

APPENDIX C
SUMMARY OF WMA REGISTRATION AND PERMITTING AND NPDES PERMITTING INFORMATION
NARRAGANSETT AND MOUNT HOPE BAY WATERSHEDS

Table C1. Water Management Act registrations and permits in the Narragansett and Mount Hope Bay Watersheds.

Name	Source Name	Registration	Permit	Registered Volume (MGD)	Permitted Volume (MGD)	PWSID	Segment Subwatershed That Contains Sources/notes
Bristol County Water Authority, Warren RI	Warren Upper Reservoir (also known as Anawan Reservoir)	42624705		2.7		42624705-01S	Upstream MA53-11
	Warren Reservoir (also known as Swansea Reservoir)					42624705-02S	Upstream MA61-08
	Shad Factory Reservoir					42624705-03S	MA53-04
Dighton Water District, Dighton	Cedar Street WPS 1	42607601		0.37	0	4076000-02G	Upper Watershed MA61-03
	Cedar Street WPS 2	42607601		0.37	0	4076000-03G	Upper Watershed MA61-03
	Cedar Street WPS 3	42607601		0.37	0	4076000-06G	Upper Watershed MA61-03
Fall River Water Department, Fall River	North Watuppa Pond	42609501		8.22	0	4095000-01S	MA61004
	South Watuppa	42609501		8.22	0	4095000-04S	MA61006 (Emergency Source Only)
Crestwood Country Club, Rehoboth	Palmer River	42624704		0.08	0	NA	MA53-04 (Registered For 240 Days)
M R Souza & Bros Farms, Rehoboth	Pond	42624702		0.02	0	NA	Upper Watershed MA61-03 (Registered For 120 Days)
Four Town Farm, Inc., Seekonk	Reservoir	42626501		0.07	0	NA	Downstream MA53-01 (Registered For 210 Days)
	Well 1	42626501		0.07	0	NA	Downstream MA53-01
	Well 2	42626501		0.07	0	NA	Downstream MA53-01
	Well 3	42626501		0.07	0	NA	Downstream MA53-01
Palmer River Golf Club, Inc., Swansea	Pond		9P42629202	0	0.13	NA	MA53-06 (Exact Withdrawal Point unknown, permitted For 153 Days)
Somerset Power, LLC., Swansea	Coles River	42627301		0.19	0	NA	MA61-03

Table C1 (continued). Water Management Act registrations and permits in the Narragansett and Mount Hope Bay Watersheds.

Swansea Water District, Swansea	Borge Field Pump Sta. #11	42629201	9P42629201	1.02	0.7	4292000-11G	MA61-08
	Borge Pumping Station #7	42629201	9P42629201	1.02	0.7	4292000-07G	MA61-08
	Hornbine Pump Station #8	42629201	9P42629201	1.02	0.7	4292000-08G	Upper Watershed MA61-03
	Maker Field Pump Sta #4	42629201	9P42629201	1.02	0.7	4292000-04G	MA61-08
	Maker Field Pump Sta.#5	42629201	9P42629201	1.02	0.7	4292000-05G	MA61-08
	Midwood Drive Pump Sta #3	42629201	9P42629201	1.02	0.7	4292000-03G	Upper Watershed MA61-03
	Midwood Field Pump Sta #1	42629201	9P42629201	1.02	0.7	4292000-01G	Upper Watershed MA61-03
	Midwood Field Pump Sta #2	42629201	9P42629201	1.02	0.7	4292000-02G	Upper Watershed MA61-03
	Reed Road	42629201	9P42629201	1.02	0.7	4292000-12G	MA61-08
	Vinnicum Pump Sta. #9	42629201	9P42629201	1.02	0.7	4292000-09G	MA53-16
	Vinnicum Pump Station #10	42629201	9P42629201	1.02	0.7	4292000-10G	MA53-16
	Vinnicum Pump Station #6	42629201	9P42629201	1.02	0.7	4292000-06G	MA53-16

Table C2. NPDES discharges in the Narragansett and Mount Hope Bay Watersheds (excluding permits for construction/dewatering).

PERMITTEE	NPDES #	SEGMENT
Atlantic Frost Seafoods, LLC	MAG250036	MA61-06
Atlantic Frost Seafoods, LLC is authorized (MAG250036 issued in February 2005) to discharge non-contact cooling water from their ship docked at 1 Water Street, Fall River to Mount Hope Bay. The source of the water is indicated as sea water from Mount Hope Bay. The maximum daily flow reported is 0.09 MGD and a maximum temperature of 72°F.		

PERMITTEE	NPDES #	SEGMENT
City of Fall River Sewer Commission	MA0100382	MA61-06, MA61-05
<p>The City of Fall River Sewer Commission is authorized (MA0100382 issued in December 2000) to discharge from the Fall River Wastewater Treatment Plant a flow of 30.9 MGD average monthly of secondary wastewater treatment plant effluent via outfall #001 to Mount Hope Bay (segment MA61-06). The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and C-NOEC $\geq 18\%$ effluent using <i>Menidia beryllina</i> and <i>Arbacia punctulata</i> as test species on a quarterly basis. The Total Residual Chlorine (TRC) limit is 0.074 mg/L daily maximum and average monthly is 0.043 mg/L. The facility is also permitted to discharge Combined Sewer Overflows (CSOs) to Mount Hope Bay, Taunton River, and Quequechan River as follows (includes CSO upgrade status (Sullivan 2008):</p> <p><u>CSOs to Mount Hope Bay (MA61-06)</u></p> <p>002: outfall at Mount Hope Avenue (Drop shaft connection to storage tunnel)</p> <p>003: outfall at Charles Street</p> <p>004: outfall at Birch Street (Treatment with bar screen) (Drop shaft connection to storage tunnel anticipated by end of December 2008)</p> <p>005: outfall at Riverview Street (Drop shaft connection to storage tunnel anticipated by end of December 2008)</p> <p>006: outfall at Middle Street (Drop shaft connection to storage tunnel)</p> <p>007: outfall at William Street</p> <p>008: outfall at Ferry Street (Drop shaft connection to storage tunnel)</p> <p><u>CSOs to Quequechan River (MA61-05):</u></p> <p>009: outfall at Central Street</p> <p>015: outfall at Plymouth Ave.-North (Drop shaft connection to storage tunnel anticipated by end of December 2008)</p> <p>016: outfall at Lowell Street (Drop shaft connection to storage tunnel anticipated by end of August 2008)</p> <p>017: outfall at Quequechan Street (Expansion of current sewer line underway. Drop shaft connection to storage tunnel anticipated by end of December 2008)</p> <p>018: outfall at Heritage Park (Outfall terminated in a semi permanent fashion. Rainfall in excess of 7" in a 24-hour period will require it to be reopened).</p> <p>019: outfall at Canal Street</p> <p>020: outfall at Third Street (Drop shaft connection to storage tunnel anticipated by end of August 2008)</p> <p>021: outfall at Plymouth Ave.-South</p> <p><u>CSOs to Taunton River (not included in this report)</u></p> <p>010: outfall at City Pier</p> <p>011: outfall at President Avenue</p> <p>013: outfall at Cove Street (Treatment with bar screen and disinfection)</p> <p>014: outfall at Alton Street</p> <p><u>Effluent</u></p> <p>Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between June 2001 and March 2008 ranged from 1.2 to 19.98 mg/L (n=28) and Total Residual Chlorine (TRC) concentrations were all reported as less than detection (0.1, 0.05, and 0.02 mg/L depending on report) (n=27).</p> <p>Note (Burns 2008 and Sullivan 2009): Nearly \$160 million has been spent on CSO abatement program. Construction of plant upgrade, south and central tunnels complete. In early 2005, four drop shafts were constructed, two others were completed in December 2008, and the last three are under construction and are expected to be finished by spring 2009. A surface interceptor is being expanded and the Cove Street Screening and Disinfection Facility is underway and should be on-line by April 2009. Once all of these facilities and controls go on line then Phase 2B of the CSO abatement program will continue in 2012. In Phase 2B a study will determine the best plan for the north side of Fall River. The plan was anticipated to be three more screening and disinfection facilities. The Phase 2B study will re-evaluate screening/disinfection, separation (new storm drain system) and other alternatives. Phase 3 involves limited sewer separation between the tunnel and the river. Significant reduction of overflow has been achieved by Phase I and Phase II but not quantified at this time.</p> <p>Originally there was to be one extreme event outfall. The plan was found not feasible. An alternative plan was presented called the Modified Tunnel Plan (MTP) that would keep some of the CSO facilities (significantly upgraded) and do more separation and adjustments using the tunnel (originally their was to be north tunnel but the soil-rock conditions aligned the tunnel unfavorably to the existing system cost significantly higher that made the proposed modifications favorable). The construction of the Cove Street Facility now will serve as the example of the other screening and disinfection facilities planned as part of the (MTP).</p>		

PERMITTEE Dominion Energy, LLC (Brayton Point Station)	NPDES # MA0003654	SEGMENT MA61-07 (also affects MA61-06)
<p>Dominion Energy, LLC (Dominion Brayton) (formerly owned by USGen New England, Inc.) is authorized (MA0003654 issued in October 2003) to discharge the following from the facility to Mount Hope Bay:</p> <p>Outfall 001: 40 MGD average monthly and 42 maximum daily, process water from Discharge Canal</p> <p>Outfall 003A: 8.64 MGD average monthly and maximum daily, cooling tower Blowdown from Units 1 and 2.</p> <p>Outfall 003B: 14.4 MGD average monthly and maximum daily, of cooling tower Blowdown from Unit 3.</p> <p>Outfall 003C: 14.4 MGD average monthly and maximum daily, of cooling tower Blowdown from Unit 4.</p> <p>Outfall 004A: 2 MGD average monthly and 4 MGD maximum daily, of combined treated waste stream of metal cleaning wastes and low volume waste streams.</p> <p>Outfall 004B: 2 MGD average monthly and 4 MGD maximum daily, of the combined treated waste stream of metal cleaning wastes and low volume waste streams.</p> <p>Outfall 005: flow to be reported, of non-thermal backwash.</p> <p>Outfall 017: 5.28 MGD maximum daily, of the Intake Screen Wash for Units 1, 2, and 3.</p> <p>Outfall 020: 18.2 MGD average monthly and maximum daily, of the Unit 4 Intake Screen Wash and Fish Bypass Return.</p> <p>The permit requires reporting the results of quarterly acute whole effluent toxicity (WET) tests on Outfall 001 using <i>Mysidopsis bahia</i>, chronic (and modified acute) WET tests using <i>Menidia beryllina</i> and chronic WET tests using <i>Arbacia punctulata</i>. A reduction in toxicity testing to twice per year can be requested if eight consecutive sampling periods have no test indicating $LC_{50} < 100\%$ effluent and $C-NOEC < 20\%$ effluent. The permit authorizes the use of sodium hypochlorite, halogen hydantoin (chlorine), and/or Spectrus CT1300 as biocides. The daily maximum Total Residual Oxidant (TRO) limit is 0.065 mg/L and average monthly is 0.0375 mg/L.</p> <p><u>Effluent</u></p> <p>Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between March 2005 and March 2008 ranged from <0.1 to 2.4 mg/L (n=13) and Total Residual Chlorine (TRC) concentrations were all <0.026 mg/L (n=13).</p>		

PERMITTEE Fall River Tool & Die Company	NPDES # MAG250017	SEGMENT Tributary to MA61006
<p>The Fall River Tool & Die Company is authorized (MAG250017 issued in July 2002) to discharge non-contact cooling water from their facility located at 994 Jefferson Street in Fall River to Sucker Brook, a tributary to South Watuppa Pond. The facility currently manufactures tools, dies, zinc die-castings and plastic injection moldings. EPA terminated the facility's individual permit (MA0003107) in July 2002. The source of water is indicated as municipal supply. The company reports a maximum daily flow of 0.004 and 0.002 MGD via outfalls 001 and 002, respectively, and an average monthly TRC of 0.1 mg/L from both outfalls.</p>		

PERMITTEE Kerr Mill Associates	NPDES # MA0034240	SEGMENT MA61006
<p>Kerr Mill Associates of Fall River submitted an application (MA0034240) for groundwater remediation at the property on South Watuppa Pond shore. The groundwater remediation cleanup was completed and EPA lists this file as inactive as of August 2003. This site is a redeveloped brownfields and home to UMass Dartmouth Advanced Materials Technology Center.</p>		

PERMITTEE Roadway Express	NPDES # MAG910025	SEGMENT MA61006
<p>Roadway Express in Westport received coverage under the Remediation General Permit (authorization MAG910025) to discharge from their remediation process to South Watuppa Pond. The prior NPDES permit application (MA0036391) was terminated by EPA in December 2005 when coverage was granted by the remediation general permit.</p>		

PERMITTEE The Swansea Water District	NPDES # MA0103390	SEGMENT MA53-03
<p>The Swansea Water District is authorized (MA0103390 issued in Feb 2008) to discharge from the Swansea Water Treatment Facility a flow of 2.71 MGD average monthly of blended brine and treated water from the sludge drying beds via outfall #001 to the Palmer River. The discharge is authorized for a six -hour period beginning three hours before and ending three hours after high tide. The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and $C-NOEC \geq 77\%$ effluent using <i>Arbacia punctulata</i>, <i>Menidia beryllina</i>, and <i>Mysidopsis bahia</i> as test species on a quarterly basis. The daily maximum Total Residual Chlorine (TRC) limit is 0.013mg/L and average monthly is 0.008mg/L. This facility is not yet constructed and is anticipated to be operational in 2009.</p>		

PERMITTEE Tillotson Complex	NPDES # MA0032395	SEGMENT MA61-06
<p>The Tillotson Complex in Fall River was authorized (MA0032395) to discharge non-contact cooling water and stormwater from their facility. Since 1997 the non-contact cooling water discharge was ceased and EPA terminated the permit in July 2005. The facility currently (authorized in 2005) has coverage under the general stormwater permit (MAR0T0003).</p>		

PERMITTEE Vinnicum Wellfield Pilot Testing Program, Swansea	NPDES # MAG640073	SEGMENT MA53-16
The Vinnicum Wellfield Pilot Testing Program is authorized (MAG640073 issued in September 2005) to discharge effluent from water treatment facilities to Rocky Run at the pumping station near Vinnicum Road in Swansea. The pilot project ran from September to October 2005. The flow was reported as approximately 20 gallons per minute. Ten batches of approximately 500 gallons were discharged. Since the pilot project is complete and there are no longer any discharges, the permit can be terminated when EPA receives a letter from the town.		

STORMWATER

The NPDES Phase II General Permit program requires NPDES permit coverage for stormwater discharges from small municipal separate storm sewer systems (MS4s), and construction activity disturbing one acre or more of land in a mapped "urbanized area" defined and delineated by the US Bureau of Census in 2000 <http://www.epa.gov/npdes/pubs/fact2-2.pdf>. Large and medium MS4s (populations over 100,000) were permitted during Phase I of the NPDES stormwater program. Under EPA's Phase II program, the definition of "municipal" includes Massachusetts communities, U.S. military installations, state or federal owned facilities such as hospitals, prison complexes, state colleges or universities and state highways. An MS4 is a system that: discharges at one or more a point sources; is a separate storm sewer system (not designed to carry combined stormwater and sanitary waste water); is operated by a public body; discharges to the Waters of the United States or to another MS4; and, is located in an "Urbanized Area". The NPDES Phase II General Permit requires operators of regulated MS4s to develop and implement a stormwater management program that prevents harmful pollutants from being washed or dumped directly into the storm sewer system which is subsequently discharged into local waterbodies. Certain Massachusetts communities were automatically designated (either in full or part) by the Phase II rule based on the urbanized area delineations from the 2000 U.S. Census.

As a result of the census mapping, all 8 communities in the Narragansett and Mt. Hope Watershed were located either totally or partially in the regulated Urbanized Area (see below Table C3). Municipalities that are totally regulated must implement the requirements of the Phase II permit in the entire town, while communities that are partially regulated need to comply with the Phase II permit only in the mapped Urbanized Areas. All Narragansett and Mt. Hope drainage area communities applied to EPA and MassDEP for coverage under the Phase II stormwater general permit, issued on 1 May 2003. EPA issued stormwater general permits to all 8 Narragansett and Mt. Hope Watershed municipalities. After administrative review and, in coordination with MassDEP, a thorough review of the communities' stormwater management program during the five-year permit term. Phase II stormwater general permits expire on 1 May 2008 but remain in effect until a new permit is issued (Domizio 2004). USEPA and MassDEP will reissue the Phase II general permit later in 2008. All communities must re-apply for coverage under the updated general permit. The updated general permit will likely require some monitoring within the MS4 Phase II area including outfalls and receiving waters and the general permit will require a more detailed and better defined Illicit Discharge Detection and Elimination Program (IDDEP). For detailed community maps see <http://www.epa.gov/region01/npdes/stormwater/ma.html>

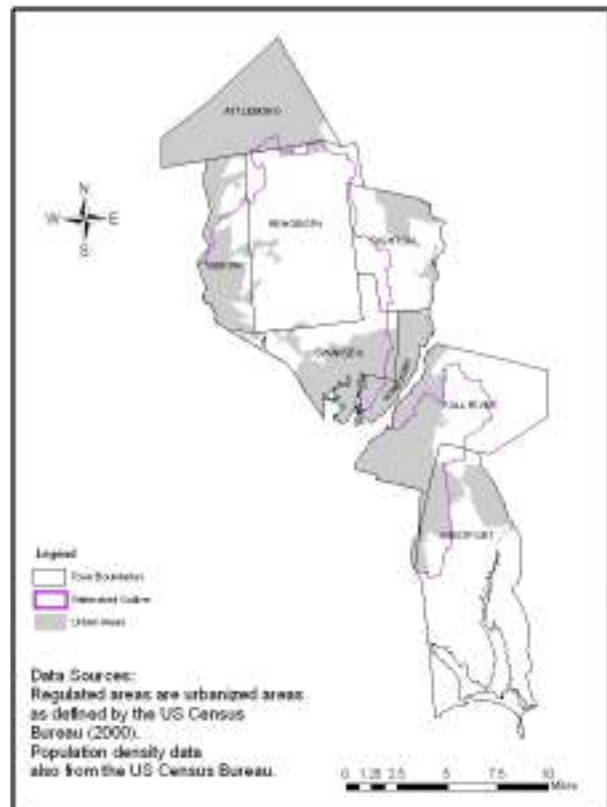


Figure C1. Urbanized Areas in the Massachusetts portions of Narragansett and Mount Hope Bay Watersheds

Table C3. NPDES Phase II stormwater permit information for Narragansett and Mt. Hope Watershed Communities.

Community	Permit #	Permit Issued	Mapped Regulatory area in community
Fall River	MAR041113	9/12/2003	Partial
Swansea	MAR041163	9/24/2003	Partial
Rehoboth	MAR041152	9/9/2003	Partial
Seekonk	MAR041156	9/16/2003	Partial
Dighton	MAR041105	9/17/2003	Partial
Somerset	MAR041159	9/24/2003	Partial
Westport	MAR041174	1/14/2004	Partial
Attleboro	MAR041087	8/28/2003	Partial

REFERENCES

Burns, D. (David.Burns@state.ma.us). 2008. *Re: Fall River MA0100382 update particularly CSO implementation*. Massachusetts Department of Environmental Protection, Bureau of Resource Protection, Lakeville, MA. Email to Laurie Kennedy, Massachusetts Department of Environmental Protection, Division of Watershed Management, Worcester, MA dated 23 July 2008.

Domizio, L. 2004. *Stormwater permitting information Phase II Communities*. Massachusetts Department of Environmental Protection, Division of Watershed Management, Worcester, MA. Personal Communication

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