

Municipality/Organization: Town of Eastham, MA

EPA NPDES Permit Number: MAR041110

MassDEP Transmittal Number: W- 040891

Annual Report Number & Reporting Period: Year 14
April 1, 2016– March 31, 2017

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2017)

Part I. General Information

Contact Person: Jane Crowley

Title: Health Agent

Telephone #: (508) 240-5900

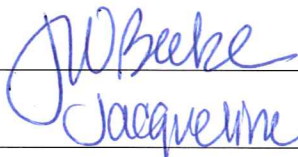
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Mailing Address: 2500 State Highway, Eastham, MA 02642

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:



Printed Name:

Jacqueline W. Beebe

Title: Town Administrator

Date: Jacqueline Beebe

Part II. Self-Assessment

The Town of Eastham has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions.

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 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1.1	Educational Brochures	DPW, Health	Development of Brochures	Updated brochures; disseminated brochures concerning hazardous waste disposal days. Continued to coordinate with Cape Cod Commission on informational campaign. Drug Drop Box located in Police Department available 24/7 to remove medication from waste stream.	Continue to update educational brochures as new information arises; provide information on hazardous waste disposal days. Continue efforts to educate the public about proper disposal of unwanted medical waste. Post information on the Town web site
Revised	Brochures educate the public about proper disposal of medical waste and prescription medication for unwanted and unused medical waste drop off box available to the public Participate in Drug Take Back Day and offer Drop Off box open 24 hours, 7 days a week. Participate in National Drug Take Back Day	Health, Police	Proper disposal of prescription and non prescription drugs		
1.2	Mailings to Homeowners	Health	Distribution of Brochures	Homeowner mailings regarding importance of septic system maintenance.	Continue annually. 3,413 number of mailings have been sent in 2016 to homeowners who have not pumped septic system in 3 or more years to encourage proper maintenance
Revised	http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/septic septic pumping brochure				

1.3	Mailing to all Property Owners Participate in Regional Waste water Planning efforts with Cape Cod Commission 208 Project Public Meetings on Wastewater Planning Status	Health	Distribution of Brochures and educational presentation on wastewater management Update BOS/Public on Planning efforts. Presentations on local cable and website video on demand	Homeowner mailings regarding importance of wastewater management plan including storm water. GHD Completed 2 Reports on Wastewater Planning Technical Memorandums 1 and 2 http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/TM116 http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/TM216	Air local wastewater presentation and educational video on local cable and website video on demand GHD Continues Wastewater Planning Reports Technical Memorandums 3 and 4 http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/TM3 http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/TM4

1.4	Coastal/Pond Clean-up Remediation of Herring Pond conducted October 2012 with Alum Treatment continue to monitor Spring and Fall Alum Treatment of Great Pond conducted October 2013 continue to monitor Spring and Fall	ConCom, DPW, Health Dept., Water Management Committee	Conducting Clean-up Pond water quality monitoring for phosphorus + A1 profiles. Also monitor D.O./PH/ALK dissolved; see attached.	Private owners clean pond areas and test fresh water. DPW cleans as necessary. Mutt-mitt project for dog waste has been implemented and continued. Enhanced enforcement of pet regulations. Form local Citizens Advisory group to facilitate compliance Alum Treatment has improved water quality	DPW continues to clean up as necessary. Possible expansion of mutt-mitt program to other areas of town. Review pond report from CCC: Water quality monitoring to continue. Current water quality data for Great Pond and Herring Pond 2016 shows continued improvement.
	Adopted Comprehensive Plan to Protect Pond Water Quality November 18, 2014	BOH/Water Management Committee	Establish proprieties and objectives	Adopted Fertilizer Regulation	Continue Community Volunteer Education Outreach and Appreciation Program. Establish community engagement to conduct sampling.
	Participate in Nauset Estuary Harbor System MEP sampling program in conjunction with Orleans Recruit and train volunteers	Health	Analysis of water samples from Nauset Estuary	Worked with Orleans to establish water quality monitoring stations to be tested summer 2016. Tested 6 stations 5 different days for summer 2016. See results http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/MEPdata	Continue to sample 2017

1.5	Office Brochure	NR, DPW, Planning	Availability of Brochures	Brochures with local contact information corresponding with 1.1 displayed in NR, DPW, and Town Hall. Distribute educational materials from Cape Cod Water Protection Collaborative or Massachusetts Estuaries Project. Updated brochures; disseminated brochures concerning hazardous waste disposal days. Continued to coordinate with Cape Cod Commission on informational campaign.	Continue to update brochures and informational/educational brochures in Year 14, including information on fertilizers and other potential contaminants. Review grant-funded Pleasant Bay Watershed Management Plan for cross-applicability. Continue strategies to reduce TMDLs as required in Draft Mass Estuaries Report for Rock Harbor. Final reports on TMDL for Nauset expected 2017. Continue to update educational materials as new information arises; provide information on hazardous waste disposal days.
Revised					

1a. Additions

1.6	Post information on Countywide Rain Barrel Distribution Program http://www.eastham-ma.gov/Public_Documents/EasthamMA_Planning/rainflyer10.pdf	DPW, NR, Planning	Availability of rain barrels	Disseminate information from the Cape Cod Groundwater Guardian Team	Continue indefinitely
1.7	Beach Signage	Health	Post signage	Inspect condition of signage at every marine & freshwater beach to enforce compliance with state beach regulations, noting contact info, testing data and periods of testing. Include signage on Invasive Species	Continue indefinitely

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
2.1	Stormwater Management Program	NR, DPW, ConCom, Planning, Health, WMC	Development of Program, including prioritization of sites	Program has been developed and sites have been identified. Catchbasins and discharge pipes have been mapped in GIS database, based on paper maps. http://www.eastham-ma.gov/Public_Documents/EasthamMA_Planning/NPDES/Maps/	Continue contact with Mass State Highway about stormwater drainage into Salt Pond and Minister Pond in attempt to mitigate impact to ponds and develop best management practices. Continue to eliminate outfalls.
	Town has developing GIS based mapping of the storm water system	DPW, Planning, Health Con Com WMC	Map all structures (manholes, Catch basins)	Maps developed for planning and future drainage improvement projects. Begin development of computer People Form GIS for inventory tracking https://www.mapsonline.net/easthamma	Structures being inspected for connectivity, condition, determining size, material of construction and condition of the network
2.2	Pollution Reporting	NR, DPW, Pond Stewards	Visual Monitoring / Recording	Continue routine monitoring of marine areas conducted by NR staff 7 times per week, daily monitoring of drainage system/road network by DPW, and monitoring of fresh surface waters by Eastham Pond Stewards. Monitoring capabilities augmented for summer months in Rock Harbor (marina) by seasonal employee. NR monitoring of Town Cove bacteria levels with MA Division of Marine Fisheries.	Continue with monitoring as described; receive report from Cape Cod Commission's monitoring efforts for action. Pond Report implementation strategies reviewed. http://www.barnstablecountyhealth.org/bseastham.html
	Report on results Salt Pond MEP Trend Analysis	Health	Technical Memorandum updated estuary data	Report completed EcoLogic Nauset Estuary Overview http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/TMNauset16	http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/FreshPond
Revised					Continue Integrated Nutrient Management approach to improve water quality in Salt Pond.

	Attend 208 Regional Planning Summit	Health, DPW, Planning	Water Shed Reports for 5 estuaries	5 Watershed reports submitted to CCC in compliance with EPA requirements for Waste Management Agencies	Complete hybrid evaluation of Nauset Estuary
	PRB Pilot Study	Health/Planning/DPW		Complete Initial Site Characterization Salt Pond for use of Permeable Reactive Barrier by AECOM http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/AECOMPRB	Continue detailed investigation of site characterization for optimum PRB location
Revised					

2a. Additions

2.3	Wiley Park Demonstration Project	NR	Educate public about alternative low impact sustainable landscape options	Project implementation. Project installed 2014.	Continue maintenance.
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2.4	Pond Associations	NR, Health	Conduct outreach for Pond Remediation Project Conduct training for Pond volunteers Outreach to Pond Abutters for training to identify cyanobacteria	2 Private pond associations formed to support Pond issues. Work to educate and gain support for pond remediation and continue to encourage best management practices Training session held and posted on video on demand at Town web site Training conducted by APCC/EPA to help volunteers identify Cyanobacteria	Continue indefinitely. Bi annual Association Meeting Planned to update developments on best management practices and pond remediation strategies. Conduct vegetation survey at Schoolhouse Minister Pond summer 2017 Continue education and trainings
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3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3.1 Revised	Map Outfalls	NR, DPW	Comprehensive Map GIS/GPS	Program has been developed and sites have been identified. http://www.eastham-ma.gov/Public_Documents/EasthamMA_Planning/NPDES/Maps/	Continue to Refine and enhance source point/waterways map. Asset Management Program underway.
3.2 Revised	Detection of Non-Stormwater Discharge	NR, Health	Correction of Discharges	Continue to identify no stormwater discharges and remedy situations as they arise, depending on the source of the discharge	Continue project indefinitely. Update map as needed
3.3 Revised	Dry Weather Flow Screening	NR, Health	Screening Testing; Correction of Discharges	Incorporate dry weather flow screening into the routine monitoring of marine areas conducted by NR staff 5 xs per week spring through fall.	Continue project indefinitely.
3.4 Revised	Reporting Line <i>A team is assembled when an illicit discharge is confirmed (DPW, Health, Fire, Building Inspector)</i>	NR, DPW, Fire	Document complaints	Reports involving oil or hazardous waste is reported to the Fire Dept, and MA DEP.	Continue project indefinitely.
3.5 Revised	Hazardous Product Collection Medical Waste Disposal Day	Health, DPW, Recycling Health, Police	Conducting Collection Day Conduct Collection Day	Hazardous waste collection day's schedules for July 16, 2016 and September 17, 2016. Planned Medical Waste take back day conducted in conjunction with DEA. Drop Box available in Police Department 24/7	Continue project indefinitely. Planned for May 6, 2017 and September 16, 2017 conducted in reciprocal agreement with Orleans to allow residents additional opportunity to dispose of HHW.

3a. Additions

3.6	Outfall Elimination	DPW	Reduction of outfalls contributing to bodies of water	Projects Completed	Maintenance and Operations Plan
	#2 Herring Run		Installed infiltration system and rain garden	Eliminated outfall	Maintenance and Operations Plan
	#3 Cole Road		Installed porous pavement	Eliminated outfall	Maintenance and Operations Plan
	#9 Herring Pond		Herringbrook Road/Herring River/Bridge Pond infiltration system not needed. System was overdesigned	Eliminated outfall	Maintenance and Operations Plan
	#11 McKoy Road		Installed infiltration system. Location does not drain to any identifiable water body	Eliminated outfall	Maintenance and Operations Plan
	Original Map			http://www.eastham-ma.gov/Public_Documents/EasthamMA_Planning/NPDES/Storm Water Infrastructure Map v3 small map Sept 2009.pdf	
	Updated Map 2017			http://www.eastham-ma.gov/Public_Documents/EasthamMA_Planning/NPDES/NEPDES%20MAP%202017.pdf	

3.7	IDDE	DPW Board of Health	Found and Eliminated	Continue monitoring	Continue monitoring
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4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4.1	Construction Site Runoff Control Bylaw	Planning	Developed Bylaws	Bylaw adopted by Planning Board and Town Meeting	Implement bylaw
Revised					
4.2	Enact Construction Site Runoff Control Bylaw	ConCom, Planning, Town Meeting	Implement Bylaw	Continue to discuss the creation of a bylaw to be incorporated into local wetland control bylaw and local subdivision rules and regulations.	Continue to work on the development and implementation of bylaws. There is a policy, but not a bylaw.
Revised					
4.3	Sand Nourishment	ConCom	Regulations	Continuation of goal for better compliance and quality of sand. NR agent frequently meets with applicants.	Homeowners required to do sand nourishment must do so with sand of comparable grain size to what is natural with no debris.
Revised					
4.4	Conceptual Salt Pond Storm water design complete	DPW	Developed Plans	Complete final plans Rt 6 drainage http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/rt6_drainage	Pursue funding
	Design Route 6 Drainage BMP nitrogen reduction	DPW/Health/Planning	Memo to design gravel wetland stormwater treatment BMP	Rt 6 drainage plan http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/rt6_drainageplan	
Revised					

4a. Additions

4.5	Ground water Protection Regulation	Health and Planning	Regulations	Adopted Ground Water Protection Regulations/Bylaw http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/groundwaterregs/	Implement BOH Regulations and Zoning Bylaw
		Health	Adopt Town wide Nitrogen Loading Limitation Regulation	New town wide nitrogen loading regulation adopted by BOH http://www.eastham-ma.gov/Public_Documents/EasthamMA_Health/BOHregs	Enforce regulation

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 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.1 Revised	Construction Site Runoff Control Bylaw	ConCom,	Develop Bylaws	Implement bylaw which was incorporated into local wetland control bylaw and local subdivision control rules and regulations.	Continue to work on the development and implementation of a bylaw. Review bylaw for adoption at town meeting for ConCom. Continue “Limit of Work” in Order of Conditions for project as well as use hay bales &/or silt fence until area is stabilized.
5.2 Revised	Amend Site Plan Review	Planning	Bylaw	Bylaw adopted.	Goal achieved
5.3 Revised	Enact Construction Site Runoff Control Bylaw	ConCom, Planning, Town Meeting, Bd. Of Highway Surveyors	Implement Bylaw	Enacted bylaw which was incorporated into local wetland control bylaw and local subdivision rules and regulations.	Enforce bylaw. Work on the development and implementation of bylaws completed
Revised					

5a. Additions

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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 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.1	Annual Training	NR, DPW, Planning, Fire, Health	Training Session	Annual training on best practices for pollution prevention and mitigation.	Annual training for worker safety, attend educational workshops for employees or public given by CCC or WBNERR, Barnstable County Health
Revised	Right to Know Employee Training on Hazards and STS/GHS				
6.2	Review of Town Properties	DPW, Building Maintenance	Monitor and Correct Problems	Audit conducted by MIIA.	Continue indefinitely.
Revised					
6.3	Review of Town Operations	DPW, Facilities Manager	Monitor and Correct Problems	Pollution Prevention Control	Ongoing project
Revised					
6.4	Catch basin Cleaning	DPW	Updated Log	Clean all town-owned catch basins in spring and fall 2016	Continue to Clean and inspect all town-owned catch basins
Revised	http://www.eastham-ma.gov/Public_Documents/EasthamMA_Planning/NPDES/DPW%20Street%20Sweeping%20and%20Catchbasin%20Policy.pdf				
6.5	Street Sweeping	DPW	Record areas swept	Sweep all town-owned roadways and parking lots in spring and fall 2016. Received beneficial use determination based on testing.	Sweep all town-owned roadways and parking lots in Spring and Fall 2016
Revised					
6.6	Remediation of existing outfall	DPW	Elimination of stormwater discharge	One discharge site identified: Cole Road. Design complete. Permitting underway.	Complete permitting and bid.
Revised					
6.7	Drainage Alterations	DPW	Catch basin Replacement	Catch basins identified for replacement or closure. Design underway for Governor Prence Road. Project permitted	Construct project
Revised					
6.8	Fuel Tanks	Fire	Fuel Tank Removal	Goal achieved.	Goal achieved
Revised					

6.9	Stormwater/Flooding Remediation	DPW	Replace culvert Campground Beach	Design Plans complete	Begin Permitting.
Revised					

6a. Additions

6.10	Pesticide/Fertilizer Policy	Board of Health	Fertilizer and Pesticide reduction	Adopted Fertilizer Regulation. Town documented opposition to Eversource pesticide use.	Policy adopted and enforced. Conduct community education program to include residents and businesses Conduct Sustainable Gardening education program and discuss BMP /proper use of fertilizer to protect the environment
6.11	Beach Cleaner Purchased	DPW	Aerate sand and remove debris	Operated June through September	Continue Beach Cleaning
6.12	Vegetation management with goats	DPW	Elimination of Herbicide	Pilot project complete	Publicize program. Program ended.

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<Not applicable>>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

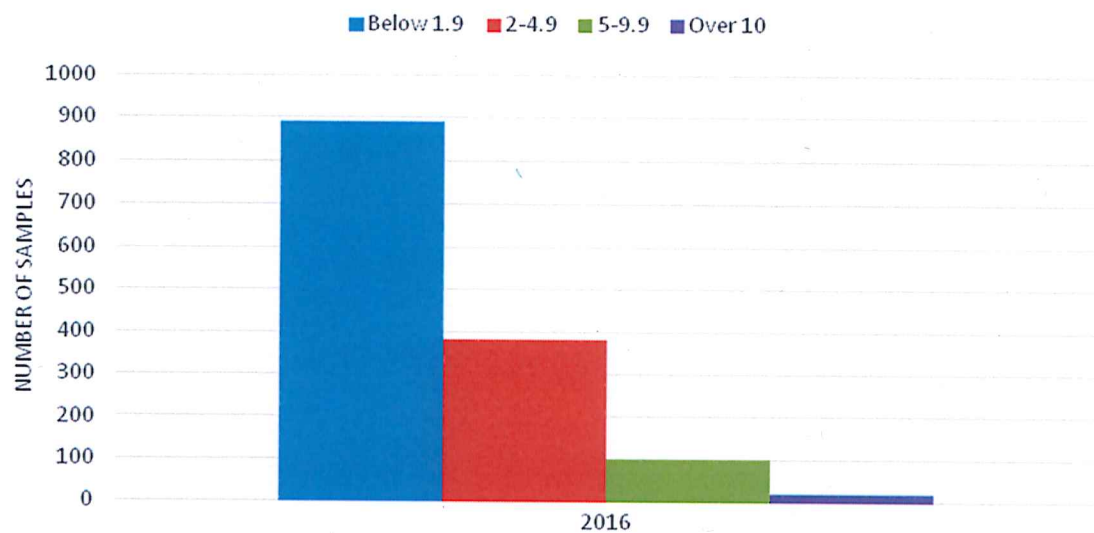
Freshwater Sampling – The Cape Cod Pond and Lake Stewardship (PALS) are continually sampling the Eastham ponds in an effort to identify possible pollutant and recommend best management practices for containing and eliminating possible pollutants. Eastham has a total of 12 ponds currently being sampled. (<http://www.capecodcommission.org/water/PALS/home.htm>). See attached.

Beach Sampling – Sixteen Eastham beaches (12 saltwater and 6 freshwater) were sampled during the summer months by the Barnstable County Department of Health and Environment. In 2016 over 172 samples were tested for E. coli or Enterococci as applicable. Samples exceeding the limits result in the posting of swimming advisory notices and posting on our website. Repeat samples taken the following day were within acceptable limits in all and the beaches were reopened to the public when standards were achieved. See attached. <http://www.barnstablecountyhealth.org/programs-and-services/bathing-beach-water-quality/beach-sample-results>

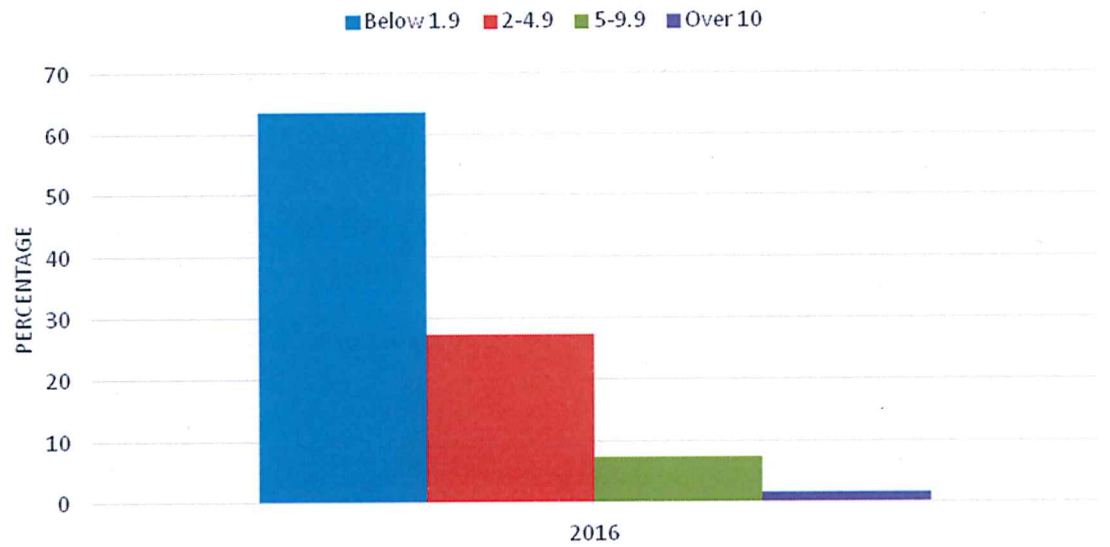
Groundwater Sampling – The town continued its voluntary sampling project to evaluate levels of nitrate in residential wells. Each year one-third of the town is sampled allowing for a three-year sampling rotation schedule. We are experiencing a return of approximately 60% of the vials mailed.

Year	#Samples Returned 2016	# Samples Returned 2015	# Samples Returned 2014
	1397	1808	1512
Below 2	890	911	768
2 to 5	383	638	485
5 to 10	102	220	220
Above 10	21	39	39

2016 Eastham Total Nitrate Levels



2016 Eastham Total Nitrate Levels



Shellfish Sampling – The Natural Resources Office continues to test for Red Tide and participate in shellfish sampling in coordination with Massachusetts Division of Marine Fisheries on a weekly basis through the spring, summer and fall.

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2009 through March 31, 2014)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	
Annual program budget/expenditures **	(\$)	
Total program expenditures since beginning of permit coverage	(\$)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	
Stream teams established or supported	(# or y/n)	
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	

Legal/Regulatory

	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
Regulatory Mechanism Status (indicate with "X")					
▪ Illicit Discharge Detection & Elimination					
▪ Erosion & Sediment Control					
▪ Post-Development Stormwater Management					
Accompanying Regulation Status (indicate with "X")					
▪ Illicit Discharge Detection & Elimination					
▪ Erosion & Sediment Control					
▪ Post-Development Stormwater Management					

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	
Estimated or actual number of outfalls	(#)	
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	
Illicit discharges identified **	(#)	
Illicit discharges identified (Since beginning of permit coverage)	(#)	

Illicit connections removed **	(#); and (est. gpd)	
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	
% of population on sewer	(%)	
% of population on septic systems	(%)	

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	
Site inspections completed **	(# or %)	
Tickets/Stop work orders issued **	(# or %)	
Fines collected **	(# and \$)	
Complaints/concerns received from public **	(#)	

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	
Site inspections (for proper BMP installation & operation) completed **	(# or %)	
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	
Low-impact development (LID) practices permitted and encouraged	(y/n)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	
Qty of structures cleaned **	(#)	

Qty. of storm drain cleaned **	(%, LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	
• Disposal cost**	(\$)	
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	
• Vacuum truck(s) owned/leased	(#)	
• Vacuum trucks specified in contracts	(y/n)	
• % Structures cleaned with clam shells **	(%)	
• % Structures cleaned with vector **	(%)	

(Preferred Units) Response

Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	
• % Roads swept with rotary brush sweepers **	%	
• % Roads swept with vacuum sweepers **	%	

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Integrated Pest Management (IPM) Practices Implemented	(y/n)	

	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized **	(y/n or %)	
Manual control spreaders used **	(y/n or %)	
Zero-velocity spreaders used **	(y/n or %)	
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	
% of salt/chemical pile(s) covered in storage shed(s)	(%)	
Storage shed(s) in design or under construction	(y/n or #)	
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	
Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	

Please See Additional Information Below