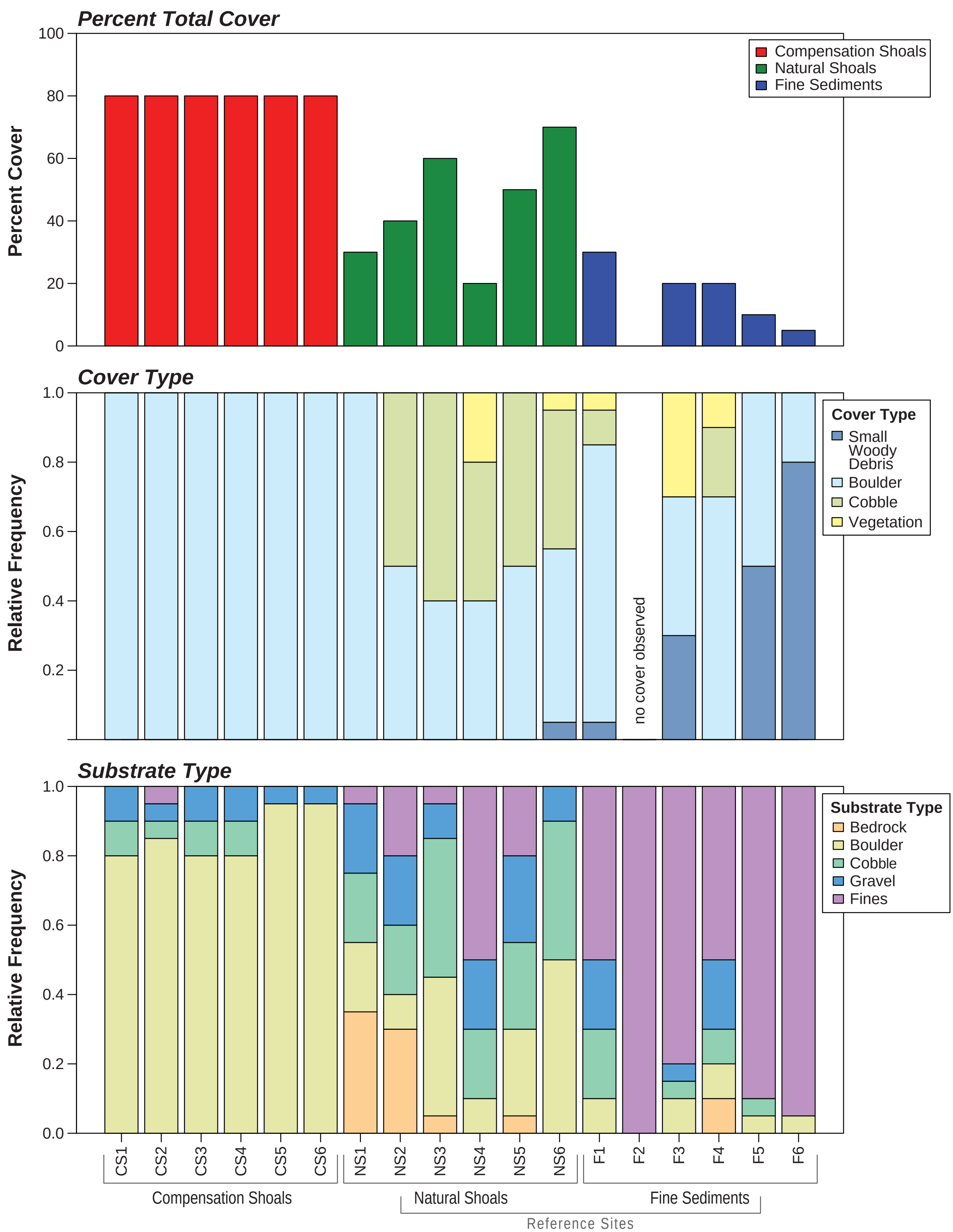

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Percent Cover and Relative Frequency of Cover Type and Substrate Type Observed at Compensation Shoals and Reference Sites in Windy Lake, Doris North Gold Mine Project, 2012

Figure 3.1-1

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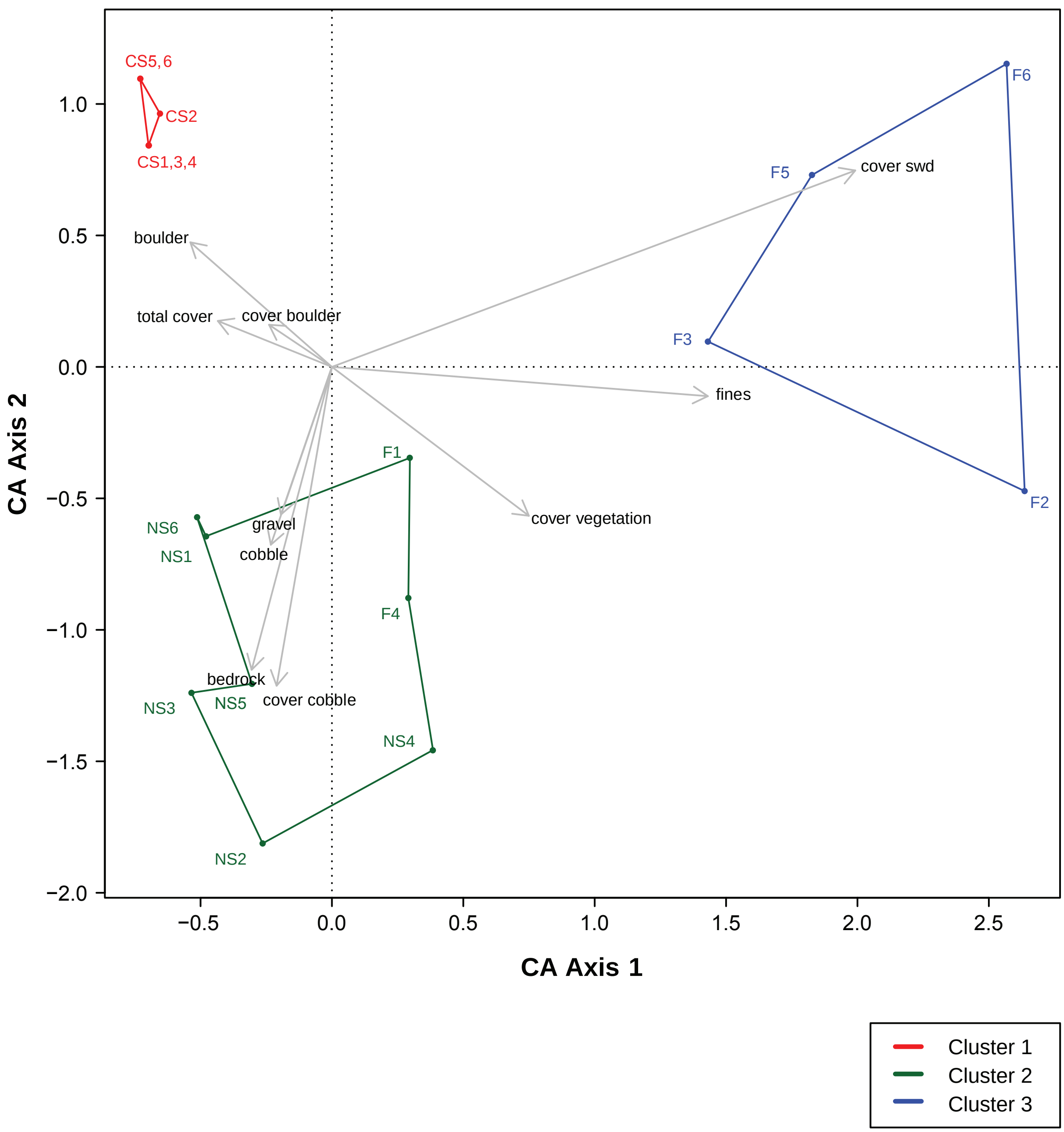

Figure 3.1-2

Principal Coordinate Analysis of Compensation Shoals and Reference Sites in Windy Lake, Doris North Gold Mine Project, 2012

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Table 3.1-1. Results from Fuzzy C-Means Clustering of Habitat Variables Showing the Percent Membership of each Site to One of Three Possible Clusters, 2012

Habitat	Site	Cluster 1	Cluster 2	Cluster 3	Membership
Compensation Shoal	CS1	99.5	0.4	0.1	Cluster 1
	CS2	99.6	0.3	0.1	Cluster 1
	CS3	99.5	0.4	0.1	Cluster 1
	CS4	99.5	0.4	0.1	Cluster 1
	CS5	97.7	1.6	0.7	Cluster 1
	CS6	97.7	1.6	0.7	Cluster 1
Natural Shoal (Reference)	NS1	31.3	52.3	16.4	Cluster 2
	NS2	4.8	89.3	5.8	Cluster 2
	NS3	15.2	75.3	9.5	Cluster 2
	NS4	7.5	68.2	24.3	Cluster 2
	NS5	3.2	94.1	2.8	Cluster 2
	NS6	27.1	63.0	9.9	Cluster 2
Fine Sediments (Reference)	F1	13.9	59.6	26.5	Cluster 2
	F2	7.1	17.1	75.8	Cluster 3
	F3	3.3	8.9	87.8	Cluster 3
	F4	10.4	63.6	26.0	Cluster 2
	F5	1.9	4.5	93.6	Cluster 3
	F6	5.2	10.4	84.4	Cluster 3

Note: Highlighted rows indicate a site in which the membership percentage is highest in a cluster different from the original habitat groupings.

3.1.2 Benthic Macroinvertebrate (Benthos) and Fish Use Observations

Rescan observed two common benthic macroinvertebrate (benthos) groups, isopod and mysid crustaceans, occupying both Compensation and Reference habitats (Figure 3.1-3). In general, the highest number of isopods was observed at Fine Sediment sites, followed by Compensation Shoals (Figure 3.1-3). Very few isopods were observed on Natural Shoals. In contrast, the number of mysids observed was consistently high on Natural Shoals, with fewer seen at Fine Sediment sites and very few on Compensation Shoals (Figure 3.1-3). However, the number of isopods and mysids was highly variable among sites and habitat types. This variability was primarily due to differences in depth and visibility among sites resulting in a high degree of variance in the ability to visually detect small-bodied macroinvertebrates. As a result, any difference in observed numbers of individuals among habitat types should be viewed with caution.

Very few fish were observed while snorkelling in July and September in Windy Lake (Figure 3.1-3). Over the course of the two, one week surveys totalling 18 hours of snorkelling (1 hour per site), only four individual Lake Trout were observed (Table 3.1-2). Of the four Lake Trout observed, two were on Compensation Shoals (CS4 and CS6), one on Natural Shoal NS6 and a single individual on the Fine Sediment site F3 (Plate 3.1-4). All Lake Trout were observed during the July sampling period.

Due to the low numbers of fish observed, Rescan can only conclude that Lake Trout were using all habitat types. However, the fork length of Lake Trout was estimated to range from 350 – 550 mm (Table 3.1-2). This size range is at the lower end of the historical range for Lake Trout in Windy Lake (Rescan 2010c) and suggests that both sub-adults and adults may be using shoal habitat for foraging and refuge.

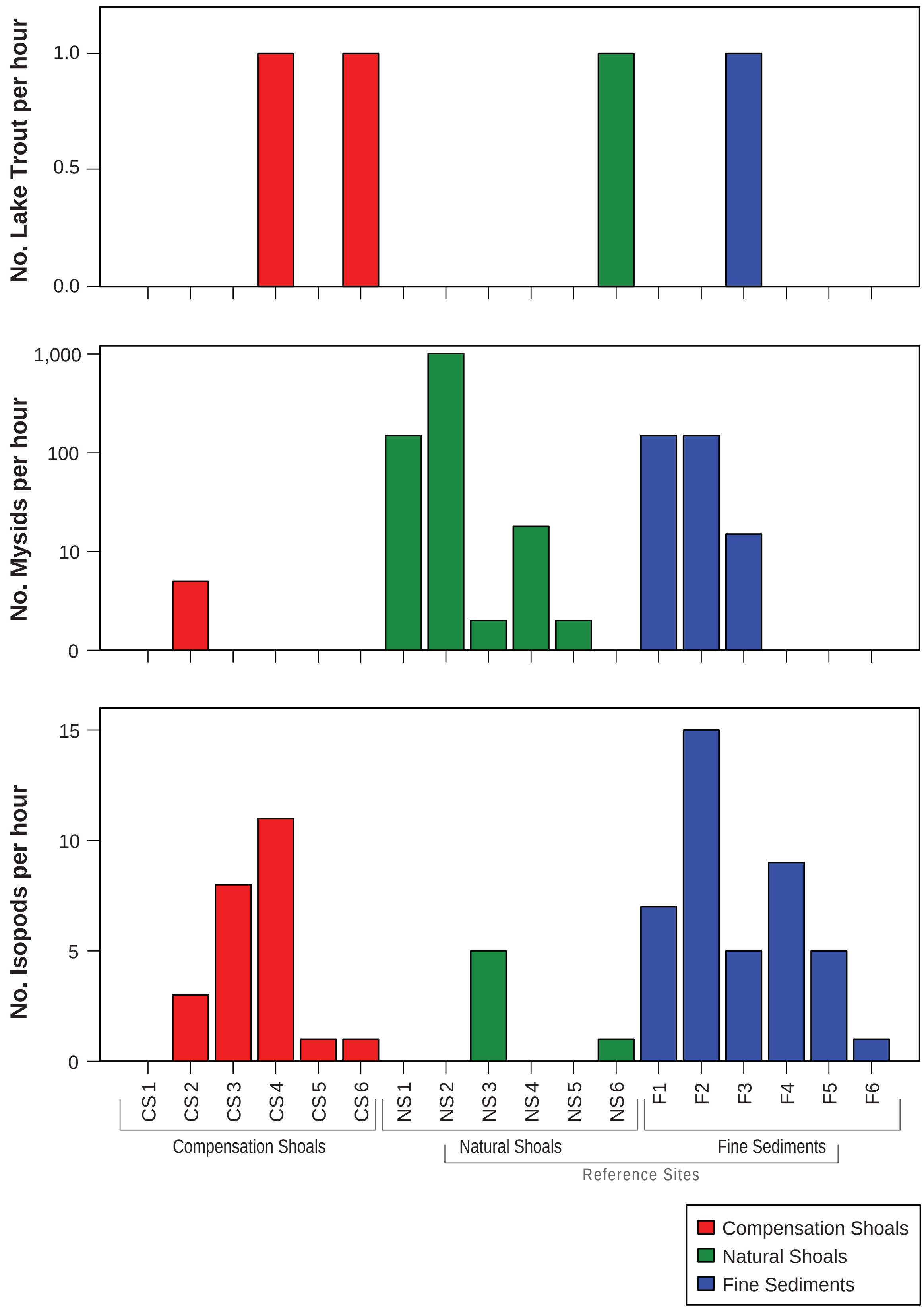

Figure 3.1-3

Number of Benthic Macroinvertebrates and Lake Trout Observed While Snorkelling at Compensation Shoals and Reference Sites in Windy Lake, Doris North Gold Mine Project, 2012

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Table 3.1-2. Snorkelling Observations at Compensation Shoals and Reference Sites in Windy Lake, 2012

			UTM Coordinates				Relative Proportion of Cover Type					Relative Proportion of Substrate Type								
			Outer Margin 1		Outer Margin 2															
Habitat	Site	Date of Sampling	Easting	Northing	Easting	Northing	Small Woody Debris	Boulder	Cobble	Vegetation	Total Cover	Bedrock	Boulder	Cobble	Gravel	Fines	Number of Lake Trout Observed	Size of Lake Trout (mm)	Number of Isopods Observed	Number of Mysids Observed*
Compensation Shoal	CS1	19-Jul	431371	7554505	431339	7554462	0	1	0	0	0.8	0	0.8	0.1	0.1	0	0	-	0	0
	CS2	16-Jul	431190	7554087	431156	7554029	0	1	0	0	0.8	0	0.85	0.05	0.05	0.05	0	-	3	5
	CS3	16-Jul	432254	7553382	432222	7553382	0	1	0	0	0.8	0	0.8	0.1	0.1	0	0	-	8	0
	CS4	16-Jul	432245	7553245	432218	7553198	0	1	0	0	0.8	0	0.8	0.1	0.1	0	1	500	11	0
	CS5	15-Jul	432393	7550809	432405	7550759	0	1	0	0	0.8	0	0.95	0	0.05	0	0	-	1	0
	CS6	15-Jul	432364	7551010	432365	7550944	0	1	0	0	0.8	0	0.95	0	0.05	0	1	550	1	0
Natural Shoal (reference sites)	NS1	16-Jul	430965	7553244	430969	7553203	0	1	0	0	0.3	0.35	0.2	0.2	0.2	0.5	0	-	0	0
	NS2	16-Jul	430911	7553306	430909	7553265	0	0.5	0.5	0	0.4	0.3	0.1	0.2	0.2	0.2	0	-	0	14
	NS3	17-Jul	431227	7554197	431267	7554254	0	0.4	0.6	0	0.6	0.05	0.4	0.4	0.1	0.05	0	-	5	0
	NS4	15-Jul	432371	7552848	432413	7552762	0	0.4	0.4	0.2	0.2	0	0.1	0.2	0.2	0.5	0	-	0	0
	NS5	15-Jul	432475	7552462	432417	7552592	0	0.5	0.5	0	0.5	0.05	0.25	0.25	0.25	0.2	0	-	0	2
	NS6	15-Jul	432415	7551159	432414	7551294	0.05	0.5	0.4	0.05	0.7	0	0.5	0.4	0.1	0	1	350	1	0
Fine Sediments (reference sites)	F1	17-Jul	430872	7553156	430872	7553203	0.05	0.8	0.1	0.05	0.3	0	0.1	0.2	0.2	0.5	0	-	7	150
	F2	16-Jul	431275	7554387	431277	7554444	0	0	0	0	0	0	0	0	0	1	0	-	15	0
	F3	18-Jul	431427	7554886	431468	7554927	0.3	0.4	0	0.3	0.2	0	0.1	0.05	0.05	0.8	1	550	5	0
	F4	16-Jul	432299	7552978	432310	7552914	0	0.7	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.5	0	-	9	0
	F5	15-Jul	432045	7549672	432085	7549671	0.5	0.5	0	0	0.1	0	0.05	0.05	0	0.9	0	-	5	0
	F6	15-Jul	432248	7549694	432296	7549712	0.8	0.2	0	0	0.05	0	0.05	0	0	0.95	0	-	1	0
Compensation Shoal	CS1	4-Sep	431371	7554505	431339	7554462	-	-	-	-	-	-	-	-	-	-	0	-	0	0
	CS2	7-Sep	431190	7554087	431156	7554029	-	-	-	-	-	-	-	-	-	-	0	-	0	0
	CS3	6-Sep	432254	7553382	432222	7553382	-	-	-	-	-	-	-	-	-	-	0	-	2	0
	CS4	4-Sep	432245	7553245	432218	7553198	-	-	-	-	-	-	-	-	-	-	0	-	0	0
	CS5	4-Sep	432393	7550809	432405	7550759	-	-	-	-	-	-	-	-	-	-	0	-	0	0
	CS6	4-Sep	432364	7551010	432365	7550944	-	-	-	-	-	-	-	-	-	-	0	-	0	0
Natural Shoal (reference sites)	NS1	6-Sep	430965	7553244	430969	7553203	-	-	-	-	-	-	-	-	-	-	0	-	0	150
	NS2	6-Sep	430911	7553306	430909	7553265	-	-	-	-	-	-	-	-	-	-	0	-	0	1,000
	NS3	7-Sep	431227	7554197	431267	7554254	-	-	-	-	-	-	-	-	-	-	0	-	3	2
	NS4	6-Sep	432371	7552848	432413	7552762	-	-	-	-	-	-	-	-	-	-	0	-	0	18
	NS5	5-Sep	432475	7552462	432417	7552592	-	-	-	-	-	-	-	-	-	-	0	-	0	0
	NS6	4-Sep	432415	7551159	432414	7551294	-	-	-	-	-	-	-	-	-	-	0	-	0	0
Fine Sediments (reference sites)	F1	6-Sep	430872	7553156	430872	7553203	-	-	-	-	-	-	-	-	-	-	0	-	2	0
	F2	7-Sep	431275	7554387	431277	7554444	-	-	-	-	-	-	-	-	-	-	0	-	0	150
	F3	7-Sep	431427	7554886	431468	7554927	-	-	-	-	-	-	-	-	-	-	0	-	0	15
	F4	6-Sep	432299	7552978	432310	7552914	-	-	-	-	-	-	-	-	-	-	0	-	1	0
	F5	4-Sep	432045	7549672	432085	7549671	-	-	-	-	-	-	-	-	-	-	0	-	0	0
	F6	4-Sep	432248	7549694	432296	7549712	-	-	-	-	-	-	-	-	-	-	0	-	0	0

** where the number of Mysids exceeds 20 the count is an estimate*

Plate 3.1-4. Lake Trout observed while snorkelling at Fine Sediments site F3 on July 18, 2012.

3.2 BIOLOGICAL SAMPLING

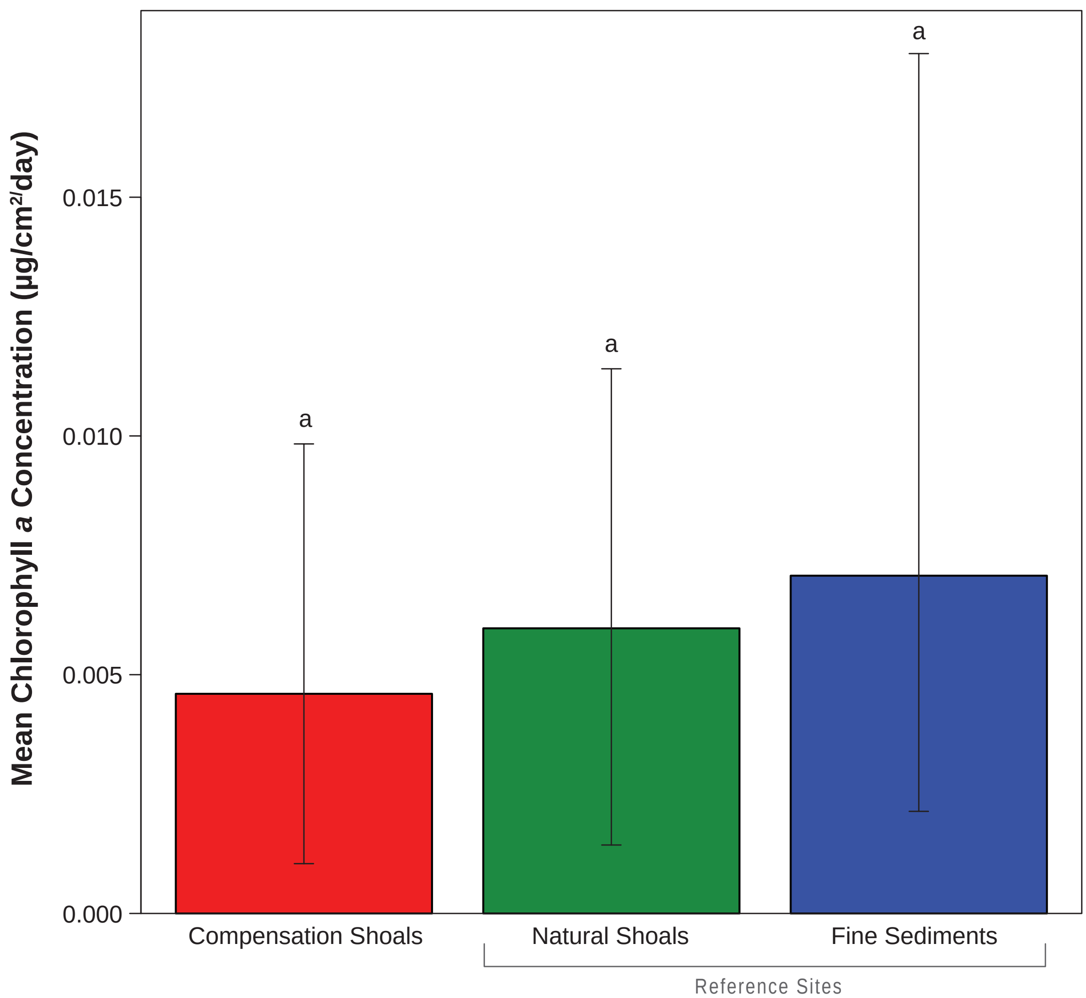
3.2.1 Community Ecology

3.2.1.1 Primary Producers (Periphyton)

Compensation Shoals were built in April 2011 and, because of their young age, Rescan expected lower levels of periphyton biomass (as measured by Chl *a*) and diversity when compared to Reference habitats (Natural Shoals and Fine Sediment). Despite this short time interval for colonization of Compensation Shoals, the difference observed in periphyton biomass and density among Compensation and Reference habitats were small and richness and diversity were similar (Figures 3.2-1 and 3.2-2).

Periphyton biomass was statistically indistinguishable among habitat types (ANOVA, $F_{(2,15)}$ = 0.039, P = 0.685, data was Ln transformed). There was, however, a general trend in which Compensation Shoals had the lowest mean periphyton biomass, Natural Shoals intermediate, and Fine Sediment the greatest periphyton biomass (Figure 3.2-1). This trend was also apparent in observations of habitat composition, where Fine Sediment sites showed a greater proportion of vegetation cover than either Compensation or Natural shoals (Figure 3.1-1). Moreover, Compensation Shoals showed consistently and significantly lower periphyton density than Natural Shoals and Fine Sediment sites (ANOVA, $F_{(2,15)}$ = 14.6, P < 0.001, data was Ln transformed, Figure 3.2-2, Appendix 3.2-1)

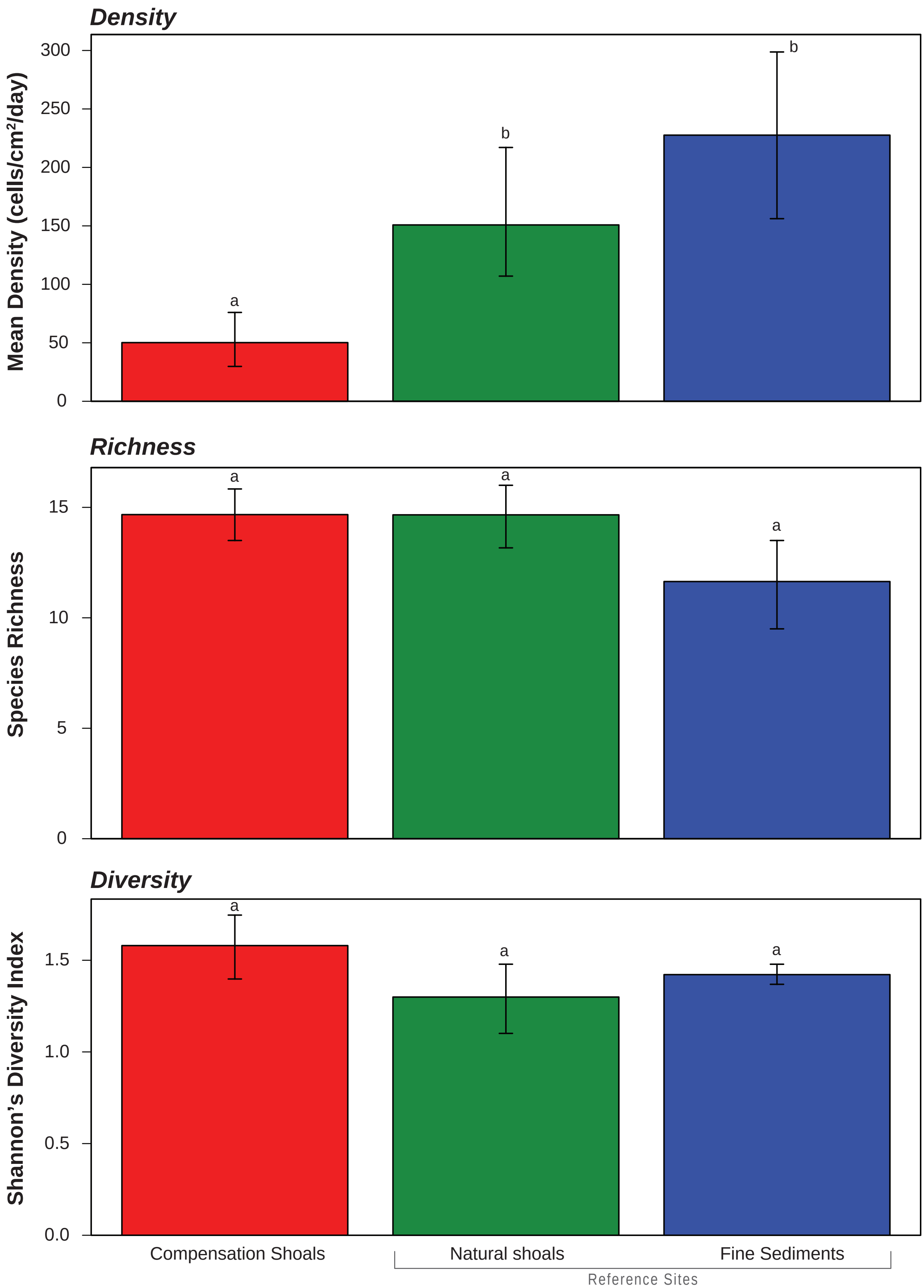
Periphyton richness and diversity did not follow the same trend as biomass and density (Figure 3.2-2). Both richness and diversity were highest at Compensation Shoals; however, the differences among shoal type were non-significant (GLM, $D_{(2,15)}$ = 2.71, P = 0.26, and Kruskal-Wallis, $K_{(2,15)}$ = 3.66, P = 0.16, for tests of richness and diversity respectively). Accordingly, the taxonomic composition of periphyton was similar among habitat types (Figure 3.2-3) and the same three taxa dominated Compensation, Natural Shoal and Fine Sediment sites. The dominant three groups at all sites, in decreasing order, were: blue-green algae of the genus *Anabaena*, and diatoms in the genera *Cyclotella* and *Nitzschia* (Appendix 3.2-2).



Note: Error bars represent the 95% confidence interval.
Significance of statistical tests is indicated by letter.
Groups that share the same letter are not significantly different at α = 0.05.

Chlorophyll *a* Concentration at Compensation Shoals and Reference Sites in Windy Lake, Doris North Gold Mine Project, 2012

Figure 3.2-1



Note: Error bars represent the 95% confidence interval.
Significance of statistical tests is indicated by letter.
Groups that share the same letter are not significantly different at ∝ = 0.05.

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Periphyton Density, Richness and Diversity at Compensation Shoals and Reference Sites in Windy Lake, Doris North Gold Mine Project, 2012

Figure 3.2-2

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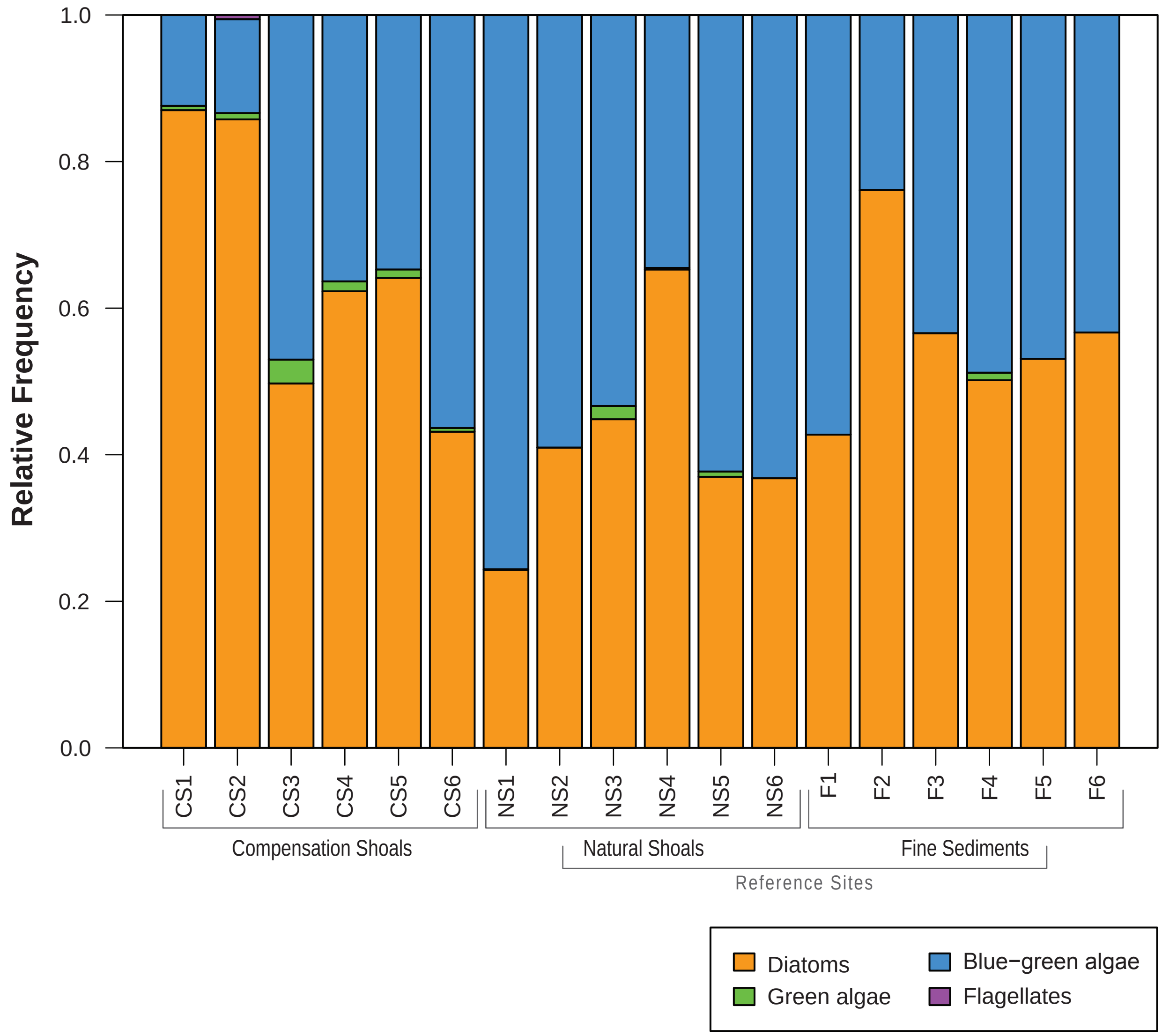

Relative Frequency of Major Periphyton Groups at Compensation Shoals and Reference Sites in Windy Lake, Doris North Gold Mine Project, 2012

Figure 3.2-3

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3.2.1.2 Benthic Macroinvertebrates (Benthos)

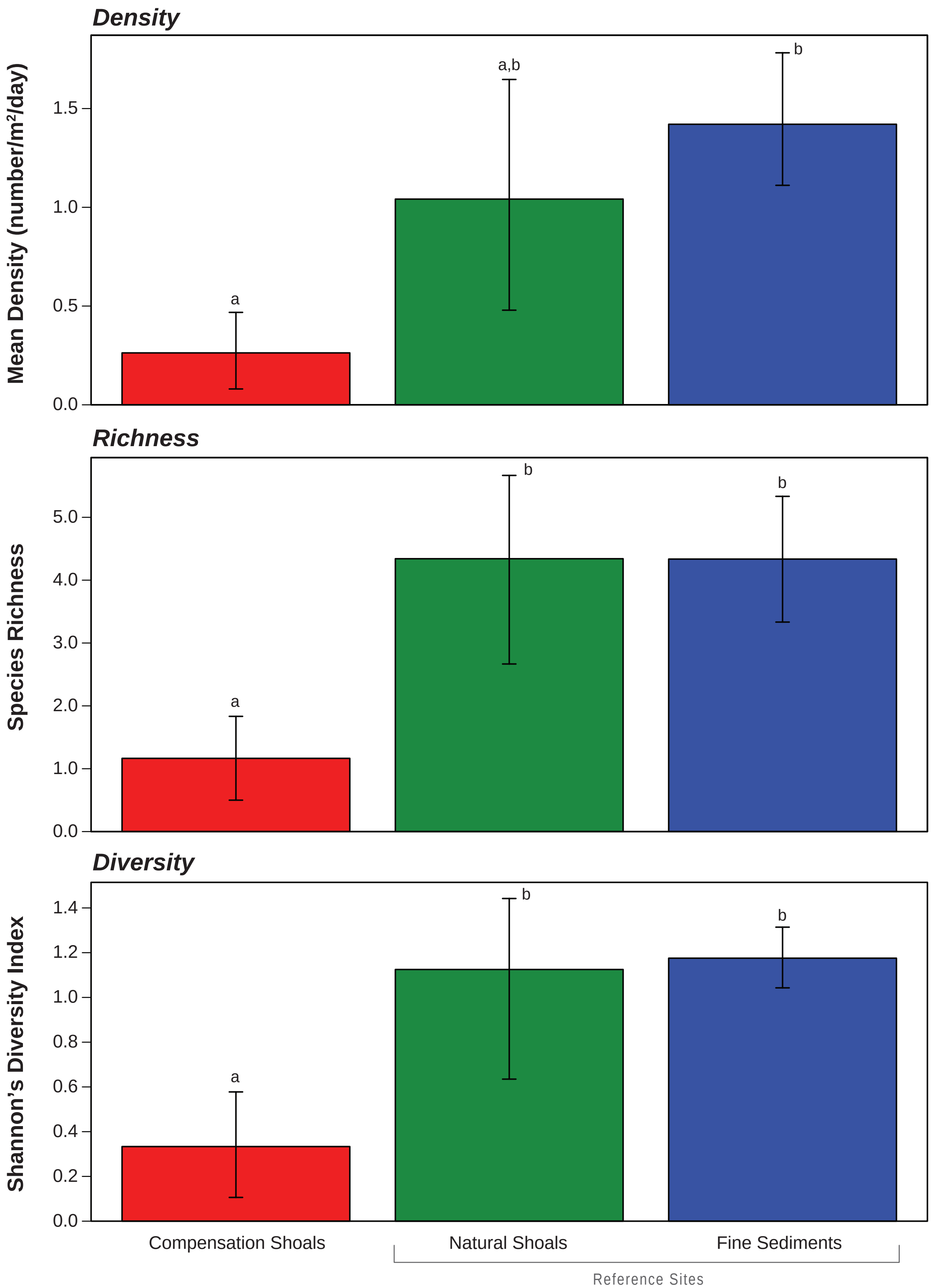
Benthic macroinvertebrates exhibited a consistent pattern of lower levels of density, richness and diversity in Compensation Shoals compared to Natural Shoals and Fine Sediment sites (Figure 3.2-4). This was not surprising given that lower levels of periphyton biomass and density found at Compensation Shoals should support a lower level of diversity at higher trophic levels (Cusens et al. 2012).

Benthos density, richness and diversity differed significantly among habitat types (Kruskal-Wallis, $K_{(2,15)} = 8.85$, $P = 0.01$; GLM, $D_{(2,15)} = 14.57$, $P < 0.001$; and Kruskal-Wallis $K_{(2,15)} = 8.89$, $P = 0.01$, for tests of density, richness and diversity respectively; Appendix 3.2-1). Moreover, multiple comparisons show that benthos density at Compensation Shoals was significantly lower than that found in Fine Sediment sites and that benthos richness and diversity was lower at Compensation Shoals compared to both Natural Shoals and Fine Sediment sites (Appendix 3.2-1). The lower levels of benthos community parameters found at Compensation Shoals likely results from the limited time (a single year) available for periphyton and benthos to colonize these habitats. The similarly low periphyton biomass observed in Compensation Shoals supports this conclusion. Nevertheless, differences between compensation and reference habitats are expected to decrease in future years as the benthic community of Compensation Shoals continues to grow over a longer time period.

Although the habitat types differed in overall measures of community structure, the taxonomic composition of benthos was somewhat similar among habitat types (Figure 3.2-5). The same two major groups, amphipod crustaceans and dipteran insects, dominated Compensation and Reference habitats, though the dominant genera differed among habitat types. The amphipod *Epimeria loricata* was the dominant taxon at all habitat types. This was followed by the dipteran genera *Micropsectra* and *Cricotopus* at Compensation Shoals, the dipteran genera *Paratanytarus* and *Micropsectra* at Natural Shoals and Fine Sediments (Appendix 3.2-3).

3.2.2 Small-bodied Fish Community

No fish were caught with minnow traps on either of the July or September collecting expeditions. This is despite a cumulative fishing time of approximately 144 hours (six days) per site, which is equivalent to 864 hours (or 36 days) of trapping per habitat type (Appendix 2.2-3). Historical catch records indicate that only one individual of one species, Ninespine Stickleback, has been captured using minnow trap methods (Rescan 2010c). Given the low historical capture rate with minnow traps and lack of fish capture despite the intense sampling in this monitoring program, alternative methods for trapping juvenile fish, such as fry traps, should be employed in future monitoring years to overcome the difficulty in catching small-bodied fish in Windy Lake.



Note: Error bars represent the 95% confidence interval.
Significance of statistical tests is indicated by letter.
Groups that share the same letter are not significantly different at $\propto$ = 0.05.

Figure 3.2-4

Benthic Macroinvertebrate Density, Richness and Diversity at Compensation Shoals and Reference Sites in Windy Lake, Doris North Gold Mine Project, 2012

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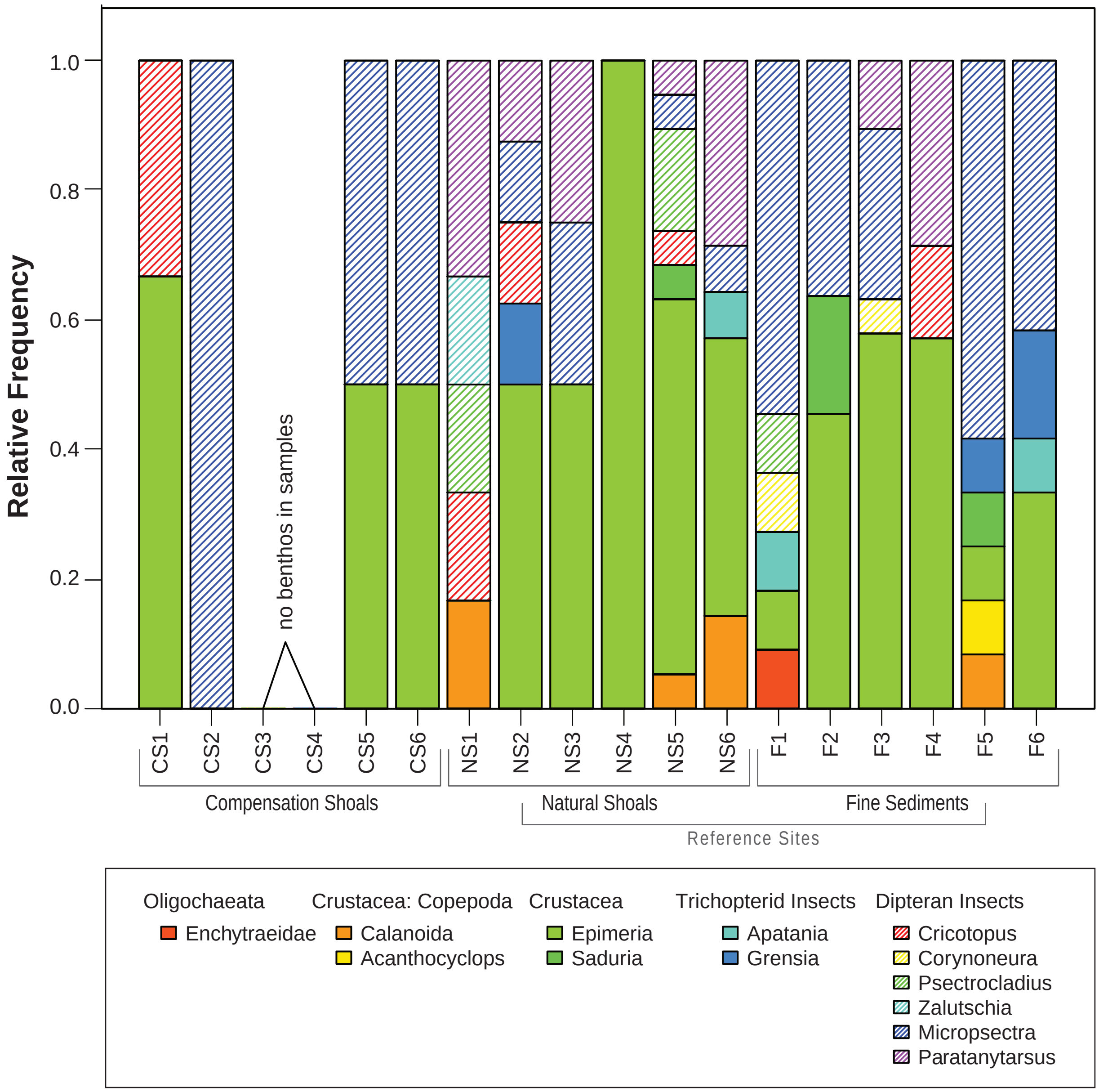

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Relative Frequency of Benthic Macroinvertebrates at Compensation Shoals and Reference Sites in Windy Lake, Doris North Gold Mine Project, 2012

Figure 3.2-5

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4. Summary

4. Summary

Monitoring conducted in 2012 fulfilled the requirement to monitor during Year-1 of post-shoal construction, as stated in the Fisheries Authorization (NU-02-0117.2) and the No Net Loss Plan, along with updates (Rescan 2010a, 2010b). Results from Year-1 monitoring showed the successful colonization of Compensation Shoals by periphyton and benthos similar in taxonomic composition to communities found in Reference habitats (Natural Shoals and Fine Sediments sites). Snorkel observations indicated that Lake Trout were present in low numbers on Compensation Shoals and Reference habitats. In Year-1, the density and biomass of periphyton and benthos was lower at Compensation Shoals compared to Reference habitats; however, it is likely that insufficient time has passed for colonization to be complete. Future years of required monitoring will bear this out.

4.1 VISUAL ASSESSMENT OF SHOAL HABITAT, BENTHIC MACROINVERTEBRATE AND FISH USE

The margins of each Compensation Shoal match the locations specified at their construction; shoals exhibited no signs of slumping or collapse.

Visual habitat assessment confirmed that Compensation Shoals, Natural Shoals and Fine Sediments sites form distinct habitat types. Compensation Shoals have the greatest proportion of cover and boulder substrate, and provide a novel habitat within Windy Lake offering fish increased levels of complexity and cover when compared to reference sites.

The number of isopods and mysids observed while snorkelling was highly variable among sites and habitat types. This variability was primarily due to differences in depth and visibility among sites and general patterns in abundance based on snorkel observation should be viewed with caution. Rescan observed the highest number of isopods at Fine Sediment sites, intermediate numbers at Compensation Shoals and very few isopods on Natural Shoals. In contrast, mysids were more abundant on Natural Shoals, with fewer seen at Fine Sediments Sites and Compensation Shoals.

Four Lake Trout were observed while snorkelling in July and September in Windy Lake: two were on Compensation Shoals, one on Natural Shoals and a single individual on the Fine Sediment site. Based on the estimated size range of observed Lake Trout (350 to 550 mm), it appears that sub-adult and adult sized Lake Trout use shoal habitat for foraging and refuge.

4.2 COMMUNITY ECOLOGY

Periphyton biomass and density differed slightly (significantly in the case of density) between Compensation and Reference habitats. There was a general trend in which Compensation Shoals had the lowest mean periphyton biomass and density compared to Natural Shoals and Fine Sediment sites. In contrast, periphyton richness and diversity were highest at Compensation Shoals. The taxonomic composition of periphyton was similar among habitat types and the same three taxa dominated Compensation Shoals, Natural Shoals and Fine Sediments sites: blue-green algae of the genus *Anabaena*, and diatoms in the genera *Cyclotella* and *Nitzschia*.

Density, richness and diversity of benthos were significantly lower at Compensation Shoals compared to Reference habitats. The lower levels of benthos community parameters found at Compensation Shoals likely reflects the relatively young age and short time available for periphyton and benthos to colonize Compensation Shoals. Such findings are in agreement with the lower periphyton biomass observed on

Compensation Shoals. Differences between Compensation and Reference are expected to decrease in future years as the benthic community of Compensation Shoals establishes over a longer time period. Nonetheless, the taxonomic composition of benthos was similar among all Compensation and Reference sites and was dominated by the same two major groups, amphipod crustaceans and dipteran insects, one year after-shoal construction.

4.3 SMALL-BODIED FISH COMMUNITY

No fish were caught with minnow traps despite the intense sampling during the July and September collecting expeditions and historical catch records indicate that only one individual Ninespine Stickleback has been captured using minnow traps. Alternative methods for trapping juvenile fish, such as fry traps, may be employed in future monitoring to reliably catch small-bodied fish in Windy Lake.

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Appendix 2.2-1

Benthic Macroinvertebrate Trap and Periphyton Plate Locations and Set Times, Windy Lake, Doris North Gold Mine Project, 2012

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Appendix 2.2-1. Benthic Macroinvertebrate Trap and Periphyton Plate Locations and Set Times, Windy Lake, Doris North Gold Mine Project, 2012

Habitat Type	Site	Trap Number	UTM Coordinates Easting	UTM Coordinates Northing	Date in	Date Out	Duration (hours)	Notes
Compensation Shoal	CS1	1	431345	7554478	19-Jul-12	4-Sep	47	
	CS1	2	431355	7554468	19-Jul-12	4-Sep	47	
	CS2	1	431157	7554080	19-Jul-12	7-Sep	50	
	CS2	2	431187	7554062	19-Jul-12	7-Sep	50	
	CS3	1	432244	7553384	19-Jul-12	6-Sep	49	
	CS3	2	432225	7553382	19-Jul-12	6-Sep	49	
	CS4	1	432230	7553224	19-Jul-12	4-Sep	47	
	CS4	2	432219	7553214	19-Jul-12	4-Sep	47	
	CS5	1	432401	7550800	19-Jul-12	4-Sep	47	
	CS5	2	432395	7550791	19-Jul-12	4-Sep	47	
	CS6	1	432368	7550969	19-Jul-12	5-Sep	48	
	CS6	2	432368	7550945	19-Jul-12	5-Sep	48	
Natural Shoal (reference sites)	NS1	1	430966	7553220	19-Jul-12	7-Sep	50	
	NS1	2	430969	7553211	19-Jul-12	7-Sep	50	
	NS2	1	430909	7553263	19-Jul-12	7-Sep	50	
	NS2	2	430911	7553290	19-Jul-12	7-Sep	50	
	NS3	1	431230	7554202	19-Jul-12	7-Sep	50	
	NS3	2	431230	7554237	19-Jul-12	7-Sep	50	
	NS4	1	432374	7552766	19-Jul-12	6-Sep	49	
	NS4	2	432378	7552834	19-Jul-12	6-Sep	49	
	NS5	1	432458	7552538	19-Jul-12	5-Sep	48	
	NS5	2	432439	7552550	19-Jul-12	5-Sep	48	
	NS6	1	432417	7551267	19-Jul-12	5-Sep	48	
	NS6	2	432417	7551192	19-Jul-12	5-Sep	48	
Fine Sediments (reference sites)	F1	1	430876	7553155	19-Jul-12	6-Sep	49	
	F1	2	430876	7553187	19-Jul-12	6-Sep	49	
	F2	1	431273	7554407	19-Jul-12	7-Sep	50	
	F2	2	431274	7554403	19-Jul-12	7-Sep	50	
	F3	1	431426	7554888	19-Jul-12	7-Sep	50	
	F3	2	431458	7554903	19-Jul-12	7-Sep	50	
	F4	1	432306	7552941	19-Jul-12	6-Sep	49	
	F4	2	432301	7552937	19-Jul-12	6-Sep	49	
	F5	1	432076	7549676	19-Jul-12	6-Sep	49	
	F5	2	432056	7549671	19-Jul-12	6-Sep	49	Missing
	F6	1	432248	7549695	19-Jul-12	5-Sep	48	
	F6	2	432286	7549699	19-Jul-12	5-Sep	48	

Appendix 2.2-2

Summary of Chlorophyll *a* Data for Each Sampling Site in Windy Lake, Doris North Gold Mine Project, 2012

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Appendix 2.2-2. Summary of Chlorophyll *a* Data for Each Sampling Site in Windy Lake, Doris North Gold Mine Project, 2012

Habitat Type	Site	Sample Date	Total Chl *a* (µg)	Detection Limit (µg)	Surface Area of Sample (cm^2)	Chl *a* (µg/cm^2/day)
Compensation Shoal	CS1	4-Sep	1.88	0.01	20	0.002
	CS2	7-Sep	0.96	0.01	20	0.001
	CS3	6-Sep	1.60	0.01	20	0.002
	CS4	4-Sep	7.94	0.10	20	0.008
	CS5	4-Sep	4.26	0.10	20	0.005
	CS6	5-Sep	9.63	0.10	20	0.010
Natural Shoal (reference sites)	NS1	7-Sep	11.80	0.10	20	0.012
	NS2	7-Sep	8.65	0.10	20	0.009
	NS3	7-Sep	1.29	0.01	20	0.001
	NS4	6-Sep	4.31	0.10	20	0.004
	NS5	5-Sep	6.96	0.10	20	0.007
	NS6	5-Sep	2.34	0.01	20	0.002
Fine Sediments (reference sites)	F1	6-Sep	4.48	0.10	20	0.005
	F2	7-Sep	11.20	0.10	20	0.011
	F3	7-Sep	3.38	0.10	20	0.003
	F4	6-Sep	2.09	0.01	20	0.002
	F5	6-Sep	9.30	0.10	10	0.019
	F6	5-Sep	2.09	0.01	20	0.002

Note: Site F5 only had one periphyton plate retrieved thus the surface area was 10, not 20 cm^2 as for all other sites.

Appendix 2.2-3

Minnow Trap Data from Windy Lake, Doris Gold Mine Project, 2012

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Appendix 2.2-3. Minnow Trap Data from Windy Lake, Doris North Gold Mine Project, 2012

Habitat Type	Site	Trap Number	UTM Coordinates		Date In	Date Out	Time In	Time Out	Fish Caught	CPUE
			Easting	Northing						
Compensation Shoal	CS1	1	431354	7554500	18-Jul	19-Jul	10:40	12:25	0	0
	CS1	2	431342	7554493	18-Jul	19-Jul	10:40	12:25	0	0
	CS1	3	431363	7554463	18-Jul	19-Jul	10:40	12:25	0	0
	CS2	1	431180	7554077	18-Jul	19-Jul	10:20	12:10	0	0
	CS2	2	431165	7554057	18-Jul	19-Jul	10:20	12:10	0	0
	CS2	3	431172	7554041	18-Jul	19-Jul	10:20	12:10	0	0
	CS3	1	432224	7553383	17-Jul	18-Jul	15:08	17:45	0	0
	CS3	2	432233	7553379	17-Jul	18-Jul	15:08	17:45	0	0
	CS3	3	432245	7553385	17-Jul	18-Jul	15:08	17:45	0	0
	CS4	1	432239	7553237	17-Jul	18-Jul	15:00	17:47	0	0
	CS4	2	432232	7553231	17-Jul	18-Jul	15:00	17:47	0	0
	CS4	3	432219	7553207	17-Jul	18-Jul	15:00	17:47	0	0
	CS5	1	432398	7550780	17-Jul	18-Jul	13:55	18:10	0	0
	CS5	2	432394	7550792	17-Jul	18-Jul	13:55	18:10	0	0
	CS5	3	432400	7550805	17-Jul	18-Jul	13:55	18:10	0	0
	CS6	1	432363	7550956	17-Jul	18-Jul	14:00	18:07	0	0
	CS6	2	432366	7551008	17-Jul	18-Jul	14:00	18:07	0	0
	CS6	3	432367	7550996	17-Jul	18-Jul	14:00	18:07	0	0
Natural Shoal	NS1	1	430965	7553206	17-Jul	18-Jul	16:02	17:35	0	0
(reference sites)	NS1	2	430964	7553235	17-Jul	18-Jul	16:02	17:35	0	0
	NS1	3	430965	7553230	17-Jul	18-Jul	16:02	17:35	0	0
	NS2	1	430911	7553272	17-Jul	18-Jul	16:07	10:25	0	0
	NS2	2	430910	7553270	17-Jul	18-Jul	16:07	17:30	0	0
	NS2	3	430910	7553267	17-Jul	18-Jul	16:07	17:30	0	0
	NS3	1	431262	7554196	18-Jul	19-Jul	10:15	12:20	0	0
	NS3	2	431235	7554238	18-Jul	19-Jul	10:15	12:20	0	0
	NS3	3	431228	7554208	18-Jul	19-Jul	10:15	12:20	0	0
	NS4	1	432385	7552769	17-Jul	18-Jul	14:48	17:55	0	0
	NS4	2	432375	7552847	17-Jul	18-Jul	14:48	17:55	0	0
	NS4	3	432382	7552814	17-Jul	18-Jul	14:48	17:55	0	0
	NS5	1	432454	7552539	17-Jul	18-Jul	14:43	17:57	0	0
	NS5	2	432435	7552554	17-Jul	18-Jul	14:43	17:57	0	0
	NS5	3	432437	7552508	17-Jul	18-Jul	14:43	17:57	0	0
	NS6	1	432416	7551224	17-Jul	18-Jul	14:05	18:03	0	0
	NS6	2	432414	7551251	17-Jul	18-Jul	14:05	18:03	0	0
	NS6	3	432415	7551172	17-Jul	18-Jul	14:05	18:03	0	0
Fine Sediments	F1	1	430872	7553164	17-Jul	18-Jul	15:57	17:38	0	0
(reference sites)	F1	2	430873	7553187	17-Jul	18-Jul	15:57	17:38	0	0
	F1	3	430875	7553197	17-Jul	18-Jul	15:57	17:38	0	0
	F2	1	431272	7554393	18-Jul	19-Jul	10:10	12:25	0	0
	F2	2	431277	7554429	18-Jul	19-Jul	10:10	12:25	0	0
	F2	3	431275	7554419	18-Jul	19-Jul	10:10	12:25	0	0

Appendix 2.2-3. Minnow Trap Data from Windy Lake, Doris North Gold Mine Project, 2012

Habitat Type	Site	Trap Number	UTM Coordinates Easting	UTM Coordinates Northing	Date In	Date Out	Time In	Time Out	Fish Caught	CPUE
	F3	1	431466	7554905	18-Jul	19-Jul	10:30	12:35	0	0
	F3	2	431435	7554886	18-Jul	19-Jul	10:30	12:35	0	0
	F3	3	431444	7554894	18-Jul	19-Jul	10:30	12:35	0	0
	F4	1	432296	7552921	17-Jul	18-Jul	14:55	17:50	0	0
	F4	2	432301	7552920	17-Jul	18-Jul	14:55	17:50	0	0
	F4	3	432310	7552946	17-Jul	18-Jul	14:55	17:50	0	0
	F5	1	432051	7549669	17-Jul	18-Jul	13:39	18:25	0	0
	F5	2	432073	7549672	17-Jul	18-Jul	13:39	18:25	0	0
	F5	3	432068	7549675	17-Jul	18-Jul	13:39	18:25	0	0
	F6	1	432296	7549707	17-Jul	18-Jul	13:30	18:20	0	0
	F6	2	432250	7549696	17-Jul	18-Jul	13:30	18:20	0	0
	F6	3	432271	7549695	17-Jul	18-Jul	13:30	18:20	0	0
Compensation Shoal	CS1	1	431355	7554500	8-Sep	9-Sep	10:47	9:40	0	0
	CS1	2	431367	7554505	8-Sep	9-Sep	10:47	9:40	0	0
	CS1	3	431357	7554478	8-Sep	9-Sep	10:47	9:40	0	0
	CS2	1	431186	7554031	8-Sep	9-Sep	10:35	9:15	0	0
	CS2	2	431158	7554080	8-Sep	9-Sep	10:35	9:15	0	0
	CS2	3	431174	7554042	8-Sep	9-Sep	10:35	9:15	0	0
	CS3	1	432249	7553382	8-Sep	9-Sep	9:48	10:17	0	0
	CS3	2	432230	7553381	8-Sep	9-Sep	9:48	10:17	0	0
	CS3	3	432238	7553380	8-Sep	9-Sep	9:48	10:17	0	0
	CS4	1	432221	7553199	8-Sep	9-Sep	9:43	10:11	0	0
	CS4	2	432219	7553216	8-Sep	9-Sep	9:43	10:11	0	0
	CS4	3	432230	7553220	8-Sep	9-Sep	9:43	10:11	0	0
	CS5	1	432400	7550775	7-Sep	8-Sep	10:33	9:25	0	0
	CS5	2	432395	7550759	7-Sep	8-Sep	10:33	9:25	0	0
	CS5	3	432396	7550771	7-Sep	8-Sep	10:33	9:25	0	0
	CS6	1	432366	7550970	7-Sep	8-Sep	10:31	9:20	0	0
	CS6	2	432367	7551002	7-Sep	8-Sep	10:31	9:20	0	0
	CS6	3	432361	7550981	7-Sep	8-Sep	10:31	9:20	0	0
Natural Shoal (reference sites)	NS1	1	430962	7553246	8-Sep	9-Sep	10:22	9:03	0	0
	NS1	2	430964	7553234	8-Sep	9-Sep	10:22	9:03	0	0
	NS1	3	430968	7553226	8-Sep	9-Sep	10:22	9:03	0	0
	NS2	1	430911	7553282	8-Sep	9-Sep	10:26	9:08	0	0
	NS2	2	430908	7553299	8-Sep	9-Sep	10:26	9:08	0	0
	NS2	3	430908	7553268	8-Sep	9-Sep	10:26	9:08	0	0
	NS3	1	431243	7554230	8-Sep	9-Sep	10:40	9:18	0	0
	NS3	2	431264	7554210	8-Sep	9-Sep	10:40	9:18	0	0
	NS3	3	431245	7554225	8-Sep	9-Sep	10:40	9:18	0	0
	NS4	1	432375	7552802	8-Sep	9-Sep	9:35	9:59	0	0
	NS4	2	432403	7552814	8-Sep	9-Sep	9:35	9:59	0	0
	NS4	3	432369	7552821	8-Sep	9-Sep	9:35	9:59	0	0

Appendix 2.2-3. Minnow Trap Data from Windy Lake, Doris North Gold Mine Project, 2012

Habitat Type	Site	Trap Number	UTM Coordinates		Date In	Date Out	Time In	Time Out	Fish Caught	CPUE
			Easting	Northing						
	NS5	1	432472	7552487	8-Sep	9-Sep	9:32	9:55	0	0
	NS5	2	432466	7552517	8-Sep	9-Sep	9:32	9:55	0	0
	NS5	3	432460	7552479	8-Sep	9-Sep	9:32	9:55	0	0
	NS6	1	432414	7551257	7-Sep	8-Sep	10:35	9:28	0	0
	NS6	2	432415	7551167	7-Sep	8-Sep	10:35	9:28	0	0
	NS6	3	432415	7551216	7-Sep	8-Sep	10:35	9:28	0	0
Fine Sediments	F1	1	430874	7553164	8-Sep	9-Sep	10:20	8:58	0	0
(reference sites)	F1	2	430870	7553182	8-Sep	9-Sep	10:20	8:58	0	0
	F1	3	430875	7553200	8-Sep	9-Sep	10:20	8:58	0	0
	F2	1	431274	7554390	8-Sep	9-Sep	10:42	9:25	0	0
	F2	2	431277	7554433	8-Sep	9-Sep	10:42	9:25	0	0
	F2	3	431277	7554426	8-Sep	9-Sep	10:42	9:25	0	0
	F3	1	431446	7554887	8-Sep	9-Sep	10:52	9:43	0	0
	F3	2	431434	7554889	8-Sep	9-Sep	10:52	9:43	0	0
	F3	3	431465	7554902	8-Sep	9-Sep	10:52	9:43	0	0
	F4	1	432307	7552943	8-Sep	9-Sep	9:40	10:07	0	0
	F4	2	432302	7552920	8-Sep	9-Sep	9:40	10:07	0	0
	F4	3	432302	7552958	8-Sep	9-Sep	9:40	10:07	0	0
	F5	1	432073	7549672	7-Sep	8-Sep	10:17	9:10	0	0
	F5	2	432050	7549670	7-Sep	8-Sep	10:17	9:10	0	0
	F5	3	432047	7549673	7-Sep	8-Sep	10:17	9:10	0	0
	F6	1	432294	7549706	7-Sep	8-Sep	10:15	9:05	0	0
	F6	2	432285	7549693	7-Sep	8-Sep	10:15	9:05	0	0
	F6	3	432280	7549701	7-Sep	8-Sep	10:15	9:05	0	0

Note: CPUE = Catch per unit effort (fish/trap/24 h)

Appendix 2-4

Quality Assurance/Quality Control (QA/QC) Reports

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Appendix 2-4. Quality Assurance/Quality Control (QA/QC) Reports

A. Periphyton QA/QC Report from Eco-Analysts

6143.1-7_DUP	TIN	Original Abundance (0.0510% Counted)	Relative Abundance (%)	Dominance Rank	Duplicate Abundance (0.0516% Counted)	Relative Abundance (%)	Dominance Rank	Percent Similarity
Anabaena sp.	2087	57	19.00	2	64	21.33	2	1900.00%
Campylodiscus sp.	296	3	1.00		1	0.33		33.33%
Cocconeis spp.	309	2	0.67		1	0.33		33.33%
Cyclotella spp.	334	129	43.00	1	120	40.00	1	4000.00%
Cymatopleura solea	376	2	0.67		0	0.00		0.00%
Diploneis spp.	533	0	0.00		1	0.33		0.00%
Epithemia spp.	559	9	3.00		11	3.67		300.00%
Gyrosigma spp.	886	8	2.67		12	4.00	5	266.67%
Navicula spp.	959	18	6.00	4	21	7.00	4	600.00%
Nitzschia spp.	1470	51	17.00	3	46	15.33	3	1533.33%
Rhopalodia spp.	1809	10	3.33	5	9	3.00		300.00%
Staurosira sp.	2289	3	1.00		4	1.33		100.00%
Surirella spp.	1885	0	0.00		1	0.33		0.00%
Synedra spp.	1930	2	0.67		0	0.00		0.00%
Unknown Centric diatom	-30	0	0.00		2	0.67		0.00%
Unknown Pennate diatom	-321	6	2.00		7	2.33		200.00%
Totals		**300**			**300**			**9266.67%**

6143.1-12_DUP	TIN	Original Abundance (0.0800% Counted)	Relative Abundance (%)	Dominance Rank	Duplicate Abundance (0.0823% Counted)	Relative Abundance (%)	Dominance Rank	Percent Similarity
Amphora spp.	173	1	0.33		0	0.00		0.00%
Amphipleura pellucida	167	0	0.00		2	0.67		0.00%
Anabaena sp.	2087	33	11.00	3	37	12.33	3	1100.00%
Cocconeis spp.	309	2	0.67		2	0.67		66.67%
Cyclotella spp.	334	155	51.67	1	161	53.67	1	5166.67%
Diploneis spp.	533	2	0.67		1	0.33		33.33%
Epithemia spp.	559	0	0.00		2	0.67		0.00%
Gyrosigma spp.	886	0	0.00		2	0.67		0.00%
Navicula spp.	959	31	10.33	4	27	9.00	4	900.00%
Nitzschia spp.	1470	63	21.00	2	59	19.67	2	1966.67%
Rhopalodia spp.	1809	5	1.67	5	0	0.00		0.00%
Unknown Centric diatom	-30	1	0.33		1	0.33		33.33%
Unknown Pennate diatom	-321	7	2.33		6	2.00	5	200.00%
Totals		**300**			**300**			**9466.67%**

B. Chlorophyl a QA/QC Report from ALS Environmental

Plant Pigments	QC Type*	Analyte	QC Spl. No.	Result	Target	Units	%	Limits
Water	LCS	Chlorophyll a	WG1553213-2	0.877	0.935	ug	93.8	80-120
Water	LCS	Chlorophyll a	WG1553213-4	0.879	0.935	ug	94.0	80-120
Water	MB	Chlorophyll a	WG1553213-1	<0.010	<0.01	ug	-	0.01
Water	MB	Chlorophyll a	WG1553213-3	<0.010	<0.01	ug	-	0.01

** LCS= Lab Control Sample, MB = Method Blank*

C. Benthic Invertebrate QA/QC Report from Jack Zloty Ltd.

Site	% Sorting Efficiency
CS 6	[1-(0/(6+0))]*100 = 100
NS 5	[1-(0/(19+0))]*100 = 100
Mean efficiency	100%

Appendix 3.1-1

Principal Coordinate Axis Loadings from Principal Coordinate Analysis of Compensation and Reference Habitats in Windy Lake, Doris North Gold Mine Project, 2012

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Appendix 3.1-1. Principal Coordinate Axis Loadings from Principal Coordinate Analysis of Compensation and Reference Habitats in Windy Lake, Doris North Gold Mine Project, 2012

A. Principal Coordinate Axis Loadings for Habitat Variables

Factor		CA1	CA2
Cover	Total	-0.434	0.175
	Small woody debris	1.992	0.747
	Boulder	-0.239	0.160
	Cobble	-0.211	-1.213
	Vegetation	0.750	-0.566
Substrate	Bedrock	-0.305	-1.152
	Boulder	-0.539	0.474
	Cobble	-0.232	-0.676
	Gravel	-0.194	-0.561
	Fines	1.431	-0.111

Note: CA = Coordinate Axis

B. Principal Coordinate Axis Loadings for Sites

Habitat Type	Factor	CA1	CA2
Compensation Shoal	CS1	-0.698	0.842
	CS2	-0.655	0.964
	CS3	-0.698	0.842
	CS4	-0.698	0.842
	CS5	-0.730	1.095
	CS6	-0.730	1.095
Natural Shoal (reference sites)	NS1	-0.479	-0.644
	NS2	-0.264	-1.812
	NS3	-0.535	-1.239
	NS4	0.385	-1.457
	NS5	-0.304	-1.205
	NS6	-0.514	-0.571
Fine Sediments (reference sites)	F1	0.297	-0.346
	F2	2.636	-0.472
	F3	1.432	0.096
	F4	0.291	-0.879
	F5	1.827	0.730
	F6	2.567	1.153

Note: CA = Coordinate Axis

Appendix 3.2-1

Summary of Community Ecology Statistical Tests in Windy Lake, Doris North Gold Mine Project, 2012

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Appendix 3.2-1. Summary of Community Ecology Statistical Tests in Windy Lake, Doris North Gold Mine Project, 2012

Type	Parameter	Transformation	Test	Test Statistic	DF (model, residual)	P	Significance	Significant Multiple Comparisons
Periphtyon	Biomass	Ln	ANOVA (*F*)	0.04	2, 15	0.69	NS	NS
	Density	Ln	ANOVA (*F*)	14.60	2, 15	< 0.001	***	Compensation < Natural and Fine
	Richness	none	Poisson GLM (*D*)	2.71	2, 15	0.26	NS	NS
	Diversity	non-parametric	Kruskal-Wallis (*K*)	3.66	2, 15	0.16	NS	NS
Benthos	Density	non-parametric	Kruskal-Wallis (*K*)	8.85	2, 15	0.01	*	Compensation < Fine
	Richness	none	Poisson GLM (*D*)	14.57	2, 15	< 0.001	***	Compensation < Natural and Fine
	Diversity	non-parametric	Kruskal-Wallis (*K*)	8.89	2, 15	0.01	*	Compensation < Natural and Fine

Notes:

Each row is a test for differences in the specified parameter among habitat types (Compensation, Natural, Fine) and if significant, was followed by multiple comparisons with P-values adjusted for the False Discovery Rate.

*Significance codes: *** <0.001, ** <0.01, * <0.05, NS = non-significant*

Appendix 3.2-2

Summary of Periphyton Taxonomic Data for Each Sampling Site in Windy Lake, Doris North Gold Mine Project, 2012

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Appendix 3.2-2. Summary of Periphyton Taxonomic Data for Each Sampling Site in Windy Lake, Doris North Gold Mine Project, 2012

Taxonomic Group				Compensation Shoals						Natural Shoals (reference sites)						Fine Sediments (reference sites)					
Class	Order	Family	Genus/species	CS1	CS2	CS3	CS4	CS5	CS6	NS1	NS2	NS3	NS4	NS5	NS6	F1	F2	F3	F4	F5	F6
Bacillariophyceae (Diatoms)	Centrales	-	-	1,498	0	0	4,429	4,388	3,445	4,758	0	1,592	0	0	0	0	0	1,896	0	0	1,249
		Stephanodiscaceae	*Cyclotella*	156,534	68,046	10,514	79,716	155,766	225,676	283,878	945,093	210,085	847,803	556,151	646,374	252,689	443,391	314,788	392,158	517,830	193,629
	Pennales	-	-	5,992	5,198	3,154	9,743	12,066	15,504	9,515	20,771	12,732	17,302	15,279	12,430	11,753	17,635	13,274	17,825	9,085	8,745
		Achnanthaceae	*Cocconeis*	6,741	473	0	7,972	4,388	8,614	4,758	15,578	1,592	21,628	9,167	8,287	3,918	0	7,585	5,093	3,028	2,498
		Amphipleuraceae	*Amphipleura pellucida*	0	2,363	0	0	4,388	0	0	5,193	0	0	3,056	0	0	0	0	2,546	0	0
		Bacillariaceae	*Nitzschia*	2,247	24,572	240,782	69,087	62,526	108,531	28,546	171,363	130,507	190,323	94,729	227,888	99,900	221,695	111,883	178,254	124,158	78,701
		Catenulaceae	*Amphora*	2,247	0	0	0	0	6,891	7,930	15,578	0	8,651	6,112	4,143	0	0	3,793	2,546	0	1,249
		Cymbellaceae	*Cymbella*	4,494	945	2,103	0	0	0	0	0	0	0	3,056	0	0	0	0	0	0	0
		Diploneidaceae	*Diploneis*	2,996	473	1,051	4,429	0	5,168	1,586	5,193	0	4,326	3,056	8,287	0	0	3,793	2,546	3,028	2,498
		Fragilariaceae	*Staurosira*	0	0	0	0	0	0	0	93,471	0	73,534	0	49,721	66,600	57,943	0	58,569	0	0
			Synedra	3,745	0	1,051	0	0	1,723	0	10,386	0	0	0	0	3,918	0	3,793	0	0	0
		Naviculaceae	*Navicula*	5,243	31,188	22,080	7,086	14,260	22,395	39,648	124,628	55,704	86,511	51,948	186,454	35,259	22,673	45,512	38,197	130,215	38,726
		Pleurosigmataceae	*Gyrosigma*	11,983	3,308	2,103	6,200	19,745	6,891	6,344	5,193	19,099	4,326	21,390	12,430	15,671	15,116	11,378	0	6,056	0
		Rhopalodiaceae	*Epithemia*	0	2,835	3,154	21,258	6,582	13,782	3,172	0	1,592	21,628	6,112	24,861	17,629	0	5,689	12,732	3,028	0
			Rhopalodia	12,732	0	2,103	31,886	19,745	17,227	0	0	3,183	4,326	0	0	19,588	0	5,689	35,651	6,056	6,246
		Surirellaceae	*Campylodiscus*	0	0	0	0	0	0	0	0	0	0	0	0	5,876	0	0	0	0	0
			Cymatopleura solea	1,498	0	0	0	0	0	0	0	0	0	3,056	0	3,918	0	0	0	0	0
			Surirella	0	0	0	886	0	1,723	0	5,193	0	0	3,056	0	0	0	0	0	3,028	0
			Surirella minuta	2,996	0	1,051	1,771	0	6,891	0	10,386	0	4,326	6,112	8,287	0	0	0	0	0	0
Chlorophyceae (Green algae)	Chlorococcales	Chlorococcaceae	*Tetraedron minimum*	749	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Oedogoniales	Oedogoniaceae	*Oedogonium*	0	0	12,617	0	5,485	0	0	0	17,507	0	15,279	0	0	0	0	15,279	0	0
	Zygnematales	Desmidiaceae	*Cosmarium*	749	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Zygnemataceae	*Mougeotia*	0	1,418	6,309	5,314	0	5,168	1,586	0	0	4,326	0	0	0	0	0	0	0	0
Euglenophyceae (Flagellates)	Euglenales	Euglenaceae	*Euglena*	0	945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Myxophyceae (Blue-green algae)	Nostocales	Nostocaceae	*Anabaena*	31,457	20,792	270,223	142,603	157,960	580,556	1,202,119	1,635,738	512,479	614,225	1,307,872	1,926,692	718,891	244,369	390,641	702,828	687,412	254,840
			Anabaena subcylindrica	0	0	0	0	0	0	0	399,847	0	38,930	0	103,586	0	0	0	0	0	0
	Oscillatoriales	Phormidiaceae	*Phormidium*	0	0	3,154	0	6,582	0	12,687	20,771	6,366	25,953	9,167	12,430	0	0	15,171	22,918	24,226	0
Total Number				253,899	162,555	581,452	392,379	473,880	1,030,186	1,606,525	3,484,382	972,437	1,968,114	2,114,596	3,231,870	1,255,610	1,022,822	934,883	1,487,144	1,517,151	588,381

Note: Numbers indicate the total number of cells per sample

Appendix 3.2-3

Summary of Benthic Macroinvertebrate (Benthos) Taxonomic Data for Each Sampling Site in Windy Lake, Doris North Gold Mine Project, 2012

Engineers and Scientists

Appendix 3.2-3. Summary of Benthic Macroinvertebrate (Benthos) Taxonomic Data for Each Sampling Site in Windy Lake, Doris North Gold Mine Project, 2012

Taxonomic Group					Compensation Shoals						Natural Shoals						Fine Sediments					
Major Grouping		**Family**	**Subfamily**	**Genus/Species**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**NS1**	**NS2**	**NS3**	**NS4**	**NS5**	**NS6**	**F1**	**F2**	**F3**	**F4**	**F5**	**F6**
Oligochaeta	Haplotaxida	Enchytraeidae	-	-	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Crustacea	Copepoda - Calanoida	-	-	-	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	1	0
	Copepoda - Cyclopoida	Cyclopidae	Cyclopinae	*Acanthocyclops*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Amphipoda	Epimeriidae	-	*Epimeria loricata*	2	0	0	0	1	3	0	4	2	1	11	6	1	5	11	4	1	4
	Isopoda	Chaetiliidae	-	*Saduria entomon*	0	0	0	0	0	0	0	0	0	0	1	0	0	2	1	0	1	0
Insecta	Trichoptera	Apataniidae	-	*Apatania*	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
		Limnephilidae	-	*Grensia praeterica*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2
	Diptera	Chironomidae	Orthocladiinae	*Cricotopus/Orthocladius*	1	0	0	0	0	0	1	1	0	0	1	0	0	0	0	1	0	0
				Corynoneura	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
				Psectrocladius	0	0	0	0	0	0	1	0	0	0	3	0	1	0	0	0	0	0
				Zalutschia	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
				unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
				Micropsectra	0	2	0	0	1	3	0	1	1	0	1	1	6	4	5	0	7	5
				Paratanytarsus	0	0	0	0	0	0	2	1	1	0	1	4	0	0	2	2	0	0
Terrestrial	-	-	-	-	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Total Number	-	-	-	-	3	2	0	0	2	6	6	8	5	1	19	14	11	11	20	8	12	12

Note: numbers indicate the total number of individuals per sample