

**PATUXENT RIVER OIL SPILL:
ASSESSMENT OF IMPACTS
ON BENTHOS**

Final Report

Prepared for

Swanson Creek Natural Resource Damage
Assessment Trustee Council

Under Contract With

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FOREWORD

This document, *Patuxent River Oil Spill: Assessment of Impacts on Benthos*, was prepared by Versar, Inc., at the request of the Swanson Creek NRDA Trustee Council under contract No. 729901, Task Order 0100, between Versar, Inc., and Entrix. The report assesses impacts on the benthic communities of Swanson Creek and the Patuxent River at Chalk Point as a result of the oil spill of 7 April 2000.

ABSTRACT

On 7 April 2000, approximately 126,000 gallons of oil were spilled into the Patuxent River in the vicinity of Chalk Point. An assessment of the potential impacts from the oil spill on benthic communities was conducted in conjunction with scheduled Chesapeake Bay Program monitoring activities. Macroinfauna and sediment characteristics were analyzed in Swanson Creek in the immediate vicinity of the spill and compared to the mainstem of the Patuxent River and to Hunting Creek, a presumably undisturbed control creek. Significant differences in benthic community parameters between Swanson Creek and both Hunting Creek and the Patuxent mainstem were found 3-6 months after the spill. These differences were mostly restricted to the upper portion of Swanson Creek, and indicated changes in benthic community structure (e.g., reduced diversity, increased abundance of pollution-indicative species) that were similar to those commonly reported for anthropogenic impacts. Benthic community structure as measured by the Chesapeake Bay index of biotic integrity was also classified predominately as degraded in this region. The impact, however, if attributable to the oil spill, appeared localized and of relatively low magnitude.

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1.0 INTRODUCTION

On 7 April 2000, approximately 126,000 gallons of oil were spilled into the Patuxent River in the vicinity of Chalk Point. The spill resulted from a rupture of a pipeline owned by the Potomac Electric Power Company (PEPCO). Versar was directed by the natural resources trustees to assess the impacts (if any) on the benthic communities of subtidal soft-bottom habitats near Chalk Point. Versar's study is intended to provide background information to aid in the natural resource damage assessment process.

The spill occurred in sensitive marsh areas of Swanson Creek adjacent to the PEPCO Chalk Point generating station (Figure 1). Although booms deployed immediately after the spill contained much of the oil within Swanson Creek, an undetermined amount of oil leaked into the Patuxent River during a storm on the night of April 8. Cleanup operations recovered over 45,000 gallons of oil. In addition to Swanson Creek, potentially affected areas included the main Patuxent River downstream of Chalk Point and shallow embayments and creeks south of the town of Benedict. Visual assessments conducted within a month of the spill revealed no oil in samples from creek or river bottom sediments (Swanson Creek Marsh Joint Information Center Press Release of 1 May 2000). Some oil, however, was observed in association with the intertidal zones of shorelines. A reconnaissance field visit made to the spill site by Versar found a substantial amount of oil within the marsh areas (Harriott 2000). This last study, conducted on 17 and 18 April 2000, mapped wetland vegetation types along Swanson Creek (1.6 Km upstream and 0.8 Km downstream of the spill location) and provided observations of physical impacts on the marsh.

The present study was conducted in conjunction with the Maryland Chesapeake Bay Long-Term Benthic Monitoring Program (LTB) with the objective of determining whether the benthos were adversely affected by the oil spill. LTB has monitored the health of benthic communities in Chesapeake Bay since 1984. As part of its bay-wide sampling design, LTB collects annual samples at fixed and random locations throughout the Patuxent River. Fixed locations are used to evaluate trends in benthic community condition over time. Random locations are used to estimate the percentage of river bottom that meets the Chesapeake Bay Benthic Community Restoration Goals. The Restoration Goals are benchmarks that describe the characteristics of benthic assemblages expected in non-degraded habitats of Chesapeake Bay. LTB has accumulated an extensive data base of benthic and water quality data in the region. This study was integrated with on-going LTB efforts so that LTB data, as well as common locations and platforms for the collection of samples, could be used.

Benthic organisms are generally included in monitoring programs and environmental impact assessments because they are reliable and sensitive indicators of habitat quality in aquatic environments. Most benthic organisms have limited mobility and cannot avoid changes in environmental conditions (Gray 1979). Benthos live in bottom sediments where exposure to contaminants and low dissolved oxygen is generally high, although relative exposure to contaminants in sediments depends on a variety of factors. Benthic communities include diverse taxa representing a variety of physiological tolerances to environmental conditions. They respond, therefore, to changes in environmental conditions, both natural and anthropogenic, in a variety of ways, and are sensitive indicators and integrators of

environmental change (Pearson and Rosenberg 1978, Warwick 1986, Dauer 1993, Wilson and Jeffrey 1994).

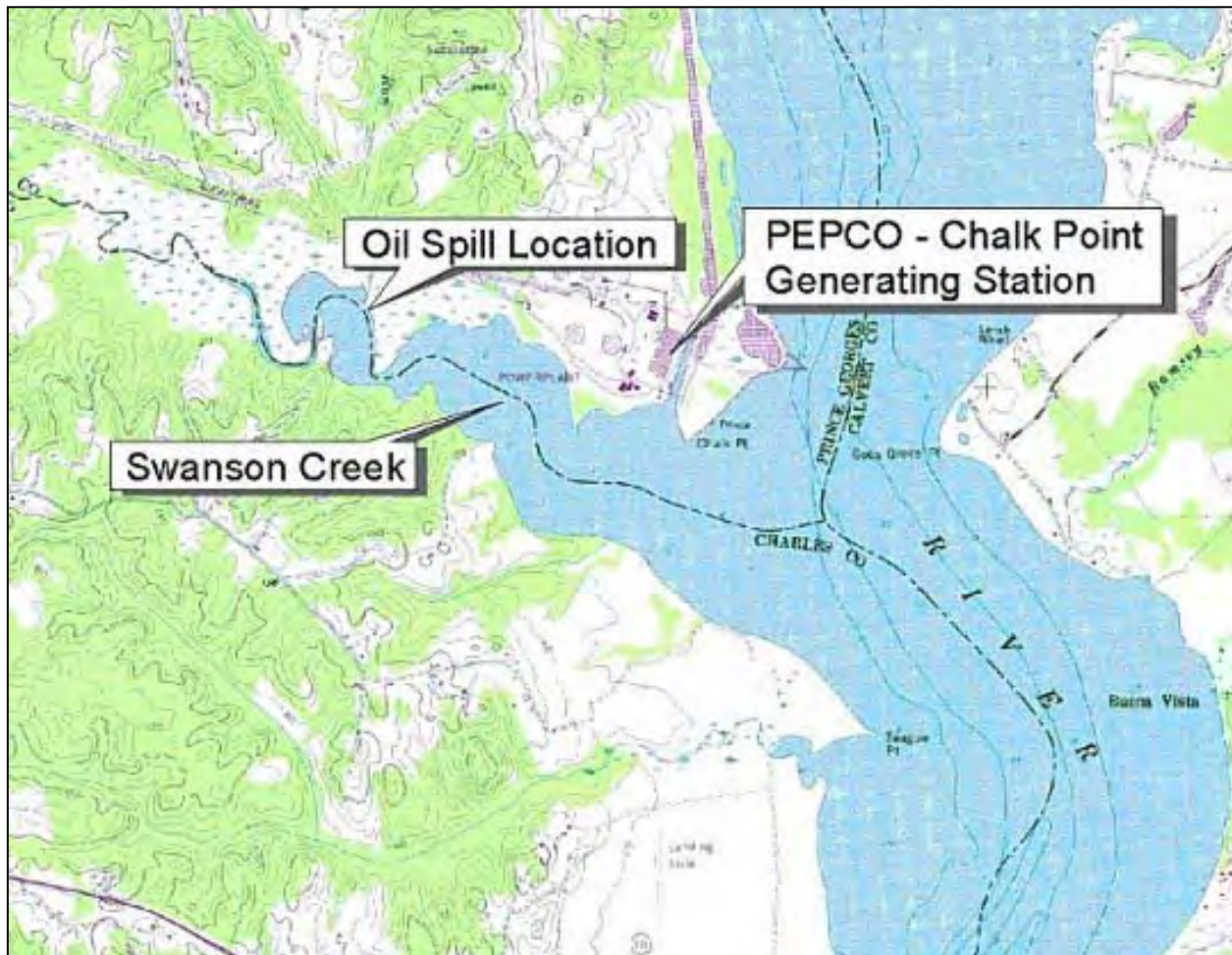


Figure 1. Oil spill location (source: Maryland DNR web site).

2.0 METHODS

2.1 APPROACH

The study consisted of river and creek subtidal benthic assessments. The river component consisted of revisiting sites in the mainstem of the Patuxent River that were previously sampled as part of LTB, plus the addition of new sites. The creek component allocated random samples to Swanson Creek in the immediate vicinity of the spill, and to a presumably undisturbed nearby creek (Hunting Creek). Figures 2 and 3 show the sampling locations. Samples were also collected in Indian Creek and Trent Hall Creek, but these samples were not examined in this study. Sampling was conducted on 29-30 June 2000 upon contract award and in conjunction with the next scheduled LTB sampling event on 27-29 September 2000.

2.1.1 River Component

The sampling approach was based on the Before-After-Control-Impact design (BACI) (Stewart-Oaten et al. 1986, Underwood 1991) with modifications to take advantage of the large data set collected by the LTB program. The LTB data included samples from several years (up to five years for random locations and up to 17 years for a fixed location at Chalk Point) before the perturbation at both the impact site in the Patuxent River and control sites in nearby rivers (for example, the Potomac and Chester Rivers). The BACI design allows for natural differences between Control and Impact locations, as well as for changes between the Before and After period that influence the sites in a similar way. We tested whether the mean Impact-Control difference changed before and after the oil spill. We used data collected by LTB in May 1991-2000 and August-September 1990-2000 at two fixed locations (impact Station 074 and control Station 068), and data collected in August-September 1995-2000 at several random locations in the main Patuxent near Chalk Point. These data were supplemented by additional collections from random sites sampled specifically for this study (Table 1).

For the oil spill assessment, the main Patuxent River was sampled at 12 sites in June 2000 and at 10 sites in September 2000. Sites were located in the Chalk Point region between the Highway 231 bridge at Benedict and Holland Cliff upstream (Figures 2 and 3). Of the 12 June sites, six were sampled in 1990-1993 as part of LTB (Table 1). The other six were newly established in order to increase coverage in the area immediately adjacent to Chalk Point. The random sites used in June 1990-1993 did not adequately cover this area. The 10 September sites were all previously sampled in 1998 or 1999 as part of LTB.

| Table 1. Data available for the Patuxent River oil spill benthic assessment. | | | |
|--|---------------|------------|-------------------|
| Sampling Date | Location | Source | Number of Samples |
| River Component | | | |
| June 1990-1993 | Main Patuxent | LTB | 3 per year |
| June 2000 | Main Patuxent | This study | 12 |
| September 1995 | Main Patuxent | LTB | 3 |
| September 1997 | Main Patuxent | LTB | 1 |
| August 1998 | Main Patuxent | LTB | 3 |
| August 1999 | Main Patuxent | LTB | 7 |
| September 2000 | Main Patuxent | LTB | 4 |
| September 2000 | Main Patuxent | This study | 10 |
| May 1991-1994 | Station 074 | LTB | 1 per year |
| May 1996-2000 | Station 074 | LTB | 3 per year |
| Aug.-Sept. 1990-1994 | Station 074 | LTB | 1 per year |
| Aug.-Sept. 1995-2000 | Station 074 | LTB | 3 per year |
| May 1991-1992 | Station 068 | LTB | 2 per year |
| May 1993-1994 | Station 068 | LTB | 1 per year |
| May 1996-2000 | Station 068 | LTB | 3 per year |
| Aug.-Sept. 1990-1992 | Station 068 | LTB | 1 per year |
| September 1993 | Station 068 | LTB | 2 |
| August 1994 | Station 068 | LTB | 1 |
| Aug-Sept. 1995-2000 | Station 068 | LTB | 3 per year |
| Creek Component | | | |
| June 2000 | Upper Swanson | This study | 3 |
| June 2000 | Lower Swanson | This study | 7 |
| June 2000 | Hunting | This study | 10 |
| September 2000 | Upper Swanson | This study | 10 |
| September 2000 | Lower Swanson | This study | 10 |
| September 2000 | Hunting | This study | 10 |

2.1.2 Creek Component

No previous benthic data were available from Swanson Creek. Therefore, Hunting Creek was selected for comparison. Ten sites were randomly allocated to each creek in June 2000 (Table 1, Figure 2). In September, sampling effort in Swanson Creek was increased to 20 sites allocated proportionally among two strata (Table 1, Figure 3). In addition, 10 sites were sampled in each of Hunting Creek, Indian Creek, and Trent Hall Creek. Indian Creek and Trent Hall Creek were sampled as requested by the trustees; however, the samples were archived pending potential future analysis.

In order to provide estimates of seasonal variability, half of the sites sampled in June were revisited in September (Figure 3). Sites to be revisited were selected at random. In upper Swanson Creek, three sites had been sampled in June, but one was associated with marsh vegetation and was excluded from consideration. Therefore, only two sites were revisited in upper Swanson Creek. Additional September sites in all creeks were aimed at providing increased spatial coverage.

2.2 FIELD AND LABORATORY PROCEDURES

Sediment samples were collected using a Young grab, which samples an area of 440 cm² to a depth of 10 cm. One sample per site was taken. With the exception of the 1990-1993 LTB samples, collected with a Wildco box corer, the same gear and methods were used for all collections. Grab samples were sieved through a 0.5-mm mesh screen, and the organisms retained on the screen were preserved in a 10% formalin solution and stained. In the laboratory, organisms were counted, identified, and their biomass (ash-free dry weight) measured following LTB protocols. Ash-free dry weight was determined for each species by drying the organisms to a constant weight at 60 °C followed by ashing in a muffle furnace at 500 °C for four hours. Because most species of oligochaetes need to be slide mounted for identification, species-specific biomass for oligochaetes could not be provided except for *Tubificoides* spp., which do not need slide mounting for identification. All sorting and identification were conducted at Versar.

Surface and bottom water temperature, conductivity, salinity, and dissolved oxygen concentration were measured at most sites using a Hydrolab multiprobe. The unit became inoperable at a few sites, so for these sites water quality parameter values are not available. Surface sediment for silt-clay and organic carbon content analysis was collected from an additional grab sample at each site. Surface sediment (top 2 cm) samples were also taken at each site for analysis of PAH concentration. PAH samples were frozen and archived as directed by the trustees.

Sediment grain size analysis followed procedures described in Folk (1980). Sand was separated from silt-clay by wet sieving and the percent silt-clay fraction (particles smaller than 63 microns) was determined by weighing. Percent organic carbon (TOC) was determined by combustion at 550 °C in a carbon analyzer (Exeter Analytical Inc. CE440 Elemental Analyzer) for four hours. Analysis of TOC samples was provided by the Chesapeake Biological Laboratory.

2.3 DATA ANALYSIS

Data from the river component was analyzed using the BACI design outline above. LTB stations 074 and 068 were compared. Station 068 is located in the upper Chester River and has habitat characteristics similar to station 074. Benthic community condition at station 068 meets the benthic community restoration goals and therefore can be used as a reference. The BACI design could not be applied to LTB random data collected 1995-2000 in the vicinity of Chalk Point because there were no comparable post-spill data outside the Patuxent River available at this time. However, data were analyzed for differences in benthic community parameters across years using a generalized linear model (see below).

In addition to the above analysis, September data were interpreted in the context of measures of benthic community health using the Chesapeake Bay benthic index of biotic integrity (B-IBI, Weisberg et al. 1997, updated in Alden et al. 2002). The B-IBI takes into account the natural range of variability within reference areas in Chesapeake Bay. The B-IBI is based on a number of summer time benthic invertebrate attributes such as total abundance and biomass, diversity, abundance of pollution indicative species, and biomass of pollution sensitive species (Weisberg et al. 1997, see Appendix B of this report for details). The index is calculated by scoring each attribute as either 5, 3, or 1 depending on whether the value of the attribute approximates, deviates slightly from, or deviates strongly from values at the best reference sites in similar habitats. These scores are then averaged across attributes to obtain an index value. Index values of 3 or more are considered to meet the restoration goals.

For the creek component, we assessed the magnitude of the impact by comparing sites near to and distant from the spill source. Data were analyzed with ANOVA (alpha level = 0.05) using the General Linear Model procedure in SAS for unbalance designs (SAS Institute, Inc., v. 8). Abundance and biomass data were standardized to values per square meter and log transformed to lessen the sensitivity of the method to large abundances. The log transformation stabilizes the variance and reduces or eliminates dependence between the variance and the mean.

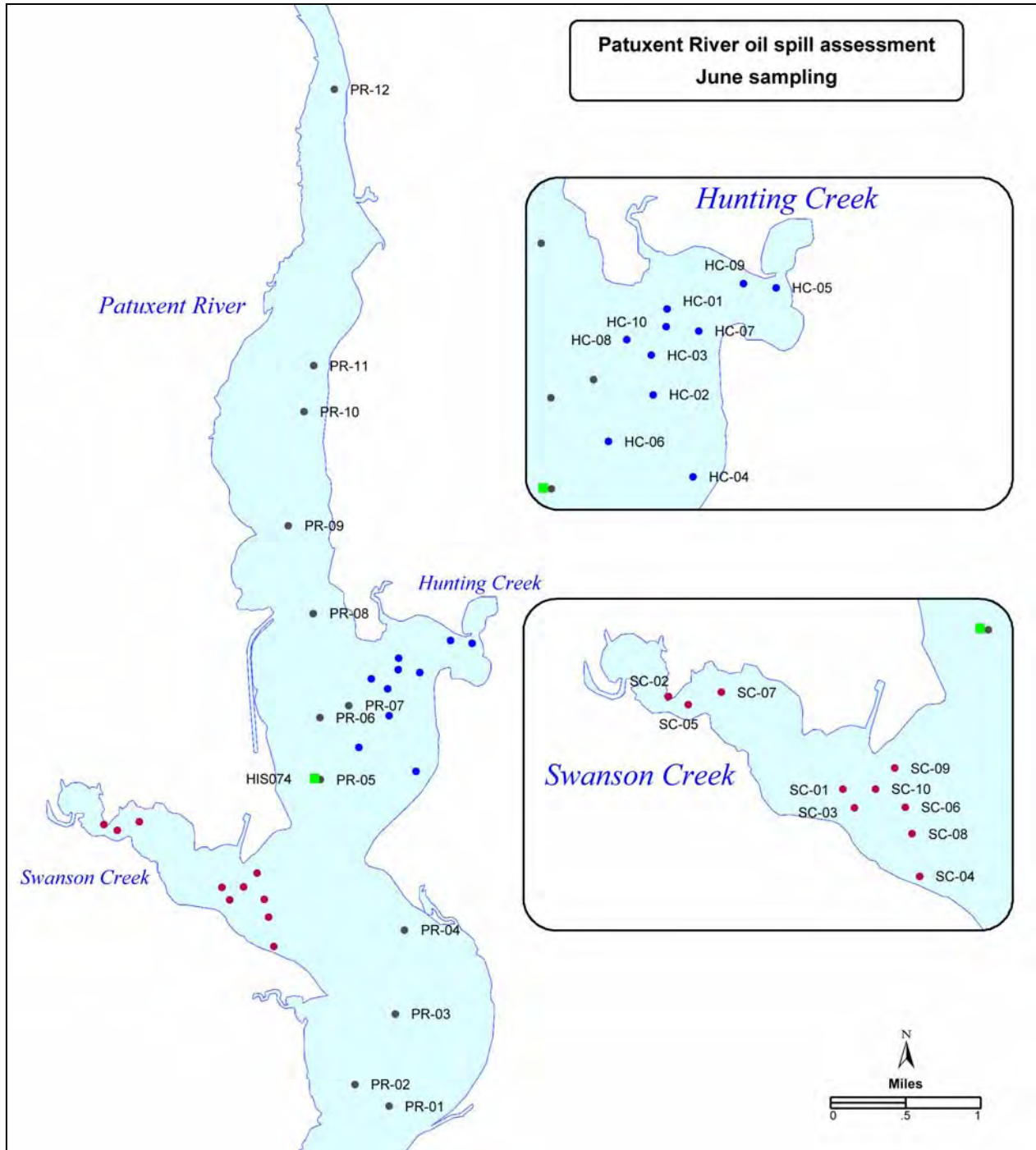


Figure 2. Patuxent River. Sites sampled in June 2000.

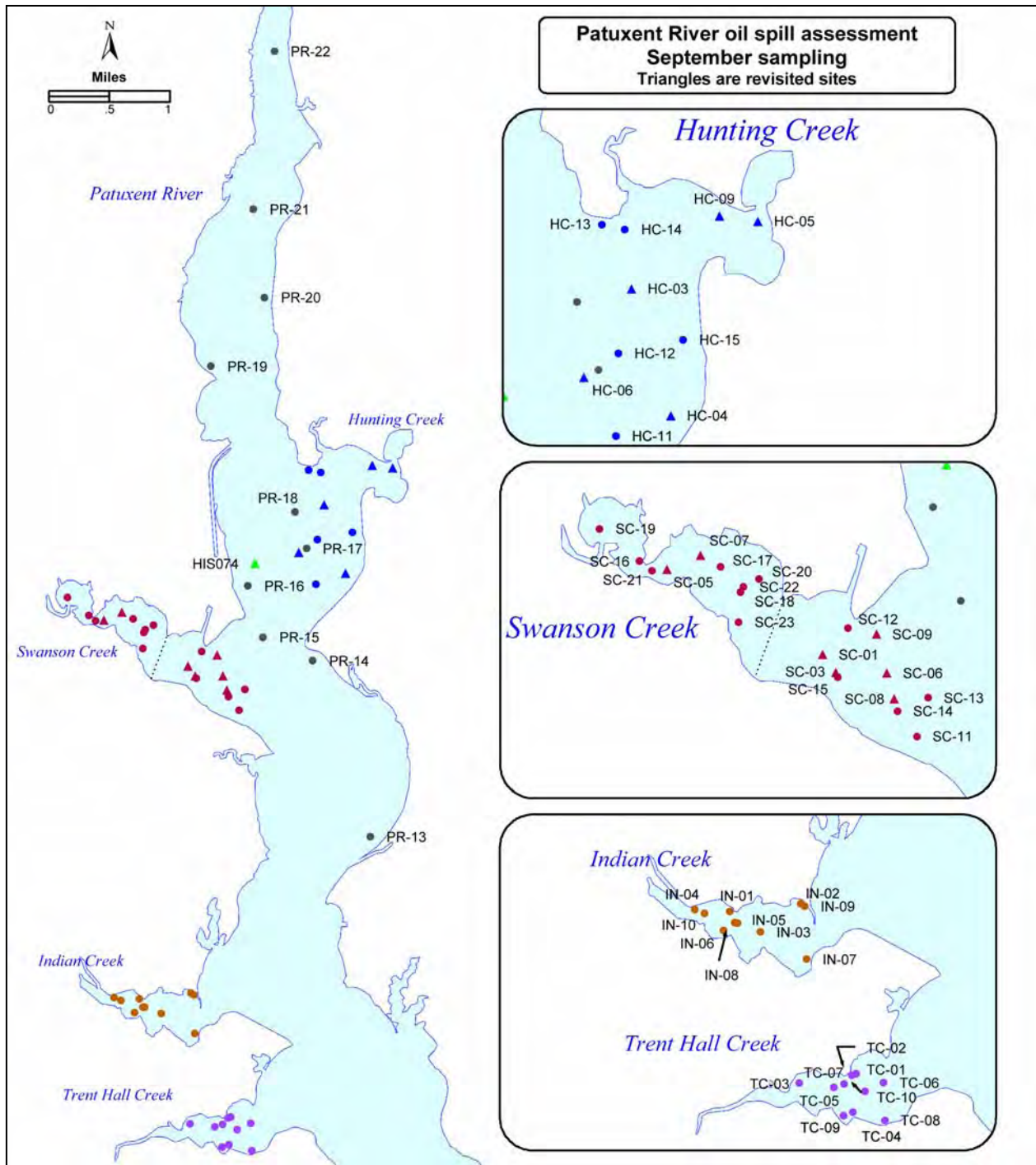


Figure 3. Patuxent River. Sites sampled in September 2000.

3.0 RESULTS

For each comparison (e.g., Patuxent mainstem vs. LTB), Shannon diversity (H' , with \log_2), number of species, abundance, and biomass are presented below. Whenever the number of samples for a comparison is greater than 1 (see Table 1), we have plotted the mean plus or minus one standard error. All statistical analyses are based on means. Shannon diversity and number of species should be interpreted with caution for those comparisons where the number of samples varies among locations, as a higher number of species would be expected with increased replication. To be consistent with LTB protocols, epifaunal organisms were excluded from calculations except where indicated. All organisms collected during this study are listed in the appendices. The appendices summarize water quality measurements, sediment parameters, and benthic community data for all sites.

3.1 RIVER COMPONENT

Shannon diversity and number of species from samples collected in the Patuxent mainstem in June 2000 did not differ significantly ($p=0.064$ and 0.861 , respectively) from 1990-1993 collections, either individually (LTB 93, LTB 92, etc., Figure 4) or as a group (LTB 90-93). Total abundance and biomass, however, were significantly lower in June 2000 than in June 1990-1993 ($p<0.001$) (Figure 4). Inclusion of epifaunal organisms did not change these results. The large variability in the biomass data was due to the bivalve *Rangia cuneata*. Collections with few, relatively large individuals of this species tend to skew the data. *Rangia* usually accounts for a large portion of the biomass in the upper Patuxent River.

Shannon diversity, number of species, abundance, and biomass from samples collected in the Patuxent mainstem in September 2000 did not differ significantly from 1995-1999 summer collections ($p=0.214$, 0.055 , 0.169 , and 0.836 , respectively) or from LTB 2000 collections (Figure 5). The year 1997 did not count in the comparison because it did not have a variance estimate. As before, inclusion of epifaunal organisms did not change these results. The exclusion of *Rangia cuneata* from the analysis resulted in relatively similar biomass patterns across years in the remaining community (Figure 5e).

Benthic community parameters for station 074 in May 2000 were within the range of typical values observed at this station for Shannon diversity, abundance, and biomass, and higher than average values for number of species (Figure 6). In September 2000, all four benthic community parameters were within the range of values typical of summer benthic collections, and within the "good range" of B-IBI thresholds (≥ 1.7 for Shannon diversity, 500-6000 individuals m^{-2} for abundance, 1-30 $g m^{-2}$ for biomass) (Figure 7). Application of the BACI design revealed no significant differences in the relative mean abundance between the impact (Station 074) and the control site (Station 068) from before the spill to after the spill, indicating that there was no effect of the perturbation (Figure 8). Note that there was no major decline in the difference between impact and control sites after the spill.

3.2 CREEK COMPONENT

Comparisons between Swanson Creek, Hunting Creek, and the Patuxent mainstem revealed differences in benthic community parameters and species composition. Upper Swanson Creek most often accounted for the differences. Shannon diversity was significantly lower ($p < 0.001$) in upper Swanson Creek in June 2000 than in lower Swanson Creek, Hunting Creek, or the Patuxent mainstem (Figure 9a). Number of species and abundance were significantly higher ($p < 0.001$) in upper Swanson Creek (Figures 9b and 9c), but biomass did not differ significantly among locations ($p = 0.146$), most likely as a result of the large variability in biomass observed in the Patuxent mainstem (Figure 9d). The polychaete *Streblospio benedicti* and, to a lesser extent, the oligochaete *Tubificoides* spp. accounted for the large difference in abundance between upper Swanson Creek and the other three locations in June 2000 (Figure 10). *Streblospio* was particularly abundant at station SC-02, with densities over 17,000 individuals per square meter. Sediments from this station, adjacent to the marsh, were obviously oiled and contained a large proportion of organic matter (TOC = 14.7%, see Appendix A). When the abundance of *Streblospio* and *Tubificoides* was excluded, the abundance of the remaining of the community became more similar among locations (Figure 10c). Inclusion of epifaunal organisms in the analysis did not change these results.

In September 2000, Shannon diversity was significantly lower ($p = 0.043$) in upper Swanson Creek than in lower Swanson Creek, Hunting Creek, or the Patuxent mainstem (Figure 11a). Number of species also differed significantly among locations. The Patuxent mainstem accounted for this difference, with significantly higher number of species ($p = 0.005$) than Swanson Creek and Hunting Creek (Figure 11b). Upper Swanson Creek, however, did not differ significantly in number of species from lower Swanson Creek or Hunting Creek, even though Swanson Creek sites more often had lower species numbers than sites elsewhere (Figure 11b). Similar patterns were found for abundance (Figure 11c). Although some sites in upper Swanson Creek were impoverished, Patuxent mainstem sites exhibited the largest abundance ($p = 0.009$). Biomass was significantly lower ($p = 0.015$) in upper Swanson Creek than in the other three locations (Figure 11d). Inclusion of epifaunal organisms resulted in non-significant differences among locations for Shannon diversity ($p = 0.056$).

In addition to community parameters, differences in the proportion of abundance of taxa classified as bivalves, crustaceans, oligochaetes, polychaetes, and others (including epifauna) were revealed. Overall, upper Swanson Creek had fewer bivalves and crustaceans than lower Swanson Creek, Hunting Creek, or the Patuxent mainstem in both June 2000 (Figure 12) and September 2000 (Figure 13). In June 2000, polychaetes were obviously dominant in upper Swanson Creek, and this pattern was still evident in September 2000, although much more attenuated. Notably, polychaetes also exhibited higher abundance in lower Swanson Creek than in Hunting Creek or the Patuxent mainstem in June 2000 (Figure 12), but not in September 2000.

3.3 BENTHIC INDEX OF BIOTIC INTEGRITY

For each of the September 2000 creek and river sites, B-IBI values and the corresponding benthic community condition are presented in Appendix B and Figure 14. Details of the B-IBI metric values and scores are provided in the appendix. In calculating the B-IBI, we

used low mesohaline metrics even though some sites in Swanson Creek had point-in-time salinity values slightly below 5.0 ppt (within the range of oligohaline habitats). We used low mesohaline metrics because benthic community structure in this region is typical of low mesohaline habitats, and long-term salinity averages are within the low mesohaline range (i.e., 5-12 ppt).

Of the 10 sites in upper Swanson Creek, two met the benthic community restoration goals and 8 were degraded or severely degraded (see Appendix B). One of the “good” sites, SC-017, was only marginally so. Of the 10 sites in lower Swanson Creek, 8 met the benthic community restoration goals and two were degraded. In Hunting Creek, 6 sites met the goals, 3 were degraded, and one was marginally degraded. All sites in the main Patuxent River met the restoration goals except the upper most site in the river (Figure 14).

Figure 15 shows benthic community condition at LTB sites sampled in the Patuxent River. Most sites in the lower Patuxent were degraded in the summer of 2000, while sites in the Chalk Point region further upstream met the restoration goals.

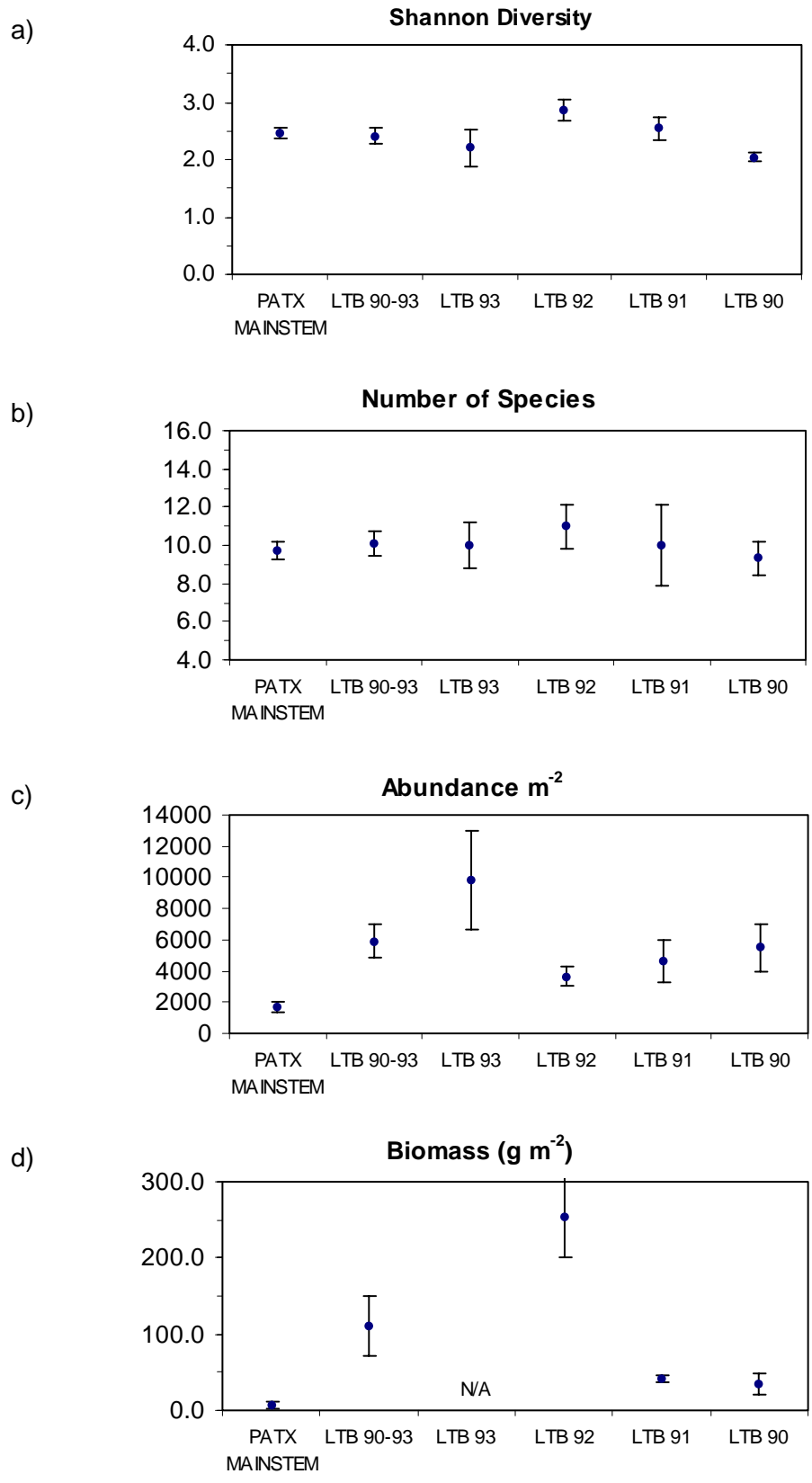


Figure 4. June mainstem comparisons. N/A= not available.

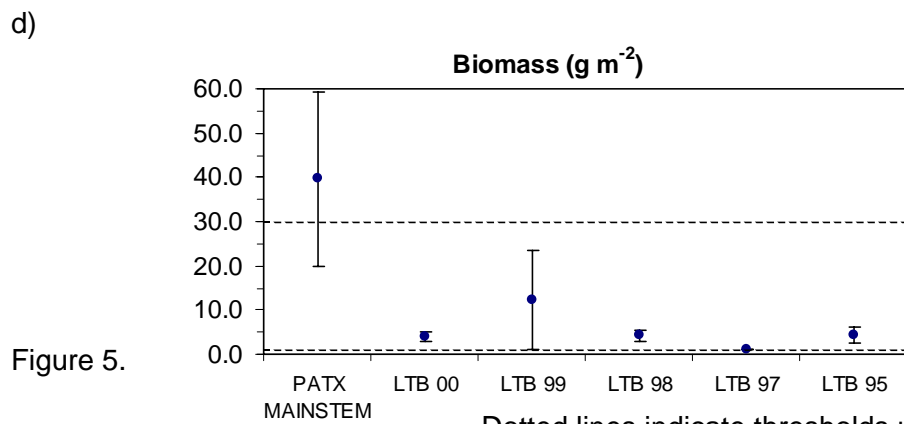
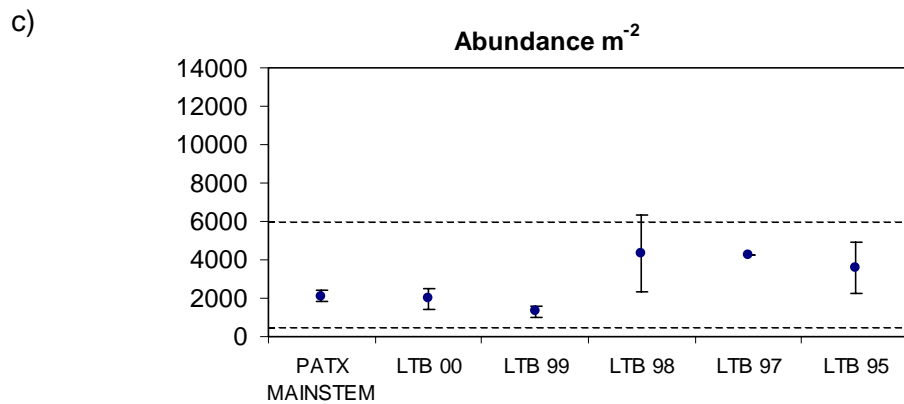
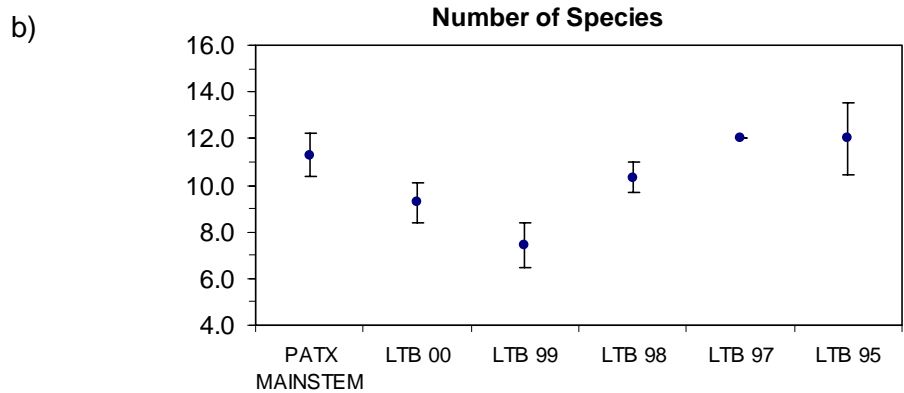
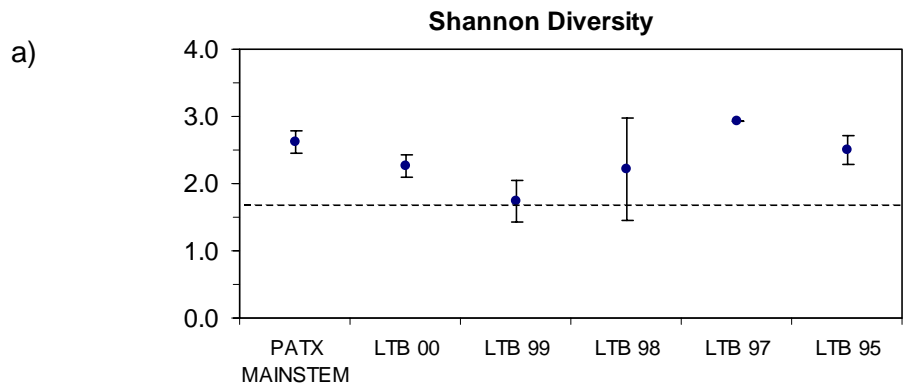


Figure 5. **September mainstem comparisons.** Dotted lines indicate thresholds used to score each metric of the Chesapeake Bay B-IBI.

e)

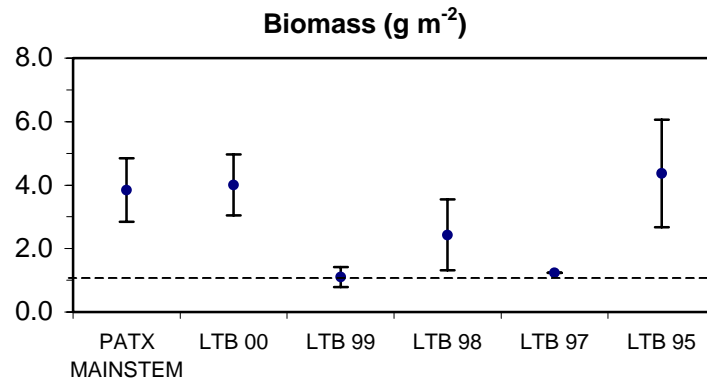


Figure 5. September mainstem comparisons (continued). Biomass in 5e excludes the bivalve *Rangia cuneata*.

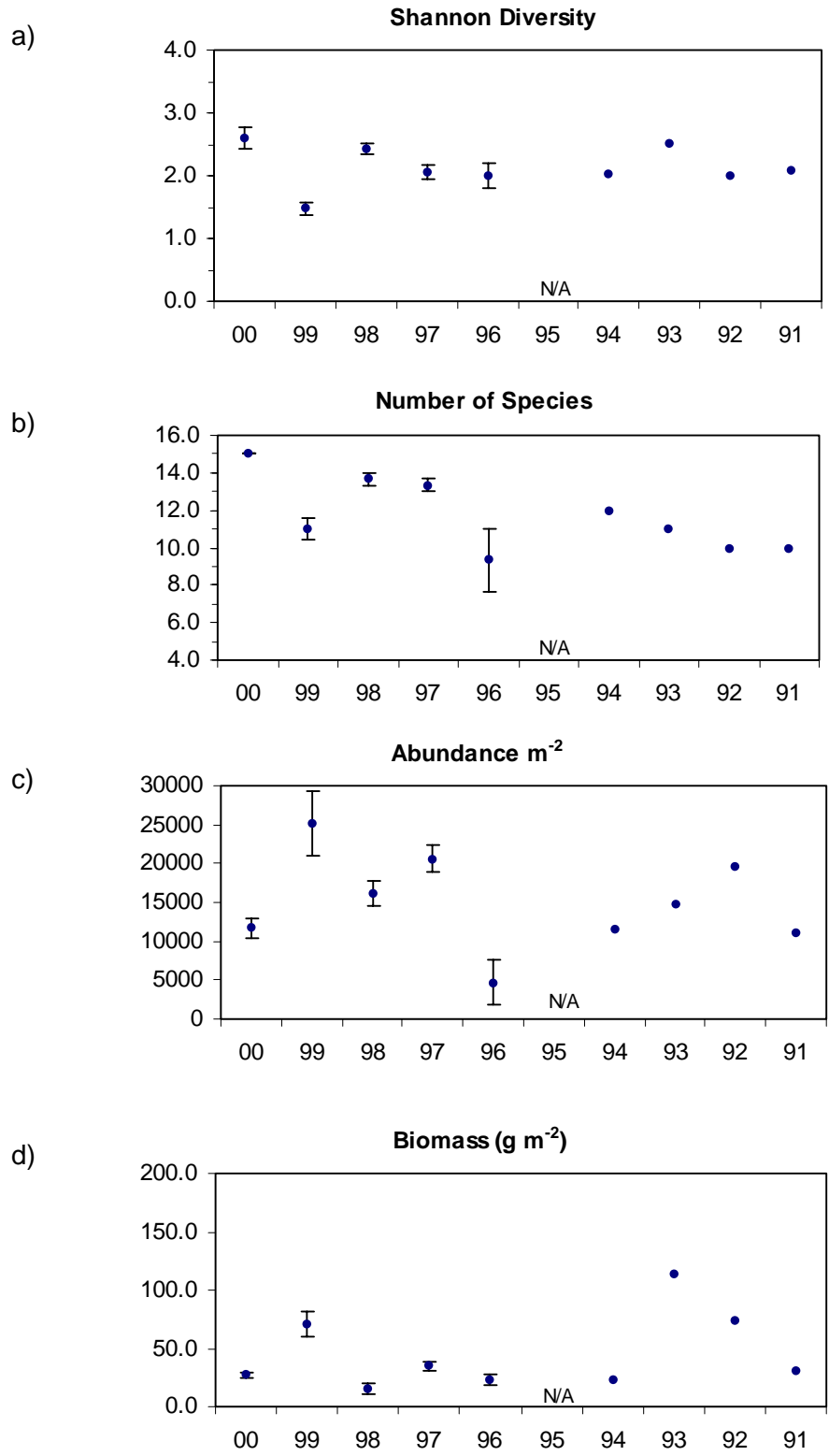


Figure 6. Station 074, May 1991-2000. N/A= not available.

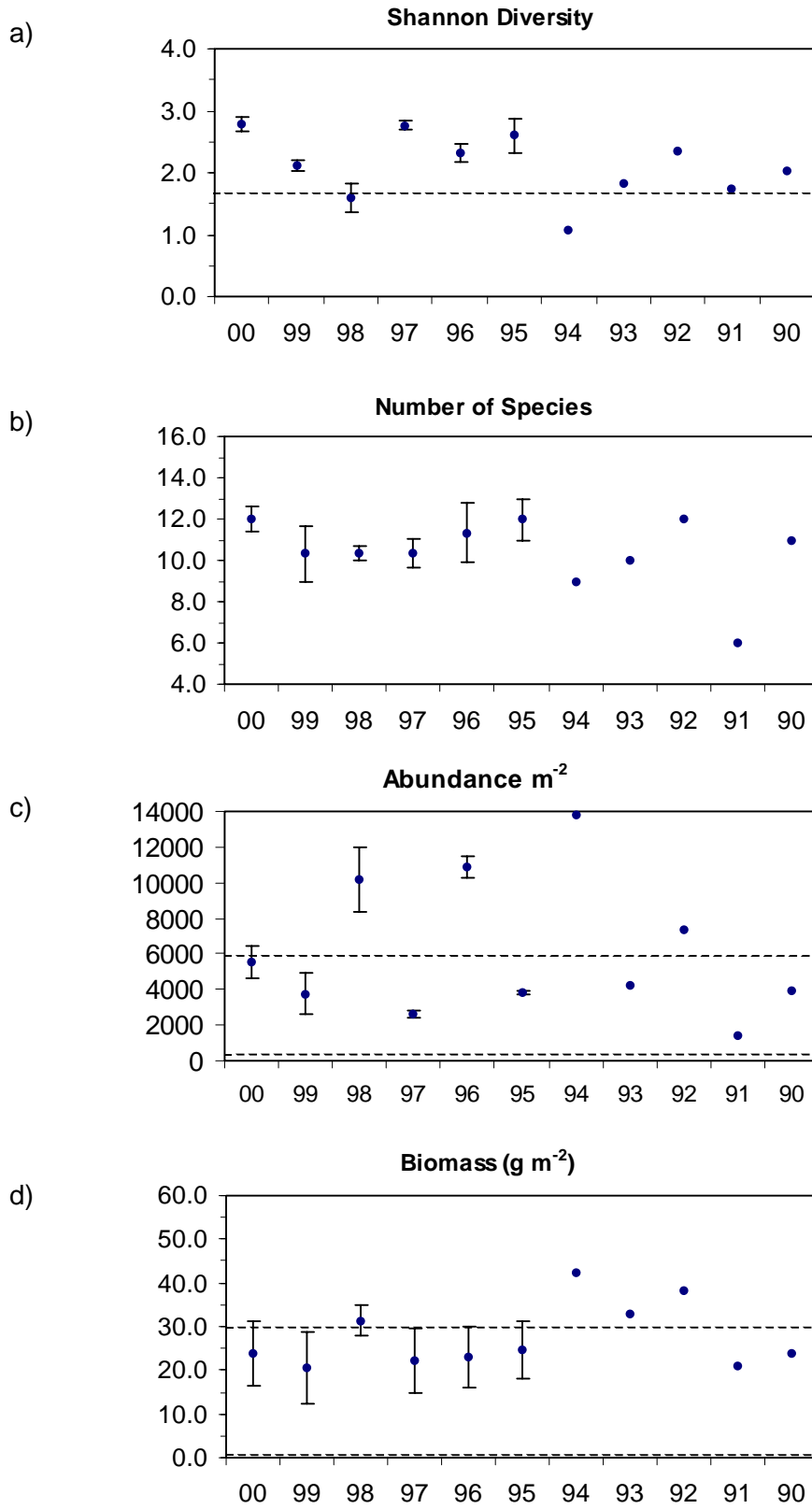


Figure 7. Station 074, August-September 1990-2000. Dotted lines are thresholds used to score each metric of the Chesapeake Bay B-IBI.

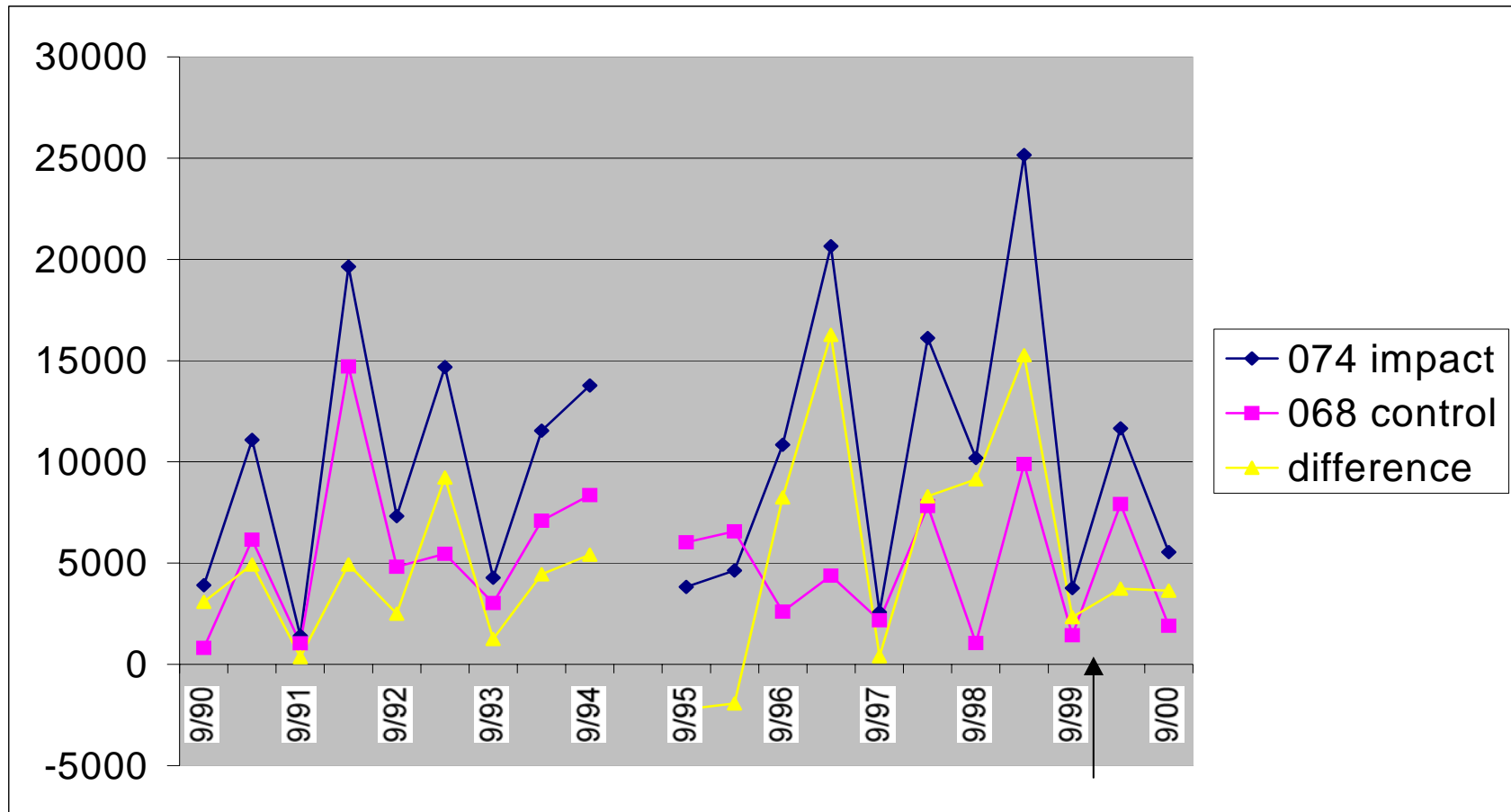


Figure 8. Mean abundance at the impact station in Chalk Point and at a control station in the Chester River, 1990-2000, and difference between the impact and the control station. The arrow indicates the time of the oil spill.

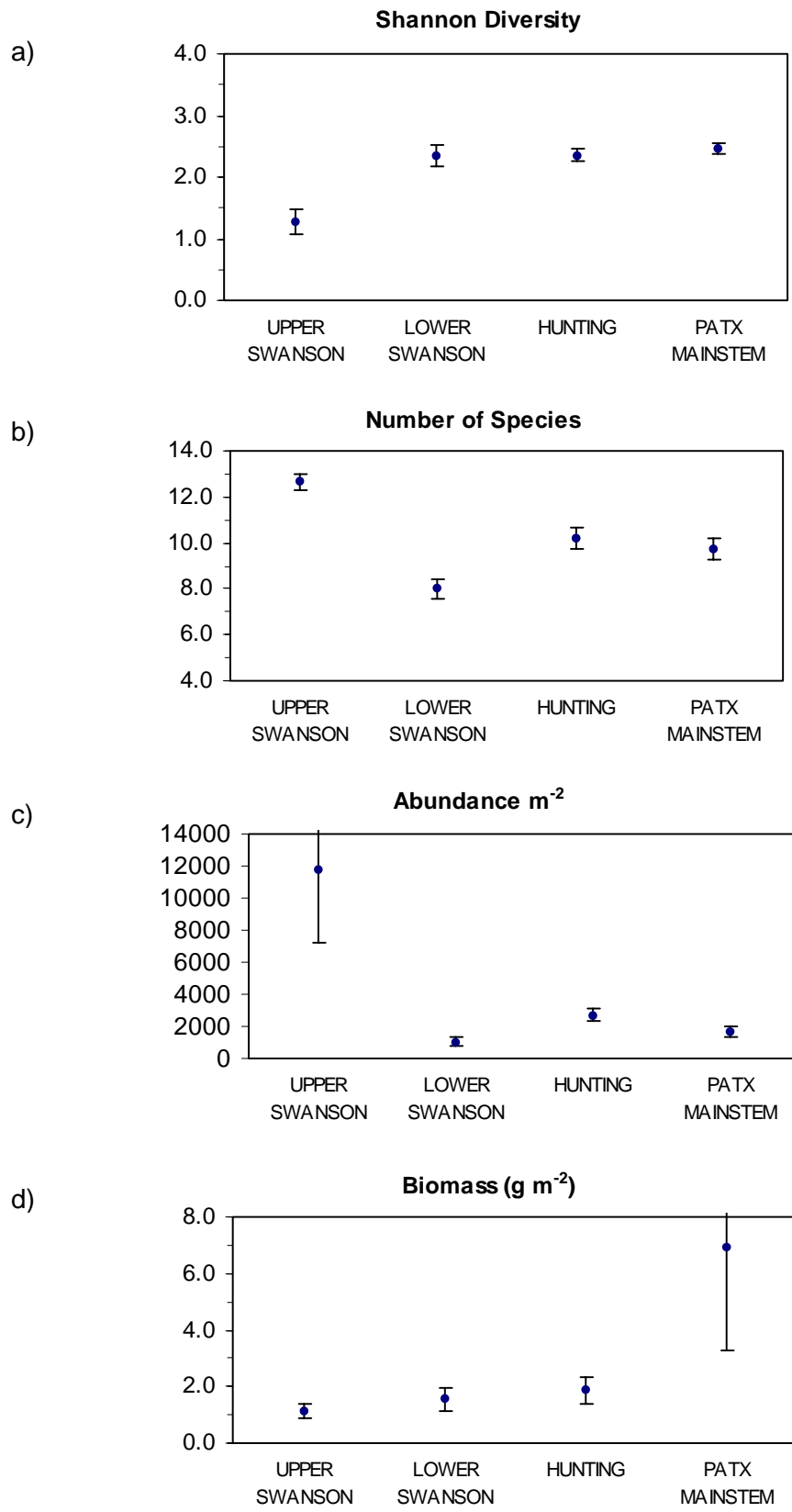


Figure 9. June creek comparisons.

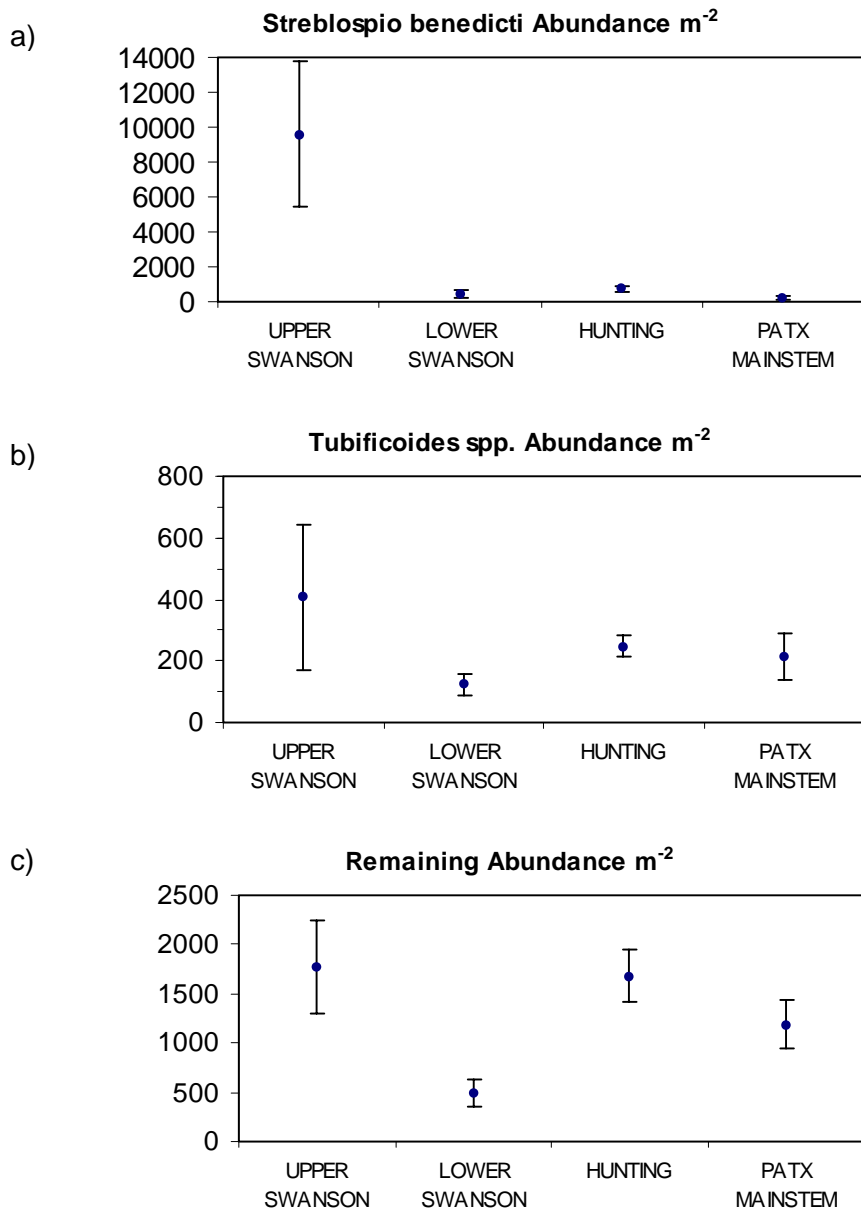


Figure 10. June creek comparisons (continued). Remaining abundance is total abundance exclusive of *Streptospio benedicti* and *Tubificoides* spp.

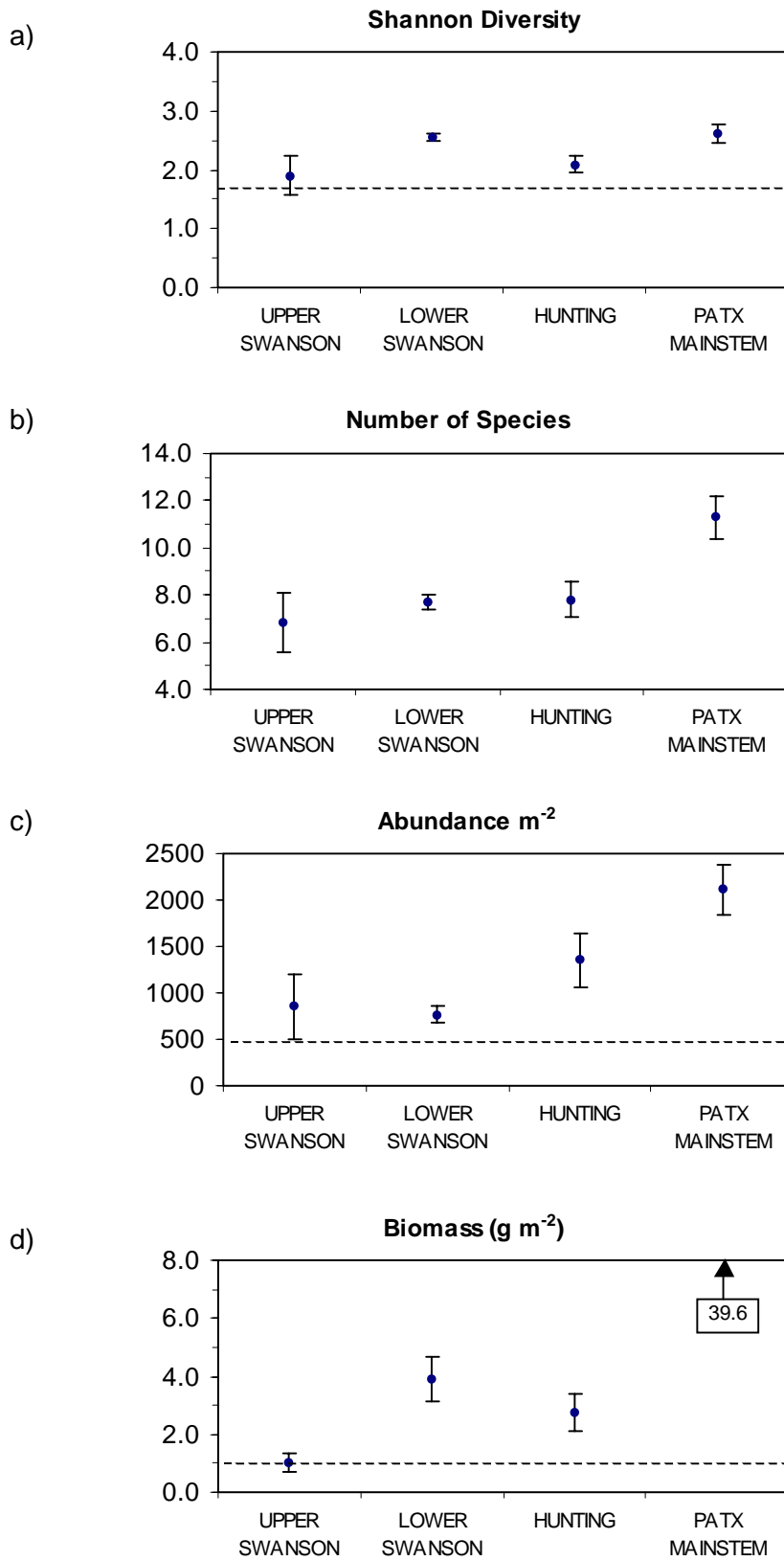


Figure 11. September creek comparisons. Dotted lines indicate thresholds used to score each metric of the Chesapeake Bay B-IBI.

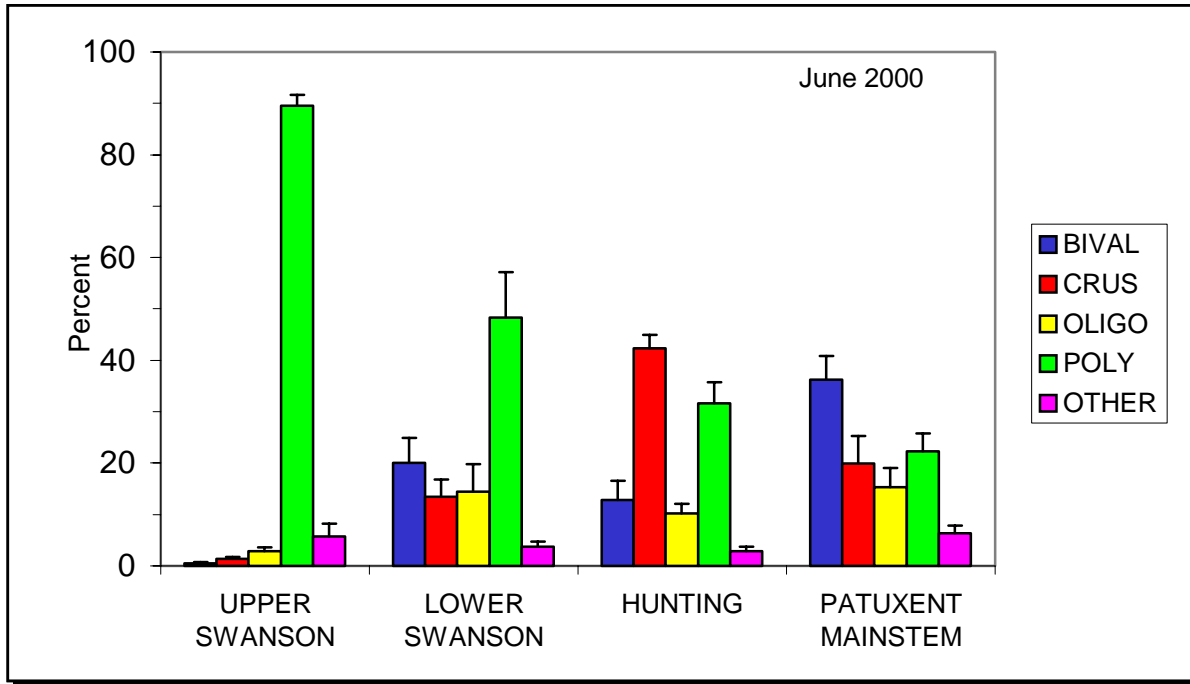


Figure 12. Percent abundance composition at June creek and river sites.

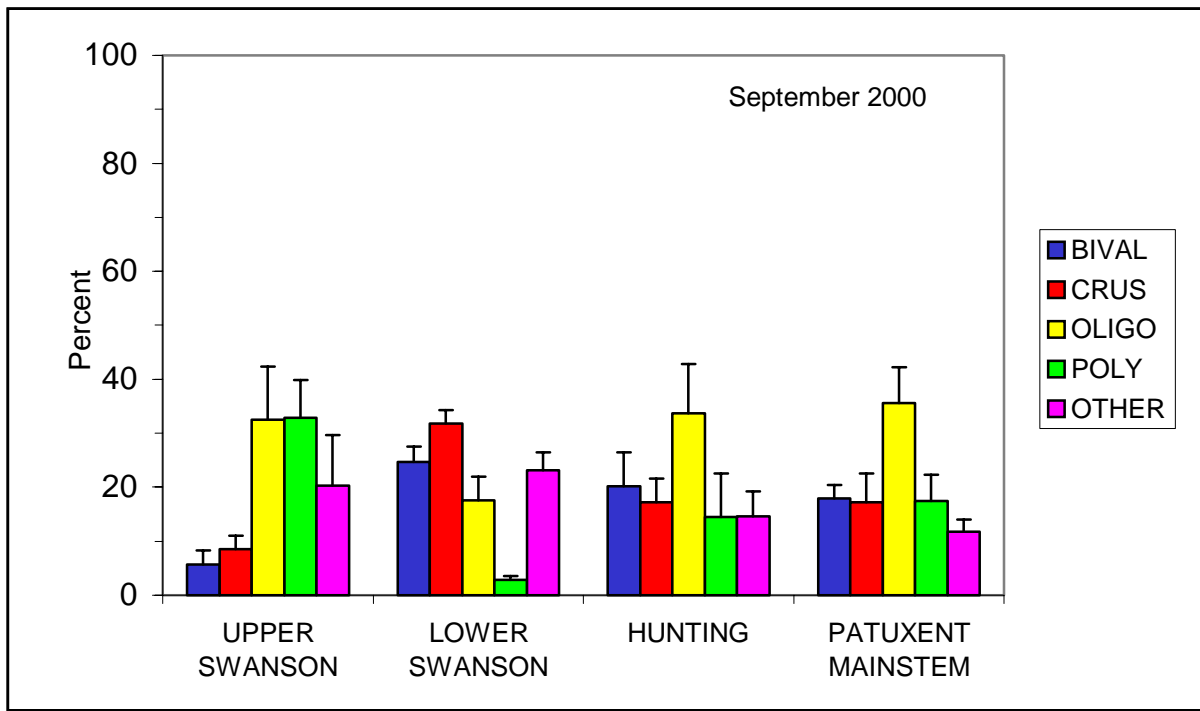


Figure 13. Percent abundance composition at September creek and river sites.

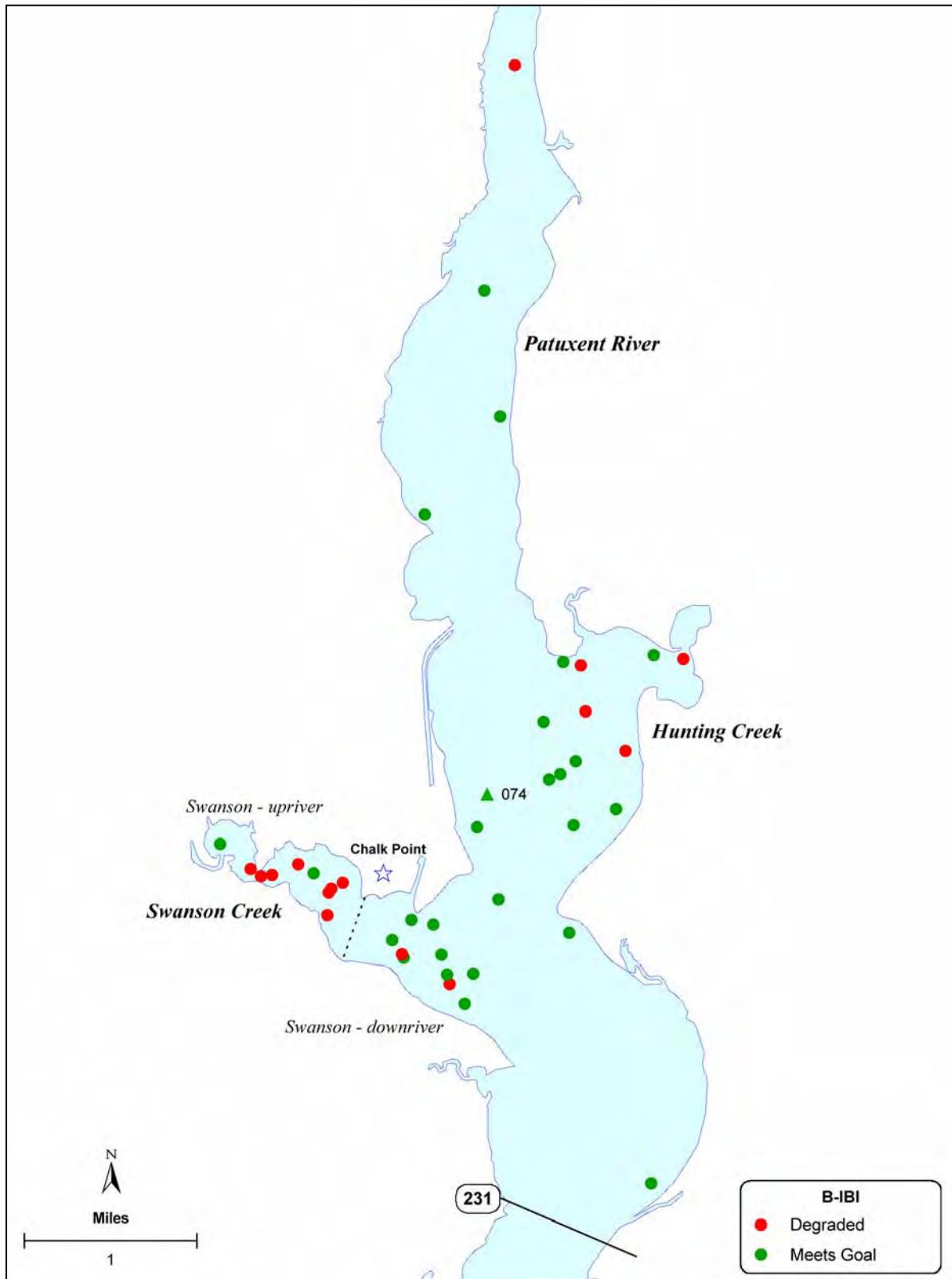


Figure 14. Benthic community condition at creek and river sites in September 2000.

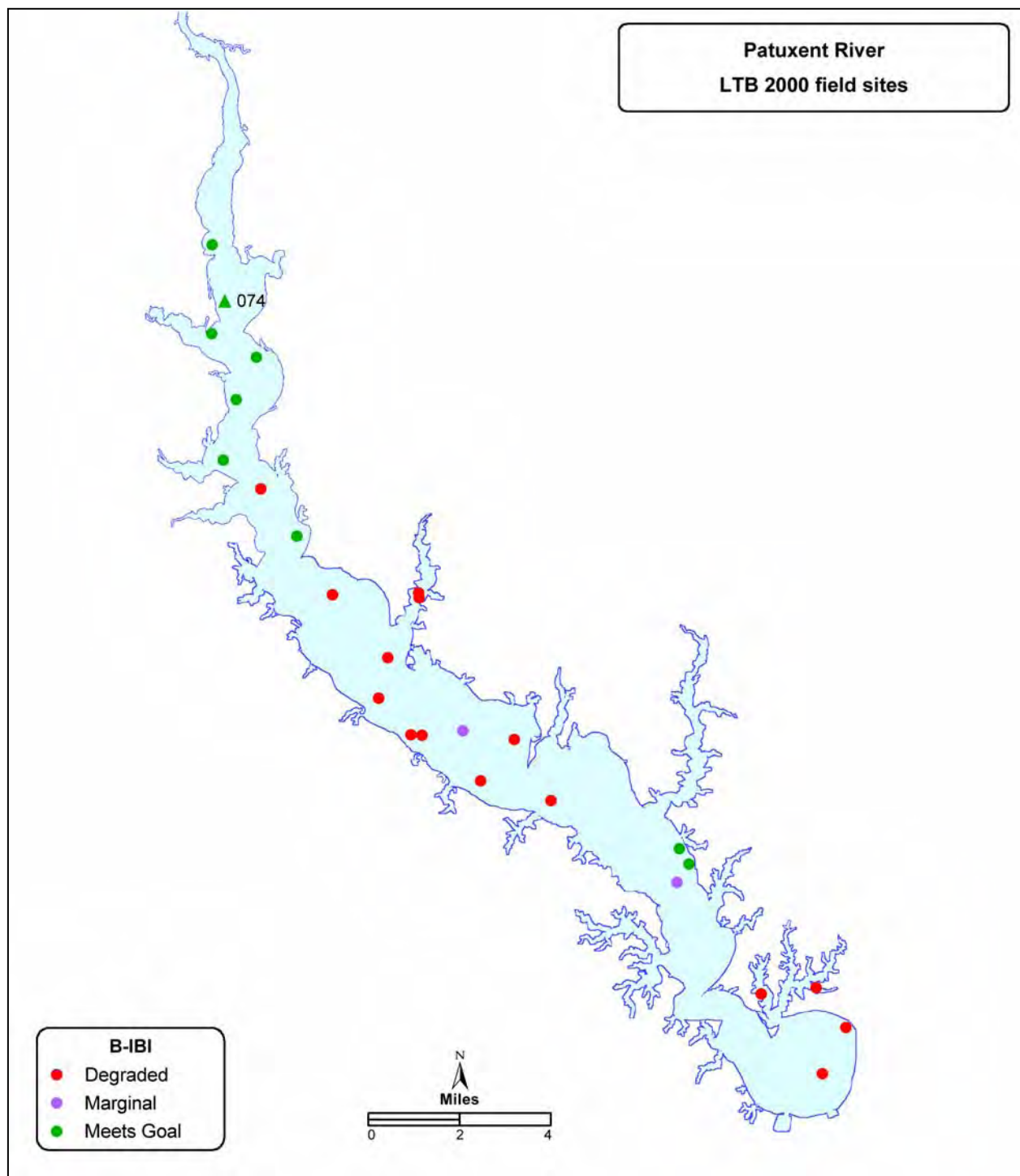


Figure 15. Benthic community condition at LTB Patuxent River sites in September 2000.

4.0 DISCUSSION

The effects of oil spills on benthic organisms vary as a function of the severity and spatial extent of the event. The effects of oil spills and chronic hydrocarbon inputs on benthic organisms have been previously documented (e.g., Samiullah 1985, Gray et al. 1990, McGuinness 1990, Agard et al. 1993, Clarke 1993). Large hydrocarbon concentrations in sediment are toxic to many organisms and may cause widespread mortality. However, in systems that experience aperiodic disturbances such as those related to high summer temperatures and low dissolved oxygen, sensitive species are usually eliminated (Diaz and Rosenberg 1995). Structural and organizational changes in the community following aperiodic disturbances may lead to pollution resistant communities. This may have been the case in the upper Patuxent River. Communities in the upper Patuxent River are likely to be resilient to stress. Although we are not certain of the degree to which the oil affected the bottom sediments, alterations to community structure were noticeable only in Swanson Creek, and these were apparently limited to quantitative changes in abundance, a response consistent with systems that experience aperiodic disturbance (Diaz 1994).

Benthic community parameters for sites in the mainstem of the Patuxent River in September 2000 were within the range of values expected for the region. In June 2000, abundance and biomass in the Patuxent mainstem were lower than what would be expected based on historical data collected in 1990-1993. However, results from the adjacent station 074 did not indicate depressed abundance or biomass in May 2000 compared to the long-term average. One caveat is in order here. Estuarine benthic communities are extremely dynamic. Large fluctuations in abundance over time are usually common among numerically dominant species, especially during the spring months (April-June) when settlement and growth occur rapidly and densities of organisms often overshoot the carrying capacity of the environment. Our study is not more than a snapshot in time, limited by the constraints inherent in evaluating impacts from unpredictable events. With this in mind, the differences in abundance and biomass in the Patuxent mainstem between 2000 and 1990-1993 could be explained in several ways. Inter-annual variations in abundance, for example, often result from intrinsic variation in the population of a species, or from seasonal or annual variations in environmental factors. The year 2000 was extremely wet, with low dissolved oxygen occurring near Chalk Point as early as June (see Appendix). The overall effect of such unusual year may have been of a reduction in the size of the benthic populations.

Results from the creek component did suggest an impact in upper Swanson Creek; however the magnitude of the impact does not appear to have been extensive. There was no widespread mortality that might be associated with toxic effects. The three upper Swanson Creek sites sampled in June 2000 had very high densities of *Streblospio benedicti*, which was reflected in low diversity values. The average number of species at these sites, however, was the highest among the three locations. The average number of species was still relatively high in September 2000, although variability in the data indicated some sites in upper Swanson Creek as having low species richness. Sublethal effects may have occurred, but such effects usually go undetected. More evident were the changes in species composition. Upper Swanson Creek had proportionally fewer bivalves and crustaceans than the other three

locations. With oil pollution, polychaetes are enhanced while crustaceans are suppressed by the oil impact (Peterson et al. 1996). These results, however, should be viewed with caution. The natural, unaltered condition of Swanson Creek cannot be observed after the spill, and therefore we do not know what the benthic community would have been in the absence of the spill.

The large abundance of *Streblospio benedicti* in upper Swanson Creek is more difficult to explain, but it may have been related to organic enrichment. Quantitative changes in abundance with organic enrichment of the sediment are typical of opportunist species. The largest *Streblospio* densities were associated with the marsh fringe, where samples were obviously oiled. In this case the response may have been elicited by either the oil or the marsh vegetation. In general, distinguishing between the effects of organic enrichment and the effects of contaminant toxicity is difficult, especially when related to oil pollution. Polychaetes were dominant in both upper and lower Swanson Creek in June 2000. But whatever effect organic enrichment may have had on the community, differences in species abundance and composition among locations were much more attenuated in September.

It has been suggested that to describe the impact of oil pollution, a combination of community and species-based parameters should be used (Daan et al. 1992). The B-IBI provides such combination. The B-IBI uses measures of standing stock, diversity, species composition, and trophic composition. The B-IBI is applicable in summer, where the differences among reference and degraded sites are greatest (Alden et al. 1997). The application of the B-IBI to Chalk Point data revealed that benthic community condition was worst in upper Swanson Creek, just around the area where cleaning and oil recovery activities were conducted after the spill. Whether the oil, the cleaning operation itself, or some other factor were responsible for the observed alterations to community structure in Swanson Creek is unknown. Ultimately, it is the magnitude of the impact that actually matters, especially because of the implications that these changes may have for economically important resources. However, given the data collected by this study, it is not possible to relate these changes directly to food webs. Alterations to abundance and species composition are most severe if sustained over the long-term or at large spatial scales. The information gathered during the present study suggests that the impact may have been largely ephemeral and of small spatial extent. However, this distinction can only be discerned with further sampling. Further monitoring may also help determine the time necessary for recovery.

In conclusion, this study found significant differences in benthic community parameters between Swanson Creek and both Hunting Creek and the Patuxent mainstem in the vicinity of Chalk Point 3-6 months after the spill. These differences were mostly restricted to the upper portion of Swanson Creek. Benthic community condition as measured by the Chesapeake Bay benthic index of biotic integrity was also classified predominately as degraded in this region. Provided that these differences are attributable to an impact from the oil spill, the impact appeared to be localized and of relatively low magnitude. The analysis of PAH samples may help determine a relationship between oil and benthic community condition.

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APPENDIX A
BOTTOM ENVIRONMENT AND
BENTHOS SPRING

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-01 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.0 | | Salinity (ppt): 5.6 | | Temperature (C): 26.58 | | |
| Dissolved Oxygen (mg/l): 3.06 | | Sediment Silt-Clay (%): 93.55 | | Total Carbon (%): 2.96 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 1.99 | | Pollution Indicative Species Abundance (%) | 44.72 | | |
| Abundance (#/m2) | 2829 | | Pollution Indicative Species Biomass (%) | 14.15 | | |
| Biomass (g/m2) | 0.49 | | Pollution Sensitive Species Abundance (%) | 9.76 | | |
| Carnivore-Omnivore Abundance (%) | 3.25 | | Pollution Sensitive Species Biomass (%) | 69.34 | | |
| Deep Deposit Feeder Abundance (%) | 8.13 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Streblospio benedicti | 1242 | 1242.0 | | 1242 | 1242 | |
| Leptocheirus plumulosus | 1012 | 1012.0 | | 1012 | 1012 | |
| Tubificoides spp. | 230 | 230.0 | | 230 | 230 | |
| Rangia cuneata | 138 | 138.0 | | 138 | 138 | |
| Marenzelleria viridis | 92 | 92.0 | | 92 | 92 | |
| Cyathura polita | 46 | 46.0 | | 46 | 46 | |
| Neomysis americana (Epi) | 23 | 23.0 | | 23 | 23 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Littoridinops tenuipes (Epi) | 23 | 23.0 | | 23 | 23 | |
| Coelotanypus spp. | 23 | 23.0 | | 23 | 23 | |
| Ameroculodes species complex | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|---------------------------------|--------|--------|---------|--------|--------|-------|
| Total Abundance | 2875 | | | | | |
| Total Abundance (w/o Epifauna) | 2829 | | | | | |
| Number of Taxa | 11 | | | | | |
| Number of Taxa (w/o Epifauna) | 9 | | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Marenzelleria viridis | 0.2530 | 0.2530 | | 0.2530 | 0.2530 | |
| Leptocheirus plumulosus | 0.0644 | 0.0644 | | 0.0644 | 0.0644 | |
| Rangia cuneata | 0.0529 | 0.0529 | | 0.0529 | 0.0529 | |
| Streblospio benedicti | 0.0483 | 0.0483 | | 0.0483 | 0.0483 | |
| Cyathura polita | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | |
| Coelotanypus spp. | 0.0207 | 0.0207 | | 0.0207 | 0.0207 | |
| Carinoma tremaphoros | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Littoridinops tenuipes (Epi) | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Ameroculodes species complex | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Neomysis americana (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 0.4957 | | | | | |
| Total Biomass (w/o Epifauna) | 0.4876 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-02 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.0 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 96.21 | | Total Carbon (%): 2.58 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.84 | | Pollution Indicative Species Abundance (%) | 16.87 | | |
| Abundance (#/m2) | 1909 | | Pollution Indicative Species Biomass (%) | 0.66 | | |
| Biomass (g/m2) | 2.25 | | Pollution Sensitive Species Abundance (%) | 22.89 | | |
| Carnivore-Omnivore Abundance (%) | 9.64 | | Pollution Sensitive Species Biomass (%) | 61.69 | | |
| Deep Deposit Feeder Abundance (%) | 12.05 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 759 | 759.0 | | 759 | 759 | |
| Streblospio benedicti | 299 | 299.0 | | 299 | 299 | |
| Tubificoides spp. | 207 | 207.0 | | 207 | 207 | |
| Macoma balthica | 161 | 161.0 | | 161 | 161 | |
| Rangia cuneata | 138 | 138.0 | | 138 | 138 | |
| Marenzelleria viridis | 69 | 69.0 | | 69 | 69 | |
| Cyathura polita | 69 | 69.0 | | 69 | 69 | |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 | |
| Littoridinops tenuipes (Epi) | 46 | 46.0 | | 46 | 46 | |
| Neanthes succinea | 46 | 46.0 | | 46 | 46 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC ABUNDANCE (per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Hypereteone heteropoda | 23 | 23.0 | | 23 | 23 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Leucon americanus | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 1955 | | | | | |
| Total Abundance (w/o Epifauna) | 1909 | | | | | |
| Number of Taxa | 14 | | | | | |
| Number of Taxa (w/o Epifauna) | 13 | | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 1.1017 | 1.1017 | | 1.1017 | 1.1017 | |
| Macoma mitchelli | 0.7406 | 0.7406 | | 0.7406 | 0.7406 | |
| Marenzelleria viridis | 0.2024 | 0.2024 | | 0.2024 | 0.2024 | |
| Leptocheirus plumulosus | 0.0851 | 0.0851 | | 0.0851 | 0.0851 | |
| Rangia cuneata | 0.0437 | 0.0437 | | 0.0437 | 0.0437 | |
| Cyathura polita | 0.0391 | 0.0391 | | 0.0391 | 0.0391 | |
| Streblospio benedicti | 0.0138 | 0.0138 | | 0.0138 | 0.0138 | |
| Carinoma tremaphoros | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Littoridinops tenuipes (Epi) | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Neanthes succinea | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Hypereteone heteropoda | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Heteromastus filiformis | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Leucon americanus | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 2.2483 | | | | | |
| Total Biomass (w/o Epifauna) | 2.2438 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-03 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.0 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 94.71 | | Total Carbon (%): 2.90 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.47 | | Pollution Indicative Species Abundance (%) | 42.39 | | |
| Abundance (#/m2) | 2116 | | Pollution Indicative Species Biomass (%) | 1.68 | | |
| Biomass (g/m2) | 1.92 | | Pollution Sensitive Species Abundance (%) | 9.78 | | |
| Carnivore-Omnivore Abundance (%) | 10.87 | | Pollution Sensitive Species Biomass (%) | 60.38 | | |
| Deep Deposit Feeder Abundance (%) | 15.22 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Streblospio benedicti | 851 | 851.0 | | 851 | 851 | |
| Leptocheirus plumulosus | 552 | 552.0 | | 552 | 552 | |
| Tubificoides spp. | 299 | 299.0 | | 299 | 299 | |
| Littoridinops tenuipes (Epi) | 138 | 138.0 | | 138 | 138 | |
| Cyathura polita | 115 | 115.0 | | 115 | 115 | |
| Macoma balthica | 69 | 69.0 | | 69 | 69 | |
| Hypereteone heteropoda | 46 | 46.0 | | 46 | 46 | |
| Neanthes succinea | 46 | 46.0 | | 46 | 46 | |
| Ameroculodes species complex | 46 | 46.0 | | 46 | 46 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Melita nitida (Epi) | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Rangia cuneata | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|---------------------------------|--------|--------|---------|--------|--------|-------|
| Total Abundance | 2277 | | | | | |
| Total Abundance (w/o Epifauna) | 2116 | | | | | |
| Number of Taxa | 14 | | | | | |
| Number of Taxa (w/o Epifauna) | 12 | | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 1.0971 | 1.0971 | | 1.0971 | 1.0971 | |
| Macoma mitchelli | 0.4347 | 0.4347 | | 0.4347 | 0.4347 | |
| Neanthes succinea | 0.2323 | 0.2323 | | 0.2323 | 0.2323 | |
| Cyathura polita | 0.0529 | 0.0529 | | 0.0529 | 0.0529 | |
| Leptocheirus plumulosus | 0.0368 | 0.0368 | | 0.0368 | 0.0368 | |
| Streblospio benedicti | 0.0299 | 0.0299 | | 0.0299 | 0.0299 | |
| Littoridinops tenuipes (Epi) | 0.0161 | 0.0161 | | 0.0161 | 0.0161 | |
| Carinoma tremaphoros | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Ameroculodes species complex | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Rangia cuneata | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Heteromastus filiformis | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Hypereteone heteropoda | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Melita nitida (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 1.9332 | | | | | |
| Total Biomass (w/o Epifauna) | 1.9159 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-04 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.2 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 86.05 | | Total Carbon (%): 2.43 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.14 | | Pollution Indicative Species Abundance (%) | 37.66 | | |
| Abundance (#/m2) | 1771 | | Pollution Indicative Species Biomass (%) | 10.96 | | |
| Biomass (g/m2) | 0.25 | | Pollution Sensitive Species Abundance (%) | 9.09 | | |
| Carnivore-Omnivore Abundance (%) | 2.60 | | Pollution Sensitive Species Biomass (%) | 63.93 | | |
| Deep Deposit Feeder Abundance (%) | 16.88 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Streblospio benedicti | 667 | 667.0 | | 667 | 667 | |
| Leptocheirus plumulosus | 598 | 598.0 | | 598 | 598 | |
| Tubificoides spp. | 299 | 299.0 | | 299 | 299 | |
| Littoridinops tenuipes (Epi) | 69 | 69.0 | | 69 | 69 | |
| Rangia cuneata | 69 | 69.0 | | 69 | 69 | |
| Cyathura polita | 46 | 46.0 | | 46 | 46 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Ameroculodes species complex | 23 | 23.0 | | 23 | 23 | |
| Leucon americanus | 23 | 23.0 | | 23 | 23 | |
| Macoma balthica | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 1840 | | | | | |
| Total Abundance (w/o Epifauna) | 1771 | | | | | |
| Number of Taxa | 10 | | | | | |
| Number of Taxa (w/o Epifauna) | 9 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 0.1127 | 0.1127 | | 0.1127 | 0.1127 | |
| Leptocheirus plumulosus | 0.0529 | 0.0529 | | 0.0529 | 0.0529 | |
| Melita nitida (Epi) | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | |
| Marenzelleria viridis | 0.0276 | 0.0276 | | 0.0276 | 0.0276 | |
| Streblospio benedicti | 0.0276 | 0.0276 | | 0.0276 | 0.0276 | |
| Rangia cuneata | 0.0207 | 0.0207 | | 0.0207 | 0.0207 | |
| Littoridinops tenuipes (Epi) | 0.0161 | 0.0161 | | 0.0161 | 0.0161 | |
| Tubificoides spp. | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Ameroculodes species complex | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Leucon americanus | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 0.3003 | | | | | |
| Total Biomass (w/o Epifauna) | 0.2842 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-05 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.7 | | Salinity (ppt): 4.6 | | Temperature (C): 26.31 | | |
| Dissolved Oxygen (mg/l): 3.6 | | Sediment Silt-Clay (%): 54.99 | | Total Carbon (%): 2.34 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.16 | | Pollution Indicative Species Abundance (%) | 30.95 | | |
| Abundance (#/m2) | 4830 | | Pollution Indicative Species Biomass (%) | 3.35 | | |
| Biomass (g/m2) | 1.37 | | Pollution Sensitive Species Abundance (%) | 9.52 | | |
| Carnivore-Omnivore Abundance (%) | 9.05 | | Pollution Sensitive Species Biomass (%) | 23.60 | | |
| Deep Deposit Feeder Abundance (%) | 7.62 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 2231 | 2231.0 | | 2231 | 2231 | |
| Streblospio benedicti | 1495 | 1495.0 | | 1495 | 1495 | |
| Cyathura polita | 299 | 299.0 | | 299 | 299 | |
| Tubificoides spp. | 230 | 230.0 | | 230 | 230 | |
| Rangia cuneata | 161 | 161.0 | | 161 | 161 | |
| Heteromastus filiformis | 138 | 138.0 | | 138 | 138 | |
| Carinoma tremaphoros | 115 | 115.0 | | 115 | 115 | |
| Ameroculodes species complex | 69 | 69.0 | | 69 | 69 | |
| Apocorophium lacustre (Epi) | 46 | 46.0 | | 46 | 46 | |
| Hobsonia florida | 46 | 46.0 | | 46 | 46 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC ABUNDANCE (per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Edwardsia elegans | 23 | 23.0 | | 23 | 23 | |
| Melita nitida (Epi) | 23 | 23.0 | | 23 | 23 | |
| Edotea triloba (Epi) | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 4922 | | | | | |
| Total Abundance (w/o Epifauna) | 4830 | | | | | |
| Number of Taxa | 14 | | | | | |
| Number of Taxa (w/o Epifauna) | 11 | | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma mitchelli | 0.6072 | 0.6072 | | 0.6072 | 0.6072 | |
| Cyathura polita | 0.2369 | 0.2369 | | 0.2369 | 0.2369 | |
| Leptocheirus plumulosus | 0.2323 | 0.2323 | | 0.2323 | 0.2323 | |
| Heteromastus filiformis | 0.1012 | 0.1012 | | 0.1012 | 0.1012 | |
| Rangia cuneata | 0.0874 | 0.0874 | | 0.0874 | 0.0874 | |
| Carinoma tremaphoros | 0.0506 | 0.0506 | | 0.0506 | 0.0506 | |
| Streblospio benedicti | 0.0460 | 0.0460 | | 0.0460 | 0.0460 | |
| Melita nitida (Epi) | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Ameroculodes species complex | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Apocorophium lacustre (Epi) | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Edotea triloba (Epi) | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Hobsonia florida | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Edwardsia elegans | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 1.3858 | | | | | |
| Total Biomass (w/o Epifauna) | 1.3743 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-06 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.2 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 96.72 | | Total Carbon (%): 2.12 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.56 | | Pollution Indicative Species Abundance (%) | 0.00 | | |
| Abundance (#/m2) | 1932 | | Pollution Indicative Species Biomass (%) | 0.00 | | |
| Biomass (g/m2) | 5.65 | | Pollution Sensitive Species Abundance (%) | 44.05 | | |
| Carnivore-Omnivore Abundance (%) | 19.05 | | Pollution Sensitive Species Biomass (%) | 83.22 | | |
| Deep Deposit Feeder Abundance (%) | 4.76 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 667 | 667.0 | | 667 | 667 | |
| Macoma balthica | 483 | 483.0 | | 483 | 483 | |
| Rangia cuneata | 276 | 276.0 | | 276 | 276 | |
| Neanthes succinea | 161 | 161.0 | | 161 | 161 | |
| Carinoma tremaphoros | 115 | 115.0 | | 115 | 115 | |
| Cyathura polita | 92 | 92.0 | | 92 | 92 | |
| Heteromastus filiformis | 69 | 69.0 | | 69 | 69 | |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Tubificoides spp. | 23 | 23.0 | | 23 | 23 | |
| Neomysis americana (Epi) | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 1955 | | | | | |
| Total Abundance (w/o Epifauna) | 1932 | | | | | |
| Number of Taxa | 10 | | | | | |
| Number of Taxa (w/o Epifauna) | 9 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) - | | | | | | |
|---|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 4.4850 | 4.4850 | | 4.4850 | 4.4850 | |
| Macoma mitchelli | 0.7061 | 0.7061 | | 0.7061 | 0.7061 | |
| Cyathura polita | 0.1610 | 0.1610 | | 0.1610 | 0.1610 | |
| Leptocheirus plumulosus | 0.1403 | 0.1403 | | 0.1403 | 0.1403 | |
| Neanthes succinea | 0.0713 | 0.0713 | | 0.0713 | 0.0713 | |
| Rangia cuneata | 0.0529 | 0.0529 | | 0.0529 | 0.0529 | |
| Carinoma tremaphoros | 0.0276 | 0.0276 | | 0.0276 | 0.0276 | |
| Neomysis americana (Epi) | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Heteromastus filiformis | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 5.6558 | | | | | |
| Total Biomass (w/o Epifauna) | 5.6467 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-07 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.0 | | Salinity (ppt): 5.4 | | Temperature (C): 26.61 | | |
| Dissolved Oxygen (mg/l): 2.31 | | Sediment Silt-Clay (%): 96.30 | | Total Carbon (%): 3.02 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.26 | | Pollution Indicative Species Abundance (%) | 38.19 | | |
| Abundance (#/m2) | 4577 | | Pollution Indicative Species Biomass (%) | 2.97 | | |
| Biomass (g/m2) | 1.39 | | Pollution Sensitive Species Abundance (%) | 13.57 | | |
| Carnivore-Omnivore Abundance (%) | 6.03 | | Pollution Sensitive Species Biomass (%) | 84.32 | | |
| Deep Deposit Feeder Abundance (%) | 9.55 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Streblospio benedicti | 1748 | 1748.0 | | 1748 | 1748 | |
| Leptocheirus plumulosus | 1564 | 1564.0 | | 1564 | 1564 | |
| Tubificoides spp. | 437 | 437.0 | | 437 | 437 | |
| Marenzelleria viridis | 299 | 299.0 | | 299 | 299 | |
| Rangia cuneata | 161 | 161.0 | | 161 | 161 | |
| Cyathura polita | 138 | 138.0 | | 138 | 138 | |
| Carinoma tremaphoros | 115 | 115.0 | | 115 | 115 | |
| Littoridinops tenuipes (Epi) | 115 | 115.0 | | 115 | 115 | |
| Ameroculodes species complex | 69 | 69.0 | | 69 | 69 | |
| Edotea triloba (Epi) | 69 | 69.0 | | 69 | 69 | |
| Edwardsia elegans | 23 | 23.0 | | 23 | 23 | |
| Americamysis almyra (Epi) | 23 | 23.0 | | 23 | 23 | |
| Macoma balthica | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|---------------------------------|--------|--------|---------|--------|--------|
| Total Abundance | 4784 | | | | |
| Total Abundance (w/o Epifauna) | 4577 | | | | |
| Number of Taxa | 13 | | | | |
| Number of Taxa (w/o Epifauna) | 10 | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| | | | | | Cum % |
| Marenzelleria viridis | 0.7222 | 0.7222 | | 0.7222 | 0.7222 |
| Macoma balthica | 0.2691 | 0.2691 | | 0.2691 | 0.2691 |
| Leptocheirus plumulosus | 0.1150 | 0.1150 | | 0.1150 | 0.1150 |
| Cyathura polita | 0.1081 | 0.1081 | | 0.1081 | 0.1081 |
| Rangia cuneata | 0.0759 | 0.0759 | | 0.0759 | 0.0759 |
| Carinoma tremaphoros | 0.0437 | 0.0437 | | 0.0437 | 0.0437 |
| Streblospio benedicti | 0.0414 | 0.0414 | | 0.0414 | 0.0414 |
| Littoridinops tenuipes (Epi) | 0.0184 | 0.0184 | | 0.0184 | 0.0184 |
| Tubificoides spp. | 0.0092 | 0.0092 | | 0.0092 | 0.0092 |
| Americamysis almyra (Epi) | 0.0069 | 0.0069 | | 0.0069 | 0.0069 |
| Edwardsia elegans | 0.0046 | 0.0046 | | 0.0046 | 0.0046 |
| Edotea triloba (Epi) | 0.0046 | 0.0046 | | 0.0046 | 0.0046 |
| Ameroculodes species complex | 0.0046 | 0.0046 | | 0.0046 | 0.0046 |
| Total Biomass | 1.4235 | | | | |
| Total Biomass (w/o Epifauna) | 1.3936 | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|---------|--|-------|-------|
| Location: Hunting Creek | | Station: HC-08 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.0 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 95.30 | | Total Carbon (%): 2.70 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | | Value | Score | Value | Score | |
| Shannon-Weiner Index | | 2.84 | | Pollution Indicative Species Abundance (%) | 16.87 | |
| Abundance (#/m2) | | 1909 | | Pollution Indicative Species Biomass (%) | 0.40 | |
| Biomass (g/m2) | | 2.01 | | Pollution Sensitive Species Abundance (%) | 25.30 | |
| Carnivore-Omnivore Abundance (%) | | 16.87 | | Pollution Sensitive Species Biomass (%) | 94.00 | |
| Deep Deposit Feeder Abundance (%) | | 19.28 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 552 | 552.0 | | 552 | 552 | |
| Tubificoides spp. | 368 | 368.0 | | 368 | 368 | |
| Streblospio benedicti | 299 | 299.0 | | 299 | 299 | |
| Macoma balthica | 207 | 207.0 | | 207 | 207 | |
| Carinoma tremaphoros | 138 | 138.0 | | 138 | 138 | |
| Rangia cuneata | 138 | 138.0 | | 138 | 138 | |
| Cyathura polita | 115 | 115.0 | | 115 | 115 | |
| Edwardsia elegans | 23 | 23.0 | | 23 | 23 | |
| Hypereteone heteropoda | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Procladius spp. | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|---------------------------------|--------|--------|---------|--------|--------|-------|
| Total Abundance | 1909 | | | | | |
| Total Abundance (w/o Epifauna) | 1909 | | | | | |
| Number of Taxa | 11 | | | | | |
| Number of Taxa (w/o Epifauna) | 11 | | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 1.5571 | 1.5571 | | 1.5571 | 1.5571 | |
| Cyathura polita | 0.1909 | 0.1909 | | 0.1909 | 0.1909 | |
| Marenzelleria viridis | 0.0874 | 0.0874 | | 0.0874 | 0.0874 | |
| Leptocheirus plumulosus | 0.0621 | 0.0621 | | 0.0621 | 0.0621 | |
| Rangia cuneata | 0.0552 | 0.0552 | | 0.0552 | 0.0552 | |
| Carinoma tremaphoros | 0.0460 | 0.0460 | | 0.0460 | 0.0460 | |
| Streblospio benedicti | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Edwardsia elegans | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Hypereteone heteropoda | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Chironomidae larvae | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 2.0115 | | | | | |
| Total Biomass (w/o Epifauna) | 2.0115 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-09 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 0.8 | | Salinity (ppt): 4.9 | | Temperature (C): 26.39 | | |
| Dissolved Oxygen (mg/l): 4.5 | | Sediment Silt-Clay (%): 89.80 | | Total Carbon (%): 3.09 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.10 | | Pollution Indicative Species Abundance (%) | 13.16 | | |
| Abundance (#/m2) | 3496 | | Pollution Indicative Species Biomass (%) | 0.78 | | |
| Biomass (g/m2) | 2.35 | | Pollution Sensitive Species Abundance (%) | 19.08 | | |
| Carnivore-Omnivore Abundance (%) | 5.92 | | Pollution Sensitive Species Biomass (%) | 68.40 | | |
| Deep Deposit Feeder Abundance (%) | 9.21 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 1932 | 1932.0 | | 1932 | 1932 | |
| Rangia cuneata | 506 | 506.0 | | 506 | 506 | |
| Streblospio benedicti | 460 | 460.0 | | 460 | 460 | |
| Tubificoides spp. | 230 | 230.0 | | 230 | 230 | |
| Cyathura polita | 138 | 138.0 | | 138 | 138 | |
| Heteromastus filiformis | 92 | 92.0 | | 92 | 92 | |
| Neanthes succinea | 46 | 46.0 | | 46 | 46 | |
| Edotea triloba (Epi) | 46 | 46.0 | | 46 | 46 | |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Melita nitida (Epi) | 23 | 23.0 | | 23 | 23 | |
| Macoma balthica | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|---------------------------------|--------|--------|---------|--------|--------|-------|
| Total Abundance | 3565 | | | | | |
| Total Abundance (w/o Epifauna) | 3495 | | | | | |
| Number of Taxa | 12 | | | | | |
| Number of Taxa (w/o Epifauna) | 10 | | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 1.2604 | 1.2604 | | 1.2604 | 1.2604 | |
| Neanthes succinea | 0.3174 | 0.3174 | | 0.3174 | 0.3174 | |
| Rangia cuneata | 0.2346 | 0.2346 | | 0.2346 | 0.2346 | |
| Leptocheirus plumulosus | 0.2001 | 0.2001 | | 0.2001 | 0.2001 | |
| Macoma mitchelli | 0.1495 | 0.1495 | | 0.1495 | 0.1495 | |
| Cyathura polita | 0.1127 | 0.1127 | | 0.1127 | 0.1127 | |
| Carinoma tremaphoros | 0.0345 | 0.0345 | | 0.0345 | 0.0345 | |
| Edotea triloba (Epi) | 0.0207 | 0.0207 | | 0.0207 | 0.0207 | |
| Streblospio benedicti | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Heteromastus filiformis | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Melita nitida (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 2.3725 | | | | | |
| Total Biomass (w/o Epifauna) | 2.3506 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-10 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.0 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 95.35 | | Total Carbon (%): 2.32 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.36 | | Pollution Indicative Species Abundance (%) | 29.69 | | |
| Abundance (#/m2) | 1472 | | Pollution Indicative Species Biomass (%) | 0.86 | | |
| Biomass (g/m2) | 1.07 | | Pollution Sensitive Species Abundance (%) | 17.19 | | |
| Carnivore-Omnivore Abundance (%) | 4.69 | | Pollution Sensitive Species Biomass (%) | 90.85 | | |
| Deep Deposit Feeder Abundance (%) | 10.94 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 575 | 575.0 | | 575 | 575 | |
| Streblospio benedicti | 437 | 437.0 | | 437 | 437 | |
| Tubificoides spp. | 161 | 161.0 | | 161 | 161 | |
| Littoridinops tenuipes (Epi) | 138 | 138.0 | | 138 | 138 | |
| Macoma balthica | 92 | 92.0 | | 92 | 92 | |
| Rangia cuneata | 69 | 69.0 | | 69 | 69 | |
| Marenzelleria viridis | 46 | 46.0 | | 46 | 46 | |
| Cyathura polita | 46 | 46.0 | | 46 | 46 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Americamysis almyra (Epi) | 23 | 23.0 | | 23 | 23 | |
| Melita nitida (Epi) | 23 | 23.0 | | 23 | 23 | |
| Ameroculodes species complex | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|---------------------------------|--------|--------|---------|--------|--------|-------|
| Total Abundance | 1656 | | | | | |
| Total Abundance (w/o Epifauna) | 1472 | | | | | |
| Number of Taxa | 12 | | | | | |
| Number of Taxa (w/o Epifauna) | 9 | | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 0.8073 | 0.8073 | | 0.8073 | 0.8073 | |
| Leptocheirus plumulosus | 0.0782 | 0.0782 | | 0.0782 | 0.0782 | |
| Cyathura polita | 0.0782 | 0.0782 | | 0.0782 | 0.0782 | |
| Marenzelleria viridis | 0.0621 | 0.0621 | | 0.0621 | 0.0621 | |
| Rangia cuneata | 0.0230 | 0.0230 | | 0.0230 | 0.0230 | |
| Littoridinops tenuipes (Epi) | 0.0161 | 0.0161 | | 0.0161 | 0.0161 | |
| Streblospio benedicti | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Carinoma tremaphoros | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Americamysis almyra (Epi) | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Melita nitida (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Ameroculodes species complex | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 1.0880 | | | | | |
| Total Biomass (w/o Epifauna) | 1.0684 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-----|-------|
| Location: LTB Fixed Site | | Station: HIS-074 | | Date: June 30, 2000 | | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | | |
| BOTTOM ENVIRONMENT | | | | | | | |
| Depth (m): 3.4 | | Salinity (ppt): 7.2 | | Temperature (C): 26.52 | | | |
| Dissolved Oxygen (mg/l): 2.8 | | Sediment Silt-Clay (%): 90.64 | | Total Carbon (%): 2.76 | | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | | |
| | Value | Score | | Value | Score | | |
| Shannon-Weiner Index | 2.04 | | Pollution Indicative Species Abundance (%) | 5.26 | | | |
| Abundance (#/m2) | 1748 | | Pollution Indicative Species Biomass (%) | 0.19 | | | |
| Biomass (g/m2) | 4.20 | | Pollution Sensitive Species Abundance (%) | 23.68 | | | |
| Carnivore-Omnivore Abundance (%) | 15.79 | | Pollution Sensitive Species Biomass (%) | 88.01 | | | |
| Deep Deposit Feeder Abundance (%) | 55.26 | | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | | |
| | | | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 943 | | 943.0 | | 943 | 943 | |
| Macoma balthica | 414 | | 414.0 | | 414 | 414 | |
| Carinoma tremaphoros | 138 | | 138.0 | | 138 | 138 | |
| Hypereteone heteropoda | 69 | | 69.0 | | 69 | 69 | |
| Neanthes succinea | 69 | | 69.0 | | 69 | 69 | |
| Heteromastus filiformis | 23 | | 23.0 | | 23 | 23 | |
| Streblospio benedicti | 23 | | 23.0 | | 23 | 23 | |
| Leptocheirus plumulosus | 23 | | 23.0 | | 23 | 23 | |
| Ameroculodes species complex | 23 | | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

(Station: HIS-Contd.)

| | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| Total Abundance | 1748 | | | | | |
| Total Abundance (w/o Epifauna) | 1748 | | | | | |
| Number of Taxa | 10 | | | | | |
| Number of Taxa (w/o Epifauna) | 10 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 3.6961 | 3.6961 | | 3.6961 | 3.6961 | |
| Macoma mitchelli | 0.2967 | 0.2967 | | 0.2967 | 0.2967 | |
| Carinoma tremaphoros | 0.1196 | 0.1196 | | 0.1196 | 0.1196 | |
| Neanthes succinea | 0.0621 | 0.0621 | | 0.0621 | 0.0621 | |
| Tubificoides spp. | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Hypereteone heteropoda | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Heteromastus filiformis | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Ameroculodes species complex | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Leptocheirus plumulosus | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 4.1999 | | | | | |
| Total Biomass (w/o Epifauna) | 4.1999 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|---------|--|-------|-------|
| Location: Patuxent River | | Station: PR-01 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 4.7 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 98.13 | | Total Carbon (%): 2.77 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | | Value | Score | Value | Score | |
| Shannon-Weiner Index | | 2.67 | | Pollution Indicative Species Abundance (%) | 16.67 | |
| Abundance (#/m2) | | 414 | | Pollution Indicative Species Biomass (%) | 1.70 | |
| Biomass (g/m2) | | 0.95 | | Pollution Sensitive Species Abundance (%) | 22.22 | |
| Carnivore-Omnivore Abundance (%) | | 33.33 | | Pollution Sensitive Species Biomass (%) | 73.45 | |
| Deep Deposit Feeder Abundance (%) | | 22.22 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 92 | 92.0 | | 92 | 92 | |
| Tubificoides spp. | 69 | 69.0 | | 69 | 69 | |
| Carinoma tremaphoros | 69 | 69.0 | | 69 | 69 | |
| Hypereteone heteropoda | 69 | 69.0 | | 69 | 69 | |
| Leptocheirus plumulosus | 69 | 69.0 | | 69 | 69 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Leucon americanus | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 414 | | | | | |
| Total Abundance (w/o Epifauna) | 414 | | | | | |
| Number of Taxa | 7 | | | | | |
| Number of Taxa (w/o Epifauna) | 7 | | | | | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) - | | | | | | |
|---|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 0.6969 | 0.6969 | | 0.6969 | 0.6969 | |
| Heteromastus filiformis | 0.1058 | 0.1058 | | 0.1058 | 0.1058 | |
| Carinoma tremaphoros | 0.0943 | 0.0943 | | 0.0943 | 0.0943 | |
| Leptocheirus plumulosus | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | |
| Hypereteone heteropoda | 0.0161 | 0.0161 | | 0.0161 | 0.0161 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Leucon americanus | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 0.9488 | | | | | |
| Total Biomass (w/o Epifauna) | 0.9488 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-02 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 3.1 | | Salinity (ppt): 9.7 | | Temperature (C): 24.94 | | |
| Dissolved Oxygen (mg/l):0.61 | | Sediment Silt-Clay (%): 70.27 | | Total Carbon (%): 2.16 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.39 | | Pollution Indicative Species Abundance (%) | 23.81 | | |
| Abundance (#/m2) | 483 | | Pollution Indicative Species Biomass (%) | 1.14 | | |
| Biomass (g/m2) | 1.11 | | Pollution Sensitive Species Abundance (%) | 47.62 | | |
| Carnivore-Omnivore Abundance (%) | 23.81 | | Pollution Sensitive Species Biomass (%) | 97.21 | | |
| Deep Deposit Feeder Abundance (%) | 14.29 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 230 | 230.0 | | 230 | 230 | |
| Hypereteone heteropoda | 69 | 69.0 | | 69 | 69 | |
| Tubificoides spp. | 46 | 46.0 | | 46 | 46 | |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 | |
| Imm. Tubificid w/o Cap. Chaete | 23 | 23.0 | | 23 | 23 | |
| Streblospio benedicti | 23 | 23.0 | | 23 | 23 | |
| Mucrogammarus mucronatus (Epi) | 23 | 23.0 | | 23 | 23 | |
| Ameroculodes species complex | 23 | 23.0 | | 23 | 23 | |
| Leucon americanus | 23 | 23.0 | | 23 | 23 | |
| Ischadium recurvum (Epi) | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| Total Abundance | 529 | | | | | |
| Total Abundance (w/o Epifauna) | 483 | | | | | |
| Number of Taxa | 10 | | | | | |
| Number of Taxa (w/o Epifauna) | 8 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 1.0810 | 1.0810 | | 1.0810 | 1.0810 | |
| Ischadium recurvum (Epi) | 0.0230 | 0.0230 | | 0.0230 | 0.0230 | |
| Carinoma tremaphoros | 0.0138 | 0.0138 | | 0.0138 | 0.0138 | |
| Hypereteone heteropoda | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Mucrogammarus mucronatus (Epi) | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Ameroculodes species complex | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Leucon americanus | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 1.1376 | | | | | |
| Total Biomass (w/o Epifauna) | 1.1123 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|---------|--|-------|-------|
| Location: Patuxent River | | Station: PR-03 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 3.5 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 92.37 | | Total Carbon (%): 2.369 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | | Value | Score | Value | Score | |
| Shannon-Weiner Index | | 2.51 | | Pollution Indicative Species Abundance (%) | 6.90 | |
| Abundance (#/m2) | | 667 | | Pollution Indicative Species Biomass (%) | 0.79 | |
| Biomass (g/m2) | | 1.74 | | Pollution Sensitive Species Abundance (%) | 58.62 | |
| Carnivore-Omnivore Abundance (%) | | 10.34 | | Pollution Sensitive Species Biomass (%) | 72.32 | |
| Deep Deposit Feeder Abundance (%) | | 10.34 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 322 | 322.0 | | 322 | 322 | |
| Leptocheirus plumulosus | 92 | 92.0 | | 92 | 92 | |
| Tubificoides spp. | 69 | 69.0 | | 69 | 69 | |
| Rangia cuneata | 46 | 46.0 | | 46 | 46 | |
| Edwardsia elegans | 23 | 23.0 | | 23 | 23 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Hypereteone heteropoda | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Streblospio benedicti | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 667 | | | | | |
| Total Abundance (w/o Epifauna) | 667 | | | | | |
| Number of Taxa | 10 | | | | | |
| Number of Taxa (w/o Epifauna) | 10 | | | | | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 1.0419 | 1.0419 | | 1.0419 | 1.0419 | |
| Macoma mitchelli | 0.4324 | 0.4324 | | 0.4324 | 0.4324 | |
| Marenzelleria viridis | 0.2001 | 0.2001 | | 0.2001 | 0.2001 | |
| Carinoma tremaphoros | 0.0253 | 0.0253 | | 0.0253 | 0.0253 | |
| Rangia cuneata | 0.0138 | 0.0138 | | 0.0138 | 0.0138 | |
| Hypereteone heteropoda | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Leptocheirus plumulosus | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Streblospio benedicti | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Edwardsia elegans | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Total Biomass | 1.7365 | | | | | |
| Total Biomass (w/o Epifauna) | 1.7365 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|---------|--|-------|-------|
| Location: Patuxent River | | Station: PR-04 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 2.3 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 89.90 | | Total Carbon (%): 2.24 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | | Value | Score | Value | Score | |
| Shannon-Weiner Index | | 2.58 | | Pollution Indicative Species Abundance (%) | 4.76 | |
| Abundance (#/m2) | | 966 | | Pollution Indicative Species Biomass (%) | 0.42 | |
| Biomass (g/m2) | | 2.76 | | Pollution Sensitive Species Abundance (%) | 26.19 | |
| Carnivore-Omnivore Abundance (%) | | 23.81 | | Pollution Sensitive Species Biomass (%) | 59.00 | |
| Deep Deposit Feeder Abundance (%) | | 11.90 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 391 | 391.0 | | 391 | 391 | |
| Macoma balthica | 138 | 138.0 | | 138 | 138 | |
| Cyathura polita | 115 | 115.0 | | 115 | 115 | |
| Macoma mitchelli | 92 | 92.0 | | 92 | 92 | |
| Tubificoides spp. | 69 | 69.0 | | 69 | 69 | |
| Carinoma tremaphoros | 69 | 69.0 | | 69 | 69 | |
| Hypereteone heteropoda | 46 | 46.0 | | 46 | 46 | |
| Heteromastus filiformis | 46 | 46.0 | | 46 | 46 | |
| Total Abundance | 966 | | | | | |
| Total Abundance (w/o Epifauna) | 966 | | | | | |
| Number of Taxa | 8 | | | | | |
| Number of Taxa (w/o Epifauna) | 8 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 1.4122 | 1.4122 | | 1.4122 | 1.4122 | |
| Macoma mitchelli | 0.9936 | 0.9936 | | 0.9936 | 0.9936 | |
| Cyathura polita | 0.2162 | 0.2162 | | 0.2162 | 0.2162 | |
| Leptocheirus plumulosus | 0.1058 | 0.1058 | | 0.1058 | 0.1058 | |
| Carinoma tremaphoros | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Hypereteone heteropoda | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Heteromastus filiformis | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 2.7601 | | | | | |
| Total Biomass (w/o Epifauna) | 2.7601 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-05 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 3.8 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 88.23 | | Total Carbon (%): 2.62 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.17 | | Pollution Indicative Species Abundance (%) | 13.25 | | |
| Abundance (#/m2) | 1909 | | Pollution Indicative Species Biomass (%) | 0.10 | | |
| Biomass (g/m2) | 9.31 | | Pollution Sensitive Species Abundance (%) | 53.01 | | |
| Carnivore-Omnivore Abundance (%) | 8.43 | | Pollution Sensitive Species Biomass (%) | 98.58 | | |
| Deep Deposit Feeder Abundance (%) | 30.12 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 989 | 989.0 | | 989 | 989 | |
| Tubificoides spp. | 460 | 460.0 | | 460 | 460 | |
| Streblospio benedicti | 115 | 115.0 | | 115 | 115 | |
| Imm. Tubificid w/o Cap. Chaete | 92 | 92.0 | | 92 | 92 | |
| Neanthes succinea | 92 | 92.0 | | 92 | 92 | |
| Hypereteone heteropoda | 46 | 46.0 | | 46 | 46 | |
| Neomysis americana (Epi) | 23 | 23.0 | | 23 | 23 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Leptocheirus plumulosus | 23 | 23.0 | | 23 | 23 | |
| Ameroculodes species complex | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| Total Abundance | 1932 | | | | | |
| Total Abundance (w/o Epifauna) | 1909 | | | | | |
| Number of Taxa | 12 | | | | | |
| Number of Taxa (w/o Epifauna) | 11 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| <i>Macoma balthica</i> | 9.1126 | 9.1126 | | 9.1126 | 9.1126 | |
| <i>Neanthes succinea</i> | 0.0920 | 0.0920 | | 0.0920 | 0.0920 | |
| <i>Marenzelleria viridis</i> | 0.0644 | 0.0644 | | 0.0644 | 0.0644 | |
| <i>Neomysis americana</i> (Epi) | 0.0207 | 0.0207 | | 0.0207 | 0.0207 | |
| <i>Heteromastus filiformis</i> | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| <i>Tubificoides</i> spp. | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| <i>Hypereteone heteropoda</i> | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| <i>Leptocheirus plumulosus</i> | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| <i>Carinoma tremaphoros</i> | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| <i>Streblospio benedicti</i> | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| <i>Ameroculodes</i> species complex | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| <i>Oligochaeta</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 9.3300 | | | | | |
| Total Biomass (w/o Epifauna) | 9.3093 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-06 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 2.9 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 96.38 | | Total Carbon (%): 2.52 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.21 | | Pollution Indicative Species Abundance (%) | 5.75 | | |
| Abundance (#/m2) | 2001 | | Pollution Indicative Species Biomass (%) | 0.03 | | |
| Biomass (g/m2) | 4.08 | | Pollution Sensitive Species Abundance (%) | 32.18 | | |
| Carnivore-Omnivore Abundance (%) | 5.75 | | Pollution Sensitive Species Biomass (%) | 90.58 | | |
| Deep Deposit Feeder Abundance (%) | 50.57 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 920 | 920.0 | | 920 | 920 | |
| Macoma balthica | 552 | 552.0 | | 552 | 552 | |
| Leptocheirus plumulosus | 184 | 184.0 | | 184 | 184 | |
| Neanthes succinea | 92 | 92.0 | | 92 | 92 | |
| Streblospio benedicti | 69 | 69.0 | | 69 | 69 | |
| Rangia cuneata | 69 | 69.0 | | 69 | 69 | |
| Imm. Tubificid w/o Cap. Chaete | 46 | 46.0 | | 46 | 46 | |
| Heteromastus filiformis | 46 | 46.0 | | 46 | 46 | |
| Neomysis americana (Epi) | 23 | 23.0 | | 23 | 23 | |
| Cyathura polita | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| Total Abundance | 2024 | | | | | |
| Total Abundance (w/o Epifauna) | 2001 | | | | | |
| Number of Taxa | 10 | | | | | |
| Number of Taxa (w/o Epifauna) | 9 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| <i>Macoma balthica</i> | 3.6662 | 3.6662 | | 3.6662 | 3.6662 | |
| <i>Neanthes succinea</i> | 0.3381 | 0.3381 | | 0.3381 | 0.3381 | |
| <i>Leptocheirus plumulosus</i> | 0.0276 | 0.0276 | | 0.0276 | 0.0276 | |
| <i>Rangia cuneata</i> | 0.0253 | 0.0253 | | 0.0253 | 0.0253 | |
| <i>Tubificoides</i> spp. | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| <i>Neomysis americana</i> (Epi) | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| <i>Heteromastus filiformis</i> | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| <i>Streblospio benedicti</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| <i>Cyathura polita</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| <i>Oligochaeta</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 4.0838 | | | | | |
| Total Biomass (w/o Epifauna) | 4.0769 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-07 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.8 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 91.97 | | Total Carbon (%): 1.76 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.42 | | Pollution Indicative Species Abundance (%) | 2.27 | | |
| Abundance (#/m2) | 3036 | | Pollution Indicative Species Biomass (%) | 0.03 | | |
| Biomass (g/m2) | 3.60 | | Pollution Sensitive Species Abundance (%) | 28.79 | | |
| Carnivore-Omnivore Abundance (%) | 12.88 | | Pollution Sensitive Species Biomass (%) | 75.27 | | |
| Deep Deposit Feeder Abundance (%) | 7.58 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 1564 | 1564.0 | | 1564 | 1564 | |
| Macoma balthica | 345 | 345.0 | | 345 | 345 | |
| Rangia cuneata | 345 | 345.0 | | 345 | 345 | |
| Tubificoides spp. | 207 | 207.0 | | 207 | 207 | |
| Carinoma tremaphoros | 161 | 161.0 | | 161 | 161 | |
| Cyathura polita | 161 | 161.0 | | 161 | 161 | |
| Neanthes succinea | 69 | 69.0 | | 69 | 69 | |
| Streblospio benedicti | 69 | 69.0 | | 69 | 69 | |
| Ameroculodes species complex | 46 | 46.0 | | 46 | 46 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC ABUNDANCE (per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Edotea triloba (Epi) | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Apocorophium lacustre (Epi) | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 3082 | | | | | |
| Total Abundance (w/o Epifauna) | 3036 | | | | | |
| Number of Taxa | 14 | | | | | |
| Number of Taxa (w/o Epifauna) | 12 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 2.4380 | 2.4380 | | 2.4380 | 2.4380 | |
| Neanthes succinea | 0.3611 | 0.3611 | | 0.3611 | 0.3611 | |
| Leptocheirus plumulosus | 0.2530 | 0.2530 | | 0.2530 | 0.2530 | |
| Macoma mitchelli | 0.1656 | 0.1656 | | 0.1656 | 0.1656 | |
| Cyathura polita | 0.1472 | 0.1472 | | 0.1472 | 0.1472 | |
| Rangia cuneata | 0.1035 | 0.1035 | | 0.1035 | 0.1035 | |
| Heteromastus filiformis | 0.0598 | 0.0598 | | 0.0598 | 0.0598 | |
| Carinoma tremaphoros | 0.0437 | 0.0437 | | 0.0437 | 0.0437 | |
| Marenzelleria viridis | 0.0207 | 0.0207 | | 0.0207 | 0.0207 | |
| Ameroculodes species complex | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Edotea triloba (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Apocorophium lacustre (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 3.6019 | | | | | |
| Total Biomass (w/o Epifauna) | 3.5995 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-08 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 3.9 | | Salinity (ppt): 6.8 | | Temperature (C): 26.78 | | |
| Dissolved Oxygen (mg/l): 3.25 | | Sediment Silt-Clay (%): 88.63 | | Total Carbon (%): 2.72 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.90 | | Pollution Indicative Species Abundance (%) | 13.92 | | |
| Abundance (#/m2) | 1817 | | Pollution Indicative Species Biomass (%) | 0.19 | | |
| Biomass (g/m2) | 4.80 | | Pollution Sensitive Species Abundance (%) | 24.05 | | |
| Carnivore-Omnivore Abundance (%) | 21.52 | | Pollution Sensitive Species Biomass (%) | 75.39 | | |
| Deep Deposit Feeder Abundance (%) | 15.19 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 552 | 552.0 | | 552 | 552 | |
| Macoma balthica | 368 | 368.0 | | 368 | 368 | |
| Neanthes succinea | 230 | 230.0 | | 230 | 230 | |
| Carinoma tremaphoros | 161 | 161.0 | | 161 | 161 | |
| Streblospio benedicti | 138 | 138.0 | | 138 | 138 | |
| Imm. Tubificid w/o Cap. Chaete | 115 | 115.0 | | 115 | 115 | |
| Tubificoides spp. | 92 | 92.0 | | 92 | 92 | |
| Heteromastus filiformis | 69 | 69.0 | | 69 | 69 | |
| Rangia cuneata | 46 | 46.0 | | 46 | 46 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Edotea triloba (Epi) | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| Total Abundance | 1840 | | | | | |
| Total Abundance (w/o Epifauna) | 1817 | | | | | |
| Number of Taxa | 12 | | | | | |
| Number of Taxa (w/o Epifauna) | 11 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| <i>Macoma balthica</i> | 3.5880 | 3.5880 | | 3.5880 | 3.5880 | |
| <i>Neanthes succinea</i> | 0.7935 | 0.7935 | | 0.7935 | 0.7935 | |
| <i>Macoma mitchelli</i> | 0.1909 | 0.1909 | | 0.1909 | 0.1909 | |
| <i>Leptocheirus plumulosus</i> | 0.1104 | 0.1104 | | 0.1104 | 0.1104 | |
| <i>Carinoma tremaphoros</i> | 0.0483 | 0.0483 | | 0.0483 | 0.0483 | |
| <i>Heteromastus filiformis</i> | 0.0253 | 0.0253 | | 0.0253 | 0.0253 | |
| <i>Marenzelleria viridis</i> | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| <i>Rangia cuneata</i> | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| <i>Streblospio benedicti</i> | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| <i>Edotea triloba</i> (Epi) | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| <i>Tubificoides</i> spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| <i>Oligochaeta</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 4.8036 | | | | | |
| Total Biomass (w/o Epifauna) | 4.7990 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|---------|--|-------|-------|
| Location: Patuxent River | | Station: PR-09 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 2.5 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 93.55 | | Total Carbon (%): 2.85 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | | Value | Score | Value | Score | |
| Shannon-Weiner Index | | 2.93 | | Pollution Indicative Species Abundance (%) | 20.00 | |
| Abundance (#/m2) | | 920 | | Pollution Indicative Species Biomass (%) | 0.38 | |
| Biomass (g/m2) | | 4.78 | | Pollution Sensitive Species Abundance (%) | 32.50 | |
| Carnivore-Omnivore Abundance (%) | | 15.00 | | Pollution Sensitive Species Biomass (%) | 93.53 | |
| Deep Deposit Feeder Abundance (%) | | 30.00 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Heteromastus filiformis | 207 | 207.0 | | 207 | 207 | |
| Macoma balthica | 184 | 184.0 | | 184 | 184 | |
| Streblospio benedicti | 161 | 161.0 | | 161 | 161 | |
| Carinoma tremaphoros | 115 | 115.0 | | 115 | 115 | |
| Rangia cuneata | 92 | 92.0 | | 92 | 92 | |
| Tubificoides spp. | 46 | 46.0 | | 46 | 46 | |
| Leptocheirus plumulosus | 46 | 46.0 | | 46 | 46 | |
| Neomysis americana (Epi) | 23 | 23.0 | | 23 | 23 | |
| Imm. Tubificid w/o Cap. Chaete | 23 | 23.0 | | 23 | 23 | |
| Cyathura polita | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| Total Abundance | 943 | | | | | |
| Total Abundance (w/o Epifauna) | 920 | | | | | |
| Number of Taxa | 11 | | | | | |
| Number of Taxa (w/o Epifauna) | 10 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 4.4045 | 4.4045 | | 4.4045 | 4.4045 | |
| Macoma mitchelli | 0.2300 | 0.2300 | | 0.2300 | 0.2300 | |
| Rangia cuneata | 0.0552 | 0.0552 | | 0.0552 | 0.0552 | |
| Carinoma tremaphoros | 0.0414 | 0.0414 | | 0.0414 | 0.0414 | |
| Streblospio benedicti | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Cyathura polita | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Neomysis americana (Epi) | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| Leptocheirus plumulosus | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Heteromastus filiformis | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 4.7898 | | | | | |
| Total Biomass (w/o Epifauna) | 4.7806 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-10 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 2.0 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 94.79 | | Total Carbon (%): 2.62 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.46 | | Pollution Indicative Species Abundance (%) | 28.30 | | |
| Abundance (#/m2) | 1219 | | Pollution Indicative Species Biomass (%) | 0.03 | | |
| Biomass (g/m2) | 46.59 | | Pollution Sensitive Species Abundance (%) | 52.83 | | |
| Carnivore-Omnivore Abundance (%) | 1.89 | | Pollution Sensitive Species Biomass (%) | 99.71 | | |
| Deep Deposit Feeder Abundance (%) | 13.21 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Rangia cuneata | 368 | 368.0 | | 368 | 368 | |
| Streblospio benedicti | 345 | 345.0 | | 345 | 345 | |
| Macoma balthica | 253 | 253.0 | | 253 | 253 | |
| Heteromastus filiformis | 92 | 92.0 | | 92 | 92 | |
| Tubificoides spp. | 69 | 69.0 | | 69 | 69 | |
| Littoridinops tenuipes (Epi) | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Leptocheirus plumulosus | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Procladius spp. | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 1242 | | | | | |
| Total Abundance (w/o Epifauna) | 1219 | | | | | |
| Number of Taxa | 10 | | | | | |
| Number of Taxa (w/o Epifauna) | 9 | | | | | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|---------|---------|---------|---------|---------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Rangia cuneata | 45.3836 | 45.3836 | | 45.3836 | 45.3836 | |
| Macoma balthica | 1.0281 | 1.0281 | | 1.0281 | 1.0281 | |
| Macoma mitchelli | 0.0736 | 0.0736 | | 0.0736 | 0.0736 | |
| Marenzelleria viridis | 0.0483 | 0.0483 | | 0.0483 | 0.0483 | |
| Heteromastus filiformis | 0.0391 | 0.0391 | | 0.0391 | 0.0391 | |
| Streblospio benedicti | 0.0138 | 0.0138 | | 0.0138 | 0.0138 | |
| Leptocheirus plumulosus | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Littoridinops tenuipes (Epi) | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Chironomidae larvae | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 46.5981 | | | | | |
| Total Biomass (w/o Epifauna) | 46.5935 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-11 | | Date: June 30, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 4.7 | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 88.58 | | Total Carbon (%): 2.29 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 1.83 | | Pollution Indicative Species Abundance (%) | 28.87 | | |
| Abundance (#/m2) | 4462 | | Pollution Indicative Species Biomass (%) | 0.84 | | |
| Biomass (g/m2) | 3.01 | | Pollution Sensitive Species Abundance (%) | 64.43 | | |
| Carnivore-Omnivore Abundance (%) | 8.25 | | Pollution Sensitive Species Biomass (%) | 91.78 | | |
| Deep Deposit Feeder Abundance (%) | 2.58 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Apocorophium lacustre (Epi) | 10833 | 10833.0 | | 10833 | 10833 | |
| Rangia cuneata | 2438 | 2438.0 | | 2438 | 2438 | |
| Streblospio benedicti | 1288 | 1288.0 | | 1288 | 1288 | |
| Littoridinops tenuipes (Epi) | 575 | 575.0 | | 575 | 575 | |
| Cyathura polita | 322 | 322.0 | | 322 | 322 | |
| Balanus improvisus (Epi) | 207 | 207.0 | | 207 | 207 | |
| Edotea triloba (Epi) | 161 | 161.0 | | 161 | 161 | |
| Gammarus daiberi (Epi) | 161 | 161.0 | | 161 | 161 | |
| Polydora cornuta | 115 | 115.0 | | 115 | 115 | |
| Tubificoides spp. | 92 | 92.0 | | 92 | 92 | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC ABUNDANCE (per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Marenzelleria viridis | 92 | 92.0 | | 92 | 92 | |
| Rhithropanopeus harrisi (Epi) | 69 | 69.0 | | 69 | 69 | |
| Neomysis americana (Epi) | 23 | 23.0 | | 23 | 23 | |
| Edwardsia elegans | 23 | 23.0 | | 23 | 23 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Macoma balthica | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Turbellaria (Epi) | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 16514 | | | | | |
| Total Abundance (w/o Epifauna) | 4462 | | | | | |
| Number of Taxa | 19 | | | | | |
| Number of Taxa (w/o Epifauna) | 11 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Rangia cuneata | 2.3368 | 2.3368 | | 2.3368 | 2.3368 | |
| Apocorophium lacustre (Epi) | 0.8004 | 0.8004 | | 0.8004 | 0.8004 | |
| Cyathura polita | 0.2645 | 0.2645 | | 0.2645 | 0.2645 | |
| Balanus improvisus (Epi) | 0.2208 | 0.2208 | | 0.2208 | 0.2208 | |
| Rhithropanopeus harrisi (Epi) | 0.1702 | 0.1702 | | 0.1702 | 0.1702 | |
| Macoma mitchelli | 0.1173 | 0.1173 | | 0.1173 | 0.1173 | |
| Marenzelleria viridis | 0.1081 | 0.1081 | | 0.1081 | 0.1081 | |
| Carinoma tremaphoros | 0.0920 | 0.0920 | | 0.0920 | 0.0920 | |
| Gammarus spp. (Epi) | 0.0713 | 0.0713 | | 0.0713 | 0.0713 | |
| Macoma balthica | 0.0529 | 0.0529 | | 0.0529 | 0.0529 | |
| Littoridinops tenuipes (Epi) | 0.0414 | 0.0414 | | 0.0414 | 0.0414 | |
| Edotea triloba (Epi) | 0.0345 | 0.0345 | | 0.0345 | 0.0345 | |
| Streblospio benedicti | 0.0253 | 0.0253 | | 0.0253 | 0.0253 | |
| Polydora cornuta | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Neomysis americana (Epi) | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Turbellaria (Epi) | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Edwardsia elegans | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Heteromastus filiformis | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 4.3574 | | | | | |
| Total Biomass (w/o Epifauna) | 3.0096 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|
| Location: Patuxent River | | Station: PR-12 | | Date: June 30, 2000 | |
| Gear: Young Grab | | Habitat: Oligohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): 5.8 | | Salinity (ppt): 3.2 | | Temperature (C): 27.75 | |
| Dissolved Oxygen (mg/l): 3.12 | | Sediment Silt-Clay (%): 92.57 | | Total Carbon (%): 2.56 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 2.47 | | Pollution Indicative Species Abundance (%) | 35.44 | |
| Abundance (#/m2) | 1817 | | Pollution Indicative Species Biomass (%) | 7.11 | |
| Biomass (g/m2) | 0.29 | | Pollution Sensitive Species Abundance (%) | 11.39 | |
| Carnivore-Omnivore Abundance (%) | 5.06 | | Pollution Sensitive Species Biomass (%) | 42.29 | |
| Deep Deposit Feeder Abundance (%) | 24.05 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Streblospio benedicti | 621 | 621.0 | | 621 | 621 |
| Tubificoides spp. | 437 | 437.0 | | 437 | 437 |
| Ameroculodes species complex | 391 | 391.0 | | 391 | 391 |
| Rangia cuneata | 161 | 161.0 | | 161 | 161 |
| Carinoma tremaphoros | 69 | 69.0 | | 69 | 69 |
| Littoridinops tenuipes (Epi) | 69 | 69.0 | | 69 | 69 |
| Gammarus daiberi (Epi) | 69 | 69.0 | | 69 | 69 |
| Apocorophium lacustre (Epi) | 46 | 46.0 | | 46 | 46 |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 |
| Leptocheirus plumulosus | 23 | 23.0 | | 23 | 23 |
| Macoma balthica | 23 | 23.0 | | 23 | 23 |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 |
| Cryptochironomus spp. | 23 | 23.0 | | 23 | 23 |
| Hobsonia florida | 23 | 23.0 | | 23 | 23 |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|
| Total Abundance | 2001 | | | | |
| Total Abundance (w/o Epifauna) | 1817 | | | | |
| Number of Taxa | 14 | | | | |
| Number of Taxa (w/o Epifauna) | 11 | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Marenzelleria viridis | 0.0736 | 0.0736 | | 0.0736 | 0.0736 |
| Macoma mitchelli | 0.0483 | 0.0483 | | 0.0483 | 0.0483 |
| Rangia cuneata | 0.0483 | 0.0483 | | 0.0483 | 0.0483 |
| Carinoma tremaphoros | 0.0460 | 0.0460 | | 0.0460 | 0.0460 |
| Ameroculodes species complex | 0.0437 | 0.0437 | | 0.0437 | 0.0437 |
| Streblospio benedicti | 0.0207 | 0.0207 | | 0.0207 | 0.0207 |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 |
| Apocorophium lacustre (Epi) | 0.0046 | 0.0046 | | 0.0046 | 0.0046 |
| Littoridinops tenuipes (Epi) | 0.0023 | 0.0023 | | 0.0023 | 0.0023 |
| Hobsonia florida | 0.0023 | 0.0023 | | 0.0023 | 0.0023 |
| Gammarus spp. (Epi) | 0.0023 | 0.0023 | | 0.0023 | 0.0023 |
| Leptocheirus plumulosus | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Macoma balthica | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Chironomidae larvae | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Total Biomass | 0.3006 | | | | |
| Total Biomass (w/o Epifauna) | 0.2914 | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|
| Location: Swanson's Creek | | Station: SC-01 | | Date: June 30, 2000 | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): 1.1 | | Salinity (ppt): 5.9 | | Temperature (C): 27.20 | |
| Dissolved Oxygen (mg/l): 6.0 | | Sediment Silt-Clay (%): 90.55 | | Total Carbon (%): 3.22 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 1.38 | | Pollution Indicative Species Abundance (%) | 75.79 | |
| Abundance (#/m2) | 2185 | | Pollution Indicative Species Biomass (%) | 5.47 | |
| Biomass (g/m2) | 1.14 | | Pollution Sensitive Species Abundance (%) | 10.53 | |
| Carnivore-Omnivore Abundance (%) | 5.26 | | Pollution Sensitive Species Biomass (%) | 31.98 | |
| Deep Deposit Feeder Abundance (%) | 8.42 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Streblospio benedicti | 1656 | 1656.0 | | 1656 | 1656 |
| Tubificoides spp. | 184 | 184.0 | | 184 | 184 |
| Rangia cuneata | 115 | 115.0 | | 115 | 115 |
| Carinoma tremaphoros | 69 | 69.0 | | 69 | 69 |
| Marenzelleria viridis | 69 | 69.0 | | 69 | 69 |
| Cyathura polita | 46 | 46.0 | | 46 | 46 |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 |
| Littoridinops tenuipes (Epi) | 23 | 23.0 | | 23 | 23 |
| Total Abundance | 2208 | | | | |
| Total Abundance (w/o Epifauna) | 2185 | | | | |
| Number of Taxa | 8 | | | | |
| Number of Taxa (w/o Epifauna) | 7 | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma mitchelli | 0.4255 | 0.4255 | | 0.4255 | 0.4255 | |
| Carinoma tremaphoros | 0.2829 | 0.2829 | | 0.2829 | 0.2829 | |
| Marenzelleria viridis | 0.2185 | 0.2185 | | 0.2185 | 0.2185 | |
| Rangia cuneata | 0.0759 | 0.0759 | | 0.0759 | 0.0759 | |
| Cyathura polita | 0.0690 | 0.0690 | | 0.0690 | 0.0690 | |
| Streblospio benedicti | 0.0621 | 0.0621 | | 0.0621 | 0.0621 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Littoridinops tenuipes (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 1.1374 | | | | | |
| Total Biomass (w/o Epifauna) | 1.1362 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|
| Location: Swanson's Creek | | Station: SC-02 | | Date: June 30, 2000 | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): 0.7 | | Salinity (ppt): 4.2 | | Temperature (C): 27.03 | |
| Dissolved Oxygen (mg/l): 8.13 | | Sediment Silt-Clay (%): 53.30 | | Total Carbon (%): 18.70 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 0.88 | | Pollution Indicative Species Abundance (%) | 87.15 | |
| Abundance (#/m2) | 20401 | | Pollution Indicative Species Biomass (%) | 45.22 | |
| Biomass (g/m2) | 1.58 | | Pollution Sensitive Species Abundance (%) | 1.80 | |
| Carnivore-Omnivore Abundance (%) | 3.16 | | Pollution Sensitive Species Biomass (%) | 36.18 | |
| Deep Deposit Feeder Abundance (%) | 4.62 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Streblospio benedicti | 17733 | 17733.0 | | 17733 | 17733 |
| Hobsonia florida | 966 | 966.0 | | 966 | 966 |
| Tubificoides spp. | 874 | 874.0 | | 874 | 874 |
| Cyathura polita | 299 | 299.0 | | 299 | 299 |
| Procladius spp. | 115 | 115.0 | | 115 | 115 |
| Carinoma tremaphoros | 92 | 92.0 | | 92 | 92 |
| Edotea triloba (Epi) | 92 | 92.0 | | 92 | 92 |
| Edwardsia elegans | 69 | 69.0 | | 69 | 69 |
| Heteromastus filiformis | 69 | 69.0 | | 69 | 69 |
| Marenzelleria viridis | 69 | 69.0 | | 69 | 69 |
| Chironomus spp. | 46 | 46.0 | | 46 | 46 |
| Neanthes succinea | 23 | 23.0 | | 23 | 23 |
| Polydora cornuta | 23 | 23.0 | | 23 | 23 |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|
| Total Abundance | 20493 | | | | |
| Total Abundance (w/o Epifauna) | 20401 | | | | |
| Number of Taxa | 14 | | | | |
| Number of Taxa (w/o Epifauna) | 13 | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Streblospio benedicti | 0.7130 | 0.7130 | | 0.7130 | 0.7130 |
| Cyathura polita | 0.5428 | 0.5428 | | 0.5428 | 0.5428 |
| Hobsonia florida | 0.0989 | 0.0989 | | 0.0989 | 0.0989 |
| Heteromastus filiformis | 0.0897 | 0.0897 | | 0.0897 | 0.0897 |
| Carinoma tremaphoros | 0.0529 | 0.0529 | | 0.0529 | 0.0529 |
| Marenzelleria viridis | 0.0276 | 0.0276 | | 0.0276 | 0.0276 |
| Edotea triloba (Epi) | 0.0161 | 0.0161 | | 0.0161 | 0.0161 |
| Tubificoides spp. | 0.0138 | 0.0138 | | 0.0138 | 0.0138 |
| Edwardsia elegans | 0.0115 | 0.0115 | | 0.0115 | 0.0115 |
| Neanthes succinea | 0.0092 | 0.0092 | | 0.0092 | 0.0092 |
| Macoma mitchelli | 0.0092 | 0.0092 | | 0.0092 | 0.0092 |
| Polydora cornuta | 0.0069 | 0.0069 | | 0.0069 | 0.0069 |
| Chironomidae larvae | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Total Biomass | 1.5928 | | | | |
| Total Biomass (w/o Epifauna) | 1.5767 | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | | |
|---|-------|-------------------------------|--|------------------------|-------|-------|
| Station: SC-03 Location: Swanson's Creek Habitat: Low Mesohaline Date: June 30, 2000 Gear: Young Grab Sampled Area: 0.044 sq.m | | | | | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.2 | | Salinity (ppt): 6.0 | | Temperature (C): 27.09 | | |
| Dissolved Oxygen (mg/l): 5.62 | | Sediment Silt-Clay (%): 96.79 | | Total Carbon (%): 2.77 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.55 | | Pollution Indicative Species Abundance (%) | 47.62 | | |
| Abundance (#/m2) | 966 | | Pollution Indicative Species Biomass (%) | 1.38 | | |
| Biomass (g/m2) | 1.84 | | Pollution Sensitive Species Abundance (%) | 28.57 | | |
| Carnivore-Omnivore Abundance (%) | 19.05 | | Pollution Sensitive Species Biomass (%) | 68.42 | | |
| Deep Deposit Feeder Abundance (%) | 7.14 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Streblospio benedicti | 460 | 460.0 | | 460 | 460 | |
| Cyathura polita | 138 | 138.0 | | 138 | 138 | |
| Tubificoides spp. | 69 | 69.0 | | 69 | 69 | |
| Rangia cuneata | 69 | 69.0 | | 69 | 69 | |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 | |
| Marenzelleria viridis | 46 | 46.0 | | 46 | 46 | |
| Leptocheirus plumulosus | 46 | 46.0 | | 46 | 46 | |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Ameroculodes species complex | 23 | 23.0 | | 23 | 23 | |
| Macoma balthica | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 966 | | | | | |
| Total Abundance (w/o Epifauna) | 966 | | | | | |
| Number of Taxa | 10 | | | | | |
| Number of Taxa (w/o Epifauna) | 10 | | | | | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 0.9154 | 0.9154 | | 0.9154 | 0.9154 | |
| Macoma mitchelli | 0.5244 | 0.5244 | | 0.5244 | 0.5244 | |
| Cyathura polita | 0.2254 | 0.2254 | | 0.2254 | 0.2254 | |
| Marenzelleria viridis | 0.0851 | 0.0851 | | 0.0851 | 0.0851 | |
| Rangia cuneata | 0.0299 | 0.0299 | | 0.0299 | 0.0299 | |
| Streblospio benedicti | 0.0253 | 0.0253 | | 0.0253 | 0.0253 | |
| Carinoma tremaphoros | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Leptocheirus plumulosus | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Ameroculodes species complex | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 1.8355 | | | | | |
| Total Biomass (w/o Epifauna) | 1.8355 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|-----------------------------------|-------|------------------------------|--|--------------------------|-------|
| Location: Swanson's Creek | | Station: SC-04 | | Date: June 30, 2000 | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): 0.9 | | Salinity (ppt): 5.4 | | Temperature (C): 27.72 | |
| Dissolved Oxygen (mg/l): 6.43 | | Sediment Silt-Clay (%): 9.98 | | Total Carbon (%): 0.24 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 2.14 | | Pollution Indicative Species Abundance (%) | 18.67 | |
| Abundance (#/m2) | 1725 | | Pollution Indicative Species Biomass (%) | 5.22 | |
| Biomass (g/m2) | 0.31 | | Pollution Sensitive Species Abundance (%) | 16.00 | |
| Carnivore-Omnivore Abundance (%) | 6.67 | | Pollution Sensitive Species Biomass (%) | 35.82 | |
| Deep Deposit Feeder Abundance (%) | 58.67 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Heteromastus filiformis | 943 | 943.0 | | 943 | 943 |
| Streblospio benedicti | 322 | 322.0 | | 322 | 322 |
| Marenzelleria viridis | 115 | 115.0 | | 115 | 115 |
| Rangia cuneata | 115 | 115.0 | | 115 | 115 |
| Tubificoides spp. | 69 | 69.0 | | 69 | 69 |
| Edwardsia elegans | 46 | 46.0 | | 46 | 46 |
| Leptocheirus plumulosus | 46 | 46.0 | | 46 | 46 |
| Cyathura polita | 46 | 46.0 | | 46 | 46 |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 |
| Total Abundance | 1725 | | | | |
| Total Abundance (w/o Epifauna) | 1725 | | | | |
| Number of Taxa | 9 | | | | |
| Number of Taxa (w/o Epifauna) | 9 | | | | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) - | | | | | | |
|---|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Heteromastus filiformis | 0.1610 | 0.1610 | | 0.1610 | 0.1610 | |
| Marenzelleria viridis | 0.0391 | 0.0391 | | 0.0391 | 0.0391 | |
| Rangia cuneata | 0.0368 | 0.0368 | | 0.0368 | 0.0368 | |
| Cyathura polita | 0.0345 | 0.0345 | | 0.0345 | 0.0345 | |
| Streblospio benedicti | 0.0161 | 0.0161 | | 0.0161 | 0.0161 | |
| Edwardsia elegans | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Leptocheirus plumulosus | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Carinoma tremaphoros | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Total Biomass | 0.3082 | | | | | |
| Total Biomass (w/o Epifauna) | 0.3082 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|-----------------------------------|-------|---------------------------|--|--------------------------|-------|
| Location: | | Station: SC-04-XX | | Date: June 30, 2000 | |
| Gear: Modified Box Corer | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): | | Salinity (ppt): | | Temperature (C): | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): | | Total Carbon (%): | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 2.51 | | Pollution Indicative Species Abundance (%) | 20.54 | |
| Abundance (#/m2) | 14800 | | Pollution Indicative Species Biomass (%) | | |
| Biomass (g/m2) | 6.46 | | Pollution Sensitive Species Abundance (%) | 17.03 | |
| Carnivore-Omnivore Abundance (%) | 10.54 | | Pollution Sensitive Species Biomass (%) | | |
| Deep Deposit Feeder Abundance (%) | 53.51 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Heteromastus filiformis | 7480 | 7480.0 | | 7480 | 7480 |
| Streblospio benedicti | 2560 | 2560.0 | | 2560 | 2560 |
| Marenzelleria viridis | 1400 | 1400.0 | | 1400 | 1400 |
| Cyathura polita | 520 | 520.0 | | 520 | 520 |
| Leptocheirus plumulosus | 480 | 480.0 | | 480 | 480 |
| Rangia cuneata | 480 | 480.0 | | 480 | 480 |
| Carinoma tremaphoros | 400 | 400.0 | | 400 | 400 |
| Hypereteone heteropoda | 280 | 280.0 | | 280 | 280 |
| Tubificoides spp. | 240 | 240.0 | | 240 | 240 |
| Imm. Tubificid w/o Cap. Chaete | 200 | 200.0 | | 200 | 200 |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC ABUNDANCE (per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| <i>Neanthes succinea</i> | 200 | 200.0 | | 200 | 200 | |
| <i>Macoma mitchelli</i> | 200 | 200.0 | | 200 | 200 | |
| <i>Edwardsia elegans</i> | 160 | 160.0 | | 160 | 160 | |
| <i>Macoma balthica</i> | 120 | 120.0 | | 120 | 120 | |
| <i>Hobsonia florida</i> | 80 | 80.0 | | 80 | 80 | |
| Total Abundance | 14800 | | | | | |
| Total Abundance (w/o Epifauna) | 14800 | | | | | |
| Number of Taxa | 15 | | | | | |
| Number of Taxa (w/o Epifauna) | 15 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) - | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| <i>Heteromastus filiformis</i> | 2.2960 | 2.2960 | | 2.2960 | 2.2960 | |
| <i>Marenzelleria viridis</i> | 1.1480 | 1.1480 | | 1.1480 | 1.1480 | |
| <i>Macoma mitchelli</i> | 0.8160 | 0.8160 | | 0.8160 | 0.8160 | |
| <i>Rangia cuneata</i> | 0.7320 | 0.7320 | | 0.7320 | 0.7320 | |
| <i>Macoma balthica</i> | 0.5440 | 0.5440 | | 0.5440 | 0.5440 | |
| <i>Cyathura polita</i> | 0.3120 | 0.3120 | | 0.3120 | 0.3120 | |
| <i>Neanthes succinea</i> | 0.2880 | 0.2880 | | 0.2880 | 0.2880 | |
| <i>Carinoma tremaphoros</i> | 0.0960 | 0.0960 | | 0.0960 | 0.0960 | |
| <i>Hypereteone heteropoda</i> | 0.0880 | 0.0880 | | 0.0880 | 0.0880 | |
| <i>Streblospio benedicti</i> | 0.0640 | 0.0640 | | 0.0640 | 0.0640 | |
| <i>Leptocheirus plumulosus</i> | 0.0520 | 0.0520 | | 0.0520 | 0.0520 | |
| <i>Edwardsia elegans</i> | 0.0160 | 0.0160 | | 0.0160 | 0.0160 | |
| <i>Hobsonia florida</i> | 0.0040 | 0.0040 | | 0.0040 | 0.0040 | |
| <i>Tubificoides spp.</i> | 0.0020 | 0.0020 | | 0.0020 | 0.0020 | |
| <i>Oligochaeta</i> | 0.0020 | 0.0020 | | 0.0020 | 0.0020 | |
| Total Biomass | 6.4600 | | | | | |
| Total Biomass (w/o Epifauna) | 6.4600 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|
| Location: Swanson's Creek | | Station: SC-05 | | Date: June 30, 2000 | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): 1.4 | | Salinity (ppt): 4.9 | | Temperature (C): 27.08 | |
| Dissolved Oxygen (mg/l): 7.71 | | Sediment Silt-Clay (%): 66.05 | | Total Carbon (%): 3.08 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 1.34 | | Pollution Indicative Species Abundance (%) | 80.56 | |
| Abundance (#/m2) | 4968 | | Pollution Indicative Species Biomass (%) | 29.52 | |
| Biomass (g/m2) | 0.69 | | Pollution Sensitive Species Abundance (%) | 2.78 | |
| Carnivore-Omnivore Abundance (%) | 7.41 | | Pollution Sensitive Species Biomass (%) | 47.43 | |
| Deep Deposit Feeder Abundance (%) | 4.63 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Streblospio benedicti | 3933 | 3933.0 | | 3933 | 3933 |
| Hobsonia florida | 391 | 391.0 | | 391 | 391 |
| Heteromastus filiformis | 138 | 138.0 | | 138 | 138 |
| Tubificoides spp. | 92 | 92.0 | | 92 | 92 |
| Cyathura polita | 92 | 92.0 | | 92 | 92 |
| Procladius spp. | 92 | 92.0 | | 92 | 92 |
| Chironomus spp. | 69 | 69.0 | | 69 | 69 |
| Edwardsia elegans | 46 | 46.0 | | 46 | 46 |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 |
| Edotea triloba (Epi) | 46 | 46.0 | | 46 | 46 |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC ABUNDANCE (per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| <i>Laeonereis culveri</i> | 23 | 23.0 | | 23 | 23 | |
| <i>Marenzelleria viridis</i> | 23 | 23.0 | | 23 | 23 | |
| <i>Rangia cuneata</i> | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 5014 | | | | | |
| Total Abundance (w/o Epifauna) | 4968 | | | | | |
| Number of Taxa | 13 | | | | | |
| Number of Taxa (w/o Epifauna) | 12 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) - | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| <i>Cyathura polita</i> | 0.2576 | 0.2576 | | 0.2576 | 0.2576 | |
| <i>Streblospio benedicti</i> | 0.2047 | 0.2047 | | 0.2047 | 0.2047 | |
| <i>Heteromastus filiformis</i> | 0.0828 | 0.0828 | | 0.0828 | 0.0828 | |
| <i>Rangia cuneata</i> | 0.0644 | 0.0644 | | 0.0644 | 0.0644 | |
| <i>Hobsonia florida</i> | 0.0345 | 0.0345 | | 0.0345 | 0.0345 | |
| <i>Carinoma tremaphoros</i> | 0.0299 | 0.0299 | | 0.0299 | 0.0299 | |
| <i>Edwardsia elegans</i> | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| <i>Edotea triloba</i> (Epi) | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| <i>Marenzelleria viridis</i> | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| <i>Tubificoides</i> spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| <i>Laeonereis culveri</i> | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Chironomidae larvae | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 0.7004 | | | | | |
| Total Biomass (w/o Epifauna) | 0.6935 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|
| Location: Swanson's Creek | | Station: SC-06 | | Date: June 30, 2000 | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): 1.3 | | Salinity (ppt): 6.1 | | Temperature (C): 26.74 | |
| Dissolved Oxygen (mg/l): 4.32 | | Sediment Silt-Clay (%): 97.81 | | Total Carbon (%): 2.00 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 2.49 | | Pollution Indicative Species Abundance (%) | 16.13 | |
| Abundance (#/m2) | 713 | | Pollution Indicative Species Biomass (%) | 0.44 | |
| Biomass (g/m2) | 2.62 | | Pollution Sensitive Species Abundance (%) | 48.39 | |
| Carnivore-Omnivore Abundance (%) | 12.90 | | Pollution Sensitive Species Biomass (%) | 99.21 | |
| Deep Deposit Feeder Abundance (%) | 35.48 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Tubificoides spp. | 253 | 253.0 | | 253 | 253 |
| Macoma balthica | 138 | 138.0 | | 138 | 138 |
| Marenzelleria viridis | 92 | 92.0 | | 92 | 92 |
| Streblospio benedicti | 92 | 92.0 | | 92 | 92 |
| Cyathura polita | 69 | 69.0 | | 69 | 69 |
| Rangia cuneata | 46 | 46.0 | | 46 | 46 |
| Littoridinops tenuipes (Epi) | 23 | 23.0 | | 23 | 23 |
| Hypereteone heteropoda | 23 | 23.0 | | 23 | 23 |
| Total Abundance | 736 | | | | |
| Total Abundance (w/o Epifauna) | 713 | | | | |
| Number of Taxa | 8 | | | | |
| Number of Taxa (w/o Epifauna) | 7 | | | | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 2.3230 | 2.3230 | | 2.3230 | 2.3230 | |
| Marenzelleria viridis | 0.1426 | 0.1426 | | 0.1426 | 0.1426 | |
| Cyathura polita | 0.1150 | 0.1150 | | 0.1150 | 0.1150 | |
| Rangia cuneata | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Tubificoides spp. | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| Streblospio benedicti | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| Littoridinops tenuipes (Epi) | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Hypereteone heteropoda | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Total Biomass | 2.6266 | | | | | |
| Total Biomass (w/o Epifauna) | 2.6197 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|
| Location: Swanson's Creek | | Station: SC-07 | | Date: June 30, 2000 | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): 1.0 | | Salinity (ppt): 5.2 | | Temperature (C): 26.76 | |
| Dissolved Oxygen (mg/l): 8.73 | | Sediment Silt-Clay (%): 88.94 | | Total Carbon (%): 3.60 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 1.58 | | Pollution Indicative Species Abundance (%) | 73.50 | |
| Abundance (#/m2) | 9982 | | Pollution Indicative Species Biomass (%) | 20.82 | |
| Biomass (g/m2) | 1.15 | | Pollution Sensitive Species Abundance (%) | 2.30 | |
| Carnivore-Omnivore Abundance (%) | 11.52 | | Pollution Sensitive Species Biomass (%) | 42.84 | |
| Deep Deposit Feeder Abundance (%) | 3.23 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Streblospio benedicti | 7153 | 7153.0 | | 7153 | 7153 |
| Hobsonia florida | 1219 | 1219.0 | | 1219 | 1219 |
| Edwardsia elegans | 667 | 667.0 | | 667 | 667 |
| Tubificoides spp. | 253 | 253.0 | | 253 | 253 |
| Carinoma tremaphoros | 184 | 184.0 | | 184 | 184 |
| Tanypus neopunctipennis | 138 | 138.0 | | 138 | 138 |
| Cyathura polita | 92 | 92.0 | | 92 | 92 |
| Heteromastus filiformis | 69 | 69.0 | | 69 | 69 |
| Chironomus spp. | 46 | 46.0 | | 46 | 46 |
| Marenzelleria viridis | 46 | 46.0 | | 46 | 46 |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC ABUNDANCE (per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 46 | 46.0 | | 46 | 46 | |
| Rangia cuneata | 46 | 46.0 | | 46 | 46 | |
| Neanthes succinea | 23 | 23.0 | | 23 | 23 | |
| Edotea triloba (Epi) | 23 | 23.0 | | 23 | 23 | |
| Total Abundance | 10005 | | | | | |
| Total Abundance (w/o Epifauna) | 9982 | | | | | |
| Number of Taxa | 14 | | | | | |
| Number of Taxa (w/o Epifauna) | 13 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) - | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 0.2898 | 0.2898 | | 0.2898 | 0.2898 | |
| Streblospio benedicti | 0.2392 | 0.2392 | | 0.2392 | 0.2392 | |
| Marenzelleria viridis | 0.1817 | 0.1817 | | 0.1817 | 0.1817 | |
| Carinoma tremaphoros | 0.1656 | 0.1656 | | 0.1656 | 0.1656 | |
| Edwardsia elegans | 0.1403 | 0.1403 | | 0.1403 | 0.1403 | |
| Heteromastus filiformis | 0.0644 | 0.0644 | | 0.0644 | 0.0644 | |
| Hobsonia florida | 0.0391 | 0.0391 | | 0.0391 | 0.0391 | |
| Edotea triloba (Epi) | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | |
| Rangia cuneata | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Neanthes succinea | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Cyathura polita | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Chironomidae larvae | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 1.1811 | | | | | |
| Total Biomass (w/o Epifauna) | 1.1420 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|
| Location: Swanson's Creek | | Station: SC-08 | | Date: June 30, 2000 | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): 1.3 | | Salinity (ppt): 5.7 | | Temperature (C): 27.05 | |
| Dissolved Oxygen (mg/l): 4.59 | | Sediment Silt-Clay (%): 93.75 | | Total Carbon (%): 2.02 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 2.87 | | Pollution Indicative Species Abundance (%) | 13.33 | |
| Abundance (#/m2) | 345 | | Pollution Indicative Species Biomass (%) | 0.28 | |
| Biomass (g/m2) | 1.65 | | Pollution Sensitive Species Abundance (%) | 60.00 | |
| Carnivore-Omnivore Abundance (%) | 26.67 | | Pollution Sensitive Species Biomass (%) | 43.25 | |
| Deep Deposit Feeder Abundance (%) | 6.67 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Cyathura polita | 69 | 69.0 | | 69 | 69 |
| Macoma balthica | 69 | 69.0 | | 69 | 69 |
| Marenzelleria viridis | 46 | 46.0 | | 46 | 46 |
| Streblospio benedicti | 46 | 46.0 | | 46 | 46 |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 |
| Rangia cuneata | 23 | 23.0 | | 23 | 23 |
| Total Abundance | 345 | | | | |
| Total Abundance (w/o Epifauna) | 345 | | | | |
| Number of Taxa | 8 | | | | |
| Number of Taxa (w/o Epifauna) | 8 | | | | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma mitchelli | 0.6279 | 0.6279 | | 0.6279 | 0.6279 | |
| Macoma balthica | 0.4646 | 0.4646 | | 0.4646 | 0.4646 | |
| Heteromastus filiformis | 0.2760 | 0.2760 | | 0.2760 | 0.2760 | |
| Marenzelleria viridis | 0.1748 | 0.1748 | | 0.1748 | 0.1748 | |
| Cyathura polita | 0.0644 | 0.0644 | | 0.0644 | 0.0644 | |
| Carinoma tremaphoros | 0.0299 | 0.0299 | | 0.0299 | 0.0299 | |
| Rangia cuneata | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Streblospio benedicti | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Total Biomass | 1.6537 | | | | | |
| Total Biomass (w/o Epifauna) | 1.6537 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|
| Location: Swanson's Creek | | Station: SC-09 | | Date: June 30, 2000 | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): 1.1 | | Salinity (ppt): 6.1 | | Temperature (C): 26.88 | |
| Dissolved Oxygen (mg/l): 4.02 | | Sediment Silt-Clay (%): 99.35 | | Total Carbon (%): 2.75 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 2.71 | | Pollution Indicative Species Abundance (%) | 17.86 | |
| Abundance (#/m2) | 644 | | Pollution Indicative Species Biomass (%) | 0.22 | |
| Biomass (g/m2) | 3.17 | | Pollution Sensitive Species Abundance (%) | 53.57 | |
| Carnivore-Omnivore Abundance (%) | 32.14 | | Pollution Sensitive Species Biomass (%) | 79.57 | |
| Deep Deposit Feeder Abundance (%) | 14.29 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Macoma balthica | 161 | 161.0 | | 161 | 161 |
| Cyathura polita | 138 | 138.0 | | 138 | 138 |
| Streblospio benedicti | 115 | 115.0 | | 115 | 115 |
| Tubificoides spp. | 92 | 92.0 | | 92 | 92 |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 |
| Rangia cuneata | 46 | 46.0 | | 46 | 46 |
| Rhithropanopeus harrisi (Epi) | 23 | 23.0 | | 23 | 23 |
| Neanthes succinea | 23 | 23.0 | | 23 | 23 |
| Leptocheirus plumulosus | 23 | 23.0 | | 23 | 23 |
| Total Abundance | 667 | | | | |
| Total Abundance (w/o Epifauna) | 644 | | | | |
| Number of Taxa | 9 | | | | |
| Number of Taxa (w/o Epifauna) | 8 | | | | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 2.4495 | 2.4495 | | 2.4495 | 2.4495 | |
| Neanthes succinea | 0.5911 | 0.5911 | | 0.5911 | 0.5911 | |
| Cyathura polita | 0.0437 | 0.0437 | | 0.0437 | 0.0437 | |
| Carinoma tremaphoros | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | |
| Rangia cuneata | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | |
| Leptocheirus plumulosus | 0.0138 | 0.0138 | | 0.0138 | 0.0138 | |
| Streblospio benedicti | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Rhithropanopeus harrisi (Epi) | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Total Biomass | 3.1786 | | | | | |
| Total Biomass (w/o Epifauna) | 3.1740 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|
| Location: Swanson's Creek | | Station: SC-10 | | Date: June 30, 2000 | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): 1.0 | | Salinity (ppt): 5.9 | | Temperature (C): 27.29 | |
| Dissolved Oxygen (mg/l): 4.84 | | Sediment Silt-Clay (%): 96.98 | | Total Carbon (%): 2.65 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: | | Condition: Not Applicable | | # Attributes Scored: 0 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 2.29 | | Pollution Indicative Species Abundance (%) | 35.71 | |
| Abundance (#/m2) | 644 | | Pollution Indicative Species Biomass (%) | 11.39 | |
| Biomass (g/m2) | 0.18 | | Pollution Sensitive Species Abundance (%) | 28.57 | |
| Carnivore-Omnivore Abundance (%) | 7.14 | | Pollution Sensitive Species Biomass (%) | 83.54 | |
| Deep Deposit Feeder Abundance (%) | 32.14 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Streblospio benedicti | 230 | 230.0 | | 230 | 230 |
| Tubificoides spp. | 207 | 207.0 | | 207 | 207 |
| Rangia cuneata | 69 | 69.0 | | 69 | 69 |
| Marenzelleria viridis | 46 | 46.0 | | 46 | 46 |
| Cyathura polita | 46 | 46.0 | | 46 | 46 |
| Littoridinops tenuipes (Epi) | 23 | 23.0 | | 23 | 23 |
| Ameroculodes species complex | 23 | 23.0 | | 23 | 23 |
| Macoma balthica | 23 | 23.0 | | 23 | 23 |
| Total Abundance | 667 | | | | |
| Total Abundance (w/o Epifauna) | 644 | | | | |
| Number of Taxa | 8 | | | | |
| Number of Taxa (w/o Epifauna) | 7 | | | | |

Continued . . .

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SPRING 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 0.0552 | 0.0552 | | 0.0552 | 0.0552 | |
| Marenzelleria viridis | 0.0552 | 0.0552 | | 0.0552 | 0.0552 | |
| Rangia cuneata | 0.0253 | 0.0253 | | 0.0253 | 0.0253 | |
| Streblospio benedicti | 0.0207 | 0.0207 | | 0.0207 | 0.0207 | |
| Cyathura polita | 0.0161 | 0.0161 | | 0.0161 | 0.0161 | |
| Ameroculodes species complex | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Littoridinops tenuipes (Epi) | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Total Biomass | 0.1886 | | | | | |
| Total Biomass (w/o Epifauna) | 0.1817 | | | | | |

APPENDIX B

**BOTTOM ENVIRONMENT AND
BENTHOS SUMMER**

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|
| Location: Hunting Creek | | Station: HC-03 | | Date: September 6, 2000 | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): 0.9 | | Salinity (ppt): 6.92 | | Temperature (C): 22.38 | |
| Dissolved Oxygen (mg/l): 6.9 | | Sediment Silt-Clay (%): 95.85 | | Total Carbon (%): 2.71 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: 2.60 | | Condition: Degraded | | # Attributes Scored: 5 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 1.42 | 1 | Pollution Indicative Species Abundance (%) | 0.00 | 5 |
| Abundance (#/m2) | 276 | 1 | Pollution Indicative Species Biomass (%) | 0.00 | |
| Biomass (g/m2) | 4.54 | 3 | Pollution Sensitive Species Abundance (%) | 75.00 | |
| Carnivore-Omnivore Abundance (%) | 25.00 | | Pollution Sensitive Species Biomass (%) | 97.77 | 3 |
| Deep Deposit Feeder Abundance (%) | 8.33 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Macoma balthica | 184 | 184.0 | | 184 | 184 |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 |
| Cyathura polita | 23 | 23.0 | | 23 | 23 |
| Number of Species | 4 | | | | |
| Number of Species (w/o Epifauna) | 4 | | | | |
| Abundance | 276 | | | | |
| Abundance (w/o Epifauna) | 276 | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (per sq. meter) | | | | | | |
|---------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 4.3401 | 4.3401 | | 4.3401 | 4.3401 | |
| Cyathura polita | 0.1035 | 0.1035 | | 0.1035 | 0.1035 | |
| Heteromastus filiformis | 0.0621 | 0.0621 | | 0.0621 | 0.0621 | |
| Carinoma tremaphoros | 0.0391 | 0.0391 | | 0.0391 | 0.0391 | |
| Biomass | 4.5448 | | | | | |
| Biomass (w/o Epifauna) | 4.5448 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-04 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.4 | | Salinity (ppt): 7.23 | | Temperature (C): 20.91 | | |
| Dissolved Oxygen (mg/l): 6.5 | | Sediment Silt-Clay (%): 82.07 | | Total Carbon (%): 2.34 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.00 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 1.87 | 3 | Pollution Indicative Species Abundance (%) | 48.72 | 1 | |
| Abundance (#/m2) | 897 | 3 | Pollution Indicative Species Biomass (%) | 5.13 | | |
| Biomass (g/m2) | 1.55 | 3 | Pollution Sensitive Species Abundance (%) | 15.38 | | |
| Carnivore-Omnivore Abundance (%) | 56.41 | | Pollution Sensitive Species Biomass (%) | 86.92 | 5 | |
| Deep Deposit Feeder Abundance (%) | 2.56 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Coelotanypus spp. | 414 | 414.0 | | 414 | 414 | |
| Leptocheirus plumulosus | 299 | 299.0 | | 299 | 299 | |
| Melita nitida (Epi) | 161 | 161.0 | | 161 | 161 | |
| Cyathura polita | 92 | 92.0 | | 92 | 92 | |
| Macoma balthica | 46 | 46.0 | | 46 | 46 | |
| Tubificoides spp. | 23 | 23.0 | | 23 | 23 | |
| Streblospio benedicti | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 7 | | | | | |
| Number of Species (w/o Epifauna) | 6 | | | | | |
| Abundance | 1058 | | | | | |
| Abundance (w/o Epifauna) | 897 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 0.9108 | 0.9108 | | 0.9108 | 0.9108 | |
| Cyathura polita | 0.4347 | 0.4347 | | 0.4347 | 0.4347 | |
| Leptocheirus plumulosus | 0.1219 | 0.1219 | | 0.1219 | 0.1219 | |
| Coelotanypus spp. | 0.0782 | 0.0782 | | 0.0782 | 0.0782 | |
| Melita nitida (Epi) | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 1.5721 | | | | | |
| Biomass (w/o Epifauna) | 1.5652 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|-------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-05 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | | | |
| | | Sampled Area: 0.044 sq.m | | | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 2.0 | | Salinity (ppt): 5.67 | | Temperature (C): 21.56 | | |
| Dissolved Oxygen (mg/l): 8.5 | | Sediment Silt-Clay (%): 40.62 | | Total Carbon (%): 2.30 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 2.60 | | Condition: Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.32 | 3 | Pollution Indicative Species Abundance (%) | 20.51 | 1 | |
| Abundance (#/m2) | 1794 | 5 | Pollution Indicative Species Biomass (%) | 0.32 | | |
| Biomass (g/m2) | 0.71 | 1 | Pollution Sensitive Species Abundance (%) | 8.97 | | |
| Carnivore-Omnivore Abundance (%) | 15.38 | | Pollution Sensitive Species Biomass (%) | 64.61 | 3 | |
| Deep Deposit Feeder Abundance (%) | 53.85 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 828 | 828.0 | | 828 | 828 | |
| Streblospio benedicti | 368 | 368.0 | | 368 | 368 | |
| Carinoma tremaphoros | 184 | 184.0 | | 184 | 184 | |
| Heteromastus filiformis | 138 | 138.0 | | 138 | 138 | |
| Leptocheirus plumulosus | 115 | 115.0 | | 115 | 115 | |
| Cyathura polita | 92 | 92.0 | | 92 | 92 | |
| Rhithropanopeus harrisi (Epi) | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Macoma balthica | 23 | 23.0 | | 23 | 23 | |
| Rangia cuneata | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 10 | | | | | |
| Number of Species (w/o Epifauna) | 9 | | | | | |
| Abundance | 1817 | | | | | |
| Abundance (w/o Epifauna) | 1794 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Rangia cuneata | 0.1794 | 0.1794 | | 0.1794 | 0.1794 | |
| Cyathura polita | 0.1495 | 0.1495 | | 0.1495 | 0.1495 | |
| Carinoma tremaphoros | 0.1081 | 0.1081 | | 0.1081 | 0.1081 | |
| Marenzelleria viridis | 0.1058 | 0.1058 | | 0.1058 | 0.1058 | |
| Heteromastus filiformis | 0.0966 | 0.0966 | | 0.0966 | 0.0966 | |
| Rhithropanopeus harrisi (Epi) | 0.0713 | 0.0713 | | 0.0713 | 0.0713 | |
| Leptocheirus plumulosus | 0.0414 | 0.0414 | | 0.0414 | 0.0414 | |
| Macoma balthica | 0.0230 | 0.0230 | | 0.0230 | 0.0230 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Streblospio benedicti | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Biomass | 0.7797 | | | | | |
| Biomass (w/o Epifauna) | 0.7084 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-06 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.3 | | Salinity (ppt): 6.60 | | Temperature (C): 21.93 | | |
| Dissolved Oxygen (mg/l): 6.7 | | Sediment Silt-Clay (%): 96.92 | | Total Carbon (%): 2.51 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 4.60 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.69 | 5 | Pollution Indicative Species Abundance (%) | 9.09 | 5 | |
| Abundance (#/m2) | 2783 | 3 | Pollution Indicative Species Biomass (%) | 0.02 | | |
| Biomass (g/m2) | 5.56 | 5 | Pollution Sensitive Species Abundance (%) | 24.79 | | |
| Carnivore-Omnivore Abundance (%) | 14.05 | | Pollution Sensitive Species Biomass (%) | 91.06 | 5 | |
| Deep Deposit Feeder Abundance (%) | 31.40 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 943 | 943.0 | | 943 | 943 | |
| Macoma balthica | 529 | 529.0 | | 529 | 529 | |
| Tubificoides spp. | 437 | 437.0 | | 437 | 437 | |
| Imm. Tubificid w/o Cap. Chaete | 230 | 230.0 | | 230 | 230 | |
| Heteromastus filiformis | 207 | 207.0 | | 207 | 207 | |
| Carinoma tremaphoros | 184 | 184.0 | | 184 | 184 | |
| Cyathura polita | 161 | 161.0 | | 161 | 161 | |
| Neanthes succinea | 46 | 46.0 | | 46 | 46 | |
| Streblospio benedicti | 23 | 23.0 | | 23 | 23 | |
| Melita nitida (Epi) | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 11 | | | | | |
| Number of Species (w/o Epifauna) | 10 | | | | | |
| Abundance | 2806 | | | | | |
| Abundance (w/o Epifauna) | 2783 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (per sq. meter) | | | | | | |
|---------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 4.8806 | 4.8806 | | 4.8806 | 4.8806 | |
| Leptocheirus plumulosus | 0.2852 | 0.2852 | | 0.2852 | 0.2852 | |
| Cyathura polita | 0.1817 | 0.1817 | | 0.1817 | 0.1817 | |
| Macoma mitchelli | 0.1541 | 0.1541 | | 0.1541 | 0.1541 | |
| Neanthes succinea | 0.0230 | 0.0230 | | 0.0230 | 0.0230 | |
| Heteromastus filiformis | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Tubificoides spp. | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Carinoma tremaphoros | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Melita nitida (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 5.5603 | | | | | |
| Biomass (w/o Epifauna) | 5.5491 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-09 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 0.8 | | Salinity (ppt): 5.89 | | Temperature (C): 22.11 | | |
| Dissolved Oxygen (mg/l): 8.9 | | Sediment Silt-Clay (%): 91.77 | | Total Carbon (%): 2.39 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.00 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 1.37 | 1 | Pollution Indicative Species Abundance (%) | 6.67 | 5 | |
| Abundance (#/m2) | 1035 | 3 | Pollution Indicative Species Biomass (%) | 0.47 | | |
| Biomass (g/m2) | 0.24 | 1 | Pollution Sensitive Species Abundance (%) | 8.89 | | |
| Carnivore-Omnivore Abundance (%) | 8.89 | | Pollution Sensitive Species Biomass (%) | 85.31 | 5 | |
| Deep Deposit Feeder Abundance (%) | 82.22 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 805 | 805.0 | | 805 | 805 | |
| Limnodrilus hoffmeisteri | 46 | 46.0 | | 46 | 46 | |
| Leptocheirus plumulosus | 46 | 46.0 | | 46 | 46 | |
| Cyathura polita | 46 | 46.0 | | 46 | 46 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Coelotanypus spp. | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Melita nitida (Epi) | 23 | 23.0 | | 23 | 23 | |
| Macoma balthica | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 9 | | | | | |
| Number of Species (w/o Epifauna) | 8 | | | | | |
| Abundance | 1058 | | | | | |
| Abundance (w/o Epifauna) | 1035 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) - | | | | | | |
|---|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Cyathura polita | 0.1012 | 0.1012 | | 0.1012 | 0.1012 | |
| Macoma balthica | 0.0989 | 0.0989 | | 0.0989 | 0.0989 | |
| Leptocheirus plumulosus | 0.0207 | 0.0207 | | 0.0207 | 0.0207 | |
| Carinoma tremaphoros | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Marenzelleria viridis | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Coelotanypus spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Melita nitida (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 0.2438 | | | | | |
| Biomass (w/o Epifauna) | 0.2426 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-11 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.4 | | Salinity (ppt): 6.24 | | Temperature (C): 18.81 | | |
| Dissolved Oxygen (mg/l): 5.0 | | Sediment Silt-Clay (%): 98.42 | | Total Carbon (%): 2.77 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.40 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.34 | 3 | Pollution Indicative Species Abundance (%) | 16.07 | 3 | |
| Abundance (#/m2) | 1288 | 3 | Pollution Indicative Species Biomass (%) | 0.21 | | |
| Biomass (g/m2) | 4.90 | 3 | Pollution Sensitive Species Abundance (%) | 35.71 | | |
| Carnivore-Omnivore Abundance (%) | 16.07 | | Pollution Sensitive Species Biomass (%) | 98.69 | 5 | |
| Deep Deposit Feeder Abundance (%) | 48.21 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 483 | 483.0 | | 483 | 483 | |
| Macoma balthica | 391 | 391.0 | | 391 | 391 | |
| Imm. Tubificid w/o Cap. Chaete | 138 | 138.0 | | 138 | 138 | |
| Carinoma tremaphoros | 92 | 92.0 | | 92 | 92 | |
| Cyathura polita | 69 | 69.0 | | 69 | 69 | |
| Coelotanypus spp. | 46 | 46.0 | | 46 | 46 | |
| Leptocheirus plumulosus | 46 | 46.0 | | 46 | 46 | |
| Streblospio benedicti | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 8 | | | | | |
| Number of Species (w/o Epifauna) | 8 | | | | | |
| Abundance | 1288 | | | | | |
| Abundance (w/o Epifauna) | 1288 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 4.5287 | 4.5287 | | 4.5287 | 4.5287 | |
| Cyathura polita | 0.3082 | 0.3082 | | 0.3082 | 0.3082 | |
| Carinoma tremaphoros | 0.0345 | 0.0345 | | 0.0345 | 0.0345 | |
| Leptocheirus plumulosus | 0.0161 | 0.0161 | | 0.0161 | 0.0161 | |
| Coelotanypus spp. | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 4.9013 | | | | | |
| Biomass (w/o Epifauna) | 4.9013 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-12 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.4 | | Salinity (ppt): 5.99 | | Temperature (C): 18.86 | | |
| Dissolved Oxygen (mg/l): 5.4 | | Sediment Silt-Clay (%): 99.25 | | Total Carbon (%): 2.91 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 4.60 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 1.77 | 3 | Pollution Indicative Species Abundance (%) | 7.95 | 5 | |
| Abundance (#/m2) | 2024 | 5 | Pollution Indicative Species Biomass (%) | 0.18 | | |
| Biomass (g/m2) | 5.11 | 5 | Pollution Sensitive Species Abundance (%) | 13.64 | | |
| Carnivore-Omnivore Abundance (%) | 9.09 | | Pollution Sensitive Species Biomass (%) | 89.20 | 5 | |
| Deep Deposit Feeder Abundance (%) | 73.86 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 1334 | 1334.0 | | 1334 | 1334 | |
| Macoma balthica | 253 | 253.0 | | 253 | 253 | |
| Carinoma tremaphoros | 138 | 138.0 | | 138 | 138 | |
| Imm. Tubificid w/o Cap. Chaete | 138 | 138.0 | | 138 | 138 | |
| Leptocheirus plumulosus | 46 | 46.0 | | 46 | 46 | |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Coelotanypus spp. | 23 | 23.0 | | 23 | 23 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Cyathura polita | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 9 | | | | | |
| Number of Species (w/o Epifauna) | 9 | | | | | |
| Abundance | 2024 | | | | | |
| Abundance (w/o Epifauna) | 2024 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) - Contd. | | | | | | |
|--|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 4.3654 | 4.3654 | | 4.3654 | 4.3654 | |
| Macoma mitchelli | 0.4439 | 0.4439 | | 0.4439 | 0.4439 | |
| Cyathura polita | 0.1955 | 0.1955 | | 0.1955 | 0.1955 | |
| Carinoma tremaphoros | 0.0759 | 0.0759 | | 0.0759 | 0.0759 | |
| Tubificoides spp. | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Coelotanypus spp. | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| Leptocheirus plumulosus | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Heteromastus filiformis | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 5.1129 | | | | | |
| Biomass (w/o Epifauna) | 5.1129 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-13 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 0.9 | | Salinity (ppt): 6.12 | | Temperature (C): 19.27 | | |
| Dissolved Oxygen (mg/l): 4.4 | | Sediment Silt-Clay (%): 2.05 | | Total Carbon (%): 0.06 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.00 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.62 | 5 | Pollution Indicative Species Abundance (%) | 44.25 | 1 | |
| Abundance (#/m2) | 2599 | 3 | Pollution Indicative Species Biomass (%) | 2.50 | | |
| Biomass (g/m2) | 1.47 | 3 | Pollution Sensitive Species Abundance (%) | 11.50 | | |
| Carnivore-Omnivore Abundance (%) | 33.63 | | Pollution Sensitive Species Biomass (%) | 76.50 | 3 | |
| Deep Deposit Feeder Abundance (%) | 11.50 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Streblospio benedicti | 1012 | 1012.0 | | 1012 | 1012 | |
| Laeonereis culveri | 621 | 621.0 | | 621 | 621 | |
| Heteromastus filiformis | 276 | 276.0 | | 276 | 276 | |
| Rangia cuneata | 161 | 161.0 | | 161 | 161 | |
| Hypereteone heteropoda | 138 | 138.0 | | 138 | 138 | |
| Leptocheirus plumulosus | 138 | 138.0 | | 138 | 138 | |
| Marenzelleria viridis | 92 | 92.0 | | 92 | 92 | |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 | |
| Cyathura polita | 46 | 46.0 | | 46 | 46 | |
| Tubificoides spp. | 23 | 23.0 | | 23 | 23 | |
| Neanthes succinea | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Apocorophium lacustre (Epi) | 23 | 23.0 | | 23 | 23 | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | |
|----------------------------------|--------|--------|---------|--------|--------|
| Number of Species | 13 | | | | |
| Number of Species (w/o Epifauna) | 12 | | | | |
| Abundance | 2622 | | | | |
| Abundance (w/o Epifauna) | 2599 | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Rangia cuneata | 1.0350 | 1.0350 | | 1.0350 | 1.0350 |
| Laeonereis culveri | 0.1196 | 0.1196 | | 0.1196 | 0.1196 |
| Macoma mitchelli | 0.0874 | 0.0874 | | 0.0874 | 0.0874 |
| Heteromastus filiformis | 0.0736 | 0.0736 | | 0.0736 | 0.0736 |
| Marenzelleria viridis | 0.0575 | 0.0575 | | 0.0575 | 0.0575 |
| Cyathura polita | 0.0345 | 0.0345 | | 0.0345 | 0.0345 |
| Streblospio benedicti | 0.0230 | 0.0230 | | 0.0230 | 0.0230 |
| Leptocheirus plumulosus | 0.0161 | 0.0161 | | 0.0161 | 0.0161 |
| Hypereteone heteropoda | 0.0138 | 0.0138 | | 0.0138 | 0.0138 |
| Carinoma tremaphoros | 0.0092 | 0.0092 | | 0.0092 | 0.0092 |
| Neanthes succinea | 0.0023 | 0.0023 | | 0.0023 | 0.0023 |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Apocorophium lacustre (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Biomass | 1.4743 | | | | |
| Biomass (w/o Epifauna) | 1.4711 | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-14 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.4 | | Salinity (ppt): 6.57 | | Temperature (C): 19.28 | | |
| Dissolved Oxygen (mg/l): 4.0 | | Sediment Silt-Clay (%): 91.90 | | Total Carbon (%): 2.72 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 2.60 | | Condition: Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.28 | 3 | Pollution Indicative Species Abundance (%) | 12.50 | 3 | |
| Abundance (#/m2) | 368 | 1 | Pollution Indicative Species Biomass (%) | 0.24 | | |
| Biomass (g/m2) | 1.94 | 3 | Pollution Sensitive Species Abundance (%) | 50.00 | | |
| Carnivore-Omnivore Abundance (%) | 18.75 | | Pollution Sensitive Species Biomass (%) | 99.47 | 3 | |
| Deep Deposit Feeder Abundance (%) | 25.00 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 138 | 138.0 | | 138 | 138 | |
| Tubificoides spp. | 92 | 92.0 | | 92 | 92 | |
| Leptocheirus plumulosus | 46 | 46.0 | | 46 | 46 | |
| Cyathura polita | 46 | 46.0 | | 46 | 46 | |
| Coelotanypus spp. | 23 | 23.0 | | 23 | 23 | |
| Streblospio benedicti | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 6 | | | | | |
| Number of Species (w/o Epifauna) | 6 | | | | | |
| Abundance | 368 | | | | | |
| Abundance | 368 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 1.7641 | 1.7641 | | 1.7641 | 1.7641 | |
| Cyathura polita | 0.1702 | 0.1702 | | 0.1702 | 0.1702 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Coelotanypus spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Streblospio benedicti | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Leptocheirus plumulosus | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Total Biomass | 1.9445 | | | | | |
| Biomass (w/o Epifauna) | 1.9445 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Hunting Creek | | Station: HC-15 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.4 | | Salinity (ppt): 6.63 | | Temperature (C): 19.07 | | |
| Dissolved Oxygen (mg/l): 4.4 | | Sediment Silt-Clay (%): 97.32 | | Total Carbon (%): 2.80 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 2.20 | | Condition: Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.23 | 3 | Pollution Indicative Species Abundance (%) | 40.00 | 1 | |
| Abundance (#/m2) | 460 | 1 | Pollution Indicative Species Biomass (%) | 1.12 | | |
| Biomass (g/m2) | 1.64 | 3 | Pollution Sensitive Species Abundance (%) | 25.00 | | |
| Carnivore-Omnivore Abundance (%) | 45.00 | | Pollution Sensitive Species Biomass (%) | 97.69 | 3 | |
| Deep Deposit Feeder Abundance (%) | 35.00 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Coelotanypus spp. | 161 | 161.0 | | 161 | 161 | |
| Tubificoides spp. | 138 | 138.0 | | 138 | 138 | |
| Macoma balthica | 69 | 69.0 | | 69 | 69 | |
| Cyathura polita | 46 | 46.0 | | 46 | 46 | |
| Imm. Tubificid w/o Cap. Chaete | 23 | 23.0 | | 23 | 23 | |
| Leptocheirus plumulosus | 23 | 23.0 | | 23 | 23 | |
| Melita nitida (Epi) | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 7 | | | | | |
| Number of Species (w/o Epifauna) | 6 | | | | | |
| Abundance | 483 | | | | | |
| Abundance (w/o Epifauna) | 460 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 1.3754 | 1.3754 | | 1.3754 | 1.3754 | |
| Cyathura polita | 0.2300 | 0.2300 | | 0.2300 | 0.2300 | |
| Coelotanypus spp. | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Leptocheirus plumulosus | 0.0161 | 0.0161 | | 0.0161 | 0.0161 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Melita nitida (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 1.6445 | | | | | |
| Biomass (w/o Epifauna) | 1.6433 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-13 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.2 | | Salinity (ppt): 8.84 | | Temperature (C): 19.55 | | |
| Dissolved Oxygen (mg/l): 4.4 | | Sediment Silt-Clay (%): 28.84 | | Total Carbon (%): 1.52 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 4.60 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 3.15 | 5 | Pollution Indicative Species Abundance (%) | 2.15 | 5 | |
| Abundance (#/m2) | 2139 | 5 | Pollution Indicative Species Biomass (%) | 0.00 | | |
| Biomass (g/m2) | 4.97 | 3 | Pollution Sensitive Species Abundance (%) | 31.18 | | |
| Carnivore-Omnivore Abundance (%) | 41.94 | | Pollution Sensitive Species Biomass (%) | 82.90 | 5 | |
| Deep Deposit Feeder Abundance (%) | 20.43 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Carinoma tremaphoros | 483 | 483.0 | | 483 | 483 | |
| Leptocheirus plumulosus | 345 | 345.0 | | 345 | 345 | |
| Macoma balthica | 299 | 299.0 | | 299 | 299 | |
| Cyathura polita | 276 | 276.0 | | 276 | 276 | |
| Heteromastus filiformis | 207 | 207.0 | | 207 | 207 | |
| Tubificoides spp. | 184 | 184.0 | | 184 | 184 | |
| Macoma mitchelli | 115 | 115.0 | | 115 | 115 | |
| Neanthes succinea | 69 | 69.0 | | 69 | 69 | |
| Imm. Tubificid w/o Cap. Chaete | 46 | 46.0 | | 46 | 46 | |
| Glycinde solitaria | 46 | 46.0 | | 46 | 46 | |
| Podarkeopsis levifuscina | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Rangia cuneata | 23 | 23.0 | | 23 | 23 | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|----------------------------------|--------|--------|---------|--------|--------|-------|
| Number of Species | 13 | | | | | |
| Number of Species (w/o Epifauna) | 13 | | | | | |
| Abundance | 2139 | | | | | |
| Abundance (w/o Epifauna) | 2139 | | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| <i>Macoma balthica</i> | 3.1970 | 3.1970 | | 3.1970 | 3.1970 | |
| <i>Cyathura polita</i> | 0.5336 | 0.5336 | | 0.5336 | 0.5336 | |
| <i>Macoma mitchelli</i> | 0.5037 | 0.5037 | | 0.5037 | 0.5037 | |
| <i>Rangia cuneata</i> | 0.3634 | 0.3634 | | 0.3634 | 0.3634 | |
| <i>Heteromastus filiformis</i> | 0.1472 | 0.1472 | | 0.1472 | 0.1472 | |
| <i>Carinoma tremaphoros</i> | 0.0920 | 0.0920 | | 0.0920 | 0.0920 | |
| <i>Leptocheirus plumulosus</i> | 0.0713 | 0.0713 | | 0.0713 | 0.0713 | |
| <i>Neanthes succinea</i> | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | |
| <i>Marenzelleria viridis</i> | 0.0230 | 0.0230 | | 0.0230 | 0.0230 | |
| <i>Glycinde solitaria</i> | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| <i>Tubificoides</i> spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| <i>Podarkeopsis levifuscina</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| <i>Oligochaeta</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 4.6969 | | | | | |
| Biomass | 4.6969 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-14 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 2.1 | | Salinity (ppt): 7.70 | | Temperature (C): 19.35 | | |
| Dissolved Oxygen (mg/l): 3.7 | | Sediment Silt-Clay (%): 66.23 | | Total Carbon (%): 1.81 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 4.20 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 3.17 | 5 | Pollution Indicative Species Abundance (%) | 35.62 | 1 | |
| Abundance (#/m2) | 1679 | 5 | Pollution Indicative Species Biomass (%) | 1.45 | | |
| Biomass (g/m2) | 5.64 | 5 | Pollution Sensitive Species Abundance (%) | 28.77 | | |
| Carnivore-Omnivore Abundance (%) | 34.25 | | Pollution Sensitive Species Biomass (%) | 85.10 | 5 | |
| Deep Deposit Feeder Abundance (%) | 21.92 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Coelotanypus spp. | 345 | 345.0 | | 345 | 345 | |
| Macoma balthica | 322 | 322.0 | | 322 | 322 | |
| Leptocheirus plumulosus | 230 | 230.0 | | 230 | 230 | |
| Imm. Tubificid w/o Cap. Chaete | 207 | 207.0 | | 207 | 207 | |
| Cyathura polita | 138 | 138.0 | | 138 | 138 | |
| Tubificoides spp. | 115 | 115.0 | | 115 | 115 | |
| Macoma mitchelli | 115 | 115.0 | | 115 | 115 | |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 | |
| Heteromastus filiformis | 46 | 46.0 | | 46 | 46 | |
| Neanthes succinea | 46 | 46.0 | | 46 | 46 | |
| Streblospio benedicti | 46 | 46.0 | | 46 | 46 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 12 | | | | | |
| Number of Species (w/o Epifauna) | 12 | | | | | |
| Abundance | 1679 | | | | | |
| Abundance (w/o Epifauna) | 1679 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (per sq. meter) | | | | | | |
|---------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 4.3999 | 4.3999 | | 4.3999 | 4.3999 | |
| Macoma mitchelli | 0.3657 | 0.3657 | | 0.3657 | 0.3657 | |
| Cyathura polita | 0.3220 | 0.3220 | | 0.3220 | 0.3220 | |
| Neanthes succinea | 0.2783 | 0.2783 | | 0.2783 | 0.2783 | |
| Coelotanypus spp. | 0.0805 | 0.0805 | | 0.0805 | 0.0805 | |
| Marenzelleria viridis | 0.0805 | 0.0805 | | 0.0805 | 0.0805 | |
| Heteromastus filiformis | 0.0575 | 0.0575 | | 0.0575 | 0.0575 | |
| Leptocheirus plumulosus | 0.0529 | 0.0529 | | 0.0529 | 0.0529 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Carinoma tremaphoros | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 5.6431 | | | | | |
| Biomass (w/o Epifauna) | 5.6431 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-15 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 5.5 | | Salinity (ppt): 8.86 | | Temperature (C): 19.58 | | |
| Dissolved Oxygen (mg/l): 3.6 | | Sediment Silt-Clay (%): 95.43 | | Total Carbon (%): 2.41 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 4.60 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.56 | 5 | Pollution Indicative Species Abundance (%) | 3.60 | 5 | |
| Abundance (#/m2) | 3197 | 3 | Pollution Indicative Species Biomass (%) | 0.10 | | |
| Biomass (g/m2) | 9.52 | 5 | Pollution Sensitive Species Abundance (%) | 18.71 | | |
| Carnivore-Omnivore Abundance (%) | 16.55 | | Pollution Sensitive Species Biomass (%) | 87.56 | 5 | |
| Deep Deposit Feeder Abundance (%) | 18.71 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 1403 | 1403.0 | | 1403 | 1403 | |
| Tubificoides spp. | 506 | 506.0 | | 506 | 506 | |
| Macoma balthica | 483 | 483.0 | | 483 | 483 | |
| Carinoma tremaphoros | 299 | 299.0 | | 299 | 299 | |
| Neanthes succinea | 115 | 115.0 | | 115 | 115 | |
| Cyathura polita | 92 | 92.0 | | 92 | 92 | |
| Macoma mitchelli | 92 | 92.0 | | 92 | 92 | |
| Imm. Tubificid w/o Cap. Chaete | 46 | 46.0 | | 46 | 46 | |
| Heteromastus filiformis | 46 | 46.0 | | 46 | 46 | |
| Streblospio benedicti | 46 | 46.0 | | 46 | 46 | |
| Coelotanypus spp. | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Melita nitida (Epi) | 23 | 23.0 | | 23 | 23 | |
| Leucon americanus | 23 | 23.0 | | 23 | 23 | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|----------------------------------|--------|--------|---------|--------|--------|-------|
| Number of Species | 14 | | | | | |
| Number of Species (w/o Epifauna) | 13 | | | | | |
| Abundance | 3220 | | | | | |
| Abundance (w/o Epifauna) | 3197 | | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 8.1029 | 8.1029 | | 8.1029 | 8.1029 | |
| Neanthes succinea | 0.3634 | 0.3634 | | 0.3634 | 0.3634 | |
| Macoma mitchelli | 0.3404 | 0.3404 | | 0.3404 | 0.3404 | |
| Leptocheirus plumulosus | 0.2530 | 0.2530 | | 0.2530 | 0.2530 | |
| Cyathura polita | 0.2093 | 0.2093 | | 0.2093 | 0.2093 | |
| Heteromastus filiformis | 0.1288 | 0.1288 | | 0.1288 | 0.1288 | |
| Carinoma tremaphoros | 0.0759 | 0.0759 | | 0.0759 | 0.0759 | |
| Marenzelleria viridis | 0.0207 | 0.0207 | | 0.0207 | 0.0207 | |
| Tubificoides spp. | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Coelotanypus spp. | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Leucon americanus | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Streblospio benedicti | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Melita nitida (Epi) | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 9.5185 | | | | | |
| Biomass (w/o Epifauna) | 9.5162 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-16 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.5 | | Salinity (ppt): 6.86 | | Temperature (C): 20.36 | | |
| Dissolved Oxygen (mg/l): 5.6 | | Sediment Silt-Clay (%): 88.90 | | Total Carbon (%): 2.30 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 5.00 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.64 | 5 | Pollution Indicative Species Abundance (%) | 7.92 | 5 | |
| Abundance (#/m2) | 2323 | 5 | Pollution Indicative Species Biomass (%) | 0.02 | | |
| Biomass (g/m2) | 6.59 | 5 | Pollution Sensitive Species Abundance (%) | 32.67 | | |
| Carnivore-Omnivore Abundance (%) | 13.86 | | Pollution Sensitive Species Biomass (%) | 97.75 | 5 | |
| Deep Deposit Feeder Abundance (%) | 47.52 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 759 | 759.0 | | 759 | 759 | |
| Macoma balthica | 644 | 644.0 | | 644 | 644 | |
| Carinoma tremaphoros | 184 | 184.0 | | 184 | 184 | |
| Heteromastus filiformis | 184 | 184.0 | | 184 | 184 | |
| Leptocheirus plumulosus | 184 | 184.0 | | 184 | 184 | |
| Imm. Tubificid w/o Cap. Chaete | 161 | 161.0 | | 161 | 161 | |
| Cyathura polita | 115 | 115.0 | | 115 | 115 | |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Neanthes succinea | 23 | 23.0 | | 23 | 23 | |
| Streblospio benedicti | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 10 | | | | | |
| Number of Species (w/o Epifauna) | 10 | | | | | |
| Abundance | 2323 | | | | | |
| Abundance (w/o Epifauna) | 2323 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 6.0835 | 6.0835 | | 6.0835 | 6.0835 | |
| Cyathura polita | 0.3588 | 0.3588 | | 0.3588 | 0.3588 | |
| Carinoma tremaphoros | 0.0621 | 0.0621 | | 0.0621 | 0.0621 | |
| Heteromastus filiformis | 0.0483 | 0.0483 | | 0.0483 | 0.0483 | |
| Macoma mitchelli | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Neanthes succinea | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Leptocheirus plumulosus | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 6.5906 | | | | | |
| Biomass (w/o Epifauna) | 6.5906 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-17 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.5 | | Salinity (ppt): 7.94 | | Temperature (C): 19.49 | | |
| Dissolved Oxygen (mg/l): 3.8 | | Sediment Silt-Clay (%): 89.93 | | Total Carbon (%): 2.99 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 4.60 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.08 | 3 | Pollution Indicative Species Abundance (%) | 6.73 | 5 | |
| Abundance (#/m2) | 2392 | 5 | Pollution Indicative Species Biomass (%) | 0.18 | | |
| Biomass (g/m2) | 6.46 | 5 | Pollution Sensitive Species Abundance (%) | 24.04 | | |
| Carnivore-Omnivore Abundance (%) | 11.54 | | Pollution Sensitive Species Biomass (%) | 94.07 | 5 | |
| Deep Deposit Feeder Abundance (%) | 62.50 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 1357 | 1357.0 | | 1357 | 1357 | |
| Macoma balthica | 460 | 460.0 | | 460 | 460 | |
| Leptocheirus plumulosus | 138 | 138.0 | | 138 | 138 | |
| Cyathura polita | 115 | 115.0 | | 115 | 115 | |
| Imm. Tubificid w/o Cap. Chaete | 92 | 92.0 | | 92 | 92 | |
| Carinoma tremaphoros | 69 | 69.0 | | 69 | 69 | |
| Coelotanypus spp. | 69 | 69.0 | | 69 | 69 | |
| Heteromastus filiformis | 46 | 46.0 | | 46 | 46 | |
| Neanthes succinea | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| Number of Species | 10 | | | | | |
| Number of Species (w/o Epifauna) | 10 | | | | | |
| Abundance | 2392 | | | | | |
| Abundance (w/o Epifauna) | 2392 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 5.6465 | 5.6465 | | 5.6465 | 5.6465 | |
| Cyathura polita | 0.4278 | 0.4278 | | 0.4278 | 0.4278 | |
| Macoma mitchelli | 0.2231 | 0.2231 | | 0.2231 | 0.2231 | |
| Neanthes succinea | 0.0575 | 0.0575 | | 0.0575 | 0.0575 | |
| Leptocheirus plumulosus | 0.0483 | 0.0483 | | 0.0483 | 0.0483 | |
| Carinoma tremaphoros | 0.0299 | 0.0299 | | 0.0299 | 0.0299 | |
| Coelotanypus spp. | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Heteromastus filiformis | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 6.4572 | | | | | |
| Biomass (w/o Epifauna) | 6.4572 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-18 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 2.1 | | Salinity (ppt): 6.49 | | Temperature (C): 19.21 | | |
| Dissolved Oxygen (mg/l): 4.6 | | Sediment Silt-Clay (%): 88.56 | | Total Carbon (%): 2.18 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 4.60 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.77 | 5 | Pollution Indicative Species Abundance (%) | 5.43 | 5 | |
| Abundance (#/m2) | 2116 | 5 | Pollution Indicative Species Biomass (%) | 1.60 | | |
| Biomass (g/m2) | 2.66 | 3 | Pollution Sensitive Species Abundance (%) | 20.65 | | |
| Carnivore-Omnivore Abundance (%) | 16.30 | | Pollution Sensitive Species Biomass (%) | 87.56 | 5 | |
| Deep Deposit Feeder Abundance (%) | 35.87 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 667 | 667.0 | | 667 | 667 | |
| Leptocheirus plumulosus | 644 | 644.0 | | 644 | 644 | |
| Cyathura polita | 184 | 184.0 | | 184 | 184 | |
| Macoma balthica | 184 | 184.0 | | 184 | 184 | |
| Melita nitida (Epi) | 92 | 92.0 | | 92 | 92 | |
| Carinoma tremaphoros | 69 | 69.0 | | 69 | 69 | |
| Neanthes succinea | 69 | 69.0 | | 69 | 69 | |
| Macoma mitchelli | 69 | 69.0 | | 69 | 69 | |
| Imm. Tubificid w/o Cap. Chaete | 46 | 46.0 | | 46 | 46 | |
| Heteromastus filiformis | 46 | 46.0 | | 46 | 46 | |
| Marenzelleria viridis | 46 | 46.0 | | 46 | 46 | |
| Streblospio benedicti | 46 | 46.0 | | 46 | 46 | |
| Hypereteone heteropoda | 23 | 23.0 | | 23 | 23 | |
| Rangia cuneata | 23 | 23.0 | | 23 | 23 | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | |
|----------------------------------|--------|--------|---------|--------|-----------|
| Number of Species | 14 | | | | |
| Number of Species (w/o Epifauna) | 13 | | | | |
| Abundance | 2208 | | | | |
| Abundance (w/o Epifauna) | 2116 | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max Cum % |
| Macoma balthica | 1.8377 | 1.8377 | | 1.8377 | 1.8377 |
| Cyathura polita | 0.2530 | 0.2530 | | 0.2530 | 0.2530 |
| Rangia cuneata | 0.2047 | 0.2047 | | 0.2047 | 0.2047 |
| Macoma mitchelli | 0.1150 | 0.1150 | | 0.1150 | 0.1150 |
| Leptocheirus plumulosus | 0.1058 | 0.1058 | | 0.1058 | 0.1058 |
| Hypereteone heteropoda | 0.0414 | 0.0414 | | 0.0414 | 0.0414 |
| Marenzelleria viridis | 0.0368 | 0.0368 | | 0.0368 | 0.0368 |
| Neanthes succinea | 0.0322 | 0.0322 | | 0.0322 | 0.0322 |
| Heteromastus filiformis | 0.0161 | 0.0161 | | 0.0161 | 0.0161 |
| Carinoma tremaphoros | 0.0138 | 0.0138 | | 0.0138 | 0.0138 |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Melita nitida (Epi) | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Biomass | 2.6646 | | | | |
| Biomass (w/o Epifauna) | 2.6634 | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|--------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-19 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.2 | | Salinity (ppt): 6.41 | | Temperature (C): 20.39 | | |
| Dissolved Oxygen (mg/l): 3.6 | | Sediment Silt-Clay (%): 18.74 | | Total Carbon (%): 0.88 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.40 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 3.01 | 5 | Pollution Indicative Species Abundance (%) | 13.45 | 3 | |
| Abundance (#/m2) | 2737 | 3 | Pollution Indicative Species Biomass (%) | 0.00 | | |
| Biomass (g/m2) | 181.06 | 1 | Pollution Sensitive Species Abundance (%) | 31.93 | | |
| Carnivore-Omnivore Abundance (%) | 26.05 | | Pollution Sensitive Species Biomass (%) | 99.76 | 5 | |
| Deep Deposit Feeder Abundance (%) | 28.57 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 690 | 690.0 | | 690 | 690 | |
| Rangia cuneata | 667 | 667.0 | | 667 | 667 | |
| Streblospio benedicti | 345 | 345.0 | | 345 | 345 | |
| Carinoma tremaphoros | 253 | 253.0 | | 253 | 253 | |
| Neanthes succinea | 253 | 253.0 | | 253 | 253 | |
| Laeonereis culveri | 138 | 138.0 | | 138 | 138 | |
| Marenzelleria viridis | 92 | 92.0 | | 92 | 92 | |
| Heteromastus filiformis | 69 | 69.0 | | 69 | 69 | |
| Polydora cornuta | 69 | 69.0 | | 69 | 69 | |
| Cyathura polita | 69 | 69.0 | | 69 | 69 | |
| Macoma balthica | 46 | 46.0 | | 46 | 46 | |
| Imm. Tubificid w/o Cap. Chaete | 23 | 23.0 | | 23 | 23 | |
| Mytilopsis leucophaeata (Epi) | 23 | 23.0 | | 23 | 23 | |
| Leptocheirus plumulosus | 23 | 23.0 | | 23 | 23 | |
| Gammarus daiberi (Epi) | 23 | 23.0 | | 23 | 23 | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|--------------------------------------|----------|----------|---------|----------|----------|-------|
| Number of Species | 15 | | | | | |
| Number of Species (w/o Epifauna) | 13 | | | | | |
| Abundance | 2783 | | | | | |
| Abundance (w/o Epifauna) | 2737 | | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| <i>Rangia cuneata</i> | 179.9911 | 179.9911 | | 179.9911 | 179.9911 | |
| <i>Marenzelleria viridis</i> | 0.3289 | 0.3289 | | 0.3289 | 0.3289 | |
| <i>Neanthes succinea</i> | 0.2760 | 0.2760 | | 0.2760 | 0.2760 | |
| <i>Macoma balthica</i> | 0.2507 | 0.2507 | | 0.2507 | 0.2507 | |
| <i>Mytilopsis leucophaeata</i> (Epi) | 0.2392 | 0.2392 | | 0.2392 | 0.2392 | |
| <i>Laeonereis culveri</i> | 0.0690 | 0.0690 | | 0.0690 | 0.0690 | |
| <i>Cyathura polita</i> | 0.0621 | 0.0621 | | 0.0621 | 0.0621 | |
| <i>Heteromastus filiformis</i> | 0.0368 | 0.0368 | | 0.0368 | 0.0368 | |
| <i>Carinoma tremaphoros</i> | 0.0345 | 0.0345 | | 0.0345 | 0.0345 | |
| <i>Polydora cornuta</i> | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| <i>Gammarus</i> spp. (Epi) | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| <i>Tubificoides</i> spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| <i>Streblospio benedicti</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| <i>Leptocheirus plumulosus</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| <i>Oligochaeta</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 181.3090 | | | | | |
| Biomass (w/o Epifauna) | 181.0629 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|--------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-20 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.9 | | Salinity (ppt): 6.13 | | Temperature (C): 19.48 | | |
| Dissolved Oxygen (mg/l): 4.2 | | Sediment Silt-Clay (%): 73.78 | | Total Carbon (%): 2.72 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.00 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 3.01 | 5 | Pollution Indicative Species Abundance (%) | 36.51 | 1 | |
| Abundance (#/m2) | 2898 | 3 | Pollution Indicative Species Biomass (%) | 0.04 | | |
| Biomass (g/m2) | 117.59 | 1 | Pollution Sensitive Species Abundance (%) | 12.70 | | |
| Carnivore-Omnivore Abundance (%) | 23.02 | | Pollution Sensitive Species Biomass (%) | 99.58 | 5 | |
| Deep Deposit Feeder Abundance (%) | 27.78 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Streblospio benedicti | 920 | 920.0 | | 920 | 920 | |
| Tubificoides spp. | 621 | 621.0 | | 621 | 621 | |
| Neanthes succinea | 299 | 299.0 | | 299 | 299 | |
| Carinoma tremaphoros | 253 | 253.0 | | 253 | 253 | |
| Rangia cuneata | 207 | 207.0 | | 207 | 207 | |
| Rhithropanopeus harrisi (Epi) | 138 | 138.0 | | 138 | 138 | |
| Polydora cornuta | 138 | 138.0 | | 138 | 138 | |
| Imm. Tubificid w/o Cap. Chaete | 115 | 115.0 | | 115 | 115 | |
| Cyathura polita | 92 | 92.0 | | 92 | 92 | |
| Gammarus daiberi (Epi) | 92 | 92.0 | | 92 | 92 | |
| Heteromastus filiformis | 69 | 69.0 | | 69 | 69 | |
| Marenzelleria viridis | 46 | 46.0 | | 46 | 46 | |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Hypereteone heteropoda | 23 | 23.0 | | 23 | 23 | |
| Leptocheirus plumulosus | 23 | 23.0 | | 23 | 23 | |
| Ameroculodes species complex | 23 | 23.0 | | 23 | 23 | |
| Macoma balthica | 23 | 23.0 | | 23 | 23 | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | |
|----------------------------------|----------|----------|---------|----------|----------|
| Number of Species | 17 | | | | |
| Number of Species (w/o Epifauna) | 15 | | | | |
| Abundance | 3122 | | | | |
| Abundance (w/o Epifauna) | 2898 | | | | |
| BENTHIC BIOMASS (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| | | | | | Cum % |
| Rangia cuneata | 116.4766 | 116.4766 | | 116.4766 | 116.4766 |
| Rhithropanopeus harrisi (Epi) | 0.7636 | 0.7636 | | 0.7636 | 0.7636 |
| Macoma balthica | 0.3105 | 0.3105 | | 0.3105 | 0.3105 |
| Neanthes succinea | 0.2921 | 0.2921 | | 0.2921 | 0.2921 |
| Cyathura polita | 0.1679 | 0.1679 | | 0.1679 | 0.1679 |
| Marenzelleria viridis | 0.1403 | 0.1403 | | 0.1403 | 0.1403 |
| Macoma mitchelli | 0.0782 | 0.0782 | | 0.0782 | 0.0782 |
| Carinoma tremaphoros | 0.0391 | 0.0391 | | 0.0391 | 0.0391 |
| Hypereteone heteropoda | 0.0368 | 0.0368 | | 0.0368 | 0.0368 |
| Heteromastus filiformis | 0.0253 | 0.0253 | | 0.0253 | 0.0253 |
| Gammarus spp. (Epi) | 0.0161 | 0.0161 | | 0.0161 | 0.0161 |
| Streblospio benedicti | 0.0115 | 0.0115 | | 0.0115 | 0.0115 |
| Polydora cornuta | 0.0046 | 0.0046 | | 0.0046 | 0.0046 |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 |
| Leptocheirus plumulosus | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Ameroculodes species complex | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Biomass | 118.3683 | | | | |
| Biomass (w/o Epifauna) | 117.5886 | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-21 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.8 | | Salinity (ppt): 5.90 | | Temperature (C): 20.20 | | |
| Dissolved Oxygen (mg/l): 4.6 | | Sediment Silt-Clay (%): 92.04 | | Total Carbon (%): 2.84 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.00 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.30 | 3 | Pollution Indicative Species Abundance (%) | 15.52 | 3 | |
| Abundance (#/m2) | 1334 | 3 | Pollution Indicative Species Biomass (%) | 0.01 | | |
| Biomass (g/m2) | 61.32 | 1 | Pollution Sensitive Species Abundance (%) | 10.34 | | |
| Carnivore-Omnivore Abundance (%) | 20.69 | | Pollution Sensitive Species Biomass (%) | 99.73 | 5 | |
| Deep Deposit Feeder Abundance (%) | 48.28 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 621 | 621.0 | | 621 | 621 | |
| Carinoma tremaphoros | 253 | 253.0 | | 253 | 253 | |
| Streblospio benedicti | 207 | 207.0 | | 207 | 207 | |
| Marenzelleria viridis | 69 | 69.0 | | 69 | 69 | |
| Macoma mitchelli | 69 | 69.0 | | 69 | 69 | |
| Rangia cuneata | 46 | 46.0 | | 46 | 46 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Leptocheirus plumulosus | 23 | 23.0 | | 23 | 23 | |
| Cyathura polita | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 9 | | | | | |
| Number of Species (w/o Epifauna) | 9 | | | | | |
| Abundance | 1334 | | | | | |
| Abundance (w/o Epifauna) | 1334 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|---------|---------|---------|---------|---------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Rangia cuneata | 60.3934 | 60.3934 | | 60.3934 | 60.3934 | |
| Marenzelleria viridis | 0.7130 | 0.7130 | | 0.7130 | 0.7130 | |
| Macoma mitchelli | 0.0621 | 0.0621 | | 0.0621 | 0.0621 | |
| Heteromastus filiformis | 0.0529 | 0.0529 | | 0.0529 | 0.0529 | |
| Cyathura polita | 0.0506 | 0.0506 | | 0.0506 | 0.0506 | |
| Carinoma tremaphoros | 0.0414 | 0.0414 | | 0.0414 | 0.0414 | |
| Streblospio benedicti | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Leptocheirus plumulosus | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 61.3214 | | | | | |
| Biomass | 61.3214 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Patuxent River | | Station: PR-22 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 4.6 | | Salinity (ppt): 4.25 | | Temperature (C): 19.85 | | |
| Dissolved Oxygen (mg/l): 5.0 | | Sediment Silt-Clay (%): 98.25 | | Total Carbon (%): 3.29 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 1.40 | | Condition: Severely Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 1.51 | 1 | Pollution Indicative Species Abundance (%) | 15.38 | 3 | |
| Abundance (#/m2) | 299 | 1 | Pollution Indicative Species Biomass (%) | 0.00 | | |
| Biomass (g/m2) | 0.01 | 1 | Pollution Sensitive Species Abundance (%) | 0.00 | | |
| Carnivore-Omnivore Abundance (%) | 7.69 | | Pollution Sensitive Species Biomass (%) | 33.33 | 1 | |
| Deep Deposit Feeder Abundance (%) | 76.92 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 207 | 207.0 | | 207 | 207 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Imm. Tubificid w/o Cap. Chaete | 23 | 23.0 | | 23 | 23 | |
| Streblospio benedicti | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 5 | | | | | |
| Number of Species (w/o Epifauna) | 5 | | | | | |
| Abundance | 299 | | | | | |
| Abundance (w/o Epifauna) | 299 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Streblospio benedicti | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Carinoma tremaphoros | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Macoma mitchelli | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Oligochaeta | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 0.0069 | | | | | |
| Biomass (w/o Epifauna) | 0.0069 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-01 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.1 | | Salinity (ppt): 4.65 | | Temperature (C): 18.70 | | |
| Dissolved Oxygen (mg/l): 5.7 | | Sediment Silt-Clay (%): 99.22 | | Total Carbon (%): 2.63 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.40 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.56 | 5 | Pollution Indicative Species Abundance (%) | 22.73 | 1 | |
| Abundance (#/m2) | 506 | 3 | Pollution Indicative Species Biomass (%) | 0.71 | | |
| Biomass (g/m2) | 2.27 | 3 | Pollution Sensitive Species Abundance (%) | 18.18 | | |
| Carnivore-Omnivore Abundance (%) | 36.36 | | Pollution Sensitive Species Biomass (%) | 87.04 | 5 | |
| Deep Deposit Feeder Abundance (%) | 18.18 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 138 | 138.0 | | 138 | 138 | |
| Coelotanypus spp. | 115 | 115.0 | | 115 | 115 | |
| Tubificoides spp. | 92 | 92.0 | | 92 | 92 | |
| Macoma balthica | 69 | 69.0 | | 69 | 69 | |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 | |
| Cyathura polita | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 7 | | | | | |
| Number of Species (w/o Epifauna) | 7 | | | | | |
| Abundance | 506 | | | | | |
| Abundance (w/o Epifauna) | 506 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 1.8262 | 1.8262 | | 1.8262 | 1.8262 | |
| Macoma mitchelli | 0.1840 | 0.1840 | | 0.1840 | 0.1840 | |
| Cyathura polita | 0.1518 | 0.1518 | | 0.1518 | 0.1518 | |
| Leptocheirus plumulosus | 0.0713 | 0.0713 | | 0.0713 | 0.0713 | |
| Carinoma tremaphoros | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Coelotanypus spp. | 0.0161 | 0.0161 | | 0.0161 | 0.0161 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Biomass | 2.2724 | | | | | |
| Biomass (w/o Epifauna) | 2.2724 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-03 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.1 | | Salinity (ppt): 5.03 | | Temperature (C): 18.97 | | |
| Dissolved Oxygen (mg/l): 5.3 | | Sediment Silt-Clay (%): 97.16 | | Total Carbon (%): 2.57 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 2.60 | | Condition: Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.60 | 5 | Pollution Indicative Species Abundance (%) | 25.00 | 1 | |
| Abundance (#/m2) | 460 | 1 | Pollution Indicative Species Biomass (%) | 0.38 | | |
| Biomass (g/m2) | 4.21 | 3 | Pollution Sensitive Species Abundance (%) | 30.00 | | |
| Carnivore-Omnivore Abundance (%) | 40.00 | | Pollution Sensitive Species Biomass (%) | 96.09 | 3 | |
| Deep Deposit Feeder Abundance (%) | 20.00 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Coelotanypus spp. | 115 | 115.0 | | 115 | 115 | |
| Tubificoides spp. | 92 | 92.0 | | 92 | 92 | |
| Macoma balthica | 92 | 92.0 | | 92 | 92 | |
| Leptocheirus plumulosus | 69 | 69.0 | | 69 | 69 | |
| Cyathura polita | 46 | 46.0 | | 46 | 46 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 7 | | | | | |
| Number of Species (w/o Epifauna) | 7 | | | | | |
| Abundance | 460 | | | | | |
| Abundance (w/o Epifauna) | 460 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 3.9146 | 3.9146 | | 3.9146 | 3.9146 | |
| Cyathura polita | 0.1311 | 0.1311 | | 0.1311 | 0.1311 | |
| Macoma mitchelli | 0.1311 | 0.1311 | | 0.1311 | 0.1311 | |
| Coelotanypus spp. | 0.0161 | 0.0161 | | 0.0161 | 0.0161 | |
| Leptocheirus plumulosus | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Carinoma tremaphoros | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 4.2101 | | | | | |
| Biomass (w/o Epifauna) | 4.2101 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-05 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 0.8 | | Salinity (ppt): 3.95 | | Temperature (C): 19.74 | | |
| Dissolved Oxygen (mg/l): 7.0 | | Sediment Silt-Clay (%): 71.66 | | Total Carbon (%): 4.67 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 2.60 | | Condition: Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.97 | 5 | Pollution Indicative Species Abundance (%) | 23.08 | 1 | |
| Abundance (#/m2) | 897 | 3 | Pollution Indicative Species Biomass (%) | 0.13 | | |
| Biomass (g/m2) | 0.86 | 1 | Pollution Sensitive Species Abundance (%) | 15.38 | | |
| Carnivore-Omnivore Abundance (%) | 35.90 | | Pollution Sensitive Species Biomass (%) | 52.14 | 3 | |
| Deep Deposit Feeder Abundance (%) | 33.33 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 253 | 253.0 | | 253 | 253 | |
| Streblospio benedicti | 184 | 184.0 | | 184 | 184 | |
| Laeonereis culveri | 115 | 115.0 | | 115 | 115 | |
| Carinoma tremaphoros | 92 | 92.0 | | 92 | 92 | |
| Cyathura polita | 69 | 69.0 | | 69 | 69 | |
| Heteromastus filiformis | 46 | 46.0 | | 46 | 46 | |
| Rangia cuneata | 46 | 46.0 | | 46 | 46 | |
| Chironomus spp. | 23 | 23.0 | | 23 | 23 | |
| Edwardsia elegans | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| Number of Species | 11 | | | | | |
| Number of Species (w/o Epifauna) | 11 | | | | | |
| Abundance | 897 | | | | | |
| Abundance (w/o Epifauna) | 897 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| <i>Laeonereis culveri</i> | 0.2691 | 0.2691 | | 0.2691 | 0.2691 | |
| <i>Cyathura polita</i> | 0.2346 | 0.2346 | | 0.2346 | 0.2346 | |
| <i>Marenzelleria viridis</i> | 0.1265 | 0.1265 | | 0.1265 | 0.1265 | |
| <i>Rangia cuneata</i> | 0.0874 | 0.0874 | | 0.0874 | 0.0874 | |
| <i>Heteromastus filiformis</i> | 0.0644 | 0.0644 | | 0.0644 | 0.0644 | |
| <i>Carinoma tremaphoros</i> | 0.0598 | 0.0598 | | 0.0598 | 0.0598 | |
| <i>Macoma mitchelli</i> | 0.0138 | 0.0138 | | 0.0138 | 0.0138 | |
| <i>Tubificoides</i> spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| <i>Edwardsia elegans</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| <i>Streblospio benedicti</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Chironomidae larvae | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 0.8602 | | | | | |
| Biomass (w/o Epifauna) | 0.8602 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-06 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 99.32 | | Total Carbon (%): 2.58 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.80 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.37 | 3 | Pollution Indicative Species Abundance (%) | 9.09 | 5 | |
| Abundance (#/m2) | 506 | 3 | Pollution Indicative Species Biomass (%) | 0.10 | | |
| Biomass (g/m2) | 4.65 | 3 | Pollution Sensitive Species Abundance (%) | 40.91 | | |
| Carnivore-Omnivore Abundance (%) | 18.18 | | Pollution Sensitive Species Biomass (%) | 94.74 | 5 | |
| Deep Deposit Feeder Abundance (%) | 27.27 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 161 | 161.0 | | 161 | 161 | |
| Tubificoides spp. | 138 | 138.0 | | 138 | 138 | |
| Leptocheirus plumulosus | 69 | 69.0 | | 69 | 69 | |
| Coelotanypus spp. | 46 | 46.0 | | 46 | 46 | |
| Cyathura polita | 46 | 46.0 | | 46 | 46 | |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Number of Species | 6 | | | | | |
| Number of Species (w/o Epifauna) | 6 | | | | | |
| Abundance | 506 | | | | | |
| Abundance (w/o Epifauna) | 506 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 4.1814 | 4.1814 | | 4.1814 | 4.1814 | |
| Cyathura polita | 0.2277 | 0.2277 | | 0.2277 | 0.2277 | |
| Macoma mitchelli | 0.2277 | 0.2277 | | 0.2277 | 0.2277 | |
| Leptocheirus plumulosus | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Coelotanypus spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 4.6540 | | | | | |
| Biomass (w/o Epifauna) | 4.6540 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-07 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 0.8 | | Salinity (ppt): 4.07 | | Temperature (C): 19.54 | | |
| Dissolved Oxygen (mg/l): 6.8 | | Sediment Silt-Clay (%): 92.44 | | Total Carbon (%): 3.73 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 2.20 | | Condition: Marginal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.68 | 5 | Pollution Indicative Species Abundance (%) | 10.53 | 3 | |
| Abundance (#/m2) | 437 | 1 | Pollution Indicative Species Biomass (%) | 0.19 | | |
| Biomass (g/m2) | 0.60 | 1 | Pollution Sensitive Species Abundance (%) | 21.05 | | |
| Carnivore-Omnivore Abundance (%) | 57.89 | | Pollution Sensitive Species Biomass (%) | 38.22 | 3 | |
| Deep Deposit Feeder Abundance (%) | 26.32 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Carinoma tremaphoros | 115 | 115.0 | | 115 | 115 | |
| Tubificoides spp. | 69 | 69.0 | | 69 | 69 | |
| Laonereis culveri | 69 | 69.0 | | 69 | 69 | |
| Cyathura polita | 69 | 69.0 | | 69 | 69 | |
| Heteromastus filiformis | 46 | 46.0 | | 46 | 46 | |
| Streblospio benedicti | 46 | 46.0 | | 46 | 46 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 7 | | | | | |
| Number of Species (w/o Epifauna) | 7 | | | | | |
| Abundance | 437 | | | | | |
| Abundance (w/o Epifauna) | 437 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| <i>Laeonereis culveri</i> | 0.2208 | 0.2208 | | 0.2208 | 0.2208 | |
| <i>Cyathura polita</i> | 0.1955 | 0.1955 | | 0.1955 | 0.1955 | |
| <i>Carinoma tremaphoros</i> | 0.1104 | 0.1104 | | 0.1104 | 0.1104 | |
| <i>Heteromastus filiformis</i> | 0.0345 | 0.0345 | | 0.0345 | 0.0345 | |
| <i>Marenzelleria viridis</i> | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | |
| <i>Tubificoides</i> spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| <i>Streblospio benedicti</i> | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 0.5957 | | | | | |
| Biomass | 0.5957 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-08 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 99.15 | | Total Carbon (%): 2.52 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.80 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.72 | 5 | Pollution Indicative Species Abundance (%) | 13.33 | 3 | |
| Abundance (#/m2) | 1035 | 3 | Pollution Indicative Species Biomass (%) | 0.72 | | |
| Biomass (g/m2) | 4.78 | 3 | Pollution Sensitive Species Abundance (%) | 31.11 | | |
| Carnivore-Omnivore Abundance (%) | 31.11 | | Pollution Sensitive Species Biomass (%) | 91.87 | 5 | |
| Deep Deposit Feeder Abundance (%) | 28.89 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 276 | 276.0 | | 276 | 276 | |
| Macoma balthica | 207 | 207.0 | | 207 | 207 | |
| Leptocheirus plumulosus | 184 | 184.0 | | 184 | 184 | |
| Coelotanypus spp. | 138 | 138.0 | | 138 | 138 | |
| Cyathura polita | 115 | 115.0 | | 115 | 115 | |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Neanthes succinea | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 9 | | | | | |
| Number of Species (w/o Epifauna) | 9 | | | | | |
| Abundance | 1065 | | | | | |
| Abundance (w/o Epifauna) | 1035 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 3.8778 | 3.8778 | | 3.8778 | 3.8778 | |
| Cyathura polita | 0.5129 | 0.5129 | | 0.5129 | 0.5129 | |
| Macoma mitchelli | 0.1748 | 0.1748 | | 0.1748 | 0.1748 | |
| Leptocheirus plumulosus | 0.1058 | 0.1058 | | 0.1058 | 0.1058 | |
| Coelotanypus spp. | 0.0345 | 0.0345 | | 0.0345 | 0.0345 | |
| Heteromastus filiformis | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | |
| Carinoma tremaphoros | 0.0299 | 0.0299 | | 0.0299 | 0.0299 | |
| Tubificoides spp. | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Neanthes succinea | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Biomass | 4.7794 | | | | | |
| Biomass (w/o Epifauna) | 4.7794 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-09 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.1 | | Salinity (ppt): 5.37 | | Temperature (C): 18.99 | | |
| Dissolved Oxygen (mg/l): 5.1 | | Sediment Silt-Clay (%): 99.51 | | Total Carbon (%): 2.49 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 4.20 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.59 | 5 | Pollution Indicative Species Abundance (%) | 17.39 | 3 | |
| Abundance (#/m2) | 529 | 3 | Pollution Indicative Species Biomass (%) | 0.14 | | |
| Biomass (g/m2) | 9.54 | 5 | Pollution Sensitive Species Abundance (%) | 30.43 | | |
| Carnivore-Omnivore Abundance (%) | 39.13 | | Pollution Sensitive Species Biomass (%) | 95.23 | 5 | |
| Deep Deposit Feeder Abundance (%) | 4.35 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 161 | 161.0 | | 161 | 161 | |
| Coelotanypus spp. | 92 | 92.0 | | 92 | 92 | |
| Macoma balthica | 92 | 92.0 | | 92 | 92 | |
| Cyathura polita | 69 | 69.0 | | 69 | 69 | |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 | |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 7 | | | | | |
| Number of Species (w/o Epifauna) | 7 | | | | | |
| Abundance | 529 | | | | | |
| Abundance (w/o Epifauna) | 529 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 8.8113 | 8.8113 | | 8.8113 | 8.8113 | |
| Macoma mitchelli | 0.3105 | 0.3105 | | 0.3105 | 0.3105 | |
| Cyathura polita | 0.2760 | 0.2760 | | 0.2760 | 0.2760 | |
| Leptocheirus plumulosus | 0.0943 | 0.0943 | | 0.0943 | 0.0943 | |
| Carinoma tremaphoros | 0.0253 | 0.0253 | | 0.0253 | 0.0253 | |
| Coelotanypus spp. | 0.0138 | 0.0138 | | 0.0138 | 0.0138 | |
| Heteromastus filiformis | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Biomass | 9.5427 | | | | | |
| Biomass | 9.5427 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-11 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.4 | | Salinity (ppt): 5.31 | | Temperature (C): 18.58 | | |
| Dissolved Oxygen (mg/l): 5.6 | | Sediment Silt-Clay (%): 98.67 | | Total Carbon (%): 2.48 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.80 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.74 | 5 | Pollution Indicative Species Abundance (%) | 19.05 | 3 | |
| Abundance (#/m2) | 966 | 3 | Pollution Indicative Species Biomass (%) | 1.30 | | |
| Biomass (g/m2) | 3.00 | 3 | Pollution Sensitive Species Abundance (%) | 21.43 | | |
| Carnivore-Omnivore Abundance (%) | 33.33 | | Pollution Sensitive Species Biomass (%) | 87.66 | 5 | |
| Deep Deposit Feeder Abundance (%) | 16.67 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Leptocheirus plumulosus | 299 | 299.0 | | 299 | 299 | |
| Coelotanypus spp. | 161 | 161.0 | | 161 | 161 | |
| Tubificoides spp. | 138 | 138.0 | | 138 | 138 | |
| Macoma balthica | 138 | 138.0 | | 138 | 138 | |
| Carinoma tremaphoros | 92 | 92.0 | | 92 | 92 | |
| Cyathura polita | 69 | 69.0 | | 69 | 69 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Streblospio benedicti | 23 | 23.0 | | 23 | 23 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 9 | | | | | |
| Number of Species (w/o Epifauna) | 9 | | | | | |
| Abundance | 966 | | | | | |
| Abundance (w/o Epifauna) | 966 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 2.3736 | 2.3736 | | 2.3736 | 2.3736 | |
| Cyathura polita | 0.2576 | 0.2576 | | 0.2576 | 0.2576 | |
| Leptocheirus plumulosus | 0.1380 | 0.1380 | | 0.1380 | 0.1380 | |
| Macoma mitchelli | 0.0920 | 0.0920 | | 0.0920 | 0.0920 | |
| Carinoma tremaphoros | 0.0506 | 0.0506 | | 0.0506 | 0.0506 | |
| Heteromastus filiformis | 0.0483 | 0.0483 | | 0.0483 | 0.0483 | |
| Coelotanypus spp. | 0.0345 | 0.0345 | | 0.0345 | 0.0345 | |
| Streblospio benedicti | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Biomass | 3.0015 | | | | | |
| Biomass (w/o Epifauna) | 3.0015 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-12 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.1 | | Salinity (ppt): 5.03 | | Temperature (C): 18.87 | | |
| Dissolved Oxygen (mg/l): 5.1 | | Sediment Silt-Clay (%): 98.87 | | Total Carbon (%): 2.78 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.00 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.21 | 3 | Pollution Indicative Species Abundance (%) | 12.50 | 3 | |
| Abundance (#/m2) | 920 | 3 | Pollution Indicative Species Biomass (%) | 1.49 | | |
| Biomass (g/m2) | 1.62 | 3 | Pollution Sensitive Species Abundance (%) | 5.00 | | |
| Carnivore-Omnivore Abundance (%) | 15.00 | | Pollution Sensitive Species Biomass (%) | 47.48 | 3 | |
| Deep Deposit Feeder Abundance (%) | 47.50 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 437 | 437.0 | | 437 | 437 | |
| Leptocheirus plumulosus | 184 | 184.0 | | 184 | 184 | |
| Macoma mitchelli | 115 | 115.0 | | 115 | 115 | |
| Coelotanypus spp. | 92 | 92.0 | | 92 | 92 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Streblospio benedicti | 23 | 23.0 | | 23 | 23 | |
| Cyathura polita | 23 | 23.0 | | 23 | 23 | |
| Macoma balthica | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 7 | | | | | |
| Number of Species (w/o Epifauna) | 7 | | | | | |
| Abundance | 920 | | | | | |
| Abundance (w/o Epifauna) | 920 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma mitchelli | 0.7475 | 0.7475 | | 0.7475 | 0.7475 | |
| Macoma balthica | 0.5704 | 0.5704 | | 0.5704 | 0.5704 | |
| Cyathura polita | 0.1978 | 0.1978 | | 0.1978 | 0.1978 | |
| Leptocheirus plumulosus | 0.0575 | 0.0575 | | 0.0575 | 0.0575 | |
| Coelotanypus spp. | 0.0230 | 0.0230 | | 0.0230 | 0.0230 | |
| Carinoma tremaphoros | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Tubificoides spp. | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 1.6180 | | | | | |
| Biomass (w/o Epifauna) | 1.6180 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-13 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.2 | | Salinity (ppt): 5.87 | | Temperature (C): 19.31 | | |
| Dissolved Oxygen (mg/l): 4.6 | | Sediment Silt-Clay (%): 98.90 | | Total Carbon (%): 2.72 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.80 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.35 | 3 | Pollution Indicative Species Abundance (%) | 7.55 | 5 | |
| Abundance (#/m2) | 1219 | 3 | Pollution Indicative Species Biomass (%) | 0.25 | | |
| Biomass (g/m2) | 4.66 | 3 | Pollution Sensitive Species Abundance (%) | 54.72 | | |
| Carnivore-Omnivore Abundance (%) | 32.08 | | Pollution Sensitive Species Biomass (%) | 96.69 | 5 | |
| Deep Deposit Feeder Abundance (%) | 5.66 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 437 | 437.0 | | 437 | 437 | |
| Leptocheirus plumulosus | 322 | 322.0 | | 322 | 322 | |
| Cyathura polita | 230 | 230.0 | | 230 | 230 | |
| Coelotanypus spp. | 92 | 92.0 | | 92 | 92 | |
| Tubificoides spp. | 46 | 46.0 | | 46 | 46 | |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Neanthes succinea | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 8 | | | | | |
| Number of Species (w/o Epifauna) | 8 | | | | | |
| Abundance | 1219 | | | | | |
| Abundance (w/o Epifauna) | 1219 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 4.0572 | 4.0572 | | 4.0572 | 4.0572 | |
| Cyathura polita | 0.4439 | 0.4439 | | 0.4439 | 0.4439 | |
| Leptocheirus plumulosus | 0.1012 | 0.1012 | | 0.1012 | 0.1012 | |
| Neanthes succinea | 0.0207 | 0.0207 | | 0.0207 | 0.0207 | |
| Carinoma tremaphoros | 0.0184 | 0.0184 | | 0.0184 | 0.0184 | |
| Coelotanypus spp. | 0.0115 | 0.0115 | | 0.0115 | 0.0115 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Heteromastus filiformis | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 4.6552 | | | | | |
| Biomass (w/o Epifauna) | 4.6552 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson' Creek | | Station: SC-14 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.1 | | Salinity (ppt): 5.25 | | Temperature (C): 18.68 | | |
| Dissolved Oxygen (mg/l): 4.9 | | Sediment Silt-Clay (%): 99.10 | | Total Carbon (%): 2.59 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 2.60 | | Condition: Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.37 | 3 | Pollution Indicative Species Abundance (%) | 42.11 | 1 | |
| Abundance (#/m2) | 874 | 3 | Pollution Indicative Species Biomass (%) | 3.31 | | |
| Biomass (g/m2) | 2.71 | 3 | Pollution Sensitive Species Abundance (%) | 18.42 | | |
| Carnivore-Omnivore Abundance (%) | 50.00 | | Pollution Sensitive Species Biomass (%) | 68.76 | 3 | |
| Deep Deposit Feeder Abundance (%) | 13.16 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Coelotanypus spp. | 368 | 368.0 | | 368 | 368 | |
| Leptocheirus plumulosus | 184 | 184.0 | | 184 | 184 | |
| Macoma balthica | 92 | 92.0 | | 92 | 92 | |
| Tubificoides spp. | 69 | 69.0 | | 69 | 69 | |
| Cyathura polita | 69 | 69.0 | | 69 | 69 | |
| Heteromastus filiformis | 46 | 46.0 | | 46 | 46 | |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Number of Species | 7 | | | | | |
| Number of Species (w/o Epifauna) | 7 | | | | | |
| Abundance | 874 | | | | | |
| Abundance (w/o Epifauna) | 874 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma balthica | 1.7204 | 1.7204 | | 1.7204 | 1.7204 | |
| Macoma mitchelli | 0.5543 | 0.5543 | | 0.5543 | 0.5543 | |
| Cyathura polita | 0.1426 | 0.1426 | | 0.1426 | 0.1426 | |
| Heteromastus filiformis | 0.1311 | 0.1311 | | 0.1311 | 0.1311 | |
| Coelotanypus spp. | 0.0897 | 0.0897 | | 0.0897 | 0.0897 | |
| Leptocheirus plumulosus | 0.0690 | 0.0690 | | 0.0690 | 0.0690 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Biomass | 2.7094 | | | | | |
| Biomass | 2.7094 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-15 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 1.1 | | Salinity (ppt): 4.55 | | Temperature (C): 18.46 | | |
| Dissolved Oxygen (mg/l): 5.3 | | Sediment Silt-Clay (%): 62.86 | | Total Carbon (%): 1.91 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.80 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.88 | 5 | Pollution Indicative Species Abundance (%) | 3.45 | 5 | |
| Abundance (#/m2) | 667 | 3 | Pollution Indicative Species Biomass (%) | 2.46 | | |
| Biomass (g/m2) | 1.59 | 3 | Pollution Sensitive Species Abundance (%) | 27.59 | | |
| Carnivore-Omnivore Abundance (%) | 37.93 | | Pollution Sensitive Species Biomass (%) | 52.90 | 3 | |
| Deep Deposit Feeder Abundance (%) | 10.34 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Carinoma tremaphoros | 138 | 138.0 | | 138 | 138 | |
| Macoma mitchelli | 138 | 138.0 | | 138 | 138 | |
| Leptocheirus plumulosus | 115 | 115.0 | | 115 | 115 | |
| Cyathura polita | 92 | 92.0 | | 92 | 92 | |
| Tubificoides spp. | 69 | 69.0 | | 69 | 69 | |
| Rangia cuneata | 46 | 46.0 | | 46 | 46 | |
| Coelotanypus spp. | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Macoma balthica | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 9 | | | | | |
| Number of Species (w/o Epifauna) | 9 | | | | | |
| Abundance | 667 | | | | | |
| Abundance (w/o Epifauna) | 667 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) - | | | | | | |
|---|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma mitchelli | 0.6371 | 0.6371 | | 0.6371 | 0.6371 | |
| Macoma balthica | 0.5589 | 0.5589 | | 0.5589 | 0.5589 | |
| Cyathura polita | 0.1932 | 0.1932 | | 0.1932 | 0.1932 | |
| Rangia cuneata | 0.0805 | 0.0805 | | 0.0805 | 0.0805 | |
| Coelotanypus spp. | 0.0391 | 0.0391 | | 0.0391 | 0.0391 | |
| Carinoma tremaphoros | 0.0368 | 0.0368 | | 0.0368 | 0.0368 | |
| Leptocheirus plumulosus | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | |
| Marenzelleria viridis | 0.0069 | 0.0069 | | 0.0069 | 0.0069 | |
| Tubificoides spp. | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Biomass | 1.5870 | | | | | |
| Biomass (w/o Epifauna) | 1.5870 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-16 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 0.6 | | Salinity (ppt): 4.58 | | Temperature (C): 20.41 | | |
| Dissolved Oxygen (mg/l): 6.9 | | Sediment Silt-Clay (%): 75.97 | | Total Carbon (%): 7.79 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 2.20 | | Condition: Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.24 | 3 | Pollution Indicative Species Abundance (%) | 36.53 | 1 | |
| Abundance (#/m2) | 3841 | 3 | Pollution Indicative Species Biomass (%) | 0.70 | | |
| Biomass (g/m2) | 2.62 | 3 | Pollution Sensitive Species Abundance (%) | 3.59 | | |
| Carnivore-Omnivore Abundance (%) | 14.97 | | Pollution Sensitive Species Biomass (%) | 15.66 | 1 | |
| Deep Deposit Feeder Abundance (%) | 44.31 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 1541 | 1541.0 | | 1541 | 1541 | |
| Streblospio benedicti | 1380 | 1380.0 | | 1380 | 1380 | |
| Laonereis culveri | 345 | 345.0 | | 345 | 345 | |
| Heteromastus filiformis | 138 | 138.0 | | 138 | 138 | |
| Cyathura polita | 115 | 115.0 | | 115 | 115 | |
| Hobsonia florida | 92 | 92.0 | | 92 | 92 | |
| Edwardsia elegans | 46 | 46.0 | | 46 | 46 | |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Imm. Tubificid w/o Cap. Chaete | 23 | 23.0 | | 23 | 23 | |
| Tanytarsus spp. | 23 | 23.0 | | 23 | 23 | |
| Neanthes succinea | 23 | 23.0 | | 23 | 23 | |
| Polydora cornuta | 23 | 23.0 | | 23 | 23 | |
| Edotea triloba (Epi) | 23 | 23.0 | | 23 | 23 | |
| Rangia cuneata | 23 | 23.0 | | 23 | 23 | |
| Apocorophium lacustre (Epi) | 23 | 23.0 | | 23 | 23 | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | |
|---|--------|--------|---------|--------|
| Gammarus daiberi (Epi) | 23 | 23.0 | 23 | 23 |
| Hirudinea (Epi) | 23 | 23.0 | 23 | 23 |
| Number of Species | 18 | | | |
| Number of Species (w/o Epifauna) | 14 | | | |
| Abundance | 3933 | | | |
| Abundance (w/o Epifauna) | 3841 | | | |
| BENTHIC BIOMASS (Grams per sq. meter) - | | | | |
| | Rep 1 | Mean | Std.Dev | Min |
| | | | | Max |
| | | | | Cum % |
| Laeonereis culveri | 1.6077 | 1.6077 | 1.6077 | 1.6077 |
| Cyathura polita | 0.4094 | 0.4094 | 0.4094 | 0.4094 |
| Macoma mitchelli | 0.3312 | 0.3312 | 0.3312 | 0.3312 |
| Heteromastus filiformis | 0.1357 | 0.1357 | 0.1357 | 0.1357 |
| Neanthes succinea | 0.0460 | 0.0460 | 0.0460 | 0.0460 |
| Carinoma tremaphoros | 0.0391 | 0.0391 | 0.0391 | 0.0391 |
| Streblospio benedicti | 0.0184 | 0.0184 | 0.0184 | 0.0184 |
| Tubificoides spp. | 0.0138 | 0.0138 | 0.0138 | 0.0138 |
| Hirudinea (Epi) | 0.0115 | 0.0115 | 0.0115 | 0.0115 |
| Gammarus spp. (Epi) | 0.0115 | 0.0115 | 0.0115 | 0.0115 |
| Edotea triloba (Epi) | 0.0092 | 0.0092 | 0.0092 | 0.0092 |
| Hobsonia florida | 0.0092 | 0.0092 | 0.0092 | 0.0092 |
| Edwardsia elegans | 0.0069 | 0.0069 | 0.0069 | 0.0069 |
| Polydora cornuta | 0.0012 | 0.0012 | 0.0012 | 0.0012 |
| Rangia cuneata | 0.0012 | 0.0012 | 0.0012 | 0.0012 |
| Apocorophium lacustre (Epi) | 0.0012 | 0.0012 | 0.0012 | 0.0012 |
| Chironomidae larvae | 0.0012 | 0.0012 | 0.0012 | 0.0012 |
| Oligochaeta | 0.0012 | 0.0012 | 0.0012 | 0.0012 |
| Biomass | 2.6554 | | | |
| Biomass (w/o Epifauna) | 2.6220 | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-17 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 0.8 | | Salinity (ppt): 4.05 | | Temperature (C): 19.43 | | |
| Dissolved Oxygen (mg/l): 6.5 | | Sediment Silt-Clay (%): 92.42 | | Total Carbon (%): 3.37 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.00 | | Condition: Marginal | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 1.00 | 1 | Pollution Indicative Species Abundance (%) | 84.00 | 5 | |
| Abundance (#/m2) | 575 | 3 | Pollution Indicative Species Biomass (%) | 0.23 | | |
| Biomass (g/m2) | 0.50 | 1 | Pollution Sensitive Species Abundance (%) | 12.00 | | |
| Carnivore-Omnivore Abundance (%) | 16.00 | | Pollution Sensitive Species Biomass (%) | 97.03 | 5 | |
| Deep Deposit Feeder Abundance (%) | 80.00 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 460 | 460.0 | | 460 | 460 | |
| Cyathura polita | 69 | 69.0 | | 69 | 69 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Streblospio benedicti | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 4 | | | | | |
| Number of Species (w/o Epifauna) | 4 | | | | | |
| Abundance | 575 | | | | | |
| Abundance (w/o Epifauna) | 575 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) - | | | | | | |
|---|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Cyathura polita | 0.4876 | 0.4876 | | 0.4876 | 0.4876 | |
| Carinoma tremaphoros | 0.0092 | 0.0092 | | 0.0092 | 0.0092 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 0.5025 | | | | | |
| Biomass | 0.5025 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|---|--------|-------------------------------|--|--------------------------|--------|-------|
| Location: Swanson's Creek | | Station: SC-18 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): | | Salinity (ppt): | | Temperature (C): | | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 97.48 | | Total Carbon (%): 2.74 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 1.80 | | Condition: Severely Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 0.54 | 1 | Pollution Indicative Species Abundance (%) | 0.00 | 5 | |
| Abundance (#/m2) | 184 | 1 | Pollution Indicative Species Biomass (%) | 0.00 | | |
| Biomass (g/m2) | 0.10 | 1 | Pollution Sensitive Species Abundance (%) | 0.00 | | |
| Carnivore-Omnivore Abundance (%) | 0.00 | | Pollution Sensitive Species Biomass (%) | 0.00 | 1 | |
| Deep Deposit Feeder Abundance (%) | 100.00 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 161 | 161.0 | | 161 | 161 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 2 | | | | | |
| Number of Species (w/o Epifauna) | 2 | | | | | |
| Abundance | 184 | | | | | |
| Abundance (w/o Epifauna) | 184 | | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) - | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Heteromastus filiformis | 0.0966 | 0.0966 | | 0.0966 | 0.0966 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 0.0978 | | | | | |
| Biomass (w/o Epifauna) | 0.0978 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|---------|--|---------|-------|
| Location: Swanson's Creek | | Station: SC-19 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Oligohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 0.6 | | Salinity (ppt): 2.84 | | Temperature (C): 20.31 | | |
| Dissolved Oxygen (mg/l): 7.5 | | Sediment Silt-Clay (%): 94.45 | | Total Carbon (%): 4.18 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 3.80 | | Condition: Meets Goal | | # Attributes Scored: 5 | | |
| | | Value | Score | Value | Score | |
| Shannon-Weiner Index | | 2.73 | | Oligohaline Pollution Indicative Spp. Abund. | 26.67 5 | |
| Abundance (#/m2) | | 690 | | Tolerance Score | 9.80 1 | |
| Biomass (g/m2) | | 3.03 | | Oligohaline Pollution Sensitive Spp. Abund. | 16.67 3 | |
| Carnivore-Omnivore Abundance (%) | | 63.33 | | Tanypodinae/Chironomidae Abundance Ratio | 0.00 5 | |
| Deep Deposit Feeder Abundance (%) | | 6.67 | 5 | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Laeonereis culveri | 207 | 207.0 | | 207 | 207 | |
| Marenzelleria viridis | 115 | 115.0 | | 115 | 115 | |
| Cyathura polita | 115 | 115.0 | | 115 | 115 | |
| Chironomus spp. | 69 | 69.0 | | 69 | 69 | |
| Streblospio benedicti | 69 | 69.0 | | 69 | 69 | |
| Tubificoides spp. | 46 | 46.0 | | 46 | 46 | |
| Carinoma tremaphoros | 46 | 46.0 | | 46 | 46 | |
| Macoma mitchelli | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 7 | | | | | |
| Number of Species (w/o Epifauna) | 7 | | | | | |
| Abundance | 690 | | | | | |
| Abundance (w/o Epifauna) | 690 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Laeonereis culveri | 1.0005 | 1.0005 | | 1.0005 | 1.0005 | |
| Marenzelleria viridis | 0.7705 | 0.7705 | | 0.7705 | 0.7705 | |
| Cyathura polita | 0.6279 | 0.6279 | | 0.6279 | 0.6279 | |
| Macoma mitchelli | 0.5589 | 0.5589 | | 0.5589 | 0.5589 | |
| Carinoma tremaphoros | 0.0736 | 0.0736 | | 0.0736 | 0.0736 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Chironomidae larvae | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 3.0348 | | | | | |
| Biomass (w/o Epifauna) | 3.0348 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-20 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 0.8 | | Salinity (ppt): 4.37 | | Temperature (C): 19.33 | | |
| Dissolved Oxygen (mg/l): 6.5 | | Sediment Silt-Clay (%): 97.20 | | Total Carbon (%): 3.29 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 2.60 | | Condition: Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 1.97 | 3 | Pollution Indicative Species Abundance (%) | 0.00 | 5 | |
| Abundance (#/m2) | 253 | 1 | Pollution Indicative Species Biomass (%) | 0.00 | | |
| Biomass (g/m2) | 1.32 | 3 | Pollution Sensitive Species Abundance (%) | 9.09 | | |
| Carnivore-Omnivore Abundance (%) | 9.09 | | Pollution Sensitive Species Biomass (%) | 2.95 | 1 | |
| Deep Deposit Feeder Abundance (%) | 54.55 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Tubificoides spp. | 115 | 115.0 | | 115 | 115 | |
| Macoma mitchelli | 69 | 69.0 | | 69 | 69 | |
| Carinoma tremaphoros | 23 | 23.0 | | 23 | 23 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 5 | | | | | |
| Number of Species (w/o Epifauna) | 5 | | | | | |
| Abundance | 253 | | | | | |
| Abundance (w/o Epifauna) | 253 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma mitchelli | 0.8993 | 0.8993 | | 0.8993 | 0.8993 | |
| Carinoma tremaphoros | 0.3404 | 0.3404 | | 0.3404 | 0.3404 | |
| Heteromastus filiformis | 0.0437 | 0.0437 | | 0.0437 | 0.0437 | |
| Marenzelleria viridis | 0.0391 | 0.0391 | | 0.0391 | 0.0391 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 1.3236 | | | | | |
| Biomass (w/o Epifauna) | 1.3235 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-21 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 2.4 | | Salinity (ppt): 4.43 | | Temperature (C): 20.06 | | |
| Dissolved Oxygen (mg/l): 7.0 | | Sediment Silt-Clay (%): 82.00 | | Total Carbon (%): 3.51 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 1.80 | | Condition: Severely Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.46 | 3 | Pollution Indicative Species Abundance (%) | 53.49 | 1 | |
| Abundance (#/m2) | 989 | 3 | Pollution Indicative Species Biomass (%) | 7.28 | | |
| Biomass (g/m2) | 0.66 | 1 | Pollution Sensitive Species Abundance (%) | 9.30 | | |
| Carnivore-Omnivore Abundance (%) | 32.56 | | Pollution Sensitive Species Biomass (%) | 12.82 | 1 | |
| Deep Deposit Feeder Abundance (%) | 9.30 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Streblospio benedicti | 460 | 460.0 | | 460 | 460 | |
| Carinoma tremaphoros | 138 | 138.0 | | 138 | 138 | |
| Cyathura polita | 92 | 92.0 | | 92 | 92 | |
| Macoma mitchelli | 92 | 92.0 | | 92 | 92 | |
| Tubificoides spp. | 69 | 69.0 | | 69 | 69 | |
| Coelotanypus spp. | 69 | 69.0 | | 69 | 69 | |
| Edwardsia elegans | 23 | 23.0 | | 23 | 23 | |
| Procladius sublettei | 23 | 23.0 | | 23 | 23 | |
| Heteromastus filiformis | 23 | 23.0 | | 23 | 23 | |
| Gammarus daiberi (Epi) | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 10 | | | | | |
| Number of Species (w/o Epifauna) | 9 | | | | | |
| Abundance | 1012 | | | | | |
| Abundance (w/o Epifauna) | 989 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Macoma mitchelli | 0.3335 | 0.3335 | | 0.3335 | 0.3335 | |
| Carinoma tremaphoros | 0.1127 | 0.1127 | | 0.1127 | 0.1127 | |
| Cyathura polita | 0.0851 | 0.0851 | | 0.0851 | 0.0851 | |
| Heteromastus filiformis | 0.0759 | 0.0759 | | 0.0759 | 0.0759 | |
| Streblospio benedicti | 0.0253 | 0.0253 | | 0.0253 | 0.0253 | |
| Coelotanypus spp. | 0.0230 | 0.0230 | | 0.0230 | 0.0230 | |
| Tubificoides spp. | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Gammarus spp. (Epi) | 0.0046 | 0.0046 | | 0.0046 | 0.0046 | |
| Edwardsia elegans | 0.0023 | 0.0023 | | 0.0023 | 0.0023 | |
| Chironomidae larvae | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 0.6682 | | | | | |
| Biomass (w/o Epifauna) | 0.6636 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | | |
|-----------------------------------|-------|-------------------------------|--|--------------------------|-------|-------|
| Location: Swanson's Creek | | Station: SC-22 | | Date: September 6, 2000 | | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | | |
| BOTTOM ENVIRONMENT | | | | | | |
| Depth (m): 0.8 | | Salinity (ppt): 4.31 | | Temperature (C): 19.25 | | |
| Dissolved Oxygen (mg/l): 6.5 | | Sediment Silt-Clay (%): 97.37 | | Total Carbon (%): 2.86 | | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | | |
| B-IBI Score: 2.20 | | Condition: Degraded | | # Attributes Scored: 5 | | |
| | Value | Score | | Value | Score | |
| Shannon-Weiner Index | 2.46 | 3 | Pollution Indicative Species Abundance (%) | 21.43 | 1 | |
| Abundance (#/m2) | 644 | 3 | Pollution Indicative Species Biomass (%) | 0.17 | | |
| Biomass (g/m2) | 0.66 | 1 | Pollution Sensitive Species Abundance (%) | 25.00 | | |
| Carnivore-Omnivore Abundance (%) | 57.14 | | Pollution Sensitive Species Biomass (%) | 45.03 | 3 | |
| Deep Deposit Feeder Abundance (%) | 14.29 | | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Neanthes succinea | 207 | 207.0 | | 207 | 207 | |
| Cyathura polita | 138 | 138.0 | | 138 | 138 | |
| Streblospio benedicti | 115 | 115.0 | | 115 | 115 | |
| Tubificoides spp. | 92 | 92.0 | | 92 | 92 | |
| Macoma mitchelli | 46 | 46.0 | | 46 | 46 | |
| Chironomus spp. | 23 | 23.0 | | 23 | 23 | |
| Marenzelleria viridis | 23 | 23.0 | | 23 | 23 | |
| Number of Species | 7 | | | | | |
| Number of Species (w/o Epifauna) | 7 | | | | | |
| Abundance | 644 | | | | | |
| Abundance (w/o Epifauna) | 644 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| BENTHIC BIOMASS (Grams per sq. meter) | | | | | | |
|---------------------------------------|--------|--------|---------|--------|--------|-------|
| | Rep 1 | Mean | Std.Dev | Min | Max | Cum % |
| Neanthes succinea | 0.2852 | 0.2852 | | 0.2852 | 0.2852 | |
| Cyathura polita | 0.2599 | 0.2599 | | 0.2599 | 0.2599 | |
| Macoma mitchelli | 0.0736 | 0.0736 | | 0.0736 | 0.0736 | |
| Marenzelleria viridis | 0.0368 | 0.0368 | | 0.0368 | 0.0368 | |
| Tubificoides spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Streblospio benedicti | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Chironomidae larvae | 0.0012 | 0.0012 | | 0.0012 | 0.0012 | |
| Biomass | 0.6589 | | | | | |
| Biomass (w/o Epifauna) | 0.6589 | | | | | |

BOTTOM ENVIRONMENT AND BENTHOS, CHALK POINT OIL SPILL, SUMMER 2000

| | | | | | |
|---------------------------------------|--------|-------------------------------|--|--------------------------|--------|
| Location: Swanson's Creek | | Station: SC-23 | | Date: September 6, 2000 | |
| Gear: Young Grab | | Habitat: Low Mesohaline | | Sampled Area: 0.044 sq.m | |
| BOTTOM ENVIRONMENT | | | | | |
| Depth (m): | | Salinity (ppt): | | Temperature (C): | |
| Dissolved Oxygen (mg/l): | | Sediment Silt-Clay (%): 94.60 | | Total Carbon (%): 2.66 | |
| BENTHIC INDEX OF BIOTIC INTEGRITY | | | | | |
| B-IBI Score: 1.00 | | Condition: Severely Degraded | | # Attributes Scored: 5 | |
| | Value | Score | | Value | Score |
| Shannon-Weiner Index | 0.00 | 1 | Pollution Indicative Species Abundance (%) | 100.00 | 1 |
| Abundance (#/m2) | 23 | 1 | Pollution Indicative Species Biomass (%) | 100.00 | |
| Biomass (g/m2) | 0.00 | 1 | Pollution Sensitive Species Abundance (%) | 0.00 | |
| Carnivore-Omnivore Abundance (%) | 100.00 | | Pollution Sensitive Species Biomass (%) | 0.00 | 1 |
| Deep Deposit Feeder Abundance (%) | 0.00 | | | | |
| BENTHIC ABUNDANCE (per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Coelotanypus spp. | 23 | 23.0 | | 23 | 23 |
| Number of Species | 1 | | | | |
| Number of Species (w/o Epifauna) | 1 | | | | |
| Abundance | 23 | | | | |
| Abundance (w/o Epifauna) | 23 | | | | |
| BENTHIC BIOMASS (Grams per sq. meter) | | | | | |
| | Rep 1 | Mean | Std.Dev | Min | Max |
| Coelotanypus spp. | 0.0012 | 0.0012 | | 0.0012 | 0.0012 |
| Biomass | 0.0012 | | | | |
| Biomass (w/o Epifauna) | 0.0012 | | | | |