Monitoring Report for Seafood Harvested in 2015 from the New Bedford Harbor Superfund Site

by

Massachusetts Department of Environmental Protection

and

Massachusetts Division of Marine Fisheries

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(Amended)

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1. Introduction

This report documents the levels of PCBs (polychlorinated biphenyls) measured in edible seafood species caught in New Bedford Harbor and surrounding Buzzards Bay in southeastern Massachusetts in 2015. This seafood monitoring program is part of the ongoing PCB cleanup program for the New Bedford Harbor (NBH) Superfund Site, and was a collaborative effort involving the MA Department of Marine Fisheries (DMF), the MA Department of Environmental Protection, (MassDEP), and the U.S. Environmental Protection Agency Region I (EPA).

Due to the identification of high PCB levels in area seafood, the MA Department of Public Health in 1979 promulgated regulations restricting seafood consumption in three closure areas in and around NBH as shown on Figure 1 (MADPH, 1979). NBH was subsequently listed as a Superfund site in 1983. Per the 1998 Record of Decision (ROD) (EPA, 1998) for the Site, as modified by five Explanation of Significant Differences (ESDs), approximately 900,000 cubic yards (cy) of PCB-contaminated sediments are to be removed. Based on the 2013 supplemental Consent Decree settlement, the cleanup is estimated to take another five to seven years to complete. Consistent with the 1998 ROD, this seafood monitoring program will aid in the evaluation of the overall effectiveness of the harbor cleanup, as well as assist in the implementation of institutional controls and seafood restrictions.

2. Seafood Monitoring Program Design

Based on previous investigations and risk assessments performed for the NBH Site, a variety of species were selected for this monitoring program that are considered locally caught seafood; are generally available for field collection; and which bracket potential worse case tissue levels **(**MassDEP, 2015a**)**. In previous sampling rounds, these species include lobster (*Homarus americanus*), blue crabs (*Carcinus maenas*), quahog (i.e., hard shelled clam, *Mercenaria mercenaria*), alewife (*Alosa pseudoharengus*), American eel (*Anguilla rostrata*), black sea bass (*Centropristes striatus*), winter flounder (*Pseudopleuronectes americanus*), and scup (*Stenotomus chrysops).* The goal of this seafood monitoring program is to acquire annual collections of these species in sufficient numbers from all three closure areas to enable statistical comparisons between them, but with the understanding that some species may not necessarily be caught in sufficient numbers every year.

To meet this goal, the monitoring design calls for five composite samples for each species from each of the three closure areas. Based on previous site sampling experience, modifications have been made to the original sampling approach. The specie collected for 2015 was pre-spawn quahog.

Each composite sample consists of legally harvestable organisms. The quahog composited sample generally consists of 13 organisms per location.

In addition to comparing the results of this monitoring to past and future seafood monitoring results, the results of this seafood monitoring program will be compared to the current U.S. Food and Drug Administration's (FDA's) criteria for PCBs in commercial seafood of 2 parts per million (ppm). It was exceedances of the FDA criteria in NBH seafood which prompted promulgation of the state's seafood closure areas in 1979 (the FDA criteria at that time was 5 ppm). In addition to comparisons to the current FDA level, and as explained in the 1998 ROD, EPA will compare the results of the seafood monitoring program to a risk-based site-specific threshold of 0.02 ppm PCBs. Consistent with CERCLA and the NCP, the selected remedy for the Site (EPA, 1998, Section X) uses a health-based seafood criteria of 0.02 ppm PCBs based on local patterns of seafood consumption which involve more frequent consumption of local PCB-contaminated seafood than that used by the FDA standard.

3. 2015 Field Collection

The DMF on-site field sampling program included the collection of quahog and conch. The Sampling Report for species collected in 2015 by DMF is in Appendix C (MA DMF, 2016).

The quahogs were collected pre-spawn in May (Figure 2) using a rake and diver.

Complete collection information including the dates fished, identification information, species, station identification, latitude and longitude, and collection method are included on the Field Collection Forms in Appendix C. All samples were delivered frozen to Alpha Woods Hole Labs (Alpha) in Mansfield, MA for analysis.

4. Analytical Chemistry

The seafood samples were analyzed for 136 PCB congeners by GC/MS-SIM (gas chromatography/mass spectrometry-selective ion monitoring) based on EPA Methods 680 and 8270D. This approach was used to allow comparisons with previous site data. The 136 congeners measured included the eighteen NOAA (National Oceanic and Atmospheric Administration) list congeners and the twelve WHO '98 (1998 World Health Organization) list of dioxin-like congeners. Two congeners, BZ #105 and #118, appear on both lists. The NOAA congener list was used by the MA DMF in its analysis of Area III lobsters from 1988 - 1998, while Aroclors had been used previous to this. The NOAA list typically represents approximately 45% of the total PCB in marine tissue (NOAA, 1993).

The congeners quantitated in this effort are listed in the New Bedford Harbor Superfund Site Quality Assurance Project Plan Revision 11 **(**MassDEP, 2015c**).** The WHO '98 congeners were included to enable the evaluation of risks to human health due to the presence of any dioxin-like PCB congeners, if deemed necessary.

Tissue from the collected specimens was filleted, sub-sampled and/or composited as necessary for sample homogenization, extraction and analysis. The first step in the analytical process for the quahog samples was the compositing of thirteen individual samples from each

location; these were combined to form one composite sample per location. For each group, approximately five grams of wet sample tissue was homogenized using a tissumizer. Samples were then extracted using EPA method 3570 Microscale Solvent Extraction (MSE) techniques (spin extraction with acetone/methylene chloride in a sealed vessel).

The extract was then cleaned up to remove the lipid portion and separate the PCB Analytes from the lipid. Following sample cleanup, extracts were dried and concentrated using the Kuderna-Danish (K-D) method, brought up to final volume and analyzed. Extract cleanup was performed using Gel Permeation Chromatography (GPC) and Sulfuric Acid Cleanup. Silica Gel Cleanup was also employed as appropriate, based on the sample extracts.

Sample analysis using GC/MS-SIM allowed identification and quantitation of congeners using selected PCB congeners from BZ1 to BZ209. The identification of the specific congeners was accomplished by comparing their mass spectra with the electron impact spectra of the calibration standards. Congener concentrations were determined using mean relative response factors from a multi-level calibration curve. Response factors for congeners were determined relative to internal standard technique. A multi-point curve was used for the individual congeners to demonstrate the linear range of the instrument. Continuing calibrations assured linearity remained for the duration of the analysis. Laboratory SOPs are available in the Quality Assurance Project Plan Revision 11 (MassDEP, 2015b) should further details on chromatographic conditions, quality control criteria, and other elements of the analysis be needed. While lipid content was reported, the wet weight PCB concentrations reported herein are not lipid normalized.

The data validation summary for the laboratory analysis is presented in Appendix B (AMEC, 2015).

5. Results and Discussion

As with previous studies of sediments, water column, seafood, and air at the NBH Site, the current data set demonstrates a generally decreasing trend (north to south) of PCB levels in locally caught seafood. In other words, tissue PCB levels decrease proportionally with the distance from the primary source of PCBs to the upper harbor (the Aerovox facility). Figure 2 graphically summarize the current data, and Table 1 tabulates the totals and averages of the congener sample results.

PCBs are a group of similar organic molecules featuring a “figure-eight” structure of two bonded benzene rings with chlorine atoms attached at up to ten different attachment sites. Theoretically, up to 209 different PCB congeners (or molecular variations) are possible, yet only about 120 of these are found in the natural environment. Furthermore, NOAA has demonstrated that 18 specific congeners are the most pervasive and generally make up almost half of the PCB mass in marine tissues. In addition, WHO considers the twelve specific dioxin-like congeners to present the greatest risk to human health. As noted above in Section 4, two congeners, BZ #105 and BZ #118, are included in both the NOAA and the WHO congener sets.

Overall, the current data set indicate continued levels of PCBs in NBH area seafood above the 1998 ROD's site-specific target level of 0.02 ppm.

It should be noted that these PCB levels do not apply to seafood caught by the harbor's commercial fishing fleet, as this seafood is caught significantly further offshore than the three PCB closure areas at the New Bedford Harbor Superfund Site. However, these results do indicate the need to continue the outreach program to inform and educate the local communities and recreational sport fishermen about the fishing bans.

The seafood sampling program has been on-going since 2002, the previous year's reports can be found at the EPA's web site at www.epa.gov/new-bedford-harbor under "Technical Documents".

6. References

AMEC, 2015. Data Validation Summary, MassDEP, NBH Superfund Site, Seafood Contaminant Survey Monitoring 2015 Sampling, October 13, 2015

EPA, 1998. Record of Decision for the Upper and Lower Harbor Operable Unit, New Bedford Harbor Superfund Site, New Bedford, Massachusetts. U.S. EPA - Region I New England. September 1998.

MADPH, 1979. Massachusetts Department of Public Health Regulations 105 CMR 260.000. 1979

MassDEP, 2015a. Seafood Monitoring and Field Sampling Work Plan, New Bedford Harbor Superfund Site, Massachusetts Department of Environmental Protection. May 2014

MassDEP, 2015b. Quality Assurance Project Plan Revision 11, New Bedford Harbor Superfund Site, New Bedford, Massachusetts. Massachusetts Department of Environmental Protection. March 2015.

MADMF, 2016. Seafood Monitoring - Field Sampling Activities for the New Bedford Harbor Superfund Site 2015 Annual Report, Vin Malkoski, Senior Marine Fisheries Biologist, Massachusetts Division of Marine Fisheries, July 2016

NOAA, 1993. NOAA Technical Memorandum NOA ORCA 71. National Status and Trends Program for Marine Environmental Quality. Sampling and Analytical Methods of the National Status and Trends Program National Benthic Surveillance and Mussel Watch Projects, 1984-1992. Volume 1. Silver Springs, Maryland. July 1993

FIGURES

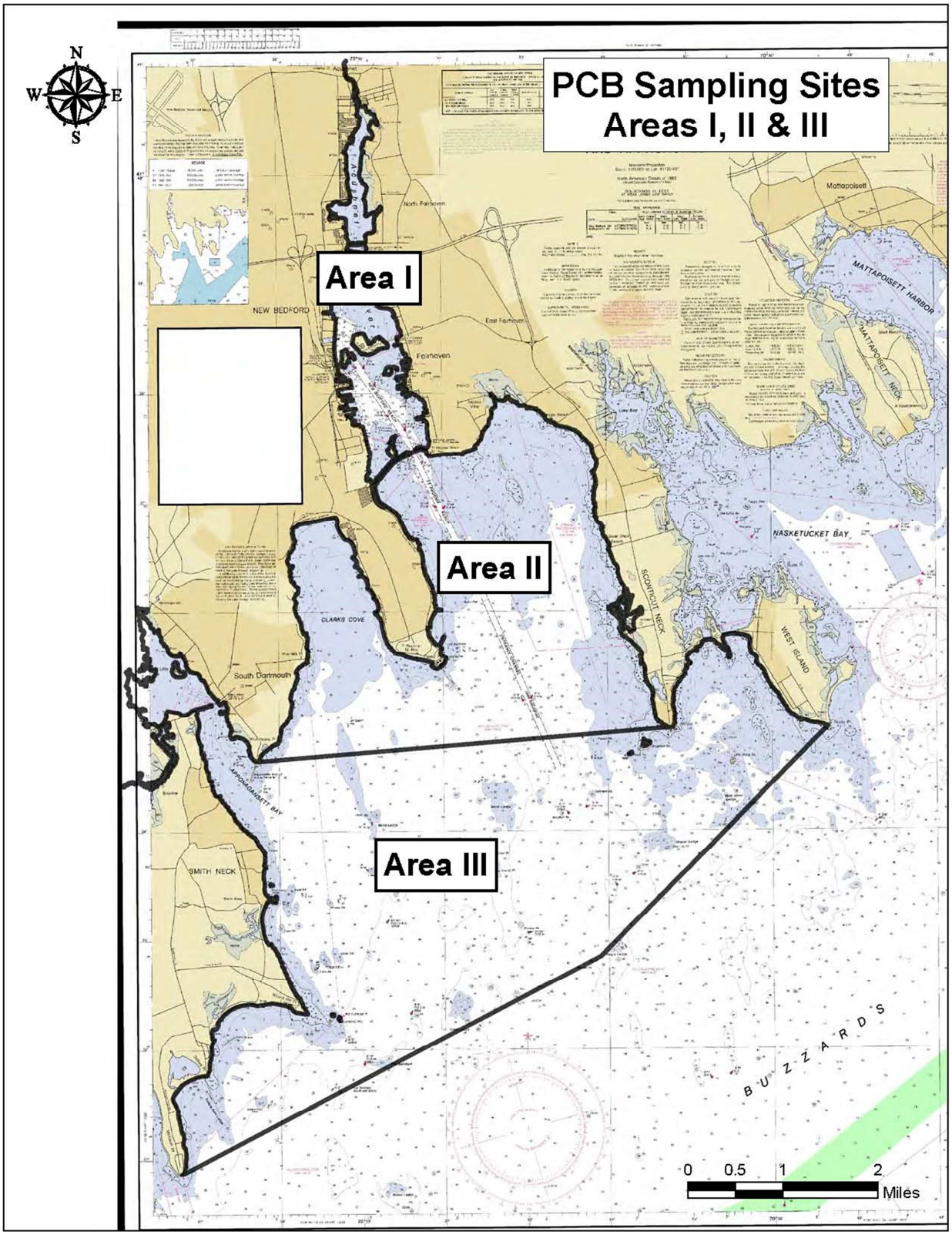


Figure 1 Fish Closure Areas I to III

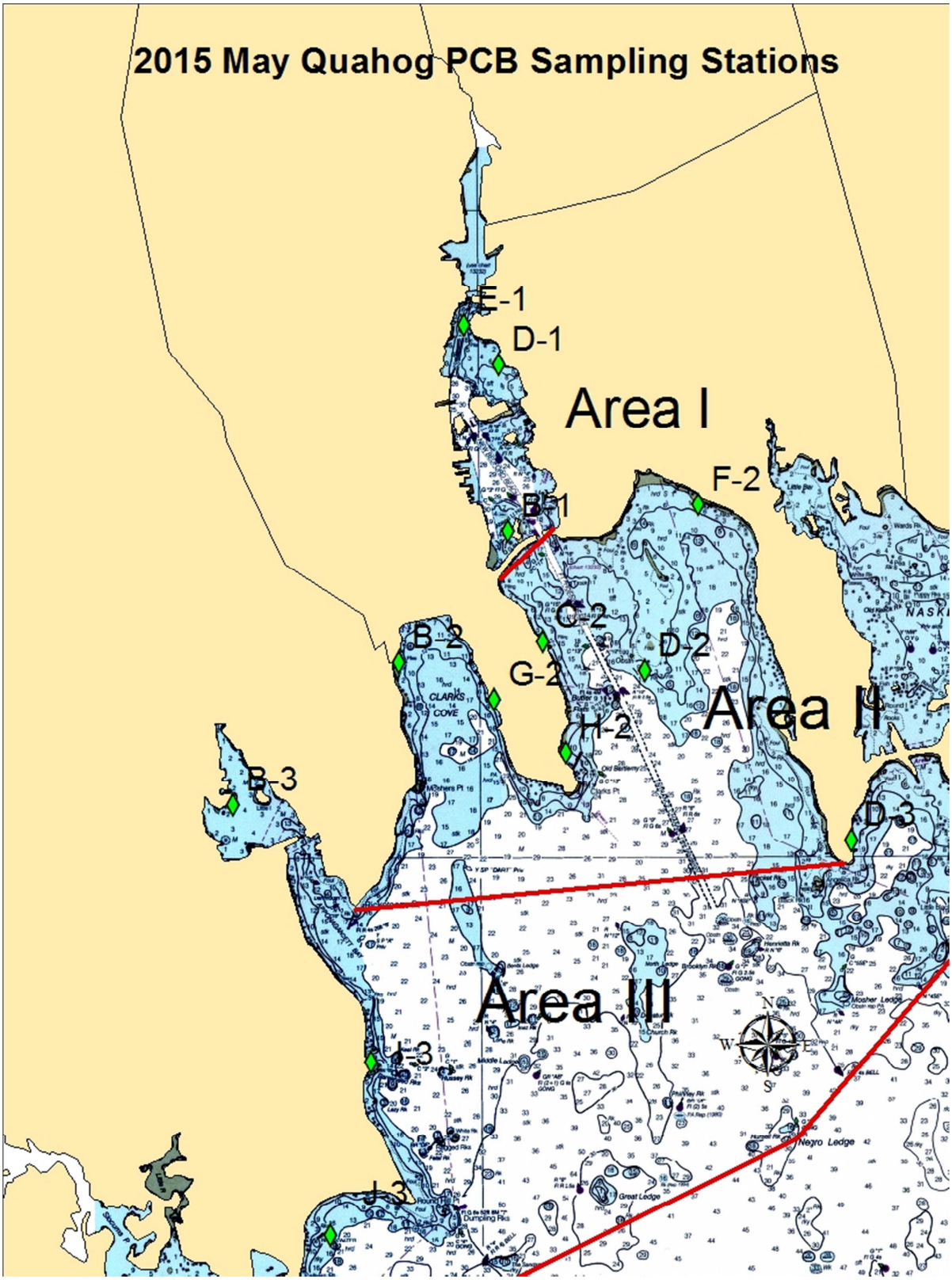
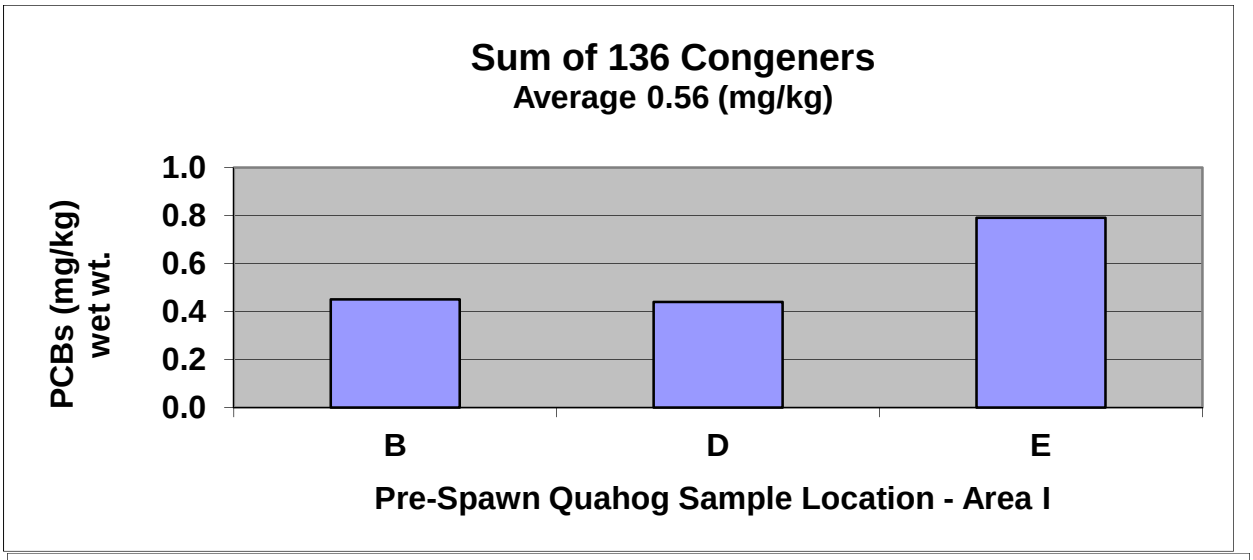
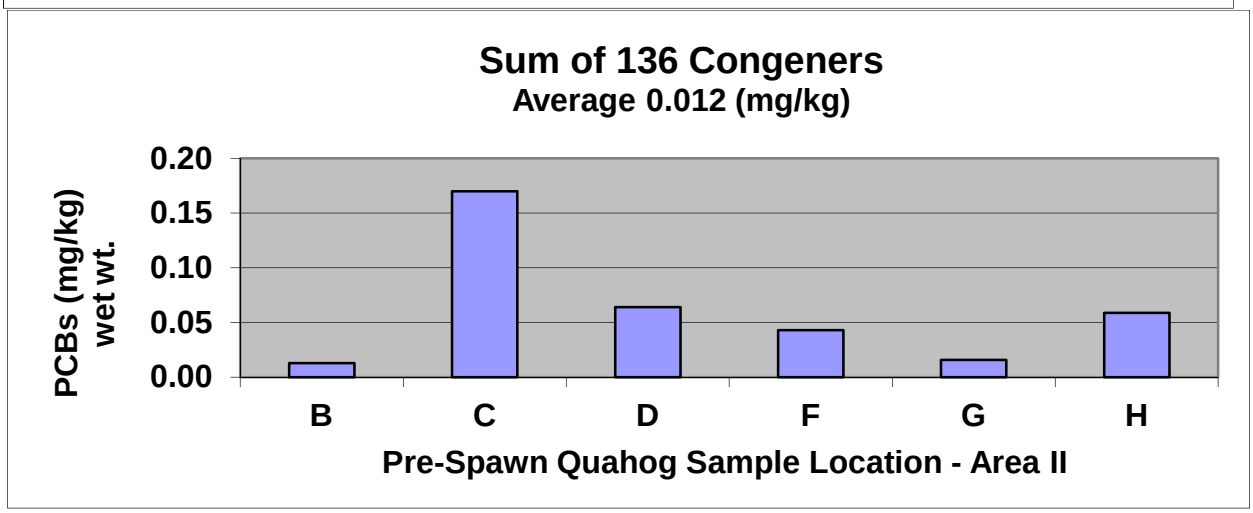


Figure 2 Quahog (Pre-spawn) Sample Locations Areas I to III





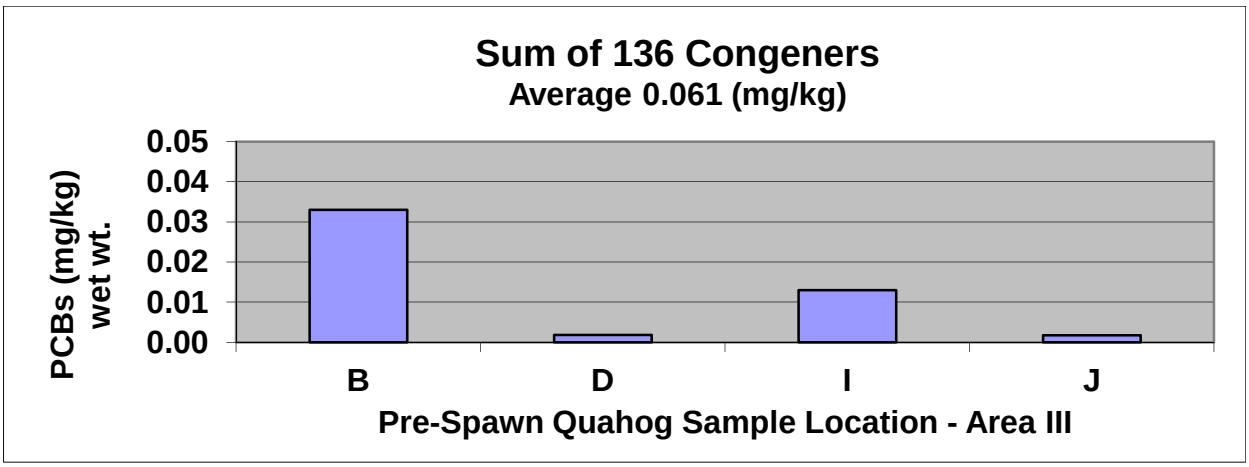


Figure 3 PCBs Concentrations in Pre-Spawn Quahog Areas I to III - 2015

Note: The PCBs concentrations are the detected values as reported on Column 4 of Table 1, and do not included the ½ detection limits.

TABLES

Table 1 Summary of Sample Data for Pre Spawn Quahogs Areas 1, 2, 3 - 2015

Parameter	Lipids	Total PCB Congeners[1]	Total PCB Congeners Hits[2]	Total NOAA Congeners[3]	Total WHO Congeners[4]	Total WHO+NOAA Congeners[5]
Units	**PERCENT**	**MG/KG**	**MG/KG**	**MG/KG**	**MG/KG**	**MG/KG**
Station						
1B	0.18	0.46 J3	0.45	0.18 J4	0.037 J3	0.19 J3
1D	0.10	0.45 J3	0.44	0.17 J4	0.033 J3	0.18 J3
1E	0.24	0.79 J3	0.79	0.31 J4	0.049 J3	0.32 J4
Average	0.17	0.57	0.56	0.22	0.040	0.23
2B	0.10 U	0.040 J1	0.013	0.011 J2	0.0039 J1	0.013 J2
2C	0.10 U	0.19 J3	0.17	0.075 J3	0.013 J2	0.078 J3
2D	0.10 U	0.085 J2	0.064	0.031 J3	0.0064 J2	0.033 J2
2F	0.10 U	0.066 J2	0.043	0.023 J2	0.0054 J2	0.025 J2
2G	0.21	0.042 J1	0.016	0.012 J2	0.0039 J1	0.014 J2
2H	0.19	0.083 J2	0.059	0.031 J3	0.0065 J2	0.033 J2
Average	0.13	0.084	0.061	0.031	0.0066	0.033
3B	0.37	0.059 J2	0.033	0.021 J2	0.0060 J2	0.023 J2
3D	0.10 U	0.034 J1	0.0018	0.0069 J1	0.0032 U	0.0091 J1
3I	0.23	0.042 J1	0.013	0.012 J2	0.0042 J1	0.014 J2
3J	0.11	0.032 J1	0.0017	0.0064 J1	0.0032 J1	0.0085 J1
Average	0.20	0.042	0.012	0.012	0.0041	0.014

Notes for 2015 Table:

[1] = summation of 136 PCB congener results (1/2 sample quantitation limit [SQL] used for non-detected results)

[2] = summation of detected 136 PCB congeners

[3] = summation of 18 NOAA PCB congener results (1/2 sample quantitation limit [SQL] used for non-detected results)

[4] = summation of 12 WHO PCB congener results (1/2 sample quantitation limit [SQL] used for non-detected results)

[5] = summation of 18 NOAA and 12 WHO PCB congener results (1/2 sample quantitation limit [SQL] used for non-detected results);

U = not detected (ND); value represents SQL

J = estimated value

J1 = concentration of detected congeners contributes < 50% of total congener result

J2 = concentration of detected congeners contributes > 50% of total congener result

J3 = concentration of detected congeners contributes > 90% of total congener result

J4 = concentration of detected congeners contributes > 99% of total congener result

mg/kg = milligrams per kilogram (wet weight)

Prepared by: BJS 10/15/2015

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Appendices

Appendix A Laboratory Data

Appendix B Data Validation Summary, MassDEP, NBH Superfund Site, Seafood Contaminant Survey Monitoring 2015 Sampling, October 13, 2015

Appendix C Seafood Monitoring - Field Sampling Activities for the NBH Superfund Site 2015 Annual Report, July 2016

Appendix A

Laboratory Data On-Site

Table 1 Sample Data for Pre-Spawn Quahog Area I
Table 1b Sample Data for Pre-Spawn Quahog Area II
Table 1c Sample Data for Pre-Spawn Quahog Area III

TABLE 1a - SUMMARY OF SAMPLE DATA FOR PRE-SPAWN QUAHOG (MG/KG WET WEIGHT) AREA 1 - 2015

Parameter	Units	NBH15-SF-B-1	NBH15-SF-D-1	NBH15-SF-E-1
Sample#		NBH15-SF-B-1	NBH15-SF-D-1	NBH15-SF-E-1
Species		Quahogs	Quahogs	Quahogs
Species Type		Meat	Meat	Meat
Area		1	1	1
Station		Station B	Station D	Station E
Sample Date		5/28/2015	5/28/2015	5/28/2015
Lipids	PERCENT	0.18	0.10	0.24
Total PCB Congeners[1]	MG/KG	0.46 J3	0.45 J3	0.79 J3
Total PCB Congeners Hits[2]	MG/KG	0.45	0.44	0.79
Total NOAA Congeners[3]	MG/KG	0.18 J4	0.17 J4	0.31 J4
Total WHO Congeners[4]	MG/KG	0.037 J3	0.033 J3	0.049 J3
Total NOAA / WHO Combined[5]	MG/KG	0.19 J3	0.18 J3	0.32 J4
Cl1-BZ#1	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl1-BZ#3	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl2-BZ#4/#10	MG/KG	0.00090 U	0.00087 U	0.00094
Cl2-BZ#5/#8	MG/KG	0.00090 U	0.0011	0.0024
Cl2-BZ#6	MG/KG	0.00068	0.0011	0.0026
Cl2-BZ#7	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl2-BZ#12/#13	MG/KG	0.00090 U	0.0012	0.0025
Cl2-BZ#15	MG/KG	0.00089	0.0014	0.0025
Cl3-BZ#16/#32	MG/KG	0.0031	0.0037	0.0079
Cl3-BZ#17	MG/KG	0.0026	0.0031	0.0067
Cl3-BZ#18	MG/KG	0.0058	0.0069	0.015
Cl3-BZ#19	MG/KG	0.00045 U	0.00056	0.0011
Cl3-BZ#21/#33	MG/KG	0.0022	0.0018	0.0034
Cl3-BZ#22	MG/KG	0.0058	0.0053	0.0046
Cl3-BZ#24/#27	MG/KG	0.0010	0.0014	0.0030
Cl3-BZ#25	MG/KG	0.0073	0.0091	0.019
Cl3-BZ#26	MG/KG	0.013	0.016	0.033
Cl3-BZ#28/#31	MG/KG	0.016	0.021	0.036
Cl3-BZ#29	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl3-BZ#37	MG/KG	0.0014	0.0017	0.0022
Cl4-BZ#40	MG/KG	0.0021	0.0017	0.0036
Cl4-BZ#41/#71	MG/KG	0.0094	0.0092	0.017
Cl4-BZ#42	MG/KG	0.0038	0.0036	0.0065
Cl4-BZ#43/#49	MG/KG	0.030	0.032	0.064
Cl4-BZ#44	MG/KG	0.0091	0.0080	0.016
Cl4-BZ#45	MG/KG	0.00095	0.00076	0.0016
Cl4-BZ#46	MG/KG	0.0047	0.0041	0.0016
Cl4-BZ#47/#48	MG/KG	0.011	0.014	0.024
Cl4-BZ#50	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl4-BZ#51	MG/KG	0.00071	0.00082	0.0022
Cl4-BZ#52	MG/KG	0.033 J	0.035	0.072
Cl4-BZ#53	MG/KG	0.0021	0.0023	0.0058
Cl4-BZ#54	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl4-BZ#56/#60	MG/KG	0.0058	0.0048	0.0073
Cl4-BZ#63	MG/KG	0.0013	0.0013	0.0018
Cl4-BZ#64	MG/KG	0.0046	0.0043	0.0091
Cl4-BZ#66	MG/KG	0.011	0.011	0.016
Cl4-BZ#70	MG/KG	0.011	0.0081	0.013
Cl4-BZ#74	MG/KG	0.0088	0.0089	0.012
Cl4-BZ#76	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl4-BZ#77	MG/KG	0.0012	0.0012	0.0019

TABLE 1a - SUMMARY OF SAMPLE DATA FOR PRE-SPAWN QUAHOG (MG/KG WET WEIGHT) AREA 1 - 2015

Parameter	Units	NBH15-SF-B-1	NBH15-SF-D-1	NBH15-SF-E-1
Sample#		NBH15-SF-B-1	NBH15-SF-D-1	NBH15-SF-E-1
Species		Quahogs	Quahogs	Quahogs
Species Type		Meat	Meat	Meat
Area		1	1	1
Station		Station B	Station D	Station E
Sample Date		5/28/2015	5/28/2015	5/28/2015
Cl4-BZ#81	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl5-BZ#82	MG/KG	0.0015	0.00080	0.0015
Cl5-BZ#83	MG/KG	0.0015	0.0012	0.0023
Cl5-BZ#85	MG/KG	0.0025	0.0019	0.0027
Cl5-BZ#87	MG/KG	0.0075	0.0054	0.0089
Cl5-BZ#89	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl5-BZ#91	MG/KG	0.0053	0.0052	0.011
Cl5-BZ#92	MG/KG	0.0063	0.0062	0.010
Cl5-BZ#95	MG/KG	0.012	0.010	0.021
Cl5-BZ#97	MG/KG	0.0060 J	0.0048	0.0093
Cl5-BZ#99	MG/KG	0.020	0.021	0.034
Cl5-BZ#100	MG/KG	0.00063	0.00073	0.0013
Cl5-BZ#101/#84	MG/KG	0.031 J	0.026	0.046
Cl5-BZ#104	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl5-BZ#105	MG/KG	0.0053	0.0043	0.0055
Cl5-BZ#107	MG/KG	0.0023	0.0022	0.0033
Cl5-BZ#110	MG/KG	0.023	0.020	0.036
Cl5-BZ#114	MG/KG	0.00047	0.00043 U	0.00063
Cl5-BZ#118	MG/KG	0.021	0.020	0.031
Cl5-BZ#119	MG/KG	0.0021	0.0023	0.0046
Cl5-BZ#123	MG/KG	0.0027	0.0023	0.0016
Cl5-BZ#124	MG/KG	0.00081	0.00079	0.0013
Cl5-BZ#126	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl6-BZ#129	MG/KG	0.00060	0.00048	0.00075
Cl6-BZ#130	MG/KG	0.0015	0.0011	0.0018
Cl6-BZ#131	MG/KG	0.00070	0.00043 U	0.00046 U
Cl6-BZ#132/#168	MG/KG	0.0035	0.0024	0.0034
Cl6-BZ#134	MG/KG	0.0015	0.0014	0.0027
Cl6-BZ#135/#144	MG/KG	0.0026	0.0024	0.0040
Cl6-BZ#136	MG/KG	0.0015	0.0013	0.0027
Cl6-BZ#137	MG/KG	0.0015	0.0011	0.0018
Cl6-BZ#138/#163	MG/KG	0.015 J	0.014	0.022
Cl6-BZ#141	MG/KG	0.0016	0.0012	0.0018
Cl6-BZ#146	MG/KG	0.0045	0.0045	0.0067
Cl6-BZ#147	MG/KG	0.0013	0.0015	0.0025
Cl6-BZ#149	MG/KG	0.014	0.014	0.024
Cl6-BZ#151	MG/KG	0.0013	0.0014	0.0027
Cl6-BZ#153	MG/KG	0.019	0.018	0.030
Cl6-BZ#154	MG/KG	0.00073	0.00089	0.0016
Cl6-BZ#155	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl6-BZ#156	MG/KG	0.0019	0.0017	0.0027
Cl6-BZ#157	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl6-BZ#158	MG/KG	0.0011	0.00093	0.0016
Cl6-BZ#167/#128	MG/KG	0.0033	0.0031	0.0046
Cl6-BZ#169	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl7-BZ#170/#190	MG/KG	0.0013	0.0010	0.0017
Cl7-BZ#171	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl7-BZ#172	MG/KG	0.00045 U	0.00043 U	0.00060

TABLE 1a - SUMMARY OF SAMPLE DATA FOR PRE-SPAWN QUAHOG (MG/KG WET WEIGHT) AREA 1 - 2015

Parameter	Units	NBH15-SF-B-1	NBH15-SF-D-1	NBH15-SF-E-1
Sample#		NBH15-SF-B-1	NBH15-SF-D-1	NBH15-SF-E-1
Species		Quahogs	Quahogs	Quahogs
Species Type		Meat	Meat	Meat
Area		1	1	1
Station		Station B	Station D	Station E
Sample Date		5/28/2015	5/28/2015	5/28/2015
Cl7-BZ#173	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl7-BZ#174	MG/KG	0.0011	0.00097	0.0016
Cl7-BZ#175	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl7-BZ#176	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl7-BZ#177	MG/KG	0.0011	0.00092	0.0014
Cl7-BZ#178	MG/KG	0.00046	0.00043 U	0.00077
Cl7-BZ#180	MG/KG	0.0028	0.0026	0.0039
Cl7-BZ#182/#187	MG/KG	0.0025	0.0029	0.0047
Cl7-BZ#183	MG/KG	0.00066	0.00055	0.00087
Cl7-BZ#184	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl7-BZ#185	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl7-BZ#188	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl7-BZ#189	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl7-BZ#191	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl7-BZ#193	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl8-BZ#194	MG/KG	0.00049	0.00047	0.00077
Cl8-BZ#195	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl8-BZ#196/203	MG/KG	0.00090 U	0.00087 U	0.00092 U
Cl8-BZ#197	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl8-BZ#199	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl8-BZ#200	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl8-BZ#201	MG/KG	0.00050	0.00045	0.00070
Cl8-BZ#202	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl8-BZ#205	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl9-BZ#206	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl9-BZ#207	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl9-BZ#208	MG/KG	0.00045 U	0.00043 U	0.00046 U
Cl10-BZ#209	MG/KG	0.00045 U	0.00043 U	0.00046 U

TABLE 1b - SUMMARY OF SAMPLE DATA FOR PRE-SPAWN QUAHOG (MG/KG WET WEIGHT) AREA 2 - 2015

Parameter	Units	NBH15-SF-B-2	NBH15-SF-C-2	NBH15-SF-D-2	NBH15-SF-F-2	NBH15-SF-G-2	NBH15-SF-H-2
Sample#		NBH15-SF-B-2	NBH15-SF-C-2	NBH15-SF-D-2	NBH15-SF-F-2	NBH15-SF-G-2	NBH15-SF-H-2
Species		Quahogs	Quahogs	Quahogs	Quahogs	Quahogs	Quahogs
Species Type		Meat	Meat	Meat	Meat	Meat	Meat
Area		2	2	2	2	2	2
Station		Station B	Station C	Station D	Station F	Station G	Station H
Sample Date		5/15/2015	5/13/2015	5/13/2015	5/15/2015	5/15/2015	5/13/2015
Lipids	PERCENT	0.10 U	0.10 U	0.10 U	0.10 U	0.21	0.19
Total PCB Congeners[1]	MG/KG	0.040 J1	0.19 J3	0.085 J2	0.066 J2	0.042 J1	0.083 J2
Total PCB Congeners Hits[2]	MG/KG	0.013	0.17	0.064	0.043	0.016	0.059
Total NOAA Congeners[3]	MG/KG	0.011 J2	0.075 J3	0.031 J3	0.023 J2	0.012 J2	0.031 J3
Total WHO Congeners[4]	MG/KG	0.0039 J1	0.013 J2	0.0064 J2	0.0054 J2	0.0039 J1	0.0065 J2
Total NOAA / WHO Combined[5]	MG/KG	0.013 J2	0.078 J3	0.033 J2	0.025 J2	0.014 J2	0.033 J2
Cl1-BZ#1	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl1-BZ#3	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl2-BZ#4/#10	MG/KG	0.00090 U	0.00093 U	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl2-BZ#5/#8	MG/KG	0.00090 U	0.00093 U	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl2-BZ#6	MG/KG	0.00045 U	0.00051	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl2-BZ#7	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl2-BZ#12/#13	MG/KG	0.00090 U	0.00093 U	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl2-BZ#15	MG/KG	0.00045 U	0.00047	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl3-BZ#16/#32	MG/KG	0.00090 U	0.0014	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl3-BZ#17	MG/KG	0.00045 U	0.0011	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl3-BZ#18	MG/KG	0.00045 U	0.0026	0.00098	0.00069	0.00043 U	0.00096
Cl3-BZ#19	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl3-BZ#21/#33	MG/KG	0.00090 U	0.00094	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl3-BZ#22	MG/KG	0.00045 U	0.0029	0.0016	0.00095	0.00043 U	0.00048 U
Cl3-BZ#24/#27	MG/KG	0.00090 U	0.00093 U	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl3-BZ#25	MG/KG	0.00045 U	0.0029	0.0011	0.00079	0.00043 U	0.0010
Cl3-BZ#26	MG/KG	0.00045 U	0.0053	0.0022	0.0016	0.00045	0.0022
Cl3-BZ#28/#31	MG/KG	0.00090 U	0.012	0.0024	0.0018	0.00087 U	0.0024
Cl3-BZ#29	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl3-BZ#37	MG/KG	0.00045 U	0.00066	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl4-BZ#40	MG/KG	0.00045 U	0.00087	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl4-BZ#41/#71	MG/KG	0.00090 U	0.0036	0.0013	0.00089 U	0.00087 U	0.0014
Cl4-BZ#42	MG/KG	0.00045 U	0.0015	0.00072	0.00044 U	0.00043 U	0.00057
Cl4-BZ#43/#49	MG/KG	0.00093	0.012	0.0046	0.0033	0.0011	0.0045
Cl4-BZ#44	MG/KG	0.00045 U	0.0037	0.0015	0.0011	0.00043 U	0.0014
Cl4-BZ#45	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl4-BZ#46	MG/KG	0.00045 U	0.0014	0.00043 U	0.00044 U	0.00043 U	0.00052
Cl4-BZ#47/#48	MG/KG	0.00090 U	0.0047	0.0018	0.0014	0.00087 U	0.0018
Cl4-BZ#50	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl4-BZ#51	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl4-BZ#52	MG/KG	0.0012	0.015	0.0059	0.0039	0.0015	0.0059
Cl4-BZ#53	MG/KG	0.00045 U	0.00090	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl4-BZ#54	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl4-BZ#56/#60	MG/KG	0.00090 U	0.0019	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl4-BZ#63	MG/KG	0.00045 U	0.00049	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl4-BZ#64	MG/KG	0.00045 U	0.0017	0.00061	0.00046	0.00043 U	0.00055

TABLE 1b - SUMMARY OF SAMPLE DATA FOR PRE-SPAWN QUAHOG (MG/KG WET WEIGHT) AREA 2 - 2015

	Sample#	NBH15-SF-B-2	NBH15-SF-C-2	NBH15-SF-D-2	NBH15-SF-F-2	NBH15-SF-G-2	NBH15-SF-H-2
	Species	Quahogs	Quahogs	Quahogs	Quahogs	Quahogs	Quahogs
	Species Type	Meat	Meat	Meat	Meat	Meat	Meat
	Area	2	2	2	2	2	2
	Station	Station B	Station C	Station D	Station F	Station G	Station H
	Sample Date	5/15/2015	5/13/2015	5/13/2015	5/15/2015	5/15/2015	5/13/2015
Parameter	Units						
Cl4-BZ#66	MG/KG	0.00061	0.0041	0.0017	0.0013	0.00069	0.0018
Cl4-BZ#70	MG/KG	0.00049	0.0033	0.0015	0.0010	0.00056	0.0014
Cl4-BZ#74	MG/KG	0.00045 U	0.0030	0.0011	0.00081	0.00043 U	0.0013
Cl4-BZ#76	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl4-BZ#77	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl4-BZ#81	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl5-BZ#82	MG/KG	0.00045 U	0.00047	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl5-BZ#83	MG/KG	0.00045 U	0.00067	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl5-BZ#85	MG/KG	0.00045 U	0.00083	0.00050	0.00044 U	0.00043 U	0.00048 U
Cl5-BZ#87	MG/KG	0.00045 U	0.0026	0.0012	0.00070	0.00043 U	0.0011
Cl5-BZ#89	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl5-BZ#91	MG/KG	0.00045 U	0.0020	0.00081	0.00054	0.00043 U	0.00078
Cl5-BZ#92	MG/KG	0.00045 U	0.0026	0.0013	0.00089	0.00054	0.0013
Cl5-BZ#95	MG/KG	0.00052	0.0050	0.0020	0.0014	0.00072	0.0019
Cl5-BZ#97	MG/KG	0.00045 U	0.0020	0.00097	0.00062	0.00043 U	0.00087
Cl5-BZ#99	MG/KG	0.0013	0.0074	0.0038	0.0028	0.0013	0.0034
Cl5-BZ#100	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl5-BZ#101/#84	MG/KG	0.0018	0.011	0.0051	0.0035	0.0021	0.0050
Cl5-BZ#104	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl5-BZ#105	MG/KG	0.00045 U	0.0018	0.00082	0.00048	0.00043 U	0.00074
Cl5-BZ#107	MG/KG	0.00045 U	0.00098	0.00051	0.00050	0.00043 U	0.00048 U
Cl5-BZ#110	MG/KG	0.0011	0.0079	0.0035	0.0023	0.0013	0.0035
Cl5-BZ#114	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl5-BZ#118	MG/KG	0.0012	0.0073	0.0032	0.0025	0.0013	0.0031
Cl5-BZ#119	MG/KG	0.00045 U	0.00079	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl5-BZ#123	MG/KG	0.00045 U	0.00077	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl5-BZ#124	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl5-BZ#126	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#129	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#130	MG/KG	0.00045 U	0.00052	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#131	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#132/#168	MG/KG	0.00090 U	0.0012	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl6-BZ#134	MG/KG	0.00045 U	0.00066	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#135/#144	MG/KG	0.00090 U	0.0011	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl6-BZ#136	MG/KG	0.00045 U	0.00058	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#137	MG/KG	0.00045 U	0.00052	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#138/#163	MG/KG	0.0013	0.0057	0.0031	0.0024	0.0014	0.0031
Cl6-BZ#141	MG/KG	0.00045 U	0.00051	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#146	MG/KG	0.00056	0.0018	0.0011	0.00084	0.00056	0.00092
Cl6-BZ#147	MG/KG	0.00045 U	0.00062	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#149	MG/KG	0.00079	0.0052	0.0025	0.0017	0.00094	0.0022
Cl6-BZ#151	MG/KG	0.00045 U	0.00055	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#153	MG/KG	0.0015	0.0068	0.0038	0.0029	0.0016	0.0032
Cl6-BZ#154	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#155	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#156	MG/KG	0.00045 U	0.00065	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#157	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl6-BZ#158	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U

TABLE 1b - SUMMARY OF SAMPLE DATA FOR PRE-SPAWN QUAHOG (MG/KG WET WEIGHT) AREA 2 - 2015

	Sample#	NBH15-SF-B-2	NBH15-SF-C-2	NBH15-SF-D-2	NBH15-SF-F-2	NBH15-SF-G-2	NBH15-SF-H-2
	Species	Quahogs	Quahogs	Quahogs	Quahogs	Quahogs	Quahogs
	Species Type	Meat	Meat	Meat	Meat	Meat	Meat
	Area	2	2	2	2	2	2
	Station	Station B	Station C	Station D	Station F	Station G	Station H
	Sample Date	5/15/2015	5/13/2015	5/13/2015	5/15/2015	5/15/2015	5/13/2015
Parameter	Units						
Cl6-BZ#167/#128	MG/KG	0.00090 U	0.0012	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl6-BZ#169	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#170/#190	MG/KG	0.00090 U	0.00093 U	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl7-BZ#171	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#172	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#173	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#174	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#175	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#176	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#177	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#178	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#180	MG/KG	0.00045 U	0.00095	0.00054	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#182/#187	MG/KG	0.00090 U	0.0011	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl7-BZ#183	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#184	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#185	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#188	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#189	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#191	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl7-BZ#193	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl8-BZ#194	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl8-BZ#195	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl8-BZ#196/203	MG/KG	0.00090 U	0.00093 U	0.00086 U	0.00089 U	0.00087 U	0.00096 U
Cl8-BZ#197	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl8-BZ#199	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl8-BZ#200	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl8-BZ#201	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl8-BZ#202	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl8-BZ#205	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl9-BZ#206	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl9-BZ#207	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl9-BZ#208	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U
Cl10-BZ#209	MG/KG	0.00045 U	0.00046 U	0.00043 U	0.00044 U	0.00043 U	0.00048 U

TABLE 1c - SUMMARY OF SAMPLE DATA FOR PRE-SPAWN QUAHOG (MG/KG WET WEIGHT) AREA 3 - 2015

Parameter	Units	Sample#	NBH15-SF-B-3	NBH15-SF-D-3	NBH15-SF-I-3	NBH15-SF-J-3
		Species	Quahogs	Quahogs	Quahogs	Quahogs
		Species Type	Meat	Meat	Meat	Meat
		Area	3	3	3	3
		Station	Station B	Station D	Station I	Station J
		Sample Date	5/15/2015	5/15/2015	5/15/2015	5/15/2015
Lipids	PERCENT		0.37	0.10 U	0.23	0.11
Total PCB Congeners[1]	MG/KG		0.059 J2	0.034 J1	0.042 J1	0.032 J1
Total PCB Congeners Hits[2]	MG/KG		0.033	0.0018	0.013	0.0017
Total NOAA Congeners[3]	MG/KG		0.021 J2	0.0069 J1	0.012 J2	0.0064 J1
Total WHO Congeners[4]	MG/KG		0.0060 J2	0.0032 U	0.0042 J1	0.0032 J1
Total NOAA / WHO Combined[5]	MG/KG		0.023 J2	0.0091 J1	0.014 J2	0.0085 J1
Cl1-BZ#1	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl1-BZ#3	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl2-BZ#4/#10	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl2-BZ#5/#8	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl2-BZ#6	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl2-BZ#7	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl2-BZ#12/#13	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl2-BZ#15	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl3-BZ#16/#32	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl3-BZ#17	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl3-BZ#18	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl3-BZ#19	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl3-BZ#21/#33	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl3-BZ#22	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl3-BZ#24/#27	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl3-BZ#25	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl3-BZ#26	MG/KG		0.00054	0.00049 U	0.00047 U	0.00046 U
Cl3-BZ#28/#31	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl3-BZ#29	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl3-BZ#37	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#40	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#41/#71	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl4-BZ#42	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#43/#49	MG/KG		0.0017	0.00097 U	0.00094 U	0.00091 U
Cl4-BZ#44	MG/KG		0.00068	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#45	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#46	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#47/#48	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl4-BZ#50	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#51	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#52	MG/KG		0.0021	0.00073	0.0010	0.00046 U
Cl4-BZ#53	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#54	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#56/#60	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl4-BZ#63	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#64	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#66	MG/KG		0.0013	0.00049 U	0.00050	0.00046 U
Cl4-BZ#70	MG/KG		0.00091	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#74	MG/KG		0.00065	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#76	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl4-BZ#77	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U

TABLE 1c - SUMMARY OF SAMPLE DATA FOR PRE-SPAWN QUAHOG (MG/KG WET WEIGHT) AREA 3 - 2015

Parameter	Units	Sample#	NBH15-SF-B-3	NBH15-SF-D-3	NBH15-SF-I-3	NBH15-SF-J-3
		Species	Quahogs	Quahogs	Quahogs	Quahogs
		Species Type	Meat	Meat	Meat	Meat
		Area	3	3	3	3
		Station	Station B	Station D	Station I	Station J
		Sample Date	5/15/2015	5/15/2015	5/15/2015	5/15/2015
Cl4-BZ#81	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#82	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#83	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#85	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#87	MG/KG		0.00081	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#89	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#91	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#92	MG/KG		0.00095	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#95	MG/KG		0.0012	0.00049 U	0.00055	0.00046 U
Cl5-BZ#97	MG/KG		0.00060	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#99	MG/KG		0.0028	0.00049	0.0014	0.00053
Cl5-BZ#100	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#101/#84	MG/KG		0.0035	0.00097 U	0.0020	0.00091 U
Cl5-BZ#104	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#105	MG/KG		0.00066	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#107	MG/KG		0.00058	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#110	MG/KG		0.0021	0.00049 U	0.0011	0.00046 U
Cl5-BZ#114	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#118	MG/KG		0.0028	0.00049 U	0.0013	0.00050
Cl5-BZ#119	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#123	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#124	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl5-BZ#126	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#129	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#130	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#131	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#132/#168	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl6-BZ#134	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#135/#144	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl6-BZ#136	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#137	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#138/#163	MG/KG		0.0027	0.00097 U	0.0015	0.00091 U
Cl6-BZ#141	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#146	MG/KG		0.0011	0.00049 U	0.00058	0.00046 U
Cl6-BZ#147	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#149	MG/KG		0.0018	0.00049 U	0.00094	0.00046 U
Cl6-BZ#151	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#153	MG/KG		0.0033	0.00061	0.0019	0.00069
Cl6-BZ#154	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#155	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#156	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#157	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#158	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl6-BZ#167/#128	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl6-BZ#169	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#170/#190	MG/KG		0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl7-BZ#171	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#172	MG/KG		0.00046 U	0.00049 U	0.00047 U	0.00046 U

TABLE 1c - SUMMARY OF SAMPLE DATA FOR PRE-SPAWN QUAHOG (MG/KG WET WEIGHT) AREA 3 - 2015

	Sample#	NBH15-SF-B-3	NBH15-SF-D-3	NBH15-SF-I-3	NBH15-SF-J-3
	Species	Quahogs	Quahogs	Quahogs	Quahogs
	Species Type	Meat	Meat	Meat	Meat
	Area	3	3	3	3
	Station	Station B	Station D	Station I	Station J
	Sample Date	5/15/2015	5/15/2015	5/15/2015	5/15/2015
Parameter	Units				
Cl7-BZ#173	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#174	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#175	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#176	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#177	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#178	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#180	MG/KG	0.00050	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#182/#187	MG/KG	0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl7-BZ#183	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#184	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#185	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#188	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#189	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#191	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl7-BZ#193	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl8-BZ#194	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl8-BZ#195	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl8-BZ#196/203	MG/KG	0.00092 U	0.00097 U	0.00094 U	0.00091 U
Cl8-BZ#197	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl8-BZ#199	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl8-BZ#200	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl8-BZ#201	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl8-BZ#202	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl8-BZ#205	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl9-BZ#206	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl9-BZ#207	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl9-BZ#208	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U
Cl10-BZ#209	MG/KG	0.00046 U	0.00049 U	0.00047 U	0.00046 U

Notes for 2015 Appendix Tables:

[1] = summation of 136 PCB congener results (1/2 sample quantitation limit [SQL] used for non-detected results)

[2] = summation of detected 136 PCB congeners

[3] = summation of 18 NOAA PCB congener results (1/2 sample quantitation limit [SQL] used for non-detected results)

[4] = summation of 12 WHO PCB congener results (1/2 sample quantitation limit [SQL] used for non-detected results)

[5] = summation of 18 NOAA and 12 WHO PCB congener results (1/2 sample quantitation limit [SQL] used for non-detected res

U = not detected (ND); value represents SQL

J = estimated value

J1 = concentration of detected congeners contributes < 50% of total congener result

J2 = concentration of detected congeners contributes > 50% of total congener result

J3 = concentration of detected congeners contributes > 90% of total congener result

J4 = concentration of detected congeners contributes > 99% of total congener result

mg/kg = milligrams per kilogram (wet weight)

Prepared by: BJS 10/15/2015

Checked by: JAR 10/19/2015

Appendix B

Data Validation Summary
Massachusetts Department of Environmental Protection
New Bedford Harbor Seafood Contaminant Survey Monitoring
2015 Sampling
October 13, 2015

Data Validation Summary
Massachusetts Department of Environmental Protection
New Bedford Harbor Superfund Site
Seafood Contaminant Survey Monitoring 2015 Sampling
New Bedford, Massachusetts

INTRODUCTION

Seventeen fish tissue samples were collected as part of the New Bedford Harbor Superfund Site's Seafood Contaminant Survey Monitoring. Seafood samples were collected between May 2015 and July 2015. All samples were collected by the Massachusetts Department of Marine Fisheries (MADMF). Samples were submitted to Alpha Analytical Laboratory located in Mansfield, Massachusetts, for processing and analysis. Tissue samples were analyzed for percent lipids and polychlorinated biphenyls (PCBs) by GC/MS Selected Ion Monitoring (SIM).

Tissue samples were analyzed in Sample Delivery Group (SDG): L1520897 (striped bass and quahogs – pre-spawn). The data package was validated using Region I EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (USEPA, 1996), Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses (USEPA, 2004), Alpha Analytical Laboratory Standard Operating Procedure (SOP) O-015 (Alpha, 2011), and the Quality Assurance Project Plan, Seafood Contaminant Survey, New Bedford Harbor Superfund Site, Revision 11.0 (MADEP, 2015). As specified in the QAPP, Tier I+ data validation was performed on 95 percent of the samples, and Tier II data validation was performed on 5 percent of the samples. Tier II validation was performed on sample NBH15-SF-B-1. Because this sample was analyzed in the same analytical sequence with sample NBH15-SF-D-1, a Tier II validation was also performed for sample NBH15-SF-D-1.

For Tier I+ data validation, data were evaluated for the following parameters:

* Collection and Preservation
* Holding Times
* Data Completeness
* Initial Calibration (for Tier I+ only if problems noted in case narrative)
* Continuing Calibration (for Tier I+ only if problems noted in case narrative)
* Blanks
* Surrogate Standards
  Standard Reference Material (SRM)
  Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)
  Matrix Spike/Matrix Spike Duplicates (MS/MSD)
* Laboratory Duplicates
* Internal Standards (for Tier I+ only if problems noted in case narrative)
* Target Compound Quantitation (for Tier I+ only if problems noted in case narrative)
* Miscellaneous

* - all criteria were met for this parameter

For Tier II data validation, the above checks were completed along with evaluations of initial calibrations, continuing calibrations, instrument tuning, and internal standards using summary forms provided in the data package.

DATA VALIDATION SUMMARY

In general, laboratory performance is considered acceptable and all results are usable. The following qualifying statements have been applied to the 2015 data.

Standard Reference Material

PCB (L1520897) – The narrative states that the Standard Reference Material was not analyzed due to laboratory error. Using professional judgment, sample results were evaluated based on available quality control information, including LCS/LCSD, MS, and initial and continuing calibration data. No qualifiers were applied due to the missing Standard Reference Material results.

LCS/LCSD

PCB (L1520897) – The narrative states that the LCS/LCSD associated with all samples was incorrectly spiked with a 209 congener spiking solution, instead of the standard reduced list of 136 congeners. As a result, 13 target compound congeners appeared to be co-eluting with other congeners present in the spiking solution. High biases were reported for these 13 congeners in the LCS/LCSD, and true concentrations could not be determined.

- BZ 7
- BZ 46
- BZ 40
- BZ 95
- BZ 83
- BZ 87
- BZ 107
- BZ 149
- BZ 134
- BZ 118
- BZ 131
- BZ 146
- BZ 158

Based on professional judgment, the high biases were interpreted to be the result of co-elution with other non-target congeners in the spiking solution, and the target compound congeners were reported unqualified. Recoveries for all remaining target congeners were within control limits in the LCS and LCSD.

MS/MSD

PCB (L1520897) – The MS associated with sample NBH15-SF-B-1 had percent recoveries greater than the 40-140 control limits for the following congeners, indicating potential high biases.

- BZ 52 (193)
- BZ 101/84 (144)
- BZ 97 (149)
- BZ 138/163 (156)

Positive detections of these congeners were reported in sample NBH15-SF-B-1 and were qualified estimated (J).

In addition, the narrative states that the MS associated with sample NBH15-SF-B-1 was incorrectly spiked with the 209 congener spiking solution used inadvertently for the LCS/LCSD (noted above), instead of the standard reduced list of 136 congeners. As a result, 13 target compound congeners appeared to be co-eluting with other congeners present in the spiking solution. High biases were reported for these 13 congeners in the MS, and true concentrations could not be determined. Based on professional judgment, the high biases for these 13 target congeners were interpreted to be the result of co-elution with other non-target congeners in the spiking solution, and results were reported unqualified. Recoveries for all remaining target congeners except BZ 52, BZ 101/84, BZ 97, and BZ 138/163 noted above were within control limits in the MS.

Reference:

U.S. Environmental Protection Agency (USEPA), 1996. "Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses, Parts I and II," Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; December, 1996.

U.S. Environmental Protection Agency (USEPA), 2004. "Region I, Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses;" Hazardous Site Evaluation Division; Draft, February, 2004.

Alpha Analytical, Inc., 2011. "Determination of PCB Homologs, Individual Congeners, and Pesticides by GC/MS-SIM," Alpha Analytical, Inc.; August, 2011.

MADEP, May 10, 2014. "Quality Assurance Project Plan, Seafood Contaminant Survey, New Bedford Harbor Superfund Site, Revision 11.0", Massachusetts Department of Environmental Protection; March, 2015.

Data Validator: Julie Ricardi

Signature: Julie Ricardi Date: October 13, 2015

Reviewed by: Willie Stone

Signature: Willie Stone Date: October 14, 2015

Appendix C

Seafood Monitoring - Field Sampling Activities
for
the New Bedford Harbor Superfund Site
2015 Annual Report
July 2016

Seafood Monitoring - Field Sampling Activities for the New Bedford Harbor Superfund Site
2015 Annual Report

Vin Malkoski, Senior Marine Fisheries Biologist
Massachusetts Division of Marine Fisheries
July 2016

The Massachusetts Division of Marine Fisheries (*MarineFisheries*) under an agreement with the Massachusetts Department of Environmental Protection (MassDEP) collects legal-size fish and shellfish from the three New Bedford Harbor fish closure areas. At the end of the collection period, these frozen samples were delivered to the Alpha Woods Hole Laboratories in Mansfield, Massachusetts for analysis. MassDEP provides the results of the analyses to EPA to monitor and support the site remediation project. This report describes *MarineFisheries*' field activities in 2015 in accordance with the Seafood Monitoring and Field Sampling Work Plan and makes recommendations for the upcoming 2016 field season based on results obtained during the previous field season.

Sample Sites

The three Fish Closure Areas are identified in Attachment 1 from the EPA Record of Decision for the Upper and Lower Operable Unit, New Bedford Harbor Superfund Site, New Bedford, Massachusetts, dated September 25, 1998. These three Fish Closure Areas were designated by the Mass. Dept. of Public Health in 1979. Area 1 includes the waters of the Acushnet River and the New Bedford/Fairhaven Inner Harbor north of the Hurricane Barrier. Area 2 comprises the waters of the Outer Harbor and Clarks Cove south of the Hurricane Barrier and north of a line drawn from Wilbur Point in Fairhaven to Ricketsons Point in Dartmouth. Area 3 is that portion of Buzzards Bay south of the line drawn from Wilbur Point in Fairhaven to Ricketsons Point in Dartmouth and north of a line drawn from Rocky Point on West Island in Fairhaven to the Negro Ledge C3 buoy then to Mishaum Point in Dartmouth.

There are five original sample stations in each of the three fish closure areas in the waters of the City of New Bedford and the Towns of Dartmouth and Fairhaven. Station locations within each area vary for different species as what may be suitable habitat for one species may not be suitable for another (Attachment 1 – Figure 1 to 3). During the 2015 collection season, the only species collected from Area 1 was quahog.

2015 Field Collections

Complete information including the harvest dates, collection identification information, species, and station identification information, location by latitude and longitude, and collection method is appended to this report as Attachment 2 – Collection Sheets 1 & 2. Data Form 1 contains length and weight information for the fish species collected.

Quahog (*Mercenaria mercenaria*)
Marine Fisheries collected pre-spawn quahog samples from thirteen stations in Areas 1, 2, and 3 during May by rake and diver. We harvested 13 quahogs per station (except Station I-3, only 4 quahogs were collected) in each collection in order to provide sufficient sample sizes for the Work Plan. No quahogs were found two stations in Area 1 – SF A-1 (West of the Barrier Opening) and SF C-1 (Crow's Island). As noted for 2014 collections, Station SF A-1 has become a permanent loss due to dredging and construction in support of the maritime terminal. It remains unclear why we could not find quahogs at Station SF C-1, even after consultation with the Fairhaven Shellfish Constable.

Striped Bass (*Morone saxatilis)*
Striped bass collections were attempted during June and July in Areas 1, 2, and 3 using rod and reel. Two fish were collected from Station FF E-2 (Egg Island) in June and two fish from Station FF-F-3 in July. Although juvenile fish were observed in Area 1, DMF biologists were unable to hook any.

Planning for 2016 Field Collections

Sampling planned for 2016 will be quahogs in Areas 1 to 3; conch in Areas 2 and 3; and striped bass in Areas 1 to 3, if possible.

ATTACHMENT 1
DMF HARVEST SITE MAPS

Figure 1 PCB Sample Areas 1, 2, & 3
Figure 2 Quahog (Pre-spawn May), Areas 1, 2, & 3
Figure 3 Striped Bass, Areas 2 & 3

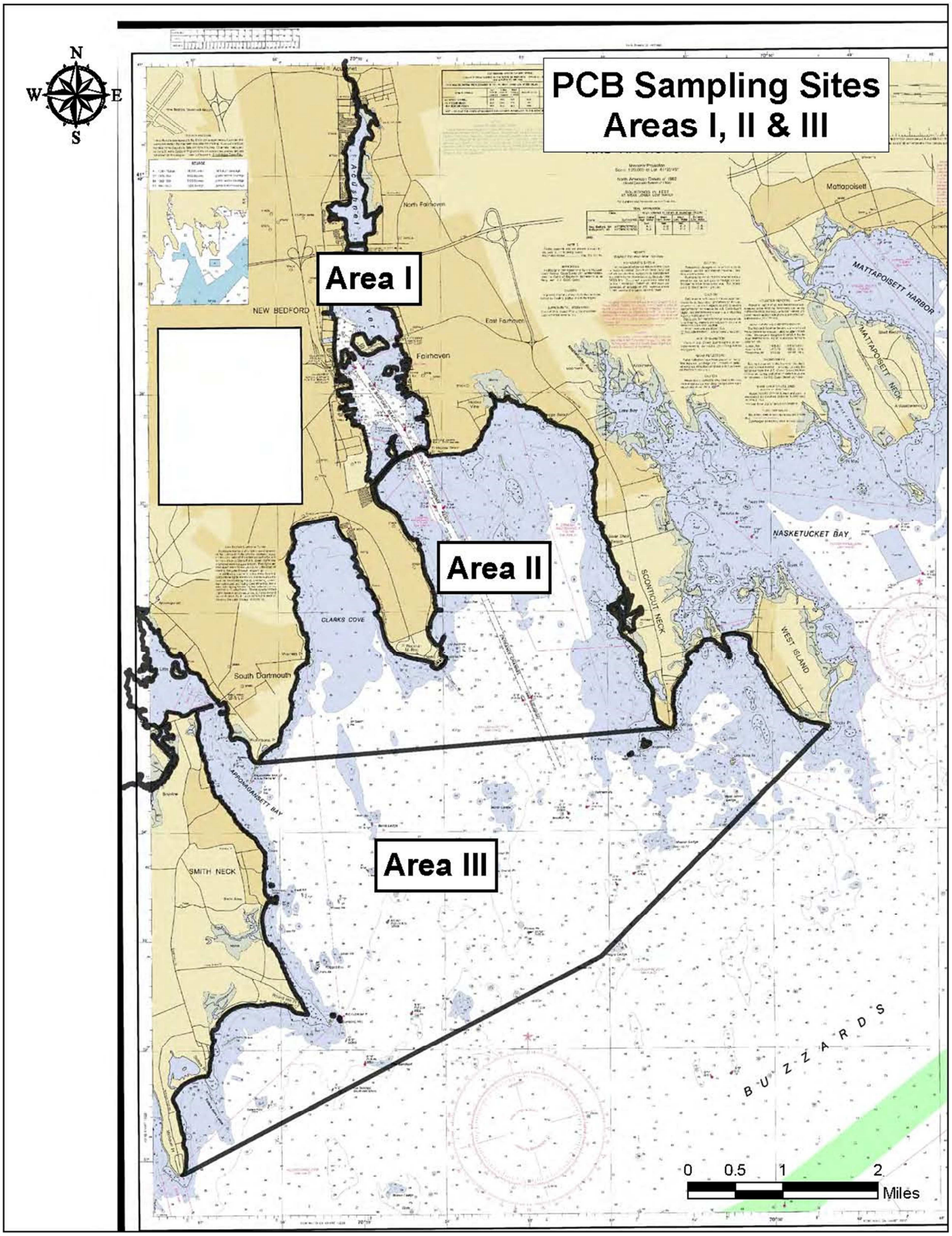

Figure 1 PCB Sample Areas I to III

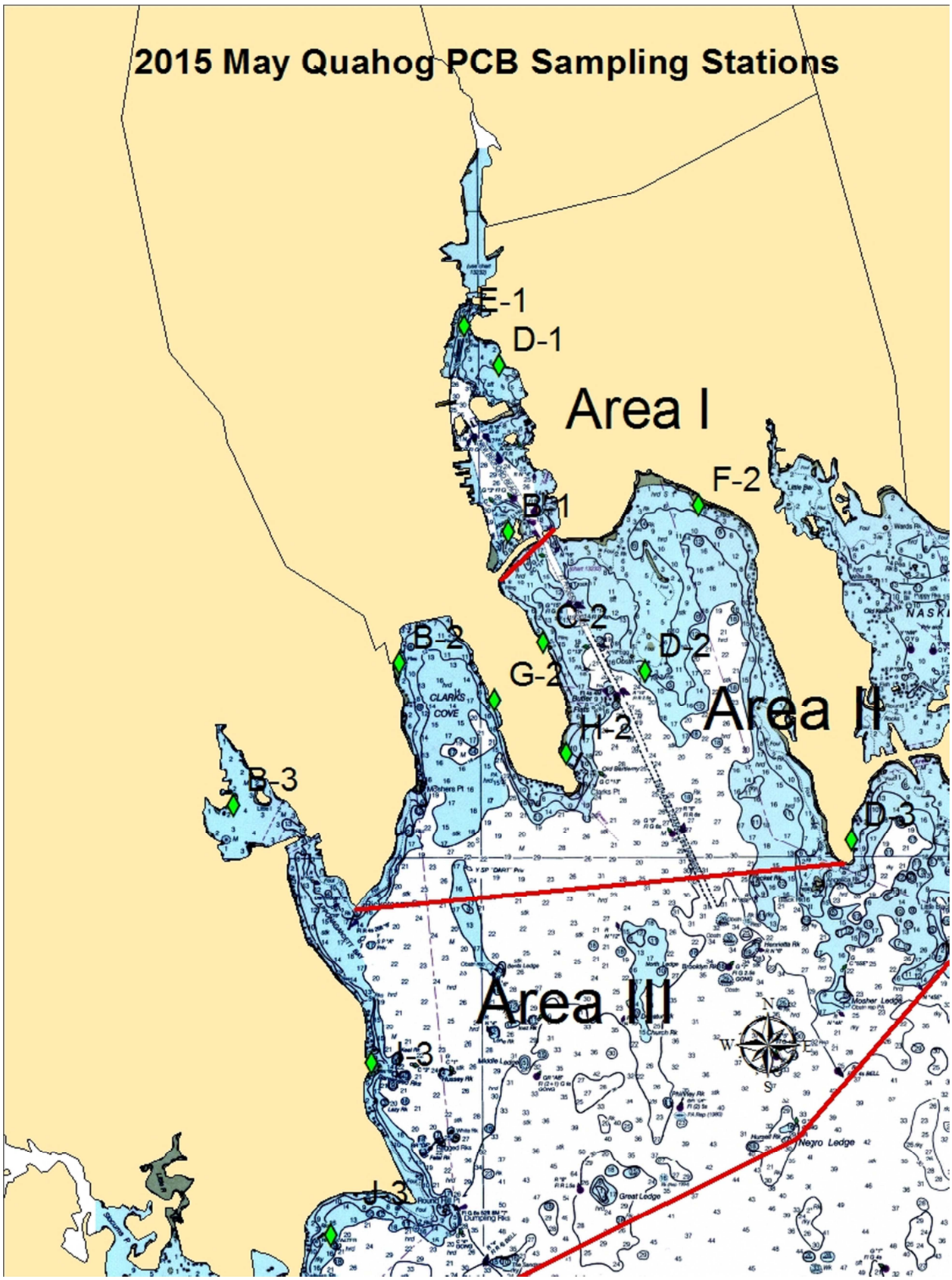

Figure 2 Quahog (Pre-spawn May), Areas I, II, & III

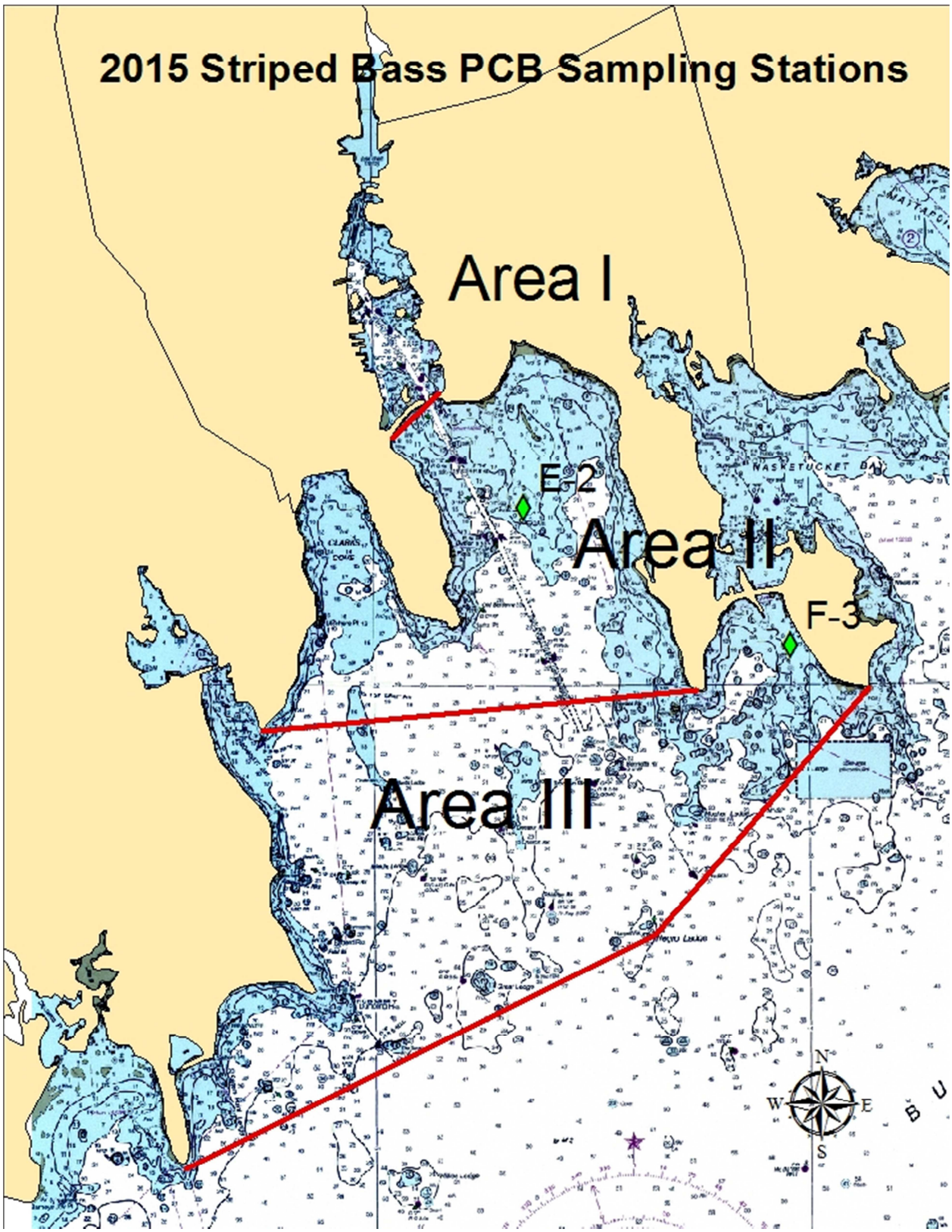

Figure 3 Striped Bass, Areas II & III

ATTACHMENT 2
DMF FIELD COLLECTION SHEETS

Field Collection Form 1 Quahog Pre-spawn
Field Collection Form 2 Striped bass

Field Data Form 1 – Length and weight data by species

FIELD COLLECTION FORM 1: DIVISION MARINE FISHERIES, NEW BEDFORD OFFICE, 1213 PURCHASE ST, NEW BEDFORD, MA 02740
PROJECT #: NBH15 REQUESTED BY/AGENCY: Paul Craffey / Dept. Environmental Protection ANALYSIS REQUESTED:

COLLECTOR: MDMF Vin Malkoski SHIPPER: MDMF Vin Malkoski SAMPLE CONDITION: FRESH ____ FROZEN X

COLLECTION DATE DDMMYY	COLLECTION/TAG #	SPECIES & # IN SAMPLE	STATION I.D.	LOCATION	LAT/LONG DEG. MIN.	COLLECTION METHOD	RESERVED FOR OFFICE USE
5/28/2015	NBH15-SF-B-1	13 Quahogs (Prespawn)	Palmer Island	NBH Area 1	41º 37.505’ 070º 54.690’	Rake	
5/28/2015	NBH15-SF-D-1	13 Quahogs (Prespawn)	North of Gifford's Marina	NBH Area 1	41º 38.783’ 070º 54.773’	Rake	
5/28/2015	NBH15-SF-E-1	13 Quahogs (Prespawn)	Tin Can island	NBH Area 1	41º 39.092’ 070º 55.122’	Rake	
5/15/2015	NBH15-SF-B-2	13 Quahogs (Prespawn)	Rogers Street	NBH Area 2	041º 36.500’ 070º 55.820’	Dive	
5/13/2015	NBH15-SF-C-2	13 Quahogs(Prespawn)	S of Fredrick St Ramp	NBH Area 2	041º 36.650’ 070º 54.345’	Dive	
5/13/2015	NBH15-SF-D-2	13 Quahogs (Prespawn)	Egg Island	NBH Area 2	041º 36.422 070º 53.290’	Dive	
5/15/2015	NBH15-SF-F-2	13 Quahogs (Prespawn)	Priest’s Cove	NBH Area 2	041º 37.700’ 070º 52.740’	Dive	
5/15/2015	NBH15-SF-G-2	13 Quahogs (Prespawn)	W Rodney Family Area	NBH Area 2	041º 36.205’ 070º 54.842’	Dive	
5/13/2015	NBH15-SF-H-2	13 Quahogs (Prespawn)	E Rodney Family Area	NBH Area 2	041º 35.790’ 070º 54.108’	Dive	

FIELD COLLECTION FORM 1: DIVISION MARINE FISHERIES, NEW BEDFORD OFFICE, 1213 PURCHASE ST, NEW BEDFORD, MA 02740
PROJECT #: NBH15 REQUESTED BY/AGENCY: Paul Craffey / Dept. Environmental Protection ANALYSIS REQUESTED:

COLLECTOR: MDMF Vin Malkoski SHIPPER: MDMF Vin Malkoski SAMPLE CONDITION: FRESH ____ FROZEN X

COLLECTION DATE DDMMYY	COLLECTION/TAG #	SPECIES & # IN SAMPLE	STATION I.D.	LOCATION	LAT/LONG DEG. MIN.	COLLECTION METHOD	RESERVED FOR OFFICE USE
5/15/2015	NBH15-SF-B-3	13 Quahogs (Prespawn)	Star of the Sea	NBH Area 3	041º 35.410' 070º 57.524'	Rake	
5/15/2015	NBH15-SF-D-3	13 Quahogs (Prespawn)	Nakata Beach	NBH Area 3	041º 35.102' 070º 51.192'	Dive	
5/15/2015	NBH15-SF-I-3	4 Quahogs (Prespawn)	Nonquit	NBH Area 3	041º 33.415' 070º 56.128'	Dive	
5/15/2015	NBH15-SF-J-3	13 Quahogs (Prespawn)	Salters Point	NBH Area 3	41° 32.09' 070 56.56'	Dive	

FIELD COLLECTION FORM 2: DIVISION MARINE FISHERIES, NEW BEDFORD OFFICE, 1213 PURCHASE ST, NEW BEDFORD, MA 02740
PROJECT #: NBH15 REQUESTED BY/AGENCY: Paul Craffey / Dept. Environmental Protection ANALYSIS REQUESTED:

COLLECTOR: MDMF Vin Malkoski SHIPPER: MDMF Vin Malkoski SAMPLE CONDITION: FRESH ____ FROZEN X

COLLECTION DATE DDMMYY	COLLECTION/TAG #	SPECIES & # IN SAMPLE	STATION I.D.	LOCATION	LAT/LONG DEG. MIN.	COLLECTION METHOD	RESERVED FOR OFFICE USE
6/15/2015	NBH15-FF-E-2	2 Striped bass	Egg Island	NBH Area 2	041º 36.523' 070º 53.258'	Rod & reel	
7/15/2015	NBH15-FF-F-3	2 Striped bass	West Island	NBH Area 2	041º 35.316' 070º 50.196'	Rod & reel	

Field Data Form 1 – Fish Length & Weight Data by Species

New Bedford Harbor PCB Sampling Stations - 2015				
	DEP Sample Number	**DEP Sample Location**	**Lat/Lon**	**Date Collected**
Striped Bass				
Station E	NBH15-FF-E-2	Egg Island	41º 36.523' / 070º 53.258'	6/15/2015 - 88 cm FL, 3.8 kg; 58 cm FL, 2.6 kg
Area 3				
Station F	NBH15-FF-F-3	West Island	41°35.316' 070°50.196	7/15/2015 - Fish frozen before measurements could be obtained