Filtrex Filter System
Taunton River
Field Test Program

Prepared for

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Table of Contents

List of Figures

List of Tables

List of Appendices

Introduction

Inima Corporation is currently constructing a 10-million-gallon-per-day desalination facility in Dighton, Massachusetts that will utilize reverse osmosis to produce potable water from a tidal reach of the Taunton River. To minimize environmental impacts associated with entrainment and impingement Inima and Hanson, Murphy and Associates (HMA) are studying an intake design incorporating micro-filtration elements manufactured by Filtrex Corporation. Small-scale performance testing was completed in 2003-2004 (HMA 2004 a,b) and controlled ichthyoplankton testing was recently completed by Alden Research Laboratory, Inc. (Alden 2007). To document performance of the Filtrex technology under real world conditions a test facility was installed at the intake location of the Taunton River Desalination Plant (TRDP). This report presents results of ichthyoplankton field testing designed to document impingement and entrainment at the test facility.

The Filtrex system is an application of an industrial filter in which water passes through "candles" consisting of stacks of plastic wafers. Micro grooves in each wafer allow water to pass through very small passages. Considerable surface area and low approach velocity are achieved in a relatively small space with modules containing multiple candles. The current design for the TRDP delivering 21,000 gallons per minute (gpm) would employ 30 modules each consisting of 96, 4.6-inch-long candles. With this design an intake velocity of 0.204 feet per second (fps) is achieved. Candles can be cleaned by sequentially turning them off, at which time impinged material tends to drop off and be swept away by river flow.

To assess the entrainment and impingement characteristics of the Filtrex Filtration System in the Taunton River, Filtrex Corporation and Hanson, Murphy, & Associates (HMA) designed and installed a test facility consisting of one filter intake module or IMOD. The IMOD contained an upper and lower tube sheet, each sheet holding 48, 4.6-inch-long candles (96 candles total). The TRDP will require 30 such filter units with a total of 2,880 candles.

Methods

The intake test module was comprised of the filter assembly, the filter assembly receiver, and a filter cover (Figures 1-3). The filter assembly included two, 2-foot-square tube sheets on which 96, 4.6-inch-long "candles" were mounted (48 on each tube sheet), each with a design flow rate of 8 gpm for a total intake flow of 768 gpm for the filter assembly. The candles were constructed with 40 micron (µ) openings. The filter assembly receiver included a 2 foot x 2 foot x 3 foot high box, open on top and bottom to receive the filter assembly that when installed formed the top and bottom surfaces of the box. The filter assembly receiver was mounted 2 feet below the mean low water level in the Taunton River on the western shoreline. At that depth the assembly was not visible from the water's surface making insertion of the IMOD in the receiver and placement of the filter cover challenging particularly given the strong ambient current in the River. When operating, water flowed through the outer surface of the candles, into the receiver and through a 10-inch PVC pipe to a 1500-gallon entrainment collection tank. A submersible pump then returned water to the River. To collect entrainment samples a plankton net was suspended in the tank around the discharge end of the 10-inch pipe.

Impingement of debris and aquatic organisms on the candle arrays was observed by removing the IMOD from the receiver and raising it to the support platform above. Prior to raising the filter assembly a filter cover was lowered over the top tube sheet to prevent impinged organisms from being washed away after intake flow was suspended and during IMOD retrieval. By comparing collections from the top and bottom candle arrays the propensity for impinged organisms to release from the candles could be determined.

To document ichthyoplankton present in the Taunton River at the time entrainment and impingement sampling occurred, concurrent control samples were taken. A 4-inch PVC line mounted adjacent to the IMOD delivered water to a second collection tank at the rate of 350 gpm. That rate provided an intake velocity similar to the approach velocity at the IMOD.

Preliminary test sampling began on June 5, 2007 although the box enclosing the top candle array and improvements in the IMOD seal with the receiver were not perfected until June 21. Sampling was conducted within two hours on either side of high water. A typical test sequence consisted of a 15 to 30-minute entrainment sample, one 45-minute control sample, one top candle bank sample, and one bottom candle bank sample. From one to four sets of samples were collected each day. Between sampling events the IMOD was left submerged in the receiver so that natural biofouling could proceed on the candle arrays.

Samples were collected as described below:

<u>IMOD Entrainment Collections</u> - Intake entrainment samples were collected using a 60-cm diameter plankton net constructed of 0.333-mm mesh. The discharge pipe was flushed for approximately one to five minutes at the start of each sampling event to remove pipeline debris and organisms that entered the system while the IMOD was removed. The net was placed around the end of the 10-inch IMOD discharge pipe and secured inside the 1500-gallon tank to reduce turbulence and damage to entrained organisms (Figure 4). Flow was then set to a constant rate of 750 gpm. At the end of each 15 to 30 minute period water level in the collection tank was lowered and the net removed from the end of the 10-inch pipe. The net was rinsed, the contents transferred to a one-liter jar containing sufficient Formalin to result in a 10% solution, and returned to the laboratory for microscopic examination.

<u>Impingement Collections</u> - Following the collection of one or two entrainment samples the filter cover was lowered over the top candle array so that ambient current would not wash impinged organisms away once intake flow was suspended. Intake flow was then shut off and the IMOD slowly hoisted to the surface service platform. Once on the service deck the IMOD was tipped on its side, the contents of the filter cover were drained to a collection tray and then to a 0.333-mm mesh cod end. Each of the 48 candles was then backwashed with filtered River

water and rinsed into the collection tray. The process was repeated with the 48-candle bottom array. Top and bottom candle array samples were preserved separately in 10% Formalin solutions.

Control Collections - To document organisms present in the Taunton River during module testing, control samples were collected using a 0.333-mm mesh, 60-cm diameter plankton net. The net was placed around the end of the 4-inch control discharge pipe and secured inside the 1000-gallon tank to dissipate energy and minimize damage to organisms (Figure 5). Flow was then initiated and maintained at a constant rate of 350 gpm for 30 to 60-minute intervals. At the end of each collection period, the net was removed and rinsed. Samples were preserved in a 10% formalin solution and returned to the laboratory for microscopic examination.

All samples were sorted in their entirety and all fish eggs and larvae were identified to the lowest distinguishable taxonomic level and counted. Since they were conspicuous and relatively abundant, gammarid amphipods were also counted. Counts were expressed as densities per 100 m^3 meters of water based on flow rates and sampling time. Fish eggs, larvae, and juveniles as well as amphipods, up to 20 per date and sampling location, were measured to the nearest 0.1 mm using an ocular micrometer.

River Current - To document ebb and flood tide currents in the Taunton River during field testing a Falmouth Scientific 2D-ACM acoustic current meter was deployed at the site for approximately one month, May 16 to June 18, 2007. The meter was moored approximately three feet above the bottom and programmed to log prevailing current every 15 minutes. At that interval the meter averaged velocity and direction for five-minute periods. Current information appears in Appendix Figure 1 in approximately one-week blocks. Based on those data flume testing of the Filtrex system at Alden Research Laboratory, Inc. was conducted at 1.1 to 1.5 feet per second (Alden 2007).

Results

Tables 1-7 present sampling information for each of the 25 sampling dates completed from June 5 to August 16, 2007. Information for the Control, the IMOD intake and the top and bottom candle arrays appear in the respective tables.

Control Intake – Fish eggs and larvae representing 15 species or taxa of ichthyoplankton were identified in the control collections (Table 7). Fish eggs were collected only on June 5 and July 16 representing river herring (*Alosa spp.*), white perch (*Morone americana*), and cunner/tautog (*Tautogolabrus adspersus* and/or *Tautoga onitis* = labridae). Densities per 100 m^3 of water totaled 8.9 eggs and 297 larvae overall (Table 1). Goby (*Gobiosoma ginsburgi*), hogchoker (*Trinectes maculatus*) anchovy (*Anchoa* spp.), river herring, and northern pipefish (*Syngnathus fuscus*) larvae were the five most abundant taxa among fish larvae (Table 7). Overall these five accounted for 29, 20, 18, 16, and 4% of the larval fish total. Among the 15 taxa collected northern pipefish, seaboard goby, anchovy, menhaden (*Brevoortia tyrannus*), silversides (*Menidia* spp.), killifish (*Fundulus* spp.) and hogchoker are upper estuarine species that drifted upstream from the lower Taunton River and Mount Hope Bay as did the cunner/tautog eggs. The remaining species, white perch, darter (*Etheostoma olmstedi*), sunfish (*Lepomis spp.*), largemouth bass (*Micropterus salmoides*), crappie (*Pomoxis* spp.), and shiner (*Notropis* spp.) are freshwater spawning species typically present in the Taunton River system (MRI 1992, Hartel et al.2002).

River herring, consisting of the alewife (*Alosa pseudoharengus*) and blueback herring (*A. aestivalis*) are species of regulatory concern that spawn in the Taunton River system. The Nemasket River entering the Taunton River 19 river-miles upstream from the TRDP is believed to support the largest coastal river herring population in the Commonwealth (Reback et al. 2004). In June and July when the majority of the Filtrex field studies were conducted most river herring larvae present in the Taunton River are probably blueback herring as alewives spawn earlier in the season primarily upstream in Middleboro's and Lakeville's Assawompset/Great Quittacas Pond complex (Collette and Klein-MacPhee 2002). Blueback herring also prefer to spawn in flowing water and are therefore more likely to utilize the main stem and its tributaries.

Collected fish, considering all species combined, ranged in size from 2.3 mm up to 32 mm juveniles (Appendix Table 1). The collection of a live 32 mm Atlantic menhaden in the impingement samples, particularly on the bottom candle array, was unexpected as a fish of that size is a strong, active swimmer when alive and if dead it would be expected to drop off once intake flow was suspended. It seems likely that the single individual, which was alive when collected, was wedged in a candle perhaps swimming actively to remain there as the IMOD was raised.

Gammarid amphipods consisting of two species, *Gammarus tigrinus* and *Leptocheiros plumulosus*, were relatively abundant, particularly in nighttime flood tide control samples when densities reached in the thousands of individuals per 100 m^3 of water (Table 2). These invertebrates are often associated with piles and other in-water structures and likely grazed on detritus and periphyton adhering to the test facility.

<u>IMOD Intake</u> – Since the IMOD candles have a slot size of 40 µ, no fish eggs and larvae are small enough to pass through the candles. Gammarid amphipods ranging from 0.9 to 9.0 mm in length and 0.3 to 1.4 mm in width are also much too large to pass through the candles (Appendix Tables 1-3). Organisms found in the intake samples (Table 3, 4) would have had to enter the system through leaks between the IMOD and the receiver, joints in the piping, or while the IMOD was removed during sampling and maintenance. The uniform coating of detritus on the candles (Figure 1) indicates that water was being withdrawn evenly through the 40 µ grooves.

Four labrid and four white perch eggs were found in the June 5 intake samples when the IMOD seal was found to be leaking where it contacted the filter assembly receiver. Similarly, on July 6, 20 fish larvae were found in three intake samples when the IMOD seal was not properly positioned. On all remaining dates a total of 5 fish larvae were found in 70 intake samples. These consisted of 3 anchovies, 1 pipefish, and 1 hogchoker.

The consistent collection of amphipods in the intake samples (Table 4) suggests that they were attracted to the test structure perhaps grazing on detritus and periphyton on the candles. Many found their way into the system and ultimately into the intake samples. One explanation for their numbers was that they were trapped in the receiver as the IMOD was raised and lowered. From there they could enter the interior passages of the candles where the water velocity is low. From there they were gradually entrained.

Candles – Table 5 contains information for the top and bottom candle array samples including impinged ichthyoplankton that was obtained when the candles were cleaned. No fish eggs were found in the impingement samples and a total of only 17 fish larvae and juveniles were obtained; these 17 equated to a total density of 15.8 per 100 m^3 of water. Numbers were too small to permit a critical comparison of the top and bottom arrays although 10 individuals were collected from the top array and 7 were obtained from the bottom suggesting that some larvae dropped off the lower array (without the enclosure) as it was removed from the receiver.

Amphipod densities totaled 47,901 per 100 m^3 of water for the top candle array and 8,259 per 100 m^3 of water for the bottom representing a ratio between top and bottom candles of 5.8 to 1 (Table 6, 7). These data suggest that active invertebrates readily drop off or swim from the candles once flow is reduced consistent with HMA (2004 a,b). Impinged amphipods were also noted to be actively moving in the wash down tray as the candles were rinsed.

Metcalf & Eddy (2007) conducted ichthyoplankton sampling in the Taunton River opposite the TRDP as part of a one-year preoperational monitoring program begun in November 2006. They sampled fish eggs and larvae three times per week using towed 51-cm plankton nets at three stations spaced about one-half mile apart (see Appendix Table 4). Station B located opposite the TRDP intake was used to compare taxonomic information currently available through June with the Filtrex test results for June (Table 8). Both studies collected river herring, shiner, and darter larvae. M&E collected white perch larvae and sunfish larvae in June. Filtrex samples did not contain white perch larvae but did catch white perch eggs in June and sunfish larvae were collected during the Filtrex study in July and August. The Filtrex control samples contained northern pipefish, largemouth bass, crappie, and seaboard goby larvae that were not noted in the M&E samples analyzed through June.

As currently designed the full size Filtrex intake for TRDP will be mounted at the mouth of the existing intake canal and extend 14.7 feet into the River occupying 2.8 vertical feet of the water column. The intake will consist of three pairs of rows (6 rows total) each row with five 2-ft by 2-ft modules consisting of 48 top and 48 bottom candles (Figure 6). A drifting egg or larva will encounter the upstream or downstream face of the first or last row depending on current direction. To estimate the encounter area where an egg or larva might be subject to impingement 12 inches was added to the height of each candle array (Alden 2007). Twelve inches plus 4.6 inches of candle then doubled for top and bottom arrays equals 33.2 inches.

The width of each row of candles equals 120 inches plus 12 inches on each side for the zone of influence. However, because the downstream row in the conceptual design (Figure 6) is offset from the other five rows a total width of 198.2 inches was assumed (14.5 feet plus 1 foot on either side). These values provide an encounter surface area of 5,783 in^2 or 45.7 ft^2, a value equal to 2.8% of the cross sectional area of the River at the intake based on a depth profile obtained by Marine Research, Inc. (1,636 ft^2, unpublished data) and a channel depth of 10 feet. Eggs and larvae in the remaining 97% of the River's cross section would not encounter the intake. This estimate is considered conservative because the width of the rows of modules (each ten feet wide) was overestimated to account for the offset of a single row.

Based on geometric mean densities of fish eggs and larvae collected concurrently at Taunton River Station B in 2007 by M&E (2007), estimates were made of the numbers of river herring and white perch eggs and larvae drifting past the proposed intake. These two species accounted for 91% of the eggs and larvae collected at three stations in the River between March and June 2007. Mean River densities were calculated between the first and last date of appearance (Appendix Table 4). Taunton River channel velocity of 1.1 fps was assumed during each three-hour water withdrawal period consistent with the current meter data. Combined with the cross sectional area of 1,636 ft^2, 549,800 m^3 of water would flow past the intake in each three-hour withdrawal period. Doubling this volume for the second daily three-hour withdrawal period and dividing by 100 resulted in an estimate of 10,998, 100 m^3 units passing the intake each day. Based on a mean density per 100 m^3 of water from Station B of 5.7 river herring eggs, 4.3 river herring yolk-sac larvae (YSL), and 0.4 post yolk-sac larvae (PYSL) the following table presents estimated numbers of each life stage that would be expected to encounter the Filtrex intake assuming an even distribution vertically and laterally within the River's cross section and that 2.8% of those individuals drifting by actually approach the structure. A cursory review of geometric mean densities for herring and white perch eggs and larvae between the three locations sampled by M&E in the spring of 2007 (Appendix Table 4) suggests that densities of these life stages are fairly uniform in that reach of the Taunton River.

To account for the number of each life stage that would be expected to become impinged and then to die following impingement each day Alden's (2007) Filtrex laboratory data were used. They reported that less than 8%, 58%, and 15%, respectively of river herring eggs, YSL, and PYSL encountering a Filtrex array became impinged; the upper end of the range was used to be conservative. It was further assumed that the impingement percentages applied to each of the six rows of candles i.e. 8% of the eggs encountering the first row of candles would be impinged, 8% of the remaining eggs would be impinged on the second row and so on for a cumulative total of 39.4% of the eggs, 99.5% of the YSL, and 62.3% of the PSYL being impinged. Alden also found that survival rates among those eggs and larvae impinged averaged 0.75, 0.33, and 0, respectively. The daily estimates of eggs and larvae impinged were multiplied by the respective number of days observed between their first appearance and their last in 2007 as reported by M&E (2007, Appendix Table 4). Under these assumptions estimated numbers of each life stage potentially lost to impingement on the proposed Filtrex intake would be 7,271 herring eggs, 28,515 YSL, and 2,410 PYSL.

River Herring – Egg, yolk-sac, and post yolk-sac larvae impingement estimates.						
Life Stage	**Period Observed (2007)**	**Season Duration (Days)**	**Geometric Mean Density per 100 m^3**	**Total Number Encountering the Intake in 6 Hours**	**Estimated Number Impinged (Daily)**	**Estimated Number Impinged (Season)**
Egg	Apr 27 – Jun 8	42	5.7	1,255	124	7,271
Yolk-sac Larvae	May 7 – June 1	32	4.3	955	636	28,515
Post Yolk-sac	May 9 – June 13	35	0.4	79	49	2,410

Age-1 equivalents were calculated using life stage survival data provided by EPA (2004) for the blueback herring. To account for the fact that all eggs drifting in the Taunton River are unlikely to have just been spawned and that all larvae are unlikely to have recently hatched or reached the beginning of the post yolk-sac stage, respectively, an upward adjustment to each survival rate was made following EPRI (2004). These data resulted in an estimated loss of about 4 age-1 fish.

River Herring – Age 1 equivalents resulting from impingement.					
Life Stage	**Estimated Number Impinged (Season)**	**Instantaneous Mortality Rate (Z) From EPA (2004)**	**Life Stage Survival Rate**	**Adjusted Life Stage Survival Rate**	**Age 1 Equivalents**
Egg	7,271	0.558	0.572	0.7280	0.3
Yolk-sac Larvae	28,515	1.83	0.160	0.2765	2.6
Post Yolk-sac Larvae	2,410	1.74	0.176	0.2986	1.4

River Herring – Age 1 equivalents resulting from impingement (continued).					
Life Stage	**Estimated Number Impinged (Season)**	**Instantaneous Mortality Rate (Z) From EPA (2004)**	**Life Stage Survival Rate**	**Adjusted Life Stage Survival Rate**	**Age 1 Equivalents**
Juvenile early	-	3.13	0.044	0.0838	-
Juvenile late	-	3.13	0.044	0.0838	-
Total	-	-	-	-	4.3

Results of comparable calculations for white perch larvae appear below. M&E recorded PYSL on only one date (May 14) so the YSL duration period (39 days) was used. Since Alden was unable to obtain white perch eggs and/or larvae the river herring data were applied realizing that herring are notoriously sensitive to handling and results are likely conservative for white perch i.e. greater survival could be expected for that species. Less than one age 1 fish resulted from these calculations.

White Perch – Egg, yolk-sac, and post yolk-sac larvae impingement estimates.						
Life Stage	**Period Observed (2007)**	**Season Duration (Days)**	**Mean Density per 100 m^3**	**Total Number Encountering The Intake in 6 Hours**	**Estimated Number Impinged (Daily)**	**Estimated Number Impinged (Season)**
Egg	None Collected	-	0	0	0	0
Yolk-sac Larvae	May 7 – June 15	39	6.0	701	467	18,225
Post Yolk-sac	May 7 – June 15	39	0.1	19	12	471

White Perch – Age 1 equivalents resulting from impingement.					
Life Stage	**Estimated Number Impinged (Season)**	**Instantaneous Mortality Rate (Z) From EPA (2004)**	**Life Stage Survival Rate**	**Adjusted Life Stage Survival Rate**	**Age 1 Equivalents**
Egg	0	1.42	0.242	0.3893	0
Yolk-sac Larvae	18,225	1.32	0.267	0.423	0.034
Post Yolk-sac Larvae	471	3.267	0.038	0.074	0.004
Juvenile	-	9.06	0.0001	0.0002	-
Total	-	-	-	-	<1

Summary

- The IMOD showed no signs of diminished performance after being in the Taunton River nearly continuously for 72 days. Filtration capacity remained unchanged over the course of the study in spite of a darkening in candle appearance.

- While fish egg densities totaled 9 per 100 m^3 of water and fish larvae densities totaled 297 per 100 m^3 of water in the control samples, no eggs were found in the impingement samples and larval densities totaled only 16 per 100 m^3. To maintain similar intake velocities the control intake drew less water from the River than the

- IMOD intake. Adjusting the control and impingement samples to a common total volume resulted in a ratio of 24 larvae in the control to 1 larva impinged. Alternatively numbers of larvae impinged amounted to 4% of the number in the control samples.

  Comparing adjusted catch for amphipods in the same manner indicated that 1 animal was impinged for every 17 in the control or alternatively that the total number impinged amounted to 6% of the number collected in the control samples.

Based on these data the low slot velocity of 0.204 fps and high ambient cross channel velocity of 1.1 to 1.5 fps resulted in very low impingement rates consistent with the Alden flume results (Alden 2007). Alden found that impingement rates for blueback herring post-yolk sac larvae with mean lengths of 5.6 to 6.9 mm was 15% or less. Their data suggested that once larvae grow beyond the yolk sac stage, attain lengths greater than 5 mm, and begin to develop fin rays impingement avoidance is considerably higher than it is for yolk-sac larvae less than 5 mm.

- While fish eggs were rare in the Filtrex field collections because they were made relatively late in the 2007 spawning season, the Alden laboratory results indicated that American shad (*Alosa sapidissima*) and blueback herring eggs were impinged at low rates, less than 8%, and those that were impinged experienced high survival rates exceeding 75%. Based on these results, the Filtrex intake should be effective in minimizing impacts to river herring and white perch eggs which have been shown to be relatively abundant in the TRDP area in the spring (MRI 1992, M&E 2007, Appendix Table 4).

- The amphipod field data support earlier results (HMA 2004a,b) that impinged organisms swim away from or are otherwise released from the candles once water withdrawal is suspended. Since these animals are abundant in the intake area and provide food for juvenile and adult fish (see for example, Carlandar 1997) these results suggest that the Filtrex intake structure will not have an adverse impact on these and other active prey.

- Maintaining a complete, yet removable, seal between the portable test IMOD unit and the submerged receiver out of sight in a strong current proved difficult. As a result it was not possible to demonstrate absolute elimination of entrainment. Still only five larvae were found in the entrainment samples and they were clearly too large to have been entrained through the 40 µ slots. A full scale Filtrex installation will not have the potential for leakage and therefore entrainment of fish eggs and fish larvae will not occur.

- Estimates of the encounter surface area of the Filtrex intake amounted to 5,783 in^2 or 45.7 ft^2, a value equal to only 2.8% of the cross sectional area of the River at the intake. Eggs and larvae in 97% of the River's cross section would therefore not be expected to encounter the intake.

- Based on ichthyoplankton collections in the Taunton River in 2007 completed by M&E and laboratory results reported by Alden Research Laboratory, an estimate of 4 age-1 equivalent river herring and less than one age-1 equivalent white perch could be lost to impingement on the proposed Filtrex intake. These numbers were derived using impingement rates from the laboratory study that were greater then those observed in the field – 58% for YSL and 15% for PYSL compared with 4% overall from the field study.

> While river herring stocks in southern New England have declined since 2002 estimates of the number of adults migrating up the Nemasket River have ranged from 2 million fish in 2002 to 400,000 in 2005. Relative to those numbers the potential loss of 4 young fish appears insignificant.

Results of the laboratory study conducted by Alden and the field study completed in the Taunton River reported here suggest that the proposed Filtrex intake for the Taunton River Desalination Plant will not have an adverse impact on the River's resident or anadromous fish populations. Relatively low predicted impingement rates and demonstrated survival among impinged individuals in the laboratory combined with the small footprint of the intake relative to the cross sectional area of the River suggest that overall impingement rates will represent a very small percentage of the fish eggs and larvae passing by the facility.

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Figure 1. The IMOD top candle array.

Figure 2. The Filtrex receiver with the bottom candle array visible above.

Figure 3. The IMOD top candle array fitted with the enclosure box.

Figure 4. The intake (top) and control sample tanks viewed from the support platform.

Figure 5. Plankton net in position to collect a control sample.

Figure 6. Filtrex Intake System, conceptual design.

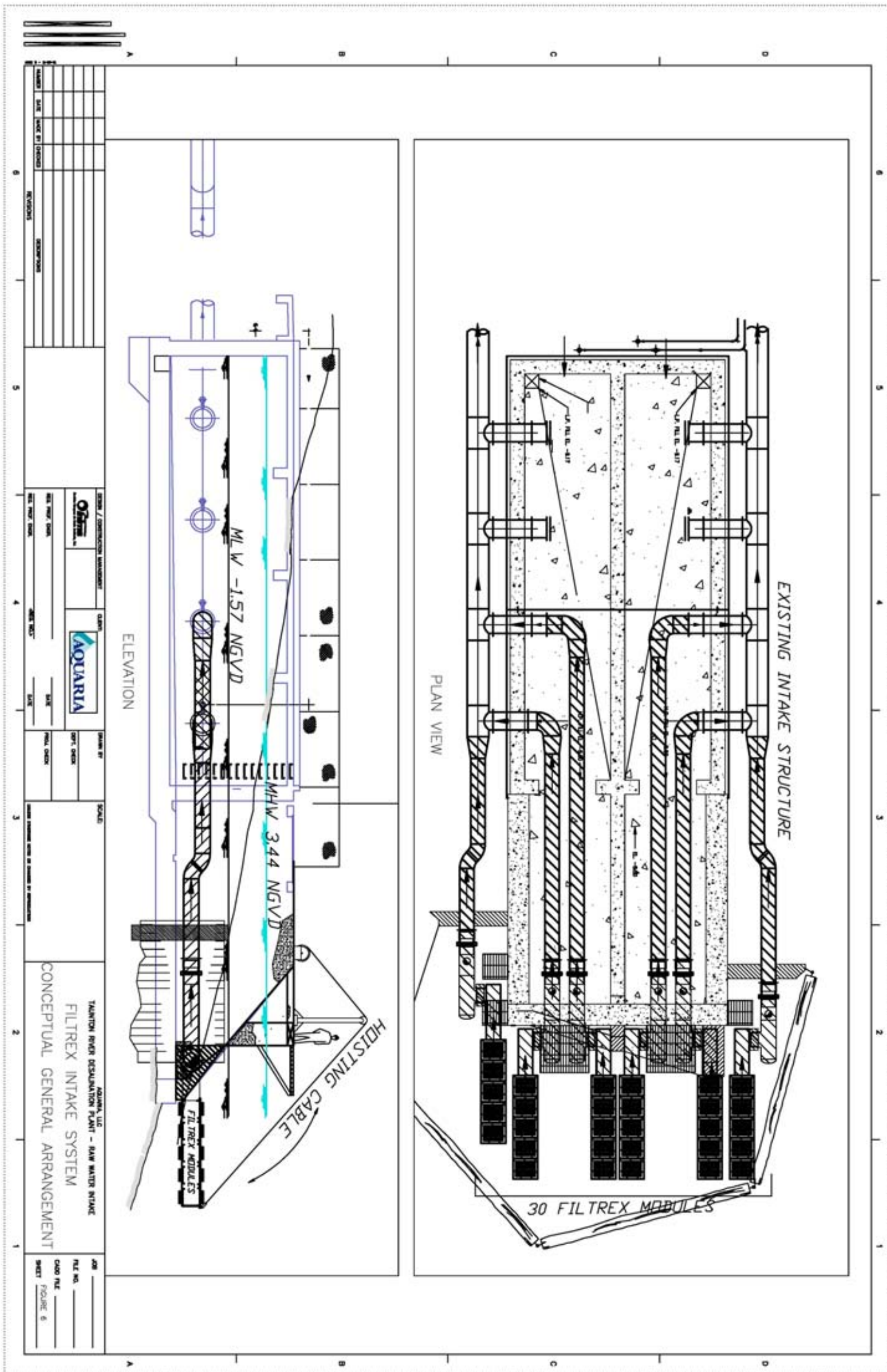


Table 1. Sampling date, species collected and flow information for control samples collected at the Filtrex test facility, Dighton, MA.

Control Intake - Ichthyoplankton

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Sample Time	Sample Duration (Minutes)	Flow GPM	Sample Volume (Gallons)	Sample Volume (m3)	Count	Density	Tide
5-Jun	1	*Alosa spp.*	River Herring	Egg	13:50	75	275	20,625	78.1	**3**	3.8	Flood
		M americana	White Perch	Egg		75	275	20,625	78.1	**1**	1.3	
		Labrid	Cunner/Tautog	Egg		75	275	20,625	78.1	**2**	2.6	
		Alosa spp.	River Herring	Larvae		75	275	20,625	78.1	**4**	5.1	
		E. olmstedi	Tesselated Darter	Larvae		75	275	20,625	78.1	**1**	1.3	
		M. salmoides	Largemouth Bass	Larvae		75	275	20,625	78.1	**2**	2.6	
18-Jun	1	*Alosa spp.*	River Herring	Larvae	12:35	50	350	17,500	66.2	**5**	7.5	Flood
		M. salmoides	Largemouth Bass	Larvae		50	350	17,500	66.2	**1**	1.5	
		Pomoxis spp.	Crappie	Larvae		50	350	17,500	66.2	**4**	6.0	
		Notropis spp.	Shiner	Larvae		50	350	17,500	66.2	**1**	1.5	
20-Jun	1	No Fish Eggs or Larvae			13:03	25	350	8,750	33.1	**0**	0.0	Flood
21-Jun	1	*Alosa spp.*	River Herring	Larvae	14:47	30	350	10,500	39.7	**1**	2.5	Flood
		S. fuscus	Northern Pipefish	Larvae		30	350	10,500	39.7	**1**	2.5	
25-Jun	1	No Fish Eggs or Larvae			07:54	91	350	31,850	120.6	**0**	0.0	Ebb
	2	No Fish Eggs or Larvae			09:30	30	350	10,500	39.7	**0**	0.0	Ebb
26-Jun	1	*Pomoxis spp.*	Crappie	Larvae	07:54	70	350	24,500	92.7	**1**	1.1	Ebb
28-Jun	1	No Fish Eggs or Larvae			08:40	60	350	21,000	79.5	**0**	0.0	Ebb
29-Jun	1	*Alosa spp.*	River Herring	Larvae	08:05	45	350	15,750	59.6	**1**	1.7	Ebb
		G. ginsburgi	Seaboard Goby	Larvae		45	350	15,750	59.6	**2**	3.4	
	2	No Fish Eggs or Larvae			09:48	52	350	18,200	68.9	**0**	0.0	Ebb
5-Jul	1	*Alosa spp.*	River Herring	Larvae	15:02	43	350	15,050	57.0	**4**	7.0	Flood
		T. maculatus	Hogchoker	Larvae		43	350	15,050	57.0	**1**	1.8	
6-Jul	1	*Alosa spp.*	River Herring	Larvae	12:15	82	350	28,700	108.6	**4**	3.7	Flood
		G. ginsburgi	Seaboard Goby	Larvae		82	350	28,700	108.6	**2**	1.8	
		T. maculatus	Hogchoker	Larvae		82	350	28,700	108.6	**16**	14.7	
	2	*S. fuscus*	Northern Pipefish	Larvae	13:40	30	350	10,500	39.7	**1**	2.5	Flood
		G. ginsburgi	Seaboard Goby	Larvae		30	350	10,500	39.7	**2**	5.0	
		T. maculatus	Hogchoker	Larvae		30	350	10,500	39.7	**6**	15.1	
	3	*Alosa spp.*	River Herring	Larvae	14:52	51	350	17,850	67.6	**2**	3.0	Ebb
		T. maculatus	Hogchoker	Larvae		51	350	17,850	67.6	**1**	1.5	

Control Intake - Ichthyoplankton											
Date (2007)	**Replicate**	**Taxa**	**Common Name**	**Life Stage**	**Sample Time**	**Sample Duration (Minutes)**	**Flow GPM**	**Sample Volume (Gallons)**	**Sample Volume (m3)**	**Count**	**Density**	**Tide**
9-Jul	1	*Alosa spp.*	River Herring	Larvae	15:36	42	350	14,700	55.6	**2**	3.6	Flood
		S. fuscus	Northern Pipefish	Larvae		42	350	14,700	55.6	**2**	3.6	
		G. ginsburgi	Seaboard Goby	Larvae		42	350	14,700	55.6	**9**	16.2	
		T. maculatus	Hogchoker	Larvae		42	350	14,700	55.6	**9**	16.2	
11-Jul	1	No Fish Eggs or Larvae			1603	52	350	18,200	68.9	**0**	0.0	Flood
12-Jul	1	No Fish Eggs or Larvae			0931	53	350	18,550	70.2	**0**	0.0	Flood
16-Jul	1	Labrid	Cunner/Tautog	Egg	0849	63	350	22,050	83.5	**1**	1.2	Flood
	2	*Alosa spp.*	River Herring	Larvae	1146	63	350	22,050	83.5	**2**	2.4	Ebb
		Menidia spp.	Silversides	Larvae		63	350	22,050	83.5	**1**	1.2	
		S. fuscus	Northern Pipefish	Larvae		63	350	22,050	83.5	**1**	1.2	
		G. ginsburgi	Seaboard Goby	Larvae		63	350	22,050	83.5	**2**	2.4	
18-Jul	1	*S. fuscus*	Northern Pipefish	Larvae	1018	42	350	14,700	55.6	**1**	1.8	Flood
	2	Anchoa spp.	Anchovy	Larvae	1137	43	350	15,050	57.0	**2**	3.5	Flood
		G. ginsburgi	Seaboard Goby	Larvae		43	350	15,050	57.0	**2**	3.5	
	3											
		Alosa spp.	River Herring	Larvae	1308	54	350	18,900	71.5	**1**	1.4	Ebb
		G. ginsburgi	Seaboard Goby	Larvae		54	350	18,900	71.5	**3**	4.2	
	4											
		S. fuscus	Northern Pipefish	Larvae	1454	46	350	16,100	60.9	**1**	1.6	Ebb
20-Jul	1	No Fish Eggs or Larvae			1207	44	350	15,400	58.3	**0**	0.0	Flood
	2	No Fish Eggs or Larvae			1414	43	350	15,050	57.0	**0**	0.0	Ebb
23-Jul	1	No Fish Eggs or Larvae			1433	67	350	23,450	88.8	**0**	0.0	Flood
	2	*G. ginsburgi*	Seaboard Goby	Larvae	1638	45	350	15,750	59.6	**1**	1.7	Ebb
		T. maculatus	Hogchoker	Larvae		45	350	15,750	59.6	**1**	1.7	
25-Jul	1	*G. ginsburgi*	Seaboard Goby	Larvae	1618	47	350	16,450	62.3	**1**	1.6	Flood
		T. maculatus	Hogchoker	Larvae		47	350	16,450	62.3	**1**	1.6	
	2	*Anchoa spp.*	Anchovy	Larvae	1753	40	350	14,000	53.0	**2**	3.8	Ebb
		G. ginsburgi	Seaboard Goby	Larvae		40	350	14,000	53.0	**4**	7.5	
26-Jul	1	*Lepomis spp.*	Sunfish	Larvae	1719	42	350	14,700	55.6	**1**	1.8	Flood
		G. ginsburgi	Seaboard Goby	Larvae		42	350	14,700	55.6	**1**	1.8	
		T. maculatus	Hogchoker	Larvae		42	350	14,700	55.6	**2**	3.6	
	2	*G. ginsburgi*	Seaboard Goby	Larvae	1854	44	350	15,400	58.3	**2**	3.4	Ebb
		T. maculatus	Hogchoker	Larvae		44	350	15,400	58.3	**1**	1.7	

Control Intake - Ichthyoplankton													
Date (2007)	**Replicate**	**Taxa**	**Common Name**	**Life Stage**	**Sample Time**	**Sample Duration (Minutes)**	**Flow GPM**	**Sample Volume (Gallons)**	**Sample Volume (m3)**	**Count**	**Density**	**Tide**
30-Jul	1	*Fundulus spp.*	Killifish	Larvae	1937	83	350	29,050	110.0	**1**	0.9	Flood
Night		*T. maculatus*	Hogchoker	Larvae		83	350	29,050	110.0	**1**	0.9	
	2	*Anchoa spp.*	Anchovy	Larvae	2153	36	350	12,600	47.7	**17**	35.6	Ebb
		Fundulus spp.	Killifish	Larvae		36	350	12,600	47.7	**1**	2.1	
		G. ginsburgi	Seaboard Goby	Larvae		36	350	12,600	47.7	**13**	27.3	
2-Aug	1	*S. fuscus*	Northern Pipefish	Larvae	1103	53	350	18,550	70.2	**1**	1.4	Flood
	2	*Anchoa spp.*	Anchovy	Larvae	1241	40	350	14,000	53.0	**1**	1.9	Ebb
		G. ginsburgi	Seaboard Goby	Larvae		40	350	14,000	53.0	**1**	1.9	
3-Aug	1	No Fish Eggs or Larvae			1125	52	350	18,200	68.9	**0**	0.0	Flood
	2	No Fish Eggs or Larvae			1328	49	350	17,150	64.9	**0**	0.0	Ebb
13-Aug	1	*Alosa spp.*	River Herring	Larvae	2028	39	350	13,650	51.7	**5**	9.7	Flood
Night		*B. tyrannus*	Atlantic Menhaden	Larvae		39	350	13,650	51.7	**1**	1.9	
		Lepomis spp.	Sunfish	Larvae		39	350	13,650	51.7	**3**	5.8	
	2	*B. tyrannus*	Atlantic Menhaden	Larvae	2204	43	350	15,050	57.0	**1**	1.8	Ebb
		Anchoa spp.	Anchovy	Larvae		43	350	15,050	57.0	**1**	1.8	
		Fundulus spp.	Killifish	Larvae		43	350	15,050	57.0	**2**	3.5	
		G. ginsburgi	Seaboard Goby	Larvae		43	350	15,050	57.0	**3**	5.3	
14-Aug	1	*B. tyrannus*	Atlantic Menhaden	Larvae	2100	47	350	16,450	62.3	**1**	1.6	Flood
Night		*Anchoa spp.*	Anchovy	Larvae		47	350	16,450	62.3	**2**	3.2	
	2	*Anchoa spp.*	Anchovy	Larvae	2226	42	350	14,700	55.6	**1**	1.8	Ebb
			Unidentified Fragment	Larvae		42	350	14,700	55.6	**1**	1.8	
16-Aug	1	*Anchoa spp.*	Anchovy	Larvae	1028	56	350	19,600	74.2	**1**	1.3	Flood
	2	No Fish Eggs or Larvae			1224	44	350	15,400	58.3	**0**	0.0	Ebb

Table 2. Sampling date, amphipods collected and flow information for control samples collected at the Filtrex test facility, Dighton, MA.

Control Intake - Amphipods

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Sample Time	Sample Duration (Minutes)	Flow GPM	Sample Volume (Gallons)	Sample Volume (m3)	Count	Density	Tide
5-Jun	1	Gammarid Amphipod		Juveniles/Adults	13:50	75	275	20,625	78.1	**45**	57.6	Flood
18-Jun	1	Gammarid Amphipod		Juveniles/Adults	12:35	50	350	17,500	66.2	**49**	74.0	Flood
20-Jun	1	Gammarid Amphipod		Juveniles/Adults	13:03	25	350	8,750	33.1	**31**	93.6	Flood
21-Jun	1	Gammarid Amphipod		Juveniles/Adults	0:00	30	350	10,500	39.7	**9**	22.6	
25-Jun	1	Gammarid Amphipod		Juveniles/Adults	07:54	91	350	31,850	120.6	**65**	53.9	Ebb
	2	Gammarid Amphipod		Juveniles/Adults	09:30	30	350	10,500	39.7	**5**	12.6	Ebb
26-Jun	1	Gammarid Amphipod		Juveniles/Adults	0754	70	350	24,500	92.7	**107**	115.4	Ebb
28-Jun	1	Gammarid Amphipod		Juveniles/Adults	0840	60	350	21,000	79.5	**3**	3.8	Ebb
29-Jun	1	Gammarid Amphipod		Juveniles/Adults	0805	45	350	15,750	59.6	**17**	28.5	
	2	Gammarid Amphipod		Juveniles/Adults	0948	52	350	18,200	68.9	**14**	20.3	Ebb
5-Jul	1	Gammarid Amphipod		Juveniles/Adults	1502	43	350	15,050	57.0	**9**	15.8	
6-Jul	1	Gammarid Amphipod		Juveniles/Adults	1215	82	350	28,700	108.6	**32**	29.5	
	2	Gammarid Amphipod		Juveniles/Adults	1340	30	350	10,500	39.7	**33**	83.0	
	3	Gammarid Amphipod		Juveniles/Adults	1452	51	350	17,850	67.6	**3**	4.4	
9-Jul	1	Gammarid Amphipod		Juveniles/Adults	1536	42	350	14,700	55.6	**107**	192.3	
11-Jul	1	Gammarid Amphipod		Juveniles/Adults	1603	52	350	18,200	68.9	**15**	21.8	Flood
12-Jul	1	Gammarid Amphipod		Juveniles/Adults	0931	53	350	18,550	70.2	**3**	4.3	Flood
16-Jul	1	Gammarid Amphipod		Juveniles/Adults	0849	63	350	22,050	83.5	**377**	451.7	Flood
	2	Gammarid Amphipod		Juveniles/Adults	1146	47	350	16,450	62.3	**19**	30.5	Ebb

Control Intake - Amphipods

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Sample Time	Sample Duration (Minutes)	Flow GPM	Sample Volume (Gallons)	Sample Volume (m3)	Count	Density	Tide
18-Jul	1	Gammarid Amphipod		Juveniles/Adults	1018	42	350	14,700	55.6	**299**	537.3	Flood
	2	Gammarid Amphipod		Juveniles/Adults	1137	43	350	15,050	57.0	**82**	143.9	Flood
	3	Gammarid Amphipod		Juveniles/Adults	1308	54	350	18,900	71.5	**11**	15.4	Ebb
	4	Gammarid Amphipod		Juveniles/Adults	1454	46	350	16,100	60.9	**8**	13.1	Ebb
20-Jul	1	Gammarid Amphipod		Juveniles/Adults	1207	44	350	15,400	58.3	**60**	102.9	Flood
	2	Gammarid Amphipod		Juveniles/Adults	1414	43	350	15,050	57.0	**6**	10.5	Ebb
23-Jul	1	Gammarid Amphipod		Juveniles/Adults	1433	67	350	23,450	88.8	**248**	279.4	Flood
	2	Gammarid Amphipod		Juveniles/Adults	1638	45	350	15,750	59.6	**34**	57.0	Ebb
25-Jul	1	Gammarid Amphipod		Juveniles/Adults	1618	47	350	16,450	62.3	**69**	110.8	Flood
	2	Gammarid Amphipod		Juveniles/Adults	1753	40	350	14,000	53.0	**40**	75.5	Ebb
26-Jul	1	Gammarid Amphipod		Juveniles/Adults	1719	42	350	14,700	55.6	**48**	86.3	Flood
	2	Gammarid Amphipod		Juveniles/Adults	1854	44	350	15,400	58.3	**34**	58.3	Ebb
30-Jul Night	1	Gammarid Amphipod		Juveniles/Adults	1937	83	350	29,050	110.0	**7,392**	6,722.0	Flood
	2	Gammarid Amphipod		Juveniles/Adults	2153	36	350	12,600	47.7	**31,232**	65,480.6	Ebb
2-Aug	1	Gammarid Amphipod		Juveniles/Adults	1103	53	350	18,550	70.2	**1,832**	2,608.9	Flood
	2	Gammarid Amphipod		Juveniles/Adults	1241	40	350	14,000	53.0	**118**	222.7	Ebb
3-Aug	1	Gammarid Amphipod		Juveniles/Adults	1125	52	350	18,200	68.9	**216**	313.5	Flood
	3	Gammarid Amphipod		Juveniles/Adults	1328	49	350	17,150	64.9	**16**	24.6	Ebb
13-Aug Night	1	Gammarid Amphipod		Juveniles/Adults	2028	39	350	13,650	51.7	**136,224**	263,635.9	Flood
	2	Gammarid Amphipod		Juveniles/Adults	2204	43	350	15,050	57.0	**43,584**	76,502.2	Ebb

Control Intake - Amphipods

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Sample Time	Sample Duration (Minutes)	Flow GPM	Sample Volume (Gallons)	Sample Volume (m3)	Count	Density	Tide
14-Aug Night	1	Gammarid Amphipod		Juveniles/Adults	2100	47	350	16,450	62.3	**84,928**	136,385.6	Flood
	2	Gammarid Amphipod		Juveniles/Adults	2226	42	350	14,700	55.6	**21,152**	38,011.7	Ebb
16-Aug	1	Gammarid Amphipod		Juveniles/Adults	1028	56	350	19,600	74.2	**554**	746.7	Flood
	2	Gammarid Amphipod		Juveniles/Adults	1224	44	350	15,400	58.3	**70**	120.1	Ebb

Table 3. Sampling date, species collected and flow information for the IMOD intake samples collected at the Filtrex test facility, Dighton, MA.

IMOD Intake - Ichthyoplankton

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Sample Time	Sample Duration (Minutes)	Flow GPM	Sample Volume (Gallons)	Sample Volume (m^3)	Count	Density Per 100 m^3
18-Jun	1	No Fish Eggs or Larvae			12:30	15	750	11250	42.6	**0**	0.0
	2	*S. fuscus*	Northern Pipefish	Larvae	13:00	15	750	11250	42.6	**1**	2.3
20-Jun	1	No Fish Eggs or Larvae			13:03	15	750	11250	42.6	**0**	0.0
21-Jun	1	No Fish Eggs or Larvae			14:45	18	750	13500	51.1	**0**	0.0
25-Jun	1	No Fish Eggs or Larvae			07:49	20	750	15000	56.8	**0**	0.0
26-Jun	1	No Fish Eggs or Larvae			07:42	17	750	12750	48.3	**0**	0.0
	2	No Fish Eggs or Larvae			08:02	22	750	16500	62.5	**0**	0.0
	3	No Fish Eggs or Larvae			08:26	15	750	11250	42.6	**0**	0.0
	4	No Fish Eggs or Larvae			10:09	15	750	11250	42.6	**0**	0.0
28-Jun	1	No Fish Eggs or Larvae			08:15	30	750	22500	85.2	**0**	0.0
	2	No Fish Eggs or Larvae			08:47	15	750	11250	42.6	**0**	0.0
29-Jun	1	No Fish Eggs or Larvae			07:57	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			08:17	28	750	21000	79.5	**0**	0.0
	3	No Fish Eggs or Larvae			09:45	15	750	11250	42.6	**0**	0.0
	4	No Fish Eggs or Larvae			10:06	24	750	18000	68.1	**0**	0.0
5-Jul	1	No Fish Eggs or Larvae			14:58	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			15:18	15	750	11250	42.6	**0**	0.0

IMOD Intake - Ichthyoplankton

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Sample Time	Sample Duration (Minutes)	Flow GPM	Sample Volume (Gallons)	Sample Volume (m^3)	Count	Density Per 100 m^3
9-Jul	1	No Fish Eggs or Larvae			15:33	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			15:55	15	750	11250	42.6	**0**	0.0
11-Jul	1	No Fish Eggs or Larvae			1609	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			1630	15	750	11250	42.6	**0**	0.0
12-Jul	1	No Fish Eggs or Larvae			0927	20	750	15000	56.8	**0**	0.0
	2	No Fish Eggs or Larvae			0953	20	750	15000	56.8	**0**	0.0
16-Jul	1	No Fish Eggs or Larvae			0901	17	750	12750	48.3	**0**	0.0
	2	No Fish Eggs or Larvae			0927	16	750	12000	45.4	**0**	0.0
	3	No Fish Eggs or Larvae			1154	30	750	22500	85.2	**0**	0.0
18-Jul	1	No Fish Eggs or Larvae			1023	27	750	20250	76.7	**0**	0.0
	2	No Fish Eggs or Larvae			1142	33	750	24750	93.7	**0**	0.0
	3	*Anchoa spp.*	Bay Anchovy	Larvae	1320	30	750	22500	85.2	**2**	2.3
	4	No Fish Eggs or Larvae			1459	31	750	23250	88.0	**0**	0.0
20-Jul	1	No Fish Eggs or Larvae			1211	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			1229	15	750	11250	42.6	**0**	0.0
	3	No Fish Eggs or Larvae			1418	15	750	11250	42.6	**0**	0.0
	4	No Fish Eggs or Larvae			1436	15	750	11250	42.6	**0**	0.0
23-Jul	1	No Fish Eggs or Larvae			1440	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			1520	15	750	11250	42.6	**0**	0.0
	3	No Fish Eggs or Larvae			1640	15	750	11250	42.6	**0**	0.0
	4	No Fish Eggs or Larvae			1700	15	750	11250	42.6	**0**	0.0

IMOD Intake - Ichthyoplankton

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Sample Time	Sample Duration (Minutes)	Flow GPM	Sample Volume (Gallons)	Sample Volume (m^3)	Count	Density Per 100 m^3
25-Jul	1	No Fish Eggs or Larvae			1625	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			1644	15	750	11250	42.6	**0**	0.0
	3	No Fish Eggs or Larvae			1756	15	750	11250	42.6	**0**	0.0
	4	No Fish Eggs or Larvae			1814	15	750	11250	42.6	**0**	0.0
26-Jul	1	No Fish Eggs or Larvae			1722	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			1742	15	750	11250	42.6	**0**	0.0
	3	No Fish Eggs or Larvae			1854	19	750	14250	53.9	**0**	0.0
	4	No Fish Eggs or Larvae			1917	15	750	11250	42.6	**0**	0.0
30-Jul Night	1	No Fish Eggs or Larvae			1951	37	750	27750	105.0	**0**	0.0
	2	No Fish Eggs or Larvae			2034	15	750	11250	42.6	**0**	0.0
	3	No Fish Eggs or Larvae			2159	15	750	11250	42.6	**0**	0.0
	4	*Anchoa spp.*	Bay Anchovy	Larvae	2219	15	750	11250	42.6	**1**	2.3
		T. maculatus	Hogchoker	Larvae		15	750	11250	42.6	**1**	2.3
2-Aug	1	No Fish Eggs or Larvae			1113	19	750	14250	53.9	**0**	0.0
	2	No Fish Eggs or Larvae			1136	15	750	11250	42.6	**0**	0.0
	3	No Fish Eggs or Larvae			1244	15	750	11250	42.6	**0**	0.0
	4	No Fish Eggs or Larvae			1303	15	750	11250	42.6	**0**	0.0
3-Aug	1	No Fish Eggs or Larvae			1136	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			1156	15	750	11250	42.6	**0**	0.0
	3	No Fish Eggs or Larvae			1332	15	750	11250	42.6	**0**	0.0
	4	No Fish Eggs or Larvae			1351	15	750	11250	42.6	**0**	0.0

IMOD Intake - Ichthyoplankton

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Sample Time	Sample Duration (Minutes)	Flow GPM	Sample Volume (Gallons)	Sample Volume (m^3)	Count	Density Per 100 m^3
13-Aug Night	1	No Fish Eggs or Larvae			2029	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			2047	15	750	11250	42.6	**0**	0.0
	3	No Fish Eggs or Larvae			2206	15	750	11250	42.6	**0**	0.0
	4	No Fish Eggs or Larvae			2226	15	750	11250	42.6	**0**	0.0
14-Aug Night	1	No Fish Eggs or Larvae			2110	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			2127	15	750	11250	42.6	**0**	0.0
	3	No Fish Eggs or Larvae			2229	15	750	11250	42.6	**0**	0.0
	4	No Fish Eggs or Larvae			2247	15	750	11250	42.6	**0**	0.0
16-Aug	1	No Fish Eggs or Larvae			1045	15	750	11250	42.6	**0**	0.0
	2	No Fish Eggs or Larvae			1104	15	750	11250	42.6	**0**	0.0
	3	No Fish Eggs or Larvae			1227	15	750	11250	42.6	**0**	0.0
	4	No Fish Eggs or Larvae			1249	15	750	11250	42.6	**0**	0.0

Note: Data from June 5 and July 6 omitted because of seal failure.

Table 4. Sampling date, amphipods collected and flow information for the IMOD intake samples collected at the Filtrex test facility, Dighton, MA.

IMOD Intake - Amphipods

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Sample Time	Sample Duration (Minutes)	Flow GPM	Sample Volume (Gallons)	Sample Volume (m^3)	Count	Density Per 100 m^3
18-Jun	1				12:30	15	750	11250	42.6	**0**	0.0
	2	Gammarid Amphipod		Juvenile/Adult	13:00	15	750	11250	42.6	**1**	2.3
20-Jun	1	Gammarid Amphipod		Juvenile/Adult	13:03	15	750	11250	42.6	**13**	30.5
21-Jun	1	Gammarid Amphipod		Juvenile/Adult	14:45	18	750	13500	51.1	**16**	31.3
25-Jun	1	Gammarid Amphipod		Juvenile/Adult	07:49	20	750	15000	56.8	**10**	17.6
26-Jun	1	Gammarid Amphipod		Juvenile/Adult	07:42	17	750	12750	48.3	**2**	4.1
	2	Gammarid Amphipod		Juvenile/Adult	08:02	22	750	16500	62.5	**1**	1.6
	3	Gammarid Amphipod		Juvenile/Adult	08:26	15	750	11250	42.6	**1**	2.3
	4	Gammarid Amphipod		Juvenile/Adult	10:09	15	750	11250	42.6	**8**	18.8
28-Jun	1	Gammarid Amphipod		Juvenile/Adult	08:15	30	750	22500	85.2	**3**	3.5
	2	Gammarid Amphipod		Juvenile/Adult	08:47	15	750	11250	42.6	**1**	2.3
29-Jun	1	Gammarid Amphipod		Juvenile/Adult	07:57	15	750	11250	42.6	**1**	2.3
	2	Gammarid Amphipod		Juvenile/Adult	08:17	28	750	21000	79.5	**0**	0.0
	3	Gammarid Amphipod		Juvenile/Adult	09:45	15	750	11250	42.6	**3**	7.0
	4	Gammarid Amphipod		Juvenile/Adult	10:06	24	750	18000	68.1	**2**	2.9
5-Jul	1	Gammarid Amphipod		Juvenile/Adult	14:58	15	750	11250	42.6	**69**	162.0
	2	Gammarid Amphipod		Juvenile/Adult	15:18	15	750	11250	42.6	**18**	42.3
9-Jul	1	Gammarid Amphipod		Juvenile/Adult	15:33	15	750	11250	42.6	**39**	91.6
	2	Gammarid Amphipod		Juvenile/Adult	15:55	15	750	11250	42.6	**21**	49.3
11-Jul	1	Gammarid Amphipod		Juvenile/Adult	1609	15	750	11250	42.6	**7**	16.4
	2	Gammarid Amphipod		Juvenile/Adult	1630	15	750	11250	42.6	**4**	9.4
12-Jul	1	Gammarid Amphipod		Juvenile/Adult	0927	20	750	15000	56.8	**1**	1.8
	2	Gammarid Amphipod		Juvenile/Adult	0953	20	750	15000	56.8	**2**	3.5
16-Jul	1	Gammarid Amphipod		Juvenile/Adult	0901	17	750	12750	48.3	**26**	53.9

IMOD Intake - Amphipods

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Sample Time	Sample Duration (Minutes)	Flow GPM	Sample Volume (Gallons)	Sample Volume (m^3)	Count	Density Per 100 m^3
	2	Gammarid Amphipod		Juvenile/Adult	0927	16	750	12000	45.4	**2**	4.4
	3	Gammarid Amphipod		Juvenile/Adult	1154	30	750	22500	85.2	**7**	8.2
18-Jul	1	Gammarid Amphipod		Juvenile/Adult	1023	27	750	20250	76.7	**29**	37.8
	2	Gammarid Amphipod		Juvenile/Adult	1142	33	750	24750	93.7	**2**	2.1
	3	Gammarid Amphipod		Juvenile/Adult		30	750	22500	85.2	**8**	9.4
	4	Gammarid Amphipod		Juvenile/Adult	1459	31	750	23250	88.0	**5**	5.7
20-Jul	1	Gammarid Amphipod		Juvenile/Adult	1211	15	750	11250	42.6	**11**	25.8
	2	Gammarid Amphipod		Juvenile/Adult	1229	15	750	11250	42.6	**1**	2.3
	3	Gammarid Amphipod		Juvenile/Adult	1418	15	750	11250	42.6	**0**	0.0
	4	Gammarid Amphipod		Juvenile/Adult	1436	15	750	11250	42.6	**2**	4.7
23-Jul	1	Gammarid Amphipod		Juvenile/Adult	1440	15	750	11250	42.6	**25**	58.7
	2	Gammarid Amphipod		Juvenile/Adult	1520	15	750	11250	42.6	**8**	18.8
	3	Gammarid Amphipod		Juvenile/Adult	1640	15	750	11250	42.6	**15**	35.2
	4	Gammarid Amphipod		Juvenile/Adult	1700	15	750	11250	42.6	**13**	30.5
25-Jul	1	Gammarid Amphipod		Juvenile/Adult	1625	15	750	11250	42.6	**21**	49.3
	2	Gammarid Amphipod		Juvenile/Adult	1644	15	750	11250	42.6	**9**	21.1
	3	Gammarid Amphipod		Juvenile/Adult	1756	15	750	11250	42.6	**3**	7.0
	4	Gammarid Amphipod		Juvenile/Adult	1814	15	750	11250	42.6	**4**	9.4
26-Jul	1	Gammarid Amphipod		Juvenile/Adult	1722	15	750	11250	42.6	**4**	9.4
	2	Gammarid Amphipod		Juvenile/Adult	1742	15	750	11250	42.6	**18**	42.3
	3	Gammarid Amphipod		Juvenile/Adult	1854	19	750	14250	53.9	**1**	1.9
	4	Gammarid Amphipod		Juvenile/Adult	1917	15	750	11250	42.6	**0**	0.0

IMOD Intake - Amphipods

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Sample Time	Sample Duration (Minutes)	Flow GPM	Sample Volume (Gallons)	Sample Volume (m^3)	Count	Density Per 100 m^3
30-Jul Night	1	Gammarid Amphipod		Juvenile/Adult	1951	37	750	27750	105.0	**55**	52.4
	2	Gammarid Amphipod		Juvenile/Adult	2034	15	750	11250	42.6	**101**	237.2
	3	Gammarid Amphipod		Juvenile/Adult	2159	15	750	11250	42.6	**122**	286.5
	4	Gammarid Amphipod		Juvenile/Adult		15	750	11250	42.6	**437**	1026.2
2-Aug	1	Gammarid Amphipod		Juvenile/Adult	1113	19	750	14250	53.9	**52**	96.4
	2	Gammarid Amphipod		Juvenile/Adult	1136	15	750	11250	42.6	**10**	23.5
	3	Gammarid Amphipod		Juvenile/Adult	1244	15	750	11250	42.6	**6**	14.1
	4	Gammarid Amphipod		Juvenile/Adult	1303	15	750	11250	42.6	**3**	7.0
3-Aug	1	Gammarid Amphipod		Juvenile/Adult	1136	15	750	11250	42.6	**3**	7.0
	2	Gammarid Amphipod		Juvenile/Adult	1156	15	750	11250	42.6	**0**	0.0
	3	Gammarid Amphipod		Juvenile/Adult	1332	15	750	11250	42.6	**0**	0.0
	4	Gammarid Amphipod		Juvenile/Adult	1351	15	750	11250	42.6	**7**	16.4
13-Aug Night	1	Gammarid Amphipod		Juvenile/Adult	2029	15	750	11250	42.6	**373**	875.9
	2	Gammarid Amphipod		Juvenile/Adult	2047	15	750	11250	42.6	**1,792**	4207.9
	3	Gammarid Amphipod		Juvenile/Adult	2206	15	750	11250	42.6	**346**	812.5
	4	Gammarid Amphipod		Juvenile/Adult	2226	15	750	11250	42.6	**316**	742.0
14-Aug Night	1	Gammarid Amphipod		Juvenile/Adult	2110	15	750	11250	42.6	**3,896**	9148.5
	2	Gammarid Amphipod		Juvenile/Adult	2127	15	750	11250	42.6	**1,448**	3400.2
	3	Gammarid Amphipod		Juvenile/Adult	2229	15	750	11250	42.6	**692**	1624.9
	4	Gammarid Amphipod		Juvenile/Adult	2247	15	750	11250	42.6	**315**	739.7
16-Aug	1	Gammarid Amphipod		Juvenile/Adult	1045	15	750	11250	42.6	**55**	129.1
	2	Gammarid Amphipod		Juvenile/Adult	1104	15	750	11250	42.6	**17**	39.9
	3	Gammarid Amphipod		Juvenile/Adult	1227	15	750	11250	42.6	**17**	39.9
	4	Gammarid Amphipod		Juvenile/Adult	1249	15	750	11250	42.6	**10**	23.5

Table 5. Sampling date, species collected and information for the IMOD top and bottom candle array samples collected at the Filtrex test facility, Dighton, MA.

IMOD Candles - Ichthyoplankton

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Start Time	Duration	Filtration Volume (m^3)	Ichthyoplankton Counts Top Bank	Ichthyoplankton Counts Bottom Bank	Ichthyoplankton Density Per 100 m3 Top Bank	Ichthyoplankton Density Per 100 m3 Bottom Bank	Notes
18-Jun	1	No Eggs or Larvae			12:30	45	127.8	0	0	0.0	0.0	No Top Cover
20-Jun	1	No Eggs or Larvae			13:00	20	56.8	0	0	0.0	0.0	No Top Cover
21-Jun	1	No Eggs or Larvae			14:45	18	51.1	0	0	0.0	0.0	
25-Jun	1	No Eggs or Larvae			07:49	20	56.8	0	0	0.0	0.0	
26-Jun	1	No Eggs or Larvae			07:42	60	170.3	0	0	0.0	0.0	
	2	No Eggs or Larvae			10:09	15	42.6	0	0	0.0	0.0	
28-Jun	1	No Eggs or Larvae			08:15	45	127.8	0	ns	0.0	ns	
29-Jun	1	No Eggs or Larvae			07:57	48	136.3	0	0	0.0	0.0	
	2	No Eggs or Larvae			09:45	45	127.8	0	0	0.0	0.0	
5-Jul	1	No Eggs or Larvae			14:58	35	99.4	0	0	0.0	0.0	
9-Jul	1	*G. ginsburgi*	Seaboard Goby	Larvae	1533	27	76.7	0	1	0.0	1.3	
11-Jul	1	No Eggs or Larvae			1609	36	102.2	0	0	0.0	0.0	
12-Jul	1	No Eggs or Larvae			0927	42	119.2	0	0	0.0	0.0	
16-Jul	1	No Eggs or Larvae			0901	44	124.9	0	0	0.0	0.0	
	2	No Eggs or Larvae			1154	31	88.0	0	0	0.0	0.0	
18-Jul	1	No Eggs or Larvae			1023	27	76.7	0	0	0.0	0.0	No Top Cover
	2	No Eggs or Larvae			1142	33	93.7	0	0	0.0	0.0	No Top Cover
	3	No Eggs or Larvae			1320	30	85.2	0	0	0.0	0.0	No Top Cover
	4	No Eggs or Larvae			1459	31	88.0	0	0	0.0	0.0	No Top Cover

IMOD Candles - Ichthyoplankton

Date (2007)	Replicate	Taxa	Common Name	Life Stage	Start Time	Duration	Filtration Volume (m^3)	Ichthyoplankton Counts Top Bank	Ichthyoplankton Counts Bottom Bank	Ichthyoplankton Density Per 100 m3 Top Bank	Ichthyoplankton Density Per 100 m3 Bottom Bank	Notes
20-Jul	1	No Eggs or Larvae			1211	33	93.7	0	0	0.0	0.0	
	2	No Eggs or Larvae			1418	33	93.7	0	0	0.0	0.0	
23-Jul	1	*S. aquosus*	Windowpane	Larvae	1440	55	156.1	0	2	0.0	1.3	
	2	*Anchoa spp.*	Anchovy	Larvae	1640	35	99.4	1	0	1.0	0.0	
25-Jul	1	*Lepomis spp.*	Crappie	Larvae	1625	34	96.5	1	0	1.0	0.0	
		T. maculatus	Hogchoker	Larvae			96.5	0	1	0.0	1.0	
	2	No Eggs or Larvae			1756	33	93.7	0	0	0.0	0.0	
26-Jul	1	No Eggs or Larvae			1722	35	99.4	0	0	0.0	0.0	
	2	No Eggs or Larvae			1854	36	102.2	0	0	0.0	0.0	
30-Jul Night	1	No Eggs or Larvae			1951	58	164.7	0	0	0.0	0.0	
	2	*Fundulus spp.*	Killifish	Larvae	2159	38	107.9	0	1	0.0	0.9	
		G. ginsburgi	Seaboard Goby	Larvae		38	107.9	4	0	3.7	0.0	
2-Aug	1	No Eggs or Larvae			1113	38	107.9	0	0	0.0	0.0	
	2	No Eggs or Larvae			1244	34	96.5	0	0	0.0	0.0	
3-Aug	1	No Eggs or Larvae			1136	35	99.4	0	0	0.0	0.0	
	2	No Eggs or Larvae			1332	34	96.5	0	0	0.0	0.0	
13-Aug Night	1	*B. tyrannus*	Atlantic Menhaden	Juvenile	2029	33	93.7	0	1	0.0	1.1	
	2	*E. olmstedi*	Tesselated Darter	Juvenile	2206	35	99.4	1	0	1.0	0.0	
14-Aug Night	1	No Eggs or Larvae			2110	32	90.9	0	0	0.0	0.0	
	2	Unidentified Fragment			2229	33	93.7	0	1	0.0	1.1	
16-Aug	1	*E. olmstedi*	Tesselated Darter	Juvenile	1030	49	139.1	2	0	1.4	0.0	
	2	*E. olmstedi*	Tesselated Darter	Juvenile	1227	37	105.0	1	0	1.0	0.0	

Table 6. Sampling date, Amphipods collected and information for the IMOD top and bottom candle array samples collected at the Filtrex test facility, Dighton, MA.

IMOD Candles - Amphipods

Date (2007)	**Replicate**	**Taxa**	**Life Stage**	**Start Time**	**Duration**	**Filtration Volume (m^3)**	**Amphipods Top Bank Counts**	**Amphipods Bottom Bank Counts**	**Amphipods Top Bank Density Per 100 m^3**	**Amphipods Bottom Bank Density Per 100 m^3**	**Notes**
5-Jun				14:20	60	170.3	Not Sampled				
18-Jun	1			12:30	45	127.8	0	0	0.0	0.0	No Top Cover
20-Jun	1			13:00	20	56.8	0	0	0.0	0.0	No Top Cover
21-Jun	1	Gammarid Amphipod	Juvenile/Adult	14:45	18	51.1	1	0	2.0	0.0	
25-Jun	1	Gammarid Amphipod	Juvenile/Adult	07:49	20	56.8	28	0	49.3	0.0	
26-Jun	1			07:42	60	170.3	0	0	0.0	0.0	
	2	Gammarid Amphipod	Juvenile/Adult	10:09	15	42.6	3	0	7.0	0.0	
28-Jun	1			08:15	45	127.8	0	ns	0.0	ns	
29-Jun	1	Gammarid Amphipod	Juvenile/Adult	07:57	48	136.3	0	2	0.0	1.5	
	2			09:45	45	127.8	0	0	0.0	0.0	
5-Jul	1	Gammarid Amphipod	Juvenile/Adult	14:58	35	99.4	83	0	83.5	0.0	
9-Jul	1	Gammarid Amphipod	Juvenile/Adult	1533	27	76.7	6	5	7.8	6.5	
11-Jul	1	Gammarid Amphipod	Juvenile/Adult	1609	36	102.2	13	25	12.7	24.5	
12-Jul	1	Gammarid Amphipod	Juvenile/Adult	0927	42	119.2	9	10	7.5	8.4	
16-Jul	1	Gammarid Amphipod	Juvenile/Adult	0901	44	124.9	271	49	216.9	39.2	
	2	Gammarid Amphipod	Juvenile/Adult	1154	31	88.0	17	7	19.3	8.0	
18-Jul	1	Gammarid Amphipod	Juvenile/Adult	1023	27	76.7	110	16	143.5	20.9	No Top Cover
	2	Gammarid Amphipod	Juvenile/Adult	1142	33	93.7	17	10	18.1	10.7	No Top Cover
	3	Gammarid Amphipod	Juvenile/Adult	1320	30	85.2	1	2	1.2	2.3	No Top Cover
	4	Gammarid Amphipod	Juvenile/Adult	1459	31	88.0	3	0	3.4	0.0	No Top Cover
20-Jul	1	Gammarid Amphipod	Juvenile/Adult	1211	33	93.7	28	2	29.9	2.1	

IMOD Candles - Amphipods

Date (2007)	Replicate	Taxa	Life Stage	Start Time	Duration	Filtration Volume (m^3)	Amphipods Top Bank Counts	Amphipods Bottom Bank Counts	Amphipods Top Bank Density Per 100 m^3	Amphipods Bottom Bank Density Per 100 m^3	Notes
	2	Gammarid Amphipod	Juvenile/Adult	1418	33	93.7	7	10	7.5	10.7	
23-Jul	1	Gammarid Amphipod	Juvenile/Adult	1440	55	156.1	172	19	110.2	12.2	
	2	Gammarid Amphipod	Juvenile/Adult	1640	35	99.4	12	15	12.1	15.1	
25-Jul	1	Gammarid Amphipod	Juvenile/Adult	1625	34	96.5	152	53	157.5	54.9	
	2	Gammarid Amphipod	Juvenile/Adult	1756	33	93.7	6	15	6.4	16.0	
26-Jul	1	Gammarid Amphipod	Juvenile/Adult	1722	35	99.4	79	23	79.5	23.1	
	2	Gammarid Amphipod	Juvenile/Adult	1854	36	102.2	7	28	6.8	27.4	
30-Jul Night	1	Gammarid Amphipod	Juvenile/Adult	1951	58	164.7	4,256	98	2,584.6	59.5	
	2	Gammarid Amphipod	Juvenile/Adult	2159	38	107.9	4,024	2,508	3,729.9	2,324.7	
2-Aug	1	Gammarid Amphipod	Juvenile/Adult	1113	38	107.9	275	26	254.9	24.1	
	2	Gammarid Amphipod	Juvenile/Adult	1244	34	96.5	28	4	29.0	4.1	
3-Aug	1	Gammarid Amphipod	Juvenile/Adult	1136	35	99.4	13	14	13.1	14.1	
	2	Gammarid Amphipod	Juvenile/Adult	1332	34	96.5	15	8	15.5	8.3	
13-Aug Night	1	Gammarid Amphipod	Juvenile/Adult	2029	33	93.7	12,882	504	13,749.6	537.9	
	2	Gammarid Amphipod	Juvenile/Adult	2206	35	99.4	3,616	2,456	3,639.0	2,471.6	
14-Aug Night	1	Gammarid Amphipod	Juvenile/Adult	2110	32	90.9	18,304	1,608	20,147.4	1,769.9	
	2	Gammarid Amphipod	Juvenile/Adult	2229	33	93.7	2,408	648	2,570.2	691.6	
16-Aug	1	Gammarid Amphipod	Juvenile/Adult	1030	49	139.1	199	46	143.0	33.1	
	2	Gammarid Amphipod	Juvenile/Adult	1227	37	105.0	45	38	42.8	36.2	

Table 7. Summary data for the control, IMOD intake and candle samples collected at the Filtrex test facility, Dighton, MA. Values are totals of densities per 100 m3 obtained on each sampling day.

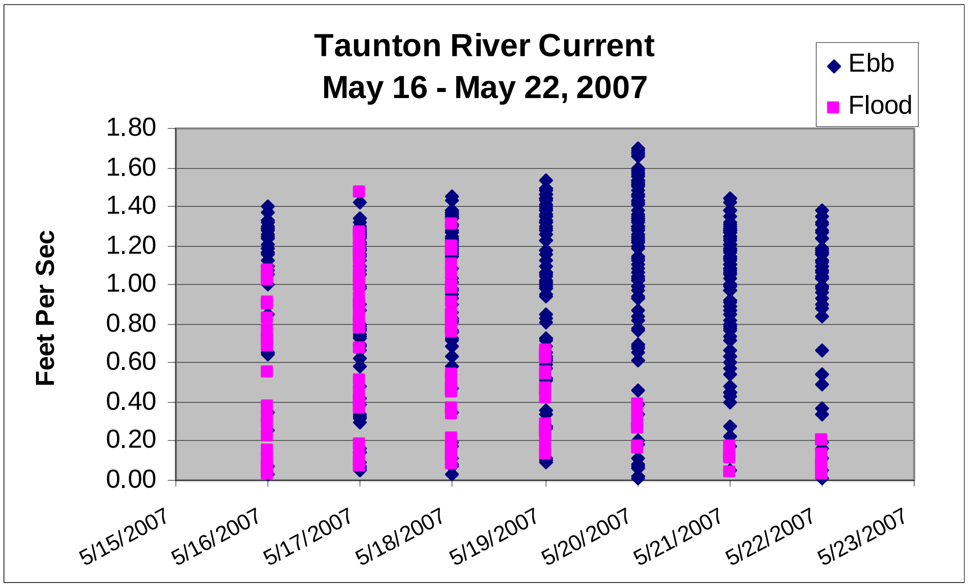
Taxa	Common Name	Control	IMOD Candles		IMOD Intake
			Top	Bottom	
Labrid Eggs	Tautog/Cunner	1.9	--	--	--
G. ginsburgi Larvae	Seaboard Goby	137.5	3.7	1.3	--
T. maculatus Larvae	Hogchoker	92.7	--	1.0	2.6
Anchoa spp. Larvae	Anchovy	83.6	1.0	--	5.3
Alosa spp Larvae	River Herring	75.2	--	--	--
S. fuscus Larvae	Northern Pipefish	23.2	--	--	2.6
Lepomis spp. Larvae	Sunfish	12.0	--	--	--
Pomoxis spp. Larvae	Crappie	11.2	1.0	--	--
Fundulus spp. Larvae	Killifish	10.3	--	0.9	--
B. tyrannus Larvae	Atlantic Menhaden	8.4	--	1.1	--
M. salmoides Larvae	Largemouth Bass	6.5	--	--	--
Fragments		2.8	--	1.1	--
Notropis spp. Larvae	Shiner	2.4	--	--	--
E. olmstedi Larvae	Tesselated Darter	2.1	3.4	--	--
Menidia spp.Larvae	Silversides	1.9	--	--	--
S. aquosus Larvae	Windowpane	--	--	1.3	--
Eggs	Totals	1.9	--	--	--
Larvae	Totals	469.7	9.1	6.7	10.5
Gammarid Amphipod		937,583	47,901	8,259	838

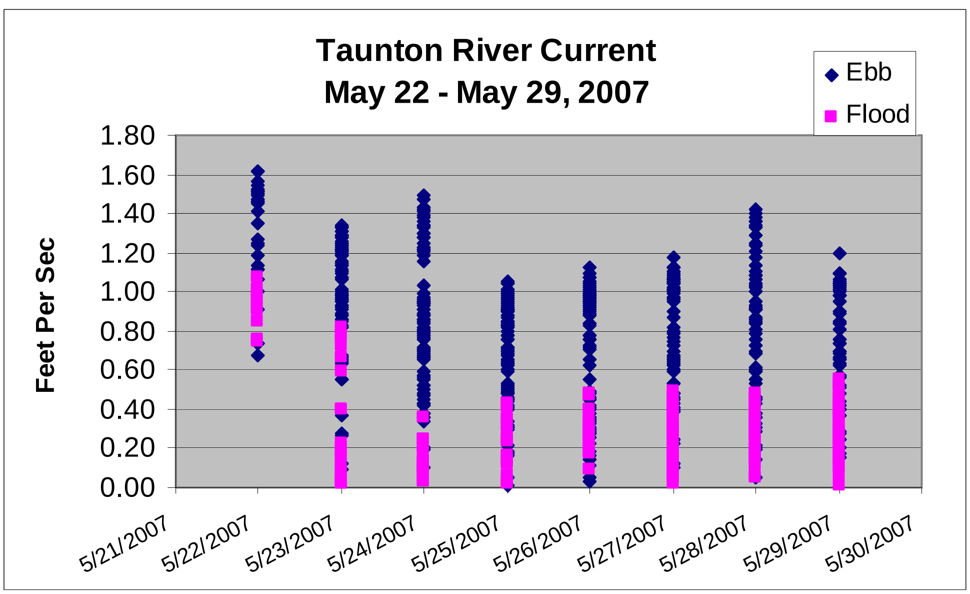
June 5 and July 6 omitted.
Control and Intake totals adjusted to the same total sample volume as passed through the candles.

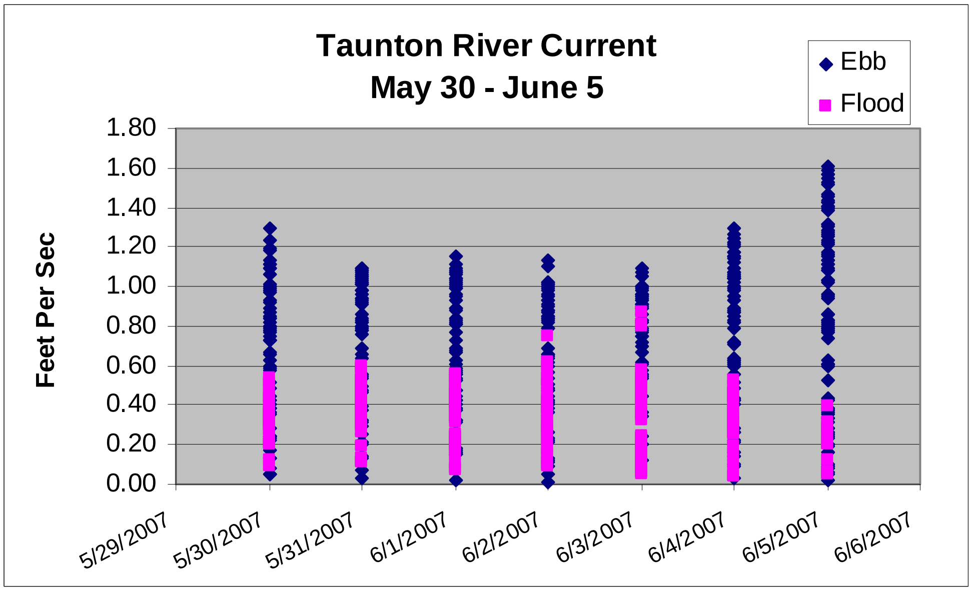
Table 8. Species list of the eggs (E) and larvae (L) collected by Metcalf and Eddy opposite TRDP compared to the Filtrex Control and impingement samples during June, 2007.

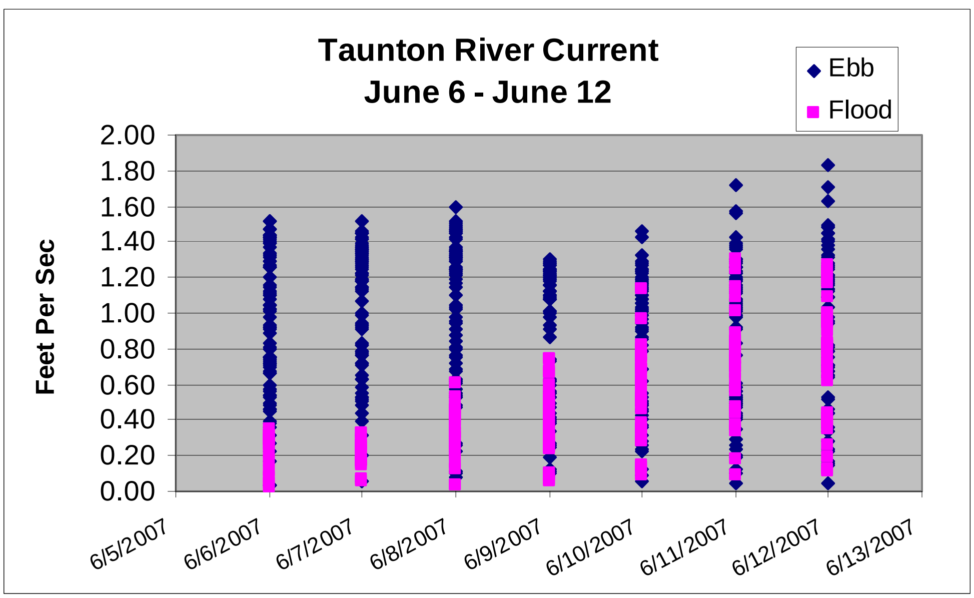
Species	Common Name	M & E	Filtrex Control	Filtrex Impingement
Alosa spp.	River Herring	E / L / J	E / L	
Notropis spp.	Shiners	L	L	
Syngnathus fuscus	Northern Pipefish		L	
Morone americana	White Perch	L / J	E	
Lepomis spp.	Sunfishes	L		
Micropterus salmoides	Largemouth Bass		L	
Pomoxis spp.	Crappies		L	
Ehteostoma olmstedi	Tessellated Darter	L	L	
Labridae	Cunner / Tautog		E	
Gobiosoma ginsburgi	Seaboard Goby		L	

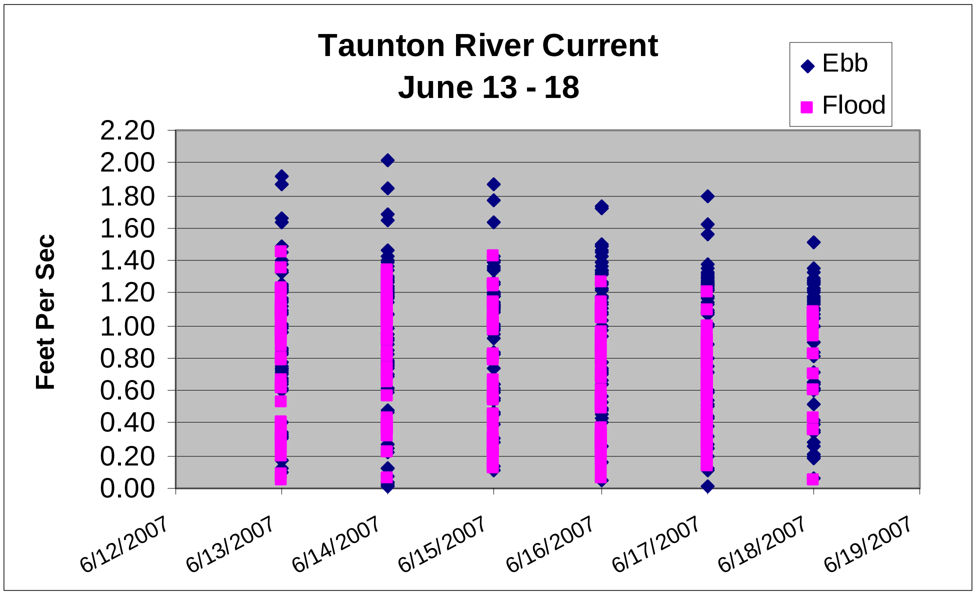
Appendix Figure 1. Taunton River current meter data in approximately one-week segments, May 16 – June 18.






Taunton River Current
May 30 - June 5
Ebb
Flood
Feet Per Sec
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
5/29/2007
5/30/2007
5/31/2007
6/1/2007
6/2/2007
6/3/2007
6/4/2007
6/5/2007
6/6/2007


Taunton River Current
June 6 - June 12
Ebb
Flood
Feet Per Sec
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
6/5/2007
6/6/2007
6/7/2007
6/8/2007
6/9/2007
6/10/2007
6/11/2007
6/12/2007
6/13/2007


Taunton River Current
June 13 - 18
Ebb
Flood
Feet Per Sec
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
6/12/2007
6/13/2007
6/14/2007
6/15/2007
6/16/2007
6/17/2007
6/18/2007
6/19/2007

Appendix Table 1. Total length data (mm) for fish eggs, larvae, juveniles and amphipods collected in the Filtrex control samples.

Station	Taxa	Date (2007)	Total Length (mm)		Mean	Count	Min	Max
Control	*Alosa spp.*	5-Jun	4.3	10.2				
			5.0	9.0				
					4.7	4	4.3	10.2
Control	*Alosa spp.*	18-Jun	17.0	14.0				
			17.0	14.0				
			16.0					
					15.6	5	14.0	17.0
Control	*Alosa spp.*	21-Jun	6.0					
Control	*Alosa spp.*	5-Jul	7.8					
			9.4					
			12.9					
			13.2					
					10.8	4	7.8	13.2
Control	*Alosa spp.*	6-Jul	4.8	9.9				
			5.0	13.4				
			11.2					
					8.9	5	4.8	13.4
Control	*Alosa spp.*	9-Jul	8.9					
			7.1					
					8.0	2	7.1	8.9
Control	*Alosa spp.*	16-Jul	4.1					
			10.9					
					7.5	2	4.1	10.9
Control	*Alosa spp.*	13-Aug	26.0	28.0				
			29.0	26.0				
			27.0					
					27.2	5	26.0	29.0
Control	*B. tyrannus*	13-Aug	25.0	30.1				
					27.6	2	25.0	30.1
Control	*Anchoa spp.*	18-Jul	3.5	3.9				
			3.5					
					3.6	3	3.5	3.9
Control	*Anchoa spp.*	25-Jul	4.5	2.9				
					3.7	2	2.9	4.5
Control	*Anchoa spp.*	30-Jul	8.1	22.0				
			5.8	23.0				
			8.3	6.2				
			22.0	20.0				
			18.0	20.0				
			21.0	17.0				
			22.0	21.0				
			20.0	21.0				
			19.0					
					17.3	17	5.8	23.0
Control	*Anchoa spp.*	2-Aug	24.0					
					24.0			
Control	*Anchoa spp.*	13-Aug	8.4					
					8.4			
Control	*Fundulus spp.*	30-Jul	7.9					
			6.7					
					7.3	2	6.7	7.9
Control	*Fundulus spp.*	13-Aug	6.8	7.0				
					6.9	2	6.8	6.8
Control	*Menidia spp.*	16-Jul	5.3					

Station	Taxa	Date (2007)	Total Length (mm)		Mean	Count	Min	Max
					5.3			
Control	*S. fuscus*	21-Jun	18.5					
					18.5			
Control	*S. fuscus*	6-Jul	20.0					
					20.0			
Control	*S. fuscus*	9-Jul	30.0					
			19.5					
					24.8	2	19.5	30.0
Control	*S. fuscus*	16-Jul	28.0					
					28.0			
Control	*S.fuscus*	18-Jul	14.0					
			14.0					
					14.0	2	14.0	14.0
Control	*S. fuscus*	2-Aug	24.5					
					24.5			
Control	*Lepomis spp.*	26-Jul	9.0					
					9.0			
Control	*Lepomis spp.*	13-Aug	6.1					
			6.6					
			8.8					
					7.2	3	6.1	8.8
Control	*Pomoxis spp.*	26-Jun	6.0					
					6.0			
Control	*G. ginsburgi*	29-Jun	3.3					
			3.1					
					3.2	2	3.1	3.3
Control	*G.ginsburgi*	6-Jul	3.5					
			3.6					
			3.6					
			3.8					
					3.6	4	3.5	3.8
Control	*G. ginsburgi*	9-Jul	3.2	3.4				
			2.7	3.3				
			3.8	3.5				
			3.6	2.9				
			3.6					
					3.3	9	2.7	3.8
Control	*G. ginsburgi*	16-Jul	3.3					
			4.4					
					3.9	2	3.3	4.4
Control	*G. ginsburgi*	18-Jul	2.5	3.6				
			3.5					
					3.2	3	2.5	3.6
Control	*G. ginsburgi*	23-Jul	3.4					
Control	*G. ginsburgi*	25-Jul	3.0	2.7				
			3.0	3.2				
			3.3					
					3.0	5	2.7	3.3
Control	*G. ginsburgi*	26-Jul	3.5	2.8				
			3.3					
					3.2	3	2.8	3.5
Control	*G. ginsburgi*	30-Jul	6.6	9.2				
			5.6	6.4				
			4.2	4				
			7.7	4.7				
			6.4	3.9				
			7					
					6.0	11	3.9	9.2
Control	*G. ginsburgi*	2-Aug	9.0					
					9.0			

Station	Taxa	Date (2007)	Total Length (mm)		Mean	Count	Min	Max
Control	*G. ginsburgi*	13-Aug	8.4					
			10.7					
			7.5					
					8.9	3	7.5	10.7
Control	*T. maculatus*	5-Jul	4.3					
					4.3			
Control	*T. maculatus*	6-Jul	4.1	5.3				
			4.4	4.3				
			4.4	4.4				
			4.4	4.5				
			4.7	4.3				
			4.7	4.2				
			4.8	5.0				
			4.9	4.7				
			5.2	4.8				
			5.4					
					4.7	19	4.1	5.4
Control	*T. maculatus*	9-Jul	4.3	4.7				
			4.5	4.7				
			4.4	5.2				
			4.8	4.9				
			5.1					
					4.7	9	4.3	5.2
Control	*T. maculatus*	25-Jul	1.9					
Control	*T. maculatus*	26-Jul	2.4	2.3				
			2.8					
					2.5	3	2.3	2.8
Control	*T. maculatus*	30-Jul	9.2					
Control	Amphipods	20-Jun	1.4	3.1				
			1.6	2.9				
			1.4	2.4				
			1.2	1.2				
			2.3	0.9				
			1.2	1.9				
			1.6	1.4				
			1.4	1.7				
			1.7	2.0				
			1.5	4.9				
					1.9	20	0.9	4.9
Control	Amphipods	21-Jun	2.8	1.2				
			2.6	1.2				
			2.4	3.4				
			4.8	1.0				
			3.2					
					2.5	9	1.0	4.8
Control	Amphipods	25-Jun	1.5	1.2				
			1.7	4.5				
			1.3	1.7				
			1.6	2.2				
			1.4	2.3				
			1.2	1.9				
			1.1	2.4				
			1.7	4.3				
			1.8	1.7				
			1.5	2.5				
					2.0	20	1.1	4.5
Control	Amphipods	28-Jun	3.2					
			4.1					
			5.4					
					4.2	3	3.2	5.4

Station	Taxa	Date (2007)	Total Length (mm)		Mean	Count	Min	Max
Control	Amphipods	29-Jun	1.4	3.8				
			1.8	1.5				
			1.2	2.7				
			3.3	3.3				
			1.3	5.8				
			2.7	2.7				
			2.9	2.3				
			1.1	1.4				
			2.5	2.5				
			2.1	1.6				
					2.4	20	1.1	5.8
Control	Amphipods	5-Jul	2.8	2.7				
			4.0	3.3				
			3.6	1.2				
			1.4	3.4				
			4.7	5.3				
			5.6	3.4				
					3.5	12	1.2	5.6
Control	Amphipods	6-Jul	3.4	2.7				
			4.2	4.1				
			4.5	1.1				
			3.2	2.9				
			2.6	2.4				
			1.1	3.1				
			1.5	2.6				
			2.0	3.6				
			1.2	2.1				
					2.7	18	1.1	4.5
Control	Amphipods	9-Jul	1.3	1.3				
			1.5	1.3				
			3.6	2.7				
			2.1	2.9				
			1.2	1.6				
			3.3	3.0				
			1.3	1.5				
			2.0	3.0				
			4.2	2.5				
			2.2	1.5				
					2.2	20	1.2	4.2
Control	Amphipods	11-Jul	2.0	2.0				
			1.4	1.4				
			2.2	2.0				
			5.0	2.8				
			2.5	2.7				
			3.9	2.3				
			2.9	1.7				
			1.0					
					2.4	15	1.0	5.0
Control	Amphipods	12-Jul	1.2					
			3.4					
			6.8					
					3.8	3	1.2	6.8
Control	Amphipods	16-Jul	1.7	3.5				
			2.5	2.3				
			2.8	5.2				
			2.3	0.9				
			2.6	2.7				
			3.1	3.1				
			1.3	1.9				
			2.0	2.6				
			3.4	1.3				
			4.8	4.0				

Station	Taxa	Date (2007)	Total Length (mm)		Mean	Count	Min	Max
					2.7	20	0.9	5.2
Control	Amphipods	18-Jul	1.2	1.4				
			1.3	1.9				
			1.9	1.3				
			4.1	1.5				
			2.2	2.7				
			3.2	4.6				
			2.8	3.2				
			2.4	1.3				
			3.0	1.3				
			1.4	1.2				
					2.2	20	1.2	4.6
Control	Amphipods	20-Jul	5.5	5.5				
			1.6	3.0				
			4.2	7.2				
			3.6	1.8				
			4.5	2.9				
			6.5	6.5				
			5.5	5.5				
			3.5	5.9				
			4.5	4.6				
			3.5					
					4.5	19	1.6	7.2
Control	Amphipods	23-Jul	8.5	2.3				
			4.0	2.5				
			5.8	2.4				
			3.0	4.2				
			3.2	3.2				
			7.0	5.5				
			5.2	6.5				
			7.8	3.5				
			4.5	4.0				
			2.7	2.6				
					4.4	20	2.3	8.5
Control	Amphipods	25-Jul	5.3	1.3				
			3.9	4.1				
			6.8	6.0				
			7.0	1.4				
			4.7	6.2				
			1.2	4.2				
			4.8	1.4				
			4.9	1.1				
			1.9	4.8				
			1.3	5.7				
					3.9	20	1.1	7.0
Control	Amphipods	26-Jul	1.3	4.9				
			1.4	6.1				
			7.2	7.0				
			6.1	7.0				
			3.3	4.5				
			3.9	4.3				
			6.0	1.5				
			4.9	1.8				
			1.5	1.4				
			6.9	6.8				
					4.4	20	1.3	7.2

Station	Taxa	Date (2007)	Total Length (mm)		Mean	Count	Min	Max
Control	Amphipods	30-Jul	1.4	1.1				
			1.4	2.4				
			1.9	4.1				
			1.8	2.2				
			1.5	1.7				
			2.0	3.6				
			4.5	1.4				
			1.3	1.4				
			1.0	4.2				
			1.8	3.0				
					2.2	20	1.0	4.5
Control	Amphipods	2-Aug	1.4	2.0				
			1.6	2.5				
			3.1	1.3				
			1.1	1.4				
			1.6	2.0				
			6.0	2.4				
			1.4	2.6				
			2.8	1.2				
			1.7	3.6				
			1.2	1.3				
					2.1	20	1.1	6.0
Control	Amphipods	3-Aug	1.7	2.0				
			2.5	2.7				
			2.0	7.5				
			1.5	2.7				
			3.0	3.0				
			2.5	2.5				
			2.0	6.5				
			5.5	8.5				
			1.6	9.0				
			2.0	5.8				
					3.7	20	1.5	9.0
Control	Amphipods	13-Aug	4.1	3.1				
			6.9	8.1				
			2.1	1.9				
			2.5	3.0				
			2.0	3.2				
			2.6	2.7				
			2.7	2.9				
			2.6	2.6				
			2.2	2.5				
			8.4	4.9				
					3.6	20	1.9	8.4

Appendix Table 2. Total length data (mm) for fish eggs, larvae, juveniles and amphipods collected in the Filtrex intake samples.

Station	Taxa	Date	Total Length (mm)		Mean	Count	Min	Max
Intake	*Alosa spp.*	18-Jul	2.9					
			2.8		2.9	2	2.8	2.9
Intake	*Alosa spp.*	30-Jul	7.8					
					7.8			
Intake	*T. maculatus*	30-Jul	4.2					
Intake	Amphipods	20-Jun	3.9	5.9				
			6.0	4.3				
			5.2	2.8				
			3.2	1.6				
			1.4	3.7				
			4.2	5.2				
			3.0					
					3.9	13.0	1.4	6.0
Intake	Amphipods	21-Jun	2.3	4.4				
			3.3	3.4				
			4.5	3.7				
			3.6	4.0				
			4.0	7.0				
			1.0	5.6				
			3.1	2.1				
			1.0	2.9				
					3.5	16.0	1.0	7.0
Intake	Amphipods	25-Jun	5.0	7.1				
			4.8	4.2				
			5.8	2.0				
			4.4	5.2				
			4.4	4.3				
					4.7	10.0	2.0	7.1
Intake	Amphipods	26-Jun	4.0	3.5				
			5.9	4.9				
			3.5	4.0				
			3.8	5.1				
			3.2	2.3				
			3.8	3.2				
					3.9	12.0	2.3	5.9
Intake	Amphipods	28-Jun	3.8	5.8				
			5.1					
					4.9	3.0	3.8	5.8
Intake	Amphipods	29-Jun	2.3	1.7				
			2.9	2.3				
			2.0	3.0				
					2.4	6.0	1.7	3.0
Intake	Amphipods	16-Jul	1.3	6.8				
			1.2	4.3				
			1.4	1.8				
			1.8					
					2.7	7.0	1.2	6.8
Intake	Amphipods	18-Jul	1.4	2.1				
			1.5	5.1				
			1.6	1.9				
			1.4	2.0				
			2.0	1.9				
			1.5	2.0				
			1.3	1.1				
			2.8					

Station	Taxa	Date	Total Length (mm)		Mean	Count	Min	Max
					2.0	15.0	1.1	5.1
Intake	Amphipods	20-Jul	2.9	1.5				
			1.6	1.9				
			3.6	3.0				
			2.4	2.9				
			3.0	2.7				
			4.0	1.3				
			3.6	3.9				
					2.7	14.0	1.3	4.0
Intake	Amphipods	23-Jul	1.1	1.0				
			1.5	1.5				
			1.0	2.0				
			1.2	1.5				
			2.7	1.4				
			1.1	1.3				
			2.8	2.1				
			1.9	1.8				
			1.6	1.7				
			3.8	2.2				
					1.8	20.0	1.0	3.8
Intake	Amphipods	25-Jul	1.4	0.9				
			1.3	1.9				
			1.0	1.4				
			1.1	1.8				
			1.8	1.6				
			2.8	1.5				
			1.3	1.5				
			1.6	1.8				
			6.4	1.3				
			2.1	1.4				
					1.8	20.0	0.9	6.4
Intake	Amphipods	26-Jul	1.4	1.6				
			1.5	1.4				
			1.6					
					1.5	5.0	1.4	1.6
Intake	Amphipods	30-Jul	3.0	3.6				
			2.6	4.5				
			2.3	2.3				
			4.5	1.3				
			3.5	7.9				
			7.7	2.2				
			1.5	2.5				
			1.6	3.5				
			5.3	3.7				
			3.3	1.9				
					3.4	20.0	1.3	7.9
Intake	Amphipods	2-Aug	2.7	2.5				
			1.7	2.3				
			1.5	1.5				
			1.2	1.9				
			2.2	5.6				
			2.5	1.9				
			1.1	1.6				
			1.5	1.5				
			1.5	3.5				
			1.4					
					2.1	19.0	1.1	5.6
Intake	Amphipods	3-Aug	2.0	2.6				
			2.3	3.8				
			2.6	1.3				
			1.2	2.8				
			1.3	1.2				
					2.1	10.0	1.2	3.8

Station	Taxa	Date	Total Length (mm)		Mean	Count	Min	Max
Intake	Amphipods	13-Aug	4.2	1.6				
			1.6	2.1				
			5.2	1.9				
			2.3	2.2				
			1.3	1.4				
			1.6	2.1				
			1.7	1.5				
			2.1	2.6				
			1.6	2.0				
			2.0	3.3				
					2.2	20.0	1.3	5.2
Intake	Amphipods	14-Aug	1.8	1.9				
			2.2	4.0				
			1.5	4.5				
			2.3	7.1				
			2.2	8.0				
			1.6	3.3				
			2.0	3.4				
			1.9	6.1				
			2.5	4.2				
			2.4	5.4				
					3.4	20.0	1.5	8.0
Intake	Amphipods	16-Aug	1.1	1.6				
			2.0	2.0				
			1.4	1.8				
			1.5	1.1				
			1.7	1.3				
			1.5	1.9				
			1.9	1.8				
			2.2	3.1				
			2.4	2.8				
			1.5	2.0				
					1.8	20.0	1.1	3.1

Appendix Table 3. Total length data (mm) for fish larvae, juveniles and amphipods collected from the Filtrex candles.

Station	Taxa	Date	Total Length (mm)		Mean	Count	Min	Max
Candle Bottom	*B. tyrannus*	13-Aug	32.0					
					32.0	1	32.0	32.0
Candle Top	*Anchoa spp.*	23-Jul	2.7					
					2.7	1	2.7	2.7
Candle Bottom	*Fundulus spp.*	30-Jul	6.3					
					6.3	1	6.3	6.3
Candle Top	*Lepomis spp.*	25-Jul	21.0					
					21.0	1	21.0	21.0
Candle Top	*E. olmstedi*	13-Aug	26.0					
					26.0	1	26.0	26.0
Candle Top	*E. olmstedi*	16-Aug	30.0	23.5				
			25.0					
					26.2	3	23.5	30.0
Candle Top	*G. ginsburgi*	30-Jul	4.4	3.9				
			5.3	4.5				
					4.5	4	3.9	5.3
Candle Bottom	*T. maculatus*	25-Jul	2.0					
					2.0	1	2.0	2.0
Candle Top	Amphipods	16-Jul	1.4	3.6				
			2.0	3.7				
			2.7	4.6				
			3.7	3.5				
			0.8	4.3				
			1.1	2.8				
			4.5	4.8				
			1.3	0.7				
			0.9	2.1				
			5.1	3.8				
					2.9	20	0.7	5.1
Candle Bottom	Amphipods	16-Jul	2.0	1.2				
			2.2	1.0				
			1.6	1.1				
			4.5					
					1.9	7	1.0	4.5
Candle Top	Amphipods	18-Jul	1.4	1.4				
			1.5	1.7				
			1.3	1.2				
			4.7	1.2				
			1.3	1.4				
			1.2	1.5				
			1.0	1.2				
			1.4	5.1				
			1.9					
			1.3					
					1.8	18	1.0	5.1
Candle Bottom	Amphipods	18-Jul	3.9	4.3				
			2.2	4.0				
			2.8	2.4				
			1.6	4.9				
			4.8	3.6				
			5.5	2.9				
			6.6	1.3				
			5.5	1.6				
			3.2	3.2				
			2.6	0.6				
					3.4	20	0.6	6.6

Station	Taxa	Date	Total Length (mm)		Mean	Count	Min	Max
Candle Top	Amphipods	20-Jul	6.0	1.2				
			5.3	3.9				
			1.6	7.4				
			2.7	4.0				
			2.4	6.5				
			7.4	3.6				
			2.9	3.5				
			3.0	5.0				
			5.5	2.0				
			1.1	2.7				
					3.9	20	1.1	7.4
Candle Bottom	Amphipods	20-Jul	5.3	1.4				
			4.1	1.4				
			3.8	1.9				
			1.8	1.7				
			7.4	6.2				
			2.3	2.6				
					3.3	12	1.4	7.4
Candle Top	Amphipods	23-Jul	7.0	6.3				
			3.5	8.2				
			8.5	0.5				
			6.8	7.4				
			3.5	5.5				
			6.0	8.0				
			1.3	3.0				
			5.2	6.5				
			7.8	1.5				
			1.7	8.5				
					5.3	20	0.5	8.5
Candle Bottom	Amphipods	23-Jul	2.4	6.2				
			2.1	1.6				
			2.5	5.3				
			5.5	7.0				
			2.7	5.3				
			6.0	5.0				
			7.5	8.0				
			7.0	5.0				
			4.2	2.0				
			7.0	6.0				
					4.9	20	1.6	8.0
Candle Top	Amphipods	25-Jul	1.2	1.4				
			0.9	1.1				
			1.0	1.0				
			1.2	1.2				
			1.3	1.2				
			1.2	1.1				
			1.3	4.5				
			1.2	1.3				
			1.4	6.6				
			1.0	1.3				
					1.6	20	0.9	6.6
Candle Bottom	Amphipods	25-Jul	1.3	0.8				
			1.3	1.2				
			1.2	1.0				
			1.0	1.4				
			1.0	5.3				
			0.9	1.0				
			1.3	1.5				
			0.9	1.2				
			2.1	1.3				
			1.3	1.4				
					1.4	20	0.8	5.3
Candle Top	Amphipods	26-Jul	9.0	3.4				
			4.8	4.5				
			6.6	3.9				
			3.9					
					5.2	7	3.4	9.0

Station	Taxa	Date	Total Length (mm)		Mean	Count	Min	Max
Candle Bottom	Amphipods	26-Jul	3.5	4.5				
			4.2	1.5				
			2.2	4.7				
			1.4	4.7				
			3.4	6.1				
			1.6	4.5				
			2.3	6.1				
			1.5	4.5				
			5.4	1.5				
			4.5	4.2				
					3.6	20	1.4	6.1
Candle Top	Amphipods	30-Jul	1.6	1.6				
			1.6	2.0				
			1.9	1.2				
			1.8	1.4				
			1.8	1.8				
			1.4	1.8				
			1.7	1.6				
			1.4	1.8				
			1.3	4.1				
			1.8	2.2				
					1.8	20	1.2	4.1
Candle Bottom	Amphipods	30-Jul	3.8	1.5				
			1.4	1.6				
			3.4	1.9				
			1.5	2.4				
			1.7	3.7				
			1.9	1.2				
			1.4	1.8				
			2.6	1.4				
			2.1	1.3				
			1.9	1.4				
					2.0	20	1.2	3.8
Candle Top	Amphipods	2-Aug	3.3	2.5				
			1.9	1.9				
			5.4	3.0				
			5.6	3.0				
			3.4	3.7				
			3.5	5.2				
			2.9	1.4				
			3.5	2.0				
			4.8	4.6				
			4.0	7.4				
					3.7	20	1.4	7.4
Candle Bottom	Amphipods	2-Aug	1.3	1.1				
			2.5	1.5				
			2.9	1.3				
			1.4	1.2				
			5.0	1.2				
			1.7	1.4				
			1.1	1.1				
			1.2	1.2				
			1.5	1.2				
			1.2	3.1				
					1.7	20	1.1	5.0
Candle Top	Amphipods	3-Aug	2.3	1.5				
			0.9	4.0				
			1.8	1.8				

Station	Taxa	Date	Total Length (mm)		Mean	Count	Min	Max
			1.0	1.2				
			8.0	1.4				
			4.5	2.4				
			7.5	7.5				
			4.0	4.0				
			5.5	7.5				
			7.0	0.9				
					3.7	20	0.9	8.0
Candle Bottom	Amphipods	3-Aug	2.3	4.9				
			1.2	1.9				
			2.2	4.7				
			4.5	4.9				
			1.5	1.2				
			2.1	1.4				
			5.9	1.1				
			4.9	1.1				
			3.7	6.0				
			4.8	1.4				
					3.1	20	1.1	6.0
Candle Top	Amphipods	13-Aug	1.6	1.3				
			2.0	1.2				
			1.6	1.3				
			1.1	1.3				
			1.5	1.3				
			1.5	1.4				
			1.2	1.5				
			2.1	1.6				
			1.6	1.3				
			3.7	2.3				
					1.6	20	1.1	3.7
Candle Bottom	Amphipods	13-Aug	1.2	1.3				
			1.6	1.4				
			1.6	2.8				
			1.3	1.4				
			1.5	1.5				
			1.4	1.3				
			1.8	1.8				
			1.5	1.3				
			1.7	1.3				
			2.0	1.5				
					1.6	20	1.2	2.8
Candle Top	Amphipods	14-Aug	4.0	2.0				
			1.5	2.8				
			9.2	5.0				
			5.0	7.5				
			4.5	2.3				
			1.7	5.5				
			6.5	9.2				
			3.5	8.0				
			3.7	10.5				
			5.2	3.5				
					5.1	20	1.5	10.5
Candle Bottom	Amphipods	14-Aug	2.5	3.5				
			2.5	2.5				
			3.0	4.0				
			3.5	9.0				
			2.3	6.0				
			5.0	8.5				
			8.3	2.5				
			7.5	3.5				
			4.0	3.8				
			4.5	2.0				
					4.4	20	2.0	9.0

Station	Taxa	Date	Total Length (mm)		Mean	Count	Min	Max
Candle Top	Amphipods	16-Aug	1.0	1.6				
			1.2	1.4				
			1.4	1.4				
			1.5	1.4				
			1.6	2.1				
			1.1	1.2				
			1.4	1.5				
			1.5	1.2				
			1.5	1.5				
			1.7	1.3				
					1.4	20	1.0	2.1
Canlde Bottom	Amphipods	16-Aug	1.1	1.2				
			1.3	1.3				
			1.6	1.7				
			1.4	1.2				
			1.7	2.0				
			1.1	1.2				
			1.2	1.9				
			1.0	2.0				
			1.0	1.8				
			1.8	1.1				
					1.4	20	1.0	2.0

Appendix Table 4. Species obtained by ichthyoplankton net tows at Stations A, B, and C on the Taunton River, November 15, 2006 to June 30, 2007. Table 3 from Metcalf and Eddy 2007.

Table 3. Species obtained by icthyoplankton net tows at Stations A, B, and C on the Taunton River, November 15, 2006 to June 30, 2007

Date	Station[1]	Common Name	Species	Number	Life Stage	Tidal cycle	Density (species per 100 m^3)
11/22/2006	A	American eel	*Anguilla rostrata*	1	Juvenile	incoming	1.0
12/20/2006	B	American eel	*Anguilla rostrata*	1	Juvenile	incoming	1.0
1/3/2007	A	American eel	*Anguilla rostrata*	1	Juvenile	incoming	1.0
1/24/2007	B	banded killifish	*Fundulus diaphanus*	1	Juvenile	outgoing	1.1
2/2/2007	A	pumpkinseed	*Lepomis gibbosus*	4	Yolk-sac larvae	outgoing	4.3
2/26/2007	B	black crappie	*Pomoxis nigromaculatus*	5	Yolk-sac larvae	incoming	5.3
2/26/2007	C	black crappie	*Pomoxis nigromaculatus*	5	Yolk-sac larvae	incoming	5.7
4/4/2007	A	American eel	*Anguilla rostrata*	10	Juvenile	incoming	8.8
4/4/2007	B	American eel	*Anguilla rostrata*	3	Juvenile	incoming	2.8
4/4/2007	C	American eel	*Anguilla rostrata*	2	Juvenile	incoming	1.9
4/13/2007	A	alewife	*Alosa pseudoharengus*	4	Egg	incoming	4.2
4/25/2007	A	American shad	*Alosa sapidissima*	3	Egg	outgoing	3.1
4/25/2007	C	alewife	*Alosa pseudoharengus*	25	Egg	outgoing	26.0
4/27/2007	B	alewife	*Alosa pseudoharengus*	7	Egg	incoming	8.6
4/30/2007	Rep at C	alewife	*Alosa pseudoharengus*	5	Egg	outgoing	5.3
5/2/2007	C	alewife	*Alosa pseudoharengus*	7	Egg	incoming	6.1
5/2/2007	C	alewife	*Alosa pseudoharengus*	7	Yolk-sac larvae	incoming	6.1
5/4/2007	A	alewife	*Alosa pseudoharengus*	5	Yolk-sac larvae	outgoing	4.8
5/4/2007	A	white perch	*Morone americana*	1	Yolk-sac larvae	outgoing	1.0
5/4/2007	B	alewife	*Alosa pseudoharengus*	40	Egg	outgoing	47.0
5/4/2007	C	alewife	*Alosa pseudoharengus*	13	Yolk-sac larvae	outgoing	12.9
5/4/2007	C	alewife	*Alosa pseudoharengus*	143	Egg	outgoing	141.7
5/4/2007	C	American shad	*Alosa sapidissima*	1	Yolk-sac larvae	outgoing	1.0
5/4/2007	C	white perch	*Morone americana*	1	Yolk-sac larvae	outgoing	1.0
5/4/2007	C	yellow perch	*Perca flavescens*	1	Post yolk-sac larvae	outgoing	1.0
5/7/2007	A	alewife	*Alosa pseudoharengus*	13	Yolk-sac larvae	incoming	12.1
5/7/2007	A	white sucker	*Catostomus commersoni*	1	Post yolk-sac larvae	incoming	0.9
5/7/2007	A	white perch	*Morone americana*	22	Yolk-sac larvae	incoming	20.5
5/7/2007	A	yellow perch	*Perca flavescens*	7	Yolk-sac larvae	incoming	6.5
5/7/2007	B	alewife	*Alosa pseudoharengus*	2	Egg	incoming	1.8
5/7/2007	B	alewife	*Alosa pseudoharengus*	51	Yolk-sac larvae	incoming	46.5
5/7/2007	B	white sucker	*Catostomus commersoni*	2	Yolk-sac larvae	incoming	1.8
5/7/2007	B	white perch	*Morone americana*	33	Yolk-sac larvae	incoming	30.1
5/7/2007	B	yellow perch	*Perca flavescens*	1	Yolk-sac larvae	incoming	0.9
5/7/2007	C	alewife	*Alosa pseudoharengus*	3	Post yolk-sac larvae	incoming	2.5
5/7/2007	C	alewife	*Alosa pseudoharengus*	22	Yolk-sac larvae	incoming	18.3
5/7/2007	C	American eel	*Anguilla rostrata*	2	Juvenile	incoming	1.7
5/7/2007	C	white sucker	*Catostomus commersoni*	1	Post yolk-sac larvae	incoming	0.8
5/7/2007	C	white perch	*Morone americana*	10	Yolk-sac larvae	incoming	8.3
5/7/2007	C	yellow perch	*Perca flavescens*	2	Yolk-sac larvae	incoming	1.7
5/9/2007	A	alewife	*Alosa pseudoharengus*	1	Egg	incoming	1.0
5/9/2007	A	alewife	*Alosa pseudoharengus*	9	Yolk-sac larvae	incoming	9.2
5/9/2007	A		*Lepomis sp.*	2	Yolk-sac larvae	incoming	2.0
5/9/2007	A	white perch	*Morone americana*	1	Yolk-sac larvae	incoming	1.0
5/9/2007	B	alewife	*Alosa pseudoharengus*	2	Post yolk-sac larvae	incoming	2.3
5/9/2007	B	alewife	*Alosa pseudoharengus*	37	Yolk-sac larvae	incoming	41.9
5/9/2007	B	white perch	*Morone americana*	6	Yolk-sac larvae	incoming	6.8
5/9/2007	C	alewife	*Alosa pseudoharengus*	32	Yolk-sac larvae	incoming	31.6
5/9/2007	C	white perch	*Morone americana*	3	Post yolk-sac larvae	incoming	3.0
5/9/2007	C	white perch	*Morone americana*	6	Yolk-sac larvae	incoming	5.9
5/11/2007	A	alewife	*Alosa pseudoharengus*	3	Post yolk-sac larvae	outgoing	3.8
5/11/2007	A	alewife	*Alosa pseudoharengus*	25	Yolk-sac larvae	outgoing	31.3
5/11/2007	A	alewife	*Alosa pseudoharengus*	156	Egg	outgoing	195.6
5/11/2007	A	white sucker	*Catostomus commersoni*	1	Yolk-sac larvae	outgoing	1.3
5/11/2007	A		*Lepomis sp.*	2	Yolk-sac larvae	outgoing	2.5
5/11/2007	A	white perch	*Morone americana*	1	Post yolk-sac larvae	outgoing	1.3
5/11/2007	A	white perch	*Morone americana*	14	Yolk-sac larvae	outgoing	17.6

Date	Station[1]	Common Name	Species	Number	Life Stage	Tidal cycle	Density (species per 100 m^3)
5/11/2007	B	alewife	*Alosa pseudoharengus*	12	Yolk-sac larvae	outgoing	12.4
5/11/2007	B	alewife	*Alosa pseudoharengus*	100	Egg	outgoing	103.0
5/11/2007	B	bony fishes		1	Egg	outgoing	1.0
5/11/2007	B	white perch	*Morone americana*	7	Yolk-sac larvae	outgoing	7.2
5/11/2007	C	alewife	*Alosa pseudoharengus*	3	Post yolk-sac larvae	outgoing	3.4
5/11/2007	C	alewife	*Alosa pseudoharengus*	37	Yolk-sac larvae	outgoing	42.1
5/11/2007	C	alewife	*Alosa pseudoharengus*	55	Egg	outgoing	62.5
5/11/2007	C	white sucker	*Catostomus commersoni*	1	Post yolk-sac larvae	outgoing	1.1
5/11/2007	C		*Lepomis sp.*	1	Yolk-sac larvae	outgoing	1.1
5/11/2007	C	white perch	*Morone americana*	27	Yolk-sac larvae	outgoing	30.7
5/14/2007	A	alewife	*Alosa pseudoharengus*	23	Yolk-sac larvae	outgoing	20.6
5/14/2007	A	alewife	*Alosa pseudoharengus*	50	Egg	outgoing	44.7
5/14/2007	A	American shad	*Alosa sapidissima*	1	Yolk-sac larvae	outgoing	0.9
5/14/2007	A	white sucker	*Catostomus commersoni*	2	Post yolk-sac larvae	outgoing	1.8
5/14/2007	A		*Lepomis sp.*	7	Yolk-sac larvae	outgoing	6.3
5/14/2007	A	white perch	*Morone americana*	8	Yolk-sac larvae	outgoing	7.2
5/14/2007	A	yellow perch	*Perca flavescens*	10	Yolk-sac larvae	outgoing	8.9
5/14/2007	B	alewife	*Alosa pseudoharengus*	10	Yolk-sac larvae	outgoing	10.1
5/14/2007	B	alewife	*Alosa pseudoharengus*	63	Egg	outgoing	63.9
5/14/2007	B	American shad	*Alosa sapidissima*	28	Yolk-sac larvae	outgoing	28.4
5/14/2007	B	white sucker	*Catostomus commersoni*	7	Yolk-sac larvae	outgoing	7.1
5/14/2007	B		*Lepomis sp.*	6	Yolk-sac larvae	outgoing	6.1
5/14/2007	B	white perch	*Morone americana*	2	Post yolk-sac larvae	outgoing	2.0
5/14/2007	B	white perch	*Morone americana*	11	Yolk-sac larvae	outgoing	11.1
5/14/2007	B	yellow perch	*Perca flavescens*	7	Yolk-sac larvae	outgoing	7.1
5/14/2007	B	crappie	*Pomoxis sp.*	3	Yolk-sac larvae	outgoing	3.0
5/14/2007	C	alewife	*Alosa pseudoharengus*	21	Yolk-sac larvae	outgoing	20.6
5/14/2007	C	alewife	*Alosa pseudoharengus*	63	Egg	outgoing	61.8
5/14/2007	C	white sucker	*Catostomus commersoni*	2	Post yolk-sac larvae	outgoing	2.0
5/14/2007	C	white perch	*Morone americana*	1	Post yolk-sac larvae	outgoing	1.0
5/14/2007	C	white perch	*Morone americana*	15	Yolk-sac larvae	outgoing	14.7
5/14/2007	C	yellow perch	*Perca flavescens*	29	Yolk-sac larvae	outgoing	28.4
5/16/2007	A	American shad	*Alosa sapidissima*	1	Yolk-sac larvae	incoming	1.1
5/16/2007	B	alewife	*Alosa pseudoharengus*	3	Yolk-sac larvae	incoming	2.2
5/16/2007	B	American shad	*Alosa sapidissima*	1	Post yolk-sac larvae	incoming	0.7
5/16/2007	C	alewife	*Alosa pseudoharengus*	6	Yolk-sac larvae	incoming	4.8
5/16/2007	C	alewife	*Alosa pseudoharengus*	22	Post yolk-sac larvae	incoming	17.4
5/16/2007	C	white perch	*Morone americana*	6	Yolk-sac larvae	incoming	4.8
5/16/2007	Rep at C	alewife	*Alosa pseudoharengus*	18	Post yolk-sac larvae	incoming	14.3
5/18/2007	A	alewife	*Alosa pseudoharengus*	1	Yolk-sac larvae	outgoing	1.2
5/18/2007	A	alewife	*Alosa pseudoharengus*	8	Juvenile	outgoing	9.8
5/18/2007	A	alewife	*Alosa pseudoharengus*	139	Egg	outgoing	170.4
5/18/2007	A		*Etheostoma sp.*	1	Yolk-sac larvae	outgoing	1.2
5/18/2007	A		*Lepomis sp.*	1	Yolk-sac larvae	outgoing	1.2
5/18/2007	A	white perch	*Morone americana*	10	Yolk-sac larvae	outgoing	12.3
5/18/2007	B	alewife	*Alosa pseudoharengus*	2	Juvenile	outgoing	2.0
5/18/2007	B	alewife	*Alosa pseudoharengus*	2	Yolk-sac larvae	outgoing	2.0
5/18/2007	B	alewife	*Alosa pseudoharengus*	88	Egg	outgoing	89.3
5/18/2007	B	white perch	*Morone americana*	1	Yolk-sac larvae	outgoing	1.0
5/18/2007	B	yellow perch	*Perca flavescens*	1	Yolk-sac larvae	outgoing	1.0
5/18/2007	C	alewife	*Alosa pseudoharengus*	1	Yolk-sac larvae	outgoing	1.1
5/18/2007	C	alewife	*Alosa pseudoharengus*	5	Juvenile	outgoing	5.7
5/18/2007	C	alewife	*Alosa pseudoharengus*	222	Egg	outgoing	251.7
5/18/2007	C		*Lepomis sp.*	3	Yolk-sac larvae	outgoing	3.4
5/18/2007	C	white perch	*Morone americana*	19	Yolk-sac larvae	outgoing	21.5
5/18/2007	C	yellow perch	*Perca flavescens*	2	Yolk-sac larvae	outgoing	2.3
5/21/2007	A	alewife	*Alosa pseudoharengus*	10	Egg	incoming	11.1

Date	Station[1]	Common Name	Species	Number	Life Stage	Tidal cycle	Density (species per 100 m^3)
5/21/2007	A	American shad	*Alosa sapidissima*	1	Egg	incoming	1.1
5/21/2007	A	white sucker	*Catostomus commersoni*	1	Juvenile	incoming	1.1
5/21/2007	A		*Lepomis sp.*	2	Yolk-sac larvae	incoming	2.2
5/21/2007	A	white perch	*Morone americana*	3	Yolk-sac larvae	incoming	3.3
5/21/2007	B	alewife	*Alosa pseudoharengus*	3	Egg	incoming	2.7
5/21/2007	B	white sucker	*Catostomus commersoni*	1	Juvenile	incoming	0.9
5/21/2007	B	white perch	*Morone americana*	2	Yolk-sac larvae	incoming	1.8
5/21/2007	B	yellow perch	*Perca flavescens*	9	Yolk-sac larvae	incoming	8.0
5/21/2007	C	alewife	*Alosa pseudoharengus*	1	Egg	incoming	1.1
5/21/2007	C	alewife	*Alosa pseudoharengus*	2	Yolk-sac larvae	incoming	2.2
5/21/2007	C	white sucker	*Catostomus commersoni*	1	Post yolk-sac larvae	incoming	1.1
5/21/2007	C	white perch	*Morone americana*	1	Post yolk-sac larvae	incoming	1.1
5/21/2007	C	white perch	*Morone americana*	3	Yolk-sac larvae	incoming	3.3
5/21/2007	C	yellow perch	*Perca flavescens*	4	Yolk-sac larvae	incoming	4.4
5/23/2007	A	alewife	*Alosa pseudoharengus*	1	Yolk-sac larvae	outgoing	0.9
5/23/2007	A	Alewife	*Alosa pseudoharengus*	19	Egg	outgoing	18.0
5/23/2007	A	yellow perch	*Perca flavescens*	1	Yolk-sac larvae	outgoing	0.9
5/23/2007	B	alewife	*Alosa pseudoharengus*	24	Egg	outgoing	23.1
5/23/2007	C	alewife	*Alosa pseudoharengus*	80	Egg	outgoing	71.6
5/23/2007	C		*Lepomis sp.*	1	Yolk-sac larvae	outgoing	0.9
5/25/2007	A	alewife	*Alosa pseudoharengus*	5	Egg	incoming	4.4
5/25/2007	A	white perch	*Morone americana*	2	Yolk-sac larvae	incoming	1.7
5/25/2007	B	alewife	*Alosa pseudoharengus*	1	Juvenile	incoming	1.0
5/25/2007	B	American shad	*Alosa sapidissima*	1	Yolk-sac larvae	incoming	1.0
5/25/2007	C	alewife	*Alosa pseudoharengus*	1	Post yolk-sac larvae	incoming	0.9
5/25/2007	C	alewife	*Alosa pseudoharengus*	1	Yolk-sac larvae	incoming	0.9
5/25/2007	C	white perch	*Morone americana*	2	Yolk-sac larvae	incoming	1.8
5/25/2007	Rep at C	alewife	*Alosa pseudoharengus*	2	Yolk-sac larvae	incoming	1.7
5/25/2007	Rep at C		*Lepomis sp.*	1	Yolk-sac larvae	incoming	0.9
5/25/2007	Rep at C	white perch	*Morone americana*	3	Yolk-sac larvae	incoming	2.6
5/28/2007	A	alewife	*Alosa pseudoharengus*	1	Post yolk-sac larvae	outgoing	1.0
5/28/2007	A	alewife	*Alosa pseudoharengus*	9	Yolk-sac larvae	outgoing	8.8
5/28/2007	A	alewife	*Alosa pseudoharengus*	84	Egg	outgoing	81.8
5/28/2007	A	American shad	*Alosa sapidissima*	1	Egg	outgoing	1.0
5/28/2007	A	American shad	*Alosa sapidissima*	1	Yolk-sac larvae	outgoing	1.0
5/28/2007	A		*Lepomis sp.*	1	Yolk-sac larvae	outgoing	1.0
5/28/2007	A	white perch	*Morone americana*	2	Post yolk-sac larvae	outgoing	1.9
5/28/2007	A	white perch	*Morone americana*	59	Yolk-sac larvae	outgoing	57.5
5/28/2007	A	yellow perch	*Perca flavescens*	3	Yolk-sac larvae	outgoing	2.9
5/28/2007	B	alewife	*Alosa pseudoharengus*	2	Juvenile	outgoing	2.2
5/28/2007	B	alewife	*Alosa pseudoharengus*	2	Post yolk-sac larvae	outgoing	2.2
5/28/2007	B	alewife	*Alosa pseudoharengus*	18	Yolk-sac larvae	outgoing	19.5
5/28/2007	B	alewife	*Alosa pseudoharengus*	29	Egg	outgoing	31.5
5/28/2007	B		*Lepomis sp.*	1	Yolk-sac larvae	outgoing	1.1
5/28/2007	B	white perch	*Morone americana*	30	Yolk-sac larvae	outgoing	32.6
5/28/2007	B	yellow perch	*Perca flavescens*	3	Yolk-sac larvae	outgoing	3.3
5/28/2007	C	alewife	*Alosa pseudoharengus*	37	Egg	outgoing	40.5
5/28/2007	C	white perch	*Morone americana*	4	Yolk-sac larvae	outgoing	4.4
5/28/2007	C	yellow perch	*Perca flavescens*	2	Yolk-sac larvae	outgoing	2.2
5/30/2007	A	white perch	*Morone americana*	14	Yolk-sac larvae	incoming	12.7
5/30/2007	B	alewife	*Alosa pseudoharengus*	1	Juvenile	incoming	1.1
5/30/2007	B	alewife	*Alosa pseudoharengus*	2	Post yolk-sac larvae	incoming	2.2
5/30/2007	B	alewife	*Alosa pseudoharengus*	3	Yolk-sac larvae	incoming	3.3
5/30/2007	B	white perch	*Morone americana*	11	Yolk-sac larvae	incoming	12.0
5/30/2007	C	alewife	*Alosa pseudoharengus*	4	Post yolk-sac larvae	incoming	4.0
5/30/2007	C	alewife	*Alosa pseudoharengus*	5	Yolk-sac larvae	incoming	5.1
5/30/2007	C	white perch	*Morone americana*	1	Post yolk-sac larvae	incoming	1.0

Date	Station[1]	Common Name	Species	Number	Life Stage	Tidal cycle	Density (species per 100 m^3)
5/30/2007	C	white perch	*Morone americana*	30	Yolk-sac larvae	incoming	30.3
6/1/2007	A	alewife	*Alosa pseudoharengus*	2	Yolk-sac larvae	outgoing	2.0
6/1/2007	A	alewife	*Alosa pseudoharengus*	7	Egg	outgoing	7.0
6/1/2007	A	white sucker	*Catostomus commersoni*	1	Yolk-sac larvae	outgoing	1.0
6/1/2007	A	white perch	*Morone americana*	1	Post yolk-sac larvae	outgoing	1.0
6/1/2007	A	white perch	*Morone americana*	51	Yolk-sac larvae	outgoing	51.1
6/1/2007	B	alewife	*Alosa pseudoharengus*	2	Juvenile	outgoing	2.2
6/1/2007	B	alewife	*Alosa pseudoharengus*	13	Egg	outgoing	14.1
6/1/2007	B		*Lepomis sp.*	1	Yolk-sac larvae	outgoing	1.1
6/1/2007	B	white perch	*Morone americana*	1	Yolk-sac larvae	outgoing	1.1
6/1/2007	C	alewife	*Alosa pseudoharengus*	1	Yolk-sac larvae	outgoing	1.1
6/1/2007	C	alewife	*Alosa pseudoharengus*	7	Egg	outgoing	7.8
6/1/2007	C	American shad	*Alosa sapidissima*	1	Yolk-sac larvae	outgoing	1.1
6/1/2007	C	white perch	*Morone americana*	9	Yolk-sac larvae	outgoing	10.1
6/1/2007	Rep at B	alewife	*Alosa pseudoharengus*	1	Yolk-sac larvae	outgoing	1.1
6/1/2007	Rep at B	alewife	*Alosa pseudoharengus*	21	Egg	outgoing	22.4
6/4/2007	A	alewife	*Alosa pseudoharengus*	6	Egg	outgoing	7.0
6/4/2007	A	white perch	*Morone americana*	4	Yolk-sac larvae	outgoing	4.7
6/4/2007	B	alewife	*Alosa pseudoharengus*	12	Egg	outgoing	8.4
6/4/2007	B	white perch	*Morone americana*	2	Yolk-sac larvae	outgoing	1.4
6/4/2007	C	alewife	*Alosa pseudoharengus*	14	Egg	outgoing	19.5
6/4/2007	C	white perch	*Morone americana*	3	Yolk-sac larvae	outgoing	4.2
6/6/2007	A	alewife	*Alosa pseudoharengus*	1	Egg	incoming	1.1
6/6/2007	A	alewife	*Alosa pseudoharengus*	24	Juvenile	incoming	26.9
6/6/2007	A		*Fundulus sp.*	1	Post yolk-sac larvae	incoming	1.1
6/6/2007	A		*Lepomis sp.*	1	Post yolk-sac larvae	incoming	1.1
6/6/2007	A	white perch	*Morone americana*	2	Yolk-sac larvae	incoming	2.2
6/6/2007	B	alewife	*Alosa pseudoharengus*	1	Post yolk-sac larvae	incoming	1.0
6/6/2007	B	alewife	*Alosa pseudoharengus*	2	Egg	incoming	2.0
6/6/2007	B	alewife	*Alosa pseudoharengus*	6	Juvenile	incoming	5.9
6/6/2007	B		*Notropis sp.*	4	Post yolk-sac larvae	incoming	3.9
6/6/2007	C	alewife	*Alosa pseudoharengus*	9	Post yolk-sac larvae	incoming	7.4
6/6/2007	C	alewife	*Alosa pseudoharengus*	12	Juvenile	incoming	9.8
6/6/2007	Rep at C	alewife	*Alosa pseudoharengus*	3	Post yolk-sac larvae	incoming	2.3
6/6/2007	Rep at C	alewife	*Alosa pseudoharengus*	14	Juvenile	incoming	10.7
6/8/2007	A	alewife	*Alosa pseudoharengus*	2	Egg	outgoing	2.2
6/8/2007	A	American eel	*Anguilla rostrata*	1	Juvenile	outgoing	1.1
6/8/2007	B	alewife	*Alosa pseudoharengus*	3	Egg	outgoing	3.1
6/8/2007	C	alewife	*Alosa pseudoharengus*	1	Egg	outgoing	0.9
6/8/2007	C	alewife	*Alosa pseudoharengus*	1	Yolk-sac larvae	outgoing	0.9
6/11/2007	A	alewife	*Alosa pseudoharengus*	1	Juvenile	incoming	1.0
6/11/2007	A	white perch	*Morone americana*	1	Yolk-sac larvae	incoming	1.0
6/11/2007	B	white perch	*Morone americana*	2	Yolk-sac larvae	incoming	1.9
6/11/2007	C	white perch	*Morone americana*	2	Yolk-sac larvae	incoming	2.1
6/13/2007	A	alewife	*Alosa pseudoharengus*	1	Juvenile	outgoing	1.0
6/13/2007	A	alewife	*Alosa pseudoharengus*	5	Yolk-sac larvae	outgoing	5.2
6/13/2007	A		*Fundulus sp.*	1	Yolk-sac larvae	outgoing	1.0
6/13/2007	A		*Lepomis sp.*	3	Yolk-sac larvae	outgoing	3.1
6/13/2007	A	northern pipefish	*Syngnathus fuscus*	6	Yolk-sac larvae	outgoing	6.2
6/13/2007	B	alewife	*Alosa pseudoharengus*	1	Post yolk-sac larvae	outgoing	1.0
6/13/2007	B		*Etheostoma sp.*	1	Yolk-sac larvae	outgoing	1.0
6/13/2007	B		*Lepomis sp.*	1	Yolk-sac larvae	outgoing	1.0
6/13/2007	B	white perch	*Morone americana*	1	Juvenile	outgoing	1.0
6/13/2007	C	alewife	*Alosa pseudoharengus*	1	Juvenile	outgoing	1.0
6/13/2007	C	alewife	*Alosa pseudoharengus*	3	Post yolk-sac larvae	outgoing	3.1
6/13/2007	C		*Etheostoma sp.*	1	Yolk-sac larvae	outgoing	1.0
6/13/2007	C	white perch	*Morone americana*	1	Post yolk-sac larvae	outgoing	1.0

Date	Station[1]	Common Name	Species	Number	Life Stage	Tidal cycle	Density (species per 100 m³)
6/13/2007	C	northern pipefish	*Syngnathus fuscus*	3	Juvenile	outgoing	3.1
6/15/2007	A	alewife	*Alosa pseudoharengus*	1	Juvenile	outgoing	1.0
6/15/2007	B	white perch	*Morone americana*	1	Yolk-sac larvae	outgoing	1.2
6/18/2007	A	alewife	*Alosa pseudoharengus*	1	Post yolk-sac larvae	incoming	1.0
6/18/2007	A	alewife	*Alosa pseudoharengus*	2	Juvenile	incoming	2.0
6/18/2007	A	black crappie	*Pomoxis nigromaculatus*	1	Post yolk-sac larvae	incoming	1.0
6/18/2007	B	American eel	*Anguilla rostrata*	1	Juvenile	incoming	1.0
6/18/2007	C	alewife	*Alosa pseudoharengus*	8	Juvenile	incoming	8.5
6/18/2007	C		*Lepomis sp.*	3	Yolk-sac larvae	incoming	3.2
6/18/2007	C	crappie	*Pomoxis sp.*	2	Yolk-sac larvae	incoming	2.1
6/20/2007	A	alewife	*Alosa pseudoharengus*	1	Juvenile	incoming	1.0
6/25/2007	A		*Lepomis sp.*	1	Yolk-sac larvae	outgoing	1.2
6/25/2007	B	alewife	*Alosa pseudoharengus*	2	Juvenile	outgoing	2.3
6/25/2007	C	alewife	*Alosa pseudoharengus*	1	Juvenile	outgoing	1.1

[1] "Rep" at a station indicates that icthyoplankton were found at that station in the replicate sample

Summary of above Table 3 data for Station B.						
Date	**Eggs**		**Yolk-sac Larvae**		**Post Yolk-sac Larvae**	
	River Herring	**White Perch**	**River Herring**	**White Perch**	**River Herring**	**White Perch**
4/27/2007	8.6		0	0	0	0
5/2/2007	0	0	0	0	0	0
5/4/2007	0	0	0	0	0	0
5/7/2007	47.0	0	46.5	30.1	0	0
5/9/2007	1.8	0	41.9	6.8	2.3	0
5/11/2007	0	0	12.4	7.2	0	0
5/14/2007	0	0	10.1	11.1	0	2
5/16/2007	0	0	2.2	0	0	0
5/18/2007	0	0	2	1	0	0
5/21/2007	0	0	0	1.8	0	0
5/23/2007	0	0	0	0	0	0
5/25/2007	0	0	0	0	0	0
5/28/2007	0	0	19.5	32.6	2.2	0
5/30/2007	0	0	3.3	12	2.2	0
6/1/2007	0	0	1.1	1.1	0	0
6/4/2007	0	0	0	1.4	0	0
6/6/2007	0	0	0	0	1	0
6/8/2007	0	0	0	0	0	0
6/11/2007	0	0	0	1.9	0	0
6/13/2007	0	0	0	0	1	0
6/15/2007	0	0	0	1.2	0	0
6/18/2007	0	0	0	0	0	0
6/20/2007	0	0	0	0	0	0
6/25/2007	0	0	0	0	0	0
Geometric Mean	**5.7**	**0**	**4.3**	**2.3**	**0.4**	**0.1**