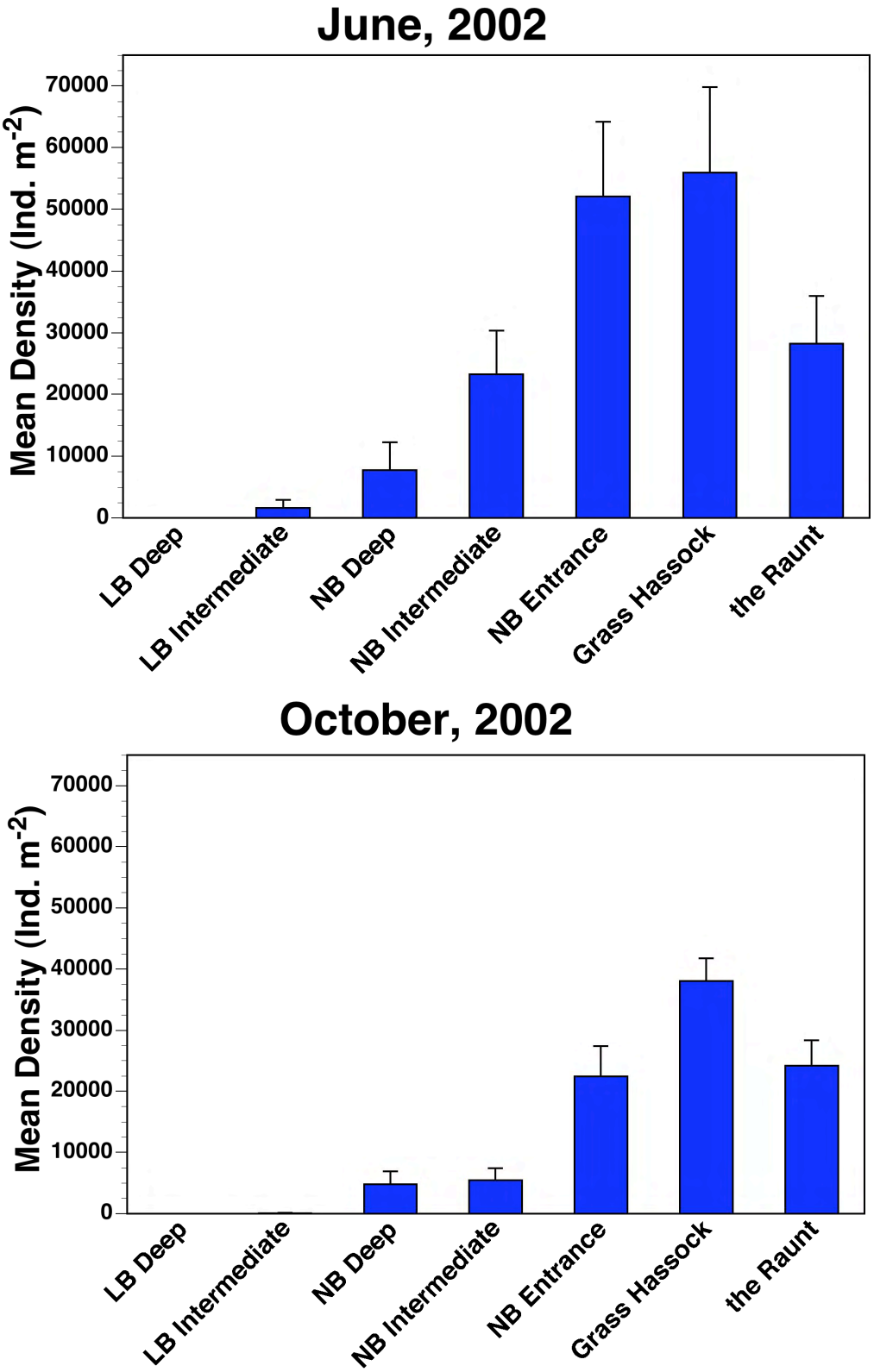

Figure 4.1.3.1.1 Total macroinvertebrate density (ind. m^{-2}), Norton Basin study and reference areas, June and October 2002.

Figure 4.1.3.1.2 Total macroinvertebrate density (ind. m^{-2}), Norton Basin study and reference areas, June 2002.

Figure 4.1.3.1.3 Total macroinvertebrate density (ind. m^{-2}), Norton Basin study and reference areas, October 2002.

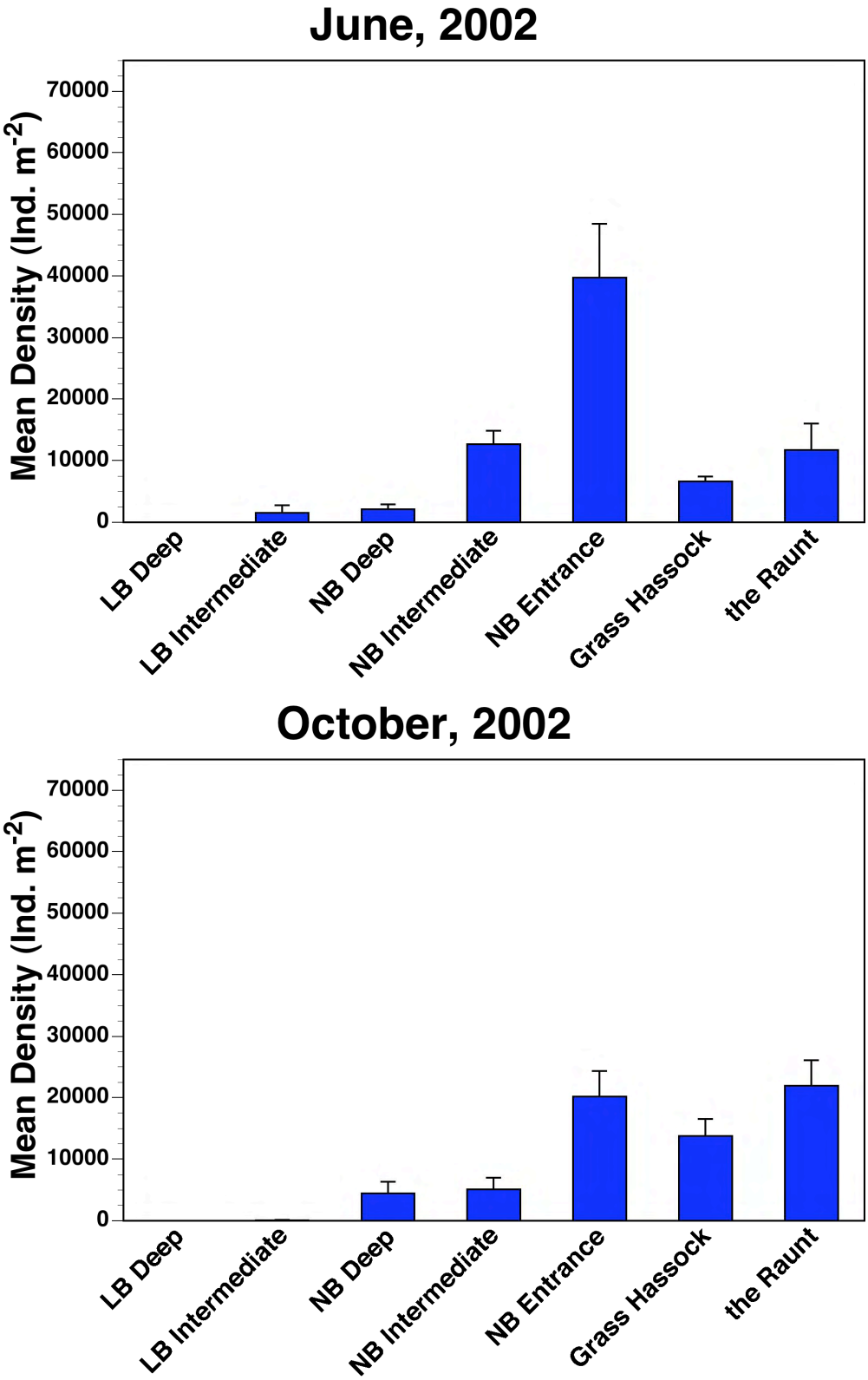

Figure 4.1.3.2.1 Annelid density (ind. m^{-2}), Norton Basin study and reference areas, June and October 2002.

annelid densities during October.

4.1.3.3 Arthropods

In June 2002, mean density of arthropods ranged from 0.0 ind./m^2 at LB3-8, NB4, and NB5 to 22,133.3 ind./m^2 at GH1. In October 2002, mean density of arthropods ranged from 0.0 ind./m^2 at LB3-9, NB1-3, and NB5 to 8,988.9 ind./m^2 at GH2. Although not significantly different from each other, arthropod densities at the Little Bay deep water and intermediate depth stations were significantly less than all other stations sampled in June. Arthropod density at the deep water stations within Norton Basin was significantly less than stations in the Norton Basin entrance channel and both of the reference areas (Grass Hassock Channel and the Raunt). Arthropod density at the intermediate depth stations within Norton Basin was significantly less than stations located in the Norton Basin entrance channel and the Grass Hassock Channel reference area. Arthropod density at stations located in the Grass Hassock Channel reference area was significantly greater than all other stations sampled in June (ANOVA, $p = 0.0001$) (**Fig. 4.1.3.3.1**). All remaining stations showed no significant differences in arthropod densities during June. Although not significantly different from each other, arthropod densities at the Norton Basin and Little Bay deep water and intermediate depth stations were significantly less than all other stations sampled in October. Arthropod density at stations located in the Norton Basin entrance channel was significantly less than both reference areas (Grass Hassock Channel and the Raunt). Arthropod density at stations located within the Raunt reference area was significantly less than the deeper Grass Hassock Channel reference area (ANOVA, $p = 0.0001$) (**Fig. 4.1.3.3.1**).

5.0 SUMMARY

Benthic macroinvertebrates were virtually absent from the fine, organic, highly aqueous sediments in the Little Bay borrow pit. Total abundance of benthic macroinvertebrates was significantly lower in the intermediate depths of Little Bay relative to Grass Hassock Channel or the Raunt. Total abundance of benthic macroinvertebrates was significantly lower in the borrow pits of Norton Basin relative to Grass Hassock Channel or the Raunt. Total abundance of benthic macroinvertebrates from the intermediate depths of Norton Basin were slightly lower in June and significantly lower in October in comparison to the reference areas.

Arthropods dominated the benthic macroinvertebrate communities of Grass Hassock Channel during June and October. Arthropods dominated the benthic macroinvertebrate communities of the Norton Basin borrow pits in June; however, annelids were the dominant major taxa in the Norton Basin borrow pits in October. Annelids dominated the benthic macroinvertebrate communities of the Norton Basin entrance channel and the intermediate depths of Little Bay during June and October. Annelids were the dominant major taxa in the Raunt and the intermediate depths of Norton Basin during October;

however, arthropods and annelids were co-dominant major taxa in the Raunt and the intermediate depths of Norton Basin during June. Molluscs and other invertebrates represented a minor component of the benthic macroinvertebrate community among all sites during both seasons.

In general, Norton Basin appears to support a more abundant and diverse benthic macroinvertebrate community and exhibits greater substrate/habitat heterogeneity in comparison to Little Bay. The borrow pits located in Norton Basin exhibit substrate/habitat characteristics which resemble those of Little Bay; however, sampling locations of intermediate and shallow depth in Norton Basin are comparable to reference areas.

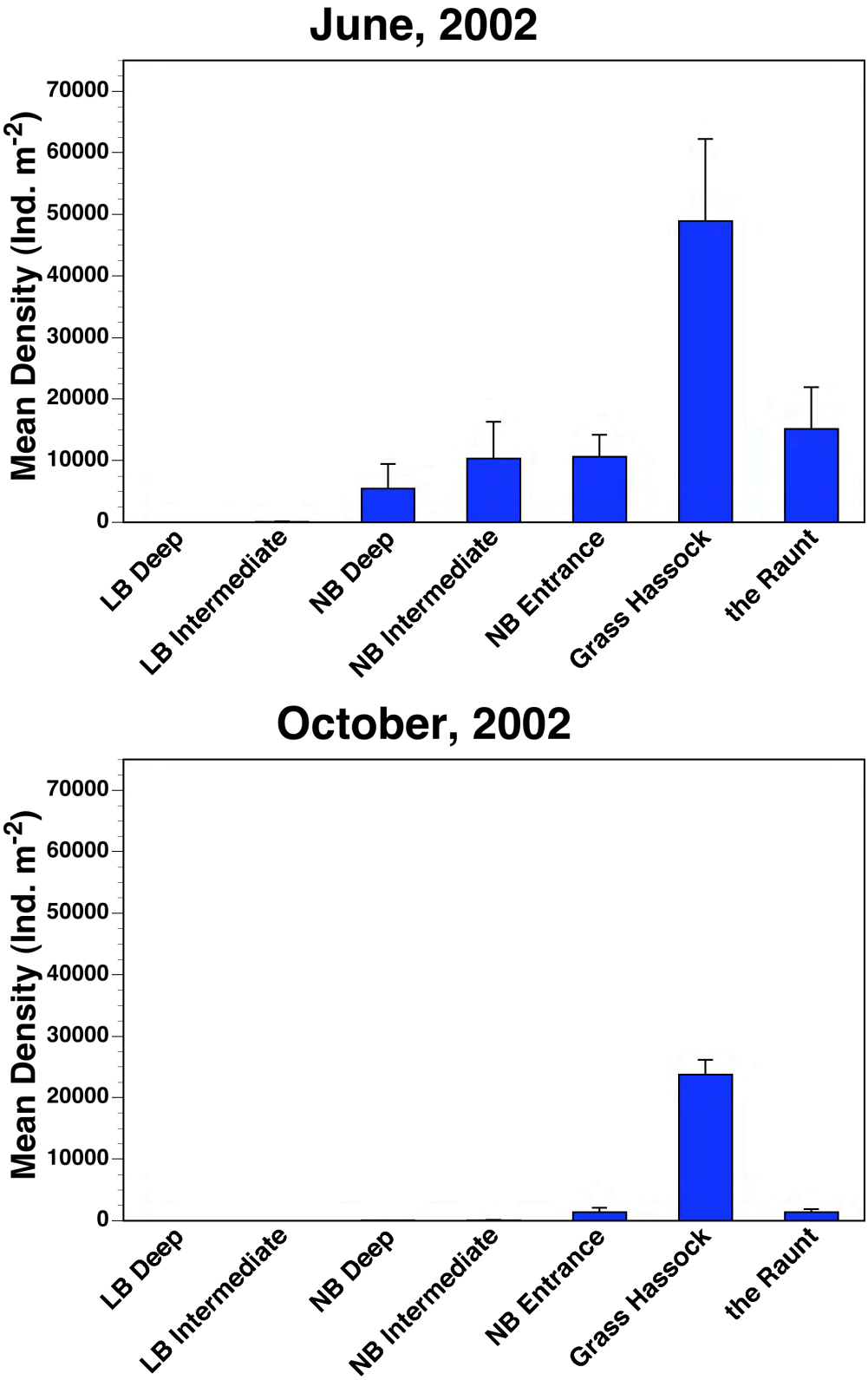

Figure 4.1.3.3.1 Arthropod density (ind. m^{-2}), Norton Basin study and reference areas, June and October 2002.

Appendix I-A

Taxonomic Species List, June 2002

TAXONOMIC SPECIES LIST

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:

Project Date: 06/01/2002

Total Number of Taxa: 127

- ANNELIDA
  - CLASS OLIGOCHAETA
    - Order TUBIFICIDA
      - FAMILY ENCHYTRAEIDAE
        - Enchytraeidae (LPIL)
      - FAMILY TUBIFICIDAE
        - Tubificidae (LPIL)

  - CLASS POLYCHAETA
    - Order CAPITELLIDA
      - FAMILY CAPITELLIDAE
        - Capitellidae (LPIL)
        - Capitella (LPIL)
        - Capitella capitata
        - Capitella jonesi
        - Heteromastus filiformis
        - Mediomastus (LPIL)
        - Mediomastus ambiseta
      - FAMILY MALDANIDAE
        - Maldanidae (LPIL)
    - Order EUNICIDA
      - FAMILY DORVILLEIDAE
        - Schistomeringos pectinata
        - Schistomeringos rudolphi
      - FAMILY OENONIDAE
        - Arabella multidentata
        - Drilonereis longa
    - Order FLABELLIGERIDA
      - FAMILY FLABELLIGERIDAE
        - Flabelligeridae (LPIL)
        - Pherusa affinis
    - Order ORBINIIDA
      - FAMILY ORBINIIDAE
        - Leitoscoloplos (LPIL)
        - Leitoscoloplos robustus
    - Order PHYLLODOCIDA
      - FAMILY GLYCERIDAE
        - Glyceridae (LPIL)
        - Glycera americana

FAMILY HESIONIDAE
Hesionidae (LPIL)
Podarke obscura
Podarkeopsis levifuscina
FAMILY NEPHTYIDAE
Nephtys incisa
Nephtys picta
FAMILY NEREIDAE
Nereididae (LPIL)
Nereis (LPIL)
Nereis succinea
FAMILY PHYLLODOCIDAE
Phyllodocidae (LPIL)
Eumida sanguinea
Hypereteone heteropoda
Paranaitis speciosa
FAMILY POLYNOIDAE
Polynoidae (LPIL)
Harmothoe imbricata
FAMILY SYLLIDAE
Syllidae (LPIL)
Autolytus (LPIL)
Exogone rolani
Order SABELLIDA
FAMILY SABELLIDAE
Sabellidae (LPIL)
Demonax microphthalmus
FAMILY SERPULIDAE
Serpulidae (LPIL)
Hydroides dianthus
Order SPIONIDA
FAMILY CIRRATULIDAE
Cirratulidae (LPIL)
Tharyx acutus
FAMILY SPIONIDAE
Spionidae (LPIL)
Polydora (LPIL)
Polydora cornuta
Spio (LPIL)
Spio filicornis
Spio pettiboneae
Streblospio benedicti
Order TEREBELLIDA
FAMILY AMPHARETIDAE
Ampharetidae (LPIL)
Asabellides oculata
FAMILY PECTINARIIDAE
Pectinaria gouldii

FAMILY SABELLARIIDAE
Sabellaria vulgaris
FAMILY TEREBELLIDAE
Terebellidae (LPIL)
Polycirrus (LPIL)
Polycirrus sp. G

ARTHROPODA
CLASS MALACOSTRACA
Order AMPHIPODA
FAMILY AEGINELLIDAE
Aeginellidae (LPIL)
Paracaprella tenuis
FAMILY AMPELISCIDAE
Ampeliscidae (LPIL)
Ampelisca vadorum
FAMILY AORIDAE
Aoridae (LPIL)
Microdeutopus gryllotalpa
Unciola irrorata
Unciola serrata
FAMILY COROPHIIDAE
Corophiidae (LPIL)
Monocorophium tuberculatum
FAMILY GAMMARIDAE
Gammaridae (LPIL)
Gammarus annulatus
Gammarus mucronatus
FAMILY ISAEIDAE
Photis macrocoxa
FAMILY ISCHYROCERIDAE
Erichthonius brasiliensis
FAMILY LILJEBORGIIDAE
Listriella barnardi
FAMILY LYSIANASSIDAE
Lysianopsis alba
FAMILY MELITIDAE
Elasmopus levis
Melita (LPIL)
Melita nitida
FAMILY PHOXOCEPHALIDAE
Eobrolgus spinosus
Rhepoxynius hudsoni
Order DECAPODA
FAMILY CANCRIDAE
Cancer irroratus
FAMILY CRANGONIDAE
Crangon septemspinosa

FAMILY MAJIDAE
Libinia dubia
FAMILY PAGURIDAE
Pagurus longicarpus
FAMILY XANTHIDAE
Xanthidae (LPIL)
Dyspanopeus sayi
Panopeus herbstii
Rhithropanopeus harrisii
Order ISOPODA
FAMILY ANTHURIDAE
Cyathura burbancki
FAMILY IDOTEIDAE
Edotea triloba
Order MYSIDACEA
FAMILY MYSIDAE
Mysidae (LPIL)

CLASS OSTRACODA
Order MYODOCOPINA
FAMILY CYLINDROLEBERIDIDAE
Parasterope pollex

BRACHIOPODA
Brachiopoda (LPIL)

BRYOZOA
Bryozoa (LPIL)

CHORDATA
CLASS ASCIDIACEA
Ascidiacea (LPIL)

MOLLUSCA
CLASS BIVALVIA
Bivalvia (LPIL)
Order ARCOIDA
FAMILY ARCIDAE
Anadara transversa
Order MYOIDA
FAMILY MYIDAE
Mya arenaria
Order MYTILOIDA
FAMILY MYTILIDAE
Mytilidae (LPIL)
Mytilus edulis
Order NUCULOIDA
FAMILY NUCULIDAE
Nucula proxima

Order OSTREOIDA
FAMILY ANOMIIDAE
Anomia simplex
Order VENEROIDA
FAMILY MACTRIDAE
Mulinia lateralis
FAMILY MONTACUTIDAE
Montacutidae (LPIL)
Mysella planulata
FAMILY PETRICOLIDAE
Petricola pholadiformis
FAMILY SOLENIDAE
Ensis directus
FAMILY TELLINIDAE
Tellinidae (LPIL)
Tellina (LPIL)
Tellina agilis
FAMILY VENERIDAE
Chione cancellata
Gemma gemma
Mercenaria mercenaria

CLASS GASTROPODA
Gastropoda (LPIL)
Order CEPHALASPIDEA
FAMILY ACTEONIDAE
Rictaxis punctostriatus
FAMILY SCAPHANDRIDAE
Acteocina canaliculata
Order MESOGASTROPODA
FAMILY CALYPTRAEIDAE
Crepidula (LPIL)
Crepidula fornicata
Crepidula plana
FAMILY RISSOIDAE
Rissoidae (LPIL)
Order NEOGASTROPODA
FAMILY COLUMBELLIDAE
Mitrella lunata
FAMILY NASSARIIDAE
Ilyanassa obsoleta
Ilyanassa trivittata
Order NUDIBRANCHIA
FAMILY CORAMBIDAE
Doridella obscura
Order PYRAMIDELLOIDA
FAMILY PYRAMIDELLIDAE
Odostomia trifida

PLATYHELMINTHES

CLASS TURBELLARIA

Turbellaria (LPIL)

RHYNCHOCOELA

Rhynchocoela (LPIL)

SIPUNCULA

Sipuncula (LPIL)

Appendix I-B

Summary of Community Parameters, June 2002

SUMMARY OF COMMUNITY PARAMETERS

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 6/02
Sample Date: 6/02

FAUNAL PARAMETERS

Station	Date (m/d/y)	Total No. Taxa	Mean No. of Taxa per Repl.	No. of Taxa per Repl. (Std Dev)	Total No. Individuals	Mean Density (nos/m2)	Density (Std Dev)	H' Shannon (log e)	d Diversity (log 2)	1/S Simpson Diversity	J' Pielou Evenness	D Margalef Richness	e Equitability
R1	6/1/02	53	38.0	1.0	5023	41858.3	19410.4	2.20	3.18	5.43	0.56	5.98	0.25
R2	6/1/02	37	21.3	9.3	2659	22158.3	20851.0	1.72	2.48	2.87	0.48	4.57	0.21
R3	6/1/02	27	15.0	5.3	2499	20825.0	29802.8	1.62	2.34	3.04	0.49	3.32	0.26
GH1	6/1/02	33	19.7	4.9	8842	73683.3	62743.4	1.01	1.45	1.60	0.29	3.52	0.11
GH2	6/1/02	30	19.3	1.5	8386	69883.3	21818.0	1.25	1.81	2.12	0.37	3.21	0.16
GH3	6/1/02	29	18.7	0.6	2901	24175.0	15486.5	1.86	2.68	4.21	0.55	3.51	0.31
LB1	6/1/02	2	1.7	0.6	7	58.3	38.2	0.68	0.99	2.33	0.99	0.51	1.31
LB2	6/1/02	1	0.3	0.6	1	8.3	14.4	0.00	0.00	N/A	N/A	N/A	1.29
LB3	6/1/02	0	N/A	0.0	0	N/A	0.0	0.00	0.00	N/A	0.00	0.00	N/A
LB4	6/1/02	0	N/A	0.0	0	N/A	0.0	0.00	0.00	N/A	0.00	0.00	N/A
LB5	6/1/02	0	N/A	0.0	0	N/A	0.0	0.00	0.00	N/A	0.00	0.00	N/A
LB6	6/1/02	1	0.3	0.6	1	8.3	14.4	0.00	0.00	N/A	N/A	N/A	1.29
LB7	6/1/02	0	N/A	0.0	0	N/A	0.0	0.00	0.00	N/A	0.00	0.00	N/A
LB8	6/1/02	0	N/A	0.0	0	N/A	0.0	0.00	0.00	N/A	0.00	0.00	N/A
LB9	6/1/02	26	13.0	6.6	573	4775.0	6291.4	1.65	2.38	2.71	0.51	3.94	0.28
NB1	6/1/02	33	23.3	5.7	3945	32875.0	29700.0	2.01	2.90	4.92	0.58	3.86	0.32
NB2	6/1/02	10	6.7	3.1	923	7691.7	3937.8	0.34	0.49	1.13	0.15	1.32	0.18
NB3	6/1/02	16	8.3	5.9	1782	14850.0	8355.5	1.04	1.50	2.41	0.37	2.00	0.24
NB4	6/1/02	1	0.3	0.6	1	8.3	14.4	0.00	0.00	N/A	N/A	N/A	1.29
NB5	6/1/02	4	2.7	1.2	531	4425.0	690.6	0.45	0.64	1.27	0.32	0.48	0.51
NB6	6/1/02	8	7.0	1.0	1148	9566.7	2699.3	1.27	1.84	2.83	0.61	0.99	0.61
NB7	6/1/02	16	10.7	4.5	1751	14591.7	9190.6	1.34	1.93	2.72	0.48	2.01	0.33
NB8	6/1/02	10	5.7	3.2	380	3166.7	2884.3	1.31	1.89	3.28	0.57	1.52	0.51
NB9	6/1/02	30	18.7	4.7	2928	24400.0	18579.3	1.78	2.56	4.16	0.52	3.63	0.27
NB10	6/1/02	35	23.3	5.7	9264	77200.0	82265.4	1.57	2.27	2.81	0.44	3.72	0.19
NB11	6/1/02	32	18.0	8.7	2400	20000.0	19816.3	1.70	2.45	3.18	0.49	3.98	0.24
NB12	6/1/02	48	30.0	6.6	7496	62466.7	40639.6	1.97	2.85	4.61	0.51	5.27	0.21
NB13	6/1/02	56	39.7	4.2	3433	28608.3	16476.8	2.72	3.92	8.38	0.68	6.76	0.39
NB14	6/1/02	50	36.0	3.6	10937	91141.7	54513.6	2.62	3.78	7.56	0.67	5.27	0.40
NB15	6/1/02	48	33.3	7.8	3123	26025.0	20996.2	2.56	3.70	7.53	0.66	5.84	0.39

N/A: Not Applicable

Appendix I-C

Station Data Summary Reports, June 2002

Station Data Summary Report
Station GH1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 004
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	88	2200	2	50	32	800	122	1.4	1017
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	4	100	0	0	0	0	4	0	33
Mediomastus (LPIL)	176	4400	10	250	4	100	190	2.1	1583
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	4	100	0	0	4	100	8	0.1	67
Phyllodocida									
Glyceridae									
Glycera americana	4	100	0	0	0	0	4	0	33
Hesionidae									
Hesionidae (LPIL)	16	400	0	0	0	0	16	0.2	133
Podarke obscura	0	0	0	0	12	300	12	0.1	100
Nereidae									
Nereis succinea	4	100	2	50	8	200	14	0.2	117
Phyllodocidae									
Eumida sanguinea	4	100	2	50	40	1000	46	0.5	383
Phyllodocidae (LPIL)	0	0	2	50	0	0	2	0	17
Polynoidae									
Harmothoe imbricata	4	100	2	50	0	0	6	0.1	50
Polynoidae (LPIL)	4	100	0	0	0	0	4	0	33
Sabellida									
Sabellidae									
Demonax microphthalmus	0	0	0	0	4	100	4	0	33
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	4	100	2	50	0	0	6	0.1	50
Spionidae									
Polydora cornuta	20	500	46	1150	92	2300	158	1.8	1317
Streblospio benedicti	32	800	50	1250	124	3100	206	2.3	1717
Terebellida									
Terebellidae									
Polycirrus sp. G	0	0	0	0	4	100	4	0	33
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	1396	34900	766	19150	4784	119600	6946	78.6	57883
Aoridae									
Microdeutopus gryllotalpa	92	2300	18	450	324	8100	434	4.9	3617
Unciola irrorata	0	0	0	0	8	200	8	0.1	67
Corophiidae									
Monocorophium tuberculatum	172	4300	60	1500	244	6100	476	5.4	3967
Lysianassidae									
Lysianopsis alba	40	1000	10	250	32	800	82	0.9	683
Melitidae									
Elasmopus levis	4	100	2	50	0	0	6	0.1	50
Phoxocephalidae									
Eobrolgus spinosus	0	0	0	0	4	100	4	0	33

Station Data Summary Report
Station GH1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 004
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Decapoda									
Xanthidae									
Xanthidae (LPIL)	4	100	0	0	0	0	4	0	33
Isopoda									
Anthuridae									
Cyathura burbancki	4	100	0	0	0	0	4	0	33
Ostracoda									
Myodocopina									
Cylindroleberididae									
Parasterope pollex	0	0	0	0	4	100	4	0	33
Mollusca									
Bivalvia									
Bivalvia (LPIL)	4	100	0	0	20	500	24	0.3	200
Veneroida									
Petricolidae									
Petricola pholadiformis	0	0	0	0	8	200	8	0.1	67
Tellinidae									
Tellina agilis	12	300	0	0	8	200	20	0.2	167
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa trivittata	0	0	0	0	8	200	8	0.1	67
Rhynchocoela									
Rhynchocoela (LPIL)	4	100	0	0	0	0	4	0	33
Sipuncula									
Sipuncula (LPIL)	0	0	0	0	4	100	4	0	33

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station GH1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 004
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	33	23	14	22	19.66666667	4.9
Total Individuals	8842	2096	974	5772	2947.3	2509.7
Density (nos/sq.m.)		52400	24350	144300	73683	62743.4

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.01
Species Diversity (Shannon; log base 2)	d	=	1.45
Species Diversity (Shannon; log base 10)	H	=	0.44
Species Diversity (Simpson; 1/S)	1/S	=	1.6
Species Evenness (Pielou)	J'	=	0.29
Species Richness (Margalef)	D	=	3.52
Equitability Index (Lloyd & Ghelardi)	e	=	0.11

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	3	4	0
Annelida	17	51.5	806	9.1
Mollusca	4	12.1	60	0.6
Sipuncula	1	3	4	0
Arthropoda	10	30.3	7968	90.1
TOTALS	**33**		**8842**	

Station Data Summary Report
Station GH2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 005
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	0	0	8	200	20	500	28	0.3	233
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	4	100	4	100	24	600	32	0.4	267
Mediomastus (LPIL)	22	550	112	2800	164	4100	298	3.6	2483
Mediomastus ambiseta	0	0	12	300	12	300	24	0.3	200
Phyllodocida									
Hesionidae									
Hesionidae (LPIL)	0	0	0	0	4	100	4	0	33
Podarke obscura	8	200	48	1200	32	800	88	1	733
Podarkeopsis levifuscina	0	0	4	100	0	0	4	0	33
Nereidae									
Nereis succinea	2	50	0	0	4	100	6	0.1	50
Phyllodocidae									
Eumida sanguinea	10	250	8	200	4	100	22	0.3	183
Phyllodocidae (LPIL)	2	50	0	0	0	0	2	0	17
Polynoidae									
Harmothoe imbricata	0	0	12	300	12	300	24	0.3	200
Spionida									
Cirratulidae									
Tharyx acutus	4	100	0	0	0	0	4	0	33
Spionidae									
Polydora cornuta	114	2850	32	800	112	2800	258	3.1	2150
Streblospio benedicti	80	2000	16	400	32	800	128	1.5	1067
Terebellida									
Terebellidae									
Terebellidae (LPIL)	0	0	8	200	0	0	8	0.1	67
Arthropoda									
Malacostraca									
Amphipoda									
Aeginellidae									
Paracaprella tenuis	2	50	0	0	4	100	6	0.1	50
Ampeliscidae									
Ampelisca vadorum	2376	59400	1056	26400	2140	53500	5572	66.4	46433
Aoridae									
Microdeutopus gryllotalpa	98	2450	134	3350	260	6500	492	5.9	4100
Corophiidae									
Monocorophium tuberculatum	380	9500	334	8350	584	14600	1298	15.5	10817
Isaeidae									
Photis macrocoxa	0	0	2	50	0	0	2	0	17
Melitidae									
Elasmopus levis	6	150	4	100	24	600	34	0.4	283
Decapoda									
Crangonidae									
Crangon septemspinosa	8	200	0	0	0	0	8	0.1	67
Xanthidae									
Panopeus herbstii	2	50	0	0	4	100	6	0.1	50
Xanthidae (LPIL)	0	0	6	150	0	0	6	0.1	50

Station Data Summary Report
Station GH2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 005
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Mollusca									
Bivalvia									
Veneroida									
Montacutidae									
Montacutidae (LPIL)	0	0	0	0	4	100	4	0	33
Petricolidae									
Petricola pholadiformis	0	0	0	0	4	100	4	0	33
Tellinidae									
Tellina agilis	4	100	4	100	0	0	8	0.1	67
Gastropoda									
Gastropoda (LPIL)	2	50	0	0	0	0	2	0	17
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	0	0	0	0	8	200	8	0.1	67
Rhynchocoela									
Rhynchocoela (LPIL)	0	0	2	50	4	100	6	0.1	50

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station GH2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 005
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	30	18	19	21	19.33333333	1.5
Total Individuals	8386	3124	1806	3456	2795.3	872.7
Density (nos/sq.m.)		78100	45150	86400	69883	21818

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.25
Species Diversity (Shannon; log base 2)	d	=	1.81
Species Diversity (Shannon; log base 10)	H	=	0.54
Species Diversity (Simpson; 1/S)	1/S	=	2.12
Species Evenness (Pielou)	J'	=	0.37
Species Richness (Margalef)	D	=	3.21
Equitability Index (Lloyd & Ghelardi)	e	=	0.16

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	3.3	6	0
Annelida	15	50	930	11
Mollusca	5	16.6	26	0.3
Arthropoda	9	30	7424	88.5
TOTALS	**30**		**8386**	

Station Data Summary Report
Station GH3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 006
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	0	0	8	200	8	200	16	0.6	133
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	16	400	2	50	4	100	22	0.8	183
Mediomastus (LPIL)	36	900	98	2450	64	1600	198	6.8	1650
Mediomastus ambiseta	0	0	6	150	12	300	18	0.6	150
Eunicida									
Dorvilleidae									
Schistomeringos rudolphi	4	100	0	0	0	0	4	0.1	33
Phyllodocida									
Hesionidae									
Hesionidae (LPIL)	4	100	0	0	0	0	4	0.1	33
Podarke obscura	60	1500	34	850	84	2100	178	6.1	1483
Phyllodocidae									
Eumida sanguinea	4	100	0	0	8	200	12	0.4	100
Polynoidae									
Harmothoe imbricata	4	100	0	0	0	0	4	0.1	33
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	0	0	4	100	12	300	16	0.6	133
Tharyx acutus	0	0	0	0	16	400	16	0.6	133
Spionidae									
Polydora cornuta	44	1100	18	450	80	2000	142	4.9	1183
Terebellida									
Terebellidae									
Polycirrus sp. G	0	0	0	0	4	100	4	0.1	33
Arthropoda									
Malacostraca									
Amphipoda									
Aeginellidae									
Paracaprella tenuis	4	100	0	0	4	100	8	0.3	67
Ampeliscidae									
Ampelisca vadorum	592	14800	122	3050	272	6800	986	34	8217
Aoridae									
Microdeutopus gryllotalpa	224	5600	4	100	8	200	236	8.1	1967
Unciola irrorata	4	100	2	50	0	0	6	0.2	50
Corophiidae									
Monocorophium tuberculatum	592	14800	82	2050	264	6600	938	32.3	7817
Ischyroceridae									
Erichthonius brasiliensis	4	100	0	0	0	0	4	0.1	33
Lysianassidae									
Lysianopsis alba	4	100	4	100	0	0	8	0.3	67
Melitidae									
Elasmopus levis	8	200	0	0	4	100	12	0.4	100
Decapoda									
Xanthidae									
Xanthidae (LPIL)	0	0	0	0	4	100	4	0.1	33
Isopoda									
Anthuridae									
Cyathura burbancki	0	0	2	50	0	0	2	0.1	17

Station Data Summary Report
Station GH3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 006
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Mollusca									
Bivalvia									
Nuculoida									
Nuculidae									
Nucula proxima	8	200	0	0	0	0	8	0.3	67
Veneroida									
Petricolidae									
Petricola pholadiformis	8	200	8	200	4	100	20	0.7	167
Tellinidae									
Tellina agilis	0	0	1	25	0	0	1	0	8
Veneridae									
Mercenaria mercenaria	0	0	2	50	4	100	6	0.2	50
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	10	250	4	100	12	300	26	0.9	217
Rhynchocoela									
Rhynchocoela (LPIL)	0	0	2	50	0	0	2	0.1	17

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station GH3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 006
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	29	19	18	19	18.66666667	0.6
Total Individuals	2901	1630	403	868	967	619.5
Density (nos/sq.m.)		40750	10075	21700	24175	15486.5

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.86
Species Diversity (Shannon; log base 2)	d	=	2.68
Species Diversity (Shannon; log base 10)	H	=	0.81
Species Diversity (Simpson; 1/S)	1/S	=	4.21
Species Evenness (Pielou)	J'	=	0.55
Species Richness (Margalef)	D	=	3.51
Equitability Index (Lloyd & Ghelardi)	e	=	0.31

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	3.4	2	0
Annelida	13	44.8	634	21.8
Mollusca	5	17.2	61	2.1
Arthropoda	10	34.4	2204	75.9
TOTALS	**29**		**2901**	

Station Data Summary Report
Station LB1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 007
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Capitellida									
Capitellidae									
Mediomastus (LPIL)	1	25	2	50	1	25	4	57.1	33
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	1	25	2	50	0	0	3	42.9	25

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 007
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	2	2	2	1	1.666666667	0.6
Total Individuals	7	2	4	1	2.3	1.5
Density (nos/sq.m.)		50	100	25	58	38.2

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0.68
Species Diversity (Shannon; log base 2)	d	=	0.99
Species Diversity (Shannon; log base 10)	H	=	0.3
Species Diversity (Simpson; 1/S)	1/S	=	2.33
Species Evenness (Pielou)	J'	=	0.99
Species Richness (Margalef)	D	=	0.51
Equitability Index (Lloyd & Ghelardi)	e	=	1.31

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	1	50	4	57.1
Arthropoda	1	50	3	42.8
TOTALS	**2**		**7**	

Station Data Summary Report
Station LB2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 008
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Arthropoda									
Malacostraca									
Amphipoda									
Gammaridae									
Gammarus mucronatus	0	0	1	25	0	0	1	100	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 008
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	1	0	1	0	0.333333333	0.6
Total Individuals	1	0	1	0	0.3	0.6
Density (nos/sq.m.)		0	25	0	8	14.4

FAUNAL INDICES			
Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	
Species Richness (Margalef)	D	=	
Equitability Index (Lloyd & Ghelardi)	e	=	1.29

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Arthropoda	1	100	1	100
TOTALS	**1**		**1**	

Station Data Summary Report
Station LB3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 009
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density

** No Taxa Found **

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 009
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	0	0	0	0	0	0
Total Individuals	0	0	0	0	0	0
Density (nos/sq.m.)		0	0	0	0	0

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	0
Species Richness (Margalef)	D	=	0
Equitability Index (Lloyd & Ghelardi)	e	=	

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
TOTALS	**0**		**0**	

Station Data Summary Report
Station LB4

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 010
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density

** No Taxa Found **

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB4

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 010
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	0	0	0	0	0	0
Total Individuals	0	0	0	0	0	0
Density (nos/sq.m.)		0	0	0	0	0

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	0
Species Richness (Margalef)	D	=	0
Equitability Index (Lloyd & Ghelardi)	e	=	

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
TOTALS	**0**		**0**	

Station Data Summary Report
Station LB5

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 011
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density

** No Taxa Found **

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB5

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 011
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	0	0	0	0	0	0
Total Individuals	0	0	0	0	0	0
Density (nos/sq.m.)		0	0	0	0	0

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	0
Species Richness (Margalef)	D	=	0
Equitability Index (Lloyd & Ghelardi)	e	=	

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
TOTALS	**0**		**0**	

Station Data Summary Report
Station LB6

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 012
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Enchytraeidae									
Enchytraeidae (LPIL)	0	0	0	0	1	25	1	100	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB6

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 012
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	1	0	0	1	0.333333333	0.6
Total Individuals	1	0	0	1	0.3	0.6
Density (nos/sq.m.)		0	0	25	8	14.4

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	
Species Richness (Margalef)	D	=	
Equitability Index (Lloyd & Ghelardi)	e	=	1.29

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	1	100	1	100
TOTALS	**1**		**1**	

Station Data Summary Report
Station LB7

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 013
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density

** No Taxa Found **

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB7

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 013
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	0	0	0	0	0	0
Total Individuals	0	0	0	0	0	0
Density (nos/sq.m.)		0	0	0	0	0

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	0
Species Richness (Margalef)	D	=	0
Equitability Index (Lloyd & Ghelardi)	e	=	

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
TOTALS	**0**		**0**	

Station Data Summary Report
Station LB8

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 014
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density

** No Taxa Found **

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB8

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 014
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	0	0	0	0	0	0
Total Individuals	0	0	0	0	0	0
Density (nos/sq.m.)		0	0	0	0	0

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	0
Species Richness (Margalef)	D	=	0
Equitability Index (Lloyd & Ghelardi)	e	=	

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
TOTALS	**0**		**0**	

Station Data Summary Report
Station LB9

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 015
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	9	225	38	950	0	0	47	8.2	392
Capitellidae (LPIL)	0	0	18	450	2	50	20	3.5	167
Heteromastus filiformis	0	0	2	50	0	0	2	0.3	17
Mediomastus (LPIL)	0	0	6	150	0	0	6	1	50
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	0	0	1	25	0	0	1	0.2	8
Phyllodocida									
Hesionidae									
Hesionidae (LPIL)	0	0	2	50	0	0	2	0.3	17
Podarke obscura	0	0	0	0	2	50	2	0.3	17
Podarkeopsis levifuscina	0	0	5	125	2	50	7	1.2	58
Nereidae									
Nereis succinea	0	0	0	0	1	25	1	0.2	8
Phyllodocidae									
Hypereteone heteropoda	2	50	25	625	1	25	28	4.9	233
Phyllodocidae (LPIL)	0	0	1	25	0	0	1	0.2	8
Polynoidae									
Harmothoe imbricata	0	0	0	0	1	25	1	0.2	8
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	0	0	4	100	1	25	5	0.9	42
Tharyx acutus	0	0	4	100	0	0	4	0.7	33
Spionidae									
Polydora cornuta	4	100	28	700	37	925	69	12	575
Streblospio benedicti	10	250	320	8000	6	150	336	58.6	2800
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	0	0	13	325	0	0	13	2.3	108
Aoridae									
Microdeutopus gryllotalpa	0	0	1	25	2	50	3	0.5	25
Corophiidae									
Corophiidae (LPIL)	0	0	3	75	0	0	3	0.5	25
Gammaridae									
Gammaridae (LPIL)	0	0	0	0	2	50	2	0.3	17
Bryozoa									
Bryozoa (LPIL)	0	0	0	0	1	25	1	0.2	8
Mollusca									
Bivalvia									
Myoida									
Myidae									
Mya arenaria	4	100	2	50	1	25	7	1.2	58
Veneroida									
Veneridae									
Gemma gemma	1	25	0	0	0	0	1	0.2	8
Mercenaria mercenaria	0	0	3	75	0	0	3	0.5	25

Station Data Summary Report
Station LB9

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 015
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula fornicata	0	0	5	125	0	0	5	0.9	42
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	0	0	0	0	3	75	3	0.5	25

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB9

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 015
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	26	6	19	14	13	6.6
Total Individuals	573	30	481	62	191	251.7
Density (nos/sq.m.)		750	12025	1550	4775	6291.4

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.65
Species Diversity (Shannon; log base 2)	d	=	2.38
Species Diversity (Shannon; log base 10)	H	=	0.72
Species Diversity (Simpson; 1/S)	1/S	=	2.71
Species Evenness (Pielou)	J'	=	0.51
Species Richness (Margalef)	D	=	3.94
Equitability Index (Lloyd & Ghelardi)	e	=	0.28

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	16	61.5	532	92.8
Mollusca	5	19.2	19	3.3
Arthropoda	4	15.3	21	3.6
Bryozoa	1	3.8	1	0.1
TOTALS	**26**		**573**	

Station Data Summary Report
Station NB1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 016
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	0	0	0	0	4	100	4	0.1	33
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	8	200	49	1225	52	1300	109	2.8	908
Heteromastus filiformis	1	25	4	100	3	75	8	0.2	67
Mediomastus (LPIL)	40	1000	27	675	495	12375	562	14.2	4683
Mediomastus ambiseta	25	625	1	25	15	375	41	1	342
Phyllodocida									
Glyceridae									
Glycera americana	0	0	0	0	3	75	3	0.1	25
Hesionidae									
Hesionidae (LPIL)	0	0	1	25	0	0	1	0	8
Podarke obscura	2	50	6	150	26	650	34	0.9	283
Podarkeopsis levifuscina	0	0	2	50	8	200	10	0.3	83
Nereidae									
Nereis succinea	0	0	2	50	0	0	2	0.1	17
Phyllodocidae									
Hypereteone heteropoda	6	150	26	650	37	925	69	1.7	575
Phyllodocidae (LPIL)	0	0	2	50	62	1550	64	1.6	533
Polynoidae									
Harmothoe imbricata	0	0	1	25	1	25	2	0.1	17
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	0	0	16	400	30	750	46	1.2	383
Tharyx acutus	4	100	0	0	4	100	8	0.2	67
Spionidae									
Polydora cornuta	81	2025	136	3400	179	4475	396	10	3300
Streblospio benedicti	143	3575	293	7325	992	24800	1428	36.2	11900
Terebellida									
Ampharetidae									
Asabellides oculata	1	25	0	0	0	0	1	0	8
Pectinariidae									
Pectinaria gouldii	0	0	1	25	3	75	4	0.1	33
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	19	475	223	5575	505	12625	747	18.9	6225
Aoridae									
Microdeutopus gryllotalpa	4	100	5	125	12	300	21	0.5	175
Corophiidae									
Monocorophium tuberculatum	2	50	7	175	16	400	25	0.6	208
Gammaridae									
Gammarus annulatus	17	425	108	2700	137	3425	262	6.6	2183
Decapoda									
Xanthidae									
Panopeus herbstii	0	0	1	25	0	0	1	0	8

Station Data Summary Report
Station NB1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 016
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Mollusca									
Bivalvia									
Myoida									
Myidae									
Mya arenaria	10	250	6	150	31	775	47	1.2	392
Veneroida									
Mactridae									
Mulinia lateralis	0	0	0	0	1	25	1	0	8
Solenidae									
Ensis directus	0	0	1	25	5	125	6	0.2	50
Veneridae									
Chione cancellata	2	50	0	0	14	350	16	0.4	133
Mercenaria mercenaria	0	0	5	125	7	175	12	0.3	100
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula (LPIL)	0	0	0	0	2	50	2	0.1	17
Crepidula plana	0	0	3	75	0	0	3	0.1	25
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	3	75	3	75	3	75	9	0.2	75
Rhynchocoela									
Rhynchocoela (LPIL)	0	0	0	0	1	25	1	0	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 016
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	33	17	25	28	23.33333333	5.7
Total Individuals	3945	368	929	2648	1315	1188
Density (nos/sq.m.)		9200	23225	66200	32875	29700

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	2.01
Species Diversity (Shannon; log base 2)	d	=	2.9
Species Diversity (Shannon; log base 10)	H	=	0.87
Species Diversity (Simpson; 1/S)	1/S	=	4.92
Species Evenness (Pielou)	J'	=	0.58
Species Richness (Margalef)	D	=	3.86
Equitability Index (Lloyd & Ghelardi)	e	=	0.32

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	3	1	0
Annelida	19	57.5	2792	70.7
Mollusca	8	24.2	96	2.4
Arthropoda	5	15.1	1056	26.7
TOTALS	**33**		**3945**	

Station Data Summary Report
Station NB2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 017
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	386	9650	366	9150	116	2900	868	94	7233
Capitellidae (LPIL)	3	75	0	0	5	125	8	0.9	67
Mediomastus (LPIL)	1	25	0	0	3	75	4	0.4	33
Phyllodocida									
Hesionidae									
Podarke obscura	1	25	1	25	0	0	2	0.2	17
Podarkeopsis levifuscina	1	25	0	0	0	0	1	0.1	8
Spionida									
Spionidae									
Polydora cornuta	17	425	0	0	1	25	18	2	150
Streblospio benedicti	7	175	2	50	2	50	11	1.2	92
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	3	75	0	0	1	25	4	0.4	33
Gammaridae									
Gammarus annulatus	2	50	4	100	0	0	6	0.7	50
Mollusca									
Bivalvia									
Myoida									
Myidae									
Mya arenaria	1	25	0	0	0	0	1	0.1	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 017
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	10	10	4	6	6.666666667	3.1
Total Individuals	923	422	373	128	307.7	157.5
Density (nos/sq.m.)		10550	9325	3200	7692	3937.8

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0.34
Species Diversity (Shannon; log base 2)	d	=	0.49
Species Diversity (Shannon; log base 10)	H	=	0.15
Species Diversity (Simpson; 1/S)	1/S	=	1.13
Species Evenness (Pielou)	J'	=	0.15
Species Richness (Margalef)	D	=	1.32
Equitability Index (Lloyd & Ghelardi)	e	=	0.18

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	7	70	912	98.8
Mollusca	1	10	1	0.1
Arthropoda	2	20	10	1
TOTALS	**10**		**923**	

Station Data Summary Report
Station NB3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 018
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	239	5975	178	4450	398	9950	815	45.7	6792
Capitellidae (LPIL)	5	125	0	0	0	0	5	0.3	42
Mediomastus (LPIL)	1	25	1	25	0	0	2	0.1	17
Phyllodocida									
Hesionidae									
Podarkeopsis levifuscina	1	25	0	0	0	0	1	0.1	8
Phyllodocidae									
Eumida sanguinea	4	100	0	0	0	0	4	0.2	33
Phyllodocidae (LPIL)	1	25	0	0	0	0	1	0.1	8
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	0	0	0	0	1	25	1	0.1	8
Tharyx acutus	1	25	0	0	5	125	6	0.3	50
Spionidae									
Polydora cornuta	84	2100	8	200	40	1000	132	7.4	1100
Streblospio benedicti	231	5775	80	2000	488	12200	799	44.8	6658
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	1	25	0	0	3	75	4	0.2	33
Gammaridae									
Gammarus annulatus	5	125	0	0	0	0	5	0.3	42
Bryozoa									
Bryozoa (LPIL)	3	75	0	0	0	0	3	0.2	25
Mollusca									
Bivalvia									
Myoida									
Myidae									
Mya arenaria	1	25	0	0	0	0	1	0.1	8
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	2	50	0	0	0	0	2	0.1	17
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	1	25	0	0	0	0	1	0.1	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 018
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	16	15	4	6	8.333333333	5.9
Total Individuals	1782	580	267	935	594	334.2
Density (nos/sq.m.)		14500	6675	23375	14850	8355.5

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.04
Species Diversity (Shannon; log base 2)	d	=	1.5
Species Diversity (Shannon; log base 10)	H	=	0.45
Species Diversity (Simpson; 1/S)	1/S	=	2.41
Species Evenness (Pielou)	J'	=	0.37
Species Richness (Margalef)	D	=	2
Equitability Index (Lloyd & Ghelardi)	e	=	0.24

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	10	62.5	1766	99.1
Mollusca	3	18.7	4	0.2
Arthropoda	2	12.5	9	0.5
Bryozoa	1	6.2	3	0.1
TOTALS	**16**		**1782**	

Station Data Summary Report
Station NB4

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 019
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Phyllodocida									
Phyllodocidae									
Hypereteone heteropoda	0	0	1	25	0	0	1	100	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB4

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 019
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	1	0	1	0	0.333333333	0.6
Total Individuals	1	0	1	0	0.3	0.6
Density (nos/sq.m.)		0	25	0	8	14.4

FAUNAL INDICES			
Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	
Species Richness (Margalef)	D	=	
Equitability Index (Lloyd & Ghelardi)	e	=	1.29

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	1	100	1	100
TOTALS	**1**		**1**	

Station Data Summary Report
Station NB5

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 020
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	146	3650	173	4325	150	3750	469	88.3	3908
Phyllodocida									
Phyllodocidae									
Hypereteone heteropoda	1	25	0	0	0	0	1	0.2	8
Spionida									
Spionidae									
Polydora cornuta	21	525	1	25	1	25	23	4.3	192
Streblospio benedicti	38	950	0	0	0	0	38	7.2	317

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB5

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 020
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	4	4	2	2	2.666666667	1.2
Total Individuals	531	206	174	151	177	27.6
Density (nos/sq.m.)		5150	4350	3775	4425	690.6

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0.45
Species Diversity (Shannon; log base 2)	d	=	0.64
Species Diversity (Shannon; log base 10)	H	=	0.19
Species Diversity (Simpson; 1/S)	1/S	=	1.27
Species Evenness (Pielou)	J'	=	0.32
Species Richness (Margalef)	D	=	0.48
Equitability Index (Lloyd & Ghelardi)	e	=	0.51

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	4	100	531	100
TOTALS	**4**		**531**	

Station Data Summary Report
Station NB6

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 021
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	62	1550	88	2200	89	2225	239	20.8	1992
Phyllodocida									
Hesionidae									
Podarkeopsis levifuscina	0	0	2	50	1	25	3	0.3	25
Spionida									
Cirratulidae									
Tharyx acutus	1	25	1	25	2	50	4	0.3	33
Spionidae									
Polydora cornuta	38	950	80	2000	45	1125	163	14.2	1358
Streblospio benedicti	192	4800	282	7050	134	3350	608	53	5067
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	68	1700	35	875	9	225	112	9.8	933
Corophiidae									
Monocorophium tuberculatum	0	0	1	25	0	0	1	0.1	8
Gammaridae									
Gammarus annulatus	10	250	7	175	1	25	18	1.6	150

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB6

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 021
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	8	6	8	7	7	1
Total Individuals	1148	371	496	281	382.7	108
Density (nos/sq.m.)		9275	12400	7025	9567	2699.3

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.27
Species Diversity (Shannon; log base 2)	d	=	1.84
Species Diversity (Shannon; log base 10)	H	=	0.55
Species Diversity (Simpson; 1/S)	1/S	=	2.83
Species Evenness (Pielou)	J'	=	0.61
Species Richness (Margalef)	D	=	0.99
Equitability Index (Lloyd & Ghelardi)	e	=	0.61

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	5	62.5	1017	88.5
Arthropoda	3	37.5	131	11.4
TOTALS	**8**		**1148**	

Station Data Summary Report
Station NB7

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 022
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	42	1050	145	3625	35	875	222	12.7	1850
Heteromastus filiformis	0	0	1	25	0	0	1	0.1	8
Mediomastus (LPIL)	0	0	1	25	0	0	1	0.1	8
Phyllodocida									
Glyceridae									
Glycera americana	1	25	1	25	0	0	2	0.1	17
Nereidae									
Nereis (LPIL)	1	25	0	0	0	0	1	0.1	8
Phyllodocidae									
Hypereteone heteropoda	1	25	2	50	0	0	3	0.2	25
Phyllodocidae (LPIL)	0	0	1	25	0	0	1	0.1	8
Spionida									
Cirratulidae									
Tharyx acutus	15	375	3	75	0	0	18	1	150
Spionidae									
Polydora cornuta	50	1250	46	1150	21	525	117	6.7	975
Streblospio benedicti	570	14250	322	8050	77	1925	969	55.3	8075
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	164	4100	157	3925	32	800	353	20.2	2942
Aoridae									
Microdeutopus gryllotalpa	6	150	14	350	2	50	22	1.3	183
Corophiidae									
Monocorophium tuberculatum	6	150	9	225	3	75	18	1	150
Gammaridae									
Gammarus annulatus	17	425	4	100	0	0	21	1.2	175
Mollusca									
Bivalvia									
Veneroida									
Solenidae									
Ensis directus	0	0	1	25	0	0	1	0.1	8
Gastropoda									
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	0	0	1	25	0	0	1	0.1	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB7

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 022
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	16	11	15	6	10.66666667	4.5
Total Individuals	1751	873	708	170	583.7	367.6
Density (nos/sq.m.)		21825	17700	4250	14592	9190.6

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.34
Species Diversity (Shannon; log base 2)	d	=	1.93
Species Diversity (Shannon; log base 10)	H	=	0.58
Species Diversity (Simpson; 1/S)	1/S	=	2.72
Species Evenness (Pielou)	J'	=	0.48
Species Richness (Margalef)	D	=	2.01
Equitability Index (Lloyd & Ghelardi)	e	=	0.33

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	10	62.5	1335	76.2
Mollusca	2	12.5	2	0.1
Arthropoda	4	25	414	23.6
TOTALS	**16**		**1751**	

Station Data Summary Report
Station NB8

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 023
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	0	0	58	1450	39	975	97	25.5	808
Mediomastus ambiseta	0	0	0	0	1	25	1	0.3	8
Phyllodocida									
Hesionidae									
Podarkeopsis levifuscina	0	0	1	25	0	0	1	0.3	8
Phyllodocidae									
Hypereteone heteropoda	0	0	1	25	0	0	1	0.3	8
Spionida									
Cirratulidae									
Tharyx acutus	0	0	0	0	1	25	1	0.3	8
Spionidae									
Polydora cornuta	0	0	112	2800	29	725	141	37.1	1175
Streblospio benedicti	3	75	57	1425	62	1550	122	32.1	1017
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	1	25	1	25	8	200	10	2.6	83
Gammaridae									
Gammarus annulatus	0	0	3	75	2	50	5	1.3	42
Mollusca									
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	0	0	0	0	1	25	1	0.3	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB8

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 023
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	10	2	7	8	5.666666667	3.2
Total Individuals	380	4	233	143	126.7	115.4
Density (nos/sq.m.)		100	5825	3575	3167	2884.3

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.31
Species Diversity (Shannon; log base 2)	d	=	1.89
Species Diversity (Shannon; log base 10)	H	=	0.57
Species Diversity (Simpson; 1/S)	1/S	=	3.28
Species Evenness (Pielou)	J'	=	0.57
Species Richness (Margalef)	D	=	1.52
Equitability Index (Lloyd & Ghelardi)	e	=	0.51

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	7	70	364	95.7
Mollusca	1	10	1	0.2
Arthropoda	2	20	15	3.9
TOTALS	**10**		**380**	

Station Data Summary Report
Station NB9

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 024
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	0	0	0	0	1	25	1	0	8
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	229	5725	118	2950	101	2525	448	15.3	3733
Heteromastus filiformis	1	25	2	50	0	0	3	0.1	25
Mediomastus (LPIL)	32	800	42	1050	2	50	76	2.6	633
Mediomastus ambiseta	8	200	10	250	1	25	19	0.6	158
Phyllodocida									
Glyceridae									
Glycera americana	1	25	0	0	1	25	2	0.1	17
Glyceridae (LPIL)	1	25	0	0	0	0	1	0	8
Hesionidae									
Podarke obscura	5	125	0	0	0	0	5	0.2	42
Podarkeopsis levifuscina	10	250	0	0	3	75	13	0.4	108
Phyllodocidae									
Hypereteone heteropoda	20	500	38	950	6	150	64	2.2	533
Phyllodocidae (LPIL)	25	625	28	700	7	175	60	2	500
Sabellida									
Serpulidae									
Hydroides dianthus	2	50	0	0	0	0	2	0.1	17
Spionida									
Cirratulidae									
Tharyx acutus	16	400	10	250	0	0	26	0.9	217
Spionidae									
Polydora cornuta	86	2150	148	3700	9	225	243	8.3	2025
Spionidae (LPIL)	0	0	0	0	1	25	1	0	8
Streblospio benedicti	408	10200	650	16250	30	750	1088	37.2	9067
Terebellida									
Pectinariidae									
Pectinaria gouldii	2	50	0	0	0	0	2	0.1	17
Sabellariidae									
Sabellaria vulgaris	1	25	0	0	2	50	3	0.1	25
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	208	5200	564	14100	2	50	774	26.4	6450
Aoridae									
Microdeutopus gryllotalpa	32	800	24	600	0	0	56	1.9	467
Corophiidae									
Monocorophium tuberculatum	2	50	0	0	0	0	2	0.1	17
Gammaridae									
Gammarus annulatus	1	25	0	0	1	25	2	0.1	17
Decapoda									
Crangonidae									
Crangon septemspinosa	0	0	0	0	1	25	1	0	8
Isopoda									
Idoteidae									
Edotea triloba	1	25	0	0	0	0	1	0	8

Station Data Summary Report
Station NB9

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 024
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Mollusca									
Bivalvia									
Myoida									
Myidae									
Mya arenaria	4	100	2	50	0	0	6	0.2	50
Veneroida									
Veneridae									
Gemma gemma	0	0	2	50	0	0	2	0.1	17
Gastropoda									
Gastropoda (LPIL)	1	25	0	0	0	0	1	0	8
Mesogastropoda									
Calyptraeidae									
Crepidula plana	0	0	2	50	0	0	2	0.1	17
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	3	75	10	250	10	250	23	0.8	192
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	0	0	0	0	1	25	1	0	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB9

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 024
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	30	24	15	17	18.66666667	4.7
Total Individuals	2928	1099	1650	179	976	743.2
Density (nos/sq.m.)		27475	41250	4475	24400	18579.3

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.78
Species Diversity (Shannon; log base 2)	d	=	2.56
Species Diversity (Shannon; log base 10)	H	=	0.77
Species Diversity (Simpson; 1/S)	1/S	=	4.16
Species Evenness (Pielou)	J'	=	0.52
Species Richness (Margalef)	D	=	3.63
Equitability Index (Lloyd & Ghelardi)	e	=	0.27

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	18	60	2057	70.2
Mollusca	6	20	35	1.1
Arthropoda	6	20	836	28.5
TOTALS	**30**		**2928**	

Station Data Summary Report
Station NB10

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 025
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	11	275	6	150	48	1200	65	0.7	542
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	68	1700	0	0	28	700	96	1	800
Mediomastus (LPIL)	238	5950	48	1200	188	4700	474	5.1	3950
Mediomastus ambiseta	31	775	0	0	36	900	67	0.7	558
Phyllodocida									
Glyceridae									
Glycera americana	1	25	0	0	16	400	17	0.2	142
Hesionidae									
Hesionidae (LPIL)	1	25	0	0	0	0	1	0	8
Podarke obscura	169	4225	14	350	140	3500	323	3.5	2692
Nereidae									
Nereis succinea	0	0	0	0	8	200	8	0.1	67
Phyllodocidae									
Eumida sanguinea	4	100	1	25	0	0	5	0.1	42
Hypereteone heteropoda	1	25	0	0	0	0	1	0	8
Phyllodocidae (LPIL)	1	25	0	0	4	100	5	0.1	42
Polynoidae									
Harmothoe imbricata	3	75	0	0	0	0	3	0	25
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	0	0	1	25	44	1100	45	0.5	375
Tharyx acutus	16	400	5	125	344	8600	365	3.9	3042
Spionidae									
Polydora cornuta	110	2750	15	375	148	3700	273	2.9	2275
Streblospio benedicti	0	0	0	0	8	200	8	0.1	67
Terebellida									
Pectinariidae									
Pectinaria gouldii	0	0	0	0	4	100	4	0	33
Terebellidae									
Polycirrus (LPIL)	1	25	0	0	0	0	1	0	8
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	1148	28700	103	2575	4004	100100	5255	56.7	43792
Aoridae									
Microdeutopus gryllotalpa	138	3450	43	1075	748	18700	929	10	7742
Corophiidae									
Monocorophium tuberculatum	294	7350	32	800	900	22500	1226	13.2	10217
Lysianassidae									
Lysianopsis alba	0	0	0	0	4	100	4	0	33
Melitidae									
Elasmopus levis	4	100	1	25	0	0	5	0.1	42
Phoxocephalidae									
Eobrolgus spinosus	1	25	0	0	4	100	5	0.1	42
Decapoda									
Xanthidae									
Panopeus herbstii	1	25	0	0	0	0	1	0	8

Station Data Summary Report
Station NB10

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 025
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Mollusca									
Bivalvia									
Myoida									
Myidae									
Mya arenaria	6	150	3	75	4	100	13	0.1	108
Veneroida									
Mactridae									
Mulinia lateralis	1	25	0	0	0	0	1	0	8
Petricolidae									
Petricola pholadiformis	3	75	3	75	4	100	10	0.1	83
Solenidae									
Ensis directus	0	0	0	0	4	100	4	0	33
Tellinidae									
Tellinidae (LPIL)	1	25	0	0	0	0	1	0	8
Veneridae									
Chione cancellata	7	175	6	150	4	100	17	0.2	142
Mercenaria mercenaria	3	75	3	75	4	100	10	0.1	83
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	2	50	1	25	12	300	15	0.2	125
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	1	25	2	50	0	0	3	0	25
Rhynchocoela									
Rhynchocoela (LPIL)	0	0	0	0	4	100	4	0	33

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB10

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 025
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	35	28	17	25	23.33333333	5.7
Total Individuals	9264	2265	287	6712	3088	3290.6
Density (nos/sq.m.)		56625	7175	167800	77200	82265.4

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.57
Species Diversity (Shannon; log base 2)	d	=	2.27
Species Diversity (Shannon; log base 10)	H	=	0.68
Species Diversity (Simpson; 1/S)	1/S	=	2.81
Species Evenness (Pielou)	J'	=	0.44
Species Richness (Margalef)	D	=	3.72
Equitability Index (Lloyd & Ghelardi)	e	=	0.19

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	2.8	4	0
Annelida	18	51.4	1761	19
Mollusca	9	25.7	74	0.7
Arthropoda	7	20	7425	80.1
TOTALS	**35**		**9264**	

Station Data Summary Report
Station NB11

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 026
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	0	0	14	350	1	25	15	0.6	125
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	46	1150	10	250	8	200	64	2.7	533
Mediomastus (LPIL)	0	0	25	625	15	375	40	1.7	333
Mediomastus ambiseta	0	0	18	450	7	175	25	1	208
Orbiniida									
Orbiniidae									
Leitoscoloplos robustus	0	0	1	25	0	0	1	0	8
Phyllodocida									
Glyceridae									
Glycera americana	0	0	1	25	0	0	1	0	8
Hesionidae									
Podarke obscura	1	25	49	1225	105	2625	155	6.5	1292
Podarkeopsis levifuscina	0	0	2	50	1	25	3	0.1	25
Nereidae									
Nereis succinea	2	50	1	25	0	0	3	0.1	25
Phyllodocidae									
Eumida sanguinea	2	50	2	50	4	100	8	0.3	67
Polynoidae									
Harmothoe imbricata	0	0	1	25	0	0	1	0	8
Sabellida									
Serpulidae									
Hydroides dianthus	0	0	0	0	1	25	1	0	8
Spionida									
Cirratulidae									
Tharyx acutus	0	0	1	25	15	375	16	0.7	133
Spionidae									
Polydora cornuta	3	75	21	525	33	825	57	2.4	475
Streblospio benedicti	0	0	0	0	3	75	3	0.1	25
Terebellida									
Pectinariidae									
Pectinaria gouldii	0	0	2	50	0	0	2	0.1	17
Sabellariidae									
Sabellaria vulgaris	0	0	0	0	7	175	7	0.3	58
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	25	625	394	9850	826	20650	1245	51.9	10375
Aoridae									
Microdeutopus gryllotalpa	12	300	46	1150	315	7875	373	15.5	3108
Corophiidae									
Monocorophium tuberculatum	4	100	46	1150	242	6050	292	12.2	2433
Lysianassidae									
Lysianopsis alba	0	0	0	0	39	975	39	1.6	325
Melitidae									
Elasmopus levis	0	0	3	75	0	0	3	0.1	25
Decapoda									
Xanthidae									
Panopeus herbstii	0	0	1	25	0	0	1	0	8

Station Data Summary Report
Station NB11

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 026
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Brachiopoda									
Brachiopoda (LPIL)	0	0	0	0	1	25	1	0	8
Mollusca									
Bivalvia									
Myoida									
Myidae									
Mya arenaria	0	0	4	100	0	0	4	0.2	33
Veneroida									
Petricolidae									
Petricola pholadiformis	0	0	4	100	1	25	5	0.2	42
Veneridae									
Chione cancellata	0	0	0	0	7	175	7	0.3	58
Gemma gemma	0	0	0	0	8	200	8	0.3	67
Mercenaria mercenaria	0	0	1	25	2	50	3	0.1	25
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	0	0	0	0	14	350	14	0.6	117
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	0	0	0	0	2	50	2	0.1	17
Platyhelminthes									
Turbellaria									
Turbellaria (LPIL)	0	0	0	0	1	25	1	0	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB11

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 026
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	32	8	22	24	18	8.7
Total Individuals	2400	95	647	1658	800	792.7
Density (nos/sq.m.)		2375	16175	41450	20000	19816.3

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.7
Species Diversity (Shannon; log base 2)	d	=	2.45
Species Diversity (Shannon; log base 10)	H	=	0.74
Species Diversity (Simpson; 1/S)	1/S	=	3.18
Species Evenness (Pielou)	J'	=	0.49
Species Richness (Margalef)	D	=	3.98
Equitability Index (Lloyd & Ghelardi)	e	=	0.24

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Platyhelminthes	1	3.1	1	0
Annelida	17	53.1	402	16.7
Mollusca	7	21.8	43	1.7
Arthropoda	6	18.7	1953	81.3
Brachiopoda	1	3.1	1	0
TOTALS	**32**		**2400**	

Station Data Summary Report
Station NB12

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 027
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	13	325	51	1275	102	2550	166	2.2	1383
Polychaeta									
Capitellida									
Capitellidae									
Capitella (LPIL)	3	75	0	0	8	200	11	0.1	92
Capitella capitata	11	275	37	925	66	1650	114	1.5	950
Capitella jonesi	0	0	0	0	2	50	2	0	17
Capitellidae (LPIL)	0	0	4	100	0	0	4	0.1	33
Heteromastus filiformis	1	25	0	0	0	0	1	0	8
Mediomastus ambiseta	143	3575	251	6275	368	9200	762	10.2	6350
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	1	25	9	225	0	0	10	0.1	83
Leitoscoloplos robustus	0	0	1	25	4	100	5	0.1	42
Phyllodocida									
Hesionidae									
Podarke obscura	0	0	0	0	8	200	8	0.1	67
Nephtyidae									
Nephtys picta	0	0	1	25	0	0	1	0	8
Nereidae									
Nereis (LPIL)	0	0	2	50	0	0	2	0	17
Nereis succinea	0	0	0	0	2	50	2	0	17
Phyllodocidae									
Eumida sanguinea	0	0	0	0	4	100	4	0.1	33
Hypereteone heteropoda	0	0	0	0	34	850	34	0.5	283
Phyllodocidae (LPIL)	0	0	2	50	8	200	10	0.1	83
Polynoidae									
Harmothoe imbricata	0	0	0	0	8	200	8	0.1	67
Sabellida									
Serpulidae									
Hydroides dianthus	0	0	0	0	10	250	10	0.1	83
Serpulidae (LPIL)	0	0	0	0	6	150	6	0.1	50
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	41	1025	40	1000	258	6450	339	4.5	2825
Tharyx acutus	84	2100	117	2925	368	9200	569	7.6	4742
Spionidae									
Polydora cornuta	123	3075	182	4550	322	8050	627	8.4	5225
Spio filicornis	5	125	0	0	12	300	17	0.2	142
Spio pettiboneae	0	0	22	550	4	100	26	0.3	217
Streblospio benedicti	505	12625	1228	30700	1082	27050	2815	37.6	23458
Terebellida									
Sabellariidae									
Sabellaria vulgaris	2	50	11	275	30	750	43	0.6	358
Terebellidae									
Polycirrus (LPIL)	0	0	0	0	8	200	8	0.1	67
Polycirrus sp. G	1	25	0	0	4	100	5	0.1	42
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	47	1175	231	5775	1398	34950	1676	22.4	13967

Station Data Summary Report
Station NB12

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 027
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Aoridae									
Microdeutopus gryllotalpa	0	0	2	50	26	650	28	0.4	233
Unciola serrata	0	0	0	0	4	100	4	0.1	33
Corophiidae									
Monocorophium tuberculatum	0	0	17	425	34	850	51	0.7	425
Liljeborgiidae									
Listriella barnardi	0	0	1	25	0	0	1	0	8
Decapoda									
Crangonidae									
Crangon septemspinosa	5	125	0	0	0	0	5	0.1	42
Paguridae									
Pagurus longicarpus	1	25	11	275	2	50	14	0.2	117
Xanthidae									
Rhithropanopeus harrisii	0	0	0	0	2	50	2	0	17
Chordata									
Ascidiacea									
Ascidiacea (LPIL)	1	25	0	0	0	0	1	0	8
Mollusca									
Bivalvia									
Myoida									
Myidae									
Mya arenaria	3	75	4	100	10	250	17	0.2	142
Veneroida									
Solenidae									
Ensis directus	1	25	1	25	2	50	4	0.1	33
Tellinidae									
Tellina (LPIL)	1	25	0	0	2	50	3	0	25
Tellina agilis	0	0	4	100	2	50	6	0.1	50
Veneridae									
Chione cancellata	5	125	6	150	8	200	19	0.3	158
Gemma gemma	0	0	9	225	4	100	13	0.2	108
Mercenaria mercenaria	0	0	1	25	0	0	1	0	8
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula (LPIL)	1	25	0	0	0	0	1	0	8
Crepidula fornicata	0	0	5	125	0	0	5	0.1	42
Rissoidae									
Rissoidae (LPIL)	4	100	1	25	6	150	11	0.1	92
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	3	75	10	250	12	300	25	0.3	208

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB12

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 027
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	48	24	29	37	30	6.6
Total Individuals	7496	1005	2261	4230	2498.7	1625.6
Density (nos/sq.m.)		25125	56525	105750	62467	40639.6

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.97
Species Diversity (Shannon; log base 2)	d	=	2.85
Species Diversity (Shannon; log base 10)	H	=	0.86
Species Diversity (Simpson; 1/S)	1/S	=	4.61
Species Evenness (Pielou)	J'	=	0.51
Species Richness (Margalef)	D	=	5.27
Equitability Index (Lloyd & Ghelardi)	e	=	0.21

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	28	58.3	5609	74.8
Mollusca	11	22.9	105	1.4
Arthropoda	8	16.6	1781	23.7
Chordata	1	2	1	0
TOTALS	**48**		**7496**	

Station Data Summary Report
Station NB13

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 028
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	22	550	22	550	112	2800	156	4.5	1300
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	25	625	13	325	16	400	54	1.6	450
Capitellidae (LPIL)	0	0	0	0	2	50	2	0.1	17
Mediomastus ambiseta	34	850	105	2625	304	7600	443	12.9	3692
Eunicida									
Dorvilleidae									
Schistomeringos pectinata	0	0	1	25	0	0	1	0	8
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	0	0	0	0	2	50	2	0.1	17
Leitoscoloplos robustus	6	150	6	150	2	50	14	0.4	117
Phyllodocida									
Glyceridae									
Glyceridae (LPIL)	1	25	0	0	0	0	1	0	8
Hesionidae									
Podarke obscura	20	500	28	700	10	250	58	1.7	483
Nereidae									
Nereis succinea	2	50	12	300	0	0	14	0.4	117
Phyllodocidae									
Eumida sanguinea	11	275	69	1725	36	900	116	3.4	967
Hypereteone heteropoda	0	0	4	100	0	0	4	0.1	33
Paranaitis speciosa	0	0	1	25	0	0	1	0	8
Phyllodocidae (LPIL)	0	0	1	25	10	250	11	0.3	92
Polynoidae									
Harmothoe imbricata	12	300	7	175	0	0	19	0.6	158
Syllidae									
Exogone rolani	1	25	0	0	0	0	1	0	8
Sabellida									
Sabellidae									
Demonax microphthalmus	10	250	5	125	0	0	15	0.4	125
Serpulidae									
Hydroides dianthus	2	50	20	500	8	200	30	0.9	250
Serpulidae (LPIL)	2	50	11	275	8	200	21	0.6	175
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	15	375	18	450	88	2200	121	3.5	1008
Tharyx acutus	16	400	16	400	34	850	66	1.9	550
Spionidae									
Polydora cornuta	15	375	116	2900	166	4150	297	8.7	2475
Spio filicornis	0	0	7	175	0	0	7	0.2	58
Spio pettiboneae	5	125	0	0	12	300	17	0.5	142
Spionidae (LPIL)	0	0	0	0	2	50	2	0.1	17
Streblospio benedicti	22	550	185	4625	744	18600	951	27.7	7925
Terebellida									
Sabellariidae									
Sabellaria vulgaris	69	1725	142	3550	76	1900	287	8.4	2392
Terebellidae									
Polycirrus sp. G	2	50	4	100	2	50	8	0.2	67

Station Data Summary Report
Station NB13

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 028
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Arthropoda									
Malacostraca									
Amphipoda									
Aeginellidae									
Paracaprella tenuis	6	150	1	25	4	100	11	0.3	92
Ampeliscidae									
Ampelisca vadorum	3	75	19	475	16	400	38	1.1	317
Aoridae									
Microdeutopus gryllotalpa	25	625	64	1600	36	900	125	3.6	1042
Unciola serrata	3	75	37	925	10	250	50	1.5	417
Corophiidae									
Monocorophium tuberculatum	31	775	107	2675	32	800	170	5	1417
Gammaridae									
Gammarus mucronatus	0	0	2	50	6	150	8	0.2	67
Ischyroceridae									
Erichthonius brasiliensis	14	350	1	25	2	50	17	0.5	142
Lysianassidae									
Lysianopsis alba	18	450	0	0	0	0	18	0.5	150
Melitidae									
Elasmopus levis	2	50	7	175	2	50	11	0.3	92
Melita nitida	0	0	9	225	4	100	13	0.4	108
Phoxocephalidae									
Rhepoxynius hudsoni	1	25	2	50	2	50	5	0.1	42
Decapoda									
Crangonidae									
Crangon septemspinosa	0	0	1	25	2	50	3	0.1	25
Paguridae									
Pagurus longicarpus	1	25	4	100	0	0	5	0.1	42
Xanthidae									
Dyspanopeus sayi	2	50	2	50	0	0	4	0.1	33
Xanthidae (LPIL)	0	0	1	25	0	0	1	0	8
Mollusca									
Bivalvia									
Bivalvia (LPIL)	0	0	1	25	0	0	1	0	8
Myoida									
Myidae									
Mya arenaria	10	250	0	0	0	0	10	0.3	83
Veneroida									
Montacutidae									
Mysella planulata	1	25	0	0	0	0	1	0	8
Tellinidae									
Tellina agilis	7	175	0	0	4	100	11	0.3	92
Veneridae									
Chione cancellata	4	100	7	175	8	200	19	0.6	158
Gemma gemma	5	125	0	0	0	0	5	0.1	42
Mercenaria mercenaria	1	25	1	25	6	150	8	0.2	67
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula fornicata	3	75	22	550	0	0	25	0.7	208
Rissoidae									
Rissoidae (LPIL)	2	50	0	0	1	25	3	0.1	25
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	56	1400	48	1200	40	1000	144	4.2	1200
Nudibranchia									
Corambidae									
Doridella obscura	0	0	1	25	0	0	1	0	8

Station Data Summary Report
Station NB13

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 028
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	4	100	0	0	0	0	4	0.1	33
Rhynchocoela									
Rhynchocoela (LPIL)	0	0	3	75	0	0	3	0.1	25

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB13

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 028
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	56	41	43	35	39.66666667	4.2
Total Individuals	3433	491	1133	1809	1144.3	659.1
Density (nos/sq.m.)		12275	28325	45225	28608	16476.8

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	2.72
Species Diversity (Shannon; log base 2)	d	=	3.92
Species Diversity (Shannon; log base 10)	H	=	1.18
Species Diversity (Simpson; 1/S)	1/S	=	8.38
Species Evenness (Pielou)	J'	=	0.68
Species Richness (Margalef)	D	=	6.76
Equitability Index (Lloyd & Ghelardi)	e	=	0.39

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	1.7	3	0
Annelida	28	50	2719	79.2
Mollusca	12	21.4	232	6.7
Arthropoda	15	26.7	479	13.9
TOTALS	**56**		**3433**	

Station Data Summary Report
Station NB14

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 029
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	322	8050	264	6600	60	1500	646	5.9	5383
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	48	1200	16	400	0	0	64	0.6	533
Capitella jonesi	0	0	0	0	4	100	4	0	33
Mediomastus ambiseta	30	750	82	2050	24	600	136	1.2	1133
Maldanidae									
Maldanidae (LPIL)	2	50	0	0	0	0	2	0	17
Eunicida									
Dorvilleidae									
Schistomeringos pectinata	0	0	2	50	0	0	2	0	17
Schistomeringos rudolphi	2	50	0	0	0	0	2	0	17
Orbiniida									
Orbiniidae									
Leitoscoloplos robustus	8	200	2	50	0	0	10	0.1	83
Phyllodocida									
Glyceridae									
Glyceridae (LPIL)	2	50	2	50	0	0	4	0	33
Hesionidae									
Podarke obscura	360	9000	54	1350	328	8200	742	6.8	6183
Podarkeopsis levifuscina	2	50	4	100	0	0	6	0.1	50
Nereidae									
Nereis (LPIL)	2	50	2	50	0	0	4	0	33
Nereis succinea	18	450	10	250	72	1800	100	0.9	833
Phyllodocidae									
Eumida sanguinea	160	4000	20	500	320	8000	500	4.6	4167
Paranaitis speciosa	0	0	0	0	4	100	4	0	33
Phyllodocidae (LPIL)	6	150	2	50	0	0	8	0.1	67
Polynoidae									
Harmothoe imbricata	114	2850	10	250	32	800	156	1.4	1300
Syllidae									
Autolytus (LPIL)	2	50	0	0	4	100	6	0.1	50
Sabellida									
Sabellidae									
Demonax microphthalmus	10	250	4	100	92	2300	106	1	883
Sabellidae (LPIL)	0	0	0	0	4	100	4	0	33
Serpulidae									
Hydroides dianthus	152	3800	36	900	112	2800	300	2.7	2500
Serpulidae (LPIL)	28	700	26	650	76	1900	130	1.2	1083
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	262	6550	162	4050	36	900	460	4.2	3833
Tharyx acutus	130	3250	32	800	20	500	182	1.7	1517
Spionidae									
Polydora cornuta	92	2300	90	2250	452	11300	634	5.8	5283
Streblospio benedicti	14	350	18	450	12	300	44	0.4	367
Terebellida									
Pectinariidae									
Pectinaria gouldii	2	50	0	0	0	0	2	0	17
Sabellariidae									
Sabellaria vulgaris	832	20800	140	3500	2456	61400	3428	31.3	28567
Terebellidae									
Polycirrus sp. G	66	1650	42	1050	320	8000	428	3.9	3567

Station Data Summary Report
Station NB14

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 029
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Arthropoda									
Malacostraca									
Amphipoda									
Aeginellidae									
Aeginellidae (LPIL)	0	0	0	0	4	100	4	0	33
Ampeliscidae									
Ampelisca vadorum	7	175	0	0	8	200	15	0.1	125
Aoridae									
Microdeutopus gryllotalpa	128	3200	78	1950	196	4900	402	3.7	3350
Unciola serrata	600	15000	72	1800	444	11100	1116	10.2	9300
Corophiidae									
Monocorophium tuberculatum	334	8350	16	400	260	6500	610	5.6	5083
Lysianassidae									
Lysianopsis alba	58	1450	0	0	4	100	62	0.6	517
Melitidae									
Melita (LPIL)	0	0	0	0	8	200	8	0.1	67
Phoxocephalidae									
Rhepoxynius hudsoni	40	1000	34	850	20	500	94	0.9	783
Decapoda									
Paguridae									
Pagurus longicarpus	0	0	2	50	4	100	6	0.1	50
Xanthidae									
Dyspanopeus sayi	18	450	4	100	20	500	42	0.4	350
Xanthidae (LPIL)	6	150	0	0	0	0	6	0.1	50
Mysidacea									
Mysidae									
Mysidae (LPIL)	0	0	0	0	12	300	12	0.1	100
Mollusca									
Bivalvia									
Bivalvia (LPIL)	0	0	2	50	0	0	2	0	17
Myoida									
Myidae									
Mya arenaria	10	250	0	0	24	600	34	0.3	283
Mytiloida									
Mytilidae									
Mytilus edulis	4	100	0	0	0	0	4	0	33
Ostreoida									
Anomiidae									
Anomia simplex	2	50	0	0	0	0	2	0	17
Veneroida									
Veneridae									
Chione cancellata	2	50	6	150	4	100	12	0.1	100
Mercenaria mercenaria	6	150	2	50	0	0	8	0.1	67
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula fornicata	116	2900	10	250	48	1200	174	1.6	1450
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	120	3000	22	550	36	900	178	1.6	1483
Rhynchocoela									
Rhynchocoela (LPIL)	0	0	0	0	32	800	32	0.3	267

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB14

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 029
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	50	40	33	35	36	3.6
Total Individuals	10937	4117	1268	5552	3645.7	2180.5
Density (nos/sq.m.)		102925	31700	138800	91142	54513.6

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	2.62
Species Diversity (Shannon; log base 2)	d	=	3.78
Species Diversity (Shannon; log base 10)	H	=	1.14
Species Diversity (Simpson; 1/S)	1/S	=	7.56
Species Evenness (Pielou)	J'	=	0.67
Species Richness (Margalef)	D	=	5.27
Equitability Index (Lloyd & Ghelardi)	e	=	0.4

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	2	32	0.2
Annelida	29	58	8114	74.1
Mollusca	8	16	414	3.7
Arthropoda	12	24	2377	21.7
TOTALS	**50**		**10937**	

Station Data Summary Report
Station NB15

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 030
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	36	900	31	775	82	2050	149	4.8	1242
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	2	50	2	50	9	225	13	0.4	108
Mediomastus ambiseta	14	350	15	375	27	675	56	1.8	467
Maldanidae									
Maldanidae (LPIL)	0	0	0	0	1	25	1	0	8
Eunicida									
Oenonidae									
Drilonereis longa	0	0	2	50	0	0	2	0.1	17
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	1	25	0	0	3	75	4	0.1	33
Phyllodocida									
Glyceridae									
Glycera americana	1	25	0	0	0	0	1	0	8
Hesionidae									
Podarke obscura	4	100	14	350	70	1750	88	2.8	733
Nephtyidae									
Nephtys incisa	1	25	0	0	0	0	1	0	8
Nereidae									
Nereididae (LPIL)	1	25	0	0	0	0	1	0	8
Nereis (LPIL)	0	0	1	25	4	100	5	0.2	42
Nereis succinea	0	0	1	25	3	75	4	0.1	33
Phyllodocidae									
Eumida sanguinea	4	100	17	425	78	1950	99	3.2	825
Phyllodocidae (LPIL)	0	0	0	0	8	200	8	0.3	67
Polynoidae									
Harmothoe imbricata	1	25	3	75	19	475	23	0.7	192
Syllidae									
Autolytus (LPIL)	0	0	0	0	1	25	1	0	8
Sabellida									
Sabellidae									
Demonax microphthalmus	0	0	2	50	26	650	28	0.9	233
Serpulidae									
Hydroides dianthus	0	0	2	50	613	15325	615	19.7	5125
Serpulidae (LPIL)	0	0	1	25	3	75	4	0.1	33
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	19	475	18	450	45	1125	82	2.6	683
Tharyx acutus	28	700	57	1425	75	1875	160	5.1	1333
Spionidae									
Polydora cornuta	54	1350	52	1300	56	1400	162	5.2	1350
Spio (LPIL)	1	25	0	0	2	50	3	0.1	25
Spio filicornis	12	300	4	100	11	275	27	0.9	225
Spionidae (LPIL)	1	25	0	0	0	0	1	0	8
Streblospio benedicti	231	5775	176	4400	445	11125	852	27.3	7100
Terebellida									
Pectinariidae									
Pectinaria gouldii	0	0	0	0	1	25	1	0	8
Sabellariidae									
Sabellaria vulgaris	9	225	96	2400	96	2400	201	6.4	1675

Station Data Summary Report
Station NB15

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 030
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Terebellidae									
Polycirrus sp. G	2	50	8	200	3	75	13	0.4	108
Arthropoda									
Malacostraca									
Amphipoda									
Aeginellidae									
Paracaprella tenuis	0	0	0	0	9	225	9	0.3	75
Ampeliscidae									
Ampelisca vadorum	6	150	15	375	46	1150	67	2.1	558
Aoridae									
Microdeutopus gryllotalpa	6	150	7	175	78	1950	91	2.9	758
Unciola serrata	10	250	28	700	42	1050	80	2.6	667
Corophiidae									
Monocorophium tuberculatum	24	600	62	1550	82	2050	168	5.4	1400
Ischyroceridae									
Erichthonius brasiliensis	1	25	0	0	0	0	1	0	8
Lysianassidae									
Lysianopsis alba	0	0	0	0	23	575	23	0.7	192
Phoxocephalidae									
Rhepoxynius hudsoni	0	0	0	0	2	50	2	0.1	17
Decapoda									
Paguridae									
Pagurus longicarpus	2	50	0	0	2	50	4	0.1	33
Xanthidae									
Dyspanopeus sayi	0	0	0	0	3	75	3	0.1	25
Mollusca									
Bivalvia									
Myoida									
Myidae									
Mya arenaria	0	0	0	0	1	25	1	0	8
Veneroida									
Tellinidae									
Tellina agilis	2	50	2	50	8	200	12	0.4	100
Veneridae									
Chione cancellata	0	0	0	0	5	125	5	0.2	42
Mercenaria mercenaria	1	25	1	25	1	25	3	0.1	25
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula fornicata	6	150	7	175	5	125	18	0.6	150
Rissoidae									
Rissoidae (LPIL)	0	0	0	0	1	25	1	0	8
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	2	50	8	200	11	275	21	0.7	175
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	1	25	0	0	1	25	2	0.1	17
Rhynchocoela									
Rhynchocoela (LPIL)	1	25	0	0	6	150	7	0.2	58

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB15

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 030
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	48	31	27	42	33.33333333	7.8
Total Individuals	3123	484	632	2007	1041	839.8
Density (nos/sq.m.)		12100	15800	50175	26025	20996.2

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	2.56
Species Diversity (Shannon; log base 2)	d	=	3.7
Species Diversity (Shannon; log base 10)	H	=	1.11
Species Diversity (Simpson; 1/S)	1/S	=	7.53
Species Evenness (Pielou)	J'	=	0.66
Species Richness (Margalef)	D	=	5.84
Equitability Index (Lloyd & Ghelardi)	e	=	0.39

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	2	7	0.2
Annelida	29	60.4	2605	83.4
Mollusca	8	16.6	63	2
Arthropoda	10	20.8	448	14.3
TOTALS	**48**		**3123**	

Station Data Summary Report
Station R1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 001
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	102	2550	49	1225	2	50	153	3	1275
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	0	0	4	100	6	150	10	0.2	83
Capitellidae (LPIL)	3	75	0	0	4	100	7	0.1	58
Mediomastus (LPIL)	416	10400	77	1925	85	2125	578	11.5	4817
Mediomastus ambiseta	10	250	5	125	2	50	17	0.3	142
Eunicida									
Oenonidae									
Arabella multidentata	1	25	0	0	0	0	1	0	8
Flabelligerida									
Flabelligeridae									
Flabelligeridae (LPIL)	1	25	0	0	0	0	1	0	8
Pherusa affinis	0	0	0	0	1	25	1	0	8
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	9	225	0	0	0	0	9	0.2	75
Phyllodocida									
Glyceridae									
Glycera americana	1	25	2	50	0	0	3	0.1	25
Hesionidae									
Hesionidae (LPIL)	3	75	7	175	2	50	12	0.2	100
Podarke obscura	1	25	4	100	2	50	7	0.1	58
Podarkeopsis levifuscina	0	0	0	0	1	25	1	0	8
Nereidae									
Nereis (LPIL)	0	0	3	75	3	75	6	0.1	50
Nereis succinea	1	25	1	25	0	0	2	0	17
Phyllodocidae									
Eumida sanguinea	3	75	8	200	4	100	15	0.3	125
Hypereteone heteropoda	0	0	0	0	1	25	1	0	8
Phyllodocidae (LPIL)	7	175	4	100	6	150	17	0.3	142
Polynoidae									
Harmothoe imbricata	4	100	17	425	4	100	25	0.5	208
Polynoidae (LPIL)	0	0	1	25	1	25	2	0	17
Syllidae									
Exogone rolani	60	1500	67	1675	119	2975	246	4.9	2050
Syllidae (LPIL)	0	0	1	25	0	0	1	0	8
Sabellida									
Sabellidae									
Demonax microphthalmus	0	0	1	25	0	0	1	0	8
Spionida									
Spionidae									
Polydora cornuta	4	100	10	250	2	50	16	0.3	133
Streblospio benedicti	60	1500	8	200	14	350	82	1.6	683
Terebellida									
Ampharetidae									
Ampharetidae (LPIL)	1	25	0	0	0	0	1	0	8
Sabellariidae									
Sabellaria vulgaris	0	0	1	25	0	0	1	0	8
Terebellidae									
Polycirrus sp. G	1	25	0	0	0	0	1	0	8

Station Data Summary Report
Station R1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 001
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Arthropoda									
Malacostraca									
Amphipoda									
Aeginellidae									
Paracaprella tenuis	0	0	1	25	1	25	2	0	17
Ampeliscidae									
Ampelisca vadorum	68	1700	214	5350	1312	32800	1594	31.7	13283
Aoridae									
Microdeutopus gryllotalpa	370	9250	373	9325	492	12300	1235	24.6	10292
Unciola irrorata	0	0	0	0	0	0			
Corophiidae									
Monocorophium tuberculatum	48	1200	36	900	172	4300	256	5.1	2133
Lysianassidae									
Lysianopsis alba	56	1400	97	2425	76	1900	229	4.6	1908
Melitidae									
Elasmopus levis	4	100	9	225	48	1200	61	1.2	508
Phoxocephalidae									
Eobrolgus spinosus	7	175	1	25	16	400	24	0.5	200
Decapoda									
Cancridae									
Cancer irroratus	1	25	0	0	0	0	1	0	8
Majidae									
Libinia dubia	0	0	1	25	0	0	1	0	8
Paguridae									
Pagurus longicarpus	0	0	1	25	5	125	6	0.1	50
Ostracoda									
Myodocopina									
Cylindroleberididae									
Parasterope pollex	28	700	0	0	16	400	44	0.9	367
Mollusca									
Bivalvia									
Arcoida									
Arcidae									
Anadara transversa	0	0	0	0	4	100	4	0.1	33
Mytiloida									
Mytilidae									
Mytilidae (LPIL)	1	25	1	25	0	0	2	0	17
Nuculoida									
Nuculidae									
Nucula proxima	7	175	7	175	9	225	23	0.5	192
Veneroida									
Montacutidae									
Montacutidae (LPIL)	11	275	12	300	7	175	30	0.6	250
Petricolidae									
Petricola pholadiformis	2	50	1	25	0	0	3	0.1	25
Solenidae									
Ensis directus	0	0	0	0	1	25	1	0	8
Tellinidae									
Tellina agilis	12	300	6	150	4	100	22	0.4	183
Veneridae									
Chione cancellata	6	150	4	100	1	25	11	0.2	92
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula fornicata	2	50	1	25	4	100	7	0.1	58
Crepidula plana	0	0	1	25	1	25	2	0	17
Neogastropoda									
Columbellidae									
Mitrella lunata	1	25	1	25	3	75	5	0.1	42

Station Data Summary Report
Station R1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 001
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Nassariidae									
Ilyanassa obsoleta	5	125	33	825	41	1025	79	1.6	658
Rhynchocoela									
Rhynchocoela (LPIL)	35	875	41	1025	88	2200	164	3.3	1367

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station R1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 001
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	53	37	39	38	38	1
Total Individuals	5023	1352	1111	2560	1674.3	776.4
Density (nos/sq.m.)		33800	27775	64000	41858	19410.4

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	2.2
Species Diversity (Shannon; log base 2)	d	=	3.18
Species Diversity (Shannon; log base 10)	H	=	0.96
Species Diversity (Simpson; 1/S)	1/S	=	5.43
Species Evenness (Pielou)	J'	=	0.56
Species Richness (Margalef)	D	=	5.98
Equitability Index (Lloyd & Ghelardi)	e	=	0.25

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	1.8	164	3.2
Annelida	28	52.8	1217	24.2
Mollusca	12	22.6	189	3.7
Arthropoda	12	22.6	3453	68.7
TOTALS	**53**		**5023**	

Station Data Summary Report
Station R2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 002
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	33	825	14	350	4	100	51	1.9	425
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	1	25	0	0	104	2600	105	3.9	875
Capitellidae (LPIL)	1	25	0	0	0	0	1	0	8
Mediomastus (LPIL)	1228	30700	223	5575	56	1400	1507	56.7	12558
Mediomastus ambiseta	49	1225	24	600	56	1400	129	4.9	1075
Flabelligerida									
Flabelligeridae									
Pherusa affinis	2	50	0	0	0	0	2	0.1	17
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	17	425	5	125	0	0	22	0.8	183
Leitoscoloplos robustus	2	50	0	0	0	0	2	0.1	17
Phyllodocida									
Glyceridae									
Glycera americana	4	100	0	0	0	0	4	0.2	33
Nereidae									
Nereis succinea	1	25	0	0	0	0	1	0	8
Phyllodocidae									
Eumida sanguinea	1	25	0	0	0	0	1	0	8
Hypereteone heteropoda	3	75	1	25	0	0	4	0.2	33
Paranaitis speciosa	1	25	0	0	0	0	1	0	8
Phyllodocidae (LPIL)	4	100	0	0	0	0	4	0.2	33
Polynoidae									
Harmothoe imbricata	2	50	0	0	4	100	6	0.2	50
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	86	2150	13	325	4	100	103	3.9	858
Tharyx acutus	5	125	2	50	28	700	35	1.3	292
Spionidae									
Polydora (LPIL)	1	25	0	0	0	0	1	0	8
Polydora cornuta	53	1325	7	175	80	2000	140	5.3	1167
Spionidae (LPIL)	1	25	0	0	0	0	1	0	8
Streblospio benedicti	230	5750	2	50	120	3000	352	13.2	2933
Terebellida									
Sabellariidae									
Sabellaria vulgaris	1	25	0	0	0	0	1	0	8
Terebellidae									
Polycirrus sp. G	2	50	0	0	0	0	2	0.1	17
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	34	850	0	0	8	200	42	1.6	350
Ampeliscidae (LPIL)	0	0	2	50	0	0	2	0.1	17
Corophiidae									
Corophiidae (LPIL)	0	0	1	25	0	0	1	0	8
Lysianassidae									
Lysianopsis alba	0	0	0	0	4	100	4	0.2	33

Station Data Summary Report
Station R2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 002
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Mollusca									
Bivalvia									
Veneroida									
Mactridae									
Mulinia lateralis	3	75	0	0	0	0	3	0.1	25
Petricolidae									
Petricola pholadiformis	0	0	1	25	0	0	1	0	8
Tellinidae									
Tellina agilis	27	675	5	125	12	300	44	1.7	367
Veneridae									
Chione cancellata	0	0	1	25	0	0	1	0	8
Mercenaria mercenaria	3	75	0	0	0	0	3	0.1	25
Gastropoda									
Cephalaspidea									
Acteonidae									
Rictaxis punctostriatus	1	25	0	0	0	0	1	0	8
Scaphandridae									
Acteocina canaliculata	16	400	4	100	4	100	24	0.9	200
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	14	350	5	125	16	400	35	1.3	292
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	4	100	2	50	4	100	10	0.4	83
Rhynchocoela									
Rhynchocoela (LPIL)	13	325	0	0	0	0	13	0.5	108

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station R2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 002
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	37	32	17	15	21.33333333	9.3
Total Individuals	2659	1843	312	504	886.3	834
Density (nos/sq.m.)		46075	7800	12600	22158	20851

FAUNAL INDICES			
Species Diversity (Shannon; log base e)	H'	=	1.72
Species Diversity (Shannon; log base 2)	d	=	2.48
Species Diversity (Shannon; log base 10)	H	=	0.75
Species Diversity (Simpson; 1/S)	1/S	=	2.87
Species Evenness (Pielou)	J'	=	0.48
Species Richness (Margalef)	D	=	4.57
Equitability Index (Lloyd & Ghelardi)	e	=	0.21

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	2.7	13	0.4
Annelida	23	62.1	2475	93
Mollusca	9	24.3	122	4.5
Arthropoda	4	10.8	49	1.8
TOTALS	**37**		**2659**	

Station Data Summary Report
Station R3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 003
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	3	75	32	800	2	50	37	1.5	308
Polychaeta									
Capitellida									
Capitellidae									
Mediomastus (LPIL)	1	25	80	2000	30	750	111	4.4	925
Mediomastus ambiseta	4	100	16	400	1	25	21	0.8	175
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	0	0	20	500	1	25	21	0.8	175
Leitoscoloplos robustus	0	0	16	400	1	25	17	0.7	142
Phyllodocida									
Hesionidae									
Hesionidae (LPIL)	0	0	0	0	1	25	1	0	8
Podarke obscura	0	0	4	100	0	0	4	0.2	33
Nereidae									
Nereis succinea	0	0	4	100	3	75	7	0.3	58
Phyllodocidae									
Eumida sanguinea	0	0	8	200	1	25	9	0.4	75
Hypereteone heteropoda	0	0	16	400	0	0	16	0.6	133
Phyllodocidae (LPIL)	0	0	0	0	2	50	2	0.1	17
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	0	0	0	0	1	25	1	0	8
Tharyx acutus	0	0	4	100	0	0	4	0.2	33
Spionidae									
Polydora cornuta	5	125	212	5300	15	375	232	9.3	1933
Streblospio benedicti	5	125	24	600	13	325	42	1.7	350
Arthropoda									
Malacostraca									
Amphipoda									
Aeginellidae									
Paracaprella tenuis	0	0	0	0	1	25	1	0	8
Ampeliscidae									
Ampelisca vadorum	10	250	1232	30800	97	2425	1339	53.6	11158
Aoridae									
Aoridae (LPIL)	2	50	0	0	0	0	2	0.1	17
Microdeutopus gryllotalpa	0	0	344	8600	23	575	367	14.7	3058
Corophiidae									
Monocorophium tuberculatum	0	0	164	4100	70	1750	234	9.4	1950
Decapoda									
Crangonidae									
Crangon septemspinosa	1	25	0	0	0	0	1	0	8
Mollusca									
Bivalvia									
Bivalvia (LPIL)	1	25	0	0	0	0	1	0	8
Veneroida									
Montacutidae									
Montacutidae (LPIL)	0	0	8	200	0	0	8	0.3	67
Tellinidae									
Tellina agilis	0	0	1	25	0	0	1	0	8

Station Data Summary Report
Station R3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 003
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	0	0	16	400	0	0	16	0.6	133
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	0	0	2	50	0	0	2	0.1	17
Rhynchocoela									
Rhynchocoela (LPIL)	0	0	0	0	2	50	2	0.1	17

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station R3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC
Location:
Sample Date: 6/1/02

BVA Station: 003
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	27	9	19	17	15	5.3
Total Individuals	2499	32	2203	264	833	1192.1
Density (nos/sq.m.)		800	55075	6600	20825	29802.8

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.62
Species Diversity (Shannon; log base 2)	d	=	2.34
Species Diversity (Shannon; log base 10)	H	=	0.71
Species Diversity (Simpson; 1/S)	1/S	=	3.04
Species Evenness (Pielou)	J'	=	0.49
Species Richness (Margalef)	D	=	3.32
Equitability Index (Lloyd & Ghelardi)	e	=	0.26

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	3.7	2	0
Annelida	15	55.5	525	21
Mollusca	5	18.5	28	1.1
Arthropoda	6	22.2	1944	77.7
TOTALS	**27**		**2499**	

Appendix I-D

Biomass Data Report, June 2002

Biomass Data Report

Project: Norton Basin 6/02
Client: NY COE
Project Date: 6/01/2002
All weights in: (gm)

Station:	**NB-1**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0832	0.2954	1.5954	0.658	0.473
Mollusca		9.8815	326.5280	641.1614	325.857	182.235
Arthropoda		0.1591	1.2175	1.0645	0.814	0.330
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		10.1238	328.0409	643.8213	327.329	182.933

Station:	**NB-2**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.5270	0.5473	0.2392	0.438	0.099
Mollusca		0.0001	0.0000	0.0000	0.000	0.000
Arthropoda		0.0170	0.0332	0.0001	0.017	0.010
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.5441	0.5805	0.2393	0.455	0.108

Station:	**NB-3**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.5065	0.4875	0.6494	0.548	0.051
Mollusca		1.4073	0.0000	0.0000	0.469	0.469
Arthropoda		0.0323	0.0000	0.0034	0.012	0.010
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0020	0.0000	0.0000	0.001	0.001
Total		1.9481	0.4875	0.6528	1.029	0.462

Station:	**NB-4**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0048	0.0000	0.002	0.002
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0048	0.0000	0.002	0.002

Station:	**NB-5**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.2805	0.3580	0.4015	0.347	0.035
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.2805	0.3580	0.4015	0.347	0.035

Project: Norton Basin 6/02
Client: NY COE
Project Date: 6/01/02
All weights in: (gm)

Station:	**NB-6**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.1621	0.3984	0.2856	0.282	0.068
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0583	0.3550	0.0115	0.142	0.108
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.2204	0.7534	0.2971	0.424	0.166

Station:	**NB-7**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.4806	0.7743	0.0897	0.448	0.198
Mollusca		0.0000	0.0151	0.0000	0.005	0.005
Arthropoda		0.1636	0.0579	0.0144	0.079	0.044
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.6442	0.8473	0.1041	0.532	0.222

Station:	**NB-8**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0001	0.1244	0.1253	0.083	0.042
Mollusca		0.0000	0.0000	0.0200	0.007	0.007
Arthropoda		0.0001	0.0035	0.0047	0.003	0.001
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0002	0.1279	0.1500	0.093	0.047

Station:	**NB-9**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.6067	0.1982	0.2688	0.358	0.126
Mollusca		2.1282	3.2133	6.7935	4.045	1.409
Arthropoda		0.0687	0.1048	0.0136	0.062	0.027
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		2.8036	3.5163	7.0759	4.465	1.321

Station:	**NB-10**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.5178	0.0493	0.6070	0.391	0.173
Mollusca		253.7859	295.6146	141.6251	230.342	45.972
Arthropoda		1.1908	0.2456	0.5503	0.662	0.279
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0182	0.006	0.006
Total		255.4945	295.9095	142.8006	231.402	45.811

Project: Norton Basin 6/02
Client: NY COE
Project Date: 6/01/2002
All weights in: (gm)

Station:	**NB-11**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.2098	0.9465	0.2854	0.481	0.234
Mollusca		0.0000	108.6360	129.7802	79.472	40.202
Arthropoda		0.0299	0.5253	0.9224	0.493	0.258
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0007	0.000	0.000
Total		0.2397	110.1078	130.9887	80.445	40.553

Station:	**NB-12**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.1920	0.5416	0.8546	0.529	0.191
Mollusca		1.9969	123.7076	10.7952	45.500	39.186
Arthropoda		0.1251	1.0729	3.1120	1.437	0.881
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0004	0.0000	0.0000	0.000	0.000
Total		2.3144	125.3221	14.7618	47.466	39.093

Station:	**NB-13**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.5854	0.6303	0.5802	0.599	0.016
Mollusca		119.6970	194.0628	826.2336	379.998	224.148
Arthropoda		1.2162	4.9764	0.0806	2.091	1.479
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0015	0.0000	0.001	0.001
Total		121.4986	199.6710	826.8944	382.688	223.247

Station:	**NB-14**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		3.9606	0.4807	1.6130	2.018	1.025
Mollusca		0.0206	131.4833	5.3914	45.632	42.954
Arthropoda		7.6930	1.2256	5.9635	4.961	1.933
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0067	0.002	0.002
Total		11.6742	133.1896	12.9746	52.613	40.290

Station:	**NB-15**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.2239	0.3381	0.8614	0.474	0.196
Mollusca		123.9245	136.7650	79.6477	113.446	17.301
Arthropoda		0.2924	0.0554	3.6318	1.327	1.155
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0009	0.0000	0.0062	0.002	0.002
Total		124.4417	137.1585	84.1471	115.249	15.978

Project: Norton Basin 6/02
Client: NY COE
Project Date: 6/01/2002
All weights in: (gm)

Station:	**R-1**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.1787	0.2678	0.0782	0.175	0.055
Mollusca		7.2365	20.1537	26.0065	17.799	5.545
Arthropoda		0.7877	2.6696	2.2074	1.888	0.566
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0431	0.0406	0.0254	0.036	0.006
Total		8.2460	23.1317	28.3175	19.898	6.015

Station:	**R-2**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.6865	0.0540	0.1336	0.291	0.199
Mollusca		587.4847	2.7282	2.0171	197.410	195.037
Arthropoda		0.0047	0.0001	0.0028	0.003	0.001
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0167	0.0000	0.0000	0.006	0.006
Total		588.1926	2.7823	2.1535	197.709	195.242

Station:	**R-3**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0031	0.2616	0.0477	0.104	0.080
Mollusca		0.0001	9.4248	0.1529	3.193	3.116
Arthropoda		0.0581	0.5996	0.0695	0.242	0.179
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0072	0.0075	0.005	0.002
Total		0.0613	10.2932	0.2776	3.544	3.375

Station:	**GH-1**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		1.0472	0.0484	0.1864	0.427	0.312
Mollusca		0.1168	0.0000	4.3864	1.501	1.443
Arthropoda		0.9884	0.5204	1.6668	1.059	0.333
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0044	0.0000	0.0004	0.002	0.001
Total		2.1568	0.5688	6.2400	2.989	1.689

Station:	**GH-2**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0658	0.2452	0.1868	0.166	0.053
Mollusca		0.0192	0.0047	5.1784	1.734	1.722
Arthropoda		1.4830	2.2064	3.4748	2.388	0.582
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0084	0.0052	0.005	0.002
Total		1.5680	2.4647	8.8452	4.293	2.291

Project: Norton Basin 6/02
Client: NY COE
Project Date: 6/01/2002
All weights in: (gm)

Station:	**GH-3**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.2340	0.1096	0.1548	0.166	0.036
Mollusca		14.7448	261.8306	270.2528	182.276	83.801
Arthropoda		1.0808	0.2488	0.8140	0.715	0.245
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0104	0.0000	0.003	0.003
Total		16.0596	262.1994	271.2216	183.160	83.591

Station:	**LB-1**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0001	0.0001	0.0001	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0001	0.0001	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0002	0.0002	0.0001	0.000	0.000

Station:	**LB-2**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0001	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0001	0.0000	0.000	0.000

Station:	**LB-3**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0000	0.0000	0.000	0.000

Station:	**LB-4**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0000	0.0000	0.000	0.000

Project: Norton Basin 6/02
Client: NY COE
Project Date: 6/01/2002
All weights in: (gm)

Station:	**LB-5**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0000	0.0000	0.000	0.000

Station:	**LB-6**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0001	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0000	0.0001	0.000	0.000

Station:	**LB-7**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0000	0.0000	0.000	0.000

Station:	**LB-8**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0000	0.0000	0.000	0.000

Station:	**LB-9**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0113	0.0792	0.0696	0.053	0.021
Mollusca		0.7021	241.7927	1.4953	81.330	80.232
Arthropoda		0.0000	0.0021	0.0016	0.001	0.001
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0002	0.000	0.000
Total		0.7134	241.8740	1.5667	81.385	80.245

Appendix II-A

Taxonomic Species List, October 2002

TAXONOMIC SPECIES LIST

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:

Project Date: 10/10/2002

Total Number of Taxa: 109

- ANNELIDA
  - CLASS OLIGOCHAETA
    - Order TUBIFICIDA
      - FAMILY TUBIFICIDAE
        - Tubificidae (LPIL)
  - CLASS POLYCHAETA
    - Order CAPITELLIDA
      - FAMILY CAPITELLIDAE
        - Capitellidae (LPIL)
        - Capitella (LPIL)
        - Capitella capitata
        - Capitella jonesi
        - Heteromastus filiformis
        - Mediomastus (LPIL)
        - Mediomastus ambiseta
    - Order EUNICIDA
      - FAMILY DORVILLEIDAE
        - Schistomeringos pectinata
        - Schistomeringos rudolphi
      - FAMILY OENONIDAE
        - Drilonereis longa
      - FAMILY ONUPHIDAE
        - Diopatra cuprea
    - Order ORBINIIDA
      - FAMILY ORBINIIDAE
        - Leitoscoloplos (LPIL)
        - Leitoscoloplos robustus
    - Order PHYLLODOCIDA
      - FAMILY GLYCERIDAE
        - Glyceridae (LPIL)
        - Glycera (LPIL)
        - Glycera americana
        - Glycera dibranchiata
      - FAMILY GONIADIDAE
        - Glycinde solitaria
      - FAMILY HESIONIDAE
        - Hesionidae (LPIL)
        - Podarke obscura
        - Podarkeopsis levifuscina

FAMILY NEPHTYIDAE
Nephtyidae (LPIL)
Nephtys picta
FAMILY NEREIDAE
Nereididae (LPIL)
Nereis (LPIL)
Nereis succinea
FAMILY PHYLLODOCIDAE
Phyllodocidae (LPIL)
Eumida sanguinea
Hypereteone (LPIL)
Hypereteone fauchaldi
Hypereteone heteropoda
Phyllodoce (LPIL)
Phyllodoce longipes
Phyllodoce mucosa
FAMILY POLYNOIDAE
Polynoidae (LPIL)
FAMILY SYLLIDAE
Syllidae (LPIL)
Autolytus (LPIL)
Exogone rolani
Order SABELLIDA
FAMILY SABELLIDAE
Demonax microphthalmus
FAMILY SERPULIDAE
Serpulidae (LPIL)
Hydroides dianthus
Order SPIONIDA
FAMILY CHAETOPTERIDAE
Spiochaetopterus oculatus
FAMILY CIRRATULIDAE
Cirratulidae (LPIL)
Caulleriella sp. J
Tharyx acutus
FAMILY SPIONIDAE
Spionidae (LPIL)
Apoprionospio pygmaea
Dipolydora socialis
Polydora cornuta
Spio filicornis
Streblospio benedicti
Order TEREBELLIDA
FAMILY PECTINARIIDAE
Pectinaria gouldii
FAMILY SABELLARIIDAE
Sabellaria vulgaris
FAMILY TEREBELLIDAE
Polycirrus (LPIL)
Polycirrus sp. G

ARTHROPODA
- CLASS MALACOSTRACA
  - Order AMPHIPODA
    - FAMILY AEGINELLIDAE
      - Paracaprella tenuis
    - FAMILY AMPELISCIDAE
      - Ampelisca (LPIL)
      - Ampelisca vadorum
    - FAMILY AORIDAE
      - Microdeutopus gryllotalpa
      - Unciola serrata
    - FAMILY COROPHIIDAE
      - Monocorophium tuberculatum
    - FAMILY ISCHYROCERIDAE
      - Ischyroceridae (LPIL)
      - Erichthonius brasiliensis
    - FAMILY LYSIANASSIDAE
      - Lysianopsis alba
    - FAMILY MELITIDAE
      - Elasmopus levis
      - Melita nitida
    - FAMILY PHOXOCEPHALIDAE
      - Rhepoxynius hudsoni
  - Order DECAPODA
    - FAMILY PAGURIDAE
      - Pagurus (LPIL)
      - Pagurus longicarpus
    - FAMILY PALAEMONIDAE
      - Palaemonidae (LPIL)
      - Palaemonetes pugio
    - FAMILY PINNOTHERIDAE
      - Pinnixa (LPIL)
    - FAMILY XANTHIDAE
      - Xanthidae (LPIL)
      - Dyspanopeus sayi
      - Panopeus herbstii
      - Rhithropanopeus harrisii
  - Order MYSIDACEA
    - Mysidacea (LPIL)

CHORDATA
- CLASS ASCIDIACEA
  - Ascidiacea (LPIL)

CNIDARIA
- CLASS HYDROZOA
  - Hydrozoa (LPIL)

MOLLUSCA
- CLASS BIVALVIA
  - Bivalvia (LPIL)
  - Order MYOIDA
    - FAMILY MYIDAE
      - Mya arenaria
  - Order VENEROIDA
    - FAMILY MACTRIDAE
      - Mulinia lateralis
      - Spisula solidissima
    - FAMILY MONTACUTIDAE
      - Mysella planulata
    - FAMILY PETRICOLIDAE
      - Petricola pholadiformis
    - FAMILY TELLINIDAE
      - Tellinidae (LPIL)
      - Tellina (LPIL)
      - Tellina agilis
    - FAMILY VENERIDAE
      - Gemma gemma
      - Mercenaria mercenaria

- CLASS GASTROPODA
  - Gastropoda (LPIL)
  - Order CEPHALASPIDEA
    - FAMILY ACTEONIDAE
      - Rictaxis punctostriatus
    - FAMILY SCAPHANDRIDAE
      - Acteocina canaliculata
  - Order MESOGASTROPODA
    - FAMILY CALYPTRAEIDAE
      - Crepidula (LPIL)
      - Crepidula fornicata
      - Crepidula plana
    - FAMILY RISSOIDAE
      - Rissoidae (LPIL)
  - Order NEOGASTROPODA
    - FAMILY COLUMBELLIDAE
      - Anachis obesa
    - FAMILY MELONGENIDAE
      - Busycon carica
    - FAMILY NASSARIIDAE
      - Nassariidae (LPIL)
      - Ilyanassa obsoleta
  - Order NUDIBRANCHIA
    - FAMILY CORAMBIDAE
      - Doridella obscura
  - Order PYRAMIDELLOIDA
    - FAMILY PYRAMIDELLIDAE
      - Odostomia (LPIL)
      - Odostomia trifida

PHORONIDA

FAMILY PHORONIDAE

Phoronis (LPIL)

PLATYHELMINTHES

CLASS TURBELLARIA

Turbellaria (LPIL)

PORIFERA

Porifera (LPIL)

RHYNCHOCOELA

Rhynchocoela (LPIL)

Appendix II-B

Summary of Community Parameters, October 2002

SUMMARY OF COMMUNITY PARAMETERS

Client: Port Authority of New York and New Jersey
Project:Norton Basin - NYSDEC 10/02
Sample Date: 10/02

Location:
Habitat: Estuarine

FAUNAL PARAMETERS

Station	Date (m/d/y)	Total No. Taxa	Mean No. of Taxa per Repl.	No. of Taxa per Repl. (Std Dev)	Total No. Individuals	Mean Density (nos/m2)	Density (Std Dev)	H' Shannon (log e)	d Diversity (log 2)	1/S Simpson Diversity	J' Pielou Evenness	D Margalef Richness	e Equitability
R1	10/10/02	39	21.7	7.5	2601	21675.0	3335.7	1.20	1.73	1.89	0.33	4.83	0.12
R2	10/10/02	34	21.0	4.4	3877	32308.3	20923.5	1.27	1.83	2.14	0.36	3.99	0.14
R3	10/10/02	24	14.0	2.6	2223	18525.0	3853.7	1.20	1.73	2.11	0.38	2.98	0.19
GH1	10/10/02	30	17.3	4.9	4692	39100.0	11163.8	1.46	2.10	2.96	0.43	3.43	0.20
GH2	10/10/02	27	15.3	2.3	5549	46241.7	11141.1	1.26	1.82	2.44	0.38	3.02	0.18
GH3	10/10/02	15	10.7	2.9	3460	28833.3	2177.9	0.67	0.97	1.33	0.25	1.72	0.17
LB1	10/10/02	3	1.0	0.0	3	25.0	0.0	1.10	1.58	N/A	1.00	1.82	1.35
LB2	10/10/02	1	0.3	0.6	1	8.3	14.4	0.00	0.00	N/A	N/A	N/A	1.29
LB3	10/10/02	2	0.7	1.2	2	16.7	28.9	0.69	1.00	N/A	1.00	1.44	1.33
LB4	10/10/02	1	0.3	0.6	1	8.3	14.4	0.00	0.00	N/A	N/A	N/A	1.29
LB5	10/10/02	2	0.7	0.6	2	16.7	14.4	0.69	1.00	N/A	1.00	1.44	1.33
LB6	10/10/02	0	N/A	0.0	0	N/A	0.0	0.00	0.00	N/A	0.00	0.00	N/A
LB7	10/10/02	0	N/A	0.0	0	N/A	0.0	0.00	0.00	N/A	0.00	0.00	N/A
LB8	10/10/02	0	N/A	0.0	0	N/A	0.0	0.00	0.00	N/A	0.00	0.00	N/A
LB9	10/10/02	3	1.7	1.2	20	166.7	166.5	0.39	0.57	1.24	0.36	0.67	0.65
NB1	10/10/02	24	14.0	5.2	1091	9091.7	5030.6	1.46	2.10	2.25	0.46	3.29	0.25
NB2	10/10/02	17	7.7	7.2	402	3350.0	5629.2	1.35	1.95	2.74	0.48	2.67	0.31
NB3	10/10/02	0	N/A	0.0	0	N/A	0.0	0.00	0.00	N/A	0.00	0.00	N/A
NB4	10/10/02	8	3.0	1.7	21	175.0	180.3	1.76	2.53	5.83	0.84	2.30	1.01
NB5	10/10/02	4	3.0	1.0	20	166.7	101.0	1.24	1.78	3.45	0.89	1.00	1.17
NB6	10/10/02	8	3.0	2.0	16	133.3	146.5	1.84	2.65	7.06	0.88	2.52	1.09
NB7	10/10/02	31	20.3	4.5	2843	23691.7	19548.7	1.14	1.64	1.70	0.33	3.77	0.14
NB8	10/10/02	11	7.7	1.2	159	1325.0	373.3	1.53	2.21	2.83	0.64	1.97	0.58
NB9	10/10/02	15	9.0	1.7	188	1566.7	734.1	1.69	2.43	3.31	0.62	2.67	0.50
NB10	10/10/02	28	15.3	6.1	633	5275.0	1872.7	1.73	2.50	3.42	0.52	4.19	0.28
NB11	10/10/02	41	26.7	6.5	1556	12966.7	2458.4	1.97	2.85	3.41	0.53	5.44	0.25
NB12	10/10/02	42	25.3	6.7	1673	13941.7	3254.8	1.93	2.78	3.81	0.52	5.52	0.23
NB13	10/10/02	44	22.7	12.5	2037	16975.0	2858.3	1.77	2.55	2.73	0.47	5.64	0.18
NB14	10/10/02	52	34.3	6.4	4795	39958.3	27775.0	2.76	3.98	11.08	0.70	6.02	0.44
NB15	10/10/02	26	13.7	1.2	2230	18583.3	14769.0	1.26	1.82	1.97	0.39	3.24	0.18

Appendix II-C

Station Data Summary Reports, October 2002

Station Data Summary Report
Station GH1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 004
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	52	1300	40	1000	12	300	104	2.2	867
Polychaeta									
Capitellida									
Capitellidae									
Mediomastus (LPIL)	160	4000	108	2700	120	3000	388	8.3	3233
Orbiniida									
Orbiniidae									
Leitoscoloplos robustus	0	0	4	100	0	0	4	0.1	33
Phyllodocida									
Glyceridae									
Glycera americana	4	100	0	0	0	0	4	0.1	33
Hesionidae									
Hesionidae (LPIL)	4	100	0	0	0	0	4	0.1	33
Podarke obscura	20	500	20	500	8	200	48	1	400
Podarkeopsis levifuscina	8	200	4	100	16	400	28	0.6	233
Nereidae									
Nereididae (LPIL)	4	100	4	100	0	0	8	0.2	67
Nereis (LPIL)	4	100	0	0	0	0	4	0.1	33
Nereis succinea	0	0	0	0	12	300	12	0.3	100
Phyllodocidae									
Eumida sanguinea	0	0	0	0	8	200	8	0.2	67
Hypereteone fauchaldi	8	200	12	300	20	500	40	0.9	333
Phyllodoce longipes	0	0	4	100	0	0	4	0.1	33
Phyllodocidae (LPIL)	4	100	0	0	0	0	4	0.1	33
Spionida									
Spionidae									
Polydora cornuta	8	200	4	100	0	0	12	0.3	100
Streblospio benedicti	504	12600	644	16100	532	13300	1680	35.8	14000
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	1032	25800	752	18800	320	8000	2104	44.8	17533
Corophiidae									
Monocorophium tuberculatum	4	100	0	0	0	0	4	0.1	33
Lysianassidae									
Lysianopsis alba	84	2100	48	1200	4	100	136	2.9	1133
Melitidae									
Elasmopus levis	4	100	0	0	12	300	16	0.3	133
Melita nitida	4	100	0	0	0	0	4	0.1	33
Mollusca									
Bivalvia									
Bivalvia (LPIL)	0	0	0	0	4	100	4	0.1	33
Veneroida									
Mactridae									
Mulinia lateralis	4	100	0	0	0	0	4	0.1	33
Montacutidae									
Mysella planulata	20	500	0	0	4	100	24	0.5	200
Petricolidae									
Petricola pholadiformis	0	0	0	0	4	100	4	0.1	33
Tellinidae									

Station Data Summary Report
Station GH1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 004
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Tellina agilis	8	200	0	0	0	0	8	0.2	67
Gastropoda									
Cephalaspidea									
Acteonidae									
Rictaxis punctostriatus	8	200	0	0	0	0	8	0.2	67
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	0	0	4	100	0	0	4	0.1	33
Platyhelminthes									
Turbellaria									
Turbellaria (LPIL)	4	100	0	0	0	0	4	0.1	33
Rhynchocoela									
Rhynchocoela (LPIL)	8	200	4	100	4	100	16	0.3	133

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station GH1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 004
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	30	23	14	15	17.33333333	4.9
Total Individuals	4692	1960	1652	1080	1564	446.6
Density (nos/sq.m.)		49000	41300	27000	39100	11163.8

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.46
Species Diversity (Shannon; log base 2)	d	=	2.1
Species Diversity (Shannon; log base 10)	H	=	0.63
Species Diversity (Simpson; 1/S)	1/S	=	2.96
Species Evenness (Pielou)	J'	=	0.43
Species Richness (Margalef)	D	=	3.43
Equitability Index (Lloyd & Ghelardi)	e	=	0.2

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Platyhelminthes	1	3.3	4	0
Rhynchocoela	1	3.3	16	0.3
Annelida	16	53.3	2352	50.1
Mollusca	7	23.3	56	1.1
Arthropoda	5	16.6	2264	48.2
TOTALS	**30**		**4692**	

Station Data Summary Report
Station GH2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 005
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	4	100	36	900	0	0	40	0.7	333
Polychaeta									
Capitellida									
Capitellidae									
Capitellidae (LPIL)	0	0	4	100	0	0	4	0.1	33
Mediomastus (LPIL)	76	1900	348	8700	136	3400	560	10.1	4667
Mediomastus ambiseta	0	0	40	1000	20	500	60	1.1	500
Phyllodocida									
Hesionidae									
Hesionidae (LPIL)	4	100	4	100	12	300	20	0.4	167
Podarke obscura	36	900	16	400	12	300	64	1.2	533
Podarkeopsis levifuscina	20	500	8	200	0	0	28	0.5	233
Nereidae									
Nereis succinea	8	200	0	0	0	0	8	0.1	67
Phyllodocidae									
Eumida sanguinea	0	0	4	100	0	0	4	0.1	33
Hypereteone fauchaldi	16	400	0	0	4	100	20	0.4	167
Phyllodoce longipes	0	0	8	200	0	0	8	0.1	67
Phyllodocidae (LPIL)	0	0	0	0	4	100	4	0.1	33
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	0	0	4	100	0	0	4	0.1	33
Tharyx acutus	0	0	8	200	0	0	8	0.1	67
Spionidae									
Polydora cornuta	4	100	16	400	0	0	20	0.4	167
Streblospio benedicti	748	18700	180	4500	444	11100	1372	24.7	11433
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	1408	35200	808	20200	1012	25300	3228	58.2	26900
Lysianassidae									
Lysianopsis alba	0	0	4	100	0	0	4	0.1	33
Decapoda									
Xanthidae									
Rhithropanopeus harrisii	0	0	4	100	0	0	4	0.1	33
Mollusca									
Bivalvia									
Bivalvia (LPIL)	8	200	0	0	8	200	16	0.3	133
Veneroida									
Mactridae									
Mulinia lateralis	0	0	0	0	4	100	4	0.1	33
Montacutidae									
Mysella planulata	4	100	0	0	4	100	8	0.1	67
Petricolidae									
Petricola pholadiformis	4	100	0	0	0	0	4	0.1	33
Tellinidae									
Tellina (LPIL)	0	0	0	0	4	100	4	0.1	33

Station Data Summary Report
Station GH2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 005
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Tellina agilis	0	0	0	0	4	100	4	0.1	33
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	16	400	24	600	8	200	48	0.9	400
Rhynchocoela									
Rhynchocoela (LPIL)	0	0	1	25	0	0	1	0	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station GH2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 005
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	27	14	18	14	15.33333333	2.3
Total Individuals	5549	2356	1517	1676	1849.7	445.6
Density (nos/sq.m.)		58900	37925	41900	46242	11141.1

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.26
Species Diversity (Shannon; log base 2)	d	=	1.82
Species Diversity (Shannon; log base 10)	H	=	0.55
Species Diversity (Simpson; 1/S)	1/S	=	2.44
Species Evenness (Pielou)	J'	=	0.38
Species Richness (Margalef)	D	=	3.02
Equitability Index (Lloyd & Ghelardi)	e	=	0.18

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	3.7	1	0
Annelida	16	59.2	2224	40
Mollusca	7	25.9	88	1.5
Arthropoda	3	11.1	3236	58.3
TOTALS	**27**		**5549**	

Station Data Summary Report
Station GH3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 006
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Capitellida									
Capitellidae									
Mediomastus (LPIL)	40	1000	44	1100	56	1400	140	4	1167
Mediomastus ambiseta	4	100	12	300	28	700	44	1.3	367
Eunicida									
Dorvilleidae									
Schistomeringos rudolphi	0	0	0	0	8	200	8	0.2	67
Phyllodocida									
Hesionidae									
Hesionidae (LPIL)	4	100	12	300	12	300	28	0.8	233
Podarke obscura	40	1000	24	600	36	900	100	2.9	833
Podarkeopsis levifuscina	4	100	12	300	8	200	24	0.7	200
Phyllodocidae									
Hypereteone (LPIL)	0	0	0	0	4	100	4	0.1	33
Spionida									
Spionidae									
Polydora cornuta	0	0	4	100	4	100	8	0.2	67
Streblospio benedicti	8	200	0	0	0	0	8	0.2	67
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	1052	26300	908	22700	1032	25800	2992	86.5	24933
Corophiidae									
Monocorophium tuberculatum	12	300	20	500	4	100	36	1	300
Lysianassidae									
Lysianopsis alba	0	0	0	0	4	100	4	0.1	33
Mollusca									
Bivalvia									
Veneroida									
Tellinidae									
Tellina agilis	0	0	0	0	4	100	4	0.1	33
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	16	400	20	500	20	500	56	1.6	467
Nassariidae (LPIL)	0	0	0	0	4	100	4	0.1	33

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station GH3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 006
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	15	9	9	14	10.66666667	2.9
Total Individuals	3460	1180	1056	1224	1153.3	87.1
Density (nos/sq.m.)		29500	26400	30600	28833	2177.9

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0.67
Species Diversity (Shannon; log base 2)	d	=	0.97
Species Diversity (Shannon; log base 10)	H	=	0.29
Species Diversity (Simpson; 1/S)	1/S	=	1.33
Species Evenness (Pielou)	J'	=	0.25
Species Richness (Margalef)	D	=	1.72
Equitability Index (Lloyd & Ghelardi)	e	=	0.17

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	9	60	364	10.5
Mollusca	3	20	64	1.8
Arthropoda	3	20	3032	87.6
TOTALS	**15**		**3460**	

Station Data Summary Report
Station LB1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 007
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Arthropoda									
Malacostraca									
Amphipoda									
Aeginellidae									
Paracaprella tenuis	1	25	0	0	0	0	1	33.3	8
Mollusca									
Bivalvia									
Myoida									
Myidae									
Mya arenaria	0	0	0	0	1	25	1	33.3	8
Veneroida									
Veneridae									
Gemma gemma	0	0	1	25	0	0	1	33.3	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 007
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	3	1	1	1	1	0
Total Individuals	3	1	1	1	1	0
Density (nos/sq.m.)		25	25	25	25	0

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.1
Species Diversity (Shannon; log base 2)	d	=	1.58
Species Diversity (Shannon; log base 10)	H	=	0.48
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	1
Species Richness (Margalef)	D	=	1.82
Equitability Index (Lloyd & Ghelardi)	e	=	1.35

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Mollusca	2	66.6	2	66.6
Arthropoda	1	33.3	1	33.3
TOTALS	**3**		**3**	

Station Data Summary Report
Station LB2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 008
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca (LPI	0	0	0	0	1	25	1	100	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 008
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	1	0	0	1	0.333333333	0.6
Total Individuals	1	0	0	1	0.3	0.6
Density (nos/sq.m.)		0	0	25	8	14.4

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	
Species Richness (Margalef)	D	=	
Equitability Index (Lloyd & Ghelardi)	e	=	1.29

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Arthropoda	1	100	1	100
TOTALS	**1**		**1**	

Station Data Summary Report
Station LB3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 009
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Spionida									
Cirratulidae									
Tharyx acutus	1	25	0	0	0	0	1	50	8
Mollusca									
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	1	25	0	0	0	0	1	50	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 009
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	2	2	0	0	0.666666667	1.2
Total Individuals	2	2	0	0	0.7	1.2
Density (nos/sq.m.)		50	0	0	17	28.9

FAUNAL INDICES			
Species Diversity (Shannon; log base e)	H'	=	0.69
Species Diversity (Shannon; log base 2)	d	=	1
Species Diversity (Shannon; log base 10)	H	=	0.3
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	1
Species Richness (Margalef)	D	=	1.44
Equitability Index (Lloyd & Ghelardi)	e	=	1.33

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	1	50	1	50
Mollusca	1	50	1	50
TOTALS	**2**		**2**	

Station Data Summary Report
Station LB4

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 010
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Spionida									
Spionidae									
Streblospio benedicti	0	0	1	25	0	0	1	100	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB4

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 010
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	1	0	1	0	0.333333333	0.6
Total Individuals	1	0	1	0	0.3	0.6
Density (nos/sq.m.)		0	25	0	8	14.4

FAUNAL INDICES			
Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	
Species Richness (Margalef)	D	=	
Equitability Index (Lloyd & Ghelardi)	e	=	1.29

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	1	100	1	100
TOTALS	**1**		**1**	

Station Data Summary Report
Station LB5

Client: Port Authority of New York and New Jerse
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 011
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Mollusca									
Gastropoda									
Mesogastropoda									
Rissoidae									
Rissoidae (LPIL)	0	0	1	25	0	0	1	50	8
Pyramidelloida									
Pyramidellidae									
Odostomia (LPIL)	0	0	0	0	1	25	1	50	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB5

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 011
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	2	0	1	1	0.666666667	0.6
Total Individuals	2	0	1	1	0.7	0.6
Density (nos/sq.m.)		0	25	25	17	14.4

FAUNAL INDICES			
Species Diversity (Shannon; log base e)	H'	=	0.69
Species Diversity (Shannon; log base 2)	d	=	1
Species Diversity (Shannon; log base 10)	H	=	0.3
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	1
Species Richness (Margalef)	D	=	1.44
Equitability Index (Lloyd & Ghelardi)	e	=	1.33

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Mollusca	2	100	2	100
TOTALS	**2**		**2**	

Station Data Summary Report
Station LB6

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 012
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density

No Taxa Found

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB6

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 012
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	0	0	0	0	0	0
Total Individuals	0	0	0	0	0	0
Density (nos/sq.m.)		0	0	0	0	0

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	0
Species Richness (Margalef)	D	=	0
Equitability Index (Lloyd & Ghelardi)	e	=	

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
TOTALS	**0**		**0**	

Station Data Summary Report
Station LB7

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 013
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density

No Taxa Found

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB7

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 013
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	0	0	0	0	0	0
Total Individuals	0	0	0	0	0	0
Density (nos/sq.m.)		0	0	0	0	0

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	0
Species Richness (Margalef)	D	=	0
Equitability Index (Lloyd & Ghelardi)	e	=	

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
TOTALS	**0**		**0**	

Station Data Summary Report
Station LB8

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 014
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density

No Taxa Found

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB8

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 014
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	0	0	0	0	0	0
Total Individuals	0	0	0	0	0	0
Density (nos/sq.m.)		0	0	0	0	0

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	0
Species Richness (Margalef)	D	=	0
Equitability Index (Lloyd & Ghelardi)	e	=	

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
TOTALS	**0**		**0**	

Station Data Summary Report
Station LB9

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 015
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	12	300	1	25	5	125	18	90	150
Phyllodocida									
Hesionidae									
Podarke obscura	1	25	0	0	0	0	1	5	8
Podarkeopsis levifuscina	1	25	0	0	0	0	1	5	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station LB9

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 015
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	3	3	1	1	1.666666667	1.2
Total Individuals	20	14	1	5	6.7	6.7
Density (nos/sq.m.)		350	25	125	167	166.5

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0.39
Species Diversity (Shannon; log base 2)	d	=	0.57
Species Diversity (Shannon; log base 10)	H	=	0.17
Species Diversity (Simpson; 1/S)	1/S	=	1.24
Species Evenness (Pielou)	J'	=	0.36
Species Richness (Margalef)	D	=	0.67
Equitability Index (Lloyd & Ghelardi)	e	=	0.65

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	3	100	20	100
TOTALS	**3**		**20**	

Station Data Summary Report
Station NB1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 016
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	50	1250	16	400	47	1175	113	10.4	942
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	2	50	0	0	0	0	2	0.2	17
Heteromastus filiformis	2	50	0	0	7	175	9	0.8	75
Mediomastus (LPIL)	8	200	0	0	9	225	17	1.6	142
Mediomastus ambiseta	2	50	0	0	1	25	3	0.3	25
Phyllodocida									
Glyceridae									
Glycera americana	0	0	4	100	0	0	4	0.4	33
Hesionidae									
Hesionidae (LPIL)	0	0	0	0	2	50	2	0.2	17
Podarke obscura	0	0	28	700	3	75	31	2.8	258
Podarkeopsis levifuscina	0	0	8	200	12	300	20	1.8	167
Nereidae									
Nereididae (LPIL)	0	0	0	0	1	25	1	0.1	8
Nereis succinea	1	25	4	100	0	0	5	0.5	42
Phyllodocidae									
Hypereteone fauchaldi	12	300	24	600	12	300	48	4.4	400
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	0	0	0	0	27	675	27	2.5	225
Tharyx acutus	4	100	4	100	20	500	28	2.6	233
Spionidae									
Polydora cornuta	0	0	0	0	1	25	1	0.1	8
Streblospio benedicti	160	4000	460	11500	94	2350	714	65.4	5950
Mollusca									
Bivalvia									
Veneroida									
Veneridae									
Gemma gemma	0	0	0	0	1	25	1	0.1	8
Mercenaria mercenaria	2	50	24	600	7	175	33	3	275
Gastropoda									
Gastropoda (LPIL)	0	0	0	0	1	25	1	0.1	8
Cephalaspidea									
Acteonidae									
Rictaxis punctostriatus	0	0	4	100	1	25	5	0.5	42
Mesogastropoda									
Calyptraeidae									
Crepidula plana	0	0	0	0	1	25	1	0.1	8
Neogastropoda									
Columbellidae									
Anachis obesa	0	0	0	0	1	25	1	0.1	8
Nassariidae									
Ilyanassa obsoleta	2	50	20	500	0	0	22	2	183
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	0	0	0	0	2	50	2	0.2	17

Station Data Summary Report
Station NB1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 016
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	24	11	11	20	14	5.2
Total Individuals	1091	245	596	250	363.7	201.2
Density (nos/sq.m.)		6125	14900	6250	9092	5030.6

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.46
Species Diversity (Shannon; log base 2)	d	=	2.1
Species Diversity (Shannon; log base 10)	H	=	0.63
Species Diversity (Simpson; 1/S)	1/S	=	2.25
Species Evenness (Pielou)	J'	=	0.46
Species Richness (Margalef)	D	=	3.29
Equitability Index (Lloyd & Ghelardi)	e	=	0.25

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	16	66.6	1025	93.9
Mollusca	8	33.3	66	6
TOTALS	**24**		**1091**	

Station Data Summary Report
Station NB2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 017
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	2	50	0	0	0	0	2	0.5	17
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	1	25	1	25	197	4925	199	49.5	1658
Capitellidae (LPIL)	0	0	0	0	23	575	23	5.7	192
Mediomastus ambiseta	0	0	0	0	1	25	1	0.2	8
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	0	0	0	0	2	50	2	0.5	17
Phyllodocida									
Hesionidae									
Podarkeopsis levifuscina	0	0	0	0	2	50	2	0.5	17
Nereidae									
Nereididae (LPIL)	0	0	0	0	1	25	1	0.2	8
Phyllodocidae									
Hypereteone fauchaldi	1	25	1	25	4	100	6	1.5	50
Hypereteone heteropoda	0	0	0	0	1	25	1	0.2	8
Spionida									
Cirratulidae									
Tharyx acutus	0	0	0	0	1	25	1	0.2	8
Spionidae									
Polydora cornuta	0	0	0	0	3	75	3	0.7	25
Streblospio benedicti	1	25	1	25	135	3375	137	34.1	1142
Terebellida									
Pectinariidae									
Pectinaria gouldii	0	0	0	0	1	25	1	0.2	8
Mollusca									
Bivalvia									
Veneroida									
Veneridae									
Gemma gemma	0	0	0	0	15	375	15	3.7	125
Mercenaria mercenaria	0	0	0	0	3	75	3	0.7	25
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	0	0	0	0	4	100	4	1	33
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	0	0	0	0	1	25	1	0.2	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 017
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	17	4	3	16	7.666666667	7.2
Total Individuals	402	5	3	394	134	225.2
Density (nos/sq.m.)		125	75	9850	3350	5629.2

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.35
Species Diversity (Shannon; log base 2)	d	=	1.95
Species Diversity (Shannon; log base 10)	H	=	0.59
Species Diversity (Simpson; 1/S)	1/S	=	2.74
Species Evenness (Pielou)	J'	=	0.48
Species Richness (Margalef)	D	=	2.67
Equitability Index (Lloyd & Ghelardi)	e	=	0.31

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	13	76.4	379	94.2
Mollusca	4	23.5	23	5.7
TOTALS	**17**		**402**	

Station Data Summary Report
Station NB3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 018
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density

No Taxa Found

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 018
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	0	0	0	0	0	0
Total Individuals	0	0	0	0	0	0
Density (nos/sq.m.)		0	0	0	0	0

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	0
Species Diversity (Shannon; log base 2)	d	=	0
Species Diversity (Shannon; log base 10)	H	=	0
Species Diversity (Simpson; 1/S)	1/S	=	
Species Evenness (Pielou)	J'	=	0
Species Richness (Margalef)	D	=	0
Equitability Index (Lloyd & Ghelardi)	e	=	

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
TOTALS	**0**		**0**	

Station Data Summary Report
Station NB4

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 019
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	1	25	0	0	0	0	1	4.8	8
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	0	0	6	150	0	0	6	28.6	50
Phyllodocida									
Hesionidae									
Podarke obscura	0	0	6	150	0	0	6	28.6	50
Podarkeopsis levifuscina	2	50	2	50	0	0	4	19	33
Spionida									
Cirratulidae									
Tharyx acutus	0	0	1	25	0	0	1	4.8	8
Spionidae									
Streblospio benedicti	1	25	0	0	0	0	1	4.8	8
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	1	25	0	0	0	0	1	4.8	8
Decapoda									
Pinnotheridae									
Pinnixa (LPIL)	0	0	0	0	1	25	1	4.8	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB4

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 019
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	8	4	4	1	3	1.7
Total Individuals	21	5	15	1	7	7.2
Density (nos/sq.m.)		125	375	25	175	180.3

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.76
Species Diversity (Shannon; log base 2)	d	=	2.53
Species Diversity (Shannon; log base 10)	H	=	0.76
Species Diversity (Simpson; 1/S)	1/S	=	5.83
Species Evenness (Pielou)	J'	=	0.84
Species Richness (Margalef)	D	=	2.3
Equitability Index (Lloyd & Ghelardi)	e	=	1.01

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	6	75	19	90.4
Arthropoda	2	25	2	9.5
TOTALS	**8**		**21**	

Station Data Summary Report
Station NB5

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 020
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	5	125	3	75	1	25	9	45	75
Phyllodocida									
Hesionidae									
Podarke obscura	2	50	0	0	0	0	2	10	17
Podarkeopsis levifuscina	2	50	1	25	0	0	3	15	25
Phyllodocidae									
Hypereteone fauchaldi	2	50	2	50	2	50	6	30	50

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB5

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 020
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	4	4	3	2	3	1
Total Individuals	20	11	6	3	6.7	4
Density (nos/sq.m.)		275	150	75	167	101

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.24
Species Diversity (Shannon; log base 2)	d	=	1.78
Species Diversity (Shannon; log base 10)	H	=	0.54
Species Diversity (Simpson; 1/S)	1/S	=	3.45
Species Evenness (Pielou)	J'	=	0.89
Species Richness (Margalef)	D	=	1
Equitability Index (Lloyd & Ghelardi)	e	=	1.17

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	4	100	20	100
TOTALS	**4**		**20**	

Station Data Summary Report
Station NB6

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 021
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	0	0	0	0	4	100	4	25	33
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	0	0	1	25	4	100	5	31.3	42
Capitellidae (LPIL)	0	0	0	0	2	50	2	12.5	17
Phyllodocida									
Hesionidae									
Podarkeopsis levifuscina	0	0	0	0	1	25	1	6.3	8
Phyllodocidae									
Hypereteone fauchaldi	0	0	1	25	0	0	1	6.3	8
Spionida									
Spionidae									
Streblospio benedicti	0	0	1	25	0	0	1	6.3	8
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	1	25	0	0	0	0	1	6.3	8
Mollusca									
Bivalvia									
Veneroida									
Tellinidae									
Tellina agilis	0	0	0	0	1	25	1	6.3	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB6

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 021
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	8	1	3	5	3	2
Total Individuals	16	1	3	12	5.3	5.9
Density (nos/sq.m.)		25	75	300	133	146.5

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.84
Species Diversity (Shannon; log base 2)	d	=	2.65
Species Diversity (Shannon; log base 10)	H	=	0.8
Species Diversity (Simpson; 1/S)	1/S	=	7.06
Species Evenness (Pielou)	J'	=	0.88
Species Richness (Margalef)	D	=	2.52
Equitability Index (Lloyd & Ghelardi)	e	=	1.09

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	6	75	14	87.5
Mollusca	1	12.5	1	6.2
Arthropoda	1	12.5	1	6.2
TOTALS	**8**		**16**	

Station Data Summary Report
Station NB7

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 022
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	27	675	10	250	6	150	43	1.5	358
Polychaeta									
Capitellida									
Capitellidae									
Mediomastus (LPIL)	0	0	2	50	20	500	22	0.8	183
Mediomastus ambiseta	0	0	1	25	8	200	9	0.3	75
Phyllodocida									
Glyceridae									
Glyceridae (LPIL)	0	0	0	0	6	150	6	0.2	50
Hesionidae									
Hesionidae (LPIL)	0	0	0	0	4	100	4	0.1	33
Podarke obscura	0	0	0	0	8	200	8	0.3	67
Nereidae									
Nereis succinea	0	0	0	0	4	100	4	0.1	33
Phyllodocidae									
Eumida sanguinea	2	50	3	75	28	700	33	1.2	275
Hypereteone (LPIL)	0	0	2	50	4	100	6	0.2	50
Hypereteone fauchaldi	4	100	9	225	10	250	23	0.8	192
Hypereteone heteropoda	1	25	0	0	0	0	1	0	8
Phyllodoce (LPIL)	0	0	0	0	4	100	4	0.1	33
Phyllodoce longipes	0	0	1	25	2	50	3	0.1	25
Phyllodocidae (LPIL)	1	25	0	0	0	0	1	0	8
Spionida									
Chaetopteridae									
Spiochaetopterus oculatus	0	0	1	25	0	0	1	0	8
Cirratulidae									
Caulleriella sp. J	4	100	0	0	0	0	4	0.1	33
Cirratulidae (LPIL)	0	0	1	25	40	1000	41	1.4	342
Tharyx acutus	102	2550	81	2025	54	1350	237	8.3	1975
Spionidae									
Polydora cornuta	2	50	1	25	12	300	15	0.5	125
Streblospio benedicti	117	2925	559	13975	1486	37150	2162	76	18017
Terebellida									
Pectinariidae									
Pectinaria gouldii	1	25	0	0	2	50	3	0.1	25
Sabellariidae									
Sabellaria vulgaris	18	450	5	125	36	900	59	2.1	492
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	0	0	7	175	30	750	37	1.3	308
Mollusca									
Bivalvia									
Veneroida									
Mactridae									
Mulinia lateralis	0	0	1	25	1	25	2	0.1	17
Tellinidae									

Station Data Summary Report
Station NB7

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 022
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Tellina agilis	0	0	1	25	0	0	1	0	8
Veneridae									
Mercenaria mercenaria	1	25	7	175	14	350	22	0.8	183
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula fornicata	1	25	3	75	3	75	7	0.2	58
Crepidula plana	0	0	0	0	1	25	1	0	8
Neogastropoda									
Columbellidae									
Anachis obesa	1	25	0	0	0	0	1	0	8
Nassariidae									
Ilyanassa obsoleta	21	525	21	525	19	475	61	2.1	508
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	4	100	1	25	17	425	22	0.8	183

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB7

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 022
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	31	16	20	25	20.33333333	4.5
Total Individuals	2843	307	717	1819	947.7	781.9
Density (nos/sq.m.)		7675	17925	45475	23692	19548.7

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.14
Species Diversity (Shannon; log base 2)	d	=	1.64
Species Diversity (Shannon; log base 10)	H	=	0.49
Species Diversity (Simpson; 1/S)	1/S	=	1.7
Species Evenness (Pielou)	J'	=	0.33
Species Richness (Margalef)	D	=	3.77
Equitability Index (Lloyd & Ghelardi)	e	=	0.14

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	22	70.9	2689	94.5
Mollusca	8	25.8	117	4.1
Arthropoda	1	3.2	37	1.3
TOTALS	**31**		**2843**	

Station Data Summary Report
Station NB8

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 023
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	1	25	0	0	0	0	1	0.6	8
Polychaeta									
Capitellida									
Capitellidae									
Capitella (LPIL)	1	25	3	75	3	75	7	4.4	58
Capitella capitata	4	100	51	1275	36	900	91	57.2	758
Phyllodocida									
Hesionidae									
Podarke obscura	0	0	2	50	2	50	4	2.5	33
Podarkeopsis levifuscina	1	25	3	75	1	25	5	3.1	42
Nereidae									
Nereis succinea	1	25	0	0	0	0	1	0.6	8
Phyllodocidae									
Hypereteone heteropoda	7	175	4	100	2	50	13	8.2	108
Phyllodocidae (LPIL)	0	0	3	75	2	50	5	3.1	42
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	2	50	0	0	0	0	2	1.3	17
Spionidae									
Streblospio benedicti	13	325	4	100	1	25	18	11.3	150
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	12	300	0	0	0	0	12	7.5	100

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB8

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 023
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	11	9	7	7	7.666666667	1.2
Total Individuals	159	42	70	47	53	14.9
Density (nos/sq.m.)		1050	1750	1175	1325	373.3

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.53
Species Diversity (Shannon; log base 2)	d	=	2.21
Species Diversity (Shannon; log base 10)	H	=	0.67
Species Diversity (Simpson; 1/S)	1/S	=	2.83
Species Evenness (Pielou)	J'	=	0.64
Species Richness (Margalef)	D	=	1.97
Equitability Index (Lloyd & Ghelardi)	e	=	0.58

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	10	90.9	147	92.4
Arthropoda	1	9	12	7.5
TOTALS	**11**		**159**	

Station Data Summary Report
Station NB9

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 024
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	1	25	0	0	0	0	1	0.5	8
Polychaeta									
Capitellida									
Capitellidae									
Capitella (LPIL)	2	50	6	150	1	25	9	4.8	75
Capitella capitata	31	775	51	1275	15	375	97	51.6	808
Capitella jonesi	1	25	0	0	0	0	1	0.5	8
Orbiniida									
Orbiniidae									
Leitoscoloplos robustus	0	0	1	25	0	0	1	0.5	8
Phyllodocida									
Hesionidae									
Podarke obscura	0	0	1	25	0	0	1	0.5	8
Podarkeopsis levifuscina	5	125	18	450	0	0	23	12.2	192
Phyllodocidae									
Hypereteone fauchaldi	0	0	0	0	2	50	2	1.1	17
Hypereteone heteropoda	3	75	0	0	1	25	4	2.1	33
Phyllodocidae (LPIL)	2	50	2	50	1	25	5	2.7	42
Spionida									
Spionidae									
Polydora cornuta	2	50	0	0	1	25	3	1.6	25
Streblospio benedicti	17	425	0	0	1	25	18	9.6	150
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	11	275	2	50	7	175	20	10.6	167
Mollusca									
Bivalvia									
Veneroida									
Tellinidae									
Tellina agilis	1	25	0	0	0	0	1	0.5	8
Gastropoda									
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	0	0	2	50	0	0	2	1.1	17

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB9

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 024
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	15	11	8	8	9	1.7
Total Individuals	188	76	83	29	62.7	29.4
Density (nos/sq.m.)		1900	2075	725	1567	734.1

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.69
Species Diversity (Shannon; log base 2)	d	=	2.43
Species Diversity (Shannon; log base 10)	H	=	0.73
Species Diversity (Simpson; 1/S)	1/S	=	3.31
Species Evenness (Pielou)	J'	=	0.62
Species Richness (Margalef)	D	=	2.67
Equitability Index (Lloyd & Ghelardi)	e	=	0.5

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	12	80	165	87.7
Mollusca	2	13.3	3	1.5
Arthropoda	1	6.6	20	10.6
TOTALS	**15**		**188**	

Station Data Summary Report
Station NB10

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 025
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	3	75	2	50	8	200	13	2.1	108
Polychaeta									
Capitellida									
Capitellidae									
Capitella (LPIL)	9	225	3	75	0	0	12	1.9	100
Capitella capitata	91	2275	145	3625	15	375	251	39.7	2092
Capitella jonesi	2	50	0	0	0	0	2	0.3	17
Mediomastus (LPIL)	1	25	0	0	2	50	3	0.5	25
Mediomastus ambiseta	0	0	0	0	1	25	1	0.2	8
Orbiniida									
Orbiniidae									
Leitoscoloplos robustus	0	0	0	0	1	25	1	0.2	8
Phyllodocida									
Goniadidae									
Glycinde solitaria	0	0	1	25	0	0	1	0.2	8
Hesionidae									
Podarke obscura	2	50	0	0	2	50	4	0.6	33
Podarkeopsis levifuscina	9	225	4	100	2	50	15	2.4	125
Nereidae									
Nereis succinea	1	25	0	0	0	0	1	0.2	8
Phyllodocidae									
Hypereteone fauchaldi	0	0	0	0	2	50	2	0.3	17
Hypereteone heteropoda	8	200	4	100	4	100	16	2.5	133
Phyllodocidae (LPIL)	0	0	1	25	10	250	11	1.7	92
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	0	0	1	25	0	0	1	0.2	8
Tharyx acutus	0	0	0	0	4	100	4	0.6	33
Spionidae									
Polydora cornuta	1	25	0	0	2	50	3	0.5	25
Streblospio benedicti	23	575	14	350	192	4800	229	36.2	1908
Terebellida									
Pectinariidae									
Pectinaria gouldii	0	0	0	0	2	50	2	0.3	17
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	1	25	0	0	10	250	11	1.7	92
Mysidacea									
Mysidacea (LPIL)	1	25	0	0	0	0	1	0.2	8
Mollusca									
Bivalvia									
Veneroida									
Petricolidae									
Petricola pholadiformis	0	0	0	0	1	25	1	0.2	8
Veneridae									
Mercenaria mercenaria	8	200	1	25	12	300	21	3.3	175

Station Data Summary Report
Station NB10

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 025
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Gastropoda									
Cephalaspidea									
Acteonidae									
Rictaxis punctostriatus	0	0	0	0	2	50	2	0.3	17
Mesogastropoda									
Calyptraeidae									
Crepidula (LPIL)	0	0	0	0	1	25	1	0.2	8
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	0	0	0	0	22	550	22	3.5	183
Nassariidae (LPIL)	0	0	0	0	1	25	1	0.2	8
Platyhelminthes									
Turbellaria									
Turbellaria (LPIL)	0	0	0	0	1	25	1	0.2	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB10

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 025
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	28	14	10	22	15.33333333	6.1
Total Individuals	633	160	176	297	211	74.9
Density (nos/sq.m.)		4000	4400	7425	5275	1872.7

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.73
Species Diversity (Shannon; log base 2)	d	=	2.5
Species Diversity (Shannon; log base 10)	H	=	0.75
Species Diversity (Simpson; 1/S)	1/S	=	3.42
Species Evenness (Pielou)	J'	=	0.52
Species Richness (Margalef)	D	=	4.19
Equitability Index (Lloyd & Ghelardi)	e	=	0.28

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Platyhelminthes	1	3.5	1	0.1
Annelida	19	67.8	572	90.3
Mollusca	6	21.4	48	7.5
Arthropoda	2	7.1	12	1.8
TOTALS	**28**		**633**	

Station Data Summary Report
Station NB11

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 026
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	36	900	53	1325	44	1100	133	8.5	1108
Polychaeta									
Capitellida									
Capitellidae									
Capitella (LPIL)	3	75	0	0	0	0	3	0.2	25
Capitella capitata	19	475	21	525	5	125	45	2.9	375
Mediomastus (LPIL)	7	175	21	525	7	175	35	2.2	292
Mediomastus ambiseta	1	25	3	75	1	25	5	0.3	42
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	3	75	4	100	2	50	9	0.6	75
Leitoscoloplos robustus	2	50	0	0	1	25	3	0.2	25
Phyllodocida									
Glyceridae									
Glyceridae (LPIL)	0	0	2	50	0	0	2	0.1	17
Hesionidae									
Hesionidae (LPIL)	0	0	1	25	0	0	1	0.1	8
Podarke obscura	0	0	1	25	2	50	3	0.2	25
Podarkeopsis levifuscina	0	0	0	0	2	50	2	0.1	17
Nereidae									
Nereis (LPIL)	0	0	3	75	0	0	3	0.2	25
Nereis succinea	0	0	2	50	4	100	6	0.4	50
Phyllodocidae									
Eumida sanguinea	1	25	7	175	2	50	10	0.6	83
Hypereteone (LPIL)	0	0	1	25	0	0	1	0.1	8
Hypereteone fauchaldi	0	0	1	25	2	50	3	0.2	25
Hypereteone heteropoda	6	150	0	0	0	0	6	0.4	50
Phyllodocidae (LPIL)	0	0	0	0	1	25	1	0.1	8
Sabellida									
Serpulidae									
Hydroides dianthus	0	0	6	150	1	25	7	0.4	58
Serpulidae (LPIL)	0	0	13	325	0	0	13	0.8	108
Spionida									
Cirratulidae									
Caulleriella sp. J	0	0	1	25	0	0	1	0.1	8
Cirratulidae (LPIL)	50	1250	6	150	17	425	73	4.7	608
Tharyx acutus	16	400	53	1325	35	875	104	6.7	867
Spionidae									
Apoprionospio pygmaea	0	0	1	25	0	0	1	0.1	8
Polydora cornuta	8	200	21	525	6	150	35	2.2	292
Streblospio benedicti	354	8850	253	6325	203	5075	810	52.1	6750
Terebellida									
Sabellariidae									
Sabellaria vulgaris	3	75	56	1400	40	1000	99	6.4	825
Terebellidae									
Polycirrus sp. G	0	0	1	25	0	0	1	0.1	8
Arthropoda									
Malacostraca									
Decapoda									

Station Data Summary Report
Station NB11

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 026
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Pinnotheridae									
Pinnixa (LPIL)	0	0	0	0	1	25	1	0.1	8
Xanthidae									
Xanthidae (LPIL)	0	0	1	25	1	25	2	0.1	17
Mollusca									
Bivalvia									
Veneroida									
Tellinidae									
Tellina agilis	2	50	1	25	2	50	5	0.3	42
Tellinidae (LPIL)	0	0	1	25	0	0	1	0.1	8
Veneridae									
Gemma gemma	1	25	0	0	1	25	2	0.1	17
Mercenaria mercenaria	3	75	16	400	4	100	23	1.5	192
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula fornicata	0	0	3	75	0	0	3	0.2	25
Crepidula plana	1	25	1	25	2	50	4	0.3	33
Rissoidae									
Rissoidae (LPIL)	3	75	0	0	2	50	5	0.3	42
Neogastropoda									
Melongenidae									
Busycon carica	0	0	1	25	0	0	1	0.1	8
Nassariidae									
Ilyanassa obsoleta	29	725	36	900	12	300	77	4.9	642
Nudibranchia									
Corambidae									
Doridella obscura	0	0	1	25	0	0	1	0.1	8
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	0	0	7	175	9	225	16	1	133

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB11

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 026
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	41	20	33	27	26.66666667	6.5
Total Individuals	1556	548	599	409	518.7	98.3
Density (nos/sq.m.)		13700	14975	10225	12967	2458.4

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.97
Species Diversity (Shannon; log base 2)	d	=	2.85
Species Diversity (Shannon; log base 10)	H	=	0.86
Species Diversity (Simpson; 1/S)	1/S	=	3.41
Species Evenness (Pielou)	J'	=	0.53
Species Richness (Margalef)	D	=	5.44
Equitability Index (Lloyd & Ghelardi)	e	=	0.25

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	28	68.2	1415	90.9
Mollusca	11	26.8	138	8.8
Arthropoda	2	4.8	3	0.1
TOTALS	**41**		**1556**	

Station Data Summary Report
Station NB12

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 027
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	24	600	45	1125	20	500	89	5.3	742
Polychaeta									
Capitellida									
Capitellidae									
Capitella (LPIL)	3	75	0	0	0	0	3	0.2	25
Capitella capitata	10	250	8	200	48	1200	66	3.9	550
Mediomastus (LPIL)	3	75	7	175	3	75	13	0.8	108
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	1	25	1	25	2	50	4	0.2	33
Leitoscoloplos robustus	1	25	0	0	0	0	1	0.1	8
Phyllodocida									
Glyceridae									
Glyceridae (LPIL)	0	0	0	0	2	50	2	0.1	17
Hesionidae									
Hesionidae (LPIL)	0	0	0	0	4	100	4	0.2	33
Podarke obscura	10	250	0	0	22	550	32	1.9	267
Podarkeopsis levifuscina	1	25	0	0	5	125	6	0.4	50
Nereidae									
Nereis (LPIL)	0	0	0	0	1	25	1	0.1	8
Nereis succinea	4	100	0	0	3	75	7	0.4	58
Phyllodocidae									
Eumida sanguinea	13	325	0	0	11	275	24	1.4	200
Hypereteone (LPIL)	0	0	1	25	0	0	1	0.1	8
Hypereteone fauchaldi	3	75	8	200	4	100	15	0.9	125
Hypereteone heteropoda	7	175	7	175	0	0	14	0.8	117
Phyllodoce mucosa	0	0	1	25	0	0	1	0.1	8
Phyllodocidae (LPIL)	1	25	0	0	3	75	4	0.2	33
Polynoidae									
Polynoidae (LPIL)	0	0	0	0	1	25	1	0.1	8
Sabellida									
Serpulidae									
Hydroides dianthus	16	400	0	0	6	150	22	1.3	183
Serpulidae (LPIL)	13	325	0	0	1	25	14	0.8	117
Spionida									
Cirratulidae									
Caulleriella sp. J	0	0	1	25	0	0	1	0.1	8
Cirratulidae (LPIL)	5	125	12	300	0	0	17	1	142
Tharyx acutus	0	0	10	250	2	50	12	0.7	100
Spionidae									
Apoprionospio pygmaea	0	0	1	25	0	0	1	0.1	8
Dipolydora socialis	2	50	0	0	0	0	2	0.1	17
Polydora cornuta	19	475	2	50	33	825	54	3.2	450
Streblospio benedicti	154	3850	375	9375	119	2975	648	38.7	5400
Terebellida									
Sabellariidae									
Sabellaria vulgaris	395	9875	1	25	148	3700	544	32.5	4533

Station Data Summary Report
Station NB12

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 027
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	0	0	1	25	1	25	2	0.1	17
Lysianassidae									
Lysianopsis alba	0	0	0	0	7	175	7	0.4	58
Melitidae									
Elasmopus levis	2	50	0	0	1	25	3	0.2	25
Melita nitida	0	0	0	0	4	100	4	0.2	33
Decapoda									
Palaemonidae									
Palaemonetes pugio	0	0	0	0	2	50	2	0.1	17
Xanthidae									
Xanthidae (LPIL)	0	0	0	0	1	25	1	0.1	8
Mollusca									
Bivalvia									
Veneroida									
Tellinidae									
Tellina (LPIL)	1	25	0	0	0	0	1	0.1	8
Veneridae									
Mercenaria mercenaria	1	25	1	25	2	50	4	0.2	33
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula fornicata	5	125	0	0	3	75	8	0.5	67
Crepidula plana	4	100	0	0	0	0	4	0.2	33
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	6	150	1	25	15	375	22	1.3	183
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	4	100	0	0	7	175	11	0.7	92
Platyhelminthes									
Turbellaria									
Turbellaria (LPIL)	0	0	0	0	1	25	1	0.1	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB12

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 027
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	42	27	18	31	25.33333333	6.7
Total Individuals	1673	708	483	482	557.7	130.2
Density (nos/sq.m.)		17700	12075	12050	13942	3254.8

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.93
Species Diversity (Shannon; log base 2)	d	=	2.78
Species Diversity (Shannon; log base 10)	H	=	0.84
Species Diversity (Simpson; 1/S)	1/S	=	3.81
Species Evenness (Pielou)	J'	=	0.52
Species Richness (Margalef)	D	=	5.52
Equitability Index (Lloyd & Ghelardi)	e	=	0.23

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Platyhelminthes	1	2.3	1	0
Annelida	29	69	1603	95.8
Mollusca	6	14.2	50	2.9
Arthropoda	6	14.2	19	1.1
TOTALS	**42**		**1673**	

Station Data Summary Report
Station NB13

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 028
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	50	1250	38	950	39	975	127	6.2	1058
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	25	625	4	100	27	675	56	2.7	467
Mediomastus (LPIL)	30	750	16	400	5	125	51	2.5	425
Mediomastus ambiseta	54	1350	0	0	4	100	58	2.8	483
Eunicida									
Dorvilleidae									
Schistomeringos rudolphi	0	0	1	25	0	0	1	0	8
Oenonidae									
Drilonereis longa	1	25	0	0	0	0	1	0	8
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	17	425	5	125	1	25	23	1.1	192
Leitoscoloplos robustus	0	0	0	0	3	75	3	0.1	25
Phyllodocida									
Hesionidae									
Podarke obscura	0	0	7	175	0	0	7	0.3	58
Podarkeopsis levifuscina	0	0	1	25	0	0	1	0	8
Nereidae									
Nereis (LPIL)	0	0	6	150	0	0	6	0.3	50
Nereis succinea	0	0	8	200	0	0	8	0.4	67
Phyllodocidae									
Hypereteone (LPIL)	0	0	0	0	1	25	1	0	8
Hypereteone fauchaldi	11	275	0	0	5	125	16	0.8	133
Phyllodocidae (LPIL)	0	0	4	100	0	0	4	0.2	33
Syllidae									
Autolytus (LPIL)	0	0	5	125	0	0	5	0.2	42
Syllidae (LPIL)	0	0	1	25	0	0	1	0	8
Sabellida									
Serpulidae									
Hydroides dianthus	0	0	20	500	0	0	20	1	167
Serpulidae (LPIL)	0	0	5	125	0	0	5	0.2	42
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	5	125	59	1475	1	25	65	3.2	542
Tharyx acutus	10	250	28	700	0	0	38	1.9	317
Spionidae									
Dipolydora socialis	0	0	2	50	0	0	2	0.1	17
Polydora cornuta	7	175	17	425	1	25	25	1.2	208
Spionidae (LPIL)	0	0	2	50	0	0	2	0.1	17
Streblospio benedicti	299	7475	250	6250	650	16250	1199	58.9	9992
Terebellida									
Pectinariidae									
Pectinaria gouldii	0	0	2	50	0	0	2	0.1	17
Sabellariidae									
Sabellaria vulgaris	1	25	215	5375	0	0	216	10.6	1800
Terebellidae									
Polycirrus (LPIL)	0	0	2	50	0	0	2	0.1	17

Station Data Summary Report
Station NB13

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 028
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Polycirrus sp. G	0	0	2	50	0	0	2	0.1	17
Arthropoda									
Malacostraca									
Amphipoda									
Aeginellidae									
Paracaprella tenuis	0	0	1	25	0	0	1	0	8
Ischyroceridae									
Erichthonius brasiliensis	0	0	1	25	0	0	1	0	8
Melitidae									
Melita nitida	0	0	2	50	0	0	2	0.1	17
Decapoda									
Paguridae									
Pagurus (LPIL)	0	0	1	25	0	0	1	0	8
Palaemonidae									
Palaemonetes pugio	0	0	1	25	0	0	1	0	8
Xanthidae									
Panopeus herbstii	0	0	2	50	0	0	2	0.1	17
Cnidaria									
Hydrozoa									
Hydrozoa (LPIL)	0	0	1	25	0	0	1	0	8
Mollusca									
Bivalvia									
Veneroida									
Tellinidae									
Tellina (LPIL)	0	0	1	25	0	0	1	0	8
Tellina agilis	1	25	0	0	3	75	4	0.2	33
Veneridae									
Gemma gemma	10	250	3	75	1	25	14	0.7	117
Mercenaria mercenaria	5	125	5	125	0	0	10	0.5	83
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula (LPIL)	0	0	1	25	0	0	1	0	8
Crepidula fornicata	2	50	0	0	0	0	2	0.1	17
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	19	475	20	500	6	150	45	2.2	375
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	0	0	4	100	0	0	4	0.2	33

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB13

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 028
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	44	17	37	14	22.66666667	12.5
Total Individuals	2037	547	743	747	679	114.3
Density (nos/sq.m.)		13675	18575	18675	16975	2858.3

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.77
Species Diversity (Shannon; log base 2)	d	=	2.55
Species Diversity (Shannon; log base 10)	H	=	0.77
Species Diversity (Simpson; 1/S)	1/S	=	2.73
Species Evenness (Pielou)	J'	=	0.47
Species Richness (Margalef)	D	=	5.64
Equitability Index (Lloyd & Ghelardi)	e	=	0.18

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Cnidaria	1	2.2	1	0
Annelida	29	65.9	1947	95.5
Mollusca	8	18.1	81	3.9
Arthropoda	6	13.6	8	0.3
TOTALS	**44**		**2037**	

Station Data Summary Report
Station NB14

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 029
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	242	6050	45	1125	526	13150	813	17	6775
Polychaeta									
Capitellida									
Capitellidae									
Capitella (LPIL)	6	150	0	0	0	0	6	0.1	50
Capitella capitata	28	700	0	0	8	200	36	0.8	300
Mediomastus (LPIL)	28	700	0	0	4	100	32	0.7	267
Mediomastus ambiseta	24	600	0	0	2	50	26	0.5	217
Eunicida									
Dorvilleidae									
Schistomeringos pectinata	0	0	0	0	16	400	16	0.3	133
Schistomeringos rudolphi	4	100	0	0	0	0	4	0.1	33
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	2	50	0	0	2	50	4	0.1	33
Phyllodocida									
Hesionidae									
Hesionidae (LPIL)	0	0	0	0	2	50	2	0	17
Podarke obscura	202	5050	53	1325	160	4000	415	8.7	3458
Podarkeopsis levifuscina	0	0	0	0	2	50	2	0	17
Nereidae									
Nereis (LPIL)	4	100	7	175	8	200	19	0.4	158
Nereis succinea	58	1450	19	475	30	750	107	2.2	892
Phyllodocidae									
Eumida sanguinea	30	750	15	375	32	800	77	1.6	642
Phyllodocidae (LPIL)	4	100	0	0	6	150	10	0.2	83
Syllidae									
Autolytus (LPIL)	12	300	3	75	0	0	15	0.3	125
Sabellida									
Sabellidae									
Demonax microphthalmus	4	100	0	0	0	0	4	0.1	33
Serpulidae									
Hydroides dianthus	154	3850	19	475	34	850	207	4.3	1725
Serpulidae (LPIL)	14	350	12	300	40	1000	66	1.4	550
Spionida									
Cirratulidae									
Caulleriella sp. J	0	0	0	0	2	50	2	0	17
Cirratulidae (LPIL)	0	0	7	175	380	9500	387	8.1	3225
Tharyx acutus	346	8650	2	50	78	1950	426	8.9	3550
Spionidae									
Dipolydora socialis	12	300	0	0	2	50	14	0.3	117
Polydora cornuta	16	400	4	100	46	1150	66	1.4	550
Streblospio benedicti	482	12050	19	475	142	3550	643	13.4	5358
Terebellida									
Sabellariidae									
Sabellaria vulgaris	378	9450	70	1750	100	2500	548	11.4	4567
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	0	0	2	50	0	0	2	0	17
Aoridae									

Station NB14

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 029
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Microdeutopus gryllotalpa	0	0	0	0	1	25	1	0	8
Unciola serrata	2	50	8	200	7	175	17	0.4	142
Corophiidae									
Monocorophium tuberculatum	20	500	0	0	0	0	20	0.4	167
Lysianassidae									
Lysianopsis alba	148	3700	6	150	46	1150	200	4.2	1667
Melitidae									
Elasmopus levis	2	50	0	0	1	25	3	0.1	25
Melita nitida	100	2500	42	1050	124	3100	266	5.5	2217
Phoxocephalidae									
Rhepoxynius hudsoni	12	300	0	0	19	475	31	0.6	258
Decapoda									
Paguridae									
Pagurus longicarpus	0	0	0	0	1	25	1	0	8
Palaemonidae									
Palaemonetes pugio	14	350	10	250	0	0	24	0.5	200
Palaemonidae (LPIL)	0	0	0	0	1	25	1	0	8
Xanthidae									
Dyspanopeus sayi	14	350	3	75	2	50	19	0.4	158
Xanthidae (LPIL)	6	150	11	275	12	300	29	0.6	242
Chordata									
Ascidiacea									
Ascidiacea (LPIL)	0	0	0	0	1	25	1	0	8
Cnidaria									
Hydrozoa									
Hydrozoa (LPIL)	2	50	0	0	0	0	2	0	17
Mollusca									
Bivalvia									
Bivalvia (LPIL)	0	0	1	25	0	0	1	0	8
Veneroida									
Tellinidae									
Tellina (LPIL)	2	50	0	0	0	0	2	0	17
Tellina agilis	2	50	0	0	0	0	2	0	17
Tellinidae (LPIL)	0	0	0	0	1	25	1	0	8
Veneridae									
Mercenaria mercenaria	12	300	1	25	22	550	35	0.7	292
Gastropoda									
Gastropoda (LPIL)	2	50	1	25	0	0	3	0.1	25
Mesogastropoda									
Calyptraeidae									
Crepidula (LPIL)	0	0	1	25	1	25	2	0	17
Crepidula fornicata	86	2150	7	175	0	0	93	1.9	775
Crepidula plana	34	850	4	100	20	500	58	1.2	483
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	32	800	1	25	0	0	33	0.7	275
Porifera									
Porifera (LPIL)	0	0	0	0	1	25	1	0	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB14

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 029
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	52	38	27	38	34.33333333	6.4
Total Individuals	4795	2540	373	1882	1598.3	1111
Density (nos/sq.m.)		63500	9325	47050	39958	27775

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	2.76
Species Diversity (Shannon; log base 2)	d	=	3.98
Species Diversity (Shannon; log base 10)	H	=	1.2
Species Diversity (Simpson; 1/S)	1/S	=	11.08
Species Evenness (Pielou)	J'	=	0.7
Species Richness (Margalef)	D	=	6.02
Equitability Index (Lloyd & Ghelardi)	e	=	0.44

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Porifera	1	1.9	1	0
Cnidaria	1	1.9	2	0
Annelida	26	50	3947	82.3
Mollusca	10	19.2	230	4.7
Arthropoda	13	25	614	12.8
Chordata	1	1.9	1	0
TOTALS	**52**		**4795**	

Station Data Summary Report
Station NB15

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 030
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	120	3000	40	1000	6	150	166	7.4	1383
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	0	0	0	0	1	25	1	0	8
Heteromastus filiformis	0	0	0	0	2	50	2	0.1	17
Mediomastus (LPIL)	16	400	12	300	2	50	30	1.3	250
Mediomastus ambiseta	4	100	2	50	0	0	6	0.3	50
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	0	0	0	0	1	25	1	0	8
Leitoscoloplos robustus	0	0	2	50	0	0	2	0.1	17
Phyllodocida									
Glyceridae									
Glycera americana	0	0	0	0	1	25	1	0	8
Glycera dibranchiata	8	200	0	0	0	0	8	0.4	67
Hesionidae									
Podarke obscura	8	200	0	0	0	0	8	0.4	67
Phyllodocidae									
Hypereteone fauchaldi	2	50	0	0	0	0	2	0.1	17
Hypereteone heteropoda	0	0	2	50	0	0	2	0.1	17
Phyllodocidae (LPIL)	0	0	0	0	1	25	1	0	8
Spionida									
Cirratulidae									
Caulleriella sp. J	80	2000	10	250	3	75	93	4.2	775
Cirratulidae (LPIL)	116	2900	6	150	1	25	123	5.5	1025
Tharyx acutus	68	1700	0	0	0	0	68	3	567
Spionidae									
Polydora cornuta	4	100	0	0	0	0	4	0.2	33
Spio filicornis	0	0	2	50	0	0	2	0.1	17
Streblospio benedicti	860	21500	488	12200	218	5450	1566	70.2	13050
Terebellida									
Sabellariidae									
Sabellaria vulgaris	96	2400	0	0	1	25	97	4.3	808
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	4	100	0	0	0	0	4	0.2	33
Mysidacea									
Mysidacea (LPIL)	0	0	2	50	0	0	2	0.1	17
Mollusca									
Bivalvia									
Veneroida									
Tellinidae									
Tellina agilis	4	100	2	50	1	25	7	0.3	58
Veneridae									
Gemma gemma	0	0	12	300	12	300	24	1.1	200

Station Data Summary Report
Station NB15

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 030
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula fornicata	0	0	2	50	0	0	2	0.1	17
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	8	200	0	0	0	0	8	0.4	67

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station NB15

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 030
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	26	15	13	13	13.66666667	1.2
Total Individuals	2230	1398	582	250	743.3	590.8
Density (nos/sq.m.)		34950	14550	6250	18583	14769

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.26
Species Diversity (Shannon; log base 2)	d	=	1.82
Species Diversity (Shannon; log base 10)	H	=	0.55
Species Diversity (Simpson; 1/S)	1/S	=	1.97
Species Evenness (Pielou)	J'	=	0.39
Species Richness (Margalef)	D	=	3.24
Equitability Index (Lloyd & Ghelardi)	e	=	0.18

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	20	76.9	2183	97.8
Mollusca	4	15.3	41	1.8
Arthropoda	2	7.6	6	0.2
TOTALS	**26**		**2230**	

Station Data Summary Report
Station R1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 001
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	0	0	16	400	2	50	18	0.7	150
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	122	3050	93	2325	116	2900	331	12.7	2758
Mediomastus (LPIL)	28	700	37	925	2	50	67	2.6	558
Mediomastus ambiseta	2	50	6	150	0	0	8	0.3	67
Eunicida									
Onuphidae									
Diopatra cuprea	1	25	0	0	0	0	1	0	8
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	1	25	0	0	2	50	3	0.1	25
Phyllodocida									
Glyceridae									
Glycera americana	1	25	0	0	0	0	1	0	8
Nephtyidae									
Nephtyidae (LPIL)	0	0	3	75	0	0	3	0.1	25
Nephtys picta	0	0	1	25	2	50	3	0.1	25
Phyllodocidae									
Eumida sanguinea	4	100	0	0	0	0	4	0.2	33
Hypereteone fauchaldi	19	475	39	975	16	400	74	2.8	617
Hypereteone heteropoda	0	0	4	100	4	100	8	0.3	67
Phyllodocidae (LPIL)	2	50	0	0	0	0	2	0.1	17
Syllidae									
Exogone rolani	7	175	2	50	0	0	9	0.3	75
Sabellida									
Serpulidae									
Serpulidae (LPIL)	0	0	1	25	0	0	1	0	8
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	2	50	5	125	0	0	7	0.3	58
Tharyx acutus	0	0	0	0	2	50	2	0.1	17
Spionidae									
Apoprionospio pygmaea	1	25	0	0	2	50	3	0.1	25
Polydora cornuta	2	50	1	25	0	0	3	0.1	25
Streblospio benedicti	624	15600	696	17400	536	13400	1856	71.4	15467
Terebellida									
Sabellariidae									
Sabellaria vulgaris	0	0	1	25	0	0	1	0	8
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca (LPIL)	1	25	0	0	0	0	1	0	8
Aoridae									
Microdeutopus gryllotalpa	4	100	0	0	0	0	4	0.2	33
Unciola serrata	8	200	1	25	0	0	9	0.3	75
Corophiidae									
Monocorophium tuberculatum	4	100	0	0	0	0	4	0.2	33
Melitidae									
Elasmopus levis	3	75	0	0	0	0	3	0.1	25

Station Data Summary Report
Station R1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 001
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Phoxocephalidae									
Rhepoxynius hudsoni	0	0	1	25	0	0	1	0	8
Decapoda									
Paguridae									
Pagurus (LPIL)	3	75	0	0	0	0	3	0.1	25
Pagurus longicarpus	1	25	0	0	0	0	1	0	8
Mollusca									
Bivalvia									
Veneroida									
Mactridae									
Spisula solidissima	0	0	0	0	1	25	1	0	8
Petricolidae									
Petricola pholadiformis	0	0	1	25	0	0	1	0	8
Tellinidae									
Tellina agilis	18	450	25	625	14	350	57	2.2	475
Veneridae									
Gemma gemma	1	25	1	25	0	0	2	0.1	17
Mercenaria mercenaria	1	25	1	25	0	0	2	0.1	17
Gastropoda									
Mesogastropoda									
Calyptraeidae									
Crepidula fornicata	10	250	9	225	0	0	19	0.7	158
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	42	1050	25	625	15	375	82	3.2	683
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	2	50	0	0	2	50	4	0.2	33
Phoronida									
Phoronidae									
Phoronis (LPIL)	1	25	0	0	0	0	1	0	8
Rhynchocoela									
Rhynchocoela (LPIL)	1	25	0	0	0	0	1	0	8

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station R1

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 001
Sample Type: Macrofaur
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	39	29	22	14	21.66666667	7.5
Total Individuals	2601	916	969	716	867	133.4
Density (nos/sq.m.)		22900	24225	17900	21675	3335.7

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.2
Species Diversity (Shannon; log base 2)	d	=	1.73
Species Diversity (Shannon; log base 10)	H	=	0.52
Species Diversity (Simpson; 1/S)	1/S	=	1.89
Species Evenness (Pielou)	J'	=	0.33
Species Richness (Margalef)	D	=	4.83
Equitability Index (Lloyd & Ghelardi)	e	=	0.12

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	2.5	1	0
Annelida	21	53.8	2405	92.4
Mollusca	8	20.5	168	6.4
Arthropoda	8	20.5	26	0.9
Phoronida	1	2.5	1	0
TOTALS	**39**		**2601**	

Station Data Summary Report
Station R2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 002
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	4	100	30	750	48	1200	82	2.1	683
Polychaeta									
Capitellida									
Capitellidae									
Capitella capitata	2	50	6	150	0	0	8	0.2	67
Mediomastus (LPIL)	106	2650	90	2250	588	14700	784	20.2	6533
Mediomastus ambiseta	4	100	34	850	0	0	38	1	317
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	10	250	4	100	12	300	26	0.7	217
Leitoscoloplos robustus	2	50	0	0	0	0	2	0.1	17
Phyllodocida									
Glyceridae									
Glycera (LPIL)	2	50	0	0	0	0	2	0.1	17
Phyllodocidae									
Hypereteone (LPIL)	0	0	0	0	16	400	16	0.4	133
Hypereteone fauchaldi	16	400	14	350	36	900	66	1.7	550
Hypereteone heteropoda	4	100	10	250	12	300	26	0.7	217
Phyllodoce longipes	0	0	0	0	4	100	4	0.1	33
Phyllodoce mucosa	2	50	0	0	0	0	2	0.1	17
Phyllodocidae (LPIL)	2	50	0	0	0	0	2	0.1	17
Spionida									
Cirratulidae									
Cirratulidae (LPIL)	6	150	2	50	32	800	40	1	333
Tharyx acutus	2	50	0	0	0	0	2	0.1	17
Spionidae									
Polydora cornuta	6	150	0	0	20	500	26	0.7	217
Streblospio benedicti	440	11000	704	17600	1380	34500	2524	65.1	21033
Terebellida									
Pectinariidae									
Pectinaria gouldii	0	0	2	50	0	0	2	0.1	17
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	20	500	36	900	20	500	76	2	633
Corophiidae									
Monocorophium tuberculatum	1	25	0	0	0	0	1	0	8
Melitidae									
Elasmopus levis	1	25	0	0	0	0	1	0	8
Melita nitida	1	25	0	0	0	0	1	0	8
Decapoda									
Paguridae									
Pagurus (LPIL)	1	25	0	0	0	0	1	0	8
Xanthidae									
Xanthidae (LPIL)	1	25	0	0	0	0	1	0	8
Mollusca									
Bivalvia									
Bivalvia (LPIL)	0	0	1	25	0	0	1	0	8
Veneroida									
Mactridae									

Station Data Summary Report
Station R2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 002
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Mulinia lateralis	1	25	3	75	3	75	7	0.2	58
Tellinidae									
Tellina agilis	1	25	2	50	18	450	21	0.5	175
Veneridae									
Mercenaria mercenaria	0	0	0	0	2	50	2	0.1	17
Gastropoda									
Cephalaspidea									
Acteonidae									
Rictaxis punctostriatus	0	0	0	0	1	25	1	0	8
Scaphandridae									
Acteocina canaliculata	0	0	0	0	2	50	2	0.1	17
Mesogastropoda									
Calyptraeidae									
Crepidula fornicata	1	25	1	25	1	25	3	0.1	25
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	38	950	10	250	49	1225	97	2.5	808
Pyramidelloida									
Pyramidellidae									
Odostomia (LPIL)	0	0	1	25	0	0	1	0	8
Odostomia trifida	6	150	1	25	2	50	9	0.2	75

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station R2

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 002
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	34	26	18	19	21	4.4
Total Individuals	3877	680	951	2246	1292.3	836.9
Density (nos/sq.m.)		17000	23775	56150	32308	20923.5

FAUNAL INDICES			
Species Diversity (Shannon; log base e)	H'	=	1.27
Species Diversity (Shannon; log base 2)	d	=	1.83
Species Diversity (Shannon; log base 10)	H	=	0.55
Species Diversity (Simpson; 1/S)	1/S	=	2.14
Species Evenness (Pielou)	J'	=	0.36
Species Richness (Margalef)	D	=	3.99
Equitability Index (Lloyd & Ghelardi)	e	=	0.14

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Annelida	18	52.9	3652	94.1
Mollusca	10	29.4	144	3.7
Arthropoda	6	17.6	81	2
TOTALS	**34**		**3877**	

Station Data Summary Report
Station R3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 003
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Annelida									
Oligochaeta									
Tubificida									
Tubificidae									
Tubificidae (LPIL)	2	50	2	50	0	0	4	0.2	33
Polychaeta									
Capitellida									
Capitellidae									
Capitellidae (LPIL)	0	0	2	50	0	0	2	0.1	17
Mediomastus (LPIL)	48	1200	68	1700	30	750	146	6.6	1217
Mediomastus ambiseta	0	0	2	50	2	50	4	0.2	33
Eunicida									
Onuphidae									
Diopatra cuprea	0	0	2	50	0	0	2	0.1	17
Orbiniida									
Orbiniidae									
Leitoscoloplos (LPIL)	16	400	18	450	18	450	52	2.3	433
Leitoscoloplos robustus	0	0	42	1050	14	350	56	2.5	467
Phyllodocida									
Glyceridae									
Glyceridae (LPIL)	0	0	0	0	2	50	2	0.1	17
Nereidae									
Nereididae (LPIL)	4	100	0	0	0	0	4	0.2	33
Nereis succinea	2	50	10	250	1	25	13	0.6	108
Phyllodocidae									
Hypereteone (LPIL)	2	50	0	0	0	0	2	0.1	17
Hypereteone fauchaldi	24	600	16	400	12	300	52	2.3	433
Hypereteone heteropoda	2	50	4	100	0	0	6	0.3	50
Spionida									
Spionidae									
Polydora cornuta	2	50	2	50	0	0	4	0.2	33
Streblospio benedicti	590	14750	476	11900	406	10150	1472	66.2	12267
Arthropoda									
Malacostraca									
Amphipoda									
Ampeliscidae									
Ampelisca vadorum	152	3800	156	3900	75	1875	383	17.2	3192
Corophiidae									
Monocorophium tuberculatum	0	0	0	0	1	25	1	0	8
Ischyroceridae									
Ischyroceridae (LPIL)	0	0	1	25	0	0	1	0	8
Lysianassidae									
Lysianopsis alba	2	50	0	0	0	0	2	0.1	17
Melitidae									
Elasmopus levis	0	0	1	25	0	0	1	0	8
Melita nitida	0	0	3	75	0	0	3	0.1	25
Mollusca									
Gastropoda									
Neogastropoda									
Nassariidae									
Ilyanassa obsoleta	0	0	0	0	2	50	2	0.1	17
Pyramidelloida									
Pyramidellidae									
Odostomia trifida	6	150	0	0	0	0	6	0.3	50

Station Data Summary Report
Station R3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 003
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

TAXON	Rep 1		Rep 2		Rep 3		Station		
	Count	Density	Count	Density	Count	Density	Total	Percent	Mean Density
Rhynchocoela									
Rhynchocoela (LPIL)	0	0	1	25	2	50	3	0.1	25

Note: LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

Station Data Summary Report
Station R3

Client: Port Authority of New York and New Jersey
Project: Norton Basin - NYSDEC 10/02
Location:
Sample Date: 10/10/02

BVA Station: 003
Sample Type: Macrofauna
Replicates: 3
Sample Area: 0.0400

DATA SUMMARY

FAUNAL PARAMETERS	Station	Rep 1	Rep 2	Rep 3	Mean	Std Dev
Total Taxa	24	13	17	12	14	2.6
Total Individuals	2223	852	806	565	741	154.1
Density (nos/sq.m.)		21300	20150	14125	18525	3853.7

FAUNAL INDICES

Species Diversity (Shannon; log base e)	H'	=	1.2
Species Diversity (Shannon; log base 2)	d	=	1.73
Species Diversity (Shannon; log base 10)	H	=	0.52
Species Diversity (Simpson; 1/S)	1/S	=	2.11
Species Evenness (Pielou)	J'	=	0.38
Species Richness (Margalef)	D	=	2.98
Equitability Index (Lloyd & Ghelardi)	e	=	0.19

MAJOR TAXONOMIC GROUPS	Total No. Taxa	Taxa % Total	Total No. Individuals	Individuals % Total
Rhynchocoela	1	4.1	3	0.1
Annelida	15	62.5	1821	81.9
Mollusca	2	8.3	8	0.3
Arthropoda	6	25	391	17.5
TOTALS	**24**		**2223**	

Appendix II-D

Biomass Data Report, October 2002

Biomass Data Report

Project: Norton Basin 10/02
Client: NY COE
Project Date: 10/02
All weights in: (gm)

Station:	**NB-1**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0906	2.5252	0.0805	0.899	0.813
Mollusca		2.5921	1214.5896	199.1136	472.098	375.555
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		2.6827	1217.1148	199.1941	472.997	376.359

Station:	**NB-2**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0025	0.0001	0.2291	0.077	0.076
Mollusca		0.0000	0.0000	28.5791	9.526	9.526
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0025	0.0001	28.8082	9.604	9.602

Station:	**NB-3**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0000	0.0000	0.000	0.000

Station:	**NB-4**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0007	0.0616	0.0000	0.021	0.020
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0003	0.0000	0.0013	0.001	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0010	0.0616	0.0013	0.021	0.020

Station:	**NB-5**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0696	0.0324	0.0004	0.034	0.020
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0696	0.0324	0.0004	0.034	0.020

Project: Norton Basin 10/02
Client: NY COE
Project Date: 10/02
All weights in: (gm)

Station:	**NB-6**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0007	0.0219	0.008	0.007
Mollusca		0.0000	0.0000	0.0002	0.000	0.000
Arthropoda		0.0020	0.0000	0.0000	0.001	0.001
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0020	0.0007	0.0221	0.008	0.007

Station:	**NB-7**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.1340	0.2437	1.1545	0.511	0.323
Mollusca		13.1172	12.9303	10.6702	12.239	0.786
Arthropoda		0.0000	0.0034	0.0258	0.010	0.008
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		13.2512	13.1774	11.8505	12.760	0.455

Station:	**NB-8**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0234	0.1962	0.1261	0.115	0.050
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0070	0.0000	0.0000	0.002	0.002
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0304	0.1962	0.1261	0.118	0.048

Station:	**NB-9**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0377	0.0614	0.0084	0.036	0.015
Mollusca		0.0420	0.0116	0.0000	0.018	0.013
Arthropoda		0.0045	0.0026	0.0040	0.004	0.001
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0842	0.0756	0.0124	0.057	0.023

Station:	**NB-10**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.3555	0.4778	0.1663	0.333	0.091
Mollusca		624.7479	117.6854	48.4573	263.630	181.661
Arthropoda		0.0002	0.0000	0.0065	0.002	0.002
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0004	0.000	0.000
Total		625.1036	118.1632	48.6305	263.966	181.681

Project: Norton Basin 10/02
Client: NY COE
Project Date: 10/02
All weights in: (gm)

Station:	**NB-11**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.1967	0.1561	0.1112	0.155	0.025
Mollusca		17.0047	21.0687	8.4627	15.512	3.715
Arthropoda		0.0000	0.0501	0.0561	0.035	0.018
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		17.2014	21.2749	8.6300	15.702	3.726

Station:	**NB-12**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.2485	0.1456	0.2623	0.219	0.037
Mollusca		5.8490	0.5895	7.5306	4.656	2.091
Arthropoda		0.0016	0.0001	0.0781	0.027	0.026
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0016	0.001	0.001
Total		6.0991	0.7352	7.8726	4.902	2.146

Station:	**NB-13**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.1388	0.4390	0.1955	0.258	0.092
Mollusca		18.4926	138.7498	2.9838	53.409	42.905
Arthropoda		0.9186	0.0000	0.0000	0.306	0.306
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0677	0.0000	0.0000	0.023	0.023
Total		19.6177	139.1888	3.1793	53.995	42.860

Station:	**NB-14**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.5935	0.3391	0.2910	0.408	0.094
Mollusca		27.1773	4.7172	3.5722	11.822	7.685
Arthropoda		5.2331	1.3205	7.3314	4.628	1.761
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.7531	0.0000	0.1423	0.298	0.231
Total		33.7570	6.3768	11.3369	17.157	8.423

Station:	**NB-15**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.8528	0.3348	0.0349	0.408	0.239
Mollusca		4.9764	0.2740	0.0169	1.756	1.612
Arthropoda		0.0004	0.0030	0.0000	0.001	0.001
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		5.8296	0.6118	0.0518	2.164	1.840

Project: Norton Basin 10/02
Client: NY COE
Project Date: 10/02
All weights in: (gm)

Station:	**R-1**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.3843	0.3273	0.2102	0.307	0.051
Mollusca		26.2707	17.5595	9.3221	17.717	4.893
Arthropoda		0.0810	0.0013	0.0000	0.027	0.027
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0001	0.0000	0.0000	0.000	0.000
Total		26.7361	17.8881	9.5323	18.052	4.967

Station:	**R-2**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.2469	0.3965	0.4846	0.376	0.069
Mollusca		18.7470	5.4683	469.7740	164.663	152.604
Arthropoda		0.1434	0.0394	0.0070	0.063	0.041
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		19.1373	5.9042	470.2656	165.102	152.629

Station:	**R-3**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.2360	0.5301	0.3288	0.365	0.087
Mollusca		0.0334	18.6152	1.1241	6.591	6.020
Arthropoda		0.0768	0.0746	0.0501	0.067	0.009
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0017	0.0007	0.001	0.000
Total		0.3462	19.2216	1.5037	7.024	6.108

Station:	**GH-1**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		1.1444	0.2280	0.2768	0.550	0.298
Mollusca		0.0440	11.7568	0.1412	3.981	3.888
Arthropoda		1.0068	0.7596	0.3564	0.708	0.190
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0104	0.0028	0.0160	0.010	0.004
Total		2.2056	12.7472	0.7904	5.248	3.772

Station:	**GH-2**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.3652	0.1204	0.0505	0.179	0.095
Mollusca		14.8288	14.7664	1.7048	10.433	4.364
Arthropoda		0.5988	0.7488	0.1452	0.498	0.181
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0004	0.0000	0.000	0.000
Total		15.7928	15.6360	1.9005	11.110	4.605

Project: Norton Basin 10/02
Client: NY COE
Project Date: 10/02
All weights in: (gm)

Station:	**GH-3**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0580	0.0428	0.1264	0.076	0.026
Mollusca		9.6640	13.0384	22.1056	14.936	3.715
Arthropoda		0.7968	0.5452	0.7364	0.693	0.076
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		10.5188	13.6264	22.9684	15.705	3.741

Station:	**LB-1**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0034	0.0014	0.002	0.001
Arthropoda		0.0001	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0001	0.0034	0.0014	0.002	0.001

Station:	**LB-2**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0000	0.0000	0.000	0.000

Station:	**LB-3**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0016	0.0000	0.0000	0.001	0.001
Mollusca		1.0838	0.0000	0.0000	0.361	0.361
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		1.0854	0.0000	0.0000	0.362	0.362

Station:	**LB-4**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0001	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0001	0.0000	0.000	0.000

Project: Norton Basin 10/02
Client: NY COE
Project Date: 10/02
All weights in: (gm)

Station:	**LB-5**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0026	0.0010	0.001	0.001
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0026	0.0010	0.001	0.001

Station:	**LB-6**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0000	0.0000	0.000	0.000

Station:	**LB-7**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0000	0.0000	0.000	0.000

Station:	**LB-8**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0000	0.0000	0.0000	0.000	0.000
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0000	0.0000	0.0000	0.000	0.000

Station:	**LB-9**	**Rep A**	**Rep B**	**Rep C**	**Mean Biomass (g)**	**Standard Error**
Annelida		0.0108	0.0007	0.0049	0.005	0.003
Mollusca		0.0000	0.0000	0.0000	0.000	0.000
Arthropoda		0.0000	0.0000	0.0000	0.000	0.000
Echinodermata		0.0000	0.0000	0.0000	0.000	0.000
Other Taxa		0.0000	0.0000	0.0000	0.000	0.000
Total		0.0108	0.0007	0.0049	0.005	0.003

Appendix III

ANOVA Tables

ANOVA comparing total macroinvertebrate density among Norton Basin study and reference areas, June 2002.

Source	SS	df	MS	F	P
Sampling Area	132.942	6	22.157	61.355	0.0001

Student-Newman-Keuls
Effect: Sampling Area
Dependent: Log Abundance
Significance level: .05

	Vs.	Diff.	Crit. diff.	
LB Deep	LB Int	.794	.506	S
	NB Deep	1.471	.608	S
	NB Int	2.678	.668	S
	R	2.782	.710	S
	NB Ent	3.153	.743	S
	GH	3.202	.769	S
LB Int	NB Deep	.677	.506	S
	NB Int	1.883	.608	S
	R	1.987	.668	S
	NB Ent	2.359	.710	S
	GH	2.408	.743	S
NB Deep	NB Int	1.207	.506	S
	R	1.310	.608	S
	NB Ent	1.682	.668	S
	GH	1.731	.710	S
NB Int	R	.104	.506	
	NB Ent	.475	.608	
	GH	.524	.668	
R	NB Ent	.372	.506	
	GH	.421	.608	
NB Ent	GH	.049	.506	

S = Significantly different at this level.

Code:	Sampling Area:	Stations within Area:
LB Deep	Little Bay Deep	LB2-6, LB8
LB Int	Little Bay Intermediate	LB1, LB7, LB9
NB Deep	Norton Basin Deep	NB4, NB8, NB11
NB Int	Norton Basin Intermediate	NB1-3, NB5-7, NB9, NB10
NB Ent	Norton Basin Entrance Channel	NB12-15
GH	Grass Hassock Channel	GH1-3
R	the Raunt	R1-3

ANOVA comparing annelid density among Norton Basin study and reference areas, June 2002.

Source	SS	df	MS	F	P
Sampling Area	110.008	6	18.335	66.512	0.0001

Student-Newman-Keuls
Effect: Sampling Area
Dependent: Log Annelida
Significance level: .05

	Vs.	Diff.	Crit. diff.	
LB Deep	LB Int	.748	.442	S
	NB Deep	1.273	.531	S
	GH	2.375	.584	S
	R	2.408	.621	S
	NB Int	2.563	.649	S
	NB Ent	3.059	.672	S
LB Int	NB Deep	.525	.442	S
	GH	1.627	.531	S
	R	1.660	.584	S
	NB Int	1.815	.621	S
	NB Ent	2.311	.649	S
NB Deep	GH	1.102	.442	S
	R	1.136	.531	S
	NB Int	1.290	.584	S
	NB Ent	1.787	.621	S
GH	R	.033	.442	
	NB Int	.187	.531	
	NB Ent	.684	.584	S
R	NB Int	.154	.442	
	NB Ent	.651	.531	S
NB Int	NB Ent	.497	.442	S

S = Significantly different at this level.

Code:	**Sampling Area:**	**Stations within Area:**
LB Deep	Little Bay Deep	LB2-6, LB8
LB Int	Little Bay Intermediate	LB1, LB7, LB9
NB Deep	Norton Basin Deep	NB4, NB8, NB11
NB Int	Norton Basin Intermediate	NB1-3, NB5-7, NB9, NB10
NB Ent	Norton Basin Entrance Channel	NB12-15
GH	Grass Hassock Channel	GH1-3
R	the Raunt	R1-3

ANOVA comparing arthropod density among Norton Basin study and reference areas, June 2002.

Source	SS	df	MS	F	P
Sampling Area	89.439	6	14.906	22.748	0.0001

Student-Newman-Keuls
Effect: Sampling Area
Dependent: Log Arthropoda
Significance level: .05

	Vs.	Diff.	Crit. diff.	
LB Deep	LB Int	.287	.682	
	NB Deep	1.040	.819	S
	NB Int	1.484	.900	S
	R	2.082	.957	S
	NB Ent	2.352	1.001	S
	GH	3.124	1.036	S
LB Int	NB Deep	.753	.682	S
	NB Int	1.197	.819	S
	R	1.795	.900	S
	NB Ent	2.065	.957	S
	GH	2.837	1.001	S
NB Deep	NB Int	.444	.682	
	R	1.043	.819	S
	NB Ent	1.312	.900	S
	GH	2.084	.957	S
NB Int	R	.599	.682	
	NB Ent	.868	.819	S
	GH	1.640	.900	S
R	NB Ent	.270	.682	
	GH	1.041	.819	S
NB Ent	GH	.772	.682	S

S = Significantly different at this level.

Code:	Sampling Area:	Stations within Area:
LB Deep	Little Bay Deep	LB2-6, LB8
LB Int	Little Bay Intermediate	LB1, LB7, LB9
NB Deep	Norton Basin Deep	NB4, NB8, NB11
NB Int	Norton Basin Intermediate	NB1-3, NB5-7, NB9, NB10
NB Ent	Norton Basin Entrance Channel	NB12-15
GH	Grass Hassock Channel	GH1-3
R	the Raunt	R1-3

ANOVA comparing total macroinvertebrate density among Norton Basin study and reference areas, October 2002.

Source	SS	df	MS	F	P
Sampling Area	112.525	6	18.754	46.281	0.0001

Student-Newman-Keuls
Effect: Sampling Area
Dependent: Log Abundance
Significance level: .05

	Vs.	Diff.	Crit. diff.	
LB Deep	LB Int	.258	.536	
	NB Int	1.444	.644	S
	NB Deep	1.638	.708	S
	NB Ent	2.762	.753	S
	R	2.858	.787	S
	GH	3.074	.815	S
LB Int	NB Int	1.187	.536	S
	NB Deep	1.380	.644	S
	NB Ent	2.505	.708	S
	R	2.600	.753	S
	GH	2.817	.787	S
NB Int	NB Deep	.193	.536	
	NB Ent	1.318	.644	S
	R	1.413	.708	S
	GH	1.630	.753	S
NB Deep	NB Ent	1.125	.536	S
	R	1.220	.644	S
	GH	1.436	.708	S
NB Ent	R	.095	.536	
	GH	.312	.644	
R	GH	.217	.536	

S = Significantly different at this level.

Code:	Sampling Area:	Stations within Area:
LB Deep	Little Bay Deep	LB2-6, LB8
LB Int	Little Bay Intermediate	LB1, LB7, LB9
NB Deep	Norton Basin Deep	NB4, NB8, NB11
NB Int	Norton Basin Intermediate	NB1-3, NB5-7, NB9, NB10
NB Ent	Norton Basin Entrance Channel	NB12-15
GH	Grass Hassock Channel	GH1-3
R	the Raunt	R1-3

ANOVA comparing annelid density among Norton Basin study and reference areas, October 2002.

Source	SS	df	MS	F	P
Sampling Area	102.594	6	17.099	39.493	0.0001

Student-Newman-Keuls
Effect: Sampling Area
Dependent: Log Annelida
Significance level: .05

	Vs.	Diff.	Crit. diff.	
LB Deep	LB Int	.217	.554	
	NB Int	1.469	.665	S
	NB Deep	1.626	.732	S
	GH	2.579	.778	S
	NB Ent	2.785	.813	S
	R	2.868	.842	S
LB Int	NB Int	1.252	.554	S
	NB Deep	1.409	.665	S
	GH	2.362	.732	S
	NB Ent	2.567	.778	S
	R	2.651	.813	S
NB Int	NB Deep	.157	.554	
	GH	1.110	.665	S
	NB Ent	1.315	.732	S
	R	1.398	.778	S
NB Deep	GH	.953	.554	S
	NB Ent	1.158	.665	S
	R	1.242	.732	S
GH	NB Ent	.205	.554	
	R	.289	.665	
NB Ent	R	.083	.554	

S = Significantly different at this level.

Code:	Sampling Area:	Stations within Area:
LB Deep	Little Bay Deep	LB2-6, LB8
LB Int	Little Bay Intermediate	LB1, LB7, LB9
NB Deep	Norton Basin Deep	NB4, NB8, NB11
NB Int	Norton Basin Intermediate	NB1-3, NB5-7, NB9, NB10
NB Ent	Norton Basin Entrance Channel	NB12-15
GH	Grass Hassock Channel	GH1-3
R	the Raunt	R1-3

ANOVA comparing arthropod density among Norton Basin study and reference areas, October 2002.

Source	SS	df	MS	F	P
Sampling Area	68.530	6	11.422	48.422	0.0001

Student-Newman-Keuls
Effect: Sampling Area
Dependent: Log Arthropoda
Significance level: .05

	Vs.	Diff.	Crit. diff.	
LB Deep	LB Int	.017	.409	
	NB Deep	.260	.491	
	NB Int	.261	.540	
	NB Ent	.891	.574	S
	R	1.368	.600	S
	GH	2.935	.622	S
LB Int	NB Deep	.244	.409	
	NB Int	.245	.491	
	NB Ent	.874	.540	S
	R	1.352	.574	S
	GH	2.918	.600	S
NB Deep	NB Int	.001	.409	
	NB Ent	.631	.491	S
	R	1.108	.540	S
	GH	2.674	.574	S
NB Int	NB Ent	.630	.409	S
	R	1.107	.491	S
	GH	2.673	.540	S
NB Ent	R	.477	.409	S
	GH	2.044	.491	S
R	GH	1.566	.409	S

S = Significantly different at this level.

Code:	Sampling Area:	Stations within Area:
LB Deep	Little Bay Deep	LB2-6, LB8
LB Int	Little Bay Intermediate	LB1, LB7, LB9
NB Deep	Norton Basin Deep	NB4, NB8, NB11
NB Int	Norton Basin Intermediate	NB1-3, NB5-7, NB9, NB10
NB Ent	Norton Basin Entrance Channel	NB12-15
GH	Grass Hassock Channel	GH1-3
R	the Raunt	R1-3