

Part II. Self-Assessment

As of the end of Year 8, the City has achieved nearly all of the measurable goals for the BMPs selected in the 2003 Notice of Intent and those added in subsequent years to reflect unplanned stormwater activities by the City and Salem Sound Coastwatch. The City is still in progress implementing some BMPs:

- Illicit discharge detection activities are ongoing (BMP 13 and 14), and these investigations have resulted in the disconnection of numerous illicit connections and other sources of pollution. In 2010, the City removed 14 illicit sewer connections from buildings to the MS4.
- While the City currently reviews construction site runoff (BMP 17) and post-construction stormwater management (BMP 19) practices for most development and redevelopment projects, the City plans to continue efforts to implement the new Ordinance that will formalize current expectations and, at a minimum, expand jurisdiction to all projects that disturb one acre or greater. A draft Ordinance was developed and it is now going through the final review and approval process.

Planned activities for the next permit term have not been designated unless a BMP under this permit term was not completed or is still in progress for completion. Once the General Permit for the next five years is available from EPA, the City will prepare and submit a Notice of Intent for compliance with the new General Permit.

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 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
1	Website	Dept. of Public Services through the efforts of Salem Sound Coastwatch (SSCW)	Maintain and update website (provided funding is available).	SSCW website is maintained and updated with volunteering opportunities, community events and results of water quality monitoring in Salem. In addition, SSCW updates Facebook with events and information.	Measurable goals for 2003 General Permit have been met.
Revised					
2	Informational brochures	Dept. of Public Services (through the efforts of SSCW)	Provide and maintain brochures at SSCW office. Distribute brochures at public events (provided funding is available).	Provided and maintained brochures at SSCW office and distributed brochures at public events during Permit Year 8. Brochures continue to be available at the City offices on the 4 th floor at 120 Washington Street.	Measurable goals for 2003 General Permit have been met.
Revised					
3	Newsletter	Dept. of Public Services (through the efforts of SSCW)	Provide and maintain newsletters at SSCW office. Mail newsletters to dues paying SSCW members and others on a quarterly basis (provided funding is available).	SSCW no longer mails newsletters, but instead emails monthly e-newsletters, <i>SoundNet</i> , which is also available at http://www.salemsound.org/archivesSoundNet.html	Measurable goals for 2003 General Permit have been met.
Revised					

4	Public event displays	Dept. of Public Services (through the efforts of SSCW)	Post display annually at the Maritime Festival, and other public events if possible (provided funding is available).	SSCW, in conjunction with the Massachusetts Bays Estuary Association (MBEA), displayed 15-foot tall Stormy the Duck at the 3 rd Annual Swim n' Fin OceanFest on Saturday August 28, 2010 at Forest River Park. Stormy is the mascot for the <i>Think Again. Think Blue.</i> campaign.	Measurable goals for 2003 General Permit have been met.
Revised					
5	Local newspaper articles	Dept. of Public Services (through the efforts of SSCW)	One article per year.	An article titled <i>Coastwatch Marks 20 Years Protecting Salem's Waters</i> was published in the Salem News on March 22, 2011. This article discusses the progress SSCW has made over the last 20 years and SSCW's plan for the future. In addition, there was an article in the Boston Globe titled "This sand is your sand" which detailed the new volunteer cleanup program of North Shore beaches, including eight in beaches in Salem.	Measurable goals for 2003 General Permit have been met.
Revised					
6	Training of volunteers	Dept. of Public Services (through the efforts of SSCW)	Annually (provided funding is available).	The Clean Beaches and Streams Orientation and Training was conducted by SSCW staff in June 2010. Volunteers were trained to collect water quality samples every two weeks for the 2010 swimming season from June 15 through August 24, 2010. In addition, in 2010 SSCW held numerous "Adopt a beach" training sessions for volunteers.	Measurable goals for 2003 General Permit have been met.
Revised					

7	Publish results of water quality monitoring	Dept. of Public Services (through the efforts of SSCW) and Board of Health	Year 1 – Publish upon receipt of results; Years 2 through 5 – Continue based on available funding.	Results of water quality monitoring performed during Permit Year 8 are published on SSCW’s website (http://www.salemsound.org/CB&S.html) Results of BOH beach water quality monitoring are published on the Massachusetts Department of Public Health – Bureau of Environmental Health website at: http://mass.digitalhealthdepartment.com/public_21/beaches.cfm	Measurable goals for 2003 General Permit have been met.
Revised					

31	North River Awareness Week	Dept. of Public Services (through the efforts of SSCW)	SSCW will sponsor the North River Awareness Week annually (provided funding is available) and discuss stormwater impacts on the river	SSCW did not hold the North River Awareness Week in 2010. However, SSCW did participate in Clean Salem, Green Salem on May 1, 2010. SSCW also participated in COASTSWEEP cleanups in Salem. October 2, 2010 included cleanup of Salem Willows Park including Dead Horse Beach, and October 16, 2010 included Winter Island and Collins Cove. On April 29, 2010, SSCW and the Division of Marine Fisheries held the Annual Fish Sampling Demonstration and Smelt Count Update on the North River. The Division of Marine Fisheries displayed the catch from the morning's sampling and provided an update on the status of spawning smelt based on eggs found in the North River.	Measurable goals for 2003 General Permit have been met
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32	Low Impact Development (LID) Outreach	Dept. of Public Services (through the efforts of SSCW)	Year 3 – SSCW Speakers Series will focus on LID Year 4 & 5 – Continue to promote LID techniques for stormwater management	<p>The City of Salem’s website continues to have a Water Conservation Brochure that offers water conservation tips, rain barrels at discounted prices and free water conservation devices to Salem Residents (www.salem.com).</p> <p>The Department of Public Services hands out a variety of brochures covering the topics of nonpoint source pollution, water conservation, recycling, LID, and composting. Some publications to note include:</p> <ul style="list-style-type: none"> • <i>Greenscapes Guide</i> • <i>SSCW’s Nonpoint Source Pollution & Salem Sound</i> brochure • <i>Water Conservation</i> <p>Salem has continued to renew membership with Greenscapes. In January 2006, SSCW collaborated with Greenscapes to form a planning committee to set up workshops, contact landscapers, nurseries and garden centers, identify demonstration sites, and help with outreach to educate on the use of less pesticides and fertilizers and the affects of such chemicals on streams and other water bodies; focus is on stormwater quality.</p> <p>In permit year 8, the 3rd Annual Living Green & Renewable Energy Fair was held on June 19, 2010. Rainbarrels, composters, water conservation garden spray nozzles and recycling bins were demonstrated and available for purchase.</p>	Measurable goals for 2003 General Permit have been met
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35	No Discharge Area Outreach	Dept. of Public Services (through the efforts of Salem Sound Working Group)	Year 4 – Use information from the 2005 survey to Improve Salem Sound Year 5 – Continue to promote Salem Sound Improvements	<p>As of June 23, 2008, Salem Sound is a No Discharge Area (NDA). EPA Region 1 designated Salem Sound as an area where boaters with Marine Sanitation Device (MSD) type I & II no longer dump within 3 miles of shore.</p> <p>The Salem Harbormaster’s website contains information about pump out stations. In Salem, the pump out boat operates noon – 4 on Fridays and 8-4 on weekends and holidays from Memorial Day to Columbus Day. There is a self service automated pump-out station at the Congress St float open 24/7.</p> <p>Information about what boaters need to know, as well as information on pump out services, is available on SSCW’s website http://www.salemsound.org/NDA.html</p> <p>In addition, information is available on EPA’s website at http://www.epa.gov/region1/eco/nodisorg/ma.html</p>	Measurable goals for 2003 General Permit have been met.
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2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
8	Water quality monitoring program	Dept. of Public Services (through the efforts of SSCW)	Annually (provided funding is available).	Under SSCW's Clean Beaches and Streams Program, trained volunteers collected samples from prioritized sites and performed testing every two weeks during summer 2010. Results are available on the SSCW website: http://www.salemsound.org/CB&S.htm	Measurable goals for 2003 General Permit have been met.
Revised					
9	Beach cleanup program	Dept. of public Services (through the efforts of SSCW)	Conduct once per year, each summer (provided funding is available).	Under SSCW's Beach Buddies / COASTSWEEP Program, volunteers removed marine debris and trash from Winter Island, Salem Willows Park (including Dead Horse Beach), and Collins Cove on October 2, 2010 and October 16, 2010.	Measurable goals for 2003 General Permit have been met.
Revised					
10	Storm drain stenciling	Dept. of Public Services (through the efforts of SSCW); Salem State College (through the efforts of MA Community Water Watch)	Evaluate once per year. Perform stenciling (provided funding is available).	Stenciling of storm drains has been done in previous permit years. No additional storm drain stenciling was conducted this permit year due to constraints of budget and staff time.	Measurable goals for 2003 General Permit have been met.
Revised					

30	Coastal Habitat Invasive Monitoring Program	Dept. of Public Services (through the efforts of SSCW)	Annually (provided funding is available).	Under SSCW's Coastal Habitat Invasive Monitoring Program, trained volunteers collected information on location and amount of invasive species. From July 2010 to October 2010, the SSCW monitored the growth of fouling organisms on the surface of lobster traps. More information is available on the SSCW website at: http://www.salemsound.org/trapFouling.html	Measurable goals for 2003 General Permit have been met.
Revised					
33	North River Clean-up	Dept. of Public Services (through the efforts of SSCW)	Year 3 – Remove trash and other debris from the river and banks.	<p>SSCW did not hold the North River Awareness Week in 2010. However, SSCW did participate in Clean Salem, Green Salem on May 1, 2010.</p> <p>SSCW also participated in COASTSWEEP cleanups in Salem. October 2, 2010 included cleanup of Salem Willows Park including Dead Horse Beach, and October 16, 2010 included Winter Island and Collins Cove.</p> <p>In addition, throughout 2010, SSCW held numerous cleanup trainings for volunteers as part of the Adopt a Beach program.</p>	Measurable goals for 2003 General Permit have been met.

37	South River Drainage Improvement Project	City of Salem	Year 4 – Collect information regarding the South River Basin. Year 6 – No additional public participation goals this year Moved next phase of this BMP to Good Housekeeping Section as BMP 38	The City continues to implement several measures for the South River Drainage Project. See BMP 38	Measurable goals for 2003 General Permit have been met. The City plans to keep the public informed and seek input as needed regarding project activities.
Revised					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
11	Develop GIS database of the drainage system	Dept. of Public Services	Continue to improve the GIS database and mapping	100% of the City’s outfalls and the water bodies into which the outfalls discharge are located in GIS or on paper/Mylar maps. City maps show catch basins, drainage manholes, siphons, and some connectivity. City uses GIS as a tool to identify and track flooding problems.	Measurable goals for 2003 General Permit have been met. City continues to GPS locate catch basins, drainage manholes, and other structures, and well as complete connectivity to develop a full drainage system map.
Revised					
12	Salem Sound Shoreline Survey (Project No. 2002–01/604)	Health Dept.	Obtain copies of the quarterly progress reports, as well as other information pertinent to Salem	There were no activities planned for Permit Year 8.	Measurable goals for 2003 General Permit have been met.
Revised					

13	Visually inspect outfalls for dry weather flows	Dept. of Public Services (through the efforts of SSCW)	Inspect a representative number of outfalls annually (provided funding is available).	City continued to implement the IDDE Plan, and based on inspections and sampling conducted near South River outlet, Derby Warf, and North River, in 2010, removed illegal connections (sewer pipes) from the MS4 at 14 properties. City estimates approximately 9,000 gallons per day of wastewater was removed from the storm drain system in Permit Year 8.	Measurable goals for 2003 General Permit have been met.
Revised					
14	Conduct water quality sampling at stormwater outfalls.	Dept. of Public Services (through the efforts of SSCW)	Year 1 – Publish results of sampling. Years 2 through 5 – Perform additional sampling (provided funding is available).	SSCW performed sampling every two weeks at various outfalls during the 2010 swimming season (April through the end of August). Results are published on SSCW's website (http://www.salemsound.org/clean_beaches.htm).	Measurable goals for 2003 General Permit have been met.
Revised				In May 2010, SSCW began a partnership with Salem State University (Department of Geological Studies) to sample six monitoring sites throughout Salem Sound and take ten samples from each site. Sediment traps were also placed in locations near each of the six sampling sites. Sampling is being conducted through the end of April 2011.	
15	Conduct water quality sampling at beaches	Health Dept.	Perform weekly beach sampling during summer months in accordance with DEP criteria	Weekly beach sampling was performed at 15 locations during the period from June 29 to Aug 126, 2010. Health Dept. keeps records of results. Results are also published on the MA Department of Public Health (DPH) website.	Measurable goals for 2003 General Permit have been met.
Revised					

16	Develop Stormwater Ordinance	Dept. of Public Services	Year 1 – Review existing bylaws & regulations; Year 2 – Propose changes; Year 3 – Implement changes, subject to City approval	The City determined it has adequate legal authority to effectively prohibit non-stormwater discharges to the MS4 and enforce violations. No further action is necessary to fulfill the requirements of the General Permit under this BMP.	Measurable goals for 2003 General Permit have been met.
Revised					

29	Perform study to identify contamination sources(s)	Dept. of Public Services	Year 1 – Submit grant application to CZM; Year 2 – Initiate study (provide funding is available). Year 3 to 5 – Implement Recommendations	Continued to monitor the effectiveness of the Juniper Beach outfall tide gate through beach and outfall water quality monitoring. Also continued trash collection at Willows Park. There were no activities planned for Permit Year 8.	Measurable goals for 2003 General Permit have been met.
Revised					

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
17	Develop an ordinance requiring developers to prepare an Erosion & Sediment Control Plan for all sites disturbing one acre or greater	Dept. of Public Services; Planning Board; Conservation Commission	Year 1 – Review existing bylaws and regulations. Year 3 – Develop Ordinance. Year 4&5 - Implement changes, subject to City approval	The City continues to progress on finalizing the Ordinance. The draft Ordinance has been reviewed by the City Solicitor. Conservation and Engineering met in early 2011 to review the recent draft and plan next steps.	Although the City currently reviews construction site runoff controls for most projects, the City will continue efforts to implement the new Ordinance to formalize current expectations and, at a minimum, expand jurisdiction to all projects that disturb one acre or greater.
Revised					

18	Periodically check erosion control measures and construction material management on site inspections	Dept. of Public Services; Planning Board, Conservation Commission	Monitor and track violations	As part of regular Conservation and/or Engineer inspections, continued to monitor sites and inspect erosion control measures and construction material management throughout City.	Measurable goals for 2003 General Permit have been met.
Revised				In March 2010, the City observed a stormwater violation at the outfall to Forest River as part of the construction of Salem State College's new dormitory. The construction site is located outside of the 100 foot buffer zone, however sediment from the site was being carried in the stormwater into the wetlands. Salem State College implemented erosion control measures to stop runoff from the site. City continued to monitor the improved measures throughout Spring and Summer 2010.	

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 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
19	Develop an ordinance requiring stormwater controls for all new and redevelopment projects disturbing one acre or greater	Dept. of Public Services; Planning Board; Conservation Commission	Year 1 – Review existing bylaws & regulations; Year 2 – Propose changes; Year 3 – Develop Ordinance. Year 4&5 - Implement changes, subject to City approval	The City continues to progress on finalizing the Ordinance. The draft Ordinance has been reviewed by the City Solicitor. Conservation and Engineering met in early 2011 to review recent draft and plan next steps.	Although the City currently reviews stormwater management practices for most projects, the City will continue efforts to implement the new Ordinance to formalize current design expectations and, at a minimum, expand jurisdiction to all projects that disturb one acre or greater.
Revised					

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 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
20	Street Sweeping	Dept. of Public Services	Sweep streets between April & November (provided funding is available)	In April and May 2010, swept all streets. In Fall 2010, swept major routes.	Measurable goals for 2003 General Permit have been met.
Revised					
21	Clean Sweep Program	Dept. of Public Services	Conduct sidewalk cleanup program each year for 1 week in May (provided funding is available).	City of Salem Beautification Committee held its annual Clean Sweeps Day, part of CLEAN SALEM, GREEN SALEM on Saturday, May 1st from 8:30am until noon. Clean Sweeps includes volunteer teams from the schools, neighborhood associations and nonprofits. The volunteers clean various sites and separate recyclable materials which are picked up by Northside Carting and are delivered to the City's recycling processor.	Measurable goals for 2003 General Permit have been met.
Revised					

22	Catch basin cleaning	Dept. of Public Services	Inspect problem areas annually, and clean as needed (provided funding is available)	<p>The Division of Public Works continued to implement its catch basin cleaning program. Due to budget constraints, 10% of basins within the City were cleaned. City focused cleanings in areas with flooding issues and poor drainage.</p> <p>City owns new vector truck, and uses it for some catch basin cleanings.</p> <p>In addition, City has approximately 10 stormceptors. The City inspects and performs maintenance as necessary to keep BMPs properly functioning.</p>	<p>Measurable goals for 2003 General Permit have been met.</p> <p>The City plans to continue this practice and use the information to optimize the catch basin cleaning program and identify problem areas in the system.</p>
Revised					
23	Trash collection program	Health Dept.; Dept. of Public Services; Parks & Recreation	Weekly curbside pickup (provided funding is available).	<p>Continued weekly curbside trash collection program.</p> <p>The City has a total of 90 solar bins in parks, near beaches, and pedestrian area. The City also has 40 can-only recycling stations.</p>	Measurable goals for 2003 General Permit have been met.
Revised					

24	Recycling Program	Dept. of Public Services	Bi-weekly curbside pickup (provided funding is available).	Recycling program is now weekly. In 2010, continued curbside recycling program.	Measurable goals for 2003 General Permit have been met.
Revised					
25	Yard Waste Program	Dept. of Public Services	Curbside pickup 6 times per year (provided funding is available). Allow residents to drop off yard waste at City's transfer station year round.	Continued yard waste collection program in 2010.	Measurable goals for 2003 General Permit have been met.
Revised					
26	Household hazardous waste program	Health Dept.	Hold twice over the 5-year permit term (provided funding is available).	Beginning in 2009, the City of Salem and the Town of Beverly are teaming to hold alternating, annual Household Hazardous Waste Days. In Year 8, on April 24, 2010, the Hazardous Waste Day was held in Beverly from 8am – 12pm at the Beverly High School.	Measurable goals for 2003 General Permit have been met.
Revised					
27	Animal Control Program	Police Dept. Animal control Officer	Track the number of animals collected (provided funding is available).	Continued to track the number of animals collected.	Measurable goals for 2003 General Permit have been met.
Revised					
28	Beach Cleanup Program	Parks & Recreation	Clean Beaches every week between May and September (provided funding is available).	Beaches were cleaned several times during the spring and summer of 2010 by Parks and Recreation and numerous volunteers. Cleanups were also sponsored by SSCW throughout 2010.	Measurable goals for 2003 General Permit have been met.
Revised					

34	Appliance Sticker Program for Curbside Pickup	Dept. of Public Services	Conduct curbside pickup of appliances twice per month (provided funding is available).	<p>Residents continue to be able to purchase stickers for curbside collection of computer monitors, TVs, light ballasts and Freon-based appliances such as air conditioners, dehumidifiers, and refrigerators. Items are collected on the second and fourth Saturday of each month.</p> <p>The City continued its e-cycling program. E-cycling containers are located at the Department of Public Services and at the Senior Center. Some examples of materials that can be recycled as part of the new program are:</p> <ul style="list-style-type: none"> • Batteries • Cell Phones • GPS Units • Laptops • Gaming Equipment 	Measurable goals for 2003 General Permit have been met.
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38	South River Drainage Improvement Project	City of Salem	Year 5 – Begin implementation of the short-term measures for the Phase I South River Drainage Improvement Project (if funding is available)	<p>In 2010, the City completed a number of upgrades and improvements recommended as part of the South River Flood Mitigation Project, including:</p> <ul style="list-style-type: none"> • Ocean Avenue Stormwater Pump Station Upgrades • Municipal Golf Course Flood Control Reservoir Implementation. • Heavy cleaning and inspection of South River Conduit, Canal Street, and Salem State drainage systems. Found no dry weather illicit discharges in conduits coming into South River conduit. 	Project is ongoing. Measurable goals for 2003 General Permit have been met.
Revised				<p>City plans to continue with additional upgrades and improvements, including:</p> <ul style="list-style-type: none"> • Jefferson Avenue/Brook Street Levee Upgrades • South River Conduit Upgrades • Salem State Parking Lot Flooding Relief Implementation 	
39	Public Works Facility Environmental Compliance Assessment, Stormwater Pollution Prevention Plan (SWPPP), and Training	City of Salem	Year 5 – Conduct public works assessment, prepare SWPPP, and provide staff training	<p>In April 2008, a DPW Facility assessment was conducted, and a SWPPP was prepared in June 2008 based on assessment. City has continued to informally reinforce SWPPP recommendations for proper pollution prevention control. City staff continues informal training on stormwater and pollution prevention.</p>	Measurable goals for 2003 General Permit have been met.

6a. Additions

40	Ongoing Drain and Culvert Evaluation and Maintenance	Engineering Department	Continue ongoing maintenance of storm drain system and culverts	<p>In October through November 2010, City cleaned drain lines, catch basins, and CCTV'd drain line on Forrester Street, Essex Street, and Webb Street.</p> <p>On Essex Street, the City cleaned and inspected approx. 800 feet of drain pipe, removed approximately 20 cy of sediment and debris from 19 catch basins. City also found and removed a floor drain from MS4, repaired a section of collapsed pipe, and removed four sewer pipes that were potentially leaking.</p> <p>On Washington Square East, the City cleaned and inspected approx 200 feet of drain pipe.</p> <p>On Forrester Street, cleaned and inspected approx. 1,250 feet of drain. Cleaned and removed 5 cy of debris from six catch basins.</p> <p>On Webb street, inspected and cleaned approx 400 feet of drain pipe and removed 1 cy of floatable debris from siphon.</p> <p>City continues to use the Mosquito Control project to clean sediment from culverts, and has a standing permit with the Salem Conservation Commission for drainage system and culvert cleaning.</p>	
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7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) Not Applicable - None of Salem's receiving waters have approved TMDL reports at this time. A Draft Pathogen TMDL Report was developed for the North Coastal Watersheds. This TMDL is not final.

Part IV. Summary of Information Collected and Analyzed

- Salem Sound Coastwatch's Clean Beaches and Streams sampling results (BMP#14) are available at their website at <http://www.salemsound.org/CB&S.html>
- City of Salem Board of Health (BMP #15) maintains records of sampling results and beach closings.
- Results of illicit discharge investigations conducted by the Engineering Department and MassDEP, and subsequent work to correct the identified illicit discharges, is available at the Engineering Office at 120 Washington Street.