

SUPPORT OF AQUATIC LIFE USES IN THE UPPER BLACKFOOT RIVER AND TRIBUTARIES BASED ON THE COMPOSITION AND STRUCTURE OF THE BENTHIC ALGAE COMMUNITY

Prepared for:

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Project Officer: Michael Pipp DEQ Contract No. 200012-3

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August 29, 2001

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#### SUMMARY

In June of 2001, 12 periphyton samples were collected from the Blackfoot River above Nevada Creek and from four tributaries of the upper Blackfoot River in western Montana for the purpose of assessing whether these streams are water-quality limited and in need of TMDLs. The samples were collected following DEQ standard operating procedures, processed and analyzed using standard methods for periphyton, and evaluated following modified USEPA rapid bioassessment protocols for wadeable streams.

Diatoms with deformities were found in periphyton samples collected from all 12 sites on the upper Blackfoot River and tributaries. In samples from two sites--BlckftR-01 and SbrC-02-teratological diatoms accounted for more than 10% of the cells that were counted, indicating severe impairment and nonsupport of aquatic life uses. At five sites--BlckftR-02, SbrC-01, AraC-01, PoorC-02, and PoorC-01--the percentage of teratological cells indicated moderate impairment and partial support of uses. The most likely cause of this impairment is elevated concentrations of heavy metals. The remaining 5 sites suffered only minor impairment and fully supported their aquatic life uses.

In addition to having large percentages of teratological cells, the two sites on Sandbar Creek also supported very large populations of individual diatom species. At SbrC-02, Achnanthidium minutissimum accounted for 86% of the cells in the diatom association. Streams receiving mining wastes in western Montana often support very large numbers of Achnanthidium minutissimum, an indicator of chemical disturbance and elevated concentrations of heavy metals. The upstream site on Sandbar Creek (SbrC-01) supported a large number of Diatoma mesodon, a cold-water stenotherm that is common in streams receiving mine adit discharge water and flows recharged by groundwater.

## INTRODUCTION

This report evaluates the biological integrity, support of aquatic life uses, and probable causes of impairment to those uses, in the upper Blackfoot River and in four tributaries of the upper Blackfoot River in western Montana. The purpose of this report is to provide information that will help the State of Montana determine whether these streams are water-quality limited and in need of TMDLs.

The federal Clean Water Act directs states to develop water pollution control plans (Total Maximum Daily Loads or TMDLs) that set limits on pollution loading to water-quality limited waters. Water-quality limited waters are lakes and stream segments that do not meet water-quality standards, that is, that do not fully support their beneficial uses. The Clean Water Act and USEPA regulations require each state to (1) identify waters that are water-quality limited, (2) prioritize and target waters for TMDLs, and (3) develop TMDL plans to attain and maintain waterquality standards for all water-quality limited waters.

Evaluation of use support in this report is based on the species composition and structure of the periphyton (benthic algae, phytobenthos) community at 12 sites that were sampled from mid to late June in 2001. The periphyton community is a basic biological component of all aquatic ecosystems. Periphyton accounts for much of the primary production and biological diversity in Montana streams (Bahls et al. 1992).

Plafkin et al. (1989) and Stevenson and Bahls (1999) list several advantages of using periphyton in biological assessments:

 Algae are universally present in large numbers in all streams and unimpaired periphyton assemblages typically support a large number (>30) of species;

- Algae have rapid reproduction rates and short life cycles, making them useful indicators of short-term impacts;
- As primary producers, algae are most directly affected by physical and chemical factors, such as temperature, nutrients, dissolved salts, and toxins;
- Sampling is quick, easy and inexpensive, and causes minimal damage to resident biota and their habitat;
- Standard methods and criteria exist for evaluating the composition, structure, and biomass of algal associations;
- Identification to species is straightforward for the diatoms, for which there is a large body of taxonomic and ecological literature;
- Excessive algae growth in streams is often correctly perceived as a problem by the public.
- Periphyton and other biological communities reflect the biological integrity<sup>1</sup> of waterbodies; restoring and maintaining the biological integrity of waterbodies is a goal of the federal Clean Water Act;
- Periphyton and other biological communities integrate the effects of different stressors and provide a measure of their aggregate impact; and
- Periphyton and other biological communities may be the only practical means of evaluating impacts from non-point sources of pollution where specific ambient criteria do not exist (e.g., impacts that degrade habitat or increase nutrients).

Periphyton is a diverse assortment of simple photosynthetic organisms called algae, and other microorganisms that live attached to or in close proximity of the stream bottom. Most algae, such as the diatoms, are microscopic. Diatoms are distinguished by having a cell wall composed of opaline glass-hydrated amorphous silica. Diatoms often carpet a stream bottom with a slippery brown film.

<sup>&</sup>lt;sup>1</sup> Biological integrity is defined as "the ability of an aquatic ecosystem to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitats within a region" (Karr and Dudley 1981).

Some algae, such as the filamentous greens, are conspicuous and their excessive growth may be aesthetically displeasing, deplete dissolved oxygen, interfere with fishing and fish spawning, clog water filters and irrigation intakes, create tastes and odors in drinking water, and cause other problems.

## PROJECT AREA AND SAMPLING SITES

The project area is located in Lewis & Clark and Powell Counties in western Montana. The surface geology of the upper Blackfoot River watershed consists mostly of Precambrian Belt Series rocks in the uplands and Quaternary basin fill in the valleys (Renfro and Feray 1972).

The Blackfoot River heads near Rogers Pass (elevation 5,610 feet) north of Helena. Most tributaries arise at elevations ranging from 5,000 to 9,000 feet. At 4,300 feet, the Blackfoot River above Nevada Creek is the lowest site in the study area. Vegetation is mainly mixed conifer forest with alpine tundra on the highest peaks and open parks of fescue grassland near the mouth of Poorman Creek and near the mouth of Nevada Creek at the lower end of the study area (USDA 1976).

The upper Blackfoot River watershed is within the Northern Rockies Ecoregion of Montana (Woods et al. 1999). The main land uses are recreation, livestock grazing, logging, and mining. The Blackfoot River is popular for fishing and floating, mainly below the study area. The upper Blackfoot River drainage has many abandoned mine sites and a long history of hardrock mining.

Periphyton samples were collected at 12 sites on the Blackfoot River and four of its tributaries (Maps 1-7, Table 1). Most sampling sites are on public (USFS, BLM, or State) land. The Blackfoot River and its tributaries are classified B-1 in the Montana Surface Water Quality Standards.

#### METHODS

Periphyton samples were collected following standard operating procedures of the MDEQ Planning, Prevention, and Assistance Division. Using appropriate tools, microalgae were scraped, brushed, or sucked from natural substrates in proportion to the rank of those substrates at the study site. Macroalgae were picked by hand in proportion to their abundance at the site. All collections of microalgae and macroalgae were pooled into a common container and preserved with Lugol's solution.

The samples were examined to estimate the relative abundance and rank by biovolume of diatoms and genera of soft (non-diatom) algae according to the method described in Bahls (1993). Soft algae were identified using Dillard (1999), Prescott (1978), Smith (1950), and Whitford and Schumacher (1984). These books also served as references on the ecology of the soft algae, along with Palmer (1969, 1977).

After the identification of soft algae, the raw periphyton samples were cleaned of organic matter using sulfuric acid, and permanent diatom slides were prepared using Naphrax, a high refractive index mounting medium, following *Standard Methods for the Examination of Water and Wastewater* (APHA 1998). Between 400 and 494 diatom cells (800 to 988 valves) were counted at random and identified to species. The following were used as the main taxonomic and autecological references for the diatoms: Krammer and Lange-Bertalot 1986, 1988, 1991a, 1991b; Patrick and Reimer 1966, 1975. Lowe (1974) was also used as an ecological reference for the diatoms.

The diatom proportional counts were used to generate an array of diatom association metrics (Table 2). A metric is a characteristic of the biota that changes in some predictable way with increased human influence (Barbour et al. 1999).

Metric values from the Blackfoot River and tributaries were compared to numeric biocriteria or threshold values developed for streams in the Rocky Mountain Ecoregions of Montana (Table 3). These criteria are based on metric values measured in leastimpaired reference streams (Bahls et al. 1992) and on metric values measured in streams that are known to be impaired by various sources and causes of pollution (Bahls 1993).

The criteria in Table 3 distinguish among four levels of impairment and three levels of aquatic life use support: no impairment or only minor impairment (full support); moderate impairment (partial support); and severe impairment (nonsupport). These impairment levels correspond to excellent, good, fair, and poor biological integrity, respectively.

Quality Assurance. Several steps were taken to assure that the study results are accurate and reproducible.

Upon receipt of the samples, station and sample information were recorded in a laboratory notebook and the samples were assigned a unique number compatible with the Montana Diatom Database, e.g., 2156-01. The first part of this number (2156) designates the sampling site (Blackfoot River at Flesher Pass Road); the second part of this number (01) designates the number of periphyton samples that have been collected at this site for which data have been entered into the Montana Diatom Database.

Sample observations and analyses of soft (non-diatom) algae were recorded in a lab notebook along with station and sample information provided by MDEQ. A portion of the raw sample was used to make duplicate diatom slides. After completing the diatom proportional count, the slide used for the count will be deposited in the Montana Diatom Collection at University of Montana Herbarium in Missoula. The other slide will be retained by Hannaea in Helena.

On completion of the project, station information, sample information, and diatom proportional count data will be entered into the Montana Diatom Database.

# RESULTS AND DISCUSSION

Results are presented in Figure 1 and Tables 4 through 7, which are located near the end of this report following the Literature Cited section. Spreadsheets containing completed diatom proportional counts, with species' pollution tolerance classes (PTC) and percent abundances, are attached as Appendix A.

#### SAMPLE NOTES

Blackfoot River. Deformed diatom valves were noted in all three of the periphyton samples from the upper Blackfoot River.

Arrastra Creek. Algae were very sparse in the sample from AraC-01, and the usually colonial alga *Hydrurus* was present only as individual cells. This implies that algal colonization and succession at this site were at a very early stage.

**Poorman Creek.** All three of the samples from Poorman Creek were dominated by moss. *Spirogyra* in the sample from PoorC-03 was senescent.

Willow Creek. The sample collected at WilC-01 was dominated by moss. Ulothrix zonata was the species of Ulothrix present at WilC-02.

Sandbar Creek. The sample from SbrC-01 was dominated by moss. Algae were sparse and diatoms were very sparse in the sample from SbrC-02.

#### NON-DIATOM ALGAE

Blackfoot River. Filamentous green algae dominated the periphyton community at all three sites on the upper Blackfoot River, and a different genus dominated at each site (Table 4).

Zygogonium dominated at the upstream site (Flesher Pass Road). This unusual alga, which is rare in periphyton samples, is primarily aerial and grows on moist acid soils, rocks, and peat (Smith 1950). When growing on soil, it may develop in patches several yards in diameter. "The remarkable capacity of Zygogonium for taking up and returning large quantities of water plays no inconsiderable role in colonization of bare soil by the smaller phanerogams" (Smith 1950).

Diatoms ranked second in biovolume at BlckftR-01, followed by *Tolypothrix*, a cyanobacterium that requires cool water. In total, 12 genera of green, blue-green, and golden nondiatom algae were found in the sample from this site (Table 4). These algae indicate cool waters with relatively low levels of nutrients.

Stigeoclonium dominated the periphyton at BlckftR-02, above Landers Fork. This alga is often found in waters that are enriched with organic wastes (Palmer 1969). The source of this organic load may be swampy areas upstream or old pit toilets at the Forest Service campground (Aspen Grove) just above the sampling site (Michael Pipp, MDEQ, pers. comm.). Diatoms ranked 2nd in biovolume at this site, followed by the cyanobacterium Nostoc, which indicates cool waters where nitrogen is limiting. A total of 9 genera of non-diatom algae in three divisions were recorded at this site (Table 4).

Ulothrix dominated the periphyton community at BlckftR-03, above Nevada Creek, followed by the cyanobacterium Oscillatoria. These algae indicate increasing nitrogen enrichment. Diatoms

ranked 3rd at this site. Ten genera of non-diatom algae were recorded here, in four different divisions, including the red alga Audouinella (Table 4).

**Poorman Creek.** Diatoms dominated the periphyton community in all three samples from Poorman Creek (Table 4). Cyanobacteria ranked second at the upper two sites: Nostoc at PoorC-01 and Phormidium at PoorC-02. These genera indicate cool waters with relatively low levels of nutrients. The filamentous green alga Spirogyra ranked second at PoorC-03. This alga, also known as "pond scum", indicates warmer water temperatures, which may be due to a large beaver dam complex just upstream (Michael Pipp, MDEQ, pers. comm.).

The number of non-diatom genera was lower in Poorman Creek than in the upper Blackfoot River: only 2 to 6 genera of nondiatom algae were recorded at each site (Table 4). This may be due to the smaller size of Poorman Creek and natural stresses associated with shading and cool waters of low mineral content. Diatoms, green algae, and cyanobacteria were present at PoorC-01, whereas only diatoms and cyanobacteria were present at PoorC-02. Cyanobacteria were absent at the downstream site (PoorC-03), but green algae and red algae were present here (Table 4).

Arastra Creek. On average, Arrastra Creek supported even fewer non-diatom algae than did Poorman Creek (Table 5). Only diatoms and the cold-water chrysophyte *Hydrurus foetidus* were found with regularity in the sample from AraC-01. *Hydrurus* dominated the sample from AraC-02, followed by diatoms and the filamentous green alga *Ulothrix*. These algae indicate cold waters with relatively low levels of nutrients.

Sandbar Creek. Diatoms dominated the periphyton sample collected at SbrC-01 and the cyanobacterium *Phormidium* accounted for the most biovolume at SbrC-02 (Table 5). Among the non-

diatom algae, both sites supported a mix of green algae and cyanobacteria, and a single genus of chrysophyte (*Tribonema*). Ten genera of non-diatom algae were found at the upstream site and seven genera at the downstream site (Table 5). As with the other streams in this study, the algal flora of Sandbar Creek indicated cool waters of low mineral content.

Willow Creek. Diatoms accounted for most of the biovolume in the periphyton sample collected at WilC-01 and the chrysophyte *Tribonema* ranked second at this site (Table 5). Nine other genera of green algae and cyanobacteria, most of them indicating cool waters of low nutrient and low mineral content, made up the rest of the flora.

The filamentous green alga *Ulothrix* dominated the periphyton sample from WilC-02, followed by *Chaetophora* (filamentous green), *Audouinella* (filamentous red), and *Tolypothrix* (filamentous cyanobacterium) (Table 5). These algae also indicate cool waters with relatively low nutrient and mineral content.

## DIATOMS

Blackfoot River. Most of the major diatom species in samples from the upper Blackfoot River are sensitive to organic enrichment (Table 6). However, Synedra rumpens, the dominant species at the Flesher Pass Road, is somewhat tolerant of organic loading (Lange-Bertalot 1979). Organic loading at this site, which is also reflected by the borderline pollution index (2.50), may be internal and due to the naturally swampy nature of the stream at and above this location.

Aside from minor organic loading and disturbance, and a slightly elevated percent dominant species value at the upstream site, the most serious problem in the upper Blackfoot River

appears to be chronic metals toxicity resulting in large percentages of abnormal diatom valves (Table 6). The largest of these percentages (11.40%) is comparable to that found in the Eagle River of Colorado, a federal superfund site (McFarland et al. 1997). Large percentages of teratological diatom valves have also been observed in Tenmile Creek near Helena (Bahls 1998) and in Elkhorn Creek near Wise River (Bahls 2001). Both sites have elevated heavy metals associated with historic mining activities.

The percentage of abnormal diatom valves in the upper Blackfoot River decreases in a downstream direction (Figure 1, Table 6). This likely indicates dilution of heavy metals by cleanwater tributaries and/or an increase in buffering capacity as the river becomes more alkaline. The percentage of abnormal valves at the Flesher Pass Road (BlckftR-01) indicates severe impairment and nonsupport of aquatic life uses. The percentage above the Landers Fork (BlckftR-02) indicates moderate impairment and partial support of aquatic life uses, and the percentage above Nevada Creek (BlckftR-03) indicates minor impairment but full support of aquatic life uses.

Other than unusually large percentages of teratological diatoms at the two upstream sites, diatom metrics indicate good to excellent biological integrity and full support of aquatic life uses in the upper Blackfoot River. Diatom diversity, species richness, and the pollution index all increased in a downstream direction, indicating a decrease in organic loading and heavy metals concentrations. Except for small increases in the siltation index, the diatoms indicate that biological integrity improved from upstream to downstream in the upper Blackfoot. Adjacent sites in the upper Blackfoot River had about 40% of their diatom floras in common (Table 6), indicating that moderate environmental change (recovery) occurred between them.

Poorman Creek. The upper two sites on Poorman Creek also

had an elevated number of teratological diatom valves, but the percentages here were much smaller than they were at the upper two sites on the Blackfoot River (Table 6). These resulted in ratings of moderate impairment and fair biological integrity at PoorC-01 and PoorC-02. This impairment is probably due to elevated concentrations of heavy metals. Otherwise, diatom metrics indicated only minor impairment and full support of aquatic life uses in Poorman Creek.

Diatom diversity and species richness in Poorman Creek increased in a downstream direction, perhaps in response to a decline in concentrations of heavy metals. Slowing current velocities and warmer water temperatures may also contribute to an increase in diatom diversity. A slightly elevated siltation index indicates minor impairment from sedimentation at PoorC-02 (Table 6).

Most of the major diatom species in Poorman Creek are sensitive to pollution (Table 6). Pollution index values for Poorman Creek were relatively low for a mountain stream and were about the same at all three sites. The one major species present that is somewhat tolerant of organic enrichment--*Synedra ulna*-was most abundant at the upstream site (PoorC-01). In Table 6, the similarity index indicates a much greater floristic change occurred between the upper and middle sites (26% similar floras) than between the middle and lower sites (52% similar floras).

Arastra Creek. The upper site on Arrastra Creek had a high percentage of abnormal diatom valves (3.67%) that indicates moderate impairment and partial support of aquatic life uses (Table 7). As with Poorman Creek and the upper Blackfoot River, this impairment was likely due to elevated concentrations of heavy metals. The percentage of teratological diatom valves dropped to an acceptable level at AraC-02.

Diatom species diversity and species richness also declined from AraC-01 to AraC-02 (Table 7). This decline in diversity was due mainly to an abundance of *Hannaea arcus* at AraC-02. This diatom and *Hydrurus foetidus*, which dominated the periphyton at this site, both indicate cold waters of high quality. Hence the low diatom diversity and species richness values at this site are likely due to natural stressors, such as cold water temperatures, low concentrations of dissolved solids, and moderate current velocities.

Sandbar Creek. Both sites on Sandbar Creek had elevated percentages of abnormal diatoms (Table 7). The percentage at SbrC-01 (3.71%) indicated moderate impairment and partial support of aquatic life uses; the percentage at SbrC-02 (10.26) indicated severe impairment and nonsupport of aquatic life uses.

In addition, both sites on Sandbar Creek had depressed diatom diversity and species richness values, indicating moderate to severe stress (Table 7). *Diatoma mesodon*, the dominant diatom species at the upstream site, is a cold water stenotherm (Lowe 1974). I have recorded large numbers of this species in mine adit discharges and in streams that receive mine adit discharges (unpublished data). It appears to be a good indicator of stream sites that are fed primarily by groundwater.

The dominant diatom species at the downstream site (SbrC-02) was Achnanthidium minutissimum (synonym: Achnanthes minutissima) (Table 7). This is a pioneer species which, when present in very large numbers, indicates some form of chemical, physical or biological disturbance (Barbour et al. 1999). Although diatom associations in unpolluted streams in Montana may be composed of up to 70% Achnanthidium minutissimum, much larger percentages of this diatom almost always occur in streams that receive mining wastes (unpublished data). The large percentage of this diatom

(86.5%) at SbrC-02 and the resulting low diversity index (0.96) both indicate severe impairment and nonsupport of uses.

The two sites on Sandbar Creek shared only about a quarter of their diatom floras (Table 7). This indicates that a moderate amount of environmental change (impairment) occurred between the two sites.

Willow Creek. Willow Creek was the only one of the study streams where diatoms indicated that both sites suffered only minor impairment and fully supported their aquatic life uses (Table 7). The upstream site (WilC-01) had a slightly elevated siltation index and a few abnormal diatom valves. The lower site (WilC-02) had somewhat depressed pollution index, indicating some organic loading. This organic loading may be natural and due to the swampy nature of this stream.

Both sites supported relatively large numbers of small, free-living Fragilariaceae (Fragilaria vaucheriae, Staurosira construens, Synedra rumpens) (Table 7). These diatoms indicate highly stable stream flows and reflect the low gradient and stable flows of Willow Creek. The two sites on Willow Creek had almost half of their diatom floras in common, indicating only minor environmental change occurred between them.

Both sites on Willow Creek supported a few abnormal diatom valves (Table 7) but these sites had two of the three lowest percentages of abnormal valves of all the sites in the study area (Figure 1). The upper Blackfoot River and the tributaries sampled for this study are unusual in that abnormal valves were recorded at all study sites (Figure 1). This probably indicates the influence of elevated heavy metals in these waters.

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Sandbar Creek (lower) (Sbrc-02);

'Cadotte Creek; MT'; Scale 1" = 0.143Mi\_230Mt\_755Ft, 1.Mi = 6.996" , 1 cm = 91Mt



'Stemple Pass, MT'; Scale: 1" = 0.191Mi 307Mt 1,006Ft, 1 Mi = 5.247". 1 cm = 121Mt





'Swede Gulch; MT'; Scale: 1" = 0.191Mi 307Mt 1,006Ft, 1 Mi = 5.247" , 1 cm = 121Mt







'Elliston 100K; MT'; Scale: 1" = 0.381Mi 613Mt 2,013Ft, 1 Mi = 2.624" , 1 cm = 242Mt



'Butte 250K; MT'; Scale: 1" = 0.953Mi 1,534Mt 5,031Ft, 1 Mi = 1.049" , 1 cm = 604Mt

Figure 1. Percent abnormal diatom valves in periphyton samples from the upper Blackfoot River and tributaries.



Table 1. Location of periphyton samp	ling stations	in the upper	Blackfoot R. 0	lrainage.
Station	Station Code	Sample Number	Latitude/ Longitude	Sample Date
Blackfoot River at Flesher Pass Road	BlckftR-01	2156-01	47 00 39 112 27 17	06/21/01
Blackfoot River above Landers Fork at Aspen Grove Campground	BlckftR-02	2157-01	46 58 30 112 32 05	06/21/01
Blackfoot River above Nevada Creek near Browns Lake	. BlckftR-03	2158-01	46 55 08 113 00 50	06/26/01
Arrastra Creek below National Forest boundary in section 17	AraC-01	2159-01	46 58 15 112 53 09	06/21/01
Arrastra Creek at Highway 200 near mouth	AraC-02	2160-01	46 56 45 112 54 14	06/21/01
Poorman Creek (upper) above Stemple Pass road	PoorC-01	2161-01	46 54 00 112 30 27	06/26/01
Poorman Creek (middle) below South Fork	PoorC-02	2162-01	46 52 23 112 32 57	06/26/01
Poorman Creek (lower) at Stemple Pass road	PoorC-03	2163-01	46 54 33 112 39 51	06/26/01
Willow Creek along Flesher Pass road	WilC-01	2164-01	46 59 09 112 23 21	06/19/01
Willow Creek at mouth	WilC-02	2165-01	47 00 31 112 27 28	06/21/01
Sandbar Creek (upper)	SbrC-01	2166-01	47 00 22 112 23 15	06/18/01
Sandbar Creek (lower)	SbrC-02	2167-01	46 59 51 112 23 58	06/18/01

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Metric	Reference	Range of Values	Expected Response
Shannon Species Diversity	Bahls 1979	0.00-5.00+	Decrease <sup>1</sup>
Pollution Index <sup>2</sup>	Bahls 1993	1.00-3.00	Decrease
Siltation Index <sup>3</sup>	Bahls 1993	+0.00-00.0	Increase
Disturbance Index <sup>4</sup>	Barbour et al. 1999	0.001-00.0	Increase
No. Species Counted	Bahls 1979, 1993	0-100+	Decrease <sup>1</sup>
Percent Dominant Species	Barbour et al. 1999	5.0-100.0	Increase
Percent Abnormal Cells	McFarland et al. 1997	0.0-20.0+	Increase
Similarity Index	Whittaker 1952	0.0-80.0+	Decrease
Percent Epithemiaceae	Stevenson & Pan 1999	0.0-80.0+	Decrease
Percent Aerophiles	Johansen 1999	0.0-100	Increase
<sup>1</sup> Shannon diversity and sne	arorati tem seardait seita		

and expected direction Diatom association metrics used to evaluate biological integrity in Montana reference, range of values in Montana streams. streams: . 2 Table

and species richness may increase somewhat in naturally nutrient-poor mountain streams in response to slight to moderate increases in nutrients or sediment. σπαπιση ατνετειση

<sup>2</sup> Composite numeric expression of the pollution tolerances assigned by Lange-Bertalot (1979) to the common diatom species. <sup>3</sup> Sum of the percent abundances of all species in the genera *Navicula*, *Nitzschia*, and Surirella.

<sup>4</sup> Percent abundance of Achnanthes minutissima.

Table 3.	Criteria f natural st Montana us rating for	or rating l ress, and a ing selecte any one me	evels of b aquatic lif ed metrics etric is th	iological in e use support for benthic d e overall ra	cegrity, c in wade diatom as cing for	environmen able moun sociation the study	ntal impai tain strea s. The lc site.	rment or ums of west
Biological Integrity/ Impairment or Natural Stress/Use Support	Diversity Index (Shannon)	Pollution Index	Siltation Index	Disturbance Index	Number of Species Counted	Percent Dominant Species	Percent S Abnormal Cells	imilarity Index <sup>1</sup>
Excellent None/Full Support	>2.99	>2.50	<20.0	<25.0	>29	<25.0	0.0	>59.9
Good/Minor Full Suppo	2.00- rt 2.99	2.01- 2.50	20.0- 39.9	25.0- 49.9	20- 29	25.0- 49.9	>0.0- <1.0	40.0- 59.9
Fair/Moder Partial Support	ate 1.00- 1.99	1.50- 2.00	40.0- 59.9	50.0- 74.9	10- 19	50.0- 74.9	1.0- 9.9	20.0- 39.9
Poor/Sever Nonsupport	e <1.00	<1.50	>59.9	>74.9	<10	>74.9	6.6<	<20.0
<sup>1</sup> The Simi. compare a metric mea sites and that is co tributarie diatom flo of impairm floras, no what dissi	Larity Indestudy site study site sures the is the sum mmon to bo s or envir ras in com ent or rec change; 4 change; 4	ex or Perce to an unin degree of f of the sma th sites. onmental pe mon (Bahls overy that 0.0-59.9% = as, moderat	nt Communit mpaired ups floristic s aller of th Adjacent r erturbation 1993). PC occurs bet occurs bet	cy Similarity tream contro imilarity be e two percent iffles on th s. will gene S may also be ween adjacent similar flore	<pre>(Whitta) 1 site on tween dia t abundan e same st rally hav rally hav t study s as, minor y dissimi</pre>	ker 1952) I the same ttom assoc ice values ream, wit e at leas guage th ites: >5 ites: >5 ites: 10 a	may be us stream. iations at for each hout inter t 60% of t e relative 9.9% = ver 20.0-39.9% s, major c	ed to This the two species tvening their e amount y similar thange.

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Table 4. Relativ Bacille collect dominar	ve abundance of ariophyceae) and ced from the up nt; a = abundan	cells and or d genera of no per Blackfoot t; f = frequen	dinal rank by on-diatom alg River and Poo nt; c = common	biovolume c ae in periph orman Creek 1; o = occas	<pre>f diatoms iyton sample in 2001: c ional; r =</pre>	(Class es 1 = rare.
Таха			Stal	tion		
	BlckftR-01	BlckftR-02	BlckftR-03	PoorC-01	PoorC-02	PoorC-03
<b>Chlorophyta</b> (gree	en algae)					
Ankistrodesmus Chaetophora	s c/8	<del>ب</del> / ۲				
Closterium Cosmarium	6/0	r/10	r/10	0/6		r/5
Gongrosira Microspora			r/9			0/3
Mougeotia	f/4					0/4
Staurastrum	r/13					4 10
Stigeocionium Illothrix	t/5	α/1 F/4	0/1 1/P	0/4		
Zygogonium	d/1	4	1			
<b>Chrysophyta</b> (golć	den algae)					
Diatoms	a/2	f/2	a/3	a/1	a/1	f/1
nyututus Tribonema Vaucheria	0/11	C/ 0	0/6			0/6
<b>Rhodophyta</b> (red <i>č</i>	algae)					
Audouinella			0/8			0/7

1			1								
(Class es 1 = rare.		PoorC-03									9
of diatoms lyton sample in 2001: c sional; r =		PoorC-02					0/3	c/2			7
biovolume c le in periph rman Creek 1; o = occas	ion	PoorC-01				f/2	0/5	c/3			Ŋ
dinal rank by on-diatom alga River and Poc 1t; c = common	Stat	BlckftR-03		r/11			a/2	c/5	c/4		10
cells and ord l genera of nd ber Blackfoot :; f = frequer		BlckftR-02		0/0	0/0	f/3	c/8	c/7			6
abundance of lophyceae) and l from the upp : a = abundant		BlckftR-01	acteria)	01/0	C/7 C/7		c/6	o/12		a/3	12
Table 4. Relative Bacillar: collected dominant	Таха		<b>yanophyta</b> (cyanoba	Amphithrix Ansheene	Calothrix	Nostoc	Oscillatoria	Phormidium	Rivularia	Tolypothrix	lo. of Genera

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Table 5.	Relative ab Bacillariop collected f dominant; a	oundance of ohyceae) an from Arrast a = abundan	cells and o d genera of ra Creek, Sa t; f = freque	rdinal rank non-diatom a ndbar Creek, ent; c = com	by biovolume lgae in peri and willow mon; o = occ	of diatoms phyton sampl Creek in 200 asional; r =	(Class es 1: d = rare.
Таха				Sta	tion		
		AraC-01	AraC-02	SbrC-01	SbrC-02	WilC-01	WilC-02
Chlorophyt	<b>ta</b> (green al	gae)					
Ankisti	rodesmus						r/12 £/2
Closter	rium			r/11		r/11	r/11 r/11
Hormid	ium			c/4		c/4	
Micros] Microtl	pora hamnion			0/8	0/6 C/3	£/3	
Mougeoi	tia			6/0		0/6	0/10
Selena	strum			0/10		0 7 / 7	
Spirogy	vra 210.1				L/ (	0/5	
Ulothr:	imtioto		£/3		n 10	/ /0	c/b d/1
Chrysophyt	<b>ta</b> (golden a	lgae)					
Diatoms	10	0/1	a/2	a/1	0/ <i>7</i>	f/l	f/5
Tribone Tribone	ema	70	T /D	f/2	C/4	f/2	
Rhodophy t <i>i</i>	a (red algae	(					
Audouiı	ıella						f/3

B

. م (۱) کې م		lC-02	2/8 2/9	E / 4	
s (Cla: ples 001: (		Mi		4	
of diatom phyton sam Creek in 20 asional; r		WilC-01	6/0 8/0		10
by biovolume lgae in peri and Willow mon; o = occ	tion	SbrC-02	o/8 a/1 €/2	7/7	2
rdinal rank non-diatom a ndbar Creek, ent; c = com	Sta	SbrC-01	0/7 C/5	0/6	10
cells and o d genera of ra Creek, Sa tt; f = frequ		AraC-02	C/4		m
abundance of tophyceae) ar f from Arrast a = abundar		AraC-01	(cteria)	r/3	7
Table 5. Relative Bacillar: collected dominant;	Таха		<b>Cyanophyta</b> (cyanobé <i>Nostoc</i> <i>Oscillatoria</i> <i>Phormidium</i> <i>Rivularia</i>	Synechocystis Tolypothrix	No. of Genera

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Table 6.	Percent abundance of maj association metrics for River and Poorman Creek aquatic life uses with m and moderate impairment; severe impairment; all c and no impairment when c	or diatom periphytor in 2001. ninor impai underline ther value compared to	species <sup>1</sup> a samples ( <u>Underline</u> irment; <b>bo</b> ed and bolo es indicate	nd values collected : <u>i values</u> in <b>id values</b> in <b>id values</b> in e full supp for mounta	of select from the undicate fundicate pundicate nudicate	ed diatom upper Blac ull suppor partial su on-support quatic lif ms in Tabl	kfoot t of pport and e uses e 3.
Spec (Pollutio	ies/Metric n Tolerance Class) E	lkftR-01 E	31kftR-02 I	Stat: 31kftR-03	ion PoorC-01	PoorC-02	PoorC-03
Achnanthi Diatoma v	dium minutissimum (3) ulgaris (3)	25.11	10.13	16.03 15.81	1.67	25.94	17.32
Hannaea a Meridion	rcus (3) circulare (3)	2.01	10.13 4.00	0.00	46.77	1.72 1.01	0.98 14.81
Pseudosta Staurosir	urosıra brevıstrıata (3) a construens (3)	11.72 8.26	12.00	3.14 8.41	0.84	0.10	3.38
<i>Synedra</i> u	umpens (z) lna (2)	28.32	10.13 3.13	1.57 2.02	16.75	0.30 4.86	6.54 4.47
Number of	Cells Counted	448	400	446	418	494	459
Shannon S	pecies Diversity	3.37	4.47	4.56	2.83	4.33	4.42
Siltation	Index	<u>2.50</u> 13.06	2.5/ 15.75	2./2 18.16	22.2 13.64	26.85	2.56 16.12
Disturban	ce Index	25.11	10.13	16.03	1.67	25.94	17.32
Percent D	species counced ominant Species	39 28.35	46 12.00	62 16.03	46.77	46 25.94	54 17.32
Percent A	bnormal Cells	11.40	6.63	0.90	1.08	2.23	0.76
Percent E Similarit	pithemiaceae Y Index <sup>2</sup>	0.00 39	1.37 .86 43	1.91 .56	0.60 25	0.00 .73 51	0.00 .74
<sup>1</sup> A major the dia	diatom species is here d tom cells that were count	efined as ed at one	or more st	ccounts fo	r 10.0 pe a sample	rcent or r set.	nore of
<sup>2</sup> The perc	cent community similarity	between B	lkftR-01 a	nd BlkftR-	.03 was 34	.03; the p	ercent

community similarity between PoorC-01 and PoorC-03 was 38.13.

Table 7.	Percent abundance o association metrics Creek, and Willow C aquatic life uses w and moderate impair severe impairment; and no impairment w	f major dia for periph reek in 200 ith minor i ment; <u>under</u> all other v hen compare	tom specie yton sampl 1. <u>Underl</u> mpairment; <mark>lined and</mark> alues indi d to crite	s <sup>1</sup> and value es collect <u>ined value</u> <b>bold value</b> <b>bold value</b> cate full cate full ria for mo	les of sel ed from Ar <u>s</u> indicate <b>es</b> indicate <b>s</b> indicate support of untain str	ected diat rastra Cr. full supp e partial e non-suppo aquatic l eams in Te	om , Sandbar Jort of support Jrt and ife uses able 3.
Spec (Pollutio	ies/Metric n Tolerance Class)	AraC-01	AraC-02	Stat SbrC-01	ion SbrC-02	WilC-01	WilC-02
Achnanthi Diatoma n Fradilari	dium minutissimum (3 esodon (3)	) 20.23 3.04	16.33 0.20 3.37	19.74 51.91	86.48 1.75	4.03 2.65 0.42	5.14 7.55 24.40
Gomphonen Gomphonen Hannaea a Staurosir Staurosir	a vaccuttat (2) a angustatum (2) rcus (3) a construens (3)	25.58 1.26 2.73	2.18 .18 .18 .18 .18 .18	0.12 0.60 69	4.78 22	0.53 1.70 27.60	1.53 1.53 1.28 1.28
Number of Number of Shannon S Pollution Siltation	Cells Counted pecies Diversity Index Index	477 0.10 3.86 2.59 2.94	490 2.78 2.77 1.94	418	429	471 4.01 2.55 <u>21.02</u>	457 4.12 2.35 15.32
Number of Percent D Percent A Percent E Similarit	ce incex Species Counted ominant Species bnormal Cells pithemiaceae Y Index	20.23 51 25.58 <b>3.67</b> 0.21 33	$\begin{array}{c} 10.53 \\ 30 \\ 49.18 \\ 0.51 \\ 0.00 \\ 0.00 \end{array}$	23 51.91 3.71 0.24 26	<b>16</b> <b>16</b> <b>86.48</b> <b>10.26</b> 0.00	51 51 <u>27.60</u> 0.64 0.00 45	46 46 24.40 <u>0.22</u> 0.00
<sup>1</sup> A major	diatom species is he	ere defined	as one tha	at accounts	5 for 10.0	percent o	r more of

the diatom cells that were counted at one or more stations in a sample set.

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# APPENDIX A: DIATOM PROPORTIONAL COUNTS

Sample	Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
215601	Achnanthes lanceolata	2	2	0.22
215601	Achnanthidium affine	3	2	0.22
215601	Achnanthidium biasolettianum	3	0	0,00
215601	Achnanthidium minutissimum	3	225	25.11
215601	Amphipleura pellucida	2	0	0.00
215601	Aulacoseira italica	3	3	0.33
215601	Aulacoseira lirata	3	13	1.45
215601	Caloneis bacillum	2	20	2.23
215601	Caloneis tenuis	3	2	0.22
215601	Cavinula cocconeiformis	3	4	0.45
215601	Cavinula pseudoscutiformis	3	0	0.00
215601	Cyclotella meneghiniana	2	1	0.11
215601	Cymbella sp.	3	2	0.22
215601	Diatoma mesodon	3	12	1.34
215601	Diatoma tenue	2	0	0.00
215601	Encyonema minutum	2	2	0.22
215601	Epithemia adnata	2	0	0.00
215601	Epithemia sorex	3	0	0.00
215601	Fragilaria capucina	2	10	1 12
215601	Fragilaria crotonensis	3	9	1.00
215601	Fragilaria robusta	3	0	0.00
215601	Fragilaria vaucheriae	2	2	0.22
215601	Gomphonema clavatum	2	2	0.22
215601	Gomphonema intricatum	3	2	0.22
215601	Gomphonema minutum	, a construction of the second s		0.11
215601	Meridion circulare	3	18	2.01
215601	Navicula arvensis	1	17	1 90
215601	Navicula cryptocephala	3	2	0.22
215601	Navicula detenta	3	- Ô	0.00
215601	Navicula elginensis	3	2	0.00
215601	Navicula medioconvexa	3	6	0.67
215601	Navicula minima	1	33	3.68
215601	Nitzschia acicularis	2	1	0.00
215601	Nitzschia canitellata	2	0	0.00
215601	Nitzschia communis	1	0	0.00
215601	Nitzschia flexa	2	2	0.00
215601	Nitzschia fonticola	2	2	1.00
215601	Nitzschia frustulum	2	2	1.00
215601	Nitzschia gracilis	2	2	0.22
215601	Nitzschia linearis	2	- 0	0.00
215601	Nitzschia nalea			0.22
215601	Nitzschia parminuta	2		0.40
215601	Nitzschia pumila		0	0.07
215601	Nitzschia pura			0.45
215601	Psoudostaurosira brovistriota	2	105	<u></u> <u></u>
215601	Phonalodia cibba		105	
215601	Sellaphora pupula	2	0	0.00
215601	Staurosira construens	2		
215601	Staurosirolla lontestauron	3	(4	0.20
215001	Staurosirella epicostautor	3	0	0.00
215001		3	8	0.89
215001	Sundra rumpana	2		0.11
21500	Syneula rumpens	2	254	28.35
215601	Syneora uina	2	10	1.12

Sample	Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
215701	Achnanthes lanceolata	2	10	1.25
215701	Achnanthidium biasolettianum	3	2	0.25
215701	Achnanthidium minutissimum	3	81	10.13
215701	Amphipleura pellucida	2	0	0.00
215701	Amphora pediculus	3	0	0.00
215701	Aulacoseira distans	3	6	0.75
215701	Aulacoseira italica	3	1	0.13
215701	Caloneis silicula	2	2	0.25
215701	Cocconeis placentula	3	8	1.00
215701	Cyclotella meneohiniana	2	. 0	0.00
215701	Cymhella sp	3	Q	0.50
215701	Diatoma mesodon	3	6	0.30
215701	Encyonema auerswaldii	2	4	0.75
215701	Encyonema minutum	2	12	1.63
215701	Encyonema silesiacum	2	13	5.38
215701	Enithemia sorey	2	43	0.50
215701	Epithemia turgida		4	0.00
215701			10	1.75
215701	Fragilaria vauchoriaa	2	10	1.20
215701	Fragilaria vauchenae	2	22	2.75
215701		3	2	0.25
215701	Comphonels ellense	3	0	0.00
215701	Gomphonema acuminatum	3	2	0.25
215701	Comprionema angustatum	2	2	0.25
215701	Gomphonema kobayasii	3	2	0.25
215701	Gomphonema olivaceoides	3	53	6.63
215701	Gomphonema parvulum	1	2	0.25
215701	Hannaea arcus	3	81	10.13
215701	Hantzschia_amphioxys	2	0	0.00
215701	Meridion circulare	3	32	4.00
215701	Navicula arvensis	1	5	0.63
215701	Navicula cryptotenella	2	· 4	0.50
215701	Navicula minima	1	10	1.25
215701	Navicula minuscula	1	24	3.00
215701	Navicula tripunctata	3	4	0.50
215701	Nitzschia amphibia	2	2	0.25
215701	Nitzschia archibaldii	2	22	2.75
215701	Nitzschia dissipata	3	7	0.88
215701	Nitzschia fonticola	3	33	4 13
215701	Nitzschia linearis	2	1	0.13
215701	Nitzschia palea	1	6	0.75
215701	Nitzschia perminuta	3	0	0.00
215701	Nitzschia pumila	2	2	0.25
215701	Nitzschia pura	2	6	0.25
215701	Nitzschia vermicularis	2	0	0.75
215701	Psammothidium helveticum	2	0	0.00
215701	Reimeria sinuata		1	0.03
215701	Rhoicosphenia cupyata			0.15
215701	Rhonalodia dibba		4	0.20
215701	Staurosira construore			12.00
215701	Staurosiralla lantastauras	3	90	12.00
215701	Staurosirolla pigneta	3	2/	3.38
215701	Supadra sumaana	3	38	4.(5
212/01	Synedra rumpens	2	81	10.13
215/01	Synedra una	2	25	3.13

215801 Achnanthes lanceolata         2         5         0.56           215801 Achnanthidium biasolettianum         3         2         0.22           215801 Achnanthidium biasolettianum         3         143         16.03           215801 Achnanthidium minutissimum         3         143         16.03           215801 Amphora pediculus         3         1         0.11           215801 Cocconeis pediculus         3         1         0.11           215801 Cocconeis pediculus         3         1         1           215801 Cocconeis pediculus         3         1         0.11           215801 Cocconeis pediculus         3         0         0.000           215801 Cymbella subaequalis         3         0         0.000           215801 Denticula Kuetzingii         3         2         0.22           215801 Diatoma moniliformis         2         6         0.67           215801 Diatoma tenue         2         3         0.34           215801 Encyonema auerswaldii         2         2         2           215801 Encyonema rorostratum         3         5         0.56           215801 Encyonema rorostratum         3         2         3         1           215801 En	Sample	Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
215801 Achnanthidium biasolettianum       3       2       0.22         215801 Achnanthidium minutlissimum       3       143       16.03         215801 Amphora Inariensis       3       2       0.22         215801 Amphora Inariensis       3       1       0.11         215801 Cocconeis pediculus       3       1       0.11         215801 Cocconeis pediculus       3       1       0.11         215801 Cocconeis placentula       3       14       1.57         215801 Cymatopleura solea       0       0       0         215801 Cymatopleura solea       0       0       0.00         215801 Cymatopleura solea       0       0.00       0.02         215801 Diatoma mesodon       3       2       0.22         215801 Diatoma moniliformis       2       6       0.67         215801 Diatoma moniliformis       2       9       1.011         215801 Diatoma vulgaris       3       141       15.81         215801 Encyonema auerswaldii       2       2       0.22         215801 Encyonema nindum       2       9       1.011         215801 Encyonema silesiacum       2       2       3.56         215801 Encyonema sincrocephala       <	215801	Achnanthes lanceolata	2	5	0.56
215801 Achanthidum minutissimum       3       143       16.03         215801 Amphora inariensis       2       4       0.45         215801 Amphora inariensis       3       2       0.22         215801 Amphora inariensis       3       1       0.11         215801 Cocconeis pediculus       3       1       0.11         215801 Cocconeis pediculus       3       1       0.11         215801 Cymaella affinis       3       20       2.00         215801 Cymbella subaequalis       0       0.000         215801 Denticula Kuetzingii       3       2       0.22         215801 Diatoma mesodon       3       2       0.22         215801 Diatoma tenue       2       3       0.34         215801 Diatoma tenue       2       0.22       2.15801 Encyonema auerswaldii       2       0.22         215801 Encyonema newswaldii       2       2       2.22       2.15801 Encyonema auerswaldii       2       2       2.23       2.58         215801 Encyonema auerswaldii       2       2       2.2       2.58       2.58       2.58       2.58       2.58       2.58       2.58       2.58       2.58       2.58       2.58       2.58       2.58       2.58<	215801	Achnanthidium biasolettianum	3	2	0.22
215801 Amphipeura pellucida       2       4       0.45         215801 Amphora pediculus       3       1       0.11         215801 Cocconeis pediculus       3       1       0.11         215801 Cocconeis pediculus       3       1       0.11         215801 Cymatopleura solea       2       0       0.00         215801 Cymatopleura solea       2       0       0.00         215801 Cymatopleura solea       3       0       0.22         215801 Cymatopleura solea       3       0       0.00         215801 Cymbella subaequalis       3       0       0.00         215801 Diatoma mesodon       3       2       0.22         215801 Diatoma moniliformis       2       6       0.67         215801 Diatoma moniliformis       2       1       0.11         215801 Encyonema auerswaldii       2       2       2       2         215801 Encyonema minutum       2       9       1.01       1.5801       5       0.66         215801 Encyonema silesiacum       2       3       1.01       1.12       2.3501       2.5801       2.3592       2.5801       2.5801       2.5801       2.5801       2.5801       2.5801       2.5801       2	215801	Achnanthidium minutissimum	3	143	16.03
215801 Amphora inariensis       3       2       0.22         215801 Amphora pediculus       3       1       0.11         215801 Cocconeis pediculus       3       1       0.11         215801 Cocconeis pediculus       3       14       1.57         215801 Cymbella filmis       3       20       2.24         215801 Cymbella filmis       3       20       2.24         215801 Diatom aesodon       3       2       0.22         215801 Diatom aesodon       3       2       0.22         215801 Diatom aesodon       3       2       0.22         215801 Diatoma tenue       2       3       0.34         215801 Diatoma vugaris       3       141       15.81         215801 Encyonema aurswaldii       2       2       0.22         215801 Encyonema sitesiacum       3       5       0.56         215801 Encyonema sitesiacum       2       2       3         215801 Encyonema sitesiacum       2       2       2         215801 Encyonema sitesiacum       2       2       3       5         215801 Encyonema sitesiacum       2       4       0.45         215801 Encyonema sitesiacum       3       0 <td< td=""><td>215801</td><td>Amphipleura pellucida</td><td>2</td><td>4</td><td>0.45</td></td<>	215801	Amphipleura pellucida	2	4	0.45
215801 Amphora pediculus       3       1       0.11         215801 Cocconeis pediculus       3       1       0.11         215801 Cymatopleura solea       2       0       0.00         215801 Cymbella affinis       3       20       2.24         215801 Cymbella subaequalis       3       0       0.00         215801 Denticula Kuetzingii       3       2       0.22         215801 Diatoma mesodon       3       2       0.22         215801 Diatoma moniliformis       2       6       0.67         215801 Diatoma moniliformis       2       6       0.67         215801 Diatoma moniliformis       3       141       15.81         215801 Encyonema auerswaldii       2       2       0.22         215801 Encyonema minutum       2       9       1.01         215801 Encyonema silesiacum       2       3       5.66         215801 Encyonema sincirocephala       2       23       2.58         215801 Epithemia adnata       1       0.11       1.5801       1.01         215801 Epithemia sorex       3       10       1.12       2.15801       6       6.7         215801 Epithemia adnata       2       1       0.11 <t< td=""><td>215801</td><td>Amphora inariensis</td><td>3</td><td>2</td><td>0.22</td></t<>	215801	Amphora inariensis	3	2	0.22
215801       Cocconeis placentula       3       1       11         215801       Cocconeis placentula       3       14       1.57         215801       Cymbella aslea       2       0       0.00         215801       Cymbella asleaqualis       3       0       0.00         215801       Cymbella subaequalis       3       0       0.00         215801       Denticula Kuetzingii       3       2       0.22         215801       Diatoma mesodon       3       2       0.22         215801       Diatoma moniliformis       2       6       0.67         215801       Diatoma tenue       2       3       0.34         215801       Encyonema auerswaldii       2       2       0.22         215801       Encyonema prostratum       3       5       0.66         215801       Encyonema silesiacum       2       3       2.3         215801       Encyonema silesiacum       2       3       0.56         215801       Encyonema silesiacum       2       3       0.56         215801       Encyonema silesiacum       2       3       0.56         215801       Encyonema silesiacum       2	215801	Amphora pediculus	3	1	0.11
215801       Conconeis placentula       3       14       1.57         215801       Cymbella affinis       3       20       2.24         215801       Cymbella subaequalis       3       0       0.00         215801       Denticula Kuetzingii       3       2       0.22         215801       Diatoma mesodon       3       2       0.22         215801       Diatoma moniliformis       2       6       0.67         215801       Diatoma moniliformis       2       6       0.67         215801       Diatoma tenue       2       3       0.34         215801       Encyonema auerswaldii       2       2       0.22         215801       Encyonema sulesiacum       2       3       2.58         215801       Encyonema silesiacum       2       3       2.58         215801       Encyonema silesiacum       2       3       0       0         215801       Enthemia adnata       2       1       0.11       2       1.63       0       0       0         215801       Enthemia sorex       3       10       1.12       2       2.83       1.44       1.550       1.550       1.56       1.	215801	Cocconeis pediculus	3	1	0.11
215801 Cymatopleura solea         2         0         0.00           215801 Cymbella affinis         3         20         2.24           215801 Denticula Kuetzingii         3         2         0.22           215801 Diatoma mesodon         3         2         0.22           215801 Diatoma mesodon         3         2         0.22           215801 Diatoma moniliformis         2         6         0.67           215801 Diatoma nulgaris         3         141         15.81           215801 Diatoma vulgaris         3         141         15.81           215801 Encyonema auerswaldii         2         9         1.01           215801 Encyonema prostratum         3         5         0.56           215801 Encyonema prostratum         3         5         0.56           215801 Encyonema silesiacum         2         2         2         2           215801 Encyonema silesiacum         2         2         2         2         2           215801 Encyonema silesiacum         2         1         0.11         1         1         1           215801 Encyonema silesiacum         2         2         2         2         2         2         2         2 <t< td=""><td>215801</td><td>Cocconeis placentula</td><td>3</td><td>14</td><td>1.57</td></t<>	215801	Cocconeis placentula	3	14	1.57
215801 Cymbella subaequalis         3         20         2.24           215801 Denticula Kuetzingii         3         0         0.00           215801 Diatoma mesodon         3         2         0.22           215801 Diatoma mesodon         3         2         0.22           215801 Diatoma mesodon         3         2         0.22           215801 Diatoma ungaris         3         141         15.81           215801 Diatoma vulgaris         3         141         15.81           215801 Encyonema auerswaldii         2         2         0.22           215801 Encyonema anostratum         3         5         0.56           215801 Encyonema prostratum         3         5         0.56           215801 Encyonema sitesiacum         2         2         3         2.58           215801 Encyonema sitesiacum         2         2         3         0         0.00           215801 Encyonepsis microcephala         2         2         3         0         0.11           215801 Encyonepsis microcephala         2         2         3         10         1.12           215801 Encyonepsis microcephala         3         0         0.00         2         2         2	215801	Cymatopleura solea	2	0	0.00
215801 Cymbella subaequalis       3       0       0.00         215801 Denticula Kuetzingii       3       2       0.22         215801 Diatoma monifformis       2       6       0.67         215801 Diatoma monifformis       2       6       0.67         215801 Diatoma nonifformis       2       3       0.34         215801 Diatoma vulgaris       3       141       15.81         215801 Encyonema auerswaldii       2       2       0.22         215801 Encyonema minutum       2       9       1.01         215801 Encyonema prostratum       3       5       0.56         215801 Encyonema silesiacum       2       23       2.58         215801 Encyonepsis microcephala       2       23       2.58         215801 Encyonepsis microcephala       2       1       0.11         215801 Epithemia adnata       2       1       0.11         215801 Epithemia acapucina       2       4       0.45         215801 Fragilaria vaucheriae       2       28       3.14         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema sarcophagus <td< td=""><td>215801</td><td>Cymbella affinis</td><td>3</td><td>20</td><td>2.24</td></td<>	215801	Cymbella affinis	3	20	2.24
215801 Denticula Kuetzingii       3       2       0.22         215801 Diatoma mesodon       3       2       0.22         215801 Diatoma mesodon       3       2       0.22         215801 Diatoma mesodon       2       3       0.34         215801 Diatoma tenue       2       3       0.34         215801 Diatoma vulgaris       3       141       15.81         215801 Encyonema auerswaldii       2       2       0.22         215801 Encyonema prostratum       3       5       0.56         215801 Encyonema silesiacum       2       32       3.59         215801 Encyonensis microcephala       2       23       2.58         215801 Epithemia adnata       2       1       0.11         215801 Epithemia sorex       3       10       1.12         215801 Fragilaria capucina       2       4       0.45         215801 Fragilaria vaucheriae       2       28       3.14         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema alvacum       3       2       0.22         215801 Gomphonema septata       3       2	215801	Cymbella subaequalis	3	0	0.00
215801         Diatoma mesodon         3         2         0.22           215801         Diatoma monilí/omis         2         6         0.67           215801         Diatoma tenue         2         3         0.34           215801         Diatoma vulgaris         3         141         15.81           215801         Encyonema auerswaldii         2         2         0.22           215801         Encyonema auerswaldii         2         2         0.22           215801         Encyonema minutum         2         9         1.01           215801         Encyonema silesiacum         2         3         2.3.59           215801         Encyonens ilesiacum         2         3         0.41           215801         Epithemia adnata         2         1         0.11           215801         Epithemia adnata         2         1         0.11           215801         Fragilaria capucina         2         4         0.45           215801         Fragilaria vaucheriae         2         2         0.22           215801         Gomphonema clavatum         2         4         0.45           215801         Gomphonema clavatum         3	215801	Denticula Kuetzingii	3	2	0.22
215801         Diatoma moniliformis         2         6         0.67           215801         Diatoma tenue         2         3         0.34           215801         Diatoma vulgaris         3         141         15.81           215801         Encyonema auerswaldii         2         2         0.22           215801         Encyonema minutum         2         9         1.01           215801         Encyonema sitesiacum         2         3         2.3         5.9           215801         Encyonema sitesiacum         2         3         2.58         2.15801         Epithemia adnata         2         1         0.11           215801         Epithemia adnata         2         1         0.11         2         2.15801         Epithemia adnata         2         4         0.45           215801         Ergilaria capucina         2         4         0.45         2         2.8         3.14           215801         Gomphonema lovacum         3         2         0.22         2.22         2.22         2.22         2.21         2.80         3.14         2.15801         Gomphonema lovacum         3         6         0.67         2.15801         Gomphonema olivaceum	215801	Diatoma mesodon	3	2	0.22
215801 Diatoma tenue         2         3         0.34           215801 Diatoma vulgaris         3         141         15.81           215801 Encyonema auerswaldii         2         0.22           215801 Encyonema minutum         2         9         1.01           215801 Encyonema prostratum         3         5         0.56           215801 Encyonema silesiacum         2         32         3.59           215801 Encyonema silesiacum         2         32         3.59           215801 Epithemia adnata         2         1         0.11           215801 Epithemia adnata         2         1         0.11           215801 Epithemia turgida         3         0         0.00           215801 Fragilaria capucina         2         4         0.45           215801 Gomphoneis herculeana         3         2         0.22           215801 Gomphonema kobayasii         3         2         0.22           215801 Gomphonema septata         3         2         0.22           215801 Gomphonema septata         3         2         0.22           215801 Gomphonema septata         3         2         0.22           215801 Hanneea arcus         3         0         0.00 <td>215801</td> <td>Diatoma moniliformis</td> <td>2</td> <td>- 6</td> <td>0.67</td>	215801	Diatoma moniliformis	2	- 6	0.67
215801       Diatoma vulgaris       3       141       15.81         215801       Encyonema auerswaldii       2       2       0.22         215801       Encyonema minutum       2       9       1.01         215801       Encyonema prostratum       3       5       0.56         215801       Encyonema silesiacum       2       32       2.58         215801       Encyonopsis microcephala       2       23       2.58         215801       Epithemia adnata       2       1       0.11         215801       Epithemia adnata       2       1       0.11         215801       Epithemia sorex       3       10       1.12         215801       Epithemia sorex       3       0       0.00         215801       Epithemia vucheriae       2       28       3.14         215801       Gomphoneis herculeana       3       2       0.22         215801       Gomphonema clavatum       2       4       0.45         215801       Gomphonema septata       3       2       0.22         215801       Gomphonema septata       3       2       0.22         215801       Manea arcus       3       0<	215801	Diatoma tenue	2	3	0.34
215801       Encyonema auerswaldii       2       2       0.22         215801       Encyonema auerswaldii       2       9       1.01         215801       Encyonema prostratum       3       5       0.56         215801       Encyonopsis microcephala       2       23       2.58         215801       Encyonopsis microcephala       2       23       2.58         215801       Epithemia adnata       2       1       0.11         215801       Epithemia adnata       2       1       0.11         215801       Epithemia adnata       2       4       0.45         215801       Fragilaria capucina       2       4       0.45         215801       Fragilaria vaucheriae       2       28       3.14         215801       Gomphoneis herculeana       3       2       0.22         215801       Gomphonema clavatum       2       4       0.45         215801       Gomphonema parvulum       1       0.11       1         215801       Gomphonema parvulum       1       0.11       1       0.11         215801       Gomphonema sercophagus       2       2       0.22       215801         215801<	215801	Diatoma vulgaris		141	15.81
21500         Exponenta atolstratum         2         2         0.22           215801         Encyonema minutum         2         9         1.01           215801         Encyonema minutum         2         32         3.59           215801         Encyonema silesiacum         2         32         3.59           215801         Encyonopsis microcephala         2         23         2.58           215801         Epithemia sorex         3         10         1.11           215801         Epithemia sorex         3         10         1.12           215801         Epithemia sorex         3         10         1.12           215801         Fragilaria capucina         2         4         0.45           215801         Fragilaria vaucheriae         2         28         3.14           215801         Gomphonema clavatum         2         4         0.45           215801         Gomphonema alvateum         3         6         0.67           215801         Gomphonema alvateum         3         6         0.67           215801         Gomphonema sercaptagus         2         2         0.22           215801         Gomphonema sercaptagus	215801	Encyonema auerswaldii	2	2	0.22
215001       Encyonema prostratum       3       5       0.56         215801       Encyonema silesiacum       2       32       3.59         215801       Encyonema silesiacum       2       32       3.59         215801       Encyonema silesiacum       2       32       3.58         215801       Epithemia adnata       2       1       0.11         215801       Epithemia adnata       2       1       0.11         215801       Epithemia adnata       2       4       0.45         215801       Eragilaria capucina       2       4       0.45         215801       Gomphoneis herculeana       3       2       0.22         215801       Gomphonema clavatum       2       4       0.45         215801       Gomphonema clavatum       3       6       0.67         215801       Gomphonema parvulum       1       1       0.11         215801       Gomphonema sarcophagus       2       2       0.22         215801       Gomphonema septata       3       2       0.22         215801       Hannaea arcus       3       0       0.000         215801       Navicula capitatoradiata       2	215801	Encyonema minutum	2		1.01
21500 Encyonema silesiacum       2       32       3.59         215801 Encyonopsis microcephala       2       32       3.59         215801 Encyonopsis microcephala       2       2       2.58         215801 Epithemia adnata       2       1       0.11         215801 Epithemia adnata       2       1       0.11         215801 Epithemia turgida       3       0       0.00         215801 Fragilaria capucina       2       4       0.45         215801 Gomphoneis herculeana       3       2       0.22         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema olivaceum       3       6       0.67         215801 Gomphonema sarcophagus       2       2       0.22         215801 Gomphonema sarcophagus       2       0       0.00         215801 Mavicula capitatoradiata       2       1       1.12         215801 Navicula capitatoradiata </td <td>215801</td> <td>Encyonema minutum</td> <td>2</td> <td>5</td> <td>0.56</td>	215801	Encyonema minutum	2	5	0.56
213001 Encyonepia microcephala       2       32       3.39         215801 Encyonepis microcephala       2       23       2.58         215801 Epithemia adnata       2       1       0.11         215801 Epithemia sorex       3       10       1.12         215801 Epithemia sorex       3       0       0.00         215801 Epithemia turgida       3       0       0.00         215801 Fragilaria capucina       2       4       0.45         215801 Gomphoneis herculeana       3       2       0.22         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema olivaceum       3       6       0.67         215801 Gomphonema sarcophagus       2       2       0.22         215801 Gomphonema septata       3       2       0.22         215801 Gomphonema septata       3       0       0.00         215801 Manaea arcus       3       0       0.00         215801 Manaea arcus       2       0       0.00         215801 Navicula capitatoradiata       2       1       1.12         215801 Navicula capitatoradiata       2       1 </td <td>215801</td> <td>Encyonema prostratum</td> <td></td> <td>2</td> <td>0.50</td>	215801	Encyonema prostratum		2	0.50
215001 Entyohopsis introblephala       2       23       230         215801 Epithemia adnata       2       1       0.11         215801 Epithemia sorex       3       10       1.12         215801 Epithemia sorex       3       0       0.00         215801 Epithemia sorex       3       0       0.00         215801 Epithemia turgida       3       0       0.00         215801 Eragilaria capucina       2       4       0.45         215801 Gomphoneis herculeana       3       2       0.22         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema kobayasii       3       2       0.22         215801 Gomphonema olivaceum       3       6       0.67         215801 Gomphonema sarcophagus       2       2       0.22         215801 Gomphonema septata       3       0       0.00         215801 Manaea arcus       3       0       0.00         215801 Maneea arcus       3       0       0.00         215801 Mavicula capitatoradiata       2       10       1.12         215801 Navicula capitatoradiata       2       1	215001		2	32	3.09
215801 Epithemia aonata       2       1       0.11         215801 Epithemia sorex       3       10       1.12         215801 Epithemia turgida       3       0       0.00         215801 Fragilaria capucina       2       4       0.45         215801 Gomphoneis herculeana       3       2       0.22         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema kobayasii       3       2       0.22         215801 Gomphonema kobayasii       3       2       0.22         215801 Gomphonema alivaceum       3       6       0.67         215801 Gomphonema sarcophagus       2       2       0.22         215801 Gomphonema sarcophagus       2       2       0.22         215801 Gomphonema sarcophagus       2       0       0.00         215801 Hannaea arcus       3       0       0.00         215801 Hannaea arcus       3       0       0.00         215801 Hantzschia amphioxys       2       0       0.00         215801 Navicula capitatoradiata       2       1       0.11         215801 Navicula reiptotenella       2 <t< td=""><td>215601</td><td></td><td>2</td><td>23</td><td>2.58</td></t<>	215601		2	23	2.58
215801 Epithemia turgida       3       10       1.12         215801 Epithemia turgida       3       0       0.00         215801 Fragilaria capucina       2       4       0.45         215801 Gomphoneis herculeana       2       28       3.14         215801 Gomphoneis herculeana       3       2       0.22         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema kobayasii       3       2       0.22         215801 Gomphonema kobayasii       3       2       0.22         215801 Gomphonema clavatum       3       6       0.67         215801 Gomphonema parvulum       1       1       0.11         215801 Gomphonema septata       3       2       0.22         215801 Gomphonema septata       3       0       0.00         215801 Hantzschia amphioxys       2       0       0.00         215801 Mavicula capitatoradiata       2       10       1.12         215801 Navicula cryptotenella       2       23       2.58         215801 Navicula reichardtiana       2       1       0.11         215801 Navicula reichardtiana       2       1       1.12         215801 Navicula reichardtiana	215801		2	1	0.11
215801 Epithemia turgida       3       0       0.00         215801 Fragilaria capucina       2       4       0.45         215801 Fragilaria vaucheriae       2       28       3.14         215801 Gomphoneis herculeana       3       2       0.22         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema clavatum       3       2       0.22         215801 Gomphonema sarcophagus       2       2       0.22         215801 Gomphonema septata       3       2       0.22         215801 Hantzschia amphioxys       2       0       0.00         215801 Melosira varians       2       13       1.46         215801 Navicula capitatoradiata       2       10       1.12         215801 Navicula regitatoradiata       2       10       1.12         215801 Navicula regitatoradiata       2       1       0.11         215801 Navicula reichardtiana       2       1       0.11         215801 Navicula reichardtiana	215801	Epithemia sorex	3	10	1.12
215801 Fragilaria capucina       2       4       0.45         215801 Fragilaria vaucheriae       2       28       3.14         215801 Gomphoneis herculeana       3       2       0.22         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema clavatum       2       0.22         215801 Gomphonema clavatum       3       6       0.67         215801 Gomphonema olivaceum       3       6       0.67         215801 Gomphonema parvulum       1       1       0.11         215801 Gomphonema sarcophagus       2       2       0.22         215801 Hanzea arcus       3       0       0.00         215801 Hanzea arcus       3       0       0.00         215801 Hanzea arcus       3       0       0.00         215801 Melosira varians       2       13       1.46         215801 Navicula capitatoradiata       2       10       1.12         215801 Navicula criptotenella       2       23       2.58         215801 Navicula reichardtiana       2       1       0.11         215801 Navicula reichardtiana       2       1 <td< td=""><td>215801</td><td>Epithemia turgida</td><td>3</td><td>0</td><td>0.00</td></td<>	215801	Epithemia turgida	3	0	0.00
215801 Fragilana vauchenae       2       28       3.14         215801 Gomphoneis herculeana       3       2       0.22         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema kobayasii       3       2       0.22         215801 Gomphonema kobayasii       3       2       0.22         215801 Gomphonema kobayasii       3       2       0.22         215801 Gomphonema parvulum       1       1       0.11         215801 Gomphonema sarcophagus       2       2       0.22         215801 Gomphonema septata       3       2       0.22         215801 Hantzschia amphioxys       2       0       0.00         215801 Malosira varians       2       1       1.12         215801 Navicula capitatoradiata       2       10       1.12         215801 Navicula radiosa       3       4       0.45         215801 Navicula reichardtiana       2       1       0.11         215801 Navicula reichardtiana       2       1       1.12         215801 Navicula radiosa       3       4       0.45         215801 Navicula reichardtiana       2       1       1.12         215801 Navicula radiosa       3	215801	Fragilaria capucina	2	4	0.45
215801 Gomphoneis herculeana       3       2       0.22         215801 Gomphonema clavatum       2       4       0.45         215801 Gomphonema kobayasii       3       2       0.22         215801 Gomphonema kobayasii       3       2       0.22         215801 Gomphonema kobayasii       3       2       0.22         215801 Gomphonema alivaceum       3       6       0.67         215801 Gomphonema parvulum       1       1       0.11         215801 Gomphonema sarcophagus       2       2       0.22         215801 Gomphonema septata       3       2       0.22         215801 Hannaea arcus       3       0       0.000         215801 Hantzschia amphioxys       2       0       0.000         215801 Melosira varians       2       13       1.46         215801 Navicula capitatoradiata       2       10       1.12         215801 Navicula roptotenella       2       23       2.58         215801 Navicula radiosa       3       4       0.45         215801 Navicula reichardtiana       2       1       1.11         215801 Navicula reichardtiana       2       2       0.22         215801 Navicula tripunctata       3<	215801	Fragilaria vaucheriae	2	28	3.14
215801       Gomphonema clavatum       2       4       0.45         215801       Gomphonema kobayasii       3       2       0.22         215801       Gomphonema olivaceum       3       6       0.67         215801       Gomphonema parvulum       1       1       0.11         215801       Gomphonema sarcophagus       2       2       0.22         215801       Gomphonema septata       3       2       0.22         215801       Hannaea arcus       3       0       0.00         215801       Hannaea arcus       3       0       0.00         215801       Hantzschia amphioxys       2       0       0.00         215801       Melosira varians       2       13       1.46         215801       Navicula capitatoradiata       2       10       1.12         215801       Navicula regiota       3       4       0.45         215801       Navicula relichardtiana       2       1       0.11         215801       Navicula reichardtiana       2       1       0.22         215801       Navicula reichardtiana       2       2       0.22         215801       Navicula sp.       2	215801	Gomphoneis herculeana	3	2	0.22
215801       Gomphonema kobayasii       3       2       0.22         215801       Gomphonema olivaceum       3       6       0.67         215801       Gomphonema parvulum       1       1       0.11         215801       Gomphonema sarcophagus       2       2       0.22         215801       Gomphonema septata       3       2       0.22         215801       Gomphonema septata       3       2       0.22         215801       Hannaea arcus       3       0       0.00         215801       Hantzschia amphioxys       2       0       0.00         215801       Melosira varians       2       13       1.46         215801       Navicula capitatoradiata       2       10       1.12         215801       Navicula reptotenella       2       23       2.58         215801       Navicula reichardtiana       3       4       0.45         215801       Navicula reichardtiana       2       11       1.23         215801       Navicula sp.       2       2       0.22         215801       Navicula tripunctata       3       13       1.46         215801       Nitzschia angustata       2	215801	Gomphonema clavatum	2	4	0.45
215801 Gomphonema olivaceum       3       6       0.67         215801 Gomphonema parvulum       1       1       0.11         215801 Gomphonema sarcophagus       2       2       0.22         215801 Gomphonema septata       3       2       0.22         215801 Hannaea arcus       3       0       0.00         215801 Hantzschia amphioxys       2       0       0.00         215801 Melosira varians       2       13       1.46         215801 Navicula capitatoradiata       2       10       1.12         215801 Navicula capitatoradiata       2       10       1.12         215801 Navicula reptotenella       2       23       2.58         215801 Navicula rechardtiana       2       1       0.11         215801 Navicula rechardtiana       2       1       0.11         215801 Navicula reichardtiana       2       11       1.23         215801 Navicula reichardtiana       2       2       0.22         215801 Navicula tripunctata       3       13       1.46         215801 Navicula tripunctata       3       13       1.46         215801 Nitzschia angustata       2       2       0.22         215801 Nitzschia archibaldii	215801	Gomphonema kobayasii	3	2	0.22
215801 Gomphonema parvulum       1       1       0.11         215801 Gomphonema sarcophagus       2       2       0.22         215801 Gomphonema septata       3       2       0.22         215801 Hannaea arcus       3       0       0.00         215801 Hannaea arcus       3       0       0.00         215801 Hantzschia amphioxys       2       0       0.00         215801 Melosira varians       2       13       1.46         215801 Navicula capitatoradiata       2       10       1.12         215801 Navicula cryptotenella       2       23       2.58         215801 Navicula reichardtiana       3       4       0.45         215801 Navicula reichardtiana       2       11       1.23         215801 Navicula reichardtiana       2       11       1.23         215801 Navicula sp.       2       0.22       0.22         215801 Navicula tripunctata       3       13       1.46         215801 Nitzschia angustata       2       2       0.22         215801 Nitzschia archibaldii       2       1       0.11         215801 Nitzschia fonticola       3       60       6.73         215801 Nitzschia fonticola       3	215801	Gomphonema olivaceum	3	6	0.67
215801         Gomphonema sarcophagus         2         2         0.22           215801         Gomphonema septata         3         2         0.22           215801         Hannaea arcus         3         0         0.00           215801         Hannaea arcus         3         0         0.00           215801         Hantzschia amphioxys         2         0         0.00           215801         Melosira varians         2         13         1.46           215801         Navicula capitatoradiata         2         10         1.12           215801         Navicula capitatoradiata         2         23         2.58           215801         Navicula reptotenella         2         23         2.58           215801         Navicula menisculus         2         1         0.11           215801         Navicula reichardtiana         2         11         1.23           215801         Navicula sp.         2         2         0.22           215801         Navicula tripunctata         3         13         1.46           215801         Nitzschia angustata         2         2         0.22           215801         Nitzschia dissipata <td< td=""><td>215801</td><td>Gomphonema parvulum</td><td>1</td><td>1</td><td>0.11</td></td<>	215801	Gomphonema parvulum	1	1	0.11
215801 Gomphonema septata       3       2       0.22         215801 Hannaea arcus       3       0       0.00         215801 Hantzschia amphioxys       2       0       0.00         215801 Melosira varians       2       13       1.46         215801 Navicula capitatoradiata       2       10       1.12         215801 Navicula cryptotenella       2       23       2.58         215801 Navicula menisculus       2       1       0.11         215801 Navicula reichardtiana       3       4       0.45         215801 Navicula reichardtiana       2       11       1.23         215801 Navicula sp.       2       0.22       0.22         215801 Navicula reichardtiana       2       11       1.23         215801 Navicula sp.       2       0.22       0.22         215801 Navicula tripunctata       3       13       1.46         215801 Nitzschia angustata       2       2       0.22         215801 Nitzschia dissipata       3       60       6.73         215801 Nitzschia fonticola       3       1       0.11	215801	Gomphonema sarcophagus	2	2	0.22
215801 Hannaea arcus       3       0       0.00         215801 Hantzschia amphioxys       2       0       0.00         215801 Melosira varians       2       13       1.46         215801 Navicula capitatoradiata       2       10       1.12         215801 Navicula capitatoradiata       2       23       2.58         215801 Navicula reptotenella       2       23       2.58         215801 Navicula menisculus       2       1       0.11         215801 Navicula radiosa       3       4       0.45         215801 Navicula reichardtiana       2       11       1.23         215801 Navicula sp.       2       0.22       0.22         215801 Navicula tripunctata       3       13       1.46         215801 Navicula tripunctata       2       2       0.22         215801 Nitzschia angustata       2       2       0.22         215801 Nitzschia archibaldii       2       1       0.11         215801 Nitzschia dissipata       3       60       6.73         215801 Nitzschia fonticola       3       1       0.11	215801	Gomphonema septata	3	2	0.22
215801       Hantzschia amphioxys       2       0       0.00         215801       Melosira varians       2       13       1.46         215801       Navicula capitatoradiata       2       10       1.12         215801       Navicula capitatoradiata       2       10       1.12         215801       Navicula cryptotenella       2       23       2.58         215801       Navicula menisculus       2       1       0.11         215801       Navicula radiosa       3       4       0.45         215801       Navicula reichardtiana       2       11       1.23         215801       Navicula reichardtiana       2       11       1.23         215801       Navicula sp.       2       2       0.22         215801       Navicula tripunctata       3       13       1.46         215801       Nitzschia angustata       2       2       0.22         215801       Nitzschia archibaldii       2       1       0.11         215801       Nitzschia dissipata       3       60       6.73         215801       Nitzschia fonticola       3       1       0.11	215801	Hannaea arcus	3	0	0.00
215801       Melosira varians       2       13       1.46         215801       Navicula capitatoradiata       2       10       1.12         215801       Navicula cryptotenella       2       23       2.58         215801       Navicula menisculus       2       1       0.11         215801       Navicula renisculus       2       1       0.11         215801       Navicula radiosa       3       4       0.45         215801       Navicula reichardtiana       2       11       1.23         215801       Navicula sp.       2       2       0.22         215801       Navicula tripunctata       3       13       1.46         215801       Nitzschia angustata       2       2       0.22         215801       Nitzschia dissipata       3       60       6.73         215801       Nitzschia fonticola       3       1       0.11	215801	Hantzschia amphioxys	2	0	0.00
215801 Navicula capitatoradiata       2       10       1.12         215801 Navicula cryptotenella       2       23       2.58         215801 Navicula menisculus       2       1       0.11         215801 Navicula radiosa       3       4       0.45         215801 Navicula reichardtiana       2       11       1.23         215801 Navicula reichardtiana       2       11       1.23         215801 Navicula sp.       2       2       0.22         215801 Navicula tripunctata       3       13       1.46         215801 Nitzschia angustata       2       2       0.22         215801 Nitzschia dissipata       3       60       6.73         215801 Nitzschia fonticola       3       1       0.11	215801	Melosira varians	2	13	1.46
215801 Navicula cryptotenella       2       23       2.58         215801 Navicula menisculus       2       1       0.11         215801 Navicula radiosa       3       4       0.45         215801 Navicula reichardtiana       2       11       1.23         215801 Navicula sp.       2       2       0.22         215801 Navicula tripunctata       3       13       1.46         215801 Nitzschia angustata       2       2       0.22         215801 Nitzschia archibaldii       2       1       0.11         215801 Nitzschia fonticola       3       60       6.73         215801 Nitzschia fonticola       3       1       0.11	215801	Navicula capitatoradiata	2	10	1.12
215801 Navicula menisculus       2       1       0.11         215801 Navicula radiosa       3       4       0.45         215801 Navicula reichardtiana       2       11       1.23         215801 Navicula sp.       2       2       0.22         215801 Navicula tripunctata       3       13       1.46         215801 Nitzschia angustata       2       2       0.22         215801 Nitzschia archibaldii       2       1       0.11         215801 Nitzschia fonticola       3       60       6.73         215801 Nitzschia fonticola       3       1       0.11	215801	Navicula cryptotenella	2	23	2.58
215801 Navicula radiosa       3       4       0.45         215801 Navicula reichardtiana       2       11       1.23         215801 Navicula sp.       2       2       0.22         215801 Navicula tripunctata       3       13       1.46         215801 Nitzschia angustata       2       2       0.22         215801 Nitzschia archibaldii       2       1       0.11         215801 Nitzschia dissipata       3       60       6.73         215801 Nitzschia fonticola       3       1       0.11	215801	Navicula menisculus	2	1	0.11
215801 Navicula reichardtiana       2       11       1.23         215801 Navicula sp.       2       2       0.22         215801 Navicula tripunctata       3       13       1.46         215801 Nitzschia angustata       2       2       0.22         215801 Nitzschia archibaldii       2       1       0.11         215801 Nitzschia dissipata       3       60       6.73         215801 Nitzschia fonticola       3       1       0.11	215801	Navicula radiosa	3	4	0.45
215801 Navicula sp.       2       2       0.22         215801 Navicula tripunctata       3       13       1.46         215801 Nitzschia angustata       2       2       0.22         215801 Nitzschia archibaldii       2       1       0.11         215801 Nitzschia dissipata       3       60       6.73         215801 Nitzschia fonticola       3       1       0.11	215801	Navicula reichardtiana	2	11	1.23
215801 Navicula tripunctata       3       13       1.46         215801 Nitzschia angustata       2       2       0.22         215801 Nitzschia archibaldii       2       1       0.11         215801 Nitzschia dissipata       3       60       6.73         215801 Nitzschia fonticola       3       1       0.11	215801	Navicula sp.	2	2	0.22
215801 Nitzschia angustata         2         2         0.22           215801 Nitzschia archibaldii         2         1         0.11           215801 Nitzschia dissipata         3         60         6.73           215801 Nitzschia fonticola         3         1         0.11	215801	Navicula tripunctata	3	13	1.46
215801 Nitzschia archibaldii         2         1         0.11           215801 Nitzschia dissipata         3         60         6.73           215801 Nitzschia fonticola         3         1         0.11	215801	Nitzschia angustata	2	2	0.22
215801 Nitzschia dissipata         3         60         6.73           215801 Nitzschia fonticola         3         1         0.11	215801	Nitzschia archibaldii	2	1	0.11
215801 Nitzschia fonticola 3 1 0.11	215801	Nitzschia dissipata	2	60	6.73
	215801	Nitzschia fonticola	2	1	0.11

Sample	Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
215801	Nitzschia heufleriana	3	1	0.11
215801	Nitzschia inconspicua	2	2	0.22
215801	Nitzschia lacuum	3	3	0.34
215801	Nitzschia paleacea	2	7	0.78
215801	Nitzschia perminuta	3	9	1.01
215801	Nitzschia pura	2	5	0.56
215801	Nitzschia pusilla	1	2	0.22
215801	Nitzschia sociabilis	2	3	0.34
215801	Nitzschia subacicularis	2	0	0.00
215801	Pinnularia appendiculata	3	2	0.22
215801	Placoneis clementioides	3	2	0.22
215801	Placoneis exigua	3	0	0.00
215801	Psammothidium helveticum	3	0	0.00
215801	Pseudostaurosira brevistriata	3	28	3.14
215801	Reimeria sinuata	3	10	1.12
215801	Rhopalodia gibba	2	5	0.56
215801	Sellaphora pupula	2	0	0.00
215801	Staurosira construens	3	75	8.41
215801	Staurosirella lapponica	3	3	0.34
215801	Staurosirella leptostauron	3	24	2.69
215801	Staurosirella pinnata	3	57	6.39
215801	Surirella sp.	2	2	0.22
215801	Synedra rumpens	2	14	1.57
215801	Synedra ulna	2	18	2 02

215901 Achnanthes Ianceolata       2       9       0.94         215901 Achnanthidium biasolettianum       3       3       0.31         215901 Achnanthidium biasolettianum       3       9       20.23         215901 Achnanthidium minutissimum       3       9       20.23         215901 Achnanthidium minutissimum       3       9       20.23         215901 Achnanthidium biasolettianum       2       4       0.42         215901 Caloneis bacillum       2       4       0.42         215901 Caloneis bacillum       2       3       0.31         215901 Cocconeis placentula       3       90       9.43         215901 Cyclotella atomus       2       3       0.31         215901 Diatoma hiemale       3       16       16.86         215901 Diatoma mesodon       3       29       3.4         215901 Diatoma mesodon       3       29       2.021         215901 Diatoma ulgaris       3       4       0.42         215901 Diatoma ulgaris       3       4       0.42         215901 Fragilaria capucina       2       2.021       2.15901         215901 Gomphonema angustatum       2       2.021       2.15901         215901 Gomphonema	Sample	Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
215901 Achnanthidium biasoletlianum       3       3       0.31         215901 Achnanthidium biasoletlianum       3       193       2023         215901 Achnanthidium biasoletlianum       3       193       2023         215901 Achnanthidium biautissimum       3       193       2023         215901 Audicoseira canadensis       3       1       0.10         215901 Caloneis silicula       2       3       0.31         215901 Cocconeis pediculus       3       1       0.10         215901 Cocconeis pediculus       3       1       0.10         215901 Cocconeis pediculus       3       16       16         215901 Cydotella atomus       2       3       0.31         215901 Cydotella hebridica       3       2       0.21         215901 Datoma vulgaris       3       4       0.42         215901 Epithemia adhata       2       2       0.21         215901 Gorphonema clavatum       2       2       0.21         215901 Gorphonema clavatum	215901	Achnanthes lanceolata	2	9	0.94
215901 Achnanthidium biasolettianum       3       5       0.52         215901 Achnanthidium minutissimum       3       193       20.23         215901 Aulacoseira canadensis       3       1       0.10         215901 Caloneis bacillum       2       4       0.42         215901 Caloneis solicula       2       3       0.31         215901 Cocconeis pediculus       3       1       0.10         215901 Cocconeis pediculus       3       2       0.31         215901 Cocconeis pediculus       3       2       0.31         215901 Cynhella hebridica       3       2       0.21         215901 Diatoma mesodon       3       29       3.04         215901 Diatoma mesodon       3       29       3.04         215901 Diatoma mesodon       3       2       0.21         215901 Encyonema silesiacum       2       2       0.21         215901 Encyonema silesiacum       2       2       0.21         215901 Comphonema angustatum       2       2       0.21         215901 Comphonema clavatum       2       16       168         215901 Comphonema kobayasii       3       14       14         215901 Gomphonema ninticatum       3 <td>215901</td> <td>Achnanthes sp.</td> <td>3</td> <td>3</td> <td>0.31</td>	215901	Achnanthes sp.	3	3	0.31
215901 Achaanthidium minutissimum       3       193       20.23         215901 Aulacoseira canadensis       3       1       0.10         215901 Caloneis socillum       2       4       0.42         215901 Caloneis socillum       2       3       0.10         215901 Cocconeis pediculus       3       1       0.10         215901 Cocconeis placentula       3       90       94.33         215901 Cycotella atomus       2       3       0.31         215901 Cycotella atomus       2       3       0.31         215901 Cycotella atomus       3       16       168         215901 Diatoma mesodon       3       29       3.04         215901 Diatoma lemale       3       16       168         215901 Diatoma leadouriana       2       2       0.21         215901 Diatomella batfouriana       2       2       0.21         215901 Entorina atonata       2       2       0.21         215901 Comphonema algustatum       2       2       0.21         215901 Comphonema algustatum       2       2       0.21         215901 Comphonema angustatum       3       1       1.47         215901 Comphonema minitricatum       3	215901	Achnanthidium biasolettianum	3	5	0.52
215901 Amphora pediculus       3       5       0.52         215901 Calones bacillum       2       4       0.42         215901 Calones bacillum       2       3       0.10         215901 Calones silicula       2       3       0.31         215901 Cocconeis pediculus       3       1       0.10         215901 Cocconeis pediculus       3       1       0.10         215901 Cynbella hebrdica       3       2       0.21         215901 Cynbella hebrdica       3       2       0.21         215901 Diatoma mesodon       3       29       3.04         215901 Diatoma mesodon       3       29       3.04         215901 Extremia adnata       2       2       0.21         215901 Epithemia adnata       2       2       0.21         215901 Fragilaria vaucheriae       2       2       0.21         215901 Gomphonema alustatum       2       16       168         215901 Gomphonema intricatum       3       14       147         215901 Gomphonema intricatum       3       12       1.26         215901 Gomphonema ninutum       1       6       0.63         215901 Gomphonema angustatum       2       2       0.2	215901	Achnanthidium minutissimum	3	193	20.23
215901 Aulacoseira canadensis       3       1       0.10         215901 Caloneis silcula       2       3       0.31         215901 Caloneis silcula       3       1       0.10         215901 Cocconeis pacentula       3       90       94         215901 Cycotella atomus       2       3       0.31         215901 Cycotella atomus       2       3       0.31         215901 Cycotella atomus       2       2       0.21         215901 Diatoma hiemate       3       16       168         215901 Diatoma mesodon       3       2       0.21         215901 Diatoma vigaris       3       4       0.42         215901 Diatoma vigaris       3       4       0.42         215901 Epithemia adnata       2       2       0.21         215901 Ergilaria capucina       2       2       0.21         215901 Gomphonema angustatum       2       2       0.21         215901 Gomphonema initicatum       3       13       1.36         215901 Gomphonema niticatum       3       13       1.36         215901 Gomphonema initicatum       3       14       1.47         215901 Gomphonema niticatum       3       12       126 </td <td>215901</td> <td>Amphora pediculus</td> <td>3</td> <td>5</td> <td>0.52</td>	215901	Amphora pediculus	3	5	0.52
215901Caloneis bacillum       2       4       0.42         215901Caloneis silicula       2       3       0.31         215901Cocconeis placentula       3       90       9.3         215901Cocconeis placentula       3       0.31         215901Cymbella hebridica       3       2       0.21         215901Diatoma hiemale       3       16       1.68         215901Diatoma hiemale       3       2       0.21         215901Diatoma nesodon       3       29       3.04         215901Diatoma vulgaris       3       2       0.21         215901Encyonema silesiacum       2       3       3         215901Encyonema silesiacum       2       2       0.21         215901Eragilaria capucina       2       2       0.21         215901Gomphonema angustatum       2       2.44       25         215901Gomphonema inticatum       3       14       1.47         215901Gomphonema kobayasii       3       14       1.47         215901Gomphonema arous       3       12       1.26         215901Gomphonema arous       3       12       1.26         215901Gomphonema arous       3       12       1.26	215901	Aulacoseira canadensis	3.	1	0.10
215901 Caloneis silicula       2       3       0.31         215901 Cocconeis pediculus       3       1       0.10         215901 Cocconeis pediculus       3       90       943         215901 Cyclotella atomus       2       3       0.31         215901 Dymbella hebridica       3       2       0.21         215901 Diatoma hiemale       3       16       168         215901 Diatoma mesodon       3       2       0.21         215901 Diatoma mesodon       3       2       0.21         215901 Diatom avelgaris       3       4       0.42         215901 Diatom vulgaris       3       4       0.42         215901 Encyonema silesiacum       2       2       0.21         215901 Encyonema silesiacum       2       2       0.21         215901 Gomphonema agrustatum       2       24       25         215901 Gomphonema inticatum       3       13       1.36         215901 Gomphonema kobayasii       3       14       147         215901 Gomphonema parvulum       1       6       0.63         215901 Hannaea arcus       3       12       126         215901 Hantschia amphioxys       2       4       0.42 <td>215901</td> <td>Caloneis bacillum</td> <td>2</td> <td>4</td> <td>0.42</td>	215901	Caloneis bacillum	2	4	0.42
215901 Cocconeis pediculus       3       1       0.10         215901 Cocconeis placentula       3       90       94         215901 Cychotella atomus       2       3       0.31         215901 Cychotella atomus       2       3       0.31         215901 Diatoma hiemale       3       16       168         215901 Diatoma hiemale       3       4       0.42         215901 Diatome avugans       3       4       0.42         215901 Diatome avugans       3       4       0.42         215901 Diatomella baffouriana       2       2       0.21         215901 Encyonema silesiacum       2       2       0.21         215901 Fragilaria capucina       2       2       0.21         215901 Gomphonema anguştatum       2       2       0.21         215901 Gomphonema kobayasii       3       14       1.47         215901 Gomphonema kobayasii       3       14       1.47         215901 Gomphonema kobayasii       3       12       1.26         215901 Gomphonema anguyum       1       6       0.63         215901 Gomphonema anguyum       3       12       1.26         215901 Maricula capitotradiata       2       2	215901	Caloneis silicula	2	3	0.31
215901 Cocconeis placentula       3       90       943         215901 Cyclotella atomus       2       3       0.31         215901 Cymbella hebridica       3       2       0.21         215901 Diatoma hiemale       3       16       1.68         215901 Diatoma wulgans       3       4       0.42         215901 Diatoma wulgans       3       4       0.42         215901 Encyonema silesiacum       2       2       0.21         215901 Encyonema silesiacum       2       2       0.21         215901 Fragilaria vaucheriae       2       2       0.21         215901 Gomphonema angustatum       2       244       25.68         215901 Gomphonema intricatum       3       13       1.36         215901 Gomphonema intricatum       3       13       1.41         215901 Gomphonema intrucatum       3       14       1.47         215901 Gomphonema intrucatum       3       12       1.6         215901 Gomphonema intrucatum       3       13       1.36         215901 Gomphonema intrucatum       3       14       1.47         215901 Gomphonema intrucatum       3       12       1.6         215901 Maryoula acrus       2	215901	Cocconeis pediculus	3	1	0.10
215901 Cyclotella atomus       2       3       0.31         215901 Cymbella hebridica       3       2       0.21         215901 Diatoma hiemale       3       16       168         215901 Diatoma hiemale       3       16       168         215901 Diatomella bafforinana       3       2       3.04         215901 Diatomella bafforinana       3       2       0.21         215901 Encyonema silesiacum       2       3.3       2       0.21         215901 Encyonema silesiacum       2       2       0.21       1500       17ragilaria capucina       2       2       0.21         215901 Fragilaria capucina       2       2       0.21       1590       16       168         215901 Gomphonema algustatum       2       24       258       1590       16       168         215901 Gomphonema inticatum       3       13       1.36       6       063         215901 Gomphonema angustatum       3       14       1.47       1.47       1.47       1.47         215901 Gomphonema angustatum       3       12       1.26       1.26       1.590       1.6       1.68       1.590       1.590       1.47       1.47       1.47       1.590	215901	Cocconeis placentula	3.	90	9,43
215901 Cymbella hebridica         3         2         0.21           215901 Diatoma hiemale         3         16         168           215901 Diatoma wesodon         3         29         3.04           215901 Diatoma vulgaris         3         4         0.42           215901 Diatoma vulgaris         3         4         0.42           215901 Encyonema silesiacum         2         2         0.21           215901 Epithemia adnata         2         2         0.21           215901 Fragilaria vaucheriae         2         2         0.21           215901 Gomphonema angustatum         2         244         25.58           215901 Gomphonema inticcatum         3         13         1.36           215901 Gomphonema inticcatum         3         13         1.36           215901 Gomphonema inticcatum         3         6         0.63           215901 Gomphonema parvulum         1         6         0.63           215901 Hantzschia amphioxys         2         4         0.42           215901 Maricula capitatoradiata         2         2         0.21           215901 Navicula ignota         2         2         0.21           215901 Navicula ignota         2	215901	Cyclotella atomus	2	3	0.31
215901 Diatoma hiemale       3       16       1.68         215901 Diatoma wesodon       3       29       3.04         215901 Diatoma vulgaris       3       4       0.42         215901 Diatoma vulgaris       3       2       0.21         215901 Entyonema silesiacum       2       2       3.35         215901 Erityonia adnata       2       2       0.21         215901 Fragilaria capucina       2       2       0.21         215901 Gomphonema angustatum       2       244       258         215901 Gomphonema angustatum       2       244       258         215901 Gomphonema intricatum       3       13       1.36         215901 Gomphonema kobayasii       3       14       1.47         215901 Gomphonema hinutum       3       6       0.63         215901 Gomphonema parvulum       1       6       0.63         215901 Hannaea arcus       3       12       1.26         215901 Hannaea arcus       3       2       0.21         215901 Navicula capitatoradiata       2       2       0.21         215901 Navicula capitatoradiata       2       2       0.21         215901 Navicula seminulum       1       1	215901	Cymbella hebridica	3	2	0,21
215901 Diatoma mesodon       3       29       3.04         215901 Diatoma vulgaris       3       4       0.42         215901 Encyonema silesiacum       2       32       3.35         215901 Engionema silesiacum       2       32       3.35         215901 Fragilaria capucina       2       2       0.21         215901 Fragilaria vaucheriae       2       2       0.21         215901 Gomphonema angustatum       2       244       25         215901 Gomphonema intricatum       3       13       1.36         215901 Gomphonema intricatum       3       14       1.47         215901 Gomphonema intricatum       3       6       0.63         215901 Gomphonema parvulum       1       6       0.63         215901 Hannaea arcus       3       12       1.26         215901 Mention circulare       3       24       2.52         215901 Marticula cipitatoradiata       2       2       0.21         215901 Navicula cipitatoradiata       2       2       0.21         215901 Navicula ignota       2       2       0.21         215901 Navicula ignota       2       2       0.21         215901 Navicula ignota       2 <t< td=""><td>215901</td><td>Diatoma hiemale</td><td>3</td><td>16</td><td>1.68</td></t<>	215901	Diatoma hiemale	3	16	1.68
215901 Diatoma vulgaris       3       4       0.42         215901 Diatomella balfouriana       3       2       0.21         215901 Encyonema silesiacum       2       32       335         215901 Epithemia adnata       2       0.21         215901 Fragilaria capucina       2       2       0.21         215901 Fragilaria vulgeriae       2       2       0.21         215901 Gomphonema angustatum       2       244       2558         215901 Gomphonema intricatum       3       13       1.36         215901 Gomphonema kobayasii       3       14       1.47         215901 Gomphonema kobayasii       3       14       1.47         215901 Gomphonema parvulum       1       6       0.63         215901 Hannea arcus       3       12       1.26         215901 Hannea arcus       2       4       0.42         215901 Maricula capitatoradiata       2       2       0.21         215901 Navicula capitatoradiata       2       2       0.21         215901 Navicula seminulum       1       1       0.10         215901 Navicula seminulum       1       1       0.10         215901 Navicula seminulum       1       1       <	215901	Diatoma mesodon	3	29	3.04
215901 Diatomella balfouriana         3         2         0.21           215901 Encyonema silesiacum         2         32         3.35           215901 Epithemia adnata         2         2         0.21           215901 Fragilaria capucina         2         2         0.21           215901 Fragilaria capucina         2         2         0.21           215901 Gomphonema angustatum         2         244         25.58           215901 Gomphonema clavatum         2         16         1.68           215901 Gomphonema nutricatum         3         13         1.36           215901 Gomphonema nutricatum         3         6         0.63           215901 Gomphonema aninutum         3         6         0.63           215901 Hanzea arcus         3         12         1.26           215901 Hanzea arcus         3         12         1.26           215901 Navicula capitatoradiata         2         2         0.21           215901 Navicula capitatoradiata         2         2         0.21           215901 Navicula ignota         2         2         0.21           215901 Navicula seminulum         1         1         0.10           215901 Navicula seminulum         1	215901	Diatoma vulgaris	3	4	0.42
215901       Encyonema silesiacum       2       32       3.35         215901       Encyonema silesiacum       2       2       0.21         215901       Fragilaria capucina       2       2       0.21         215901       Fragilaria vaucheriae       2       2       0.21         215901       Gomphonema angustatum       2       244       25.58         215901       Gomphonema intricatum       3       13       1.36         215901       Gomphonema intricatum       3       13       1.36         215901       Gomphonema intricatum       3       6       0.63         215901       Gomphonema parvulum       1       6       0.63         215901       Hannaea arcus       3       12       1.26         215901       Hantzschia amphioxys       2       4       0.42         215901       Maricula capitatoradiata       2       2       0.21         215901       Navicula capitatoradiata       2       2       0.21         215901       Navicula seminulum       1       1       0.10         215901       Navicula seminulum       1       1       0.10         215901       Navicula seminulum <td>215901</td> <td>Diatomella balfouriana</td> <td>3</td> <td>2</td> <td>0.21</td>	215901	Diatomella balfouriana	3	2	0.21
215901 Epithemia adnata       2       2       0.21         215901 Fragilaria capucina       2       2       0.21         215901 Fragilaria vaucheriae       2       2       0.21         215901 Gomphonema angustatum       2       244       25.58         215901 Gomphonema angustatum       2       244       25.58         215901 Gomphonema intricatum       3       14       1.47         215901 Gomphonema intricatum       3       6       0.63         215901 Gomphonema parvulum       1       6       0.63         215901 Hanzschia amphioxys       2       4       0.42         215901 Hanzschia amphioxys       2       4       0.42         215901 Hanzschia amphioxys       2       4       0.42         215901 Navicula capitatoradiata       2       2       0.21         215901 Navicula capitatoradiata       2       2       0.21         215901 Navicula ignota       2       2       0.21         215901 Navicula seminulum       1       1       0.10         215901 Navicula seminulum       1       1       0.10         215901 Navicula seminulum       1       1       0.10         215901 Navicula ignota       2 <td>215901</td> <td>Encyonema silesiacum</td> <td>2</td> <td>32</td> <td>3.35</td>	215901	Encyonema silesiacum	2	32	3.35
215001         Fragilaria capucina         2         0.21           215901         Fragilaria vaucheriae         2         0.21           215901         Gomphonema angustatum         2         244         25.58           215901         Gomphonema angustatum         2         16         1.68           215901         Gomphonema angustatum         3         13         1.36           215901         Gomphonema intricatum         3         13         1.36           215901         Gomphonema kobayasii         3         14         1.47           215901         Gomphonema parvulum         1         6         0.63           215901         Gomphonema parvulum         1         6         0.63           215901         Hantzschia amphioxys         2         4         0.42           215901         Meridion circulare         3         24         2.52           215901         Navicula capitatoradiata         2         2         0.21           215901         Navicula innima         1         2         0.21           215901         Navicula seminulum         1         1         0.10           215901         Navicula seminulum         1         1 </td <td>215901</td> <td>Epithemia adnata</td> <td>2</td> <td>2</td> <td>0.21</td>	215901	Epithemia adnata	2	2	0.21
215901       Fragilaria vaucheriae       2       0.21         215901       Gomphonema angustatum       2       244       25.58         215901       Gomphonema angustatum       2       16       1.68         215901       Gomphonema intricatum       3       13       1.36         215901       Gomphonema intricatum       3       14       1.47         215901       Gomphonema minutum       3       6       0.63         215901       Hannea arcus       3       12       1.26         215901       Hannea arcus       3       12       1.26         215901       Hannea arcus       3       24       0.42         215901       Navicula capitatoradiata       2       2       0.21         215901       Navicula capitatoradiata       2       2       0.21         215901       Navicula ripota       1       1       0.10         215901       Navicula seminulum       1       1       0.10         215901       Navicula seminulum       1       1       0.10         215901       Navicula sp.       2       2       0.21         215901       Navicula sp.       2       2       0.21	215901	Eragilaria capucina	2	2	0.21
215001       Gomphonema angustatum       2       244       25.8         215901       Gomphonema clavatum       2       16       1.68         215901       Gomphonema clavatum       3       13       1.36         215901       Gomphonema kobayasii       3       14       1.47         215901       Gomphonema kobayasii       3       14       1.47         215901       Gomphonema parvulum       1       6       0.63         215901       Hannaea arcus       3       12       1.26         215901       Hantaca trus       3       12       1.26         215901       Maricula capitatoradiata       2       4       0.42         215901       Navicula capitatoradiata       2       2       0.21         215901       Navicula ignota       2       2       0.21         215901       Navicula ignota       2       2       0.21         215901       Navicula ignota       1       1       0.10         215901       Navicula ignota       2       2       0.21         215901       Navicula sp.       2       2       0.21         215901       Navicula ignota       3       4	215901	Fragilaria vaucheriae	2	2	0.21
215001       Gomphonema dayatum       2       16       1.68         215901       Gomphonema intricatum       3       13       1.36         215901       Gomphonema kobayasii       3       14       1.47         215901       Gomphonema kobayasii       3       16       0.63         215901       Gomphonema parvulum       1       6       0.63         215901       Hannaea arcus       3       12       1.26         215901       Hannaea arcus       3       12       1.26         215901       Meridion circulare       3       24       2.52         215901       Navicula capitatoradiata       2       2       0.21         215901       Navicula circulare       3       24       2.52         215901       Navicula circulare       2       0.21       2.15         215901       Navicula circulare       2       0.21       2.15         215901       Navicula ignota       2       2       0.21         215901       Navicula sp.       2       2       0.21         215901       Navicula sp.       2       2       0.21         215901       Nitzschia inconspicua       2       2	215901	Gomobonema angustatum	2	244	25.58
215001       Comptonema intricatum       3       13       1.36         215901       Gomphonema intricatum       3       14       1.47         215901       Gomphonema minutum       3       6       0.63         215901       Gomphonema parvulum       1       6       0.63         215901       Hannaea arcus       3       12       1.26         215901       Hannaea arcus       3       24       0.42         215901       Hantzschia amphioxys       2       4       0.42         215901       Navicula capitatoradiata       2       2       0.21         215901       Navicula cipitotenella       2       2       0.21         215901       Navicula ignota       1       2       0.21         215901       Navicula seminulum       1       1       0.10         215901       Navicula seminulum       1       1       0.10         215901       Navicula tipunctata       3       1       0.10         215901       Navicula tipunctata       3       1       0.10         215901       Nitzschia inconspicua       2       2       0.21         215901       Nitzschia inconspicua       3	215901	Gomphonema clavatum	2	16	1.68
215901       Gomphonema kobayasii       3       14       1.47         215901       Gomphonema parvulum       3       6       0.63         215901       Gomphonema parvulum       1       6       0.63         215901       Hannaea arcus       3       12       1.26         215901       Hannaea arcus       3       12       1.26         215901       Hantzschia amphioxys       2       4       0.42         215901       Mavicula capitatoradiata       2       2       0.21         215901       Navicula capitatoradiata       2       2       0.21         215901       Navicula ignota       2       2       0.21         215901       Navicula ignota       1       2       0.21         215901       Navicula seminulum       1       1       0.10         215901       Nitzschia fonticola       3       4       0.42         215901       Nitzschia inconspicua       2 <t< td=""><td>215901</td><td>Gomphonema intricatum</td><td>3</td><td>13</td><td>1.36</td></t<>	215901	Gomphonema intricatum	3	13	1.36
215901 Gomphonema minutum       3       6       0.63         215901 Gomphonema parvulum       1       6       0.63         215901 Hantaea arcus       3       12       1.26         215901 Hantaea arcus       2       4       0.42         215901 Maricula capitatoradiata       2       2       0.21         215901 Navicula capitatoradiata       2       2       0.21         215901 Navicula cipitatoradiata       2       2       0.21         215901 Navicula ginota       2       2       0.21         215901 Navicula ginota       2       2       0.21         215901 Navicula seminulum       1       1       0.10         215901 Nitzschia fonticola       3       4       0.42         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia signoidea       3       1       0.10         215901 Nitzschia signoidea       3       1	215901	Gomphonema kobavasii	3	14	1.47
215901 Gomphonema parvulum       1       6       0.63         215901 Gomphonema parvulum       1       6       0.63         215901 Hantzschia amphioxys       2       4       0.42         215901 Maridion circulare       3       24       2.52         215901 Navicula capitatoradiata       2       2       0.21         215901 Navicula capitatoradiata       2       2       0.21         215901 Navicula ignota       2       2       0.21         215901 Navicula ignota       2       2       0.21         215901 Navicula seminulum       1       2       0.21         215901 Navicula seminulum       1       1       0.10         215901 Navicula seminulum       1       1       0.10         215901 Navicula seminulum       1       1       0.10         215901 Nizschia fonticola       3       4       0.42         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia ignoidea       2       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1<	215901	Gomphonema minutum	3	6	0.63
215901 Hanaea arcus       3       12       1.26         215901 Hanzschia amphioxys       2       4       0.42         215901 Meridion circulare       3       24       2.52         215901 Mavicula capitatoradiata       2       2       0.21         215901 Navicula cryptotenella       2       4       0.42         215901 Navicula ignota       2       2       0.21         215901 Navicula ignota       2       2       0.21         215901 Navicula seminulum       1       2       0.21         215901 Navicula seminulum       1       1       0.10         215901 Navicula seminulum       1       1       0.10         215901 Navicula tripunctata       3       1       0.10         215901 Nizschia fonticola       3       4       0.42         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia sigmoidea       2       1       0.10         215901 Nitzschia sigmoidea       3       4       0.42         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       2	215901	Gomphonema narvulum	1	6	0.63
215901 Hantzschia amphioxys       2       4       0.42         215901 Marizschia amphioxys       2       4       0.42         215901 Navicula capitatoradiata       2       2       0.21         215901 Navicula capitatoradiata       2       2       0.21         215901 Navicula capitatoradiata       2       2       0.21         215901 Navicula ignota       2       2       0.21         215901 Navicula seminulum       1       2       0.21         215901 Navicula seminulum       1       1       0.10         215901 Navicula seminulum       1       1       0.10         215901 Navicula tripunctata       3       1       0.10         215901 Nitzschia fonticola       3       4       0.42         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia pura       2       2       0.21         215901 Nitzschia pura       2       2       0.21         215901 Nitzschia sigmoidea       3       1       0.10         215901 Reineria sinuata       3       7	215901	Hannaea arcus	3	12	1 26
215001       Meridion circulare       3       24       2.52         215901       Navicula capitatoradiata       2       2       0.21         215901       Navicula cryptotenella       2       4       0.42         215901       Navicula ignota       2       2       0.21         215901       Navicula ignota       2       2       0.21         215901       Navicula ignota       2       2       0.21         215901       Navicula ignota       1       2       0.21         215901       Navicula seminulum       1       1       0.10         215901       Navicula tripunctata       3       1       0.10         215901       Navicula tripunctata       3       4       0.42         215901       Nitzschia fonticola       3       4       0.42         215901       Nitzschia perminuta       3       4       0.42         215901       Nitzschia perminuta       3       4       0.42         215901       Nitzschia sigmoidea       3       1       0.10         215901       Nitzschia sigmoidea       3       1       0.10         215901       Psamothidium ventralis       3	215901	Hantzschia amphioxys	2	4	0.42
215901       Navicula capitatoradiata       2       2       0.21         215901       Navicula capitatoradiata       2       2       0.21         215901       Navicula ignota       2       2       0.21         215901       Navicula minima       1       2       0.21         215901       Navicula seminulum       1       1       0.10         215901       Navicula seminulum       1       1       0.10         215901       Navicula tripunctata       3       1       0.10         215901       Nitzschia fonticola       3       4       0.42         215901       Nitzschia inconspicua       2       2       0.21         215901       Nitzschia inconspicua       2       2       0.21         215901       Nitzschia perminuta       3       4       0.42         215901       Nitzschia pura       2       2       0.21         215901       Nitzschia sigmoidea       3       1       0.10         215901       Nitzschia sigmoidea       3       1       0.10         215901       Reimeria sinuata       3       7       8.07         215901       Reimeria sinuata       3       <	215901	Meridion circulare	3	24	2.52
215901 Navicula cryptotenella       2       4       0.42         215901 Navicula ignota       2       0.21         215901 Navicula minima       1       2       0.21         215901 Navicula seminulum       1       1       0.10         215901 Navicula tripunctata       3       1       0.10         215901 Nitzschia fonticola       3       4       0.42         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia pura       2       2       0.21         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Reimeria sinuata       3       77       8.07         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosira construens       3       5       0.52	215901	Navicula capitatoradiata	2	2	0.21
215901 Navicula ignota       2       0.21         215901 Navicula ignota       1       2       0.21         215901 Navicula seminulum       1       1       0.10         215901 Navicula tripunctata       3       1       0.10         215901 Nitzschia fonticola       3       4       0.42         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       2       0.21         215901 Reimeria sinuata       3       77       8.07         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosira construens       3       5       0.52 <td>215901</td> <td>Navicula cryptotenella</td> <td>2</td> <td>4</td> <td>0.42</td>	215901	Navicula cryptotenella	2	4	0.42
215301 Navicula minima       1       2       0.21         215901 Navicula seminulum       1       1       0.10         215901 Navicula seminulum       1       1       0.10         215901 Navicula sp.       2       2       0.21         215901 Navicula tripunctata       3       1       0.10         215901 Navicula tripunctata       3       4       0.42         215901 Nitzschia fonticola       3       4       0.42         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia pura       2       2       0.21         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       2       0.21         215901 Reimeria sinuata       3       2       0.21         215901 Reimeria sinuata       3       5       0.52         215901 Staurosira construens       3       2       0.52         215901 Staurosirella leptostauron       3       5	215901	Navicula ignota	2	2	0.21
215301 Navicula seminulum       1       1       0.10         215901 Navicula seminulum       1       1       0.10         215901 Navicula sp.       2       2       0.21         215901 Navicula tripunctata       3       1       0.10         215901 Navicula tripunctata       3       1       0.10         215901 Nitzschia fonticola       3       4       0.42         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia perminuta       2       2       0.21         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Psammothidium ventralis       3       2       0.21         215901 Reimeria sinuata       3       77       8.07         215901 Reimeria sinuata       3       5       0.52         215901 Staurosira construens       3       26       2.73         215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3	215901	Navicula minima	1	2	0.21
215901 Navicula sp.       2       2       0.21         215901 Navicula tripunctata       3       1       0.10         215901 Nitzschia fonticola       3       4       0.42         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia perminuta       2       1       0.10         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia sigmoidea       2       2       0.21         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Reimeria sinuata       3       2       0.21         215901 Reimeria sinuata       3       5       0.52         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2	215901	Navicula seminulum	1	1	0.10
215901 Navicula tripunctata       3       1       0.10         215901 Nitzschia fonticola       3       4       0.42         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia linearis       2       2       0.21         215901 Nitzschia perminuta       2       1       0.10         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia pura       2       1       0.10         215901 Nitzschia sigmoidea       3       4       0.42         215901 Nitzschia sigmoidea       3       1       0.10         215901 Reimeria sinuata       3       2       0.21         215901 Reimeria sinuata       3       5       0.52         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosire construens       3       5       0.52         215901 Staurosirella leptostauron       3       5       0.52         215901 Stephanodiscus minutus       2	215901	Navicula so	2	2	0.21
215301 National inputchata       3       4       0.42         215901 Nitzschia fonticola       3       4       0.42         215901 Nitzschia inconspicua       2       2       0.21         215901 Nitzschia linearis       2       1       0.10         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia sigmoidea       2       2       0.21         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Psarmothidium ventralis       3       2       0.21         215901 Reimeria sinuata       3       77       8.07         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosira construens       3       26       2.73         215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Synedra rumpens       2       1       0.10	215901	Navicula tripunctata		2	0.10
210001 Nitzschia inconspicua       2       0.21         215901 Nitzschia linearis       2       1       0.10         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia sigmoidea       2       2       0.21         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Psammothidium ventralis       3       2       0.21         215901 Reimeria sinuata       3       77       8.07         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosira construens       3       26       2.73         215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Synedra rumpens       2       1       0.10	21590	Nitzschia fonticola	3	4	0.42
215301 Nitzschia linearis       2       1       0.10         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia pura       2       2       0.21         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Reimeria sinuata       3       2       0.21         215901 Reimeria sinuata       3       77       8.07         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosira construens       3       26       2.73         215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Synedra rumpens       2       1       0.10	215901	Nitzschia inconspicua	2	2	0.21
215901 Nitzschia perminuta       3       4       0.42         215901 Nitzschia pura       2       2       0.21         215901 Nitzschia sigmoidea       3       1       0.10         215901 Nitzschia sigmoidea       3       1       0.10         215901 Psammothidium ventralis       3       2       0.21         215901 Reimeria sinuata       3       2       0.21         215901 Reimeria sinuata       3       77       8.07         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosira construens       3       26       2.73         215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Synedra rumpens       2       1       0.10	215901	Nitzschia linearis	2		0.10
215901 Nitzschia perminuta       3       4       0.12         215901 Nitzschia sigmoidea       2       2       0.21         215901 Nitzschia sigmoidea       3       1       0.10         215901 Psammothidium ventralis       3       2       0.21         215901 Reimeria sinuata       3       2       0.21         215901 Reimeria sinuata       3       77       8.07         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosira construens       3       26       2.73         215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Synedra rumpens       2       1       0.10	21590	Nitzschia perminuta		4	0.42
215901 Nitzschia sigmoidea       2       2       0.21         215901 Nitzschia sigmoidea       3       1       0.10         215901 Psammothidium ventralis       3       2       0.21         215901 Reimeria sinuata       3       77       8.07         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosira construens       3       26       2.73         215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Stephanodiscus minutus       2       1       0.10	21590	Nitzschia pura	2	2	0.12
215901 Nit2Schla significatea       3       1       0.10         215901 Psammothidium ventralis       3       2       0.21         215901 Reimeria sinuata       3       77       8.07         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosira construens       3       26       2.73         215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Synedra rumpens       2       1       0.10	21590	Nitzschia sigmoidea	2		0.10
215901       rsammoniality ventraits       3       2       0.21         215901       Reimeria sinuata       3       77       8.07         215901       Rhoicosphenia curvata       3       5       0.52         215901       Staurosira construens       3       26       2.73         215901       Staurosirella leptostauron       3       5       0.52         215901       Staurosirella pinnata       3       24       2.52         215901       Stephanodiscus minutus       2       5       0.52         215901       Synedra rumpens       2       1       0.10	21590	Psammothidium ventralis		2	0.13
21500 Reinteria sinuata       0       77       0.07         215901 Rhoicosphenia curvata       3       5       0.52         215901 Staurosira construens       3       26       2.73         215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Synedra rumpens       2       1       0.10	21500	l Reimeria sinuata		77	8.07
215901 Staurosira construens       3       26       2.73         215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3       24       2.52         215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Synedra rumpens       2       1       0.10	21500	Rhoicosobenia cupyata		5	0.07 0.52
215901 Staurosirella leptostauron       3       5       0.52         215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Synedra rumpens       2       1       0.10	21500	1 Staurosira construens		26	2 73
215901 Staurosirella pinnata       3       24       2.52         215901 Stephanodiscus minutus       2       5       0.52         215901 Synedra rumpens       2       1       0.10	21590	1 Staurosirella lentestauron	2 2	20 5	n 52
215901 Stephanodiscus minutus         2         5         0.52           215901 Synedra rumpens         2         1         0.10	21500	Estaurosirella ninnata	2	24	2 52
215001 Strephanodiscus minutus         2         3         0.52           215901 Synedra rumpens         2         1         0.10	21500	i Stanbandiscus minutus		<u>2</u> 4	0.52
	21500	1 Synedra rumpens	2	1	0.02 0.10
215901 Synedra ulpa 2 34 3 56	21500	1 Synedra ulna	2	21	3 56

Sample Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
216001 Achnanthes lanceolata	2	5	0.51
216001 Achnanthidium biasolettianum	3	4	0.41
216001 Achnanthidium minutissimum	3	160	16.33
216001 Amphora pediculus	3	0	0.00
216001 Aulacoseira distans	3	0	0.00
216001 Cocconeis placentula	3	2	0.20
216001 Cymbella affinis	3	17	1.73
216001 Cymbella cistula	3	7	0.71
216001 Cymbella cymbiformis	3	2	0.20
216001 Cymbella hebridica	3	6	0.61
216001 Diatoma hiemale	3	2	0.20
216001 Diatoma mesodon	3	2	0.20
216001 Encyonema minutum	2	24	2.45
216001 Encyonema silesiacum	2	0	0.00
216001 Eucocconeis laevis	3	4	0.41
216001 Fragilaria capucina	2	4	0.41
216001 Fragilaria vaucheriae	2	33	3.37
216001 Gomphonema angustatum	2	47	4.80
216001 Gomphonema intricatum	3	2	0.20
216001 Gomphonema pumilum	3	0	0.00
216001 Hannaea arcus	3	482	49.18
216001 Meridion circulare	3	7	0.71
216001 Navicula cari	2	1	0.10
216001 Navicula contenta	2	2	0.20
216001 Navicula cryptotenella	2	3	0.31
216001 Navicula minima	1	2	0.20
216001 Navicula minuscula	1	2	0.20
216001 Navicula reichardtiana	2	3	0.31
216001 Nitzschia fonticola	3	6	0.61
216001 Sellaphora bacillum	3	0	0.00
216001 Staurosira construens	3	21	2.14
216001 Staurosirella lapponica	3	4	0.41
216001 Staurosirella pinnata	3	27	2.76
216001 Synedra rumpens	2	23	2.35
216001 Synedra ulna	2	76	7.76

Sample	Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
216101	Achnanthes lanceolata	2	50	5.98
216101	Achnanthidium biasolettianum	3	0	0.00
216101	Achnanthidium minutissimum	3	14	1.67
216101	Amphipleura pellucida	2	6	0.72
216101	Aulacoseira canadensis	3	1	0.12
216101	Aulacoseira islandica	3	1	0.12
216101	Caloneis bacillum	2	0	0.00
216101	Cocconeis placentula	3	41	4.90
216101	Diatoma mesodon	3	4	0.48
216101	Diploneis elliptica	3	1	0.12
216101	Encyonema auerswaldii	2	4	0.48
216101	Epithemia turgida	3	5	0.60
216101	Fragilaria capucina	2	13	1.56
216101	Gomphonema angustatum	2	29	3.47
216101	Gomphonema mexicanum	2	2	0.24
216101	Gomphonema pumilum	3	4	0.48
216101	Meridion circulare	3	391	46.77
216101	Navicula cryptocephala	3	3	0.36
216101	Navicula cryptotenella	2	3	0.36
216101	Navicula minima	1	59	7.06
216101	Navicula reichardtiana	2	7	0.84
216101	Navicula tripunctata	3	8	0.96
216101	Nitzschia communis	1	4	0.48
216101	Nitzschia dissipata	3	27	3.23
216101	Nitzschia fonticola	3	1	0.12
216101	Rhoicosphenia curvata	3	9	1.08
216101	Sellaphora bacillum	3	2	0.24
216101	Staurosira construens	3	7	0.84
216101	Synedra ulna	2	140	16.75

Sample Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
216201 Achnanthes lanceolata	2	47	4.76
216201 Achnanthidium affine	3	6	0.61
216201 Achnanthidium biasolettianum	3	11	1.11
216201 Achnanthidium minutissimum	3	256	25.94
216201 Amphora inariensis	3	0	0.00
216201 Amphora pediculus	3	9	0.91
216201 Caloneis bacillum	2	10	1.01
216201 Cocconeis placentula	3	27	2.74
216201 Cymbella hebridica	3	24	2.43
216201 Diatoma hiemale	3	27	2.74
216201 Diatoma mesodon	3	16	1.62
216201 Encyonema lunatum	3	2	0.20
216201 Encyonema minutum	2	55	5.57
216201 Encyonema muelleri	2	2	0.20
216201 Encyonema prostratum	3	2	0.20
216201 Encyonema reichardtii	3	2	0.20
216201 Encyonema silesiacum	2	17	1.72
216201 Encyonopsis microcephala	2	2	0.20
216201 Fragilaria capucina	2	8	0.81
216201 Fragilaria vaucheriae	2	21	2.13
216201 Frustulia rhomboides	3	1	0.10
216201 Gomphonema angustatum	2	59	5.98
216201 Gomphonema kobavasii	3	2	0.20
216201 Gomphonema olivaceoides	3	2	0.20
216201 Hannaea arcus	3	17	1.72
216201 Meridion circulare	3	10	1.01
216201 Navicula acceptata	2	1	0.10
216201 Navicula cryptocephala	3	0	0.00
216201 Navicula cryptotenella	2	31	3.14
216201 Navicula menisculus	2	1	0.10
216201 Navicula minima	1	10	1.01
216201 Navicula minuscula	1	2	0.20
216201 Navicula reichardtiana	2	60	6.08
216201 Navicula tripunctata	3	69	6 99
216201 Nitzschia archibaldii	2	1	0.00
216201 Nitzschia dissipata	3	19	1 93
216201 Nitzschia fonticola	3	19	1.00
216201 Nitzschia heufleriana	3	10	1.00
216201 Nitzschia linearis	2	18	1.01
216201 Nitzschia pura	2	22	2.22
216201 Reimeria sinuata	2	5	0.51
216201 Rhoicosphenia cuprata	3	5	0.51
216201 Staurosira construens		1	0.01
216201 Staurosirella Jentostauron	3	18	1.82
216201 Staurosirella ninnata	3	01 A	0.61
216201 Surirella angusta		0	0.01
216201 Surirella minuta		<u>່</u>	0.00
216201 Synedra numpens	2	2	0.20
216201 Synedra ulna	2	S	0.50

Sample	Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
216301	Achnanthes lanceolata	2	73	7.95
216301	Achnanthidium affine	3	2	0.22
216301	Achnanthidium minutissimum	3	159	17.32
215301	Amphipleura pellucida	2	2	0 22
216301	Amphora pediculus	3	4	0.44
216301	Aulacoseira distans	3	1	0.11
216301	Caloneis bacillum	2	1	0.11
216301	Caloneis silicula	2	0	0.00
216301	Cocconeis placentula	3	14	1.53
216301	Cymbella aspera	3	2	0.22
216301	Cymbella cistula	3	6	0.65
216301	Cymbella hebridica	3	5	0.54
216301	Diadesmis contenta	2	2	0.22
216301	Diadesmis perpusilla	2	8	0.87
216301	Diatoma hiemale	3	21	2.29
216301	Diatoma mesodon	3	54	5.88
216301	Encyonema minutum	2		0.54
216301	Encyonema silesiacum	2	25	2.72
216301	Epithemia turgida	3	0	0.00
216301	Fragilaria capucina	2	43	4.68
216301	Eragilaria vaucheriae	2	6	0.65
216301	Frustulia vulgaris	2	2	0.22
216301	Gomphonema angustatum	2	0	0.00
216301	Gomphonema brebissonii	3	0	0.00
216301	Gomphonema clavatum	2	1	0.11
216301	Gomphonema kobavasii	3		1.53
216301	Gomphonema micropus	2	6	0.65
216301	Gomphonema minutum	3	2	0.22
216301	Gomphonema olivaceoides	3	2	0.22
216301	Gomphonema sarcophagus	2	3	0.33
216301	Gomphonema truncatum	3	0	0.00
216301	Hannaea arcus	3	9	0.98
216301	Melosira varians	2	11	1.20
216301	Meridion circulare	3	136	14.81
216301	Navicula cryptocephala	3	5	0.54
216301	Navicula libonensis	2	2	0.22
216301	Navicula minima	1		
216301	Navicula minuscula	1	6	0.65
216301	Navicula pelliculosa	1	2	0.22
216301	Navicula radiosa	3	1	0.11
216301	Navicula reichardtiana	2	43	4.68
216301	Navicula tripunctata	3		0.44
216301	Navicula trivialis	2	0	0.00
216301	Nitzschia acicularis	2	1	0.11
216301	Nitzschia archibaldii	2	9	0.98
216301	Nitzschia dissipata	3	26	2.83
216301	Nitzschia fonticola	3		0.54
216301	Nitzschia frustulum	2	2	0.22
216301	Nitzschia heufleriana	3	. 1	0.11
216301	Nitzschia linearis	2	10	1.09
216301	Nitzschia palea	1	0	0.00
216301	Nitzschia perminuta	3	2	0.22
216301	Nitzschia pura	2	4	0_44
216301	Reimeria sinuata	3	3	0.33
216301	Rhoicosphenia curvata	3	2	0.22
216301	Staurosira construens	3	31	3.38
216301	Staurosirella leptostauron	3	7	0.76
216301	Staurosirella pinnata	3	17	1.85
216301	Surirella angusta	1	0	0.00
216301	Surirella minuta	2	0	0.00
216301	Surirella sp.	2	2	0.22
216301	Synedra rumpens	2	60	6.54
L216301	Synedra ulna	2	41	4.47

216401 Achnanthes exigua       3       0       0.0         216401 Achnanthes lanceolata       2       29       3.0         216401 Achnanthes thermalis       3       2       0.2         216401 Achnanthes thermalis       3       2       0.2         216401 Achnanthidium minutissimum       3       38       4.0         216401 Amphipleura peliculus       3       2       0.2         216401 Amphora pediculus       3       2       0.2         216401 Caloneis bacillum       2       4       0.4         216401 Caloneis bacillum       2       4       0.4         216401 Caloneis bacillum       3       2       0.2         216401 Caloneis culata       3       2       0.2         216401 Diploneis culata       3       2       0.2         216401 Diploneis culata       3       2       0.2         216401 Encyonopsis microcephala       2       2       0.2         216401 Eucoconeis laevis       3       1       0.1         216401 Erustia vaucheriae       3       2       0.2         216401 Erustia vaucheriae       2       4       0.4         216401 Erustia vaucheriae       2       0       0.2 <th>Sample</th> <th>Genus/Species/Variety</th> <th>Pollution Tolerance Class</th> <th>Count</th> <th>Percent</th>	Sample	Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
216401 Achnanthes lanceolata       2       29       3.0         216401 Achnanthes sp.       3       6       0.6         216401 Achnanthes thermalis       3       2       0.7         216401 Achnanthes thermalis       3       2       0.7         216401 Achnanthes thermalis       3       2       0.7         216401 Achnanthes thermalis       3       38       4.0         216401 Amphora pediculus       3       2       0.7         216401 Aulacoseira distans       3       0       0.0         216401 Caloneis bacillum       2       4       0.4         216401 Cocconeis placentula       3       2       0.7         216401 Diploneis oculata       3       2       0.7         216401 Encyonema silesiacum       2       4       0.4         216401 Encyonopsis microcephala       2       2       0.7         216401 Encyonopsis microcephala       3       1       0.1         216401 Eragilaria crotonensis       3       0       0.6         216401 Eragilaria vaucheriae       2       4       0.4         216401 Eragilaria vaucheriae       2       4       0.4         216401 Eragilaria vaucheriae       3	216401	Achnanthes exigua	3	0	0.00
216401 Achnanthes sp.       3       6       0.6         216401 Achnanthes thermalis       3       2       0.2         216401 Achnanthidium minutissimum       3       38       4.0         216401 Amphipleura pellucida       2       4       0.4         216401 Amphora pediculus       3       2       0.2         216401 Audacoseira distans       3       0       0.0         216401 Caloneis bacillum       2       4       0.4         216401 Cocconeis placentula       3       2       0.2         216401 Diploneis oculata       3       2       0.2         216401 Encyonema silesiacum       2       4       0.4         216401 Encyonopsis microcephala       2       2       0.2         216401 Eucocconeis laevis       3       1       0.1         216401 Eucocconeis laevis       3       1       0.1         216401 Eucocconeis laevis       3       0       0.0         216401 Fragilaria vaucheriae       2       4       0.4         216401 Fragilaria vaucheriae       2       4       0.4         216401 Fragilaria vaucheriae       2       0       0.0         216401 Gomphonema minutum       3       2	216401	Achnanthes lanceolata	2	29	3.08
216401 Achnanthes thermalis       3       2       0.2         216401 Achnanthidium minutissimum       3       38       4.0         216401 Amphipleura pellucida       2       4       0.4         216401 Amphipleura pellucida       2       4       0.4         216401 Amphipra pellucida       3       2       0.2         216401 Amphora pediculus       3       2       0.2         216401 Caloneis bacillum       2       4       0.4         216401 Caloneis bacillum       2       4       0.4         216401 Diatoma mesodon       3       25       2.6         216401 Diploneis oculata       3       2       0.2         216401 Encyonopsis microcephala       2       2       0.2         216401 Encyonopsis microcephala       2       2       0.2         216401 Encyonopsis microcephala       3       5       0.5         216401 Eragilaria crotonensis       3       0       0.0         216401 Eragilaria vaucheriae       2       4       0.4         216401 Eragilaria vaucheriae       2       4       0.4         216401 Gomphonema angustatum       2       5       0.5         216401 Gomphonema parvulum       1	216401	Achnanthes sp.	3	6	0.64
216401Achnanthidium minutissimum       3       38       40         216401Amphora pediculus       2       4       0.4         216401Amphora pediculus       3       2       0.7         216401Aulacoseira distans       3       0       0.0         216401Caloneis bacillum       2       4       0.4         216401Caloneis bacillum       2       4       0.4         216401Diatoma mesodon       3       25       2.6         216401Encyonema silesiacum       2       4       0.4         216401Encyonopsis microcephala       2       2       0.2         216401Encyonopsis microcephala       3       1       0.1         216401Encyonopsis microcephala       3       5       0.5         216401Eroginaria vaucheriae       3       1       0.1         216401Eragilaria crotonensis       3       0       0.0         216401Eragilaria vaucheriae       2       4       0.4         216401Erogomphonema angustatum       2       5       0.5         216401Gomphonema micropus       2       0       0.0         216401Gomphonema micropus       2       0       0.0         216401Gomphonema parvulum       1       2	216401	Achnanthes thermalis	3	2	0.21
216401 Amphipleura pellucida       2       4       0.4         216401 Amphora pediculus       3       2       0.2         216401 Aulacoseira distans       3       0       0.0         216401 Caloneis bacillum       2       4       0.4         216401 Caloneis bacillum       2       4       0.4         216401 Cocconeis placentula       3       2       0.2         216401 Diploneis oculata       3       2       0.2         216401 Encyonema silesiacum       2       4       0.4         216401 Encyonopsis microcephala       2       2       0.2         216401 Eucocconeis laevis       3       1       0.1         216401 Eragilaria crotonensis       3       0       0.0         216401 Eragilaria vaucheriae       2       4       0.4         216401 Eragilaria vaucheriae       2       4       0.4         216401 Eragilaria vaucheriae       3       0       0.0         216401 Eragilaria vaucheriae       2       4       0.4         216401 Gomphonema angustatum       2       5       0.5         216401 Gomphonema micropus       2       0       0.0         216401 Gomphonema parvulum       1       2 <td>216401</td> <td>Achnanthidium minutissimum</td> <td>3</td> <td>- 38</td> <td>4 03</td>	216401	Achnanthidium minutissimum	3	- 38	4 03
216401 Amphora pediculus       3       2       0.2         216401 Aulacoseira distans       3       0       0.0         216401 Caloneis bacillum       2       4       0.4         216401 Coloneis bacillum       3       2       0.2         216401 Diatoma mesodon       3       25       2.6         216401 Diploneis oculata       3       2       0.2         216401 Encyonema silesiacum       2       4       0.4         216401 Encyonopsis microcephala       2       2       0.2         216401 Eucoconeis laevis       3       1       0.1         216401 Eucoconeis laevis       3       1       0.1         216401 Eragilaria crotonensis       3       0       0.0         216401 Eragilaria vaucheriae       2       4       0.4         216401 Eragilaria vaucheriae       2       4       0.4         216401 Gomphonema angustatum       2       5       0.5         216401 Gomphonema micropus       2       0       0.0         216401 Gomphonema parvulum       1       2       0.2         216401 Gomphonema parvulum       3       2       0.2         216401 Gomphonema parvulum       3       4       0	216401	Amphipleura pellucida	2	4	0.42
216401Aulacoseira distans       3       0       0.00000000000000000000000000000000000	216401	Amphora pediculus	3	2	0.21
216401.Caloneis bacillum       2       4       0.4         216401.Cocconeis placentula       3       2       0.2         216401.Diatoma mesodon       3       25       2.6         216401.Diploneis oculata       3       2       0.2         216401.Encyonema silesiacum       2       4       0.4         216401.Encyonopsis microcephala       2       2       0.2         216401.Encyonopsis microcephala       3       5       0.5         216401.Encyonopsis microcephala       3       5       0.5         216401.Eucocconeis laevis       3       1       0.1         216401.Eragilaria crotonensis       3       0       0       0         216401.Eragilaria vaucheriae       2       4       0.4         216401.Eragilaria vaucheriae       2       4       0.4         216401.Gomphonema angustatum       2       5       0.5         216401.Gomphonema micropus       2       0       0.0         216401.Gomphonema minutum       3       2       0.2         216401.Gomphonema parvulum       1       2       0.2         216401.Gomphonema pumilum       3       4       0.4         216401.Gomphonema pumilum       3 <td>216401</td> <td>Aulacoseira distans</td> <td>3</td> <td>0</td> <td>0.00</td>	216401	Aulacoseira distans	3	0	0.00
216401.Cocconeis placentula       3       2       0.2         216401.Diatoma mesodon       3       25       2.6         216401.Diploneis oculata       3       2       0.2         216401.Encyonema silesiacum       2       4       0.4         216401.Encyonema silesiacum       2       2       0.2         216401.Encyonepsis microcephala       2       2       0.2         216401.Eucocconeis laevis       3       1       0.1         216401.Eurotia bilunaris       3       5       0.5         216401.Eragilaria crotonensis       3       0       0.0         216401.Fragilaria vaucheriae       2       4       0.4         216401.Fragilaria vaucheriae       2       4       0.4         216401.Gomphonema angustatum       2       5       0.5         216401.Gomphonema micropus       2       0       0.0         216401.Gomphonema minutum       3       2       0.2         216401.Gomphonema parvulum       1       2       0.2         216401.Gomphonema parvulum       1       2       0.2         216401.Gomphonema parvulum       3       4       0.4         216401.Maricula arceptata       2       2	216401	Caloneis bacillum	2	4	0.42
216401 Diatoma mesodon       3       25       26         216401 Diploneis oculata       3       2       0.2         216401 Encyonema silesiacum       2       4       0.4         216401 Encyonema silesiacum       2       4       0.4         216401 Encyonema silesiacum       2       2       0.2         216401 Encyonopsis microcephala       2       2       0.2         216401 Encyonopsis microcephala       3       1       0.1         216401 Eucocconeis laevis       3       1       0.1         216401 Eucotronensis       3       0       0.0         216401 Eragilaria crotonensis       3       0       0.0         216401 Eragilaria vaucheriae       2       4       0.4         216401 Gomphonema angustatum       2       5       0.5         216401 Gomphonema micropus       2       0       0.0         216401 Gomphonema parvulum       3       2       0.2         216401 Gomphonema parvulum       3       2       0.2         216401 Gomphonema pumilum       3       4       0.4         216401 Maricula acceptata       2       2       0.2         216401 Navicula acroptocephala       3       2	216401	Cocconeis placentula	3	2	0.21
216401 Diploneis oculata       3       2       0.2         216401 Encyonema silesiacum       2       4       0.4         216401 Encyonopsis microcephala       2       2       0.2         216401 Encyonopsis microcephala       2       2       0.2         216401 Encyonopsis microcephala       2       2       0.2         216401 Encyonopsis microcephala       3       1       0.1         216401 Eurotia bilunaris       3       5       0.5         216401 Eragilaria crotonensis       3       0       0.0         216401 Eragilaria vaucheriae       2       4       0.4         216401 Erustulia vulgaris       2       4       0.4         216401 Gomphonema angustatum       2       5       0.5         216401 Gomphonema micropus       2       0       0.0         216401 Gomphonema micropus       2       0       0.2         216401 Gomphonema parvulum       1       2       0.2         216401 Gomphonema parvulum       1       2       0.2         216401 Gomphonema pumilum       3       4       0.4         216401 Maridion circulare       3       5       5         216401 Navicula acceptata       2	216401	Diatoma mesodon	3	25	2.65
216401 Encyonema silesiacum       2       4       0.4         216401 Encyonopsis microcephala       2       2       0.2         216401 Eucocconeis laevis       3       1       0.1         216401 Eucocconeis laevis       3       1       0.1         216401 Eunotia bilunaris       3       5       0.5         216401 Eragilaria crotonensis       3       0       0.0         216401 Fragilaria vaucheriae       2       4       0.4         216401 Fragilaria vaucheriae       2       4       0.4         216401 Fragilaria vaucheriae       2       4       0.4         216401 Gomphonema angustatum       2       5       0.5         216401 Gomphonema brebissonii       3       1       0.1         216401 Gomphonema minutum       3       2       0.2         216401 Gomphonema parxulum       1       2       0.2         216401 Gomphonema parxulum       1       2       0.2         216401 Hannaea arcus       3       16       1.7         216401 Hannaea arcus       3       16       1.7         216401 Navicula acceptata       2       2       0.2         216401 Navicula aryptocephala       3       2	216401	Diploneis oculata	3	2	0.21
216401 Encyonopsis microcephala       2       2         216401 Eucoconeis laevis       3       1         216401 Eucoconeis laevis       3       1         216401 Eucoconeis laevis       3       1         216401 Eucoconeis laevis       3       0         216401 Eragilaria crotonensis       3       0         216401 Eragilaria vaucheriae       2       4         216401 Erustulia vulgaris       2       4         216401 Gomphonema angustatum       2       5         216401 Gomphonema micropus       2       0         216401 Gomphonema minutum       3       2         216401 Gomphonema minutum       3       2       0         216401 Gomphonema parvulum       1       2       0         216401 Gomphonema parvulum       3       4       0.4         216401 Gomphonema parvulum       3       4       0.4         216401 Meridion circulare       3       16       1.7         216401 Meridion circulare       3       56       5.9         216401 Navicula acceptata       2       2       0.2         216401 Navicula cryptocephala       3       2       0.2         216401 Navicula cryptotenella       3       <	216401	Encyonema silesiacum	2	4	0.42
210 401 Eucocconeis laevis       3       1       0.1         216401 Eucocconeis laevis       3       5       0.5         216401 Eragilaria crotonensis       3       0       0.0         216401 Eragilaria crotonensis       3       0       0.0         216401 Eragilaria vaucheriae       2       4       0.4         216401 Eragilaria vaucheriae       2       4       0.4         216401 Erustulia vulgaris       2       4       0.4         216401 Gomphonema angustatum       2       5       0.5         216401 Gomphonema micropus       2       0       0.0         216401 Gomphonema micropus       2       0       0.0         216401 Gomphonema minutum       3       2       0.2         216401 Gomphonema parvulum       1       2       0.2         216401 Gomphonema pumilum       3       4       0.4         216401 Hannaea arcus       3       16       1.7         216401 Meridion circulare       3       56       59         216401 Navicula acceptata       2       2       0.2         216401 Navicula arvensis       1       9       0.9         216401 Navicula cryptocephala       3       2 <td< td=""><td>216401</td><td>Encyononsis microcenhala</td><td>2</td><td>2</td><td>0.21</td></td<>	216401	Encyononsis microcenhala	2	2	0.21
210401       Eurotia bilunaris       3       5       0.5         216401       Fragilaria crotonensis       3       0       0.0         216401       Fragilaria crotonensis       3       0       0.0         216401       Fragilaria vaucheriae       2       4       0.4         216401       Frustulia vulgaris       2       4       0.4         216401       Gomphonema angustatum       2       5       0.5         216401       Gomphonema brebissonii       3       1       0.1         216401       Gomphonema micropus       2       0       0.0         216401       Gomphonema minutum       3       2       0.2         216401       Gomphonema parvulum       1       2       0.2         216401       Gomphonema pumilum       3       4       0.4         216401       Hannaea arcus       3       16       1.7         216401       Maricula acceptata       2       2       0.2         216401       Navicula acceptata       2       2       0.2         216401       Navicula cryptocephala       3       2       0.2         216401       Navicula medioconvexa       3	216401		2	1	0.11
216401Erragilaria crotonensis       3       0       0.0         216401Erragilaria vaucheriae       2       4       0.4         216401Erustulia valgaris       2       4       0.4         216401Erustulia valgaris       2       4       0.4         216401Erustulia valgaris       2       4       0.4         216401Gomphonema angustatum       2       5       0.5         216401Gomphonema brebissonii       3       1       0.1         216401Gomphonema micropus       2       0       0.0         216401Gomphonema parvulum       3       2       0.2         216401Gomphonema parvulum       1       2       0.2         216401Gomphonema parvulum       1       2       0.2         216401Gomphonema pumilum       3       4       0.4         216401Hannaea arcus       3       16       1.7         216401Mavicula acceptata       2       2       0.2         216401Navicula arvensis       1       9       0.9         216401Navicula cryptocephala       3       2       0.2         216401Navicula cryptotenella       3       2       0.2         216401Navicula medioconvexa       3       4       0.4	216401	Eurotia bilunaris		5	0.53
216401 Fragilaria vaucheriae       2       4       0.4         216401 Fragilaria vaucheriae       2       4       0.4         216401 Frustulia vulgaris       2       4       0.4         216401 Gomphonema angustatum       2       5       0.5         216401 Gomphonema brebissonii       3       1       0.1         216401 Gomphonema micropus       2       0       0.0         216401 Gomphonema micropus       2       0       0.0         216401 Gomphonema minutum       3       2       0.2         216401 Gomphonema parvulum       1       2       0.2         216401 Gomphonema parvulum       1       2       0.2         216401 Gomphonema pumilum       3       4       0.4         216401 Hannaea arcus       3       16       1.7         216401 Hannaea arcus       3       56       5.9         216401 Navicula acceptata       2       2       0.2         216401 Navicula acceptata       3       2       0.2         216401 Navicula cryptocephala       3       2       0.2         216401 Navicula cryptotenella       3       2       0.2         216401 Navicula medioconvexa       3       4 <td< td=""><td>216401</td><td>Ecoloria crotonensis</td><td>2</td><td>0</td><td>0.00</td></td<>	216401	Ecoloria crotonensis	2	0	0.00
216401 Frustulia vulgaria       2       4       0.4         216401 Frustulia vulgaris       2       4       0.4         216401 Gomphonema angustatum       2       5       0.5         216401 Gomphonema brebissonii       3       1       0.1         216401 Gomphonema micropus       2       0       0.0         216401 Gomphonema micropus       2       0       0.0         216401 Gomphonema minutum       3       2       0.2         216401 Gomphonema parvulum       1       2       0.2         216401 Gomphonema parvulum       3       4       0.4         216401 Gomphonema parvulum       3       4       0.4         216401 Hannaea arcus       3       16       1.7         216401 Hannaea arcus       3       56       5.9         216401 Navicula acceptata       2       2       0.2         216401 Navicula arvensis       1       9       0.9         216401 Navicula cryptocephala       3       2       0.2         216401 Navicula medioconvexa       3       4       0.4         216401 Navicula medioconvexa       3       4       0.4         216401 Navicula medioconvexa       3       4       0.4	216401	LE ragilaria vaucheriae		4	0.00
210401/103001a Vilgans       2       4       0.4         216401.Gomphonema angustatum       2       5       0.5         216401.Gomphonema brebissonii       3       1       0.1         216401.Gomphonema micropus       2       0       0.0         216401.Gomphonema micropus       2       0       0.0         216401.Gomphonema minutum       3       2       0.2         216401.Gomphonema parvulum       1       2       0.2         216401.Gomphonema parvulum       1       2       0.2         216401.Gomphonema pumilum       3       4       0.4         216401.Hannaea arcus       3       16       1.7         216401.Hannaea arcus       3       56       5.9         216401.Navicula acceptata       2       2       0.2         216401.Navicula arvensis       1       9       0.9         216401.Navicula cryptocephala       3       2       0.2         216401.Navicula cryptotenella       2       4       0.4         216401.Navicula medioconvexa       3       4       0.4         216401.Navicula medioconvexa       3       4       0.4         216401.Navicula medioconvexa       3       4       0.4	216401	Erustulia valgaris	2		0.42
210401.Gomphonema angustatum       2       3       0.1         216401.Gomphonema brebissonii       3       1       0.1         216401.Gomphonema micropus       2       0       0.0         216401.Gomphonema minutum       3       2       0.2         216401.Gomphonema parvulum       1       2       0.2         216401.Gomphonema parvulum       1       2       0.2         216401.Gomphonema pumilum       3       4       0.4         216401.Gomphonema pumilum       3       4       0.4         216401.Hannaea arcus       3       16       1.7         216401.Hannaea arcus       3       56       5.9         216401.Navicula acceptata       2       2       0.2         216401.Navicula arvensis       1       9       0.9         216401.Navicula cryptocephala       3       2       0.2         216401.Navicula cryptotenella       2       4       0.4         216401.Navicula medioconvexa       3       4       0.4         216401.Navicula medioconvexa       3       4       0.4         216401.Navicula medioconvexa       3       4       0.4	216401	Comphonoma angustatum			0.42
216401.Gomphonema hicrópus       3       1       0.1         216401.Gomphonema micrópus       2       0       0.0         216401.Gomphonema minutum       3       2       0.2         216401.Gomphonema parvulum       1       2       0.2         216401.Gomphonema parvulum       1       2       0.2         216401.Gomphonema pumilum       3       4       0.4         216401.Hannaea arcus       3       16       1.7         216401.Hannaea arcus       3       16       1.7         216401.Mavicula acceptata       2       2       0.2         216401.Navicula arvensis       1       9       0.9         216401.Navicula cryptocephala       3       2       0.2         216401.Navicula cryptotenella       3       2       0.2         216401.Navicula medioconvexa       3       4       0.4         216401.Navicula medioconvexa       3       4       0.4         216401.Navicula medioconvexa       3       4       0.4	216401				0.53
216401 Gomphonema minutum       2       0       0.0         216401 Gomphonema minutum       3       2       0.2         216401 Gomphonema parvulum       1       2       0.2         216401 Gomphonema pumilum       3       4       0.4         216401 Hannaea arcus       3       16       1.7         216401 Hannaea arcus       3       16       1.7         216401 Meridion circulare       3       56       5.9         216401 Navicula acceptata       2       2       0.2         216401 Navicula arvensis       1       9       0.9         216401 Navicula cryptocephala       3       2       0.2         216401 Navicula cryptotenella       2       4       0.4         216401 Navicula medioconvexa       3       4       0.4         216401 Navicula medioconvexa       3       4       0.4	210401	Comphonema miestaus	3		0.11
216401 Gomphonema minutum       3       2       0.2         216401 Gomphonema parvulum       1       2       0.2         216401 Gomphonema pumilum       3       4       0.4         216401 Hannaea arcus       3       16       1.7         216401 Meridion circulare       3       56       5.9         216401 Navicula acceptata       2       2       0.2         216401 Navicula arvensis       1       9       0.9         216401 Navicula cryptocephala       3       2       0.2         216401 Navicula medioconvexa       3       4       0.4         216401 Navicula medioconvexa       3       4       0.4	210401	Comphonema micropus	2	0	0.00
216401 Gomphonema parvitum       1       2       0.2         216401 Gomphonema pumilum       3       4       0.4         216401 Hannaea arcus       3       16       1.7         216401 Meridion circulare       3       56       5.9         216401 Navicula acceptata       2       2       0.2         216401 Navicula arceptata       1       9       0.9         216401 Navicula cryptocephala       3       2       0.2         216401 Navicula cryptocephala       3       2       0.2         216401 Navicula medioconvexa       3       4       0.4         216401 Navicula medioconvexa       3       4       0.4	210401		3	2	0.21
216401.Gompnonema pumilum       3       4       0.4         216401.Hannaea arcus       3       16       1.7         216401.Meridion circulare       3       56       5.9         216401.Navicula acceptata       2       0.2       0.2         216401.Navicula acceptata       2       2       0.2         216401.Navicula cryptocephala       3       2       0.2         216401.Navicula cryptotenella       3       2       0.2         216401.Navicula medioconvexa       3       4       0.4         216401.Navicula medioconvexa       3       4       0.4	216401			2	0.21
216401 Hannaea arcus       3       16       1.7         216401 Meridion circulare       3       56       5.9         216401 Navicula acceptata       2       2       0.2         216401 Navicula arceptata       1       9       0.9         216401 Navicula arceptata       3       2       0.2         216401 Navicula cryptocephala       3       2       0.2         216401 Navicula cryptotenella       2       4       0.4         216401 Navicula medioconvexa       3       4       0.4         216401 Navicula medioconvexa       3       4       0.4	216401	Gomphonema pumilum	3	4	0.42
216401 Meridion circulare       3       56       5.9         216401 Navicula acceptata       2       2       0.2         216401 Navicula arvensis       1       9       0.9         216401 Navicula cryptocephala       3       2       0.2         216401 Navicula cryptotenella       3       2       0.2         216401 Navicula cryptotenella       2       4       0.4         216401 Navicula medioconvexa       3       4       0.4         216401 Navicula medioconvexa       3       4       0.4	216401	Hannaea arcus	3	16	1.70
216401Navicula acceptata       2       2       0.2         216401Navicula arvensis       1       9       0.9         216401Navicula cryptocephala       3       2       0.2         216401Navicula cryptotenella       3       2       0.2         216401Navicula cryptotenella       2       4       0.4         216401Navicula medioconvexa       3       4       0.4	216401	Livieridion circulare	3	56	5.94
216401 Navicula arvensis       1       9       0.9         216401 Navicula cryptocephala       3       2       0.2         216401 Navicula cryptotenella       2       4       0.4         216401 Navicula medioconvexa       3       4       0.4         216401 Navicula medioconvexa       3       4       0.4	216401	UNavicula acceptata	2	2	0.21
216401 Navicula cryptocephala320.2216401 Navicula cryptotenella240.4216401 Navicula medioconvexa340.4216401 Navicula medioconvexa340.4	216401	INavicula arvensis	1	9	0.96
216401 Navicula cryptotenella       2       4       0.4         216401 Navicula medioconvexa       3       4       0.4         216401 Navicula medioconvexa       3       4       0.4	216401	Navicula cryptocephala	3	2	0.21
216401 Navicula medioconvexa 3 4 0.4	216401	Navicula cryptotenella	2	4	0.42
1 216401 Novicula minima	216401	Navicula medioconvexa	3	4	0.42
	216401	Navicula minima	1	26	2.76
216401 Navicula protracta 2 2 0.2	216401	Navicula protracta	2	2	0.21
216401Navicula radiosa 3 44	216401	LNavicula radiosa	3	4	0.42
216401.Navicula reichardtiana240.4	216401	Navicula reichardtiana	2	4	0.42
216401 Nitzschia acicularis 2 10 1.0	216401	Nitzschia acicularis	2	10	1.06
216401 Nitzschia archibaldii 2 87 9.2	216401	Nitzschia archibaldii	2	87	9.24
216401 Nitzschia dissipata 3 6 0.6	216401	Nitzschia dissipata	3	6	0.64
216401 Nitzschia flexoides 2 2 0.2	216401	Nitzschia flexoides	2	2	0.21
216401.Nitzschia fonticola3222.3	216401	Nitzschia fonticola	3	22	2.34
216401.Nitzschia frustulum 2 0.2	216401	Nitzschia frustulum	2	2	0.21
216401 Nitzschia graciliformis 2 0 0.0	216401	Nitzschia graciliformis	2	Q	0.00
216401_Nitzschia_lacuum3202	216401	Nitzschia lacuum	3	2	0.21
216401 Nitzschia palea 1 4 0.4	216401	UNitzschia palea	1	4	0.42
216401 Nitzschia pura 2 4 0.4	216401	Nitzschia pura	2	4	0.42
216401Psammothidium bioretii 3 3 0 3	216401	Psammothidium bioretii	3	3	0.32
216401 Pseudostaurosira brevistriata 3 64 6.7	216401	Pseudostaurosira brevistriata	3	64	6.79
216401 Rhoicosphenia curvata	216401	Rhoicosphenia curvata	2	5	0.53
216401 Sellaphora pupula 2 2 0 2	216401	Sellaphora pupula	2	2	0.21
216401 Staurosira construens 3 260 27 6	216401	Staurosira construens	2	260	27 60
216401 Staurosirella leptostauron 3 2 0 2	216401	Staurosirella lentostauron	2	200	
216401 Staurosirella pinnata	216401	Staurosirella ninnata	2	24	2 55
216401 Synedra parasitica 2 12 1 2	216401	Svnedra narasitica		12	1 27
216401 Synedra rumpens 2 12 12	216401	Svnedra rumnens	2	120	12 50
216401 Synedra tenera	216401	Synedra tenera	2	120	0.00
216401 Synedra ulna 2 2 2 2 2 2 7	216401	Synedra ulna		26	2.76

Sample	Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
216501	Achnanthes lanceolata	2	10	1.09
21650	LAchnanthidium minutissimum	3	47	5.14
216501	Amphioleura pellucida	2	1	0.11
21650	Aulacoseira canadensis	3.	2	0.22
21650	Aulacoseira distans	3	2	0.22
216501	Aulacoseira islandica	3	0	0.00
21650	Caloneis bacillum	2	12	1 31
216501	Caloneis hvatina	2	2	0.22
21650	Cocconeis placentula	3	5	0.55
216501	Diatoma mesodon	3	69	7 55
216501	Encyonema auerswaldii	2	8	0.88
216501	l'Encyonema minutum	2	2	0.22
216501	Encyonema silesiacum	2	2	0.22
216501	Encyonopsis microcephala	2	5	0.55
216501	Epithemia sorex	3	Ō	0.00
21650	Epithemia turgida	3	0	0.00
216501	Eragilaria capucina	2	18	1 97
216501	UEragilaria vaucheriae	2	223	24 40
216501	Gomphoneis minuta	3	1	0.11
216501	Gomphonema angustatum	2	6	0.66
216501	Gomphonema kohavasii	3	2	0.22
21650	Gomphonema mexicanum	2	4	0.44
216501	Gomphonema micropus	2	53	5.80
21650	Gomphonema pumilum	3	8	0.88
21650	L'Gomphonema sp	3	22	2 41
21650	Hannaea arcus	3	14	1.53
21650	Karavevia laterostrata	3	1	0.11
21650	Melosira varians	2	Ó	0.00
216501	Meridion circulare	3	51	5.58
216501	Navicula arvensis	1	14	1 53
21650	Navicula cryptocephala	3	0	0.00
21650	1 Navicula cryptotenella	2	2	0.22
21650	INavicula minima	1	7	0.77
21650	1 Navicula minuscula	1	2	0.22
21650	UNavicula radiosa	3	1	0.11
21650	Navicula reichardtiana	2	12	1.31
21650	Nitzschia acicularis	2	2	0.22
21650	1 Nitzschia archihaldii	2	21	2 30
21650	Nitzschia dissinata	3	34	3 72
21650	Nitzschia flexoides	2	6	0.66
21650	Nitzschia fonticola	3	30	3 28
21650	Nitzschia lacuum	3	2	0.22
21650	1 Nitzschia linearis	2	0	0.00
21650	Nitzschia nerminuta	3	5	0.55
21650	1 Nitzschia pura	2	<u>0</u>	0.00
21650	1 Pseudostaurosira brevistriata	2	0	0.00
21650	1Rhoicosnhenia curveta	2	U	Δ.00 Λ Λ
21650	1 Staurosira construens	2	30	2 28
21650	1 Staurosirella lentostauron	2	0	<u> </u>
21650	1 Staurosirella ninnete	2	Q	0.00 88 0
21650	1Surirella anousta	J 1	2	0.00
21650	1 Svnedra mazamaeneje	1	0	0.08
21650	ISynedra rumpene		127	1/ 00
21650	1 Synedra tenera	2	is/	
21650	Loynedia Idicia	2	14	1 52
<u> </u>			14	

Sample	Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
216601	Achnanthes biconfusa	3	8	0.96
216601	Achnanthes lanceolata	2	31	3.71
216601	Achnanthidium biasolettianum	3	3	0.36
216601	Achnanthidium minutissimum	3	165	19.74
216601	Caloneis tenuis	3	8	0.96
216601	Diatoma mesodon	3	434	51.91
216601	Encyonema minutum	2	2	0.24
216601	Encyonema silesiacum	2	4	0.48
216601	Epithemia adnata	2	2	0.24
216601	Eunotia bilunaris	3	4	0.48
216601	Eunotia minor	2	1	0.12
216601	Gomphonema angustatum	2	1	0.12
216601	Gomphonema clavatum	2	4	0.48
216601	Gomphonema pumilum	3	8	0.96
216601	Meridion circulare	3	12	1.44
216601	Navicula atomus	1	1	0.12
216601	Navicula cryptocephala	3	3	0.36
216601	Navicula minima	1	48	5.74
216601	Navicula radiosa	3	0	0.00
216601	Nitzschia archibaldii	2	5	0.60
216601	Nitzschia dissipata	3	4	0.48
216601	Nitzschia fonticola	3	2	0.24
216601	Staurosira construens	3	5	0.60
216601	Synedra rumpens	2	81	9,69

Sample	Genus/Species/Variety	Pollution Tolerance Class	Count	Percent
216701	Achnanthes lanceolata	2	2	0.23
216701	Achnanthidium biasolettianum	3	0	0.00
216701	Achnanthidium minutissimum	3	742	86.48
216701	Aulacoseira distans	3	0	0.00
216701	Caloneis tenuis	3	0	0.00
216701	Cymbella naviculiformis	3	0	0.00
216701	Diatoma mesodon	3	15	1.75
216701	Fragilaria capucina	2	2	0.23
216701	Frustulia rhomboides	3	0	0.00
216701	Gomphonema acuminatum	3	1	0.12
216701	Gomphonema clavatum	2	0	0.00
216701	Gomphonema mexicanum	2	0	0.00
216701	Gomphonema parvulum	1	2	0.23
216701	Gomphonema pumilum	3	2	0.23
216701	Meridion circulare	3	0	0.00
216701	Navicula cryptocephala	3	2	0.23
216701	Navicula minima	1	16	1.86
216701	Navicula seminulum	1	2	0.23
216701	Nitzschia acicularis	2	2	0.23
216701	Nitzschia archibaldii	2	0	0.00
216701	Nitzschia dissipata	3	0	0.00
216701	Nitzschia flexoides	2	0	0.00
216701	Nitzschia palea	1.	0	0.00
216701	Nitzschia pura	2	2	0.23
216701	Pinnularia microstauron	2	1	0.12
216701	Pseudostaurosira brevistriata	3	6	0.70
216701	Sellaphora bacillum	3	0	0.00
216701	Sellaphora pupula	2	0	0.00
216701	Staurosira construens	3	41	4.78
216701	Staurosirella pinnata	3	0	0.00
216701	Surirella angusta	1	0	0.00
216701	Synedra rumpens	2	20	2.33

