2006-05-08	0.38
HR203113Downstream	Period 3	2009-03-04	0.88
HR203133Downstream	Period 1	2001-05-14	0.00
HR203133Downstream	Period 2	2007-11-26	0.69
HR203136Downstream	Period 3	2009-04-20	0.00
HR203139Downstream	Period 2	2005-04-27	0.69
HR203144Downstream	Period 2	2002-03-18	0.38
HR203144Downstream	Period 2	2006-11-13	0.00
HR203148Downstream	Period 3	2008-05-19	0.66
HR203153Downstream	Period 2	2003-12-15	0.60
HR203164Downstream	Period 3	2011-01-24	0.00

DRAFT

HR203198	Downstream	Period 2	2005-05-18	0.69
HR203232	Downstream	Period 2	2006-01-09	0.88
HR203240	Downstream	Period 4	2012-04-10	0.00
HR203256	Downstream	Period 2	2007-06-04	0.00
HR203274	Downstream	Period 2	2006-01-09	0.57
HR203280	Downstream	Period 1	2001-07-24	0.00
HR203312	Downstream	Period 3	2008-01-22	0.82
HR203343	Downstream	Period 3	2009-06-03	0.00
HR203367	Downstream	Period 1	2000-06-16	0.00
HR203389	Downstream	Period 3	2008-01-22	0.00
HR203410	Downstream	Period 2	2007-12-05	0.00
HR203438	Downstream	Period 2	2007-07-11	0.00
HR203461	Downstream	Period 2	2007-03-21	0.67
HR203463	Downstream	Period 1	2001-01-08	0.69
HR203471	Downstream	Period 2	2007-01-18	0.30
HR203492	Downstream	Period 2	2007-11-26	0.68
HR203493	Downstream	Period 1	2001-02-13	0.42
HR203525	Downstream	Period 3	2008-11-13	0.00
HR203560	Downstream	Period 2	2005-02-08	0.07
HR203583	Downstream	Period 1	2000-12-12	0.69
HR203585	Downstream	Period 2	2004-05-10	0.00
HR203599	Downstream	Period 4	2012-02-07	0.00
HR203606	Downstream	Period 1	2001-11-28	0.00
HR203606	Downstream	Period 2	2005-01-06	0.61
HR203609	Downstream	Period 2	2006-12-13	0.69
HR203612	Downstream	Period 3	2010-01-20	0.56
HR203635	Downstream	Period 4	2012-01-24	0.64
HR203637	Downstream	Period 3	2008-10-27	0.72
HR203666	Downstream	Period 1	2001-01-08	0.70
HR203667	Downstream	Period 2	2004-05-10	0.08
HR203697	Downstream	Period 2	2007-02-20	0.24
HR203713	Downstream	Period 3	2008-05-19	0.00
HR203718	Downstream	Period 2	2006-07-17	0.00
HR203718	Downstream	Period 3	2008-01-22	0.07
HR203723	Downstream	Period 2	2007-01-18	0.64
HR203742	Downstream	Period 1	2000-06-16	0.00
HR203742	Downstream	Period 4	2012-06-11	0.69
HR203747	Downstream	Period 1	2001-06-20	0.00
HR203747	Downstream	Period 1	2001-12-11	0.61
HR203774	Downstream	Period 2	2007-04-09	0.00
HR203784	Downstream	Period 2	2007-05-16	0.00
HR203821	Downstream	Period 2	2007-07-11	0.00
HR203822	Downstream	Period 3	2009-01-06	0.11
HR203824	Downstream	Period 2	2007-02-20	0.65
HR203854	Downstream	Period 3	2011-01-24	0.69
HR203867	Downstream	Period 4	2012-01-24	0.00
HR203876	Downstream	Period 3	2011-06-20	0.00
HR203882	Downstream	Period 1	2000-07-12	0.29
HR203899	Downstream	Period 1	2001-03-05	0.61
HR203912	Downstream	Period 2	2007-12-05	0.33
HR203934	Downstream	Period 4	2012-06-11	0.64
HR203943	Downstream	Period 3	2009-04-20	0.00
HR203949	Downstream	Period 1	2001-04-17	0.00

DRAFT

HR203966	Downstream	Period 2	2002-05-20	0.69
HR203967	Downstream	Period 3	2008-05-19	0.64
HR203978	Downstream	Period 1	2000-05-22	0.00
HR203978	Downstream	Period 4	2012-05-14	0.66
HR203989	Downstream	Period 2	2002-04-17	0.69
HR203991	Downstream	Period 3	2009-11-02	0.00
HR204011	Downstream	Period 2	2007-06-04	0.15
HR204019	Downstream	Period 2	2006-11-13	0.00
HR204066	Downstream	Period 2	2006-08-08	0.00
HR204068	Downstream	Period 2	2005-05-18	0.00
HR204078	Downstream	Period 1	2001-04-17	0.00
HR204136	Downstream	Period 3	2009-11-02	0.00
HR204190	Downstream	Period 3	2009-01-06	0.00
HR204191	Downstream	Period 2	2007-05-16	0.00
HR204249	Downstream	Period 3	2008-06-18	0.18
HR204250	Downstream	Period 2	2006-08-08	0.00
HR204250	Downstream	Period 3	2009-03-04	0.20
HR204253	Downstream	Period 1	2000-05-22	0.33
HR204255	Downstream	Period 1	2001-12-11	0.21
HR204262	Downstream	Period 3	2009-12-07	0.00
HR204273	Downstream	Period 2	2007-11-26	0.37
HR204275	Downstream	Period 1	2000-11-27	0.00
HR204289	Downstream	Period 3	2009-01-06	0.47
HR204292	Downstream	Period 2	2006-04-27	0.42
HR204299	Downstream	Period 2	2007-12-05	0.00
HR204306	Downstream	Period 2	2002-06-05	0.64
HR204326	Downstream	Period 3	2010-11-08	0.00
HR204329	Downstream	Period 2	2005-05-18	0.64
HR204333	Downstream	Period 1	2001-06-20	0.05
HR204334	Downstream	Period 1	2001-02-13	0.54
HR204342	Downstream	Period 3	2010-01-20	0.27
HR204360	Downstream	Period 3	2010-12-06	0.00
HR204407	Downstream	Period 2	2002-05-20	0.59
HR204417	Downstream	Period 3	2008-07-07	0.00
HR204439	Downstream	Period 2	2002-03-18	0.00
HR204470	Downstream	Period 2	2006-12-13	0.00
HR204476	Downstream	Period 3	2009-05-18	0.56
HR204502	Downstream	Period 1	2001-03-05	0.34
HR204537	Downstream	Period 4	2012-02-07	0.56
HR204545	Downstream	Period 3	2008-06-18	0.00
HR204545	Downstream	Period 3	2010-01-20	0.00
HR204558	Downstream	Period 3	2008-07-07	0.33
HR204573	Downstream	Period 2	2006-06-13	0.00
HR204576	Downstream	Period 2	2007-03-21	0.67
HR204587	Downstream	Period 3	2009-12-07	0.00
HR204621	Downstream	Period 1	2001-05-14	0.38
HR204628	Downstream	Period 3	2008-12-16	0.17
HR204654	Downstream	Period 1	2001-04-17	0.00
HR204664	Downstream	Period 2	2007-03-21	0.17
HR204667	Downstream	Period 2	2006-12-13	0.00
HR204676	Downstream	Period 3	2010-06-23	0.00
HR204687	Downstream	Period 3	2009-12-07	0.00
HR204691	Downstream	Period 2	2003-12-15	0.30

DRAFT

HR204710Downstream	Period 3	2009-02-04	0.00
HR204719Downstream	Period 2	2006-08-08	0.26
HR204722Downstream	Period 3	2009-11-02	0.00
HR204731Downstream	Period 2	2002-03-18	0.58
HR204748Downstream	Period 1	2000-08-16	0.00
HR204753Downstream	Period 4	2012-01-24	0.00
HR204767Downstream	Period 3	2010-01-20	0.41
HR204774Downstream	Period 3	2009-03-04	0.18
HR204800Downstream	Period 2	2002-05-20	0.49
HR204808Downstream	Period 2	2005-04-27	0.00
HR204827Downstream	Period 3	2009-06-03	0.00
HR204846Downstream	Period 1	2001-12-11	0.00
HR204849Downstream	Period 1	2000-08-16	0.34
HR204853Downstream	Period 3	2009-02-04	0.08
HR204864Downstream	Period 2	2004-05-10	0.69
HR204876Downstream	Period 3	2011-03-16	0.00
HR204878Downstream	Period 3	2008-12-16	1.16
HR204878Downstream	Period 3	2011-01-24	0.65
HR204880Downstream	Period 1	2000-05-22	0.55
HR204895Downstream	Period 1	2001-07-24	0.64
HR204900Downstream	Period 1	2001-03-05	0.69
HR204907Downstream	Period 1	2000-11-27	0.10
HR204908Downstream	Period 2	2002-04-17	0.64
HR204917Downstream	Period 2	2002-06-05	0.15
HR204930Downstream	Period 2	2006-11-13	0.00
HR204948Downstream	Period 2	2005-01-06	0.69
HR204951Downstream	Period 3	2009-12-07	0.00
HR204967Downstream	Period 3	2009-03-04	0.08
HR204968Downstream	Period 2	2002-02-04	0.00
HR205017Downstream	Period 4	2012-01-24	0.59
HR205024Downstream	Period 3	2010-11-08	0.00
HR205028Downstream	Period 3	2010-12-06	0.00
HR205031Downstream	Period 2	2007-05-16	0.00
HR205032Downstream	Period 2	2006-01-09	0.62
HR205044Downstream	Period 2	2006-06-13	0.98
HR205046Downstream	Period 3	2008-12-16	0.69
HR205049Downstream	Period 2	2005-03-08	0.69
HR205062Downstream	Period 3	2011-06-20	0.00
HR205063Downstream	Period 4	2012-02-07	0.73
HR205066Downstream	Period 2	2006-06-13	0.00
HR205071Downstream	Period 3	2010-12-06	0.00
HR205082Downstream	Period 3	2009-06-03	0.04
HR305155Downstream	Period 2	2007-02-20	0.15
HR305161Downstream	Period 1	2001-06-20	0.00
HR305168Downstream	Period 2	2006-08-08	0.00
HR305170Downstream	Period 3	2008-12-16	0.30
HR305200Downstream	Period 3	2009-04-20	0.24
HR305230Downstream	Period 2	2003-12-15	0.00
HR305237Downstream	Period 3	2008-07-07	0.00
HR305254Downstream	Period 3	2010-10-20	0.00
HR305289Downstream	Period 2	2002-01-03	0.00
HR305291Downstream	Period 2	2002-05-20	0.00
HR305293Downstream	Period 2	2004-05-10	0.67

DRAFT

HR305316Downstream	Period 2	2005-03-08	0.83
HR305318Downstream	Period 1	2000-05-22	0.38
HR305338Downstream	Period 3	2008-11-13	0.00
HR305351Downstream	Period 2	2002-01-03	0.09
HR305378Downstream	Period 4	2012-01-24	0.25
HR305392Downstream	Period 3	2009-11-02	0.00
HR305430Downstream	Period 2	2002-01-03	0.00
HR305439Downstream	Period 2	2006-08-08	0.00
HR305441Downstream	Period 1	2001-03-05	0.00
HR305449Downstream	Period 1	2001-11-28	0.00
HR305453Downstream	Period 3	2009-01-06	0.30
HR305467Downstream	Period 2	2002-01-03	0.49
HR305471Downstream	Period 3	2009-01-06	0.11
HR305478Downstream	Period 1	2000-11-27	0.00
HR305497Downstream	Period 2	2006-05-08	0.00
HR305509Downstream	Period 2	2007-03-21	0.38
HR305510Downstream	Period 2	2005-05-18	0.64
HR305538Downstream	Period 3	2008-11-13	0.00
HR305544Downstream	Period 2	2005-03-08	0.64
HR305564Downstream	Period 3	2009-11-02	0.00
HR305585Downstream	Period 3	2010-01-20	0.00
HR305586Downstream	Period 4	2012-04-10	0.00
HR305615Downstream	Period 1	2001-03-05	0.76
HR305623Downstream	Period 2	2005-04-27	0.00
HR305634Downstream	Period 2	2006-07-17	0.07
HR305646Downstream	Period 3	2009-02-04	0.20
HR305655Downstream	Period 1	2001-12-11	0.00
HR305662Downstream	Period 3	2008-10-27	0.00
HR305674Downstream	Period 1	2001-02-13	0.86
HR305701Downstream	Period 1	2000-12-12	0.65
HR305714Downstream	Period 3	2008-05-19	0.14
HR305763Downstream	Period 1	2000-08-16	0.00
HR305765Downstream	Period 3	2010-12-06	0.05
HR305766Downstream	Period 3	2010-12-06	0.00
HR305792Downstream	Period 1	2000-06-16	0.67
HR305835Downstream	Period 2	2005-01-06	0.44
HR305839Downstream	Period 4	2012-05-14	0.00
HR305870Downstream	Period 2	2002-03-18	0.30
HR305875Downstream	Period 3	2008-05-19	0.00
HR305878Downstream	Period 2	2007-01-18	0.88
HR305883Downstream	Period 1	2000-05-22	0.21
HR305889Downstream	Period 2	2005-02-08	0.00
HR305889Downstream	Period 2	2005-03-08	0.80
HR305892Downstream	Period 2	2005-01-06	0.00
HR305895Downstream	Period 2	2006-01-09	0.28
HR305905Downstream	Period 3	2009-02-04	0.31
HR305968Downstream	Period 3	2011-03-16	0.64
HR305979Downstream	Period 3	2008-12-16	0.74
HR305998Downstream	Period 1	2001-12-11	0.00
HR306027Downstream	Period 3	2009-02-04	0.00
HR306076Downstream	Period 1	2001-05-14	0.00
HR306103Downstream	Period 1	2001-05-14	0.64
HR306107Downstream	Period 2	2002-04-17	0.00

DRAFT

HR306167Downstream	Period 2	2007-12-05	0.30
HR306170Downstream	Period 3	2009-11-02	0.00
HR306182Downstream	Period 3	2010-01-20	0.00
HR306187Downstream	Period 1	2001-06-20	0.69
HR306204Downstream	Period 2	2002-02-04	0.47
HR306208Downstream	Period 2	2002-02-04	0.50
HR306240Downstream	Period 3	2009-01-06	0.56
HR306245Downstream	Period 2	2006-04-27	0.00
HR306247Downstream	Period 3	2009-03-04	0.57
HR306261Downstream	Period 1	2001-04-17	0.00
HR306265Downstream	Period 3	2010-12-06	0.11
HR306265Downstream	Period 4	2012-06-11	0.00
HR306307Downstream	Period 3	2010-11-08	0.11
HR306313Downstream	Period 4	2012-05-14	0.00
HR306315Downstream	Period 1	2000-07-12	0.05
HR306348Downstream	Period 2	2006-11-13	1.06
HR306357Downstream	Period 4	2012-01-24	0.00
HR306371Downstream	Period 2	2007-12-05	0.00
HR306383Downstream	Period 2	2007-06-04	0.00
HR306384Downstream	Period 1	2000-05-22	0.00
HR306404Downstream	Period 3	2010-01-20	0.00
HR306419Downstream	Period 2	2006-06-13	0.00
HR306421Downstream	Period 3	2008-12-16	0.15
HR306422Downstream	Period 3	2009-04-20	0.00
HR306423Downstream	Period 2	2005-05-18	0.00
HR306423Downstream	Period 3	2010-11-08	0.00
HR306446Downstream	Period 1	2000-12-12	0.69
HR306470Downstream	Period 3	2009-11-02	0.64
HR306477Downstream	Period 3	2009-04-20	0.00
HR306493Downstream	Period 3	2009-12-07	0.00
HR306506Downstream	Period 4	2012-02-07	0.00
HR306518Downstream	Period 2	2004-05-10	0.00
HR306528Downstream	Period 2	2007-04-09	0.00
HR306546Downstream	Period 3	2008-12-16	0.21
HR306592Downstream	Period 3	2008-11-13	0.00
HR306596Downstream	Period 3	2011-03-16	0.69
HR306614Downstream	Period 1	2001-07-24	0.64
HR306622Downstream	Period 2	2007-03-21	1.04
HR306631Downstream	Period 1	2001-05-14	0.30
HR306650Downstream	Period 2	2007-04-09	0.00
HR306662Downstream	Period 2	2002-02-04	0.57
HR306689Downstream	Period 2	2007-05-16	1.19
HR306692Downstream	Period 2	2006-05-08	0.45
HR306700Downstream	Period 3	2009-12-07	0.00
HR306717Downstream	Period 3	2009-05-18	0.41
HR306722Downstream	Period 3	2008-11-13	0.00
HR306726Downstream	Period 3	2009-04-20	0.07
HR306733Downstream	Period 3	2011-01-24	0.69
HR306737Downstream	Period 4	2012-02-07	0.96
HR306745Downstream	Period 3	2009-06-03	0.08
HR306748Downstream	Period 2	2006-07-17	0.00
HR306765Downstream	Period 2	2005-04-27	0.00
HR306772Downstream	Period 3	2010-12-06	0.00

DRAFT

HR306783	Downstream	Period 2	2006-12-13	0.41
HR306789	Downstream	Period 2	2007-05-16	0.00
HR306821	Downstream	Period 1	2001-02-13	1.02
HR306848	Downstream	Period 3	2008-01-22	0.00
HR306850	Downstream	Period 3	2009-03-04	0.34
HR306857	Downstream	Period 2	2007-11-26	1.16
HR306862	Downstream	Period 1	2001-01-08	0.09
HR306869	Downstream	Period 3	2011-01-24	0.00
HR306894	Downstream	Period 2	2007-11-26	0.50
HR306934	Downstream	Period 4	2012-01-24	0.25
HR306937	Downstream	Period 4	2012-02-07	1.00
HR306940	Downstream	Period 3	2010-06-23	0.50
HR306947	Downstream	Period 1	2001-01-08	0.64
HR306951	Downstream	Period 2	2002-04-17	0.00
HR306964	Downstream	Period 2	2006-04-27	0.64
HR306969	Downstream	Period 2	2002-03-18	0.64
HR306972	Downstream	Period 2	2007-06-04	0.64
HR306986	Downstream	Period 3	2010-06-23	0.00
HR307001	Downstream	Period 3	2010-11-08	0.24
HR307031	Downstream	Period 3	2009-06-03	0.72
HR307063	Downstream	Period 3	2009-12-07	0.00
HR307065	Downstream	Period 2	2007-01-18	0.00
HR307067	Downstream	Period 2	2007-01-18	0.00
HR307071	Downstream	Period 2	2007-07-11	0.00
HR307078	Downstream	Period 4	2012-03-12	0.35
HR307087	Downstream	Period 2	2006-01-09	0.10
HR307098	Downstream	Period 2	2007-12-05	0.63
HR307110	Downstream	Period 2	2007-06-04	0.68
HR307121	Downstream	Period 2	2006-06-13	1.06
HR307149	Downstream	Period 1	2000-07-12	0.00
HR307179	Downstream	Period 3	2011-01-24	0.31
HR307184	Downstream	Period 3	2010-06-23	0.00
HR307205	Downstream	Period 2	2003-12-15	0.67
HR307217	Downstream	Period 2	2007-03-21	1.08
HR307230	Downstream	Period 3	2009-05-18	0.27
HR307236	Downstream	Period 3	2009-02-04	0.19
HR307238	Downstream	Period 2	2007-02-20	0.69
HR307258	Downstream	Period 3	2008-01-22	0.59
HR307265	Downstream	Period 2	2006-04-27	0.00
HR307275	Downstream	Period 4	2012-01-24	0.00
HR307291	Downstream	Period 1	2001-03-05	0.00
HR307317	Downstream	Period 2	2002-06-05	0.18
HR307334	Downstream	Period 3	2010-01-20	0.00
HR307338	Downstream	Period 2	2006-12-13	0.50
HR307354	Downstream	Period 3	2008-05-19	0.64
HR307361	Downstream	Period 3	2008-10-27	0.53
HR307368	Downstream	Period 1	2000-06-16	0.69
HR307370	Downstream	Period 2	2006-11-13	0.50
HR307382	Downstream	Period 2	2005-01-06	0.48
HR307392	Downstream	Period 3	2008-01-22	0.65
HR307399	Downstream	Period 4	2012-03-12	0.00
HR307411	Downstream	Period 1	2001-01-08	0.85
HR307416	Downstream	Period 1	2000-11-27	0.12

DRAFT

HR307444	Downstream	Period 3	2010-11-08	0.02
HR307456	Downstream	Period 2	2007-05-16	0.00
HR307513	Downstream	Period 3	2010-10-20	0.00
HR307519	Downstream	Period 4	2012-04-10	0.00
HR307525	Downstream	Period 2	2004-05-10	1.04
HR307547	Downstream	Period 2	2007-11-26	0.24
HR307561	Downstream	Period 3	2009-03-04	0.52
HR307562	Downstream	Period 3	2011-01-24	0.00
HR307564	Downstream	Period 2	2003-12-15	0.67
HR307565	Downstream	Period 2	2002-02-04	0.95
HR307568	Downstream	Period 2	2007-04-09	0.00
HR307601	Downstream	Period 2	2002-03-18	0.82
HR307609	Downstream	Period 1	2001-11-28	0.00
HR307639	Downstream	Period 2	2002-05-20	0.64
HR307639	Downstream	Period 3	2009-03-04	0.00
HR407654	Downstream	Period 3	2009-01-06	0.30
HR407658	Downstream	Period 3	2009-03-04	0.65
HR407663	Downstream	Period 2	2007-02-22	0.00
HR407669	Downstream	Period 2	2007-04-09	0.00
HR407717	Downstream	Period 3	2009-06-03	0.00
HR407737	Downstream	Period 4	2012-06-11	0.63
HR407741	Downstream	Period 2	2006-12-13	0.86
HR407743	Downstream	Period 2	2006-05-08	0.60
HR407746	Downstream	Period 1	2000-06-16	0.35
HR407750	Downstream	Period 1	2001-02-13	0.00
HR407765	Downstream	Period 1	2000-07-11	0.00
HR407773	Downstream	Period 3	2010-11-08	0.07
HR407791	Downstream	Period 1	2000-07-11	0.00
HR407795	Downstream	Period 2	2007-01-18	0.45
HR407795	Downstream	Period 3	2010-06-23	0.45
HR407796	Downstream	Period 2	2002-05-21	0.10
HR407833	Downstream	Period 2	2005-04-27	0.00
HR407841	Downstream	Period 4	2012-04-10	0.71
HR407844	Downstream	Period 3	2010-12-06	0.80
HR407865	Downstream	Period 1	2000-12-12	0.00
HR407879	Downstream	Period 3	2009-02-04	0.51
HR407890	Downstream	Period 2	2007-05-16	0.72
HR407891	Downstream	Period 3	2008-05-19	0.19
HR407897	Downstream	Period 2	2005-02-08	0.16
HR407898	Downstream	Period 3	2009-12-07	0.00
HR407914	Downstream	Period 2	2002-03-18	0.00
HR407922	Downstream	Period 2	2002-03-18	0.64
HR407971	Downstream	Period 2	2006-04-27	0.06
HR407979	Downstream	Period 2	2006-01-09	0.00
HR408002	Downstream	Period 2	2006-12-13	0.26
HR408002	Downstream	Period 2	2007-01-18	0.70
HR408006	Downstream	Period 1	2001-03-05	0.28
HR408043	Downstream	Period 3	2009-06-03	0.63
HR408057	Downstream	Period 2	2007-07-11	0.00
HR408061	Downstream	Period 1	2000-12-12	0.69
HR408085	Downstream	Period 3	2011-06-20	0.64
HR408089	Downstream	Period 2	2006-11-13	0.60
HR408135	Downstream	Period 3	2009-04-20	0.13

DRAFT

HR408148Downstream	Period 2	2003-12-15	0.50
HR408164Downstream	Period 3	2011-01-24	0.10
HR408192Downstream	Period 3	2009-12-07	0.00
HR408202Downstream	Period 3	2008-11-13	0.50
HR408217Downstream	Period 2	2006-01-09	0.00
HR408229Downstream	Period 2	2006-06-20	0.64
HR408349Downstream	Period 1	2001-02-13	0.14
HR408349Downstream	Period 1	2001-04-18	0.14
HR408372Downstream	Period 1	2000-05-23	0.68
HR408372Downstream	Period 2	2005-02-08	0.41
HR408406Downstream	Period 2	2002-01-03	0.00
HR408408Downstream	Period 3	2009-01-06	0.36
HR408409Downstream	Period 4	2012-03-12	0.00
HR408421Downstream	Period 1	2001-03-05	0.00
HR408433Downstream	Period 1	2000-11-27	0.20
HR408439Downstream	Period 3	2009-11-02	0.30
HR408448Downstream	Period 4	2012-01-24	0.45
HR408451Downstream	Period 1	2001-05-15	0.81
HR408482Downstream	Period 1	2000-08-15	0.05
HR408491Downstream	Period 2	2002-04-17	0.68
HR408512Downstream	Period 2	2002-04-17	0.00
HR408524Downstream	Period 1	2000-12-12	0.05
HR408547Downstream	Period 1	2001-11-28	0.67
HR408563Downstream	Period 3	2009-05-18	0.74
HR408573Downstream	Period 1	2001-03-05	0.69
HR408580Downstream	Period 2	2006-07-17	1.05
HR408621Downstream	Period 4	2012-02-07	1.63
HR408625Downstream	Period 3	2008-10-27	1.05
HR408626Downstream	Period 1	2000-11-27	0.26
HR408660Downstream	Period 2	2007-11-26	0.00
HR408676Downstream	Period 3	2008-07-07	0.47
HR408683Downstream	Period 2	2002-03-18	0.00
HR408684Downstream	Period 2	2006-12-13	0.57
HR408693Downstream	Period 1	2001-02-13	0.00
HR408718Downstream	Period 2	2005-03-08	0.64
HR408729Downstream	Period 2	2007-04-09	0.14
HR408731Downstream	Period 1	2000-05-23	0.00
HR408735Downstream	Period 3	2008-11-13	0.84
HR408757Downstream	Period 1	2001-01-09	0.06
HR408779Downstream	Period 3	2008-07-07	0.00
HR408785Downstream	Period 2	2005-04-27	1.15
HR408790Downstream	Period 2	2006-11-13	0.56
HR408791Downstream	Period 4	2012-04-10	0.69
HR408796Downstream	Period 3	2010-01-20	0.00
HR408811Downstream	Period 2	2002-03-18	0.74
HR408815Downstream	Period 3	2011-01-24	0.00
HR408826Downstream	Period 1	2001-12-11	0.00
HR408854Downstream	Period 3	2009-04-20	0.00
HR408861Downstream	Period 1	2001-07-25	0.00
HR408876Downstream	Period 2	2005-01-06	0.69
HR408951Downstream	Period 2	2006-01-09	0.00
HR408960Downstream	Period 2	2006-04-27	0.00
HR408981Downstream	Period 1	2001-01-09	0.05

DRAFT

HR409009	Downstream	Period 2	2002-02-04	0.00
HR409027	Downstream	Period 1	2000-06-16	0.00
HR409037	Downstream	Period 3	2008-01-22	0.69
HR409046	Downstream	Period 2	2004-05-10	0.00
HR409063	Downstream	Period 4	2012-01-24	0.59
HR409069	Downstream	Period 3	2008-05-19	0.00
HR409080	Downstream	Period 1	2000-05-23	0.04
HR409104	Downstream	Period 2	2007-11-26	0.00
HR409109	Downstream	Period 2	2007-02-22	0.00
HR409131	Downstream	Period 3	2008-01-22	0.00
HR409200	Downstream	Period 4	2012-06-11	1.03
HR409253	Downstream	Period 3	2009-02-04	0.00
HR409267	Downstream	Period 2	2005-01-06	0.64
HR409271	Downstream	Period 2	2007-07-11	0.69
HR409286	Downstream	Period 3	2008-12-16	0.00
HR409310	Downstream	Period 3	2008-12-16	0.00
HR409323	Downstream	Period 2	2006-04-27	0.00
HR409328	Downstream	Period 2	2007-03-21	0.41
HR409331	Downstream	Period 2	2002-01-03	0.69
HR409367	Downstream	Period 2	2002-06-05	0.62
HR409372	Downstream	Period 1	2000-08-15	0.00
HR409418	Downstream	Period 1	2001-06-21	0.69
HR409423	Downstream	Period 2	2006-08-08	0.22
HR409428	Downstream	Period 2	2002-02-04	0.00
HR409440	Downstream	Period 3	2011-03-16	0.64
HR409453	Downstream	Period 4	2012-02-07	0.43
HR409458	Downstream	Period 2	2005-05-18	0.00
HR409462	Downstream	Period 3	2010-11-08	0.45
HR409476	Downstream	Period 2	2006-06-20	0.79
HR409517	Downstream	Period 3	2008-10-27	0.64
HR409537	Downstream	Period 2	2002-05-21	0.83
HR409557	Downstream	Period 2	2007-11-26	0.47
HR409568	Downstream	Period 2	2002-01-03	0.57
HR409573	Downstream	Period 2	2007-06-04	1.04
HR409655	Downstream	Period 3	2010-01-20	0.22
HR409657	Downstream	Period 2	2006-01-09	0.00
HR409729	Downstream	Period 3	2010-12-06	0.10
HR409746	Downstream	Period 3	2008-01-22	0.34
HR409755	Downstream	Period 1	2001-04-18	0.29
HR409763	Downstream	Period 3	2009-03-04	0.43
HR409776	Downstream	Period 1	2001-06-21	0.76
HR409791	Downstream	Period 2	2005-03-08	0.64
HR409793	Downstream	Period 2	2007-11-26	0.75
HR409835	Downstream	Period 3	2009-05-18	0.00
HR409848	Downstream	Period 2	2007-04-09	0.00
HR409858	Downstream	Period 2	2006-07-17	0.21
HR409860	Downstream	Period 2	2007-02-22	0.00
HR409881	Downstream	Period 2	2007-03-21	0.83
HR409892	Downstream	Period 3	2010-10-20	1.01
HR409899	Downstream	Period 2	2005-02-08	0.45
HR409904	Downstream	Period 2	2007-05-16	0.38
HR409952	Downstream	Period 2	2002-06-05	0.93
HR409957	Downstream	Period 2	2003-12-15	0.00

DRAFT

HR409983	Downstream	Period 2	2007-06-04	1.39
HR409987	Downstream	Period 2	2007-12-05	0.24
HR410179	Downstream	Period 1	2001-05-15	0.47
HR510203	Downstream	Period 1	2001-02-13	0.00
HR510218	Downstream	Period 3	2008-11-13	0.74
HR510233	Downstream	Period 2	2005-04-27	0.69
HR510236	Downstream	Period 4	2012-03-12	0.00
HR510249	Downstream	Period 2	2007-11-26	0.53
HR510263	Downstream	Period 3	2010-11-08	0.68
HR510266	Downstream	Period 1	2001-06-21	0.42
HR510289	Downstream	Period 1	2000-12-12	0.86
HR510314	Downstream	Period 3	2011-03-16	0.00
HR510323	Downstream	Period 2	2002-01-03	0.69
HR510357	Downstream	Period 2	2003-12-15	0.60
HR510395	Downstream	Period 1	2001-02-13	0.00
HR510473	Downstream	Period 3	2009-02-04	0.04
HR510478	Downstream	Period 3	2010-06-23	0.89
HR510482	Downstream	Period 3	2008-11-13	0.61
HR510489	Downstream	Period 2	2006-04-27	1.33
HR510492	Downstream	Period 2	2005-05-18	1.10
HR510509	Downstream	Period 1	2001-04-18	0.76
HR510568	Downstream	Period 2	2007-04-09	0.18
HR510575	Downstream	Period 2	2006-05-08	1.12
HR510593	Lower	Period 2	2002-03-18	0.69
HR510605	Lower	Period 3	2009-05-18	0.00
HR510606	Lower	Period 3	2008-10-27	0.15
HR510608	Lower	Period 3	2009-02-04	0.04
HR510609	Lower	Period 2	2007-02-22	0.41
HR510630	Lower	Period 4	2012-02-07	0.00
HR510631	Lower	Period 1	2000-12-12	0.00
HR510646	Lower	Period 1	2000-07-11	0.00
HR510652	Lower	Period 3	2009-11-02	0.52
HR510711	Lower	Period 4	2012-05-14	0.85
HR510742	Lower	Period 1	2000-05-23	1.03
HR510757	Lower	Period 3	2010-12-06	0.26
HR510765	Lower	Period 2	2006-01-09	0.00
HR510769	Lower	Period 2	2006-04-27	1.23
HR510790	Lower	Period 2	2002-06-05	0.55
HR510798	Lower	Period 1	2001-06-21	0.60
HR510802	Lower	Period 4	2012-04-10	1.10
HR510807	Lower	Period 2	2006-12-13	0.00
HR510833	Lower	Period 3	2009-04-20	0.58
HR510843	Lower	Period 2	2007-12-05	0.22
HR510849	Lower	Period 4	2012-05-14	0.00
HR510862	Lower	Period 4	2012-03-12	0.95
HR510884	Lower	Period 2	2003-12-15	0.46
HR510892	Lower	Period 3	2011-03-16	0.16
HR510909	Lower	Period 1	2000-11-27	0.69
HR510953	Lower	Period 3	2010-01-20	0.00
HR510953	Lower	Period 3	2010-10-20	1.56
HR510972	Lower	Period 1	2001-11-28	0.00
HR510991	Lower	Period 1	2000-08-15	0.00
HR511025	Lower	Period 2	2005-01-06	0.00

DRAFT

HR511034Lower	Period 1	2001-02-13	0.00
HR511056Lower	Period 2	2007-11-26	0.31
HR511062Lower	Period 3	2009-12-07	0.69
HR511096Lower	Period 2	2002-06-05	0.00
HR511102Lower	Period 1	2001-02-13	0.00
HR511147Lower	Period 2	2007-04-09	0.76
HR511149Lower	Period 4	2012-06-11	0.97
HR511167Lower	Period 2	2005-02-08	0.33
HR511190Lower	Period 1	2000-11-27	0.77
HR511197Lower	Period 2	2007-03-21	0.23
HR511215Lower	Period 1	2001-04-18	0.50
HR511224Lower	Period 2	2006-06-20	0.00
HR511235Lower	Period 2	2006-01-09	0.00
HR511237Lower	Period 2	2004-05-10	0.00
HR511243Lower	Period 1	2000-12-12	0.08
HR511317Lower	Period 4	2012-01-24	0.87
HR511324Lower	Period 3	2009-03-04	0.00
HR511356Lower	Period 3	2010-06-23	0.24
HR511370Lower	Period 3	2009-04-20	0.95
HR511372Lower	Period 1	2001-03-05	0.57
HR511414Lower	Period 3	2008-06-18	0.16
HR511422Lower	Period 2	2007-06-04	0.29
HR511436Lower	Period 2	2007-03-21	0.45
HR511446Lower	Period 2	2002-01-03	0.45
HR511453Lower	Period 3	2008-01-22	0.00
HR511473Lower	Period 3	2008-12-16	0.69
HR511486Lower	Period 1	2001-01-09	0.19
HR511486Lower	Period 3	2009-06-03	0.83
HR511509Lower	Period 2	2002-03-18	0.50
HR511517Lower	Period 1	2001-05-15	0.00
HR511518Lower	Period 2	2006-12-13	0.00
HR511523Lower	Period 1	2000-07-11	0.00
HR511574Lower	Period 3	2009-01-06	0.00
HR511609Lower	Period 2	2006-11-13	0.77
HR511622Lower	Period 2	2007-06-04	0.80
HR511664Lower	Period 3	2011-01-24	0.30
HR511675Lower	Period 2	2007-05-16	0.96
HR511675Lower	Period 4	2012-01-24	0.92
HR511719Lower	Period 2	2007-07-11	0.88
HR511729Lower	Period 2	2005-02-08	0.56
HR511749Lower	Period 1	2001-07-25	1.00
HR511757Lower	Period 2	2006-08-08	0.66
HR511792Lower	Period 3	2009-12-07	0.95
HR511815Lower	Period 3	2008-06-18	0.07
HR511850Lower	Period 2	2007-12-05	0.56
HR511867Lower	Period 3	2010-12-06	0.37
HR511870Lower	Period 2	2007-01-18	0.04
HR511871Lower	Period 2	2006-11-13	0.43
HR511880Lower	Period 3	2009-06-03	0.43
HR511889Lower	Period 2	2007-11-26	0.09
HR511899Lower	Period 3	2011-01-24	1.16
HR511912Lower	Period 2	2002-05-21	0.75
HR511921Lower	Period 2	2007-01-18	0.62

DRAFT

HR511925Lower	Period 3	2009-05-18	0.44
HR511933Lower	Period 3	2008-10-27	1.39
HR511970Lower	Period 2	2006-12-13	0.56
HR511980Lower	Period 2	2002-05-21	0.97
HR512002Lower	Period 4	2012-06-11	0.63
HR512004Lower	Period 3	2010-11-08	0.10
HR512012Lower	Period 2	2006-07-17	1.09
HR512022Lower	Period 3	2009-03-04	0.82
HR512028Lower	Period 2	2004-05-10	0.45
HR512030Lower	Period 1	2000-06-16	0.68
HR512046Lower	Period 2	2002-02-04	0.00
HR512049Lower	Period 3	2008-01-22	0.00
HR512074Lower	Period 1	2001-11-28	0.00
HR512119Lower	Period 2	2007-02-22	0.74
HR512133Lower	Period 2	2006-07-17	0.71
HR512160Lower	Period 3	2009-01-06	0.00
HR512200Lower	Period 2	2005-03-08	0.00
HR512203Lower	Period 4	2012-02-07	1.39
HR512235Lower	Period 2	2005-02-08	0.00
HR512296Lower	Period 3	2009-11-02	0.76
HR512391Lower	Period 3	2010-01-20	0.08
HR512407Lower	Period 2	2002-04-17	0.00
HR512410Lower	Period 1	2001-03-05	1.01
HR512422Lower	Period 3	2008-01-22	0.61
HR512426Lower	Period 2	2002-02-04	0.69
HR512436Lower	Period 2	2006-05-08	0.60
HR512458Lower	Period 3	2010-10-20	0.98
HR512490Lower	Period 2	2006-01-09	1.03
HR512518Lower	Period 1	2001-05-15	0.56
HR512529Lower	Period 1	2001-12-11	0.00
HR512535Middle	Period 2	2004-05-10	1.59
HR512537Lower	Period 3	2011-06-20	0.00
HR512541Lower	Period 3	2008-07-07	0.45
HR512549Lower	Period 1	2000-06-16	0.41
HR512589Middle	Period 1	2001-01-09	0.14
HR512593Middle	Period 2	2007-05-16	0.48
HR512594Middle	Period 1	2000-08-15	0.04
HR512609Middle	Period 2	2006-06-20	1.11
HR512617Middle	Period 2	2006-08-08	0.00
HR512626Middle	Period 2	2007-04-09	0.00
HR512640Middle	Period 2	2002-04-17	0.96
HR512640Middle	Period 3	2008-05-19	0.80
HR512649Middle	Period 3	2008-07-07	0.72
HR512675Middle	Period 2	2005-01-06	0.64
HR512692Middle	Period 2	2005-05-18	0.00
HR512698Middle	Period 3	2008-12-16	0.00
HR512708Middle	Period 2	2007-07-11	1.01
HR612749Middle	Period 4	2012-05-14	0.64
HR612802Middle	Period 1	2001-07-25	0.69
HR612804Middle	Period 3	2010-11-08	1.64
HR612832Middle	Period 1	2001-04-18	0.62
HR612833Middle	Period 4	2012-02-07	0.56
HR612847Middle	Period 2	2004-05-10	0.45

DRAFT

HR612951	Middle	Period 3	2008-12-16	0.48
HR612966	Middle	Period 1	2000-06-16	0.10
HR612974	Middle	Period 3	2010-11-08	1.49
HR612977	Middle	Period 2	2007-02-22	0.68
HR612987	Middle	Period 3	2011-01-24	0.00
HR613036	Middle	Period 2	2007-11-26	0.20
HR613038	Middle	Period 1	2001-12-11	0.56
HR613054	Middle	Period 1	2001-03-05	0.52
HR613081	Middle	Period 2	2007-01-18	0.72
HR613106	Middle	Period 1	2000-05-23	0.00
HR613107	Middle	Period 2	2007-04-09	0.25
HR613109	Middle	Period 2	2007-01-18	0.70
HR613158	Middle	Period 1	2001-11-28	0.64
HR613162	Middle	Period 3	2009-01-06	0.00
HR613206	Middle	Period 3	2008-01-22	0.76
HR613247	Middle	Period 3	2011-03-16	0.00
HR613272	Middle	Period 2	2004-05-10	0.00
HR613281	Middle	Period 2	2002-04-17	0.26
HR613286	Middle	Period 3	2010-10-20	1.20
HR613301	Middle	Period 3	2010-10-20	0.68
HR613314	Middle	Period 3	2011-03-16	0.76
HR613374	Middle	Period 3	2008-11-13	0.45
HR613409	Middle	Period 3	2008-01-22	0.35
HR613419	Middle	Period 2	2006-12-13	0.69
HR613456	Middle	Period 2	2006-05-08	1.03
HR613475	Middle	Period 1	2001-01-09	0.50
HR613496	Middle	Period 3	2009-05-18	0.00
HR613538	Middle	Period 2	2002-02-04	1.10
HR613590	Middle	Period 2	2006-07-17	1.39
HR613603	Middle	Period 3	2011-01-24	0.15
HR613615	Middle	Period 2	2007-06-04	0.48
HR613632	Middle	Period 3	2009-03-04	0.23
HR613644	Middle	Period 2	2002-04-17	0.00
HR613646	Middle	Period 2	2006-04-27	0.95
HR613647	Middle	Period 2	2002-01-03	0.96
HR613668	Middle	Period 1	2001-01-09	0.69
HR613717	Middle	Period 3	2009-04-20	0.50
HR613766	Middle	Period 1	2001-04-18	0.64
HR613801	Middle	Period 2	2007-11-26	0.84
HR613808	Middle	Period 2	2003-12-15	1.04
HR613875	Middle	Period 2	2006-07-17	0.64
HR613913	Middle	Period 3	2010-06-23	1.55
HR613914	Middle	Period 1	2001-05-15	0.26
HR613943	Middle	Period 2	2006-12-13	0.36
HR613943	Middle	Period 3	2010-06-23	0.13
HR614042	Middle	Period 2	2002-05-21	0.37
HR614051	Middle	Period 2	2002-01-03	0.69
HR614074	Middle	Period 3	2008-06-18	0.22
HR614123	Middle	Period 1	2000-07-11	0.61
HR614124	Middle	Period 3	2010-12-06	0.85
HR614126	Middle	Period 1	2000-11-27	0.56
HR614138	Middle	Period 2	2005-05-18	0.50
HR614205	Middle	Period 4	2012-01-24	1.01

DRAFT

HR614228Middle	Period 3	2010-12-06	0.43
HR614231Middle	Period 1	2000-11-27	1.04
HR614240Middle	Period 2	2007-03-21	0.88
HR614263Middle	Period 2	2007-02-22	0.39
HR614263Middle	Period 4	2012-02-07	0.69
HR614272Middle	Period 3	2008-07-07	0.64
HR614362Middle	Period 3	2008-10-27	0.00
HR614397Middle	Period 3	2008-07-07	0.89
HR614399Middle	Period 1	2001-03-05	0.52
HR614402Middle	Period 2	2006-11-13	1.22
HR614473Upper	Period 1	2001-07-25	0.00
HR614492Upper	Period 4	2012-04-10	0.90
HR614506Upper	Period 3	2009-06-03	0.38
HR614513Upper	Period 2	2006-08-08	1.51
HR614523Upper	Period 3	2008-10-27	0.33
HR614541Upper	Period 2	2006-05-08	0.98
HR614557Upper	Period 4	2012-06-11	1.20
HR614562Upper	Period 2	2006-01-09	0.50
HR614573Upper	Period 1	2001-02-13	0.69
HR614577Upper	Period 3	2009-06-03	0.37
HR614584Upper	Period 2	2002-02-04	0.00
HR614584Upper	Period 3	2009-11-02	0.36
HR614592Upper	Period 3	2008-12-16	1.16
HR614692Upper	Period 3	2009-05-18	0.00
HR614694Upper	Period 2	2005-04-27	1.59
HR614696Upper	Period 3	2009-01-06	0.64
HR614713Upper	Period 3	2009-02-04	0.48
HR614770Upper	Period 2	2002-06-05	0.81
HR614773Upper	Period 2	2002-03-18	0.54
HR614792Upper	Period 2	2007-05-16	1.31
HR614845Upper	Period 4	2012-01-24	1.37
HR614859Upper	Period 3	2009-11-02	0.81
HR614880Upper	Period 1	2000-07-11	0.67
HR614888Upper	Period 2	2006-06-20	1.76
HR614907Upper	Period 2	2002-06-05	0.63
HR614985Upper	Period 2	2007-07-11	0.51
HR614992Upper	Period 1	2001-02-13	0.42
HR614993Upper	Period 2	2006-04-27	0.23
HR615034Upper	Period 3	2008-11-13	1.30
HR615055Upper	Period 1	2000-12-12	0.63
HR615063Upper	Period 2	2005-04-27	1.72
HR615066Upper	Period 2	2006-01-09	0.00
HR615069Upper	Period 1	2001-12-11	0.66
HR615070Upper	Period 3	2010-01-20	0.50
HR615136Upper	Period 2	2007-05-16	1.18
HR615162Upper	Period 2	2007-04-09	0.97
HR615173Upper	Period 2	2007-12-05	0.13
HR615209Upper	Period 2	2007-06-04	1.43
HR615215Upper	Period 3	2009-03-04	0.75
HR615223Upper	Period 4	2012-05-14	1.61
HR615235Upper	Period 2	2005-05-18	0.99
HR615240Upper	Period 3	2008-05-19	1.24
HR615311Upper	Period 3	2008-05-19	1.09

DRAFT

HR615316	Upper	Period 3	2009-12-07	0.00
HR615318	Upper	Period 2	2007-03-21	0.33
HR615336	Upper	Period 4	2012-03-12	0.76
HR615346	Upper	Period 2	2005-03-08	0.66
HR615386	Upper	Period 4	2012-03-12	0.69
HR615419	Upper	Period 1	2001-11-28	0.00
HR615441	Upper	Period 1	2000-06-16	0.60
HR615496	Upper	Period 1	2001-06-21	0.27
HR615566	Upper	Period 1	2001-05-15	0.08
HR615568	Upper	Period 1	2000-12-12	0.62
HR615571	Upper	Period 2	2005-03-08	0.69
HR615588	Upper	Period 3	2009-04-20	0.55
HR615605	Upper	Period 2	2007-12-05	0.56
HR615621	Upper	Period 2	2006-08-08	1.32
HR615623	Upper	Period 1	2000-05-23	0.00
HR615637	Upper	Period 3	2009-12-07	0.81
HR615663	Upper	Period 2	2003-12-15	0.00
HR615720	Upper	Period 1	2000-05-23	0.67
HR615786	Upper	Period 3	2009-02-04	0.98
HR615843	Upper	Period 2	2006-06-20	1.67
HR615851	Upper	Period 1	2001-06-21	0.18
HR615945	Upper	Period 3	2008-06-18	0.62
HR615965	Upper	Period 2	2007-07-11	0.50
HR615967	Upper	Period 2	2002-05-21	0.96
HR616034	Upper	Period 4	2012-06-11	0.69
HR616044	Upper	Period 4	2012-04-10	0.40
HR616071	Upper	Period 2	2005-01-06	0.69
HR616073	Upper	Period 1	2000-08-15	0.11
HR616133	Upper	Period 1	2000-08-15	0.67
Lower A	Lower	Period 5	2018-04-09	1.05
Lower A	Lower	Period 5	2018-05-07	0.33
Lower A	Lower	Period 5	2020-05-16	1.00
Lower A	Lower	Period 5	2021-05-23	0.00
Lower A	Lower	Period 5	2022-03-26	0.31
Lower A	Lower	Period 5	2023-04-05	1.49
Lower A	Lower	Period 5	2023-06-02	1.02
Lower A	Lower	Period 5	2023-12-14	0.00
Lower B	Lower	Period 5	2018-04-09	0.44
Lower B	Lower	Period 5	2018-05-07	1.48
Lower B	Lower	Period 5	2020-05-16	0.56
Lower B	Lower	Period 5	2021-05-23	0.00
Lower B	Lower	Period 5	2022-03-26	0.68
Lower B	Lower	Period 5	2023-04-05	0.38
Lower B	Lower	Period 5	2023-06-02	0.67
Lower B	Lower	Period 5	2023-12-14	0.00
Middle A	Middle	Period 5	2018-04-09	0.43
Middle A	Middle	Period 5	2018-05-07	0.90
Middle A	Middle	Period 5	2020-05-16	0.67
Middle A	Middle	Period 5	2021-05-23	0.00
Middle A	Middle	Period 5	2022-03-26	1.10
Middle A	Middle	Period 5	2023-04-05	0.56
Middle A	Middle	Period 5	2023-06-02	0.00
Middle A	Middle	Period 5	2023-12-14	0.00

Middle B	Middle	Period 5	2018-04-09	0.93
Middle B	Middle	Period 5	2018-05-07	1.04
Middle B	Middle	Period 5	2020-05-16	0.41
Middle B	Middle	Period 5	2021-05-23	0.45
Middle B	Middle	Period 5	2022-03-26	0.36
Middle B	Middle	Period 5	2023-04-05	0.00
Middle B	Middle	Period 5	2023-06-02	1.41
Middle B	Middle	Period 5	2023-12-14	0.00
Upper A	Upper	Period 5	2018-04-09	1.23
Upper A	Upper	Period 5	2018-05-07	0.94
Upper A	Upper	Period 5	2020-05-16	1.14
Upper A	Upper	Period 5	2021-05-23	1.23
Upper A	Upper	Period 5	2022-03-26	1.12
Upper A	Upper	Period 5	2023-04-05	1.44
Upper A	Upper	Period 5	2023-06-02	1.16
Upper A	Upper	Period 5	2023-12-14	0.00
Upper B	Upper	Period 5	2018-04-09	1.17
Upper B	Upper	Period 5	2018-05-07	1.29
Upper B	Upper	Period 5	2020-05-16	0.69
Upper B	Upper	Period 5	2021-05-23	0.00
Upper B	Upper	Period 5	2022-03-26	1.28
Upper B	Upper	Period 5	2023-04-05	0.97
Upper B	Upper	Period 5	2023-06-02	0.87
Upper B	Upper	Period 5	2023-12-14	0.32

5.3.1.2 Zooplankton Diversity by segment

River Segment	Shan_div
Upper	1.37
Middle	0.94
Lower	0.97
Downstream	0.96

5.3.1.3 Zooplankton Diversity by period

MFL Period	Shan_div
Period 1	0.72
Period 2	1.35
Period 3	1.43
Period 4	1.80
Period 5	1.81

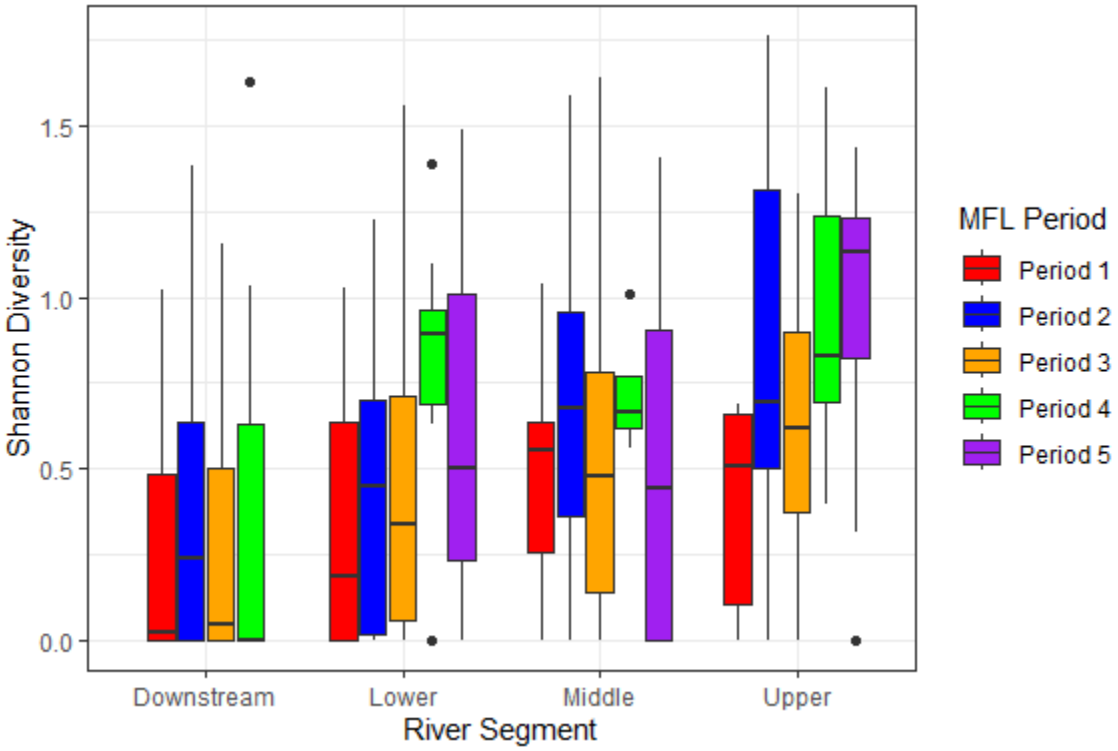
5.3.1.4 Zooplankton Diversity by segment and period

River Segment	MFL Period	Shan_div
Upper	Period 1	0.75
Upper	Period 2	1.63
Upper	Period 3	1.13
Upper	Period 4	1.24
Upper	Period 5	1.70
Middle	Period 1	0.65
Middle	Period 2	1.04
Middle	Period 3	1.24
Middle	Period 4	1.10

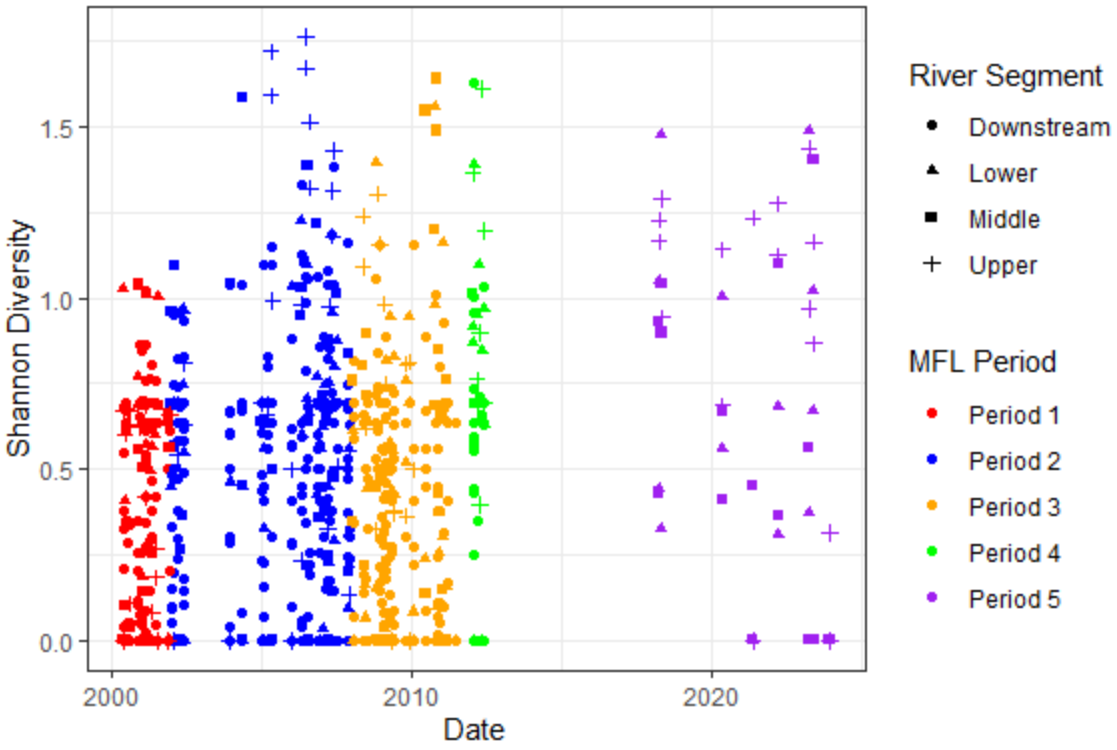
Middle	Period 5	1.35
Lower	Period 1	0.39
Lower	Period 2	1.04
Lower	Period 3	1.08
Lower	Period 4	1.67
Lower	Period 5	1.37
Downstream	Period 1	0.56
Downstream	Period 2	1.07
Downstream	Period 3	1.16
Downstream	Period 4	1.26

5.3.2 FIGURES

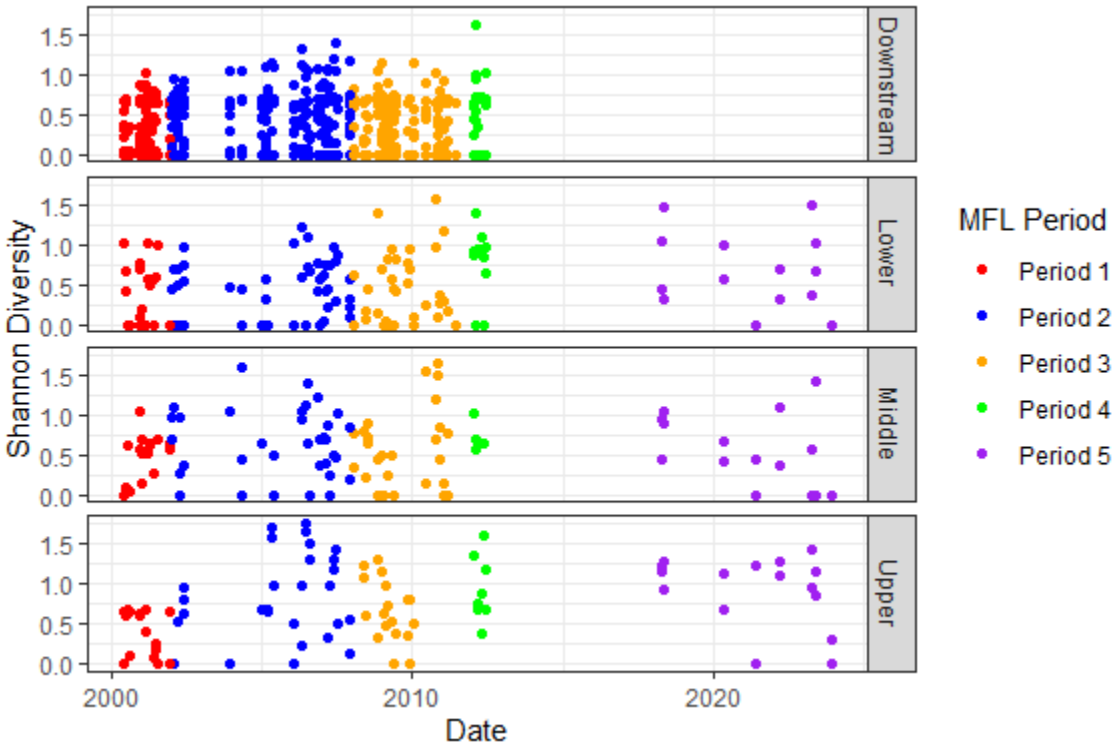
5.3.2.1 Figure 5.3.1 Boxplot of site level shannon diversity by MFL period and river segment



5.3.2.2 Site level shannon diversity over time



5.3.2.3 Site level shannon diversity over time by MFL period and river segment



5.4 RICHNESS

5.4.1 TABLES

5.4.1.1 The total number of taxa (richness) of organisms found in the entire data set.

x
28

5.4.1.2 Zooplankton Richness across MFL periods by river segment.

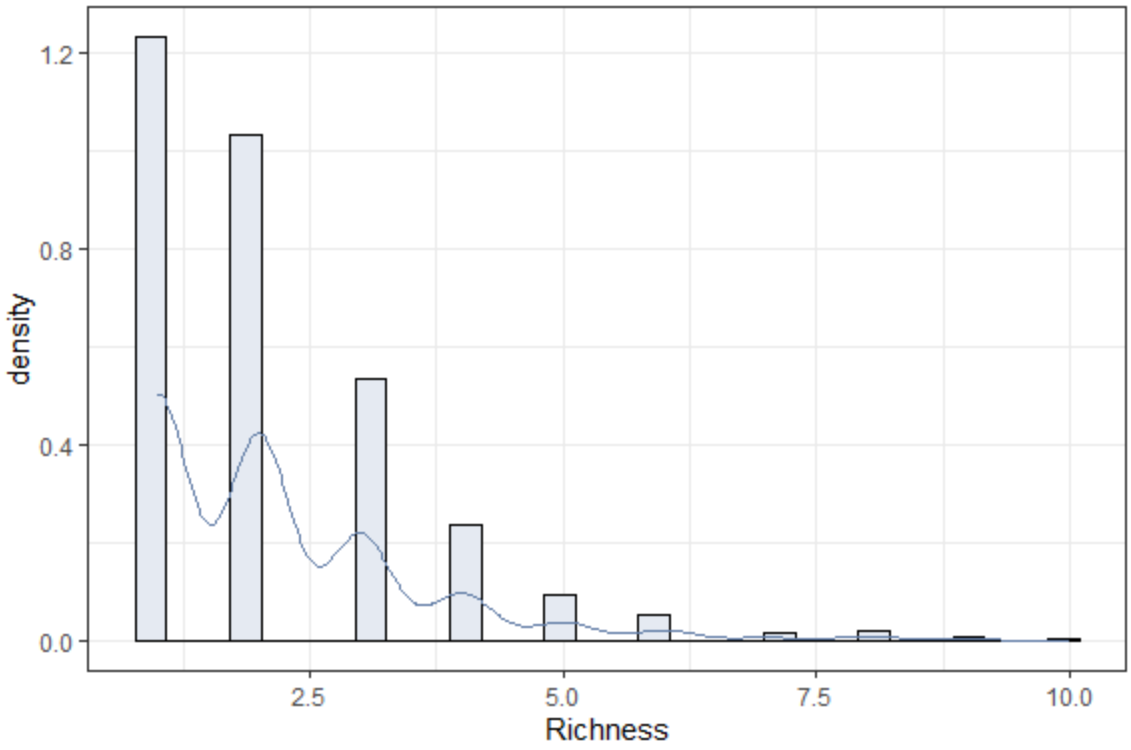
River Segment	Period 1	Period 2	Period 3	Period 4	Period 5	Segment Richness
Upper	6	19	13	9	12	20
Middle	7	15	17	4	11	21
Lower	6	13	15	10	9	17
Downstream	7	16	14	7	NA	18

5.4.1.3 Richness across river segments by MFL period.

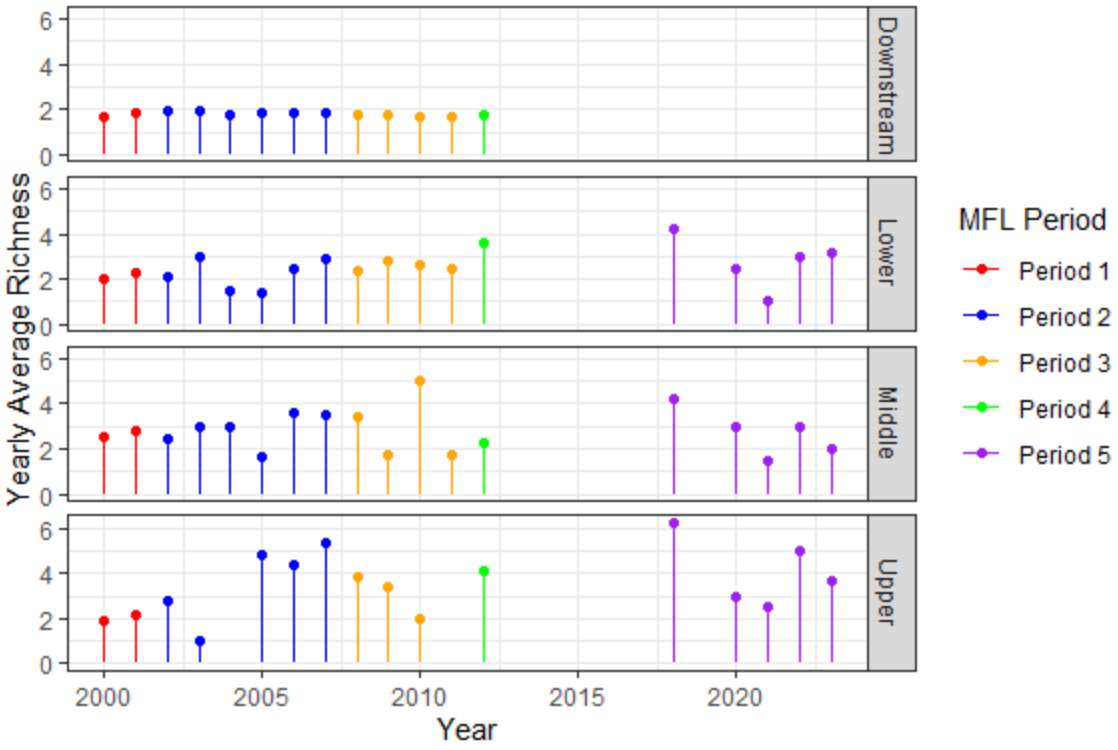
MFL Period	Upper	Middle	Lower	Downstream	Period Richness
Period 1	6	7	6	7	12
Period 2	19	15	13	16	24
Period 3	13	17	15	14	23
Period 4	9	4	10	7	15
Period 5	12	11	9	NA	16

5.4.2 FIGURES

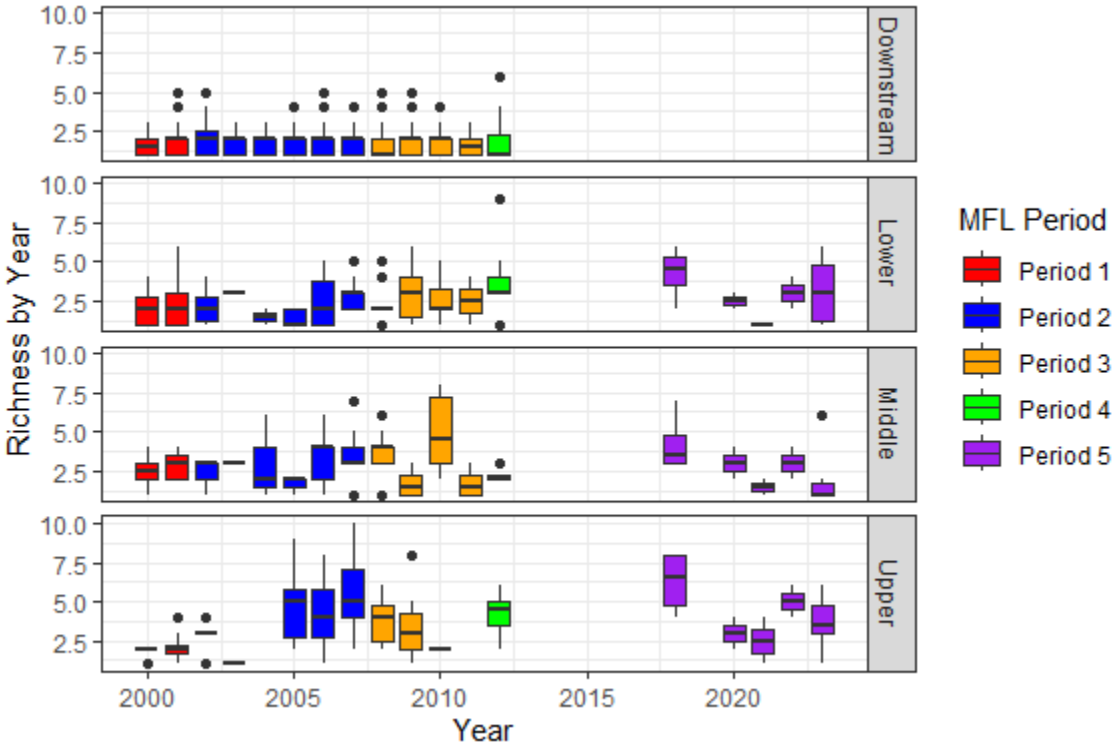
5.4.2.1 Histogram of species richness



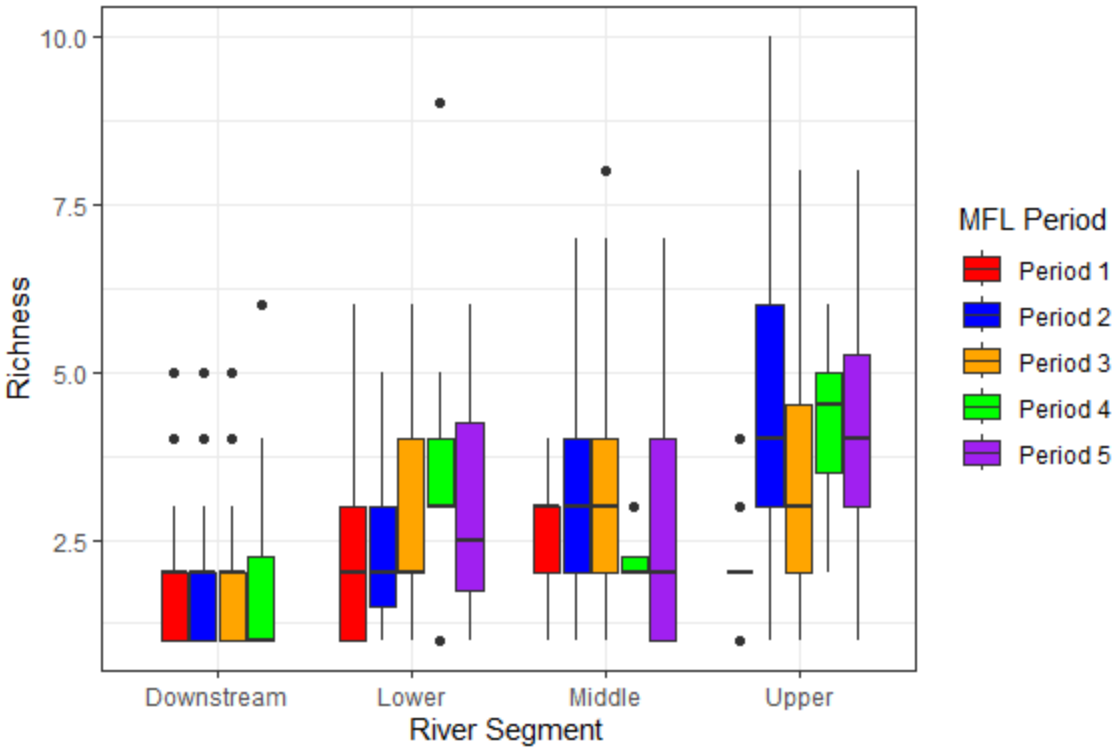
5.4.2.2 Average richness over time, grouped by year of samplin, by MFL period and river segment.



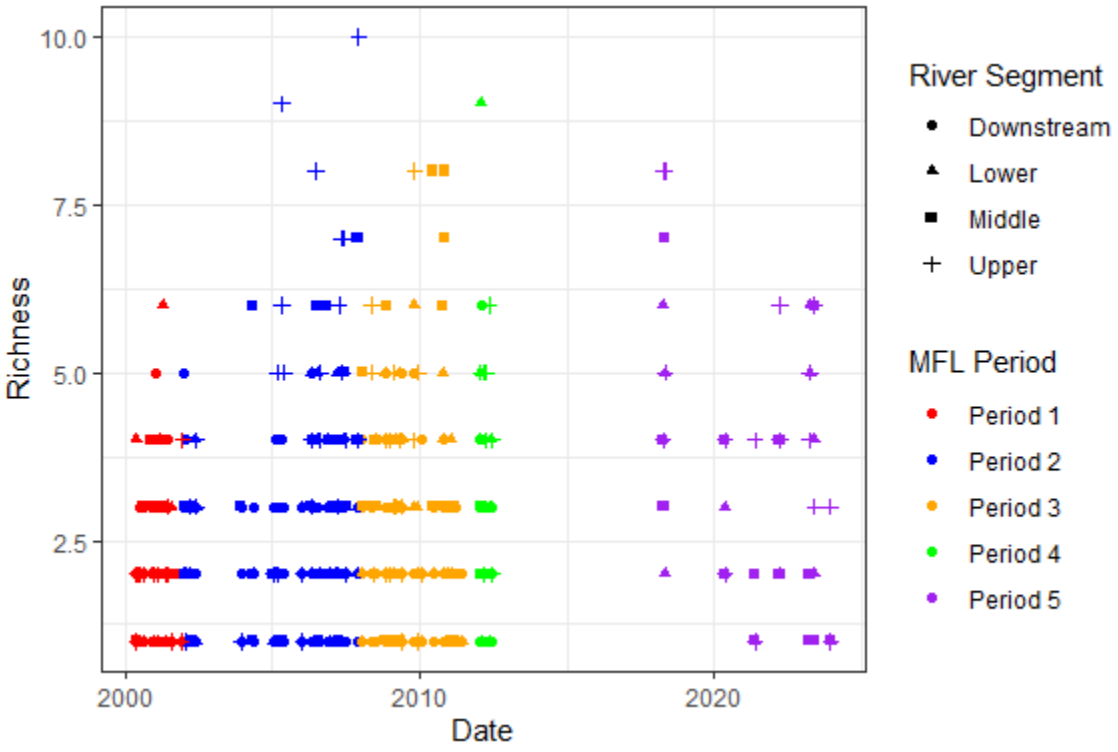
5.4.2.3 Boxplots of richness, grouped by year, by MFL period and river segment.



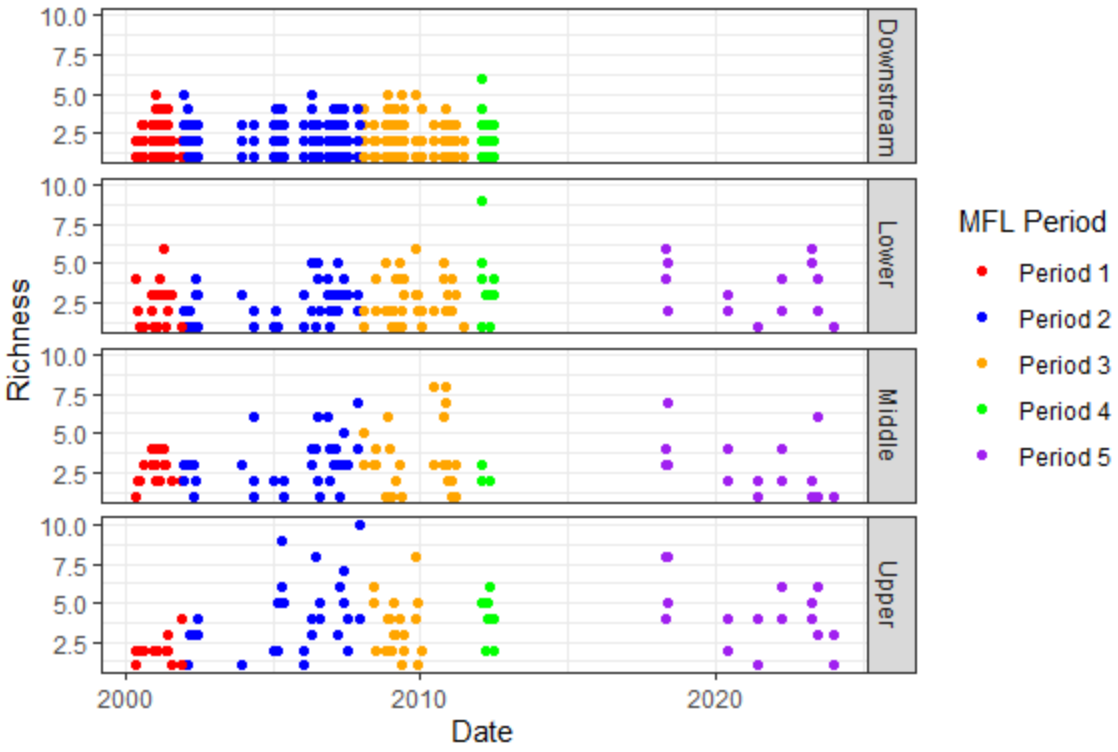
5.4.2.4 Boxplot of site level richness by MFL period and river segment.



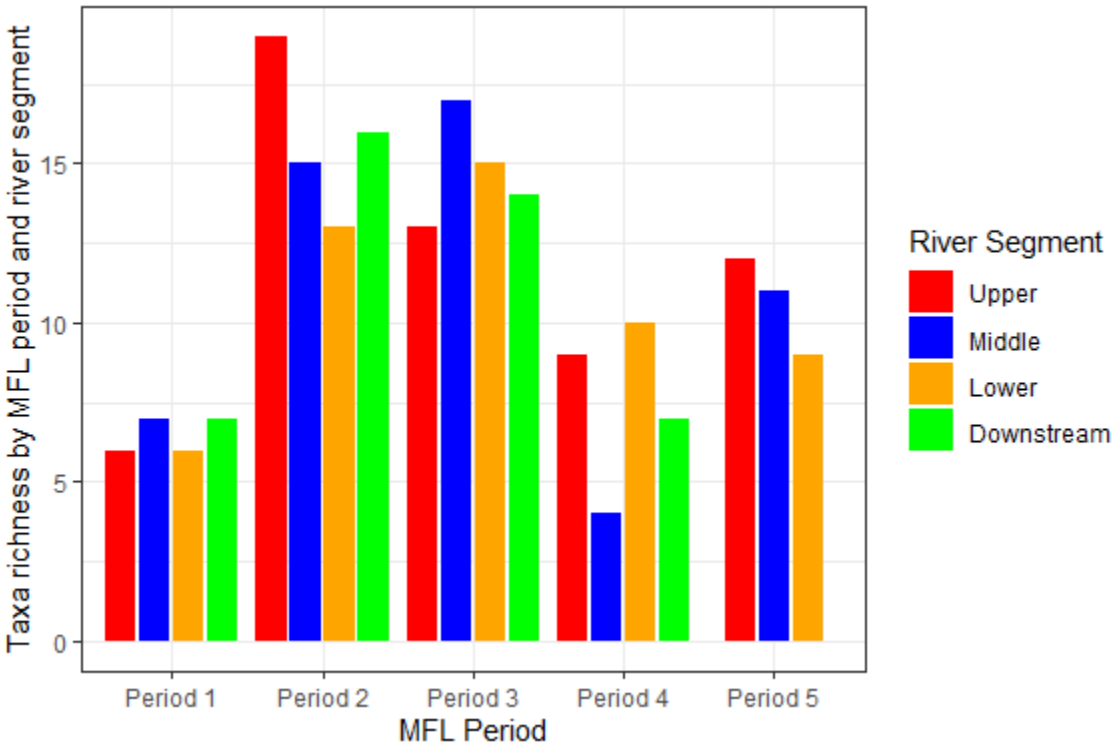
5.4.2.5 Site level richness over time



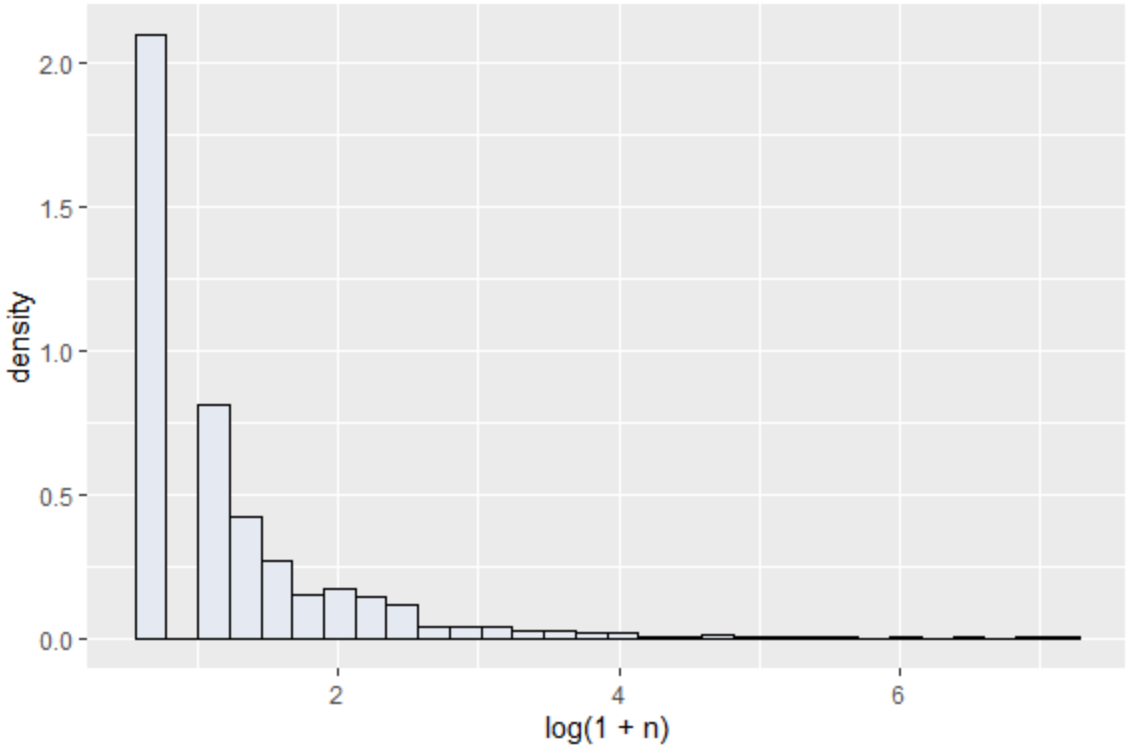
5.4.2.6 Site level richness over time by MFL period and river segment



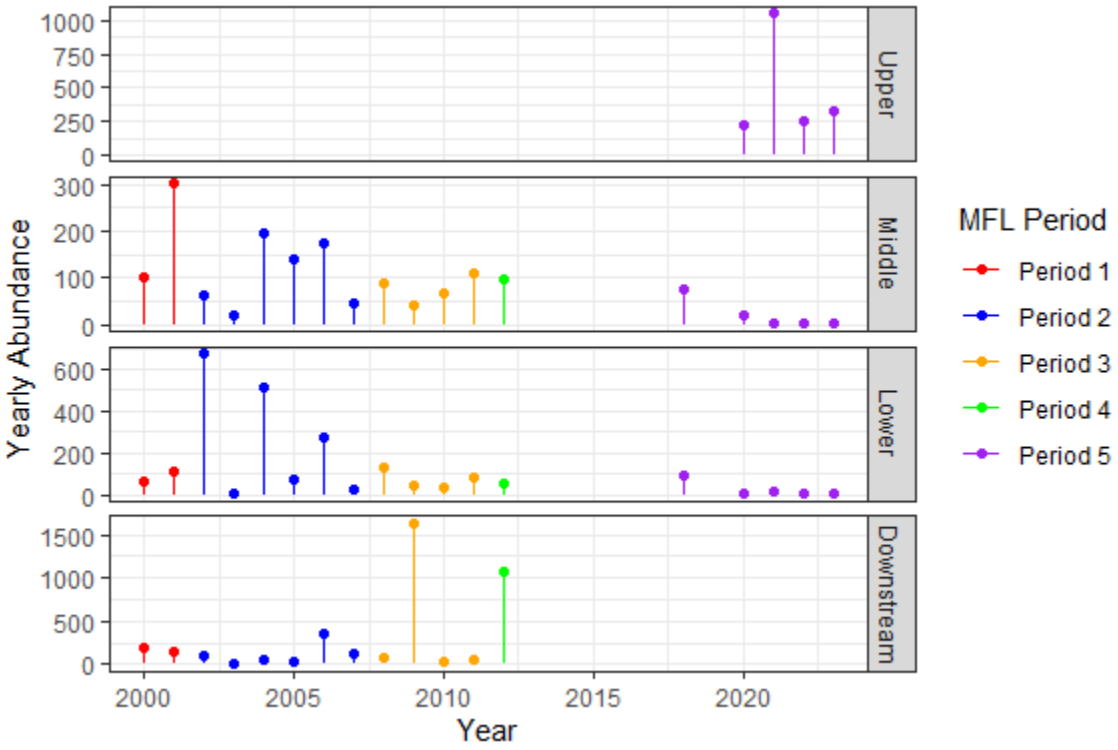
5.4.2.7 Taxa richness by MFL period and river segment



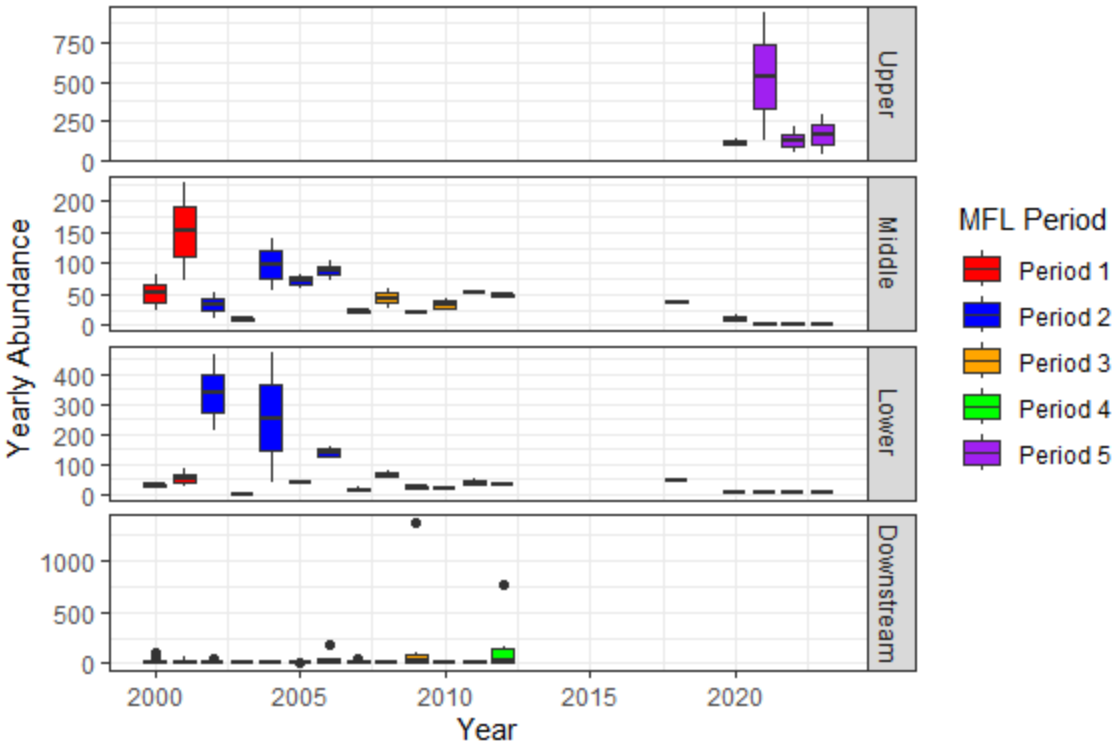
5.4.2.8 Histogram of species abundance.



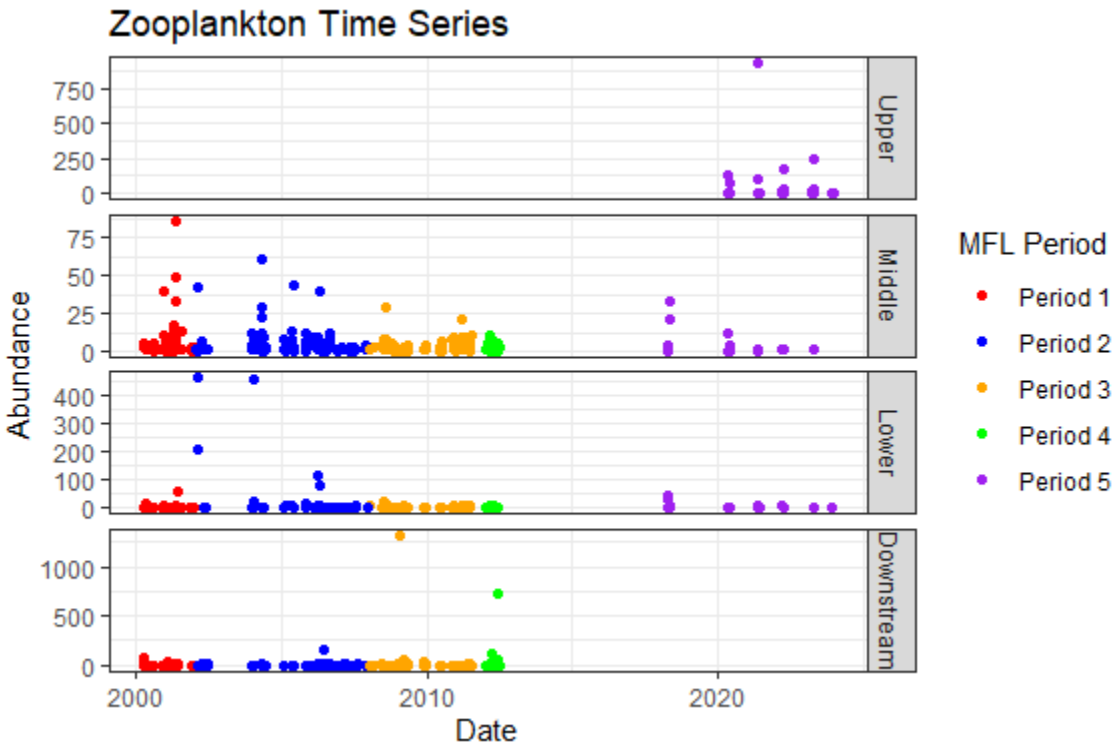
5.4.2.9 A graph of total abundance over time, grouped by year of sampling.



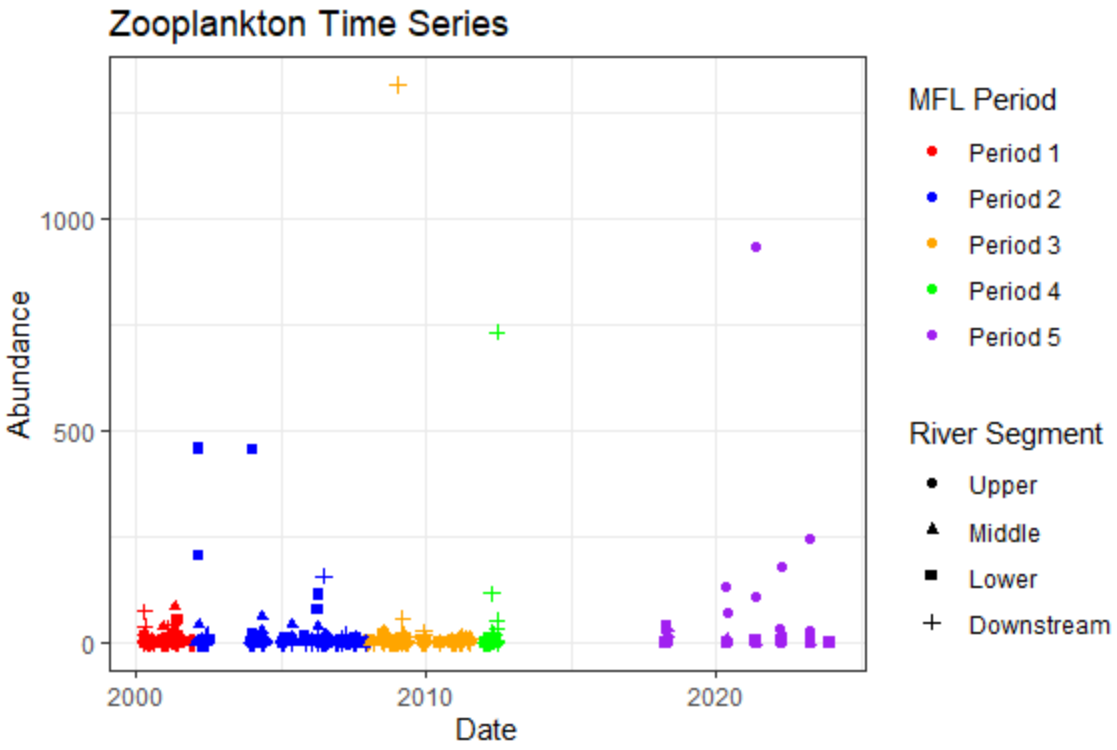
5.4.2.10 Boxplots of individuals, grouped by year, by MFL period and river segment.



5.4.2.11Abundance by year, MFL period, and river segment.



5.4.2.12Total abundance by river segment, MFL period, and date.



5.4.2.13Total abundance by MFL period and river segment.