Municipality/Organization:	Millville, MA
EPA NPDES Permit Number:	MA R041138
MaDEP Transmittal Number:	**W-063418**
Annual Report Number & Reporting Period:	**No. 5: March 2007-March 2008**

P 6/5/08

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Helen Coffin Title: Executive Secretary

Telephone #: 508-883-1186 Email: execsec@millvillema.org

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Helen M. Coffin

Printed Name: Helen Coffin

Title: Executive Secretary

Date: June 2, 2008

Part II. Self-Assessment

See enclosed report entitled "National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater Management Plan 2008 Status Report, Millville, Massachusetts," dated April 2008.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)
1.1	Distribute Educational Materials	Conservation Commission	Distribute and display educational materials.	Stormwater educational materials are displayed and made available at the Town Hall building. Other public buildings, such as the library and senior center, are being considered for future displays.
1.2	Other	Board of Health / Conservation Commission	Work with the Blackstone River Watershed Association.	Continued to an open communication with the Blackstone River Watershed Association in regards to public education opportunities for stormwater.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)
2.1	Public Involvement	Board of Health / Conservation Commission	Town to participate in the Blackstone River Watershed Association Stream Team and Canoe Race.	Continued efforts to organize periodic canoe trips to inspect outfalls to Blackstone River.
2.2	Municipal Roads	Conservation Commission	Stencil Storm Drains within the Urbanized Area.	Town employees stenciled all storm drains prior to Permit Year 5. Town employees periodically inspected the storm drain system to see if re-stenciling was required. Any fading labels will be identified and re-painted when necessary.
2.3	Watershed Organizations	Conservation Commission	Work with the Blackstone River Watershed Association to coordinate and implement additional public education and public outreach programs.	The Conservation Commission communicated with the Blackstone River Watershed Association regarding potential projects requiring stormwater management and located within the watershed.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)
3.1	Stormwater System Mapping	Highway Department	Map outfalls, pipes, manholes and catch basins.	A total of 78 outfalls were located, inspected and mapped by the end of Permit Year 5.
3.2	Regulatory Mechanism	Board of Health	Develop and implement ordinance.	The Board of Health developed a bylaw prohibiting non-stormwater discharges into the storm sewer system. The bylaw was adopted by the Town prior to Permit Year 5.
3.3	Illicit Discharge Plan	Highway Department / Board of Health	Develop illicit discharge plan.	The Board of Health and the Highway Department made visual inspections of stormwater outfalls and no visual evidence of contamination was found. The Town is working to formalize a reporting procedure with the Board of Health and the Conservation Commission. The Board of Health developed a bylaw prohibiting non-stormwater discharges into the storm sewer system. The bylaw was adopted by the Town prior to Permit Year 5.
3.4	Post Removal Evaluation	Board of Health	Report on post removals.	The Town is prepared to report if any illicit discharges are discovered or eliminated in a given year.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)
4.1	Regulatory mechanism	Planning Board	Develop and implement ordinance.	The Board of Health developed a bylaw prohibiting non-stormwater discharges into the storm sewer system. The bylaw was adopted by the Town prior to Permit Year 5.
4.2	Site Plan Review Procedures	Planning Board	Preconstruction review of stormwater pollution prevention plan.	Reviews were conducted as required.
4.3	Site Inspection and Enforcement	Planning Board	Conduct construction site inspections.	Construction site inspections were conducted as required.

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)
5.1	Regulatory Mechanism	Planning Board	Develop and implement ordinance.	The Board of Health developed a bylaw prohibiting non-stormwater discharges into the storm sewer system. The bylaw was adopted by the Town prior to Permit Year 5.
5.2	Review BMP Designs	Planning Board	Preconstruction review of site designs.	The Town's Board of Selectmen formed a technical committee and has developed goals for construction site and post construction site runoff control bylaws. The technical committee is comprised of members of the Board of Selectmen, the Central Regional Planning Commission and the Town's attorney. Prior to Permit Year 5, the Committee drafted a proposed bylaw, reviewed BMPs, and has created goals for sanctions. The Board of Health developed a bylaw prohibiting non-stormwater discharges into the storm sewer system. The bylaw was adopted by the Town prior to Permit Year 5.
5.3	Site Inspection and Enforcement	Planning Board	Conduct construction site inspections.	Construction site inspections were conducted as required.
5.4	Operation and Maintenance Procedures	Highway Department	Develop operation and maintenance procedures for BMPs.	The Highway Department hires a contractor to conduct street sweeping annually. The Highway Department annually inspects all catch basins and cleans all that require cleaning (usually 250 to 275 catch basins per year).

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)
6.1	Employee Training Program	Stormwater Management Team	Conduct spill reporting and response training.	The Town's Fire Department is trained to respond to hazardous spills. In previous permit years, Fire Department members attended workshops on Hazardous Material Issues. The Town participates in Household Hazardous Waste Cleanup days with other towns to help minimize potential sources of hazardous waste.
6.2	Stormwater System Operation and Maintenance	Highway Department	Develop an inspection program.	The Highway Department annually inspects all catch basins and cleans all that require cleaning (usually 250 to 275 catch basins per year).
6.3	Parks and Open Space	Parks Department	Develop application controls.	The Soldiers Memorial Park is the only area in town that is fertilized (3 times per year) and the service is provided through a contracted lawn service. The Town formalized an application reporting procedure for pesticides and fertilizers. The Town's Parks and Recreation Department is responsible for reporting any applications to the Town's Executive Secretary.
6.4	Municipal Roads	Highway Department	Conduct street sweeping.	The Highway Department hires a contractor to conduct street sweeping every spring.

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) *<<if applicable>>*

There are no TMDLs in Millville.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)

Part IV. Summary of Information Collected and Analyzed

See report entitled "National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater Management Plan 2008 Status Report, Millville, Massachusetts," dated April 2008, included herein under Part II, Self-Assessment.

TOWN OF MILLVILLE, MA
STORMWATER MANAGEMENT PROGRAM
STORMWATER OUTFALL INVENTORY AND INSPECTION SUMMARY

Outfall Sampling Summary

	LAB RESULTS			
OUTFALL ID	CONDUCTIVITY (µS)	AMMONIA (ppm)	SURFACTANTS (ppm)	FECAL COLIFORM (cfu/100 ml)
8	280	0.646	not detected	11
10	540	not detected	not detected	9

TOWN OF MILLVILLE, MA
STORMWATER MANAGEMENT PROGRAM
STORMWATER OUTFALL INVENTORY AND INSPECTION SUMMARY

ID	FLOW	FLOW AMOUNT	FLOW COMMENT	STANDING WATER	STANDING WATER TYPE	MATERIAL	SHAPE	DIA.	DIAMETER MEASURED	ODOR	COLOR	TURBIDITY	FLOATABLES	DEPOSITS/ STAINS	SEDIMENT AMOUNT	VEG CONDITIONS	STRUCTURAL CONDITION	STRUCTURAL COMMENT	LAND USE	LAND USE COMMENT	DISCHARGE RECEIVING BODY	SUSPECT ILLICIT	SAMPLE D	Easting	Northing	GPS Date	Feat Name
1	No			No		CMP	Circular	12 Inch	Yes	None	None	None	None	Sediment	< 10%	Normal	Other Damage	Damaged End - Needs Discharge Point Cleared	Public	Located off Route 122	Wooded Area	No	No	637664.165	2833108.577	7/17/2007	Outfall
2	No			No		Concrete	Circular	12 Inch	No-Inaccessible	None	None	None	None	None	N/A	Normal	None	Flared At End of Pipe, estimated pipe size by CB	Public	Off of State Highway 122	Wooded Area	No	No	635944.853	2834040.234	7/17/2007	Outfall
3	No			No		CMP	Circular	12 Inch	Yes	None	None	None	None	Sediment	25-50%	Normal	None		Public	Discharges Off Side of Road to Public Land	Wetlands	No	No	637683.576	2835023.361	7/17/2007	Outfall
4	No			No		Corg. Plastic	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None	New Drainage Pipe as Part of Bridge Work	Public	Public Bridge Area	Small Stream which is par of River	No	No	633958.628	2834431.188	7/17/2007	Outfall
5	No			No		CMP	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Residential	Drains into culvert next residential land	culvert - small stream	No	No	632649.144	2834896.41	7/17/2007	Outfall
6	No			No		Corg. Plastic	Circular	24 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Residential	Drainage Ditch Along Residential Property	Drainage Ditch to River	No	No	632212.864	2835154.619	7/17/2007	Outfall
7	No			No		Corg. Plastic	Circular	18 Inch	Yes	None	None	None	None	None	N/A	Normal	None	New Drainage Outfall	Public	Public Bridge on Thayer St	Wooded Area - Stream	No	No	636324.643	2835020.79	7/17/2007	Outfall
8	Yes		< 1 Gallon per	Yes	Wetland/Swamp	Concrete	Box		Yes	Rancid/Sour		Cloudy	Petroleum	Oily	10-25%	Excessive Growth	Other Damage	1 by 2 Feet	Industrial	Pre-Concrete Plant	Drainage Ditch to Blackstone River	Yes	Yes	638478.849	2834790.628	7/17/2007	Outfall
9	No			No		CMP	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	Metal Corrosion	Rusted Through Bottom of Pipe	Residential	Drainage Area between two Residences	Wooded Area	No	No	637876.156	2836423.337	7/17/2007	Outfall
10	Yes	2 GPM	Groundwater	Yes	Poor Drainage	Concrete	Circular	48 Inch	Yes	None	Red	None	None	Sediment	< 10%	Normal	None		Residential	Discharges to open/public land	Wooded Area	No	Yes	632590.976	2839751.578	7/17/2007	Outfall
11	No			No		Concrete	Circular	48 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Discharges to open/public land	Wooded/Wetland	No	No	632751.505	2839520.545	7/17/2007	Outfall
12	No			No		Concrete	Circular	18 Inch	Yes	None	None	None	None	None	N/A	Normal	Con. spalling/crack	Limited Cracking	Public	Discharges to open/public land	Wooded/Wetland	No	No	632757.9	2839521.026	7/17/2007	Outfall
13	No			No		Concrete	Circular	30 Inch	Yes	None	None	None	None	Sediment	< 10%	Normal	None		Public	Open/Public Land	Wooded/Wetland	No	No	633400.93	2838866.523	7/17/2007	Outfall
14	No			No		CMP	Circular	18 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Discharges to Open/Public Land	Wetland	No	No	634641.752	2838397.804	7/17/2007	Outfall
15	No			No		Concrete	Circular	21 Inch	Yes	None	None	None	None	None	N/A	Excessive Growth	Con. spalling/crack	Broken Pipe	Residential	Backyard of Residence	Wetlands	No	No	631716.08	2837593.414	7/17/2007	Outfall
16	No			No		Concrete	Circular	21 Inch	Yes	None	None	None	None	None	N/A	Normal	Con. spalling/crack	Broken Pipe	Public	Discharges to open/public land	Wooded/Wetland	No	No	631886.731	2837115.803	7/17/2007	Outfall
17	No			No		Concrete	Circular	18 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Discharges to open/public land	Wooded/Wetlands	No	No	632129.236	2837004.198	7/17/2007	Outfall
18	No		Dry	Yes	Poor Drainage	Concrete	Circular	18 Inch	No-Inaccessible	None	None	None	None	Sediment	75-100%	Excessive Growth	None	Appears Partially Blocked	Residential	Located between 2 residential properties	Wetland- Detention Pond	No	No	632611.668	2836655.835	8/1/2007	Outfall
19	No			No		Concrete	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	Other Damage	Separated Joints and badly damaged headwall	Public	Drains to Public land near brook	Brook/Stream	No	No	633277.373	2836097.286	8/1/2007	Outfall
20	Yes					Concrete		12 Inch	Yes	None	None	None	None	Sediment	10-25%	Normal	Con. spalling/crack	Broken pipe end and discharge area needs rehab	Public	Public Land off Side of roadway	Wetlands	No	No	633642.151	2836259.523	8/1/2007	Outfall
21	No			No		Ductile Iron	Circular	24 Inch	No-Inaccessible	None	None	None	None	None	N/A	Normal	None		Industrial	Railroad Bed	Railway Bed	No	No	634007.659	2835241.146	8/1/2007	Outfall
22	No			No		Concrete	Circular	18 Inch	Yes	None	None	None	None	Sediment	< 10%	Normal	None	Headwall Slightly Damaged	Residential	Drains to Residence	Wooded Area	No	No	634962.708	2835188.535	8/1/2007	Outfall
23	No			No		Concrete	Circular	12 Inch	Yes	None	None		None	None	N/A	Normal	None		Public	Off side of roadway	Blackstone River	No	No	637413.724	2833242.28	8/1/2007	Outfall
24	No					Concrete	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Located off public roadway	Blackstone River	No	No	637163.972	2833343.404	8/1/2007	Outfall
25	No			No		Concrete	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Located off public roadway	Blackstone River	No	No	636900.167	2833445.27	8/1/2007	Outfall
26	No					Concrete	Circular	12 Inch	No-Inaccessible	None	None	None	None	Sediment	75-100%	Normal	None	Buried	Public	Located off a public roadway	Wooded area	No	No	637908.109	2833043.811	8/1/2007	Outfall
27	No		Culvert	No		Concrete	Circular	30 Inch	Yes	None	None	None	None	None	N/A	Normal	None	Located in Culvert Headwall	Public	Disharges to Roadway culvert which goes to residen	Stream	No	No	635790.871	2834208.889	8/1/2007	Outfall
28	No			No		Concrete	Circular	15 Inch	No-Inaccessible	None	None	None	None	None	N/A	Normal	None		Public	Off of public roadway	Blackstone river	No	No	632494.496	2836243.47	8/1/2007	Outfall
29	No			No		Concrete	Circular	15 Inch	No-Inaccessible	None	None	None	None	None	N/A	Normal	None		Public	Off of public roadway	Blackstone river	No	No	632499.572	2836236.929	8/1/2007	Outfall
30	No			No		Corg. Plastic	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Public Bridge	Dry portion of Blackstone River	No	No	633908.379	2834455.93	8/1/2007	Outfall
31	No			No		Smooth Plastic	Circular	12 Inch	No-Inaccessible	None	None	None	None	None	N/A	Normal	None		Public	Off of public roadway	Blackstone river	No	No	634027.264	2834718.563	8/1/2007	Outfall
32	No			No		CMP	Circular	12 Inch	No-Inaccessible	None	None	None	None	None	N/A	Excessive Growth	None	Resident complaint of poor performance during rain	Residential	Residential drainage ditch	Blackstone river	No	No	632630.532	2834861.191	8/1/2007	Outfall
33	No			Yes	Poor Drainage	Concrete	Circular	24 Inch	No-Inaccessible	None	None	None	None	Sediment	50-75%	Normal	None	Needs to be dug out	Public	Residence Area	Wetlands	No	No	632976.488	2834363.821	8/1/2007	Outfall
34	No		Dry	No		CMP	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Residential	Drains Public Road to Residential Property	Wooded Area/Wetlands	No	No	634335.954	2834092.767	8/14/2007	Outfall
35	No			No		Clay	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Residential	Drains to Brook in Residential Property	Stream	No	No	634415.232	2833895.343	8/14/2007	Outfall
36	No			No		Corg. Plastic	Circular	12 Inch	Yes	None	None	None	None	Sediment	10-25%	Normal	None		Public	Drainage Basin for Public Building/Land	Drainage Basin	No	No	634608.142	2833760.983	8/14/2007	Outfall
37	No					Corg. Plastic	Circular	12 Inch	Yes	None	None	None	None	Sediment	75-100%	Normal	None		Public	Drains To Public Land	Wooded Area	No	No	635376.323	2833475.536	8/14/2007	Outfall
38	No			No		Corg. Plastic	Circular	12 Inch	Yes	None	None	None	None	Sediment	10-25%	Normal	None		Public	Public Land	Wooded Area	No	No	635355.374	2833488.517	8/14/2007	Outfall
39	No			No		CMP	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Residential	Drains at edge of residential property	Drainage Ditch	No	No	635783.606	2833020.718	8/14/2007	Outfall
40	No			No		Concrete	Circular	12 Inch	No-Inaccessible	None	None	None	None	Sediment	75-100%	Normal	Blocked	Buried Pipe and Destroyed Headwall-Measured by CB	Public	Drains Road to Public Land	Wooded Area	No	No	634361.783	2833278.479	8/14/2007	Outfall
41	No			No	Poor Drainage	CMP	Circular	6 Inch	Yes	None	None	None	None	None	N/A	Normal	None	Catch Basin Needs to be repaired	Public	Drains to public culvert	Wetland/Stream	No	No	634106.426	2832549.274	8/14/2007	Outfall
42	No			Yes	Poor Drainage	Clay	Circular	24 Inch	Yes	None	None	None	None	Sediment	25-50%	Normal	Other Damage	Slightly Blocked with poor drainage	Public	Drains road to Public Land	Wooded Area	No	No	633870.208	2833627.921	8/14/2007	Outfall
43	No			No		Concrete	Circular	30 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains road to public drainage basin	Drainage Basin	No	No	632591.057	2833705.813	8/14/2007	Outfall
44	No			No		CMP	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Road to Public Land	Drainage Basin	No	No	631966.988	2834280.674	8/14/2007	Outfall
45	No			No		Corg. Plastic	Circular	18 Inch	Yes	None	None	None	None	None	N/A		None		Public	Drains Road to Public Land	Drainage Basin	No	No	631953.272	2834331.967	8/14/2007	Outfall
46	No					Corg. Plastic	Circular	18 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway	Drainage Basin	No	No	631938.852	2833703.786	8/14/2007	Outfall
47	No			No		Corg. Plastic	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway	Large Drainage Basin	No	No	631666.741	2834042.505	8/14/2007	Outfall
48	No			No		Concrete		12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway	Drainage Basin	No	No	634646.233	2830731.121	8/14/2007	Outfall
49	No			No		Concrete	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway	Drainage Basin	No	No	635887.651	2830257.197	8/14/2007	Outfall
50	No			No		Concrete	Circular	15 Inch	Yes	None	None	None	None	None	N/A	Normal	None	Headwall is free standing-should be shored up	Public	Drains Roadway	Detention Basin	No	No	636360.482	2830775.56	8/14/2007	Outfall
51	No			No		Concrete	Circular	18 Inch	Yes	None	None	None	None	None	N/A	Normal	Con. spalling/crack	End of Pipe is Broken- Follow up not needed	Public	Drains Roadway	Detention Basin	No	No	636420.956	2830766.397	8/14/2007	Outfall
52	No			No		Concrete	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None	Large Piece of RCP at Bottom	Public	Drains Roadway	Detention Basin	No	No	636467.23	2830766.534	8/14/2007	Outfall
53	No			No		Concrete	Circular	24 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Residential	Drains Roadway Through Residence Property	Detention Basin	No	No	636178.229	2831508.601	8/14/2007	Outfall
54	No			No		Concrete	Circular	24 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway	Detention Pond	No	No	635617.512	2832047.563	8/14/2007	Outfall
55	No			No		Concrete	Circular	30 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway	Detention Pond	No	No	634505.417	2831709.383	8/14/2007	Outfall
56	No			No		Concrete	Circular	30 Inch	Yes	None	None	None	None	Sediment	10-25%	Normal	None		Public	Drains Roadway	Wetlands	No	No	637154.08	2844523.169	8/14/2007	Outfall
57	No			No		Concrete	Circular	21 Inch	Yes	None	None	None	None	Sediment	10-25%	Normal	None		Residential	Outfall Drains b/n 2 Prop then to Detention Pond	Detention Pond	No	No	638632.019	2843564.089	8/14/2007	Outfall
58	No			No		Concrete	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway	Detention Pond	No	No	638810.522	2844118.316	8/14/2007	Outfall
59	No			Yes	Wetland/Swamp	Concrete	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway	Detention Pond	No	No	638741.032	2844269.991	8/14/2007	Outfall
60	No					CMP	Circular	12 Inch	Yes	None	None	None	None	Sediment	< 10%	Normal	None		Public	Drains Roadway	Side of Roadway	No	No	636853.014	2848140.066	8/14/2007	Outfall
61	No			No		Other	Other	N/A	No-Inaccessible	None	None	None	None	Sediment	75-100%	Normal	None	Completely Buried - Needs Rehabilitation	Public	Drains Roadway	Drains to Wetland	No	No	637053.578	2848278.568	8/14/2007	Outfall
62	No					Concrete	Circular	24 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway to Edge of Residences	Wooded Area	No	No	636773.678	2837062.831	8/14/2007	Outfall
63	No			No		Concrete	Other	N/A	No-Inaccessible	None	None	None	None	None	75-100%	Normal	Other Damage	Totally Buried maybe Collapsed	Public	Drains Roadway	Wooded Area	No	No	637629.788	2837589.601	8/14/2007	Outfall
64	No			No		Concrete	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway to Public Land	Wetland	No	No	635813.43	2837606.194	8/14/2007	Outfall
65	No					Concrete	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway	Wetland	No	No	635709.375	2837563.134	8/14/2007	Outfall
66	No			No		Concrete		12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Public School Parking Area	Wooded Area/Drainage Ditch	No	No	635504.616	2837022.269	8/15/2007	Outfall
67	No			No		Concrete	Circular	12 Inch	Yes	None	None	None	None	Sediment	25-50%	Normal	None		Public	Drains Public School Parking Area	Wooded Area	No	No	634989.579	2836633.3	8/15/2007	Outfall
68	No			Yes	Poor Drainage	Concrete	Circular	21 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Residential	Drains both Roadway and Residence	Wetlands	No	No	635329.906	2841103.708	8/15/2007	Outfall
69	No			No		Concrete	Circular	N/A	No-Inaccessible	None	None	None	None	Sediment	N/A	Excessive Growth	None	Could not Determine Due to Excessive Growth	Public	Drains Roadway through Residence	Wetland	No	No	633790.254	2834497.495	8/15/2007	Outfall
70	No			No		Corg. Plastic	Circular	6 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Residential	Drains Roadway	Wooded Area	Yes	No	631966.279	2838200.283	8/15/2007	Outfall
71	No			No		Concrete	Circular	24 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway to Public Land	Wooded Area	No	No	632783.785	2845003.601	8/15/2007	Outfall
72	No	Resident says flooding occurs often		No		Concrete	Circular	15 Inch	Yes	None	None	None	None	Sediment	75-100%	Normal	Blocked	Nearly Buried - Flow being blocked	Public	Drains Roadway between Residences	Wooded Area	No	No	632582.021	2845185.567	8/15/2007	Outfall
73	No			No		Concrete	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway through Residence	Wooded Area	No	No	632764.537	2844628.299	8/15/2007	Outfall
74	No			No	Poor Drainage	Smooth Plastic	Circular	6 Inch	Yes	None	None	None	None	Sediment	25-50%	Normal	None	Pipe Leaving CB is 15" transitions to Smaller Pipe	Public	Drains Roadway Through Residence	Wetland	No	No	633941.341	2845999.916	8/15/2007	Outfall
75	No			No		Concrete	Circular	12 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway to Public Land	Wetland	No	No	634529.143	2846206.451	8/15/2007	Outfall
76	No			No		Concrete	Circular	12 Inch	Yes	None	None	None	None	Sediment	< 10%		None	Large Amounts of Erosion	Public	Drains Roadway	Wetlands	No	No	633494.462	2845778.869	8/15/2007	Outfall
77	No			Yes	Wetland/Swamp	CMP	Circular	48 Inch	Yes	None	None	None	None	None	N/A	Excessive Growth	None		Public	Drains Roadway to Public Property	Drainage Ditch-Wetland	No	No	635116.273	2845585.865	8/15/2007	Outfall
78	No			No		Corg. Plastic	Circular	15 Inch	Yes	None	None	None	None	None	N/A	Normal	None		Public	Drains Roadway to Public Property	Wetlands	No	No	636181.641	2846861.32	8/15/2007	Outfall

Chapter 9
STORMWATER MANAGEMENT BYLAW

SECTION I: PURPOSES

The purposes of this Bylaw are to:

1. Protect, maintain and enhance the public health, safety, environment and general welfare by establishing minimum requirements and procedures to control the adverse effects of construction site/alteration runoff, post-development storm water runoff and non-point source pollution associated with new development and re-development;
2. Protect, maintain, and enhance public health, safety, environment, and general welfare by establishing minimum standards and procedures to control runoff and prevent soils erosion and sedimentation resulting from construction/alteration and development.

This Bylaw seeks to meet these purposes through the following objectives:

1. Establish decision-making processes surrounding land development activities that protect the integrity of the watershed and preserve the health of water resources;
2. Require that new development, re-development and all land conversion activities maintain the after-development runoff characteristics as equal to or less than the pre-development runoff characteristics;
3. Establish minimum construction site/alteration and post-development stormwater management standards and design criteria for the regulation and control of storm water runoff quantity and quality; Establish minimum design criteria for measures to minimize nonpoint source pollution from storm water runoff;
4. Establish design and application criteria for the construction and use of structural storm water control facilities that can be used to meet the minimum construction/alteration and post-development storm water management standards;
5. Encourage the use of Best Management Practices (BMPs) as recommended by the State Department of Environmental Protection;
6. Establish provisions for the long-term responsibility for and maintenance of structural storm water control facilities and non-structural storm water management practices to ensure that they continue to function as designed, are maintained, and pose no threat to public safety;
7. Establish provisions to ensure there is an adequate funding mechanism, including surety, for the proper review, inspection, and long-term maintenance of storm water facilities;
8. Establish administrative procedures and fees for the submission, review, approval, or disapproval of storm water

management plans, and for the inspection of approved active projects, and long-term follow-up.

Nothing in this bylaw is intended to replace the requirements of either the Town of Millville's Flood Plain Zoning Bylaw, the Town of Millville's Wetlands Protection Bylaw, or any other Bylaw that may be adopted in the future by the Town of Millville.

SECTION II: DEFINITIONS

The following definitions shall apply in the interpretation and implementation of this Bylaw.

ALTER: Any activity which will measurably change the ability of a ground surface area to absorb water or will change existing surface patterns.

BEST MANAGEMENT PRACTICE (BMP): Structural, non-structural and managerial techniques that are recognized to be the most effective and practical means to prevent and/or reduce increases in storm water volumes and flows, reduce point source and nonpoint source pollution, and promote stormwater quality and protection of the environment.

LARGER COMMON PLAN OF DEVELOPMENT OR SALE: A contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.

MASSACHUSETTS STORM WATER MANAGEMENT POLICY: The policy issued by the Department of Environmental Protection, as amended, that coordinates the requirements prescribed by state regulations promulgated under the authority of the Massachusetts Wetlands Protection Act, and the Massachusetts Clean Waters Act. The Policy addresses storm water impacts through implementation of performance standards to reduce or prevent pollutants from reaching water bodies and control the quantity of runoff from a site.

NEW DEVELOPMENT: Any construction or land disturbance of a parcel of land that is currently in a natural vegetated state and does not contain alteration by man-made activities.

NONPOINT SOURCE POLLUTION: Pollution from any diffuse sources caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into water resource areas.

PERSON: An individual, partnership, association, firm, company,

trust, corporation, agency, authority, department or political subdivision of the Commonwealth or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.

PRE-DEVELOPMENT: The conditions that exist at the time that plans for the land development of a tract of land are submitted to the Planning Board. Where phased development or plan approval occurs, the existing conditions at the time prior to the first plan submission shall establish pre-development conditions.

POST-DEVELOPMENT: The conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land. Post-development refers to the phase of a new development or redevelopment project after completion, and does not refer to the construction phase of a project.

RECHARGE: The replenishment of underground water resources.

REDEVELOPMENT: Any construction, alteration, or improvement project that disturbs the ground surface or increases the impervious area on a previously developed site.

STORM WATER AUTHORITY: The Millville Planning Board or its authorized agent(s) are responsible for coordinating the review, approval and permit process as defined in this Bylaw. Other Boards and/or Commissions of the Town may participate in the process as defined in the Stormwater Regulations adopted by the Planning Board.

STORMWATER MANAGEMENT PERMIT (SMP): A permit issued by the Planning Board, after review of an application, plans, and other supporting documents, which are designed to protect the environment of the Town of Millville.

SECTION III: AUTHORITY

This Bylaw is adopted under authority granted by the Home Rule Amendment of the Massachusetts Constitution, the Home Rule statutes, and pursuant to the regulations of the federal Clean Water Act found at 40 CFR 122.34, and as authorized by the residents of the Town of Millville at Town Meeting.

SECTION IV: ADMINISTRATION

1. The Planning Board shall administer, implement, and enforce this Bylaw. Any powers granted or duties imposed upon the Planning Board may be delegated in writing by the Planning Board to its employees or agents.
2. The Planning Board may promulgate rules and regulations to effectuate the purposes of this Bylaw. The Planning Board may adopt, and periodically amend, rules and regulations relating to the terms, conditions, definitions,

enforcement, fees, procedures, and administration of this Stormwater Management Bylaw by a majority vote of the Planning Board, after conducting a public hearing to receive comments on any proposed rules and regulations, or revisions thereto.

3. The Planning Board will utilize the policy, criteria, and information including specifications and standards of the latest edition of the Massachusetts Storm Water Management Policy, as a guideline for execution of the provisions of this Bylaw.
4. The Planning Board may take the following actions as a result of an application for a Stormwater Management Permit: Approval, Approval with Conditions, Disapproval, or Disapproval without Prejudice,
5. Decision and orders of the Planning Board shall be final. Further relief shall be appealed to a court of competent jurisdiction.

SECTION V: APPLICABILITY

1. This Bylaw shall be applicable to all new development and re-development, including clearing, grading and excavation that result in a disturbance of one or more acres of land, or will disturb less than one acre of land but is part of a larger common plan of development or sale that will ultimately disturb one acre or more of land in the Town. No person shall perform any activity that results in disturbance of land that exceeds such threshold except as authorized by the Planning Board in a Stormwater Management Permit or as otherwise provided in this Bylaw.
2. Exemptions:
   i. Normal maintenance and improvement of land in agricultural use as defined by the Wetlands Protection Act regulation 310 CMR 10.14 and MGL Chapter 40A, Section 3;
   ii. Maintenance of existing landscaping, gardens or lawn areas associated with a single family dwelling; construction of patios, walkways, driveways, swimming pools, or replacement wells or septic systems on lots having an existing dwelling.
   iii. Repair or replacement of an existing roof on a single family or multiple-family dwelling.
   iv. The construction of any fence that will not alter existing terrain or drainage patterns.
   v. Construction of utilities (gas, water, electric, telephone, etc.) other than drainage, which will not alter terrain, ground cover, or drainage patterns.
   vi. Emergency repairs to any utilities, stormwater management facility, or practice that poses a threat to public health or safety, or as deemed necessary by the Planning Board.
   vii. As authorized in the Phase II Small MS4 General Permit for Massachusetts, storm water discharges resulting

from the activities identified in Section 4 that are wholly subject to jurisdiction under the Wetlands Protection Act and demonstrate compliance with the Massachusetts Storm Water Management Policy as reflected in an Order of Conditions issued by the Conservation Commission are exempt from compliance with this bylaw.

viii. Any work or projects for which all necessary approvals and permits have been issued before the effective date of this Bylaw.

SECTION VI: PROCEDURES

Permit procedures and requirements shall be defined and included as part of any rules and regulations promulgated by the Planning Board as permitted under this Bylaw.

SECTION VII: ENFORCEMENT

1. The Planning Board or its authorized agent shall enforce this bylaw, regulations, orders, violation notices, and enforcement orders, and may pursue all civil and criminal remedies for such violations. Enforcement shall be further defined and included as part of any stormwater regulations promulgated under this Bylaw.
2. Criminal Penalty. Any person who violates any provision of this bylaw, regulation, order or permit issued there under, shall be punished by a fine of not more than one hundred dollars ($100). Each day or part thereof that such violation occurs or continues shall constitute a separate offense.
3. Non-Criminal Disposition. As an alternative to criminal prosecution or civil action, the Town may elect to utilize the non-criminal disposition procedure set forth in G.L. Ch. 40, § 21D, in which case the Millville Highway Superintendent shall be the enforcing person. The penalty for the 1st violation shall be twenty-five ($25). The penalty for the 2nd violation shall be fifty dollars ($50). The penalty for the 3rd and subsequent violations shall be one hundred dollars ($100). Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

SECTION VIII: SEVERABILITY

The invalidity of any section, provision, paragraph, sentence, or clause of this Bylaw shall not invalidate any section, provision, paragraph, sentence, or clause thereof, nor shall it invalidate any permit or determination that previously has been issued or take any other action in relation thereto.

Stop Pointless Personal Pollution!

How everyday chores can harm your streams and lakes

It's a beautiful Saturday—a perfect day to make some extra spending money washing cars for family and neighbors, gassing up and oiling the lawn mower, laying down some fertilizer on those yellow patches in the yard, walking the dog, and spraying your mom's rosebushes for pesky bugs. Work hard and maybe you can make enough money to spring for movie tickets for you *and* your date.

The health of your nearby stream is probably one of the last things on your mind as you tackle your tasks. But guess what! Each of your jobs could harm a nearby stream, lake, or wetland. How? Well, consider....

Washing Cars

Many cleaning products contain phosphates and other chemicals that can make fish and other aquatic life sick. Using a hose to wash off suds creates a stream of wastewater that can travel down your driveway, into the street, and down a storm drain. No prob? Well, what do you think is at the other end of your storm drain? Usually a stream!

Here are some things you can do to clean your car, not your carp:

- Use a bucket instead of a hose to save water and limit flow.
- Wash your car in sections and rinse it quickly using a high-pressure, pistol-grip nozzle.
- Use biodegradable soaps.
- Park your car over gravel or your lawn. so wastewater doesn't flow away.

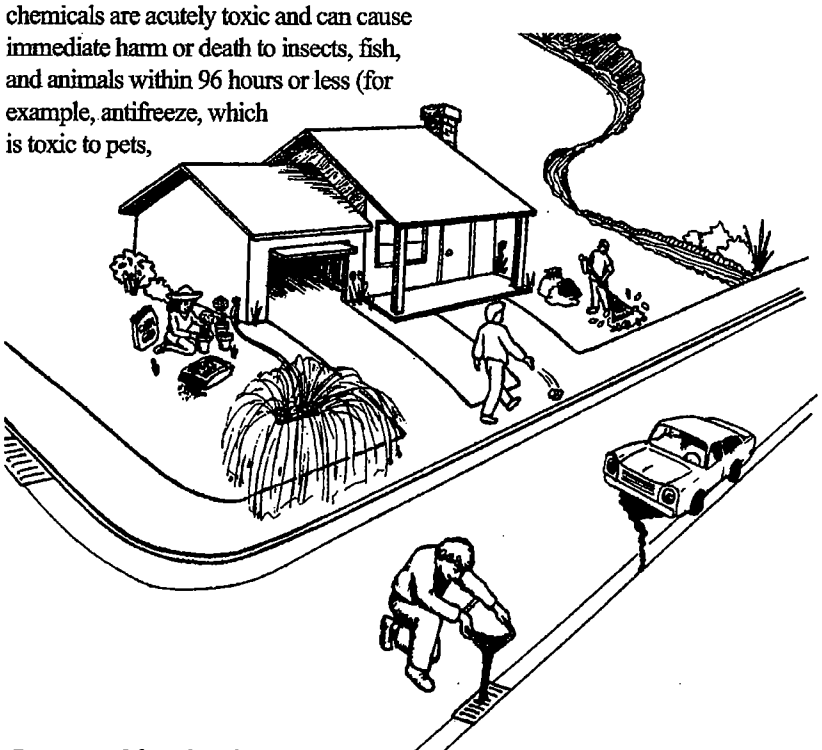
Working with Motors

Motors must be maintained if you want them to work properly. Oil, gasoline, brake fluid, degreasers, and antifreeze are a few of the products you need. All of these products contain chemicals that can harm aquatic life if they get into a stream, lake, or wetland. One gallon of used oil can ruin a million gallons of fresh water—a years's supply for 50 people.

If you accidently spill these products on the ground when you're working, clean them up quickly. If you don't, the next rainstorm will pick them up and carry them to the nearest stream. Some chemicals are acutely toxic and can cause immediate harm or death to insects, fish, and animals within 96 hours or less (for example, antifreeze, which is toxic to pets,

Do you know . . .

The difference between a storm drain and a sewer? Storm drains collect water from outside our homes and businesses and carry it, untreated, directly to streams and rivers. Sewers collect water from inside homes and businesses and carry it to treatment plants, where it is cleaned before it reaches streams and rivers. So remember, only rain should go into storm drains, not trash, oil, or other pollutants.



Can you identify the activities that contribute to pollution in your watershed? (See next page for answers)

Let's Go Surfing Now!

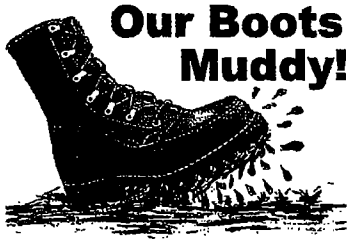
Learn what you can do to prevent pollution in your watershed

www.epa.gov/owow/nps/prevent.html

EPA has developed a web site on how you can help prevent pollution in your watershed. Check out the information on:

* *Landscape and gardening*
* *Lawn care*
* *Hazardous chemicals*
* *Reducing runoff*

Let's Get Our Boots Muddy!



Storm Drain Stenciling

Most people don't know that storm drains collect storm water runoff and diverts it directly to a stream without any treatment. Stenciling the top of a storm drain inlet with the name of the waterbody the runoff travels to helps remind people that whatever flows into the drain will end up in the stream.

Visit **http://clean-water.uwex.edu/wav/sds-rcu/sds-rcu.html** for information on how to organize a stenciling project.

has a sweet taste that cats and dogs love). Others are chronically toxic and cause harm over time.

Here are some things you can do to prevent hazardous substances from getting into natural waterways:

- Use the product only when necessary and use only the amount needed. When it comes to hazardous chemicals, more is not better.
- Clean up any spills immediately. (Wear protective clothing and gloves.)
- Never flush chemicals down the toilet or pour them onto the ground or into a storm drain.
- Dispose of used oil and other hazardous products in a safe manner. Participate in collection programs or take products to collection centers for disposal.

Fertilizing the Lawn

Green lawns need lots of fertilizer, right? Wrong! Too much fertilizer applied at the wrong time can be very harmful to grass. It can cause disease, weeds, and poor root growth and make your lawn less able to withstand periods of heavy rain or dry weather.

In addition, the same rains that pick up oil, gas, and other hazardous chemicals can also pick up excess fertilizer lying around and carry it to a lake or stream. Instead of making grass grow in your front yard, this fertilizer can make algae and weeds grow in the water.

Here are some things you can do to keep your lawn and streams and ponds healthy:

- Use native grasses that do not have high fertilizer requirements.
- Test your soil to find out exactly what nutrients your lawn needs.
- Apply fertilizer only when it is needed, during the right season, and in proper amounts.
- Do not leave fertilizer on driveways and sidewalks where it can be picked up and washed away by runoff from the next storm.
- Do not fertilize if a heavy storm is predicted.

Walking the Dog

Don't be embarrassed to say it—*pet poop is potential pollution.* Pet feces, whether from poodles or pachyderms, contains a lot of bacteria that can contaminate streams, lakes, and ponds. One study found that a single gram of dog feces contains 23 million fecal coliform bacteria. In addition, pet poop contains nitrogen and phosphorus, two elements that fertilize algae and other aquatic plants and make them grow out of control. And the more poop, the more bacteria, nitrogen, and phosphorus. In a densely populated watershed in Arlington, Virginia (Four Mile Run), scientists estimate that dogs deposit more than 5,000 pounds of poop each day. The solution is to scoop up after your pet and dispose of feces properly.

Controlling Insect Pests

Pests are a pain, but getting rid of them can be a greater pain if you do it wrong. Using harsh pesticides can be harmful for people and the environment. According to the Federal Centers for Disease Control, 82 percent of Americans already have the widely used insecticide Dursban in their bodies.

A technique known as integrated pest management is usually the best approach to controlling pests and protecting waterways from pollution. Chemical insecticides are used very sparingly, if at all. The focus is on early identification of pests and natural controls such as introducing predators to feed on the pests and planting plants that are naturally resistant to pests.

Career Corner

A *chemist* researches and develops chemicals and consumer products that are safe for the public and the environment.

An *environmental consultant* provides technical support for federal, state, and local governments, private industry, or not-for-profit organizations for developing solutions to environmental problems.

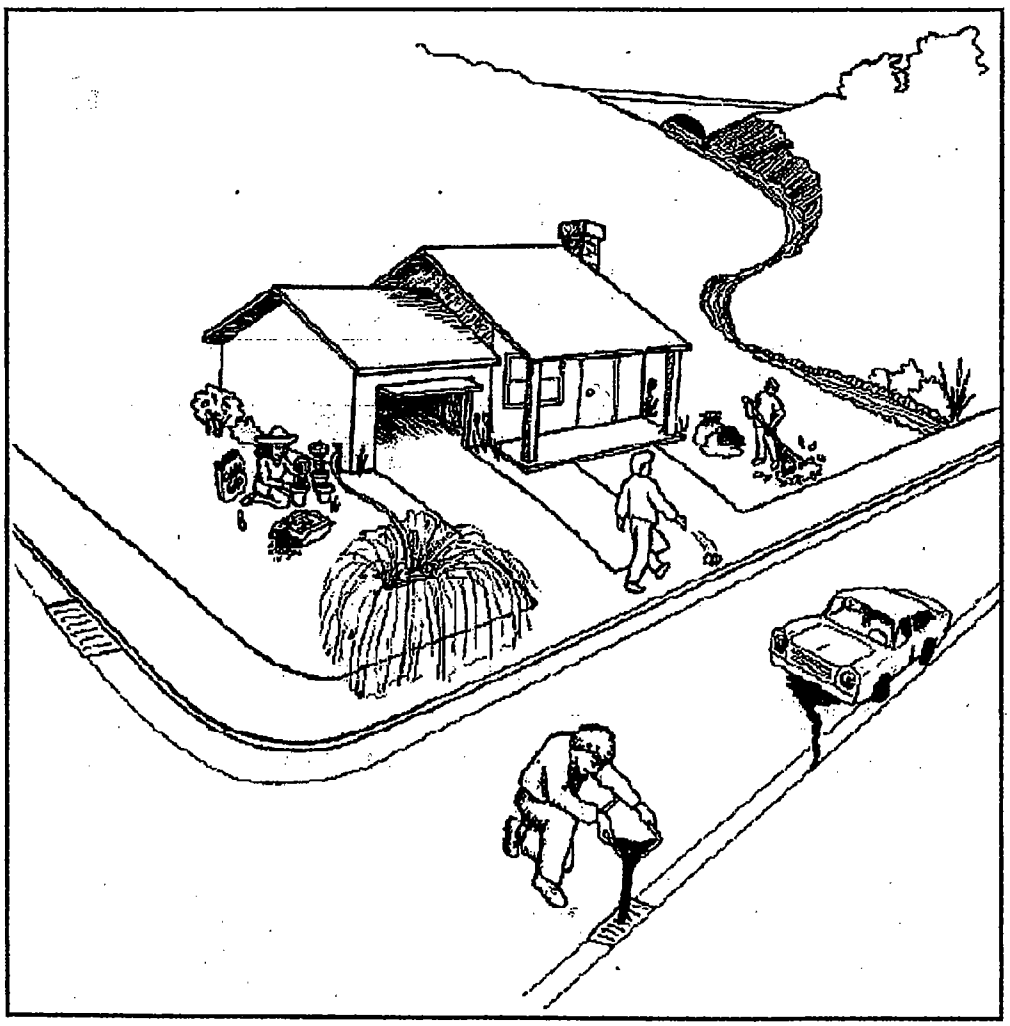
Elected public officials like city council members and planning commissioners develop laws and regulations to provide vital services to the community such as transportation, public safety, health care, education, utilities, and courts.

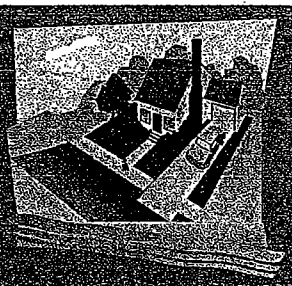
Answers from page 1:

1. Man dumping motor oil down the storm drain; 2. Man littering; 3. Eroding stream bank; 4. Sprinkler watering the pavement; 5. Leaking antifreeze from car; 6. Woman using fertilizers and pesticides improperly.

What's *WRONG* With This Picture?!?

The people below are taking care of their home and car, but they are doing many things that can damage the environment, especially our water.





10 Things You Can Do to Prevent Stormwater Runoff Pollution

Use fertilizers sparingly and sweep up driveways, sidewalks, and gutters

Never dump anything down storm drains or in streams

Vegetate bare spots in your yard

Compost your yard waste

Use least toxic pesticides, follow labels, and learn how to prevent pest problems

Direct downspouts away from paved surfaces; consider a rain garden to capture runoff

Take your car to the car wash instead of washing it in the driveway

Check your car for leaks and recycle your motor oil

Pick up after your pet

Have your septic tank pumped and system inspected regularly

EPA United States Environmental Protection Agency

For more information, visit
www.epa.gov/nps or
www.epa.gov/npdes/stormwater

What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?

Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.

- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.

Stormwater Pollution Solutions

Residential

Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Construction

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.

Agriculture

Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.

Automotive Facilities

Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.

Forestry

Improperly managed logging operations can result in erosion and sedimentation.

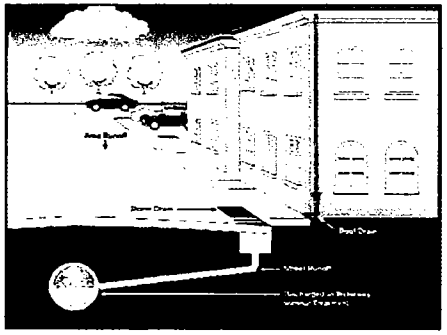
- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.

How does the *In Business* program work?

To be ***In Business for the Blackstone***, a company takes steps to incorporate five or more of these Top Ten Good Housekeeping Practices (GHPs) into daily operational routines:

Top Ten Good Housekeeping Practices:

1. **Clean and maintain storm drains and catch basins regularly**
2. **Keep parking lot and loading area clean**
3. **Design lot features that infiltrate, filter, or detain runoff**
4. **Use environmentally-sensitive landscaping practices**
5. **Ensure dumpsters remain closed and leak-proof**
6. **Move stored materials indoors or keep properly covered**
7. **Wash vehicles and equipment responsibly**
8. **Conduct routine maintenance on vehicles to prevent leaks**
9. **Make a spill response plan and clean-up kit accessible**
10. **Train employees on good housekeeping practices**



Ocean Conservancy

Why is this issue important?

Polluted stormwater runoff is the most significant unaddressed causes of water quality problems today Rain and snow melt that travels over paved surfaces collects contaminants such as chemicals, oil, metals, litter, and debris and carries them to the storm drain, which often discharges directly into local lakes and rivers that drain to the Blackstone. Small changes in your company's practices can help improve the quality of our drinking water and protect rivers and lakes that are used for recreational purposes and provide important habitat.

For more info, contact the BRC at info@zaptheblackstone.org or 508-753-6087, or visit the BRC website:
http://www.zaptheblackstone.org/Inner/whatwedoing/In_Business_Program/In_Business.shtml

In Business for the Blackstone sponsors include:

Wheelabrator Millbury Inc.
A Waste Management Company

The Rhode Island Foundation

New England Grassroots Environment Fund

The Blackstone

In Business for the Blackstone is a project of the **Blackstone River Coalition**
www.zaptheblackstone.org

Got a Dumpster? A Parking Lot?

If YES, then the Blackstone River Coalition Invites YOU to be

In Business for the Blackstone

The **Blackstone River Coalition** (BRC) offers the ***In Business for the Blackstone*** program to encourage small and mid-size companies in the watershed to adopt good housekeeping practices to minimize the pollution associated with runoff from rain and snowmelt.

IF your company:

- Owns a trash dumpster
- Uses a shipping dock
- Uses toxic materials and/or
- Owns a parking and/or lawn area ..

Your site could be polluting local water bodies.

By being *In Business for the Blackstone* and adopting good housekeeping practices your company could:

- Minimize operational expenses
- Impress your customers and employees
- Gain a unique competitive advantage
- Protect the health of community members, wildlife, and our local waterways

Look inside to learn more!

LOCATION, LOCATION, LOCATION

If your business is located anywhere on the map of the Blackstone River Valley, including the Worcester area, what happens at your site affects the water quality of our local waterways and the Blackstone River.

How can your business affect water quality?

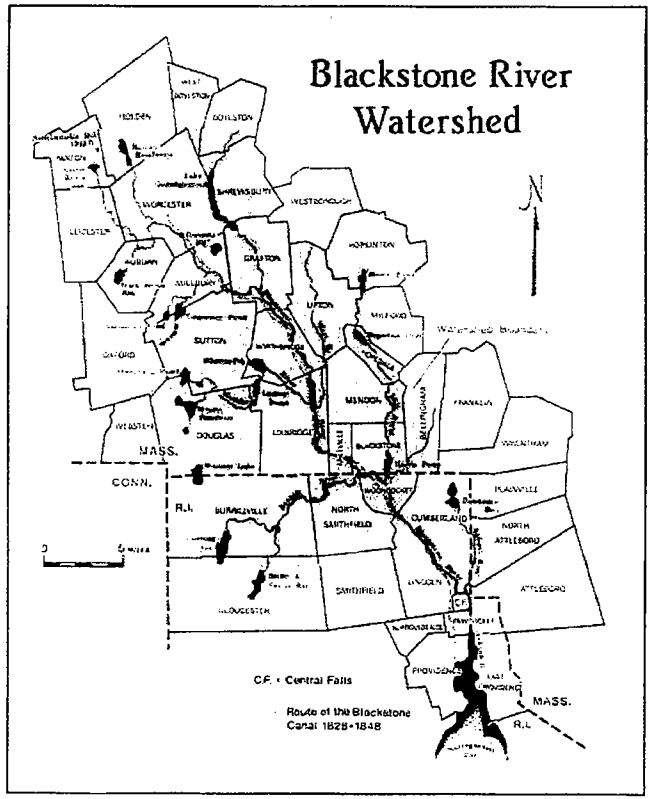
That stormdrain in your parking lot or in the streets nearby leads directly to the nearest waterway

- When it rains or snow melts, the runoff picks up all substances on your paved or landscaped areas, and washes them into the stormwater system.
- The runoff flows, untreated, to the nearest brook or stream, pond or lake.
- Pollutants from your operation can harm drinking water supplies and aquatic life.

Stormwater travels across paved services toward a storm drain, which discharges into a local water body

Why should you get involved?

As a business owner, you are an important part of the community and are in a position to lead by example. You can reduce negative impacts on our waterways by making sure that you are using best practices for stormwater management.



Who can be *In Business?*

Any company located in the Blackstone River watershed that is not required by state law to implement a stormwater management program can be ***In Business for the Blackstone***.

What do you have to do to join the *In Business* Team?

It's easy! Just establish a few no- or low-cost good housekeeping practices at your facility. The program is focused on measures that are easy to adopt and provides guidance on how to incorporate them into your operations.

What's in it for you?

By adopting these good housekeeping practices your company can:

- Receive window decal and certificate;
- Gain a unique competitive advantage by being recognized for your commitment to water quality;
- Make improvements to your facility that make employees proud and impress customers;
- Protect inventories and minimize operational expenses; and
- Strengthen its position within the community.

By making small no/low-cost changes in your company's daily routines, you can play a major role in protecting our rivers and lakes and supporting the BRC's goal to make the Blackstone "Fishable and Swimmable by 2015."

Make Your Company **Starting Today!**

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*The **Blackstone River Coalition** is a partnership of various organizations, businesses, individuals, agencies, and municipalities that are working to restore the Blackstone River and to improve the health of the Blackstone River watershed.*

***Our mission** is to restore and protect water quality and wildlife habitat in the river corridor, and to advocate for sound land use in the Blackstone River watershed.*

THE BLACKSTONE RIVER CLEAN BY 2015!

The Campaign for a Fishable/Swimmable Blackstone River by 2015

Campaign Priorities:

Stormwater and polluted runoff:
- reduce pollutants washed into the waterways and the volume of stormwater

Wastewater treatment plants:
- Implement more stringent limits on nutrients such as nitrates and phosphates

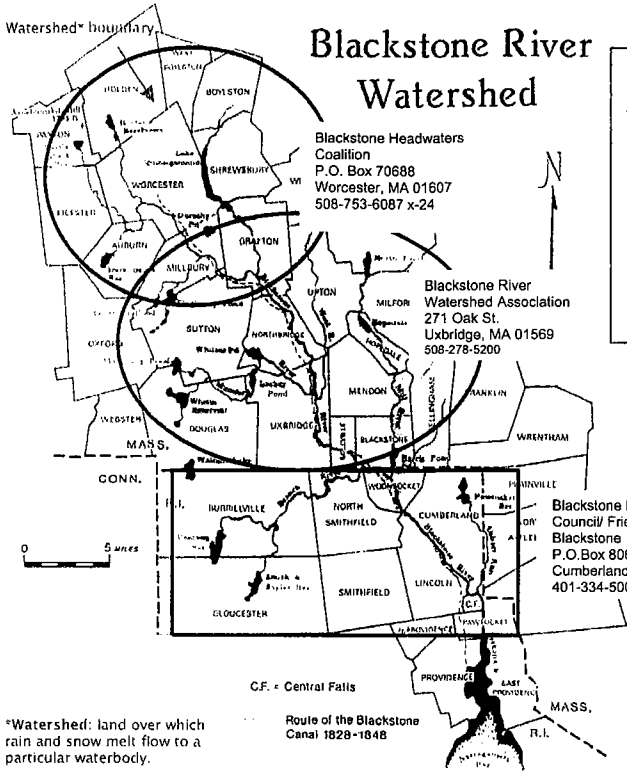
Land Uses:
- protect undeveloped areas, restore wetlands and riparian areas, protect cold water fishery streams

Streamflow:
- restore flow by methods such as increase infiltration, breach or remove appropriate dams, improve impoundment management, establish fish passage for migratory fish.

Recreational Opportunities:
- continue to build a system of river access points to increase opportunities to fish, paddle and enjoy passive recreation.

Education and Outreach:
- develop programs to increase watershed awareness and appreciaton, and to encourage active stewardship.

THE BLACKSTONE RIVER CLEAN BY 2015!



BRC Mission:

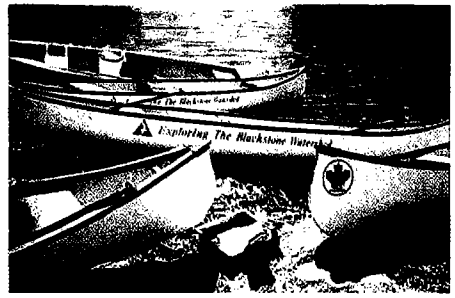
To restore and protect water quality and wildlife habitat in the river corridor, and to advocate for sound land use in the Blackstone River watershed.

THE BLACKSTONE RIVER COALITION (BRC) is a membership-based, non-profit organization working hard to keep you informed and to support the Blackstone River's watershed organizations from Worcester, Massachusetts to Providence, Rhode Island. This brochure gives you a snapshot of what we are doing. Please visit our website: www.zaptheblackstone.org to find out more! To join the Campaign, join your local watershed organization as shown above.

BRC: P.O. Box 70477, Worcester, MA 01607 Phone: 508-753-6087 x 11
Website: www.zaptheblackstone.org Email: info@zaptheblackstone.org

The Campaign is funded in part by the John H. Chafee Blackstone River Valley National Heritage Corridor Commission, Mass Audubon, and the Upper Blackstone Water Pollution Abatement District.

Have you seen what people are throwing into the Blackstone River these days?



The Campaign for a Fishable/Swimmable Blackstone River by 2015

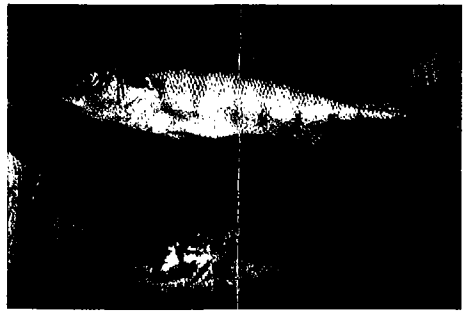
The Blackstone River Coalition

www.zaptheblackstone.org

Have you seen what <u>else</u> people are throwing into the Blackstone River?

The Blackstone looks and smells better, and is cleaner than it has been in thirty years. People are paddling more and more, throwing canoes and kayaks into the river at more and more access points.

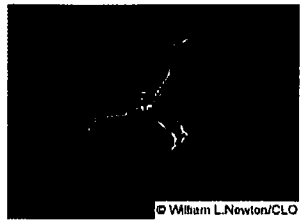
Some of the best schools are found in the Blackstone River.



Yellow Perch

Fish species and numbers are increasing because of improving water quality.

Look who's flocking to the Blackstone River!



Osprey, Kingfisher and Great Blue Heron are flocking to the River because there are more fish for them to eat.

We've come a long way in restoring the Blackstone River, but there's still more to do, and you can help make

The Blackstone River ~ Clean by 2015!

Your actions can help transform the Blackstone River into one full of promise for the fish, wildlife and people who live in its watershed.

If you live or own a business in one of the towns on the map on the back, a cleaner Blackstone River begins in your yard or business.

What You Can Do:

Objectives:	*Homeowners*	*Business Owners*	*Communities*
*** Reduce polluted runoff**	*limit use of fertilizer and lawn chemicals *dispose of pet waste properly *properly maintain vehicles *maintain septic system	*practice good dumpster management *provide trash receptacles, sweep outdoor areas *avoid excessive salting and sanding in winter *put nothing down stormdrain	*encourage Low Impact Development strategies such as reduced impervious surfaces, increased infiltration, more natural drainage and native plantings.
*** Increase groundwater and drinking water supplies**	*redirect rooftop runoff to vegetated areas *use rain barrels to harvest rain *wash car on lawn, not driveway *make a rain garden	*reduce impervious surfaces *increase grassed areas *divert runoff from pavement to grassy areas *put breaks in curbs to disperse runoff	

R. BRUCE BRIGGS
991 TEN ROD ROAD
EXETER, RHODE ISLAND 02822
(401) 295-9992

Date: 11-06-06

Invoice #: 113

TOWN OF MILLVILLE
PO BOX/ 703 CENTRAL STREET
MILLVILLE,MASS 01529

ATTN: JOHN DEAN

Detach and return this stub with remittence.

Amt. Remitted $

DATE	CHARGES AND CREDITS	BALANCE
10-13-06 thru 11-03-06	VACUUMED CATCH BASINS IN TOWN TOTAL HOURS 26 @ 90.00 per hour	
	INCUMBENT FY 06 3200	
	BALANCE DUE	$ 2430 00

Your Check Is Your Receipt

Thank You

FALL 2004
Vol. 15, No. 4

Pipeline

NESC

Small Community Wastewater Issues Explained to the Public

Maintaining Your Septic System—A Guide For Homeowners

This issue of Pipeline is an update to the Fall 1995 issue, Vol. 6, No. 4.

Buried beneath your back yard, it is out there—constantly working. When you're at work, it is working. When you're eating dinner, it continues working. And when you're sleeping, it's still out there in the dark—working. What is it? Your septic system. It may be the most overlooked and undervalued utility in your home; but with proper care and maintenance, your septic system can continue to work for you for at least 25 to 30 years.

If you are like most homeowners, you probably never give much thought to what happens when waste goes down your drain. But if you rely on a septic system to treat and dispose of your household wastewater, what you don't know *can* hurt you.

Proper operation and maintenance of your septic system can have a significant impact on how well it works and how long it lasts, and in most communities, septic system maintenance is the responsibility of the homeowner.

Preventing groundwater pollution from failing septic systems should be a priority for every community and every homeowner. Contamination of the groundwater source can lead to the pollution of local wells, streams, lakes, and ponds—exposing family, friends, and neighbors to waterborne diseases and other serious health risks.

When a septic system fails, inadequately treated domestic waste can reach the groundwater. Bacteria and viruses from human waste can cause dysentery, hepatitis, and typhoid fever. Many serious outbreaks of these diseases have been caused by contaminated drinking water.

Nitrates and phosphates, also found in domestic wastewater, can cause excessive algae growth in lakes and streams called algal blooms. These blooms cause aesthetic problems and impair other aquatic life. Nitrate is also the cause of methemoglobinemia, or blue baby syndrome, a condition that prevents the normal uptake of oxygen in the blood of young babies.

In addition, a failing septic system can lead to unpleasant symptoms, such as pungent odors and soggy lawns.

Why Maintain Your System

There are three main reasons why septic system maintenance is so important. The first reason is money. Failing septic systems are expensive to repair or replace, and improper maintenance by homeowners is a common cause of early system failure. The minimal amount of preventative maintenance that septic systems require costs very little in comparison to the cost of a new system. For example, it typically costs from $3,000 to $10,000 to replace a failing septic system, compared to $100 to $300 average per year costs to have a septic system routinely pumped and inspected.

The second and most important reason to properly maintain your system is the health of your family, your community, and the environment. When septic systems fail, inadequately treated household wastewater is released into the environment. Any contact with untreated human waste can pose a significant risk to public health. Untreated wastewater from failing septic systems can contaminate nearby wells, groundwater, and drinking water sources.

What's Inside...

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How Your Septic System Works ..6
Use Water Wisely All Around the House 6
Septic System Dos and Don'ts 7
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be pumped when it is 1/3 full. See the table below for estimated pumping frequencies. But be aware it is most prudent to conduct regular inspections and pump when the inspection says the tank needs to be pumped.

Remember that toxic gases are produced by the natural treatment processes in septic tanks and can kill in minutes. Even looking into the tank can be dangerous. Leave inspections to the trained professionals.

5. Checking the tank and the drainfield.
The inspector will check the condition of the baffles or tees, the walls of the tank for cracks, and the drainfield for any signs of failure. If the system includes a distribution box, drop box, or pump, these need to be checked too.

How often the tank needs to be pumped depends on the tank size, the number of people living in your home, and the habits of your particular household. Garbage disposals and high-water-use appliances, such as a hot tub or whirlpool, also affect the pumping frequency.

When it's time to pump, be sure to hire a licensed contractor. He or she will have the appropriate equipment and will dispose of the sludge at an approved treatment site. You can find listings for licensed pumpers and haulers in the yellow pages, or contact your local health department or permitting agency for assistance.

Estimated septic tank pumping frequencies in years. These figures assume there is no garbage disposal unit in use. If one is in use, pumping frequency may need to be increased.
(Source: Pennsylvania State University Cooperative Extension Service.)

Tank Size (gals.)	Household Size (number of people)					
	5.8	2.6	1.5	1.0	0.7	0.4
	9.1	4.2	2.6	1.8	1.3	1.0
	11.9	5.2	3.6	2.3	1.7	1.3
	12.4	5.9	3.7	2.6	2.0	1.5
	15.6	7.5	4.8	3.4	2.6	2.0
	18.9	9.1	5.9	4.2	3.3	2.6
	22.1	10.7	6.9	5.0	3.9	3.1
	25.4	12.4	8.0	5.9	4.5	3.7
	28.6	14.0	9.1	6.7	5.2	4.2
	31.9	15.6	10.2	7.5	5.9	4.8

It's a good idea to be present when your tank is being pumped. Make sure that the contractor uses the manhole, not the inspection ports, to pump the tank to avoid damaging the baffles or tees. Also make sure all of the material in the tank is removed. It is not necessary to leave anything in the tank to "restart" the biological processes, but it is also not necessary to scrub or disinfect the tank.

Pumping your septic tank is probably the single most important thing that you can do to protect your system. If the buildup of solids in the tank becomes too high and solids move to the drainfield, this could clog and strain the system to the point where a new drainfield will be needed.

Recordkeeping

It is very important to keep a detailed record of all inspections, pumpings, permits, repairs, and any other maintenance to your system along with a sketch of where your septic system is located. Having this information on hand for service visits can save you both time and money.

Learn the location of your septic system, and keep a diagram or sketch of it with your maintenance records.

Inspecting your septic system annually is a good way to monitor your system's health. Inspections can reveal problems before they become serious, and by checking the levels of sludge and scum in your tank, you can get a more accurate idea of how often it should be pumped.

Protect the tank and drainfield

Protect your septic system from potential damage. Don't plant anything but grass near your septic system—roots from shrubs and trees can cause damage—and don't allow anyone to drive or operate heavy machinery over any part of the system. Also, don't build anything over the drainfield. Grass is the most appropriate cover for the drainfield.

Sound septic system operation and maintenance practices include conserving water, being careful that nothing harmful is disposed of through the system, and having the system inspected annually and pumped regularly.

By educating everyone in your household about what is and what isn't good for septic systems, they can begin to develop good maintenance habits.

What Not To Flush

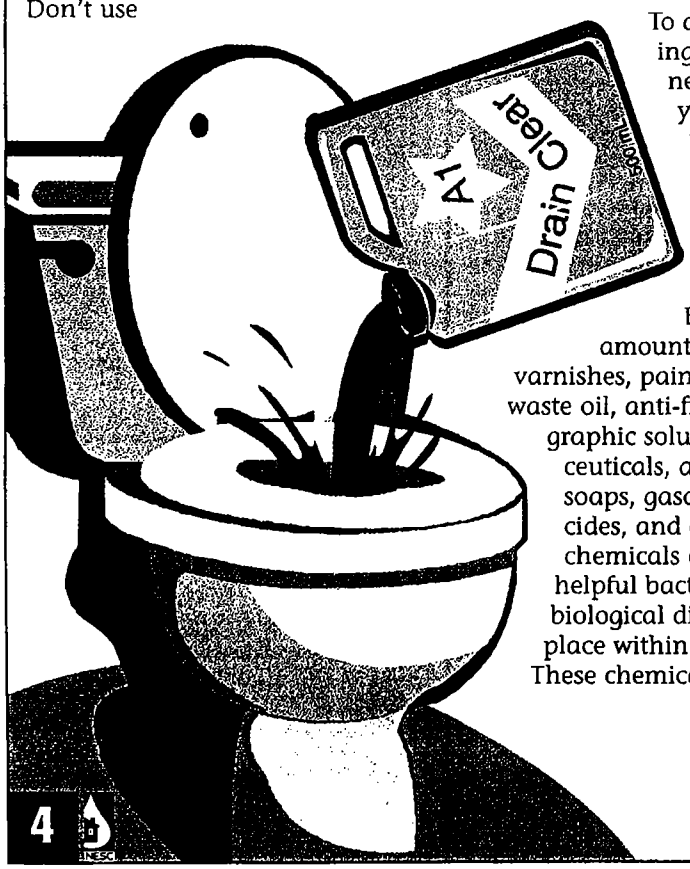
What you put into your septic system greatly affects its ability to do its job. Remember, your septic system contains living organisms that digest and treat waste. As a general rule of thumb, do not dispose of anything in your septic system that can just as easily be put in the trash. Your system is not designed to be a garbage can and solids build up in the septic tank that will eventually need to be pumped. The more solids that go into the tank, the more frequently the tank will need to be pumped, and the higher the risk for problems to arise.

In the kitchen, avoid washing food scraps, coffee grinds, and other food items down the drain. Grease and cooking oils contribute to the layer of scum in the tank and also should not be put down the drain.

The same common-sense approach used in the kitchen should be used in the bathroom. Don't use the toilet to dispose of plastics, paper towels, facial tissues, tampons, sanitary napkins, cigarette butts, dental floss, disposable diapers, condoms, kitty litter, etc. The only things that should be flushed down the toilet are wastewater and toilet paper.

When used as recommended by the manufacturer, most household cleaning products will not adversely affect the operation of your septic tank. Drain cleaners are an exception, however, and only a small amount of these products can kill the bacteria and temporarily disrupt the operation of the tank.

Household cleaners such as bleach, disinfectants, and drain and toilet bowl cleaners should be used in moderation and only in accordance with product labels. Overuse of these products can harm your system. It makes sense to try to keep all toxic and hazardous chemicals out of your septic tank system.



To avoid disrupting or permanently damaging your septic system, do not use it to dispose of hazardous household chemicals. Even small amounts of paints, varnishes, paint thinners, waste oil, anti-freeze, photographic solutions, pharmaceuticals, antibacterial soaps, gasoline, oil, pesticides, and other organic chemicals can destroy helpful bacteria and the biological digestion taking place within your system. These chemicals also pollute the groundwater.

Even latex paint is unhealthy for your septic system. To reduce the cleanup of these products, squeeze all excess paint and stain from brushes and rollers on several layers of newspaper before rinsing.

To help prevent groundwater pollution, be sure to dispose of leftover hazardous chemicals by taking them to an approved hazardous waste collection center. For more information, contact your local health department.

Additives/System Cleaners

While many products on the market claim to help septic systems work better, the truth is there is no magic potion to cure an ailing system. In fact, most engineers and sanitation professionals believe that commercial septic system additives are, at best, useless, and at worst, harmful to a system.

There are two types of septic system additives: biological (like bacteria, enzymes, and yeast) and chemical. The biological additives are harmless but some chemical additives can potentially harm the soil in the drainfield and contaminate the groundwater.

While there hasn't been extensive study on the effectiveness of these products, the general consensus among septic system experts is that septic system additives are an unnecessary evil.

Be aware that the extended use of strong pharmaceuticals and personal care products may harm the working bacteria population in the tank. The total effects are unknown at this time.

How Your Septic System Works

There are two main parts to the basic septic system: the septic tank and the drainfield.

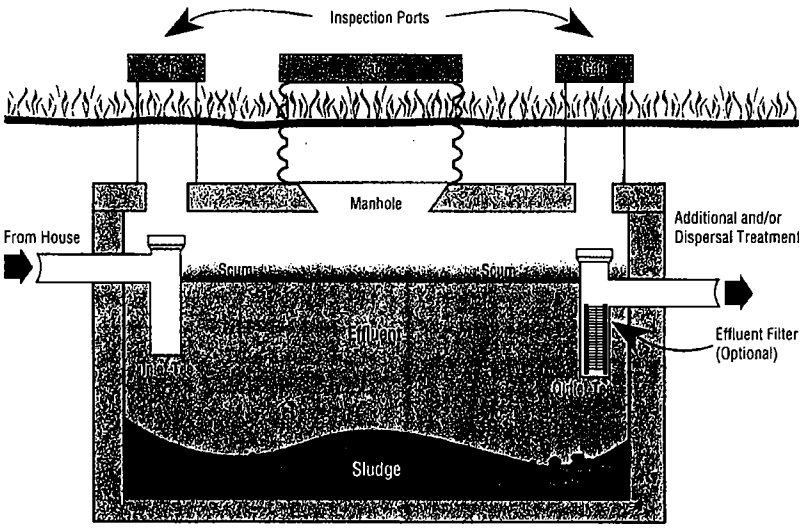
Household wastewater first flows into the septic tank where it should stay for at least a day. In the tank, heavy solids in the wastewater settle to the bottom forming a layer of sludge, and grease and light solids float to the top forming a layer of scum.

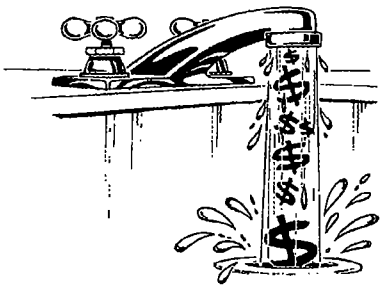
The sludge and scum remain in the tank where naturally occurring bacteria work to break them down. The bacteria cannot completely break down all of the sludge and scum, however, and this is why septic tanks need to be pumped periodically.

The separated wastewater in the middle layer of the tank is pushed out into the drainfield as more wastewater enters the septic tank from the house. If too much water is flushed into the septic tank in a short period of time, the wastewater flows out of the tank before it has had time to separate. This can happen on days when water use is unusually high, or more often if the septic tank is too small for the needs of the household. Homeowners should stagger their laundry throughout the week and try to do no more than two wash loads per day.

When wastewater leaves a septic tank too soon, solids can be carried with it to the drainfield. Drainfields provide additional treatment for the wastewater by allowing it to trickle from a series of perforated pipes, through a layer of gravel, and down through the soil. The soil acts as a natural filter and contains organisms that help treat the waste. Solids damage the drainfield by clogging the small holes in the drainfield pipes, and excess water strains the system unnecessarily.

Conventional septic systems are a very simple way to treat household wastewater. They contain no moving parts and are easy to operate and maintain. Although homeowners must take a more active role in maintaining septic systems, once they learn how their systems work, it is easy for them to appreciate the importance of a few sound operation and maintenance practices.





Use Water Wisely All Around The House

Water conservation is very important for septic systems because continual saturation of the soil in the drainfield can affect the quality of the soil and its ability to naturally remove toxics, bacteria, viruses, and other pollutants from the wastewater.

The most effective way to conserve water around the house is to first take stock of how it is being wasted. Immediately repair any leaking faucets or running toilets, and use dishwashers only when full.

Laundry

You can also cut down on water use by selecting the proper load size for your washing machine. Washing small loads of laundry with large quantities of water is a waste of both water and energy.

Also doing laundry all in one day might seem like a good use of time, but it could be harmful to your septic system. By doing several loads in succession, the septic system does not have time to adequately treat wastes. You might be hydraulically overloading your septic system, causing it to pass solids into the drainfield.

Newer energy-efficient clothes washers use 35 percent less energy and 50 percent less water than a standard model. Look for appliances that display the Energy Star symbol. This indicates they meet strict

energy efficiency guidelines set by the EPA and the U.S. Department of Energy.

Use only nonphosphate or low phosphate laundry detergents. Powder detergents with low inert (clay) content are also easier on the septic system.

Bathrooms

In a typical household, most of the water used indoors is used in the bathroom, and there are several little things that can be done to conserve water there.

For example, try to avoid letting water run while washing hands and brushing teeth. Avoid taking long showers and install water-saving features in faucets and shower heads. These devices can reduce water use by up to 50 percent. Low-flush toilets use 1.6 gallons per flush compared to the three to five gallons used by conventional toilets. Even using a toilet dam or putting a container filled with rocks in the toilet tank can reduce water use by 25 percent.

It is also important to avoid overtaxing your system by using a lot of water in a short time period, or by allowing too much outside water to reach the drainfield. Try to space out activities requiring heavy water use over several days. Also, divert roof drains, surface water, and sump pumps away from the drainfield.

Reprint Info

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Septic System Dos and Don'ts

Do learn the location of your septic tank and drainfield. Keep a sketch of it handy with your maintenance record for service visits.

Do have your septic system inspected annually.

Do have your septic tank pumped out by a licensed contractor, approximately every three to five years, or as often as is appropriate for your system

Do keep your septic tank cover accessible for inspections and pumping. Install risers if necessary.

Do call a professional whenever you experience problems with your system, or if there are any signs of system failure.

Do keep a detailed record of repairs, pumping, inspections, permits issued, and other maintenance activities.

Do conserve water to avoid overloading the system. Be sure to repair any leaky faucets or toilets.

Do divert other sources of water, like roof drains, house footing drains, and sump pumps, away from the septic system. Excessive water keeps the soil in the drainfield from naturally cleansing the wastewater.

Don't go down into a septic tank. Toxic gases are produced by the natural treatment processes in septic tanks and can kill in minutes. Extreme care should be taken when inspecting a septic tank, even when just looking in.

Don't allow anyone to drive or park over any part of the system.

Don't plant anything over or near the drainfield except grass. Roots from nearby trees or shrubs may clog and damage the drain lines.

Don't dig in your drainfield or build anything over it, and don't cover the drainfield with a hard surface such as concrete or asphalt. The area over the drainfield should have only a grass cover. The grass will not only prevent erosion, but will help remove excess water.

Don't make or allow repairs to your septic system without obtaining the required health department permit. Use professional licensed onsite contractors when needed.

Don't use septic tank additives. Under normal operating conditions, these products usually do not help and some may even be harmful to your system.

Don't use your toilet as a trash can or poison your septic system and the groundwater by pouring harmful chemicals and cleansers down the drain. Harsh chemicals can kill the beneficial bacteria that treat your wastewater.

Don't use a garbage disposal without checking with your local regulatory agency to make sure that your septic system can accommodate this additional waste.

Don't allow backwash from home water softeners to enter the septic system.

The Summer 2004 issue of *Pipeline* provides more information about septic tanks for homeowners.

NESC Products related to Septic Systems

Conventional Onsite Sewage Disposal System: Your Septic System, What it is and how to take care of it. Video.
WWVTPE61 .....$10.00

Your Septic System: A Guide for Homeowners. Video.
WWVTPE16 .....$10.00

Pumping Your Septic Tank. Brochure.
WWBRPE71 .....$0.40

Septic System Maintenance.
Fact sheet.
WWFSPE73 .....$0.80

Onsite Wastewater Treatment Systems: Operation and Maintenance.
Fact sheet.
WWFSOM45.....$1.00

Homeowner's Manual for the Operation, Monitoring, and Maintenance of a Gravity Onsite Sewage Treatment and Disposal System Manual.
WWBLOM47.....$13.00

Homeowner's Manual for the Operation, Monitoring, and Maintenance of a Proprietary Device Onsite Sewage Treatment and Disposal System Manual.
WWBLOM48 ..... $13.00

Homeowner's Manual for the Operation, Monitoring, and Maintenance of a Pressure Distribution Onsite Sewage Treatment and Disposal System Manual.
WWBLOM49.....$13.00

Homeowner's Septic Tank Information Package.
WWPKPE28 .....$2.25

Homeowner Onsite System Recordkeeping Folder.
WWBLPE37 .....$0.45

These products may be ordered by calling us at (800) 624-8301.

National Environmental Services Center
WVU Research Corporation
West Virginia University
P.O. Box 6064
Morgantown, WV 26505-6064
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000776

EarthTech
300 Baker Avenue, Suite 290, Concord, MA 01742 • 978.371.4000 tel • 978.371.2468 fax • www.earthtech.com

February 4, 2008

Helen M. Coffin, Executive Secretary
Town of Millville
PO Box 703, 8 Central Street
Millville, MA 01529

Dear Ms. Coffin:

The Town of Millville's NPDES Phase II General Permit for Stormwater Discharges expires May 2008. The Environmental Protection Agency (EPA) anticipates a new permit to be in place by that date. In advance of issuing a draft permit for public comment EPA held a workshop for small MS4s to discuss anticipated permit requirements and solicit comments.

Bethany Leavitt, P.E. and David Graham from Earth Tech participated on behalf of our stormwater communities. Attached is a one page synopsis of the meeting highlights. Also attached are Earth Tech's minutes of the meeting. These minutes detail the concerns by regulated communities about the cost and effectiveness of some program requirements. It is interesting to note that most MS4s, as does Millville, share a concern about water quality, but desire to have their efforts respond to their particular community's needs. This was an excellent forum for EPA to hear these local concerns and hopefully incorporate them into the new permit requirements.

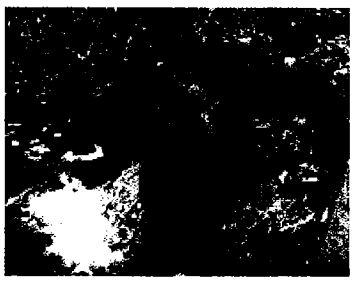
Earth Tech will keep your community informed regarding the status of the pending permit. We look forward to the opportunity to assist your through the next permit cycle. If you have any questions or comments, please do not hesitate to contact me at 413-222-3567.

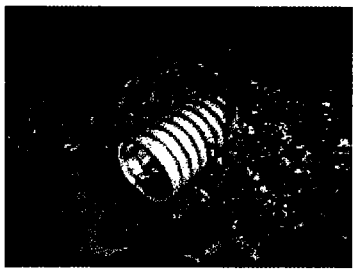
Very truly yours,

Earth Tech

Mary Monahan-Burgess
Program Director

cc: John Dean, Highway Surveyor





Monitoring Meeting for Small Municipal Separate Storm Systems (MS4s) Phase II Communities Environmental Protection Agency - New England January 8, 2008

Current NPDES Phase II General Permit for Stormwater Discharges expires May 2008. EPA anticipates a new draft permit to be available for public comment soon and the new permit to be effective May 2008.

EPA's goal for this meeting was to hear from MS4 communities on what is working and what is not working.

EPA's focus:

- Low Impact Development (LID)
- Monitoring
- Impaired bodies of water

New Notice of Intent (NOI) will address:

- Water Quality
- Total Maximum Daily Loads (TMDLs)
- Illicit Discharge Detection and Elimination (IDDE) Protocols and Requirements
- Good Housekeeping
- Water Quality Monitoring

EPA's stormwater monitoring program may include:

- Established objectives
- Test parameters (indicator organisms, pollutants, etc.)
- Timeframe to establish a baseline and scope
- Prioritized outfalls (land use, size, discharge location, etc.)
- Monitoring location (in-stream or at the outfall itself)
- Monitoring period (wet weather or dry weather)
- Assessment of Best Management Practices (BMPs)

David Webster, Industrial Permits Manager, EPA New England presided over the meeting.

Bethany Leavitt, P.E. and David Graham participated on behalf of Earth Tech's stormwater communities.

Introduction

Dave Webster, Industrial Permits Manager, Environmental Protection Agency - New England presided over the meeting. EPA noted that current permits expire May 2008 and EPA hopes to have the new permits effective May 2008.

EPA is focusing on low impact development (LID), monitoring and impaired water bodies.

The new permit has not been issued for public comment yet, but EPA hopes to have it available for public comment soon. EPA noted that the Notice of Intent will be more specific in addressing water quality, TMDLs (total maximum daily loads), Illicit Discharge Detection and Elimination (IDDE) protocol and requirements, good housekeeping, and include a monitoring program.

The monitoring program should have objectives, test parameters (indicator organisms, pollutant itself, etc.), time frame within the permit for a baseline to be established, scope, outfall monitoring prioritization (classified land use, size, discharge location, etc.), monitoring location (in-stream or at the outfall itself), monitoring time (wet weather or dry weather), IDDE components, and assessment of the effectiveness of Best Management Practices (BMP).

EPA's meeting goal was to hear from MS4 communities on what is working and what is not working.

TMDL Definition – What is a total maximum daily load (TMDL)?

EPA defines a TMDL or Total Maximum Daily Load as a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

Water quality standards are set by States, Territories, and Tribes. They identify the uses for each waterbody, for example, drinking water supply, contact recreation (swimming), and aquatic life support (fishing), and the scientific criteria to support that use.

A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the waterbody can be used for the purposes the State has designated. The calculation must also account for seasonal variation in water quality.

The Clean Water Act, section 303, establishes the water quality standards and TMDL programs.

The following notes incorporate the reporting of Earth Tech's Stormwater Team members Bethany Leavitt and Dave Graham. The key item taken away from the meeting is that there should not be one pre-scripted permit issued for all communities. Every community has a varying set of circumstances and it may not make sense for a community to spend their limited resources complying with a particular component of the permit when it could allocate its resources more wisely addressing known issues that would positively affect water quality. In addition, representatives from MS4 communities noted that those who have made an effort to comply with their permit should not be treated the same as those communities who have not.

Meeting Notes:

David Webster commented that Massachusetts MS4 communities will be facing more stringent monitoring requirements than Connecticut but not as stringent as communities in California or Washington. In Connecticut regulated communities tests for pH, hardness, fecal coliform, E. coli, etc. at six outfalls in residential, commercial and industrial locations. Flow monitoring is and will continue to play a critical role in quantifying progress made.

An attendee voiced support for dry weather inspections and sampling (surfactants, ammonia, temperature, specific conductivity, etc.) and stated that there is too much difficulty associated with wet weather outfall sampling and inspection. For instance, antecedent storm events, storm intensity (as you progress through the stormwater system, you are sampling different points in the storm), and composite sampling are difficult due to refrigeration requirements, potential vandalism, terrain, etc., All have the potential to affect the results. If wet weather is required, then the parameters need to be defined, data collection needs to be meaningful, and rain events qualified.

Certain towns (Beverly, Granby and Ipswich to name some) raised concerns that they could not test every outfall and EPA seemed to agree that it couldn't happen. Most of the municipalities agreed that they want to test, should test, but were very unclear as to the amount and what to test for.

A representative from the Town of Beverly raised a good point that the definition of an outfall is vague at best and may not have been defined the same for each town. In Beverly any pipe that broke ground was considered an outfall. How will EPA handle this?

Beverly hired a consultant for Phase II work. Total contract value is approximately $624,000. Work included GIS mapping, catch basin outfall flow monitoring, aerial photogrammetric survey, drainage structure inspection, and outfall inspections.

Several attendees brought up issues with wet weather investigations:

- Wet weather monitoring gives you only a snapshot in time and that data can be erroneous if weather previous to that allowed for a large build up of pollutants. It was noted that it is difficult to program wet weather monitoring.
- Usually problems are known by residents, DPW personnel or others in the community. These individuals should be asked in a survey, workshop or other forum because it is a cheap and potentially effective way to gather information.
- Typically, problems are obvious to find if there is floating debris, odors, algae in front of the outfall, white deposits (bacterial plaque), etc. Many problems can be found during dry weather inspections, which are a lot less expensive than wet weather monitoring.
- Attendee would like to see larger outfalls monitored as a priority over smaller outfalls with the thought that these pipes have the biggest impact on water quality by default. The second priority would be the older outfalls.
- MS4 communities should spend resources to identify and fix all problem areas. Once this is complete, then dry weather monitoring would be used to identify problems and then those problems would corrected.
- Once dry weather problem areas are corrected and a database developed, a wet weather monitoring program could be undertaken to further identify impacts to water quality.
- Random testing of outfalls based on pipe size and age could be useful to check tributary areas.
- MS4 communities should consider testing water bodies at the upstream boundary of the water body as it enters their community and at the downstream boundary as it leaves their community. The potential to team with watershed groups exists and EPA should consider this an acceptable approach as a way to have a positive impact on water quality and allowing limited funds to be spent elsewhere.

Many speakers agreed that developing a baseline over time is the best approach but is expensive and can be inconclusive. Also, logistically this can be very difficult to achieve because of rain patterns and availability of personnel.

Detention limits and action limits can vary and may not be a good approach because of erroneous results from pollutant shock loading.

Describing anything around an outfall as a visual/olfactory impact is a good indication of what may be happening over time. This information should be part of the outfall database.

If MS4s are to do wet weather inspections, then MS4s should be very careful in the number of outfalls and test parameters.

"The Squeaky Wheel Gets the Grease" approach is a great way to focus MS4 work. Work in areas where there are known problems, either from investigations or from knowledge of people around town.

Sharing of information between sources, like watershed group water quality test data, did not seem like an acceptable substitute to individual communities conducting their own monitoring programs. EPA thought this was a good resource to use to evaluate whether there is an issue to address, but the data tests or data collection methods themselves, may not meet EPA guidelines.

The Stormwater Coordinator for the City of Portsmouth, NH, proposed monitoring receiving water bodies instead of individual outfalls. This may not work especially in large bodies but could be a good alternative if used on small streams with large numbers of outfalls draining to them. Outfall data collection is inconclusive in that the results indicate there was or was not a problem at the time the sampling/monitoring was conducted. Outfall monitoring does not identify the cause of the problem, just that there is a problem. Communities should be focusing on CSOs and other problems that are known.

DPW Director from the Town of Granby stated that Granby is doing their own work for the NPDES permit because, like most towns, they have no budget for this effort. The Director feels annual investigation of every outfall is too much and it wastes the Town's limited manpower. Right now, it takes them one week to do annual inspections. The Director proposed that the Town should be allowed to focus on the areas where they know the problems are and EPA should allow for this type of flexibility in the next permit.

A representative from the Town of Ipswich indicated that monitoring outfalls makes a minimal contribution to impacting water quality. He cited one case in his town where all the monitoring efforts expended in trying to identify a source of sewage failed to identify the source. Eventually, when an individual homeowner decided to do work in the area of a drain on their property, it was discovered that a building sewer was tied in. He stated that it takes time to identify and resolve issues as the source of the problem is not always apparent and in this case, a significant amount of effort was extended and did not result in its identification or removal. He is skeptical about the value of a large scale program.

The DWP Director for the Town of Ipswich also spoke about his experiences. He feels that EPA should be taking a watershed approach to the program. A regional program, based on watersheds, would have a greater impact on stormwater management and water quality. He wants more media releases by EPA for community education (e.g., DEP position papers).

A representative from the Mystic River Watershed Association stated they conduct bacterial monitoring which has provided the criteria to identify and prioritize areas. She indicated that surfactant, ammonia, temperature, etc. testing has also helped identify areas of degraded water quality. She stated that MS4 communities should be able to utilize data compiled by watershed associations and EPA should recognize the data to meet permit requirements. She feels this is a great opportunity to coordinate efforts.

A representative from the Charles River Watershed Association (CRWA) stated that communities should consolidate environmental programs throughout town as a means to get the most results out of individual efforts. He thought a well laid out monitoring program of field inspections and sampling can cost a community less than the "sample everything" approach. He stated that communities need to look within their individual communities to see where they can benefit from non-profit programs, schools, etc. At Pinkerton

Academy, high school students conduct sampling and also maintain stenciling. Data collection and monitoring are being done by others in town and this information is shared through a communicated, collaborated effort. He feels there should be a distinction between outfalls discharging to land versus outfalls discharging to water bodies.

A representative from the Town of Natick stated that overall compliance monitoring should work from the outside in (meaning from the town boundary). He recommended that EPA provide broad monitoring goals as part of permit number 2 that will allow individual communities to develop and implement their specific response to the permit based on the particulars of their community. He also indicated that private and state owned infrastructure in a community can be problematic and EPA should recognize this.

An attendee cautioned against tying wet weather monitoring to permit number 2 compliance. He feels permit number 2 should focus on things that a community has not done yet. Operating and maintaining BMPs should be included in the permit. He thought monitoring should be tied to specific components and compliance with those specific permit issues.

Another representative from the Charles River Watershed Association stated they do both dry and wet weather monitoring of the Charles River and that there are inherent challenges with wet weather monitoring, but still recommends some wet weather monitoring as a useful tool. She also recommends monitoring of major outfalls in sub-watersheds to be included in permit number 2. She indicated that visual wet weather monitoring is an important aspect as well.

A representative from the Watertown Conservation Commission reiterated the message that MS4 communities need to go after the problems and not spend limited resources (time and money) on permit compliance. She also wanted EPA to consider those communities that have complied with their first permit in a different light than those communities that have taken a more relaxed approach to permit compliance. She indicated that EPA needs to get those communities' attention by putting more stringent permit requirements with "teeth" that also contains a rebuttal clause.

A representative from Mass Highway indicated that Mass Highway has about 5,000 outfalls and EPA needs to carefully consider monitoring requirements so that relevant information is gathered. She reiterated the variability of pollutant loads throughout a storm.

A representative from the Town of Chatham expressed that EPA needs to provide flexibility in the new permit and that local DPW, coastal biologists, watershed associations, etc. all know where the problems are. He indicated that MassDEP does monitoring every three years and that long term biological monitoring needs EPA and DEP's guidance for communities to be compliant.

The Town Engineer from the Town of Barnstable spoke that there is a lot of variability among MS4 communities and EPA needs to recognize this difference. He indicated that work should be done beyond the community level (It is presumed he meant a regional approach should be implemented by EPA).

A representative from the Town of Framingham spoke to the IDDE bylaw and that her Town Counsel had an issue with the fine component of the bylaw and was looking for a standard that her community could use. She wanted assistance with the regulation aspect of the permit.