

## **APPENDIX 52**

**SHELLFISH IMPACT ESTIMATE: SOUTH TERMINAL EXTENSION PROJECT**

<b>Filled Footprint (Inter-Tidal Only)</b>				
Data Drawn from Inter-Tidal Portion of Apex Companies, LLC Shellfish Survey **				
SQFT/AREA	ACRES /SUBAREA		SEED	LITTLENECK
62290.8	1.43			
			CHERRY	CHOWDER
Average Count per Square Meter**			1.33	1.33
Average Count per Square Foot			0.124	0.124
Shellfish Density by Size/Acre			5,396	5,396
Area of Impact - Acres			1.43	1.43
TOTAL number of Shellfish by Size			7,716	7,716
			0	0
			0.00	0.89
			0	0.083
			0	3,597
			1.43	1.43
			0	5,144
Total Shellfish Effected:			20,577	

<b>Filled Footprint (Sub-Tidal Only)</b>				
Data Drawn From Sub-Tidal Portion of Apex Companies, LLC Shellfish Survey **				
SQFT/AREA	ACRES /SUBAREA		SEED	LITTLENECK
206039	4.73			
			CHERRY	CHOWDER
Average Count per Square Meter**			4.00	3.33
Average Count per Square Foot			0.372	0.309
Shellfish Density by Size/Acre			16,188	13,476
Area of Impact - Acres			4.06	4.06
TOTAL number of Shellfish by Size			65,723	54,714
			0	0
			2.00	4.33
			0	0.402
			0	17,523
			4.06	4.06
			0	71,145
Total Shellfish Effected:			191,581	

<b>South Terminal CDF Boat Basin and Channels</b>				
Data Drawn From Standing Crop Survey*				
SQFT/ SUBAREA*	SQFT/ SUBAREA*	ACRES /SUBAREA*		SEED
I7A	1,579,050	36.25		
			LITTLENECK	CHERRY
				CHOWDER
AVE/SQFT*			0.27	0.65
TOTAL/SUBAREA*			426,344	1,026,383
Shellfish Density by Size/Acre			11,761	28,314
Area of Impact - Acres			19.15	19.15
TOTAL number of Shellfish by Size			225,227	542,213
			0.90	0.80
			1,421,145	1,263,240
			39,204	34,848
			19.15	19.15
			750,757	667,339
Total Shellfish Effected:			2,185,536	

<b>Gifford Street Channel Relocation and Northern Mooring Mitigation Area</b>				
Data Drawn From Standing Crop Survey*				
SQFT/ SUBAREA*	SQFT/ SUBAREA*	ACRES /SUBAREA*		SEED
I7A	1,579,050	36.25		
			LITTLENECK	CHERRY
				CHOWDER
AVE/SQFT*			0.27	0.65
TOTAL/SUBAREA*			426,344	1,026,383
Shellfish Density by Size/Acre			11,761	28,314
Area of Impact - Acres			5.32	5.32
TOTAL number of Shellfish by Size			62,570	150,630
			0.90	0.80
			1,421,145	1,263,240
			39,204	34,848
			5.32	5.32
			208,565	185,391
Total Shellfish Effected:			607,157	

## SHELLFISH IMPACT ESTIMATE: SOUTH TERMINAL EXTENSION PROJECT

Southern Mooring Mitigation Area				
Data Drawn From Standing Crop Survey*				
SUBAREA*	SQFT/ SUBAREA*	ACRES /SUBAREA*	SEED	LITTLENECK
17B	568,458	13.05	CHERRY	CHOWDER
			AVE/SQFT*	6.60
			TOTAL/SUBAREA*	3,751,823
			Shellfish Density by Size/Acre	287,496
			Area of Impact - Acres	2.69
			TOTAL number of Shellfish by Size	773,364
			Total Shellfish Effected:	2,165,420

Federal Channel Maintenance Dredging				
Data Drawn From Standing Crop Survey*				
SUBAREA*	SQFT/ SUBAREA*	ACRES /SUBAREA*	SEED	LITTLENECK
15	2,905,452	66.7	CHERRY	CHOWDER
			AVE/SQFT*	0.10
			TOTAL/SUBAREA*	290,545
			Shellfish Density by Size/Acre	4,356
			Area of Impact - Acres	19.60
			TOTAL number of Shellfish by Size	85,378
			Total Shellfish Effected:	597,643

CAD Cell Area				
Data Drawn From Standing Crop Survey*				
SUBAREA*	SQFT/ SUBAREA*	ACRES /SUBAREA*	SEED	LITTLENECK
13	3,094,938	71.05	CHERRY	CHOWDER
			AVE/SQFT*	3.02
			TOTAL/SUBAREA*	9,346,713
			Shellfish Density by Size/Acre	131,551
			Area of Impact - Acres	8.67
			TOTAL number of Shellfish by Size	1,140,549
			Total Shellfish Effected:	3,161,058

Winter Flounder Capping Area				
Data Drawn from Standing Crop Survey*				
SUBAREA*	SQFT/ SUBAREA*	ACRES /SUBAREA*	SEED	LITTLENECK
16	4,660,920	107	CHERRY	CHOWDER
			AVE/SQFT*	0.171
			TOTAL/SUBAREA*	797,017
			Shellfish Density by Size/Acre	7,449
			Area of Impact - Acres	13.73
			TOTAL number of Shellfish by Size	102,271
			Total Shellfish Effected:	181,218

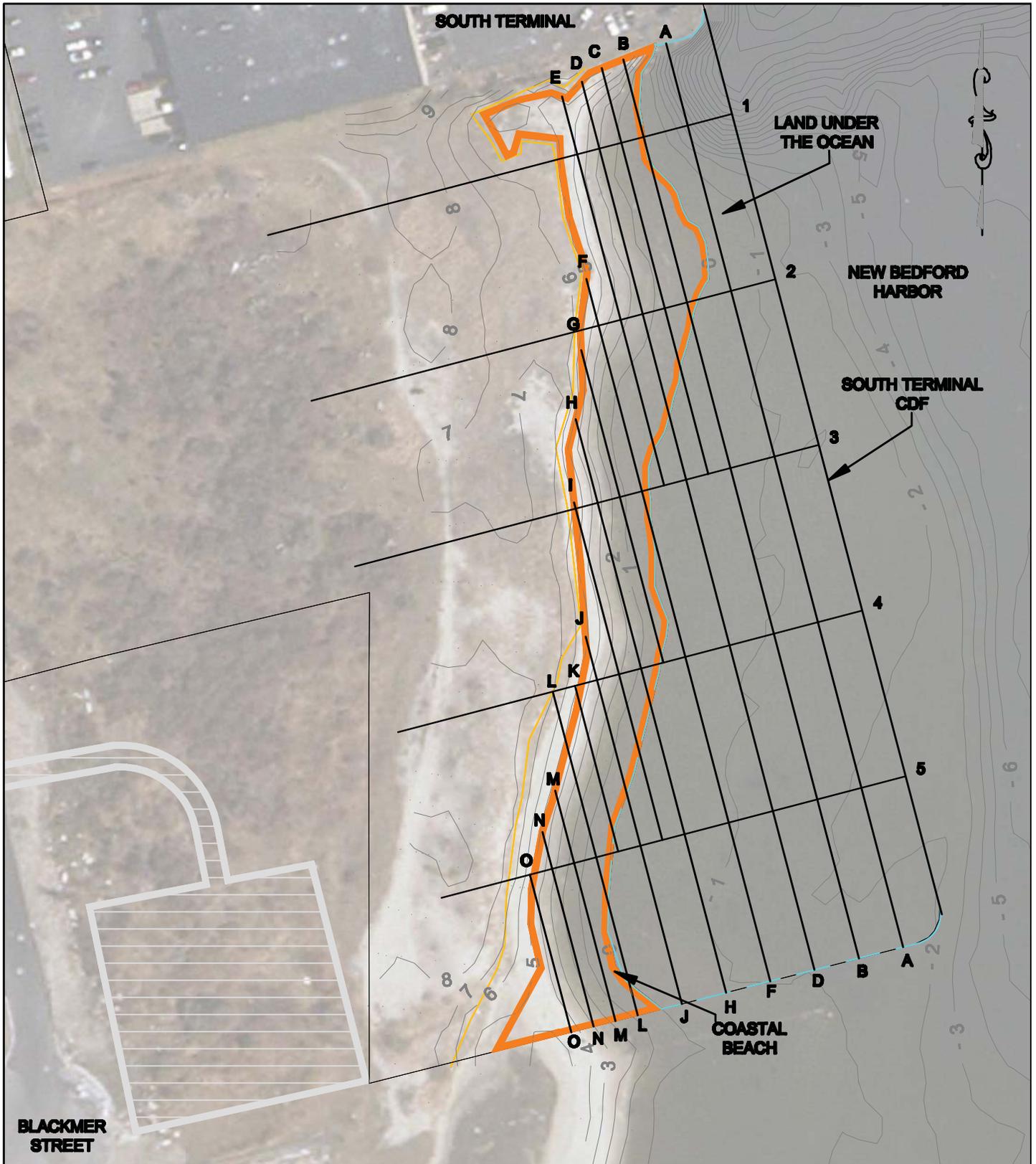
## SHELLFISH IMPACT ESTIMATE: SOUTH TERMINAL EXTENSION PROJECT

OU-3 Capping Area							
Standing Crop Survey Subarea Population Estimate*							
SUBAREA*	SQFT/ SUBAREA*	ACRES/ SUBAREA*	SEED	NECK	CHERRY	CHOWDER	
4	1,742,400	40					
			AVE/SQFT*	0.1	0.041	0.092	0.169
			TOTAL/SUBAREA*	174,240	71,438	160,301	294,466
			Shellfish Density by Size/Acre	4,356	1,786	4,008	7,362
			Area of Impact - Acres	10	10	10	10
			TOTAL number of Shellfish by Size	43,560	17,860	40,075	73,616
Total Shellfish Effected:				175,111			

Estimate of Total Shellfish Impact:	
Filled Footprint (Intertidal Only):	20,577
Filled Footprint (Subtidal Only):	191,581
South Terminal CDF Boat Basin and Channel:	2,185,536
Gifford Street Channel Relocation and Northern Mooring Mitigation Area:	607,157
Southern Mooring Mitigation Area:	2,165,420
Federal Channel Maintenance Dredging:	597,643
CAD Cell Area:	3,161,058
Winter Flounder Capping Area:	181,218
OU-3 Capping Area:	175,111
<b>Estimate of Total Shellfish Impact:</b>	<b>9,285,300</b>

\*Number of Quahogs estimated in Whittaker, 1999 "Quahog Standing Crop Survey", Massachusetts Department of Marine Fisheries. See pages B-5, B-11, B-16, B-19, C-4 and C-16 for detailed distribution information in these subareas.

\*\*Number of Quahogs estimated via shellfish survey completed on April 29, 2010 by Apex Companies, LLC, contained within the report entitled "State Enhanced Remedy in New Bedford, South Terminal", dated August 25, 2010.



BLACKMER STREET



APEX COMPANIES, LLC  
 184 HIGH STREET, BOSTON,  
 MA. 02110  
 1 WAMSUTTA STREET, NEW  
 BEDFORD, MA 02740

NEW BEDFORD HARBOR  
 DEVELOPMENT COMMISSION

FIGURE  
 1

PROJECT TITLE:

SOUTH TERMINAL CDF  
 SHELLFISH SURVEY

DRAWING TITLE:

SHELLFISH SURVEY  
 GRID AND SAMPLE  
 LOCATIONS

SCALE:



Table 1: Recovered Shellfish and Invertebrate Data

Sample Location	Organism	Size (inches)	Number
A1	Quahog	2 1/2	2
	Quahog	2 1/4	2
	Quahog	2	1
	Quahog	2 3/4	3
	Quahog	3 3/4	1
	Common Oyster	2 1/2	1
A2	Quohog	2 7/8	1
	Quohog	1 1/2	1
	Quohog	3/4	1
A3	Quohog	2 1/2	1
A4	Hermit Crabs		7-10
	Shrimp	1 - 1 1/4	7-10
A5	Quohog	3	2
	Quohog	2 1/2	1
	Quohog	3 1/2	1
	Quohog	3 3/4	1
	Quohog	3 5/8	1
	Long Clawed Hermit Crab in Perwinkle Shell	1 1/2	1
B1	Common Oyster	2	1
	Common Oyster	2 1/4	1
	Common Oyster	3	1
	Common Oyster	4	1
	Common Oyster	2 7/8	1
	Common Oyster	2 3/4	1
	Quohog	2 1/4	1
	Quohog	2 5/8	1
	Quohog	1 7/8	1
	Quohog	3 1/2	1
	Quohog	2 3/8	1
	Quohog	2 1/2	1
	Quohog	1	2
	Quohog	1 1/2	2
	Quohog	1 1/4	1
	Quohog	1 3/8	1

**Table 1: Recovered Shellfish and Invertebrate Data**

<b>Sample Location</b>	<b>Organism</b>	<b>Size (inches)</b>	<b>Number</b>
B2	Common Oyster	3 1/8	1
	Quohog	2 3/8	1
B3	Common Oyster	2 3/4	1
	Common Oyster	3	1
	Smooth Periwinkle	3/8	2
B4	Quohog	3 1/2	1
	Quohog	3 1/8	1
B5	Quohog	2 1/2	2
	Quohog	3	1
	Quohog	3 1/2	1
C1	Smooth Periwinkle	3/8	2
	Common Oyster	2 1/2	1
	Common Oyster	2 1/8	1
	Common Oyster	1 7/8	1
	Common Oyster	2 1/4	1
	Quohog	2 7/8	1
C2	Milky Ribbon Worm	10	1
	Smooth Periwinkle	1/4 - 3/8	36
	Common Oyster	2 1/2	1
D1	Quohog	3	1
	Smooth Periwinkle	1/4 - 3/8	3
D2	Ribbed Mussel	1 7/8	1
	Ribbed Mussel	2	1
	Smooth Periwinkle	1/4 - 3/8	17
D3	No Findings		

Table 1: Recovered Shellfish and Invertebrate Data

Sample Location	Organism	Size (inches)	Number
D4	No Findings		
D5	Quahog	1 7/8	1
E1	No Findings		
E2	No Findings		
F2	No Findings		
F3	No Findings		
F4	No Findings		
F5	Smooth Periwinkle Quahog Quahog Quahog Quahog	5/8 3 2 3/8 2 5/8 3 1/8	1 2 1 1 1
G3	Dog Winkle/Young Waved Whelk Dog Winkle/Young Waved Whelk	7/8 7/8	1 1
H3	Soft-Shelled Clam Soft-Shelled Clam Smooth Periwinkle	1 2 1/4 3/8	1 1 1
H4	Dog Winkle/Young Waved Whelk Dog Winkle/Young Waved Whelk Quahog Unknown Polychaete	7/8 1 2 3	7 1 1 1
H5	Quahog Quahog Quahog Quahog Quahog	1 1/8 1 1/2 1 3/4 2 2 1/2	1 1 2 1 1

**Table 1: Recovered Shellfish and Invertebrate Data**

<b>Sample Location</b>	<b>Organism</b>	<b>Size (inches)</b>	<b>Number</b>
I3	No Findings		
I4	Soft-Shelled Clam Soft-Shelled Clam	2 3	1 1
J4	No Findings		
J5	No Findings		
K5	No Findings		
L5	No Findings		
M5	Quahog Quahog Quahog Quahog Unknown Polychaete	1 1/8 7/8 1 1/4 2 1/4 4 1/4	1 1 1 1 1
N5	No Findings		
O5	No Findings		

Table 2: Quahog Data

Sample Location	Organism	Size (inches)	Number	Class Size
A1	Quahog	2 1/2	2	Cherrystone
	Quahog	2 1/4	2	Littleneck
	Quahog	2	1	Littleneck
	Quahog	2 3/4	3	Chowder
	Quahog	3 3/4	1	Chowder
A2	Quohog	2 7/8	1	Chowder
	Quohog	1 1/2	1	Seed
	Quohog	3/4	1	Seed
A3	Quohog	2 1/2	1	Cherrystone
A4	No Quahogs Found Within Sample			
A5	Quohog	3	2	Chowder
	Quohog	2 1/2	1	Cherrystone
	Quohog	3 1/2	1	Chowder
	Quohog	3 3/4	1	Chowder
	Quohog	3 5/8	1	Chowder
B1	Quohog	2 1/4	1	Littleneck
	Quohog	2 5/8	1	Cherrystone
	Quohog	1 7/8	1	Seed
	Quohog	3 1/2	1	Chowder
	Quohog	2 3/8	1	Cherrystone
	Quohog	2 1/2	1	Cherrystone
	Quohog	1	2	Seed
	Quohog	1 1/2	2	Seed
	Quohog	1 1/4	1	Seed
	Quohog	1 3/8	1	Seed
B2	Quohog	2 3/8	1	Cherrystone
B3	No Quahogs Found Within Sample			

Table 2: Quahog Data

Sample Location	Organism	Size (inches)	Number	Class Size
B4	Quohog Quohog	3 1/2 3 1/8	1 1	Chowder Chowder
B5	Quohog Quohog Quohog	2 1/2 3 3 1/2	2 1 1	Cherrystone Chowder Chowder
C1	Quohog	2 7/8	1	Chowder
C2	No Quahogs Found Within Sample			
D1	Quohog	3	1	Chowder
D2	No Quahogs Found Within Sample			
D3	No Findings			
D4	No Findings			
D5	Quahog	1 7/8	1	Seed
E1	No Findings			
E2	No Findings			
F2	No Findings			
F3	No Findings			
F4	No Findings			

Table 2: Quahog Data

Sample Location	Organism	Size (inches)	Number	Class Size
F5	Quahog Quahog Quahog Quahog	3 2 3/8 2 5/8 3 1/8	2 1 1 1	Chowder Cherrystone Cherrystone Chowder
G3	No Quahogs Found Within Sample	7/8	1	Seed
H3	No Quahogs Found Within Sample			
H4	Quahog	2	1	Littleneck
H5	Quahog Quahog Quahog Quahog Quahog	1 1/8 1 1/2 1 3/4 2 2 1/2	1 1 2 1 1	Seed Seed Seed Littleneck Cherrystone
I3	No Findings			
I4	No Quahogs Found Within Sample	2	1	Littleneck
J4	No Findings			
J5	No Findings			
K5	No Findings			
L5	No Findings			
M5	Quahog Quahog Quahog Quahog	1 1/8 7/8 1 1/4 2 1/4	1 1 1 1	Seed Seed Seed Littleneck
N5	No Findings			
O5	No Findings			

**Table 3a: Intertidal Relative Abundance Survey Calculations**

**Intertidal Shellfish Survey Statistics**

Total Intertidal Survey Area <sup>7</sup> :	5,140 m <sup>2</sup>
Intertidal Survey Area With No Quahogs <sup>5</sup> :	3,141 m <sup>2</sup>
Percentage of Intertidal Survey Area With No Quahogs:	61%
Intertidal Survey Area With Quahogs <sup>5</sup> :	1,999 m <sup>2</sup>
Percentage of Intertidal Survey Area With Quahogs:	39%

**Average Shellfish Count Per Square Meter in Intertidal Survey Area<sup>1,7</sup>**

Sample Location	Number Per Quadrat <sup>1</sup>					
	Quahogs				Oysters	Soft-Shelled Clam
	"Seed"	"Littlenecks"	"Cherrystones"	"Chowder"		
B2	0	1	0	0	1	0
C1	0	0	0	1	4	0
C2	0	0	0	0	1	0
D1	0	0	0	1	0	0
D2	0	0	0	0	0	0
H3	0	0	0	0	0	2
H4	0	1	0	0	0	0
I4	0	0	0	0	0	2
M5	3	1	0	0	0	0
Average Count per Intertidal Survey Quadrat <sup>1</sup> :	0.33	0.33	0	0.22	0.67	0.44
Average Count per Intertidal Survey Square Meter:	1.33	1.33	0	0.89	2.67	1.78

Notes:

- 1). Average Shellfish Count Per Square Meter in Intertidal Survey Area = Frequency of Shellfish In Intertidal Areas When Shellfish Present X Percentage of Impacted Area with Shellfish.
- 2). Percentage of Intertidal Survey Area with Shellfish assumed to be the same as the percentage of Intertidal Impacted Area with Shellfish.
- 3). Survey Area with (or without) Shellfish estimated based on recovery during shellfish survey.
- 4). Estimated count in Intertidal Impacted Area = Intertidal Average Count per Square Meter in Survey Area X Estimated Intertidal Impacted Area.
- 5). Impacted Area = Shellfish habitat to be impacted during New Bedford South Terminal CDF Project
- 6). Quahog Classifications from Table 1: Class Size Lengths, page 4, Quahog Standing Crop Survey, New Bedford/Fairhaven Inner and Outer Harbors, David K. Whittaker, Massachusetts Division of Marine Fisheries, June 6, 1999.
- 7). Survey Area = Area in which a manual shellfish survey was conducted on 5/2/2010 and 5/3/2010

**Table 3b: Subtidal Relative Abundance Survey Calculations**

**Subtidal Shellfish Survey Statistics**

Total Subtidal Survey Area <sup>4</sup> :	12,100 m <sup>2</sup>
Subtidal Survey Area With No Quahogs <sup>5</sup> :	3,361 m <sup>2</sup>
Percentage of Subtidal Survey Area With No Quahogs:	28%
Subtidal Survey Area With Quahogs <sup>5</sup> :	8,739 m <sup>2</sup>
Percentage of Subtidal Survey Area With Quahogs:	72%

**Average Shellfish Count Per Square Meter in Subtidal Survey Area<sup>1,7</sup>**

Sample Location	Number Per Quadrat <sup>1</sup>					
	Quahogs				Oysters	Soft-Shelled Clam
	"Seed"	"Littlenecks"	"Cherrystones"	"Chowder"		
A1	1	2	1	1	1	0
A2	2	0	0	1	0	0
A3	0	1	0	0	0	0
A5	0	1	0	4	0	0
B1	5	2	2	1	6	0
B2	0	1	0	0	1	0
B3	0	0	0	0	2	0
B4	0	0	0	2	0	0
B5	0	0	1	2	0	0
D5	1	0	0	0	0	0
F5	0	1	1	2	0	0
H5	3	2	1	0	0	0
Average Count per Subtidal Survey Quadrat <sup>1</sup>	1.00	0.83	0.50	1.08	0.83	0.00
Average Count per Subtidal Survey Square Meter:	4.00	3.33	2	4.33	3.33	0.00

Notes:

- 1). Average Shellfish Count Per Square Meter in Subtidal Survey Area = Frequency of Shellfish In Subtidal Areas When Shellfish Present X Percentage of Impacted Area with Shellfish.
- 2). Percentage of Subtidal Survey Area with Shellfish assumed to be the same as the percentage of Subtidal Impacted Area with Shellfish.
- 3). Survey Area with (or without) Shellfish estimated based on recovery during shellfish survey.
- 4). Estimated count in Subtidal Impacted Area = Subtidal Average Count per Square Meter in Survey Area X Estimated Subtidal Impacted Area.
- 5). Impacted Area = Shellfish habitat to be impacted during New Bedford South Terminal CDF Project
- 6). Quahog Classifications from Table 1: Class Size Lengths, page 4, Quahog Standing Crop Survey, New Bedford/Fairhaven Inner and Outer Harbors, David K. Whittaker, Massachusetts Division of Marine Fisheries, June 6, 1999.
- 7). Survey Area = Area in which a manual shellfish survey was conducted on 5/2/2010 and 5/3/2010

SITE:	U-0122.1
BREAK:	17.03
OTHER:	R# 57

## QUAHOG STANDING CROP SURVEY

New Bedford/Fairhaven  
Inner and Outer Harbors

**DRAFT**



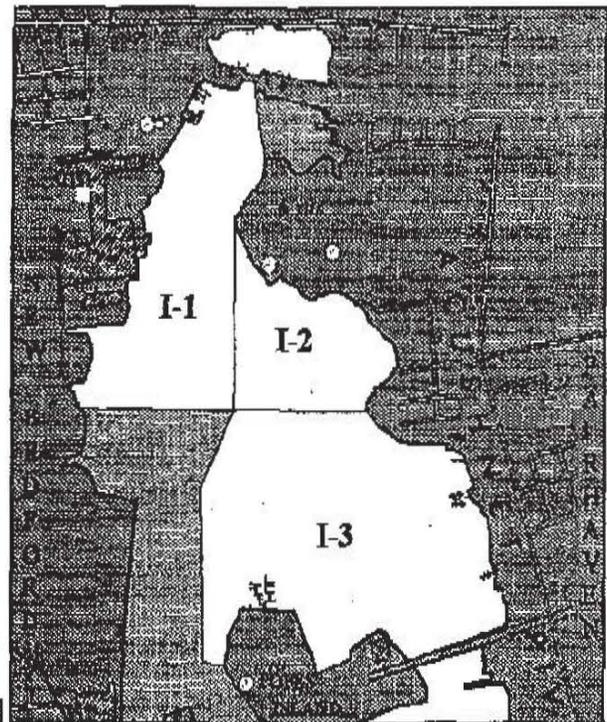
David K. Whittaker  
Marine Fisheries Biologist  
June 6, 1999

Funds for this study were provided by the New Bedford Harbor Trustee Council.

total standing crop. The cherrystone size category followed closely with 25.98%. These two size categories constitute approximately 67% of the standing crop. Littleneck comprise 17.9% and seed 15.31% of the standing crop.

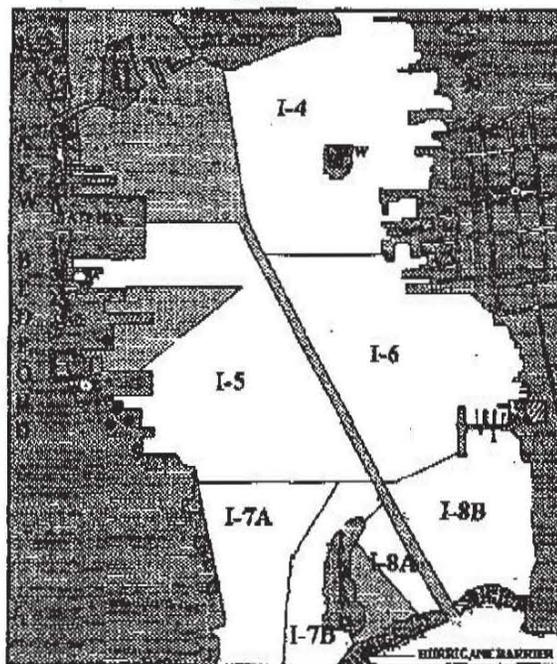
Observations indicate that the greatest percentages of "chowders" were found in sampling unit areas I-2 (Fig. 2) just south of Marsh Island and sampling unit area I-8A (Fig. 3) just northwest of the hurricane barrier opening. Significant percentages of greater than thirty for "cherrystones" were found in sampling unit areas I-3, along the Fairhaven shoreline just north of the Fairhaven Bridge, I-5 on the New Bedford shoreline fronting the fishing fleet piers, I-6 on the Fairhaven shoreline

FIGURE 2



NEW BEDFORD INNER HARBOR STANDING CROP SURVEY (UPPER PORTION)

FIGURE 3



NEW BEDFORD INNER HARBOR STANDING CROP SURVEY (LOWER PORTION)

fronting their fishing piers, and I-7A and I-7B in Palmer's Cove. Littlenecks in percentages greater than twenty were found in sampling unit areas I-3, I-5, I-7A and I-7B. Seed in abundances greater than ten percent were found in six of the ten sampling unit areas with sampling unit area I-4, on the Fairhaven shoreline just south of the Fairhaven Bridge, exhibiting the greatest at 18.93%.

The range of average adjusted quahog densities by size class for the inner harbor are: seed, 0.08/ft<sup>2</sup> to 2.28/ft<sup>2</sup>; littlenecks, 0.16/ft<sup>2</sup> to

**NEW BEDFORD INNER HARBOR  
Subarea I-3**

Sub Area	Sta #	SqFt/ Subarea	Acres/ Subarea	Seed/ SqFt	Neck/ SqFt	Cherry/ SqFt	Chowder/ SqFt
I3	100	3,094,938	71.05	0.00	0.00	0.70	1.41
	101			0.00	0.70	0.00	0.00
	102			0.00	0.70	0.00	0.00
	103			0.00	0.00	0.70	0.00
	104			2.11	0.70	1.41	7.75
	80			0.00	0.70	0.70	0.70
	82			0.00	0.00	0.70	0.00
	84			5.63	8.45	5.63	3.52
	85			1.41	0.00	0.00	0.00
	85A			2.11	2.11	2.11	2.11
	86			1.41	1.41	1.41	0.00
	87			4.93	13.38	16.20	12.68
	89			0.00	0.00	3.52	4.23
	89A			1.41	0.00	2.11	5.63
	92			0.00	0.00	1.41	11.27
	93			0.70	4.23	12.68	5.63
	94			0.00	2.11	0.70	2.82
	95			0.70	1.41	0.00	2.11
	98			0.00	0.00	0.00	0.00
	99			0.06	0.21	0.49	0.53
			<b>Avg./sqft:</b>	<b>1.02</b>	<b>1.81</b>	<b>2.52</b>	<b>3.02</b>

**Total/Subarea: 3,156,837      5,601,838      7,799,244      9,346,713**

**Total Bushels/Subarea:              13,338              32,497              77,889**

**Total Bushels/Acre:                      187.72              457.38              1,096**

**Other Species Noted:** Oysters along eastern shore of subarea and north shore of Pope's Island. Soft shelled clams in deeper water from station 103 northward.

**BottomType in Subarea:** Thick black mud east end of Pope's Island. Muddy sand with small cobble along north shore of Island (much discarded debris). Firm sand with mud between Island and Brightman Marina. Large mud pocket in center of subarea (stations 93 to 103).

**NEW BEDFORD INNER HARBOR  
Subarea I-5**

Sub Area	Sta #	SqFt/ Subarea	Acres/ Subarea	Seed/ SqFt	Neck/ SqFt	Cherry/ SqFt	Chowder/ SqFt			
I5	25	2,905,452	66.7	0.13	0.45	0.59	0.09			
	30			0.04	0.07	0.09	0.02			
	31			0.07	0.22	0.40	0.17			
	32			0.01	0.03	0.04	0.03			
	33			0.00	0.00	0.00	0.00			
	41			0.22	0.52	0.78	0.50			
	43			0.02	0.07	0.02	0.03			
	49			0.04	0.29	0.31	0.12			
	51A			0.37	1.12	0.65	0.17			
	52			0.00	0.03	0.05	0.02			
	53			0.00	0.00	0.00	0.00			
	<b>Avg./sqft:</b>				<b>0.08</b>	<b>0.25</b>	<b>0.27</b>	<b>0.10</b>		
	<b>Total/Subarea:</b>				<b>232436</b>	<b>726,363</b>	<b>784,472</b>	<b>290,545</b>		
<b>Total Bushels/Subarea:</b>					<b>1,729</b>	<b>3,269</b>	<b>2,421</b>			
<b>Total Bushels/Acre:</b>					<b>25.93</b>	<b>49.01</b>	<b>36.3</b>			

**Other Species Noted:** Channeled whelk. Knobbed whelk. Starfish. Much ulva.

**BottomType in Subarea:** Firm mud with sand and medium cobble station 32.  
Mud with sand at Coal Pocket Pier. Smelly mud at station 52. Otherwise muddy sand with varying sized debris.

SUBAREA	STATION	SEED	NECK	CHERRY	CHOWDER
I-5	25	10.50%	35.71%	46.64%	7.14%
	30	16.67%	33.33%	41.67%	8.33%
	31	7.84%	25.49%	47.06%	19.61%
	32	7.14%	25.00%	39.29%	28.57%
	33	0.00%	0.00%	0.00%	0.00%
	41	10.75%	25.70%	38.79%	24.77%
	43	12.50%	50.00%	12.50%	25.00%
	49	5.83%	38.12%	40.81%	15.25%
	51A	16.01%	48.40%	28.11%	7.47%
	52	1.79%	26.79%	55.36%	16.07%
	53	0.00%	0.00%	0.00%	0.00%
	<b>Avg. %:</b>	<b>9.89</b>	<b>34.28</b>	<b>38.91</b>	<b>16.91</b>

**QUAHOG STANDING CROP ASSESSMENT  
NEW BEDFORD INNER HARBOR  
Subarea I-7A**

Sub Area	Sta #	SqFt/ Subarea	Acres/ Subarea	Seed/ SqFt	Neck/ SqFt	Cherry/ SqFt	Chowder/ SqFt
I7A	1	1,579,050	36.25	0.15	0.36	0.41	1.49
	12			0.00	0.08	0.13	0.02
	13			0.00	0.03	0.04	0.02
	14			0.12	0.32	0.73	0.68
	1A			0.00	2.11	1.41	1.41
	1B			0.00	0.00	0.70	0.00
	1C			0.00	0.00	0.70	2.11
	1D			0.00	0.70	0.70	0.70
	1E			0.00	0.00	0.00	0.00
	1F			0.00	0.70	0.70	0.00
	1G			0.00	0.00	0.00	0.00
	2			0.00	0.00	0.83	0.41
	3			0.11	0.67	0.64	0.17
	5			0.05	0.42	0.47	0.18
	X			2.82	2.82	0.00	0.00
	Y			0.00	0.00	1.41	3.52
	Z			1.41	2.82	6.34	2.82
				<b>Avg./sqft:</b>	<b>0.27</b>	<b>0.65</b>	<b>0.90</b>
				<b>Total/Subarea:</b>	<b>426,344</b>	<b>1,026,383</b>	<b>1,421,145</b>
				<b>Total Bushels/Subarea:</b>		<b>2,444</b>	<b>5,921</b>
				<b>Total Bushels/Acre:</b>		<b>67.41</b>	<b>163.35</b>

**Other Species Noted:** Many oysters. Some Crepidula. Many soft shelled clams along western shore of subarea. Much ulva.

**Bottom Type in Subarea:** Black mud with strong odor proximal to hurricane barrier. Sandy mud along western shoreline. Sandy mud with odor at station 12. Firm sand with mud and small cobble around station 3.

**NEW BEDFORD INNER HARBOR**  
**Subarea I-7B**

Sub Area	Sta #	SqFt/ Subarea	Acres/ Subarea	Seed/ SqFt	Neck/ SqFt	Cherry/ SqFt	Chowder/ SqFt
I7B	11B	568,458	13.05	1.41	3.52	9.86	11.97
	11C			2.11	8.45	4.93	4.93
	11C			1.41	3.52	9.15	9.15
	15			0.14	0.45	0.36	0.05
	15B			0.00	2.11	10.56	13.38
	15C			0.00	0.00	1.41	4.23
	15D			2.11	0.70	4.23	17.61
	20			0.08	0.32	0.64	0.38
	2C			0.70	10.56	8.45	1.41
	2D			6.34	4.23	7.04	13.38
	2E			4.93	7.04	11.27	9.86
	2F			0.00	3.52	1.41	7.04
	2G			0.70	2.11	10.56	10.56
	2H			0.00	0.00	2.82	2.82
	2I			1.41	2.82	4.23	9.15
	4			0.06	0.17	0.35	0.30
	4A			1.41	2.82	0.70	0.70
	4C			5.35	1.78	14.27	5.35
	4D			0.00	5.63	17.61	16.20
	4E			0.00	0.70	2.11	2.11
	5A			4.93	14.08	5.63	4.23
	5B			2.11	21.13	7.75	7.04
	5C			2.11	0.70	4.23	0.00
				<b>Avg./sqft:</b>	<b>1.62</b>	<b>4.19</b>	<b>6.07</b>
				<b>Total/Subarea:</b>	<b>920,902</b>	<b>2,381,839</b>	<b>3,450,540</b>
				<b>Total Bushels/Subarea:</b>		<b>5,671</b>	<b>14,377</b>
				<b>Total Bushels/Acre:</b>		<b>434.56</b>	<b>1,101.71</b>

**Other Species Noted:** Many oysters along hurricane barrier and Palmer's Island. Many soft shelled clams at southern end of Palmer's Island and some up western shoreline of island. Much *Crepidula* in deeper water. Oil sheen on quahogs at station 20.

**Bottom Type in Subarea:** Gravelly sand with some mud along western shore of Palmer's Island. Muddy sand with small gravel at southern tip. Sandy mud at station 24.

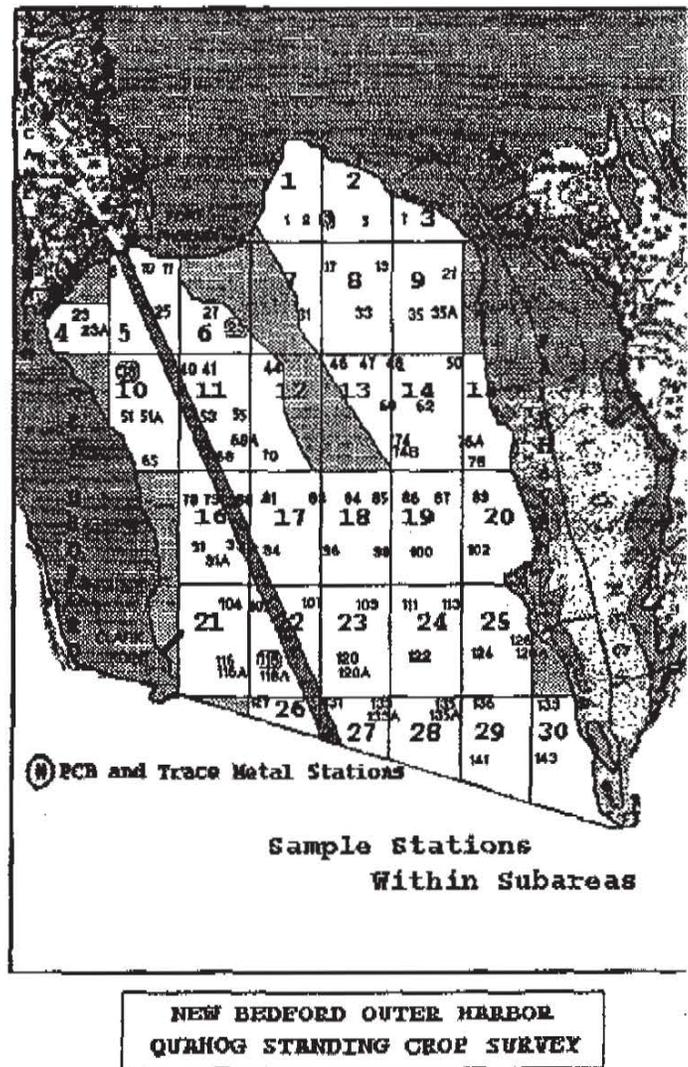
## New Bedford Outer Harbor

A total of 86 stations within 30 sampling unit areas were sampled in the outer harbor (Fig. 4). The general area is described as that area south of the hurricane barrier and north of a line drawn from Clark Point in New Bedford to Wilbur Point in Fairhaven and is comprised of approximately 3750 acres.

As with the inner harbor survey results, quahogs were found in a wide range of density distributions throughout the outer harbor. However, the percentage of chowders was significantly higher. This may be an artifact of two major impacts on the quahog population; contaminated relays and a newly opened commercial fishery. Both of these fisheries have targeted the littleneck class size which may have resulted in a larger standing crop of cherrystones and chowders. For example, during the last two years, commercial landings from the New Bedford portion of the outer harbor were a total of 11,901 bushels (DMF 1997/1998 shellfish landing data). Of these, 71.5% were littlenecks and 28.5% were cherrystones and chowders.

Chowder percentages noted in the survey range from a high of 97.69% in a sampling unit area in the northeast portion of the harbor to a low of 34.19% in sampling unit area 26 in the southwest corner of the area. Additionally, it appears that none of the four sampling unit areas in the southwest part of the harbor, i.e., sampling unit areas 16, 21, 22 and 26 on the west side of the shipping channel support a large population of chowders.

FIGURE 4



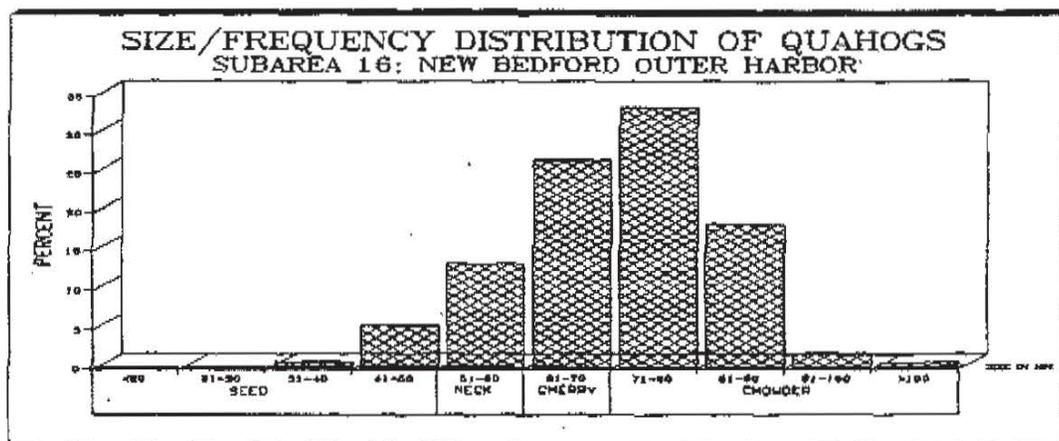
## NEW BEDFORD OUTER HARBOR Subarea 16

Sub-Area	SqFt/ Subarea	Acres/ Subarea	Sta. #	Seed/ SqFt	Neck/ SqFt	Cherry/ SqFt	Chowder/ SqFt
16	4,660,920	107	80	0.065	0.079	0.097	0.267
			78	0.010	0.024	0.063	0.242
			93	0.011	0.028	0.087	0.089
			79	0.005	0.023	0.047	0.130
			91A	0.008	0.031	0.107	0.230
			91	0.013	0.036	0.057	0.067
			<b>Avg./AqFt:</b>	<b>0.019</b>	<b>0.037</b>	<b>0.076</b>	<b>0.171</b>
			<b>Total/Subarea:</b>	<b>88,557</b>	<b>172,454</b>	<b>354,230</b>	<b>797,017</b>
			<b>Total Bushels/Subarea:</b>		<b>411</b>	<b>1,476</b>	<b>6,642</b>
			<b>Total Bushels/Acre:</b>		<b>3.84</b>	<b>13.79</b>	<b>62.07</b>

**Other Species Noted:** Much *Crepidula*. Few spider crabs and channeled whelk. Bay scallop. Oily sheen on quahogs at station 78.

**Bottom Type Noted:** Firm sandy mud with medium cobble (sta. 91). Much shell hash.

SUBAREA	STATION	SEED	NECK	CHERRY	CHOWDER
16	80	12.89%	15.46%	19.07%	52.58%
	78	2.92%	7.02%	18.71%	71.35%
	93	4.90%	13.22%	40.50%	42.15%
	79	2.53%	11.18%	23.03%	63.16%
	91A	2.24%	8.21%	28.36%	61.19%
	91	7.55%	20.75%	33.02%	39.15%
	<b>Avg. %:</b>		<b>5.52</b>	<b>12.64</b>	<b>27.11</b>



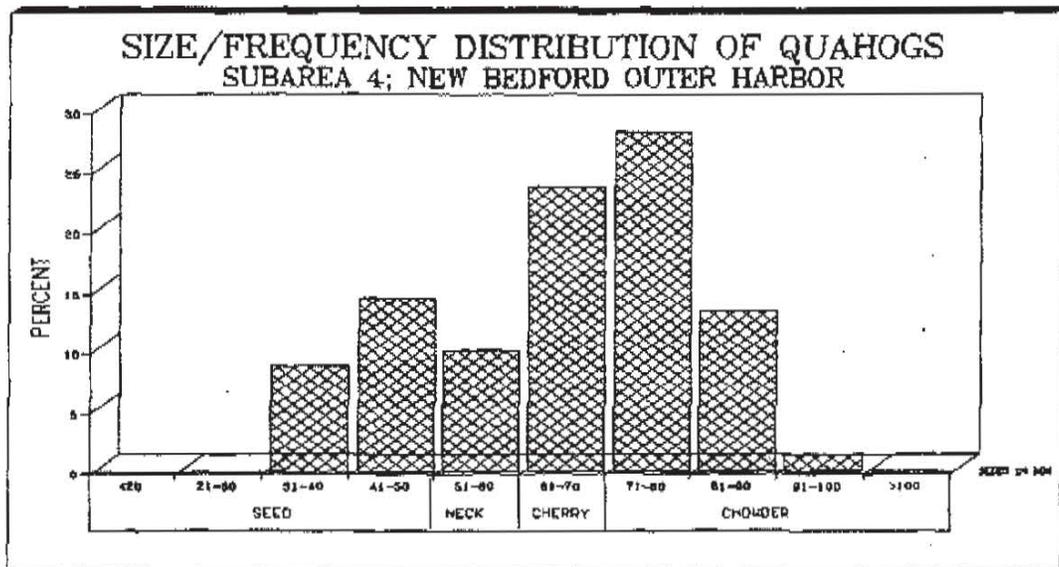
**NEW BEDFORD OUTER HARBOR  
Subarea 4**

Sub-Area	SqFt/ Subarea	Acres/ Subarea	Sta. #	Seed/ SqFt	Neck/ SqFt	Cherry/ SqFt	Chowder/ SqFt
4	1,742,400	40	23A	0.008	0.023	0.088	0.145
			23	0.193	0.060	0.095	0.193
			<b>Avg./SqFt:</b>	<b>0.100</b>	<b>0.041</b>	<b>0.092</b>	<b>0.169</b>
			<b>Total/Subarea:</b>	<b>174,848</b>	<b>71,438</b>	<b>160,301</b>	<b>294,466</b>
			<b>Total Bushels/Subarea:</b>		<b>170</b>	<b>668</b>	<b>2,454</b>
			<b>Total Bushels/Acre:</b>		<b>4.26</b>	<b>16.68</b>	<b>61.34</b>

**Other Species Noted:** Oyster. Much Crepidula (limpet).

**Bottom Type Noted:** Muddy sand with some gravel.

SUBAREA	STATION	SEED	NECK	CHERRY	CHOWDER
4	23A	2.86%	8.57%	33.57%	55.00%
	23	35.70%	11.00%	17.60%	35.70%
	<b>Avg. %:</b>	<b>19.28</b>	<b>9.79</b>	<b>5.59</b>	<b>45.35</b>





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 1

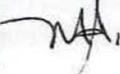
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

**Memorandum**

**Date:** August 4, 2011

**Subject:** New Bedford Harbor MassDEP Request to Include South Terminal in Enhancement – Proposed Mitigation Plan for Shellfish

**To:** Gary Davis, General Counsel  
Executive Office of Energy and Environmental Affairs

**From:** Matt Schweisberg, Chief   
Wetlands Protection Unit

This memorandum provides EPA's response to the shellfish mitigation proposal included in MassDEP's proposed mitigation plan submitted to EPA on March 11, 2011 and further supplemented by a memorandum dated July 25, 2011 to Matt Schweisberg and Phil Colarusso of EPA from the Massachusetts Division of Marine Fisheries ("DMF memo"). This memorandum supplements EPA's prior comments provided to MassDEP in June of this year on the proposed compensatory mitigation plan. After reviewing all relevant documents, EPA will not accept a shellfish mitigation proposal that includes transplanting any shellfish from the inner harbor to any area below the hurricane barrier in New Bedford Harbor (Option No. 1 in the DMF memo). As set out more fully below, EPA will consider transplanting shellfish within areas inside the hurricane barrier or, if demonstrated that there is insufficient area for such transplanting, a combination of transplanting within the hurricane barrier and seeding below the barrier (Options 2 and 3 in the DMF memo).

EPA recognizes that the impacted shellfish are located in contaminated sediment and that state and federal prohibitions against harvesting and consumption of shellfish from the inner harbor are in place. At the same time, as a protected resource, EPA believes shellfish are an important part of the Harbor ecosystem and measures should be taken to preserve rather than destroy the over two million impacted shellfish to the extent practicable. Preservation ensures a continuation of diversity of species in the Harbor and Buzzards Bay. Quahogs and other shellfish filter large volumes of water, removing some contaminants during the course of their normal feeding. These filter feeders, when present in sufficient numbers, have the ability to control algal blooms that result from enrichment of our coastal waters from excess nutrients.

For the reasons set out below, EPA will not accept a shellfish mitigation proposal that includes transplanting any shellfish from the inner harbor to any area below the hurricane barrier (Option 1 in the DMF memo):

1. The New Bedford Harbor Superfund Site cleanup goal for PCBs in seafood is 0.02 ppm PCBs. This is a site specific risk-based concentration based on a cancer risk of  $1 \times 10^{-5}$ <sup>1</sup> and a non-cancer hazard index of 1 which is applicable to recreationally caught seafood. The Food and Drug Administration (FDA) tolerance level of 2 ppm PCBs in fish tissue is applicable to commercial fishing, and reflects a market basket approach which assumes people eat a variety of fish from a variety of places, purchased at their local market. A PCB level of 2 ppm is not sufficient to protect people who regularly eat fish from New Bedford Harbor.
2. The site specific long-term seafood monitoring program, performed by MassDEP (with assistance from DMF in collecting and preparing annual seafood reports) on behalf of EPA, specifically shows that PCB depuration rates in shellfish appears to be very low and has sometimes shown that post-spawn PCB concentrations are higher than pre-spawn PCB levels in the same areas tested.
3. Massachusetts Department of Public Health (MADPH) and MassDEP, Bureau of Waste Site Cleanup, do not support transplanting shellfish outside of Area 1 (that is, above the hurricane barrier). See Attachment 1, letter dated February 15, 2007 from DPH to NOAA.
4. MADPH has promulgated a fishing ban that prohibits taking of shellfish from Area 1 (105 CMR 260.005). See attachment to Attachment A.
5. EPA's 1998 Record of Decision for the Superfund cleanup of New Bedford Harbor ("1998 ROD") (page 33) requires implementing institutional controls that prohibit the taking of seafood in Area 1 as well as providing seafood advisories for all areas of the Superfund Site (Areas I, II and III), posting no fishing signs and engaging in educational campaigns. See Attachment B for EPA's seafood advisories. They may also be found on EPA's website at: <http://www.epa.gov/nbh/seafood.html>. EPA and MADPH recently updated the warnings to reflect the most recent results of the long-term seafood monitoring program. It should also be noted that EPA's advisories reflect more stringent limitations on fish consumption than those contained in the state fishing ban.
6. Violation of EPA's institutional controls, required by the 1998 ROD, will jeopardize the protectiveness of the remedy.
7. EPA's five-year reviews (2005 and 2010) require ongoing institutional controls to ensure remedy protectiveness. The 2010 five year review requires that EPA fish consumption advisories be included in all shellfish and finfish licenses issued in New Bedford, Acushnet, Fairhaven and Dartmouth. It also requires that medical grand rounds be facilitated to inform the medical community of these dangers and ask that they pass information onto to patients.
8. The site educational outreach also includes an educational program that is now incorporated into the New Bedford school curriculum.

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<sup>1</sup> The cancer risk of  $1 \times 10^{-5}$  was selected in the ROD be consistent with MADEP 21E program cancer risk; EPA's normal point of departure for human health of  $1 \times 10^{-6}$ .

EPA supports transplanting shellfish within the inner harbor (Option 2 in the DMF memo). EPA will also consider a mitigation proposal that includes both transplanting shellfish within the inner harbor and a seeding program (Options 2 and 3 in the DMF memo) only after MassDEP demonstrates, through field investigation work, that there is insufficient suitable habitat in the inner harbor for this amount of shellfish. If EPA agrees that only a portion of the affected shellfish can be safely transplanted within the inner harbor, it will work with MassDEP to create a sound seeding program as mitigation for the remainder of the impacted shellfish.

If you have any questions, please contact me at 617-918-1628 or Elaine Stanley at 617-918-1332.

cc: Kathryn Ford, Mike Hickey, Tom Shields, MassDMF  
Jay Borkland, Chet Myers, Apex  
Carl Dierker, Jim Owens, Phil Colarusso, Elaine Stanley, EPA





The Commonwealth of Massachusetts  
Executive Office of Health and Human Services  
Department of Public Health  
250 Washington Street, Boston, MA 02108-4619

2007 FEB 15 PM 2:52  
DEVAL D. PATRICK  
GOVERNOR

TIMOTHY P. MURRAY  
LIEUTENANT GOVERNOR

JUDYANN BIGBY, MD  
SECRETARY

PAUL J. COTE, JR.  
COMMISSIONER

Office of the General Counsel  
Second Floor (617) 624-5220

February 15, 2007

Mr. Jack Terrill  
New Bedford Harbor NRD Trustee Coordinator  
NOAA - New England Region Management Division  
One Blackburn Drive  
Gloucester, MA 01930

Dear Mr. Terrill:

The Massachusetts Department of Public Health (MDPH), Center for Environmental Health (CEH), in coordination with the Massachusetts Department of Environmental Protection (MDEP), has been asked to review the 2005 Shellfish Restoration Statement of Work and Budget prepared by the Regional Shellfish Restoration Committee on behalf of the Towns of Dartmouth and Fairhaven and the City of New Bedford. The proposed regional shellfish restoration work in New Bedford Harbor has been submitted to the New Bedford Harbor Trustee Council.

CEH staff, in consultation with the MDPH Office of General Counsel, has reviewed the proposed restoration work to determine whether the proposed restoration project might pose an unacceptable risk to public health and whether it might conflict with MDPH regulations governing the taking of fish and shellfish in New Bedford Harbor. Based upon this review and for the following reasons, MDPH does have concerns about certain parts of this restoration project.

Among the many goals of the New Bedford Area Shellfish Restoration Project, the proposal that concerns MDPH the most is the plan to relocate shellfish from Area I to Area II. These areas are defined in Section 260.005(4) of the MDPH regulations entitled *Prohibition Against Certain Fishing in New Bedford Harbor* (105 CMR 260.000). A copy of these regulations is attached.

These regulations impose restrictions on the taking of fish and/or shellfish in each of the three areas of New Bedford Harbor. This restoration project is subject to these regulatory

restrictions. Specifically, 105 CMR 260.005(1) prohibits any taking or selling of any fish (except bait fish), lobster or shellfish from Area I. The MDPH Food Protection Program considers a "taking" to be any capturing or harvesting of fish or shellfish, even for the purpose of relocating. Therefore, the relocation of shellfish from Area I to Area II would violate these regulatory restrictions.

In addition to concerns about the restoration plan violating MDPH regulations, CEH believes that the findings of the Greater New Bedford Health Effects Study (GNBHES), released in 1987, clearly demonstrated a relationship between consumption of fish caught from the closure areas and higher serum PCB levels. In New Bedford, approximately 50 percent of fish eaters who ate fish from closed areas of the harbor had serum PCB levels in the range of 9-15.5 parts per billion (ppb) compared to mean prevalence estimates in the general population of approximately 6 ppb. Since the time of our study (1984-1987), research indicates that health effects are of concern at even lower serum PCB levels (e.g., in the 2-6 ppb range) than what was known in the mid-1980s, thereby supporting great caution with respect to harvesting fish or shellfish from the closure areas.

We appreciate the opportunity to comment on this New Bedford Harbor Restoration Plan. If you have any questions regarding this letter, please contact me at 617-624-5220.

Sincerely,



James Ballin  
Deputy General Counsel

Enclosure: 105 CMR 260.000

Cc: Suzanne Condon, Associate Commissioner, MDPH-CEH  
Martha Steele, Deputy Director, MDPH-CEH

## 105 CMR 260.000: PROHIBITION AGAINST CERTAIN FISHING IN NEW BEDFORD HARBOR

## Section

- 260.001: Findings and Purpose  
 260.002: Emergency Promulgation  
 260.003: Authority  
 260.004: Adulterated Fish  
 260.005: Taking and/or Sale of Lobsters, and Certain Fish Prohibited

260.001: Findings and Purpose

The chemical substances known as polychlorinated biphenyls (PCBs) have been discharged into the Acushnet River and are present in that river and in the New Bedford Harbor. Laboratory analyses of lobster and bottom-feeding fish caught in this area have revealed that PCBs are present in these food sources in levels that exceed the current maximum allowable levels (or "temporary tolerance") established by the Federal Food and Drug Administration under the Food and Drug Cosmetic Act, 21 U.S.C. 301, § 346. Consumption of PCBs causes diseases deemed dangerous to the public health, namely PCB intoxication and carcinogenesis. 105 CMR 260.000 are promulgated to prevent and control the incidence of such diseases among members of the general public, and to prevent the sale of adulterated food to the public.

260.002: Emergency Promulgation

PCBs settle to the floor of the body of water into which they are discharged; they may remain there for decades. Because lobsters and certain fish are bottom-feeders, they take in PCBs which remain in their bodies in unacceptably high concentrations. These food sources are currently being taken from contaminated areas (as described in 105 CMR 260.005) for primarily recreational and other noncommercial purposes and are being consumed by the public. Consumption of these food sources by humans poses an immediate and lasting threat to health. Further public consumption of these overly-contaminated food sources must be avoided by immediately preventing the taking, sale, and thereby the eating of such food sources caught in the contaminated area. Immediate adoption of 105 CMR 260.000 is necessary for the preservation of the public health; observance of the requirements of notice and public hearing, generally required under the first paragraph of M.G.L. c. 30A, § 2 prior to the promulgation of regulations, would be, in this situation, contrary to the public interest.

260.003: Authority

105 CMR 260.000 is promulgated under authority of M.G.L. c. 111, § 5 and 6, M.G.L. c. 94, § 186 and 192, M.G.L. c. 30A, § 2.

260.004: Adulterated Fish

Fish, containing levels of PCBs exceeding the maximum allowable level (or "temporary tolerance") of PCBs established by the Federal Food and Drug Administration for the edible portion of such food sources are adulterated within the meaning of M.G.L. c. 94, § 186, first paragraph under food. Such food sources caught in the contaminated area are presumed to be contaminated.

260.005: Taking and/or Sale of Lobsters and Certain Fish Prohibited

- (1) No person shall take and/or sell any fish (except bait fish), lobster or shellfish from the area of New Bedford Harbor (Area I) described below:

The waters north of the Hurricane Dyke in New Bedford Harbor.

260.005: continued

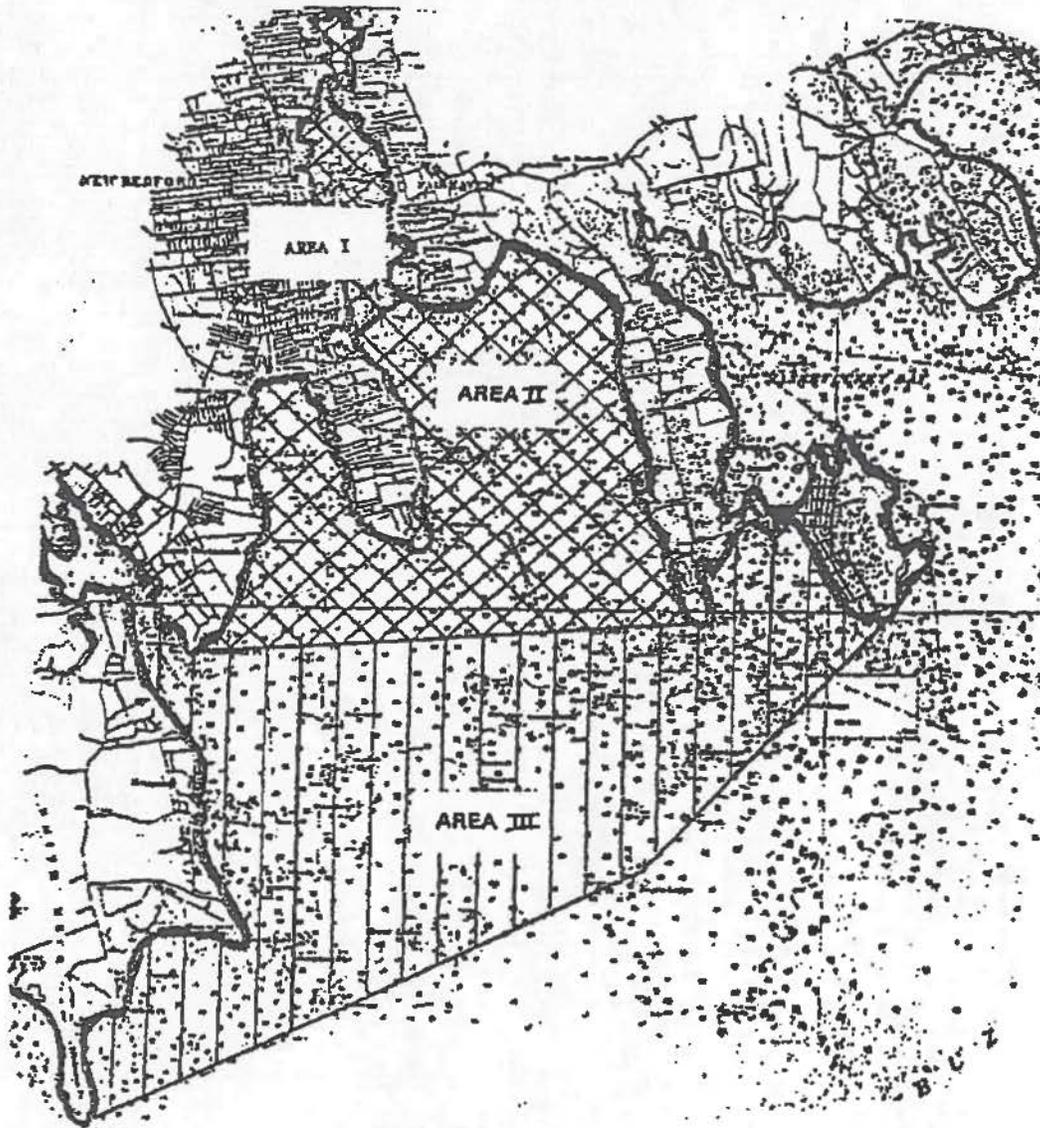
(2) No person shall take and/or sell any lobster or bottom feeding fish (including eels, scup, flounder and tautog) from the area of New Bedford Harbor (Area II) described in 105 CMR 260.005(4):

The waters generally south of area I and north of a line extending from Ricketson's Point in South Dartmouth westerly to Wilbur Point on Sciticut Neck.

(3) No person shall take and/or sell lobsters from the area of New Bedford Harbor (Area III) described in 105 CMR 260.005(4):

The waters generally south of area II and north of a line extending from Misham Point on Smith Neck in the town of Dartmouth north and west to Gong "3" on Hursett Rock off New Bedford Harbor and continuous north and west to Rocky Point on West Island in the town of Fairhaven.

(4) Map of New Bedford Harbor Outlining Areas I, II and III



**REGULATORY AUTHORITY**

105 CMR 260.000: M.G.L. c. 30A, § 2; M.G.L. c. 111, §§ 5 and 6; M.G.L. c. 94, § 186 and 192.

# New Bedford Harbor New Bedford, MA

U.S. EPA | HAZARDOUS WASTE PROGRAM AT EPA NEW ENGLAND



**THE SUPERFUND PROGRAM** protects human health and the environment by investigating and cleaning up often-abandoned hazardous waste sites and engaging communities throughout the process. Many of these sites are complex and need long-term cleanup actions. Those responsible for contamination are held liable for cleanup costs. EPA strives to return previously contaminated land and groundwater to productive use.

## SITE DESCRIPTION:

The U.S. EPA has been committed to the New Bedford Harbor (NBH) cleanup since the 1980s, following discovery of polychlorinated biphenyls (PCBs) in sediment and fish and designation to the national priority list of Superfund sites in 1983. In 1998, EPA proposed a dredging remedy for the Upper and Lower harbors, and full scale dredging started in 2004. Remediation is ongoing, with dredging typically occurring in the summer. In 2009, EPA Administrator Lisa Jackson announced the availability of recovery act funds to help speed up the current cleanup timeframe for the harbor cleanup.

## PARTNERING

As part of the NBH site monitoring, the Massachusetts Department of Environmental Protection has conducted annual fish and shellfish sampling to determine whether PCB concentrations in NBH fish and shellfish are declining as a result of cleanup activities. In general, PCB concentrations have indeed decreased from the 1980s to the present in most species, although concerns remain as discussed herein. Fish and shellfish sampling will continue throughout the cleanup efforts, and updates to this fact sheet will be issued as appropriate.

## ASSESSMENT

The Massachusetts Department of Public Health (MDPH) has also had extensive involvement with NBH in order to address a variety of health concerns. In 1979, MDPH promulgated state regulations prohibiting the consumption of any fish/shellfish in Area 1 of NBH; of bottom feeding fish (eel, scup, flounder, and tautog) or lobster in Area 2; and lobster in Area 3 (see attached map). These early efforts were followed by human epidemiological studies of PCB exposure via fish consumption by MDPH and others. MDPH has additional advice for sensitive populations (pregnant women, nursing mothers, children under age 12, women who may become pregnant) that

can be found at [www.mass.gov/dph/fishadvisories](http://www.mass.gov/dph/fishadvisories). EPA supports this additional advice, and notes that its updated risk assessment (discussed below) recommends that sensitive populations avoid fish, shellfish and lobster from the three closure areas in NBH (see map on reverse) except that shellfish from Area 3 and Clark's cove may safely be consumed by these sensitive populations if limited to one meal per month.

## RECOMMENDATIONS

As part of the Superfund process, EPA is required to conduct risk assessments that will result in cleanup levels that the selected remedy for a given site must meet. These risk assessments use conservative (health-protective) assumptions to ensure that even sensitive populations will not have health concerns following completion of remediation activities. In the case of NBH and the risk assessment conducted on fish/shellfish in the closed areas of the harbor, EPA's updated evaluation indicates that some species not currently covered by the 1979 state regulations may present health concerns for recreational fishermen and shell fishermen (and/or their families/friends who consume their take) if these species are consumed in larger quantities than current epidemiological data

continued on next page >

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## GENERAL INFO:

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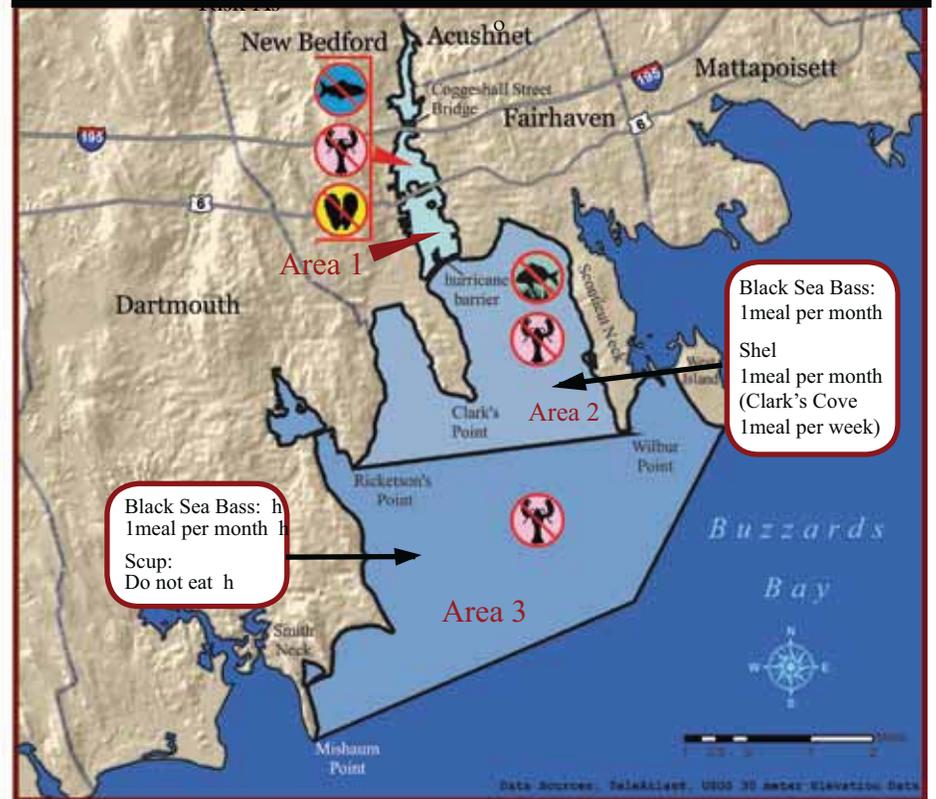
**TOLL-FREE  
CUSTOMER SERVICE**  
1-888-EPA-7341

**LEARN MORE AT:**  
[www.epa.gov/nbh](http://www.epa.gov/nbh)

Original Fishing Ban (in effect 1979–present)  
per Massachusetts Department of Public Health



Updated 2010 EPA Recommendation for Recreational Fishermen  
with additional species highlighted



- 

**Do NOT eat shellfish**  
No coma mariscos  
Não coma mariscos
- 

**Do NOT eat fish**  
No coma pescado  
Não coma peixe
- 

**Do NOT eat lobster**  
No coma langosta  
Não coma lagosta
- 

**Do NOT eat bottom feeding fish:**  
No coma pescado de fundo:  
Não coma peixe de fundo:

- flounder
- tautog
- linguado
- tautoga
- solha
- bodião da ostra
- scup
- eel
- sargo
- anguila
- sargo
- anguila

continued from front >> suggest. EPA believes it is important that recreational fishermen and shell-fishermen be aware that the risk assessment suggests that: consumption of black sea bass be limited to one meal per month if they are obtained in Areas 2 and 3; that scup not be consumed from Areas 2 or 3; and that general guidelines for shellfish include limiting consumption to one meal a month in Area 2 (one meal per week in Clark's Cove). See map above for a summary of EPA's recommendations.

It is important to recognize the substantial benefits of fish consumption for everyone. Fish is one of the best sources of fatty acids which are helpful in reducing the risk of heart disease. In order to avoid exposure to a harmful level of contaminants, people should choose a variety of fish and shellfish from a variety of sources.





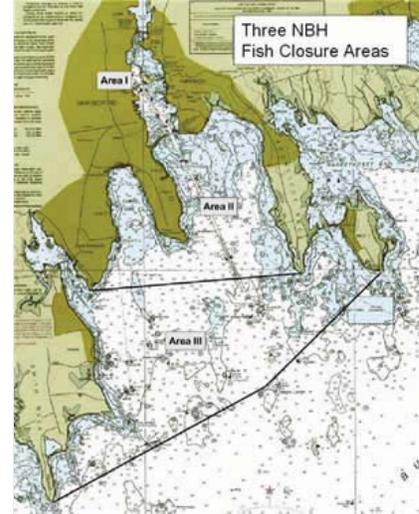
## New Bedford Harbor Fish Consumption Regulations and Recommendations

Share

Since 1979, Massachusetts regulations have prohibited eating fish and/or shellfish caught in certain areas of New Bedford Harbor. The Massachusetts Department of Environmental Protection samples local fish and shellfish every year to determine whether PCB concentrations are declining as a result of cleanup activities around New Bedford Harbor.

**On this page:**

- [Latest locally caught seafood guidance](#)
- [Closure Area I \(Inner Harbor\)](#)
- [Closure Area II \(Outer Harbor\)](#)
- [Closure Area III \(Buzzards Bay\)](#)



### Latest locally caught seafood guidance

U.S. EPA recommends that recreational fishermen, shell fishermen and everyone else follow the Massachusetts regulations. In addition, we recommend limited eating of certain species not covered by the 1979 state regulations.

The three tables below show Massachusetts regulations and U.S. EPA recommendations for eating fish, shellfish and lobster caught in three fish closure areas around New Bedford Harbor. In two of the three closure areas, we have different advice for sensitive populations -- pregnant women, nursing mothers, children under age 12, and women who may become pregnant -- than for the general population. This special advice is noted at the bottom of the tables for Areas 2 and 3.

**More Information**

- [Information about Massachusetts fish consumption advisories](#)
- [Contaminant monitoring reports for seafood harvested in the NBH area](#)
- [EPA Locally Caught Seafood Guidance, January 2011 \(PDF\) \(2pp, 998K\)](#)

Safe seafood is an important part of a healthy diet. People should choose a variety of fish and shellfish from a variety of sources.

### Closure Area 1

**Inner Harbor:**  
**North of the hurricane barrier and Ft. Phoenix Beach State Reservation**  
 -- Includes Palmer Island --

[Map of the upper and lower harbors \(PDF\) \(1 pg, 3.3MB, about PDF\)](#)  
[Map of the three fish closure areas in the NBH area](#)

If you catch...	then...
Any shellfish, lobster, or fish, including bottom feeders	Do not eat it



### Closure Area 2

**Outer Harbor:**  
**South of the hurricane barrier to Ricketsons Point and tip of Scoticut Neck (Wilbur Point)**  
 -- Includes Clarks Cove --

[Map of the upper and lower harbors \(PDF\) \(1 pg, 3.3MB, about PDF\)](#)  
[Map of the three fish closure areas in the NBH area](#)

If you catch...	then...
Fish: <u>Black sea bass</u>	Eat no more than one meal per month

file:///C:/Documents%20and%20Settings/cmyers.APEXCOS/Local%20Settings/Temporary%20Internet%20Files/Content.Outlook/OBI371HE/Fish%20Recommendations%20New%20Bedford%20Harbor%20US%20EPA.mht

<u>Eel</u>		<u>Do not eat it</u>
<u>Flounder</u>		<u>Do not eat it</u>
<u>Scup</u>		<u>Do not eat it</u>
<u>Tautog</u>		<u>Do not eat it</u>
<u>All other fish</u>		<u>U.S. EPA has no data yet so we cannot make a recommendation</u>
<u>Lobster</u>		<u>Do not eat it</u>
<u>Shellfish (clams, quahogs, mussels etc.)</u>		<u>Eat no more than one meal per month.</u> <u>Exception -- Shellfish caught in Clarks Cove: eat no more than one meal per week</u>

**NOTE: Pregnant women, nursing mothers, children under age 12, and women who may become pregnant should not eat fish, shellfish or lobster caught in Closure Area 2, except they can safely eat one, and only one, meal per month of shellfish caught in Clarks Cove.**



Closure Area II

### **Closure Area 3**

**Buzzards Bay:**  
**South of Ricketsons Point and the tip of Scoticut Neck (Wilbur Point)**  
**To Mishaum Point in Dartmouth and West Island South Point in Fairhaven**  
**-- Includes area south of the West Island Causeway --**  
[Map of the three fish closure areas in the NBH area](#)

<u>If you catch...</u>		<u>then...</u>
<u>Fish:</u>		
<u>Black sea bass</u>		<u>Eat no more than one meal per month</u>
<u>Bottom-feeding fish:</u>		
<u>Eel</u>		<u>There are no eating restrictions</u>
<u>Flounder</u>		<u>There are no eating restrictions</u>
<u>Scup</u>		<u>Do not eat it</u>
<u>Tautog</u>		<u>There are no eating restrictions</u>
<u>All other fish, including all other bottom-feeders</u>		<u>U.S. EPA has no data yet so we cannot make a recommendation</u>
<u>Lobster</u>		<u>Do not eat it</u>
<u>Shellfish (clams, quahogs, mussels etc.)</u>		<u>There are no eating restrictions</u>

**NOTE: Pregnant women, nursing mothers, children under age 12, and women who may become pregnant should not eat fish or lobster caught in Closure Area 3. They can safely eat one, and only one, meal per month of shellfish caught in Area 3.**



Closure Area III

WCMS  
 Last updated on Tuesday, November 15, 2011