Municipality/Organization: Town of Cohasset Massachusetts

EPA NPDES Permit Number: MA041032

MassDEP Transmittal Number: **W-041051**

Annual Report Number & Reporting Period: **#5** **April 1, 2007 – March 31, 2008**

NPDES PII Small MS4 General Permit Annual Report
(Due: May 1, 2008)

Part I. General Information

Contact Person: William R. Griffin Title: Town Manager

Telephone #: 781-383-4105 Email: wgriffin@townofcohasset.org

Mailing Address: 41 Highland Avenue, Cohasset MA 02025

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: William R. Griffin

Title: Town Manager

Date: May 1, 2008

Part II. Self-Assessment:

In 2007, the Cohasset Board of Selectmen voted to extend the term of the Cohasset Stormwater Management Committee which was originally established in August of 2006. The Committee is composed of a member each from, Board of Health, Conservation Commission, Planning Board, Water Resource Protection Committee, Planning Board, two citizens, and an associate non-voting member, the President of the Straits Pond Watershed Association who is a Hull Resident.

The Committee was asked by the Selectmen to continue its original charge in 2007. The charge of the Committee is to survey the existing stormwater and non-point source pollution situation in Cohasset and make recommendations to the Selectmen and Town Meeting on the tasks (a.) (b.) and (c.) noted below. Beneath each specific charge (underlined) is a corresponding bulleted list of action items undertaken by the Committee in 2007.

a) **Planning and implementation of measures such as installing rain gardens or other Low Impact Development (LID) applications to alleviate existing stormwater problems;**

Mass. DEP 319 NPS Grant

- Partnering with the Cohasset Board of Selectmen and various other entities of the Town, the Stormwater Management Committee applied for and received a Massachusetts DEP 319 Nonpoint Source Pollution (NPS) grant to be used to compliment ongoing sewer work around Little Harbor. The total award was $250,000.00 which includes a requirement for $100,000.00 in matching funds from the Town. The monies will be used to permanently protect and improve water quality in Little Harbor through the design, permitting and construction of Best Management Practice (BMP) solutions.
- In addition, Committee members have also worked closely with the Cohasset Center for Student Coastal Research (CSCR) to provide grant funded testing of stormwater samples collected at Little Harbor outfalls. The Project also includes a public outreach and education component to explain the Project and the effectiveness of Stormwater BMP's to residents and encourage participation in reducing nonpoint source pollution.
- By securing grant funds for the Town, and coordinating grant projects with the Little Harbor sewer project, the CSCR, and various other Town plans, the Stormwater Management Committee has been successful in achieving a more "total solution" for Little Harbor by addressing nonpoint source pollution issues in the Town.

Coastal Pollutant Remediation Grant Program/Coastal Zone Management (CZM) BMP Design & Implementation within James Brook Watershed

- Partnering with the Cohasset Board of Selectmen and other entities of the Town, the Stormwater Committee applied for and received award of a Coastal Pollution Remediation (CPR) grant for BMP Design & Implementation within the James Brook Watershed. The funding awarded by CZM was $46,430. The CPR grant is intended to improve the water quality and protection of Cohasset Cove through the design, environmental permitting, and construction of stormwater control and treatment systems within the James Brook watershed, part of the South coastal Watershed. These designs will use BMP's and incorporate Low Impact Development (LID) strategies to capture and minimize runoff flows and pollutant loading into the Jacobs Meadow salt marsh and Cohasset Cove. In addition to the CPR grant the Stormwater

Committee has partnered with the Cohasset Conservation Committee to apply for and receive a Cohasset Community Preservation Committee (CPC) grant in the amount of $88,570.00 to be used as matching funds for the CPR grant.

b) **Drafting and the adoption of bylaws or other regulatory controls to prevent additional stormwater issues, such as a Model Stormwater Bylaw, to propose to Town Meeting;**

- During 2007, the Stormwater Committee continued to work diligently in an effort to incorporate the views of the general public, the various standing Commissions and Committees of the Town, the Board of Selectmen, affected abutters and other interested parties toward the drafting of a Stormwater Bylaw for the Town of Cohasset. This outreach included a public hearing on stormwater issues and drafting of a new bylaw in February 2007.
- The Committee was successful in obtaining Town Meeting approval of a Stormwater Management Bylaw at the 2008 Spring Town Meeting.
- During the Course of 2007, members of the Stormwater Committee met with the following entities as part of its ongoing public outreach to gain input and support for a Stormwater Bylaw.
  - Three formal meetings with the Board of Selectmen
  - Attended and spoke at 2007 Spring and Fall Town Meetings
  - Cohasset Planning Board
  - Cohasset Conservation Commission
  - Cohasset Board of Health
  - Cohasset Sewer Commission
  - Representative of the Harbor Health Committee
  - Elm Street/Jacobs Meadow abutters
  - Cohasset Greenbush Engineering re: James Brook/Jacobs Meadow/Sanctuary Pond.
  - Cohasset Golf Course
  - Cohasset Rotary Club
  - Massachusetts Area Planning Council (MAPC)
  - Massachusetts Coastal Zone Management

c) **Other Stormwater Committee Activity**

Revised a Topographical Sub-watershed Map that identifies eight (8) sub-watersheds within the Town, of which six (6) are coastal sub-watersheds, and two (2) are sub-watersheds affecting the Town's water supply. Also prepared a Comprehensive Inventory and Assessment of the Town's Existing Watershed Data – organized by Sub-watershed and including the eleven (11) water bodies in town (indicated on the aforementioned sub-watershed map), the information (data, reports, maps, etc) is related to stormwater flooding and non-point source pollution. The inventory was based on compiling and reviewing existing plans, studies, and data reports relevant to environmental testing and flooding. The project memos produced summarize the character and severity

of stormwater issues (i.e. non-point source pollution impact on resource waters, and flooding of Town properties); and a matrix compares the sub-watersheds and prioritizes the sub-watersheds as "needs areas" including comments on the priority and sources of the environmental problems, and lists the references for available data.

The Committee has requested that the Board of Selectmen build on the progress that has been made, thus far, by supporting a Stormwater Management Committee on an ongoing basis.

As noted above, the Selectmen are expected to appoint a Stormwater Management Committee help with implementation of the Cohasset Stormwater Management Bylaw. This bylaw will govern pre and post construction runoff. This was the culmination of the Stormwater Committee's work with the Planning Board, Conservation Commission, Public Works and Water and Sewer. Department.

There are no measures required by the U.S. Fish and Wildlife or National Marine Fisheries Service to minimize adverse effects to endangered species or critical habitats. There are no measures required to prevent adverse impacts on historic properties.

Cohasset Cove continues to be a water quality impaired water. Extensive testing continues to be performed with assistance from volunteers as noted below. For example the Town continues to perform water quality tests on the lower portion of James Brook and stormwater structures leading to the Brook. After storm events, levels of fecal coliform and Enterococci bacteria exceeded 100,000 colony forming units / 100 milliliters in some of the sampled sites. Other parameters tested such as total suspended solids, nitrates, total Kjeldahl nitrogen and volatile organic compounds did not have levels which were of any great concern. The Gulf River, the other major water body emptying into the Cove also continues to be monitored by volunteers from the Center for Student Coastal Research (CSCR) and the United States Environmental Protection Agency (USEPA). A source of large numbers of fecal coliform and Enterococci bacteria is a storm drain discharging to the River in North Scituate Village. Septic systems are apparently connected to the stormwater system. Cohasset continues to work with Scituate officials to upgrade septic systems in the area to reduce the pollution load. Another area which contributes to the bacterial lading of the Cove is a drainage swale (The Cut) which is in need of repair. The source of the bacteria has not been found. Further investigations will take place in 2008. During large rain events, the wastewater treatment plant continues to discharge untreated or partially treated sewage into the Cove. This problem is being addressed through on-going WWTF upgrades and through efforts to reduce infiltration / inflow.

James Brook runs from its origin at Sanctuary Pond to the Cove. Cohasset has no control over some of the discharges going into the Brook. The Massachusetts Highway Department (MHD) discharges stormwater from Route 3A into Sanctuary Pond. The Massachusetts Bay Transportation Authority (MBTA) drainage structures discharges along the right of way the discharges find their way to James Brook. Cohasset, as part of the Forest Avenue reconstruction project (from Wheelwright Park to North Main Street) has constructed two catch basins with four foot sumps, one drain manhole, a second manhole equipped with a Stormceptor™ water quality structure and four galley structures at the outfall. As part of the Forest Avenue reconstruction, the drainage structures on Heather Drive had to be upgraded. Two existing catch basins and two manholes were rebuilt, and three manholes and four catch basins with

four foot sumps were added. The Heather Drive project was completed in 2006 and the Forest Avenue project in December 2006. As part of the MBTA Greenbush project, the MBTA has reconstructed the public parking areas in the Village. The MBTA has constructed or upgraded eight water quality structures, four drain manholes and ten catch basins with four foot sumps.

The Cohasset Little Harbor is a water body for which a Total Maximum Daily Load (TMDL) has been established for pathogens. The Town of Cohasset has signed an Agreement for Judgment with Massachusetts Department of Environmental Protection (MADEP) to connect all homes in the Little Harbor Watershed to the municipal sewer. The Town has obtained a permit to upgrade the treatment plant and increase its capacity to 450,000 gpd to accommodate the increased flows from Little Harbor.

Department of Public Works employees have been trained in proper street sweeping, catch basin cleaning, and use GPS to locate structures.

Students from CSCR performed all sample collection and analyses (except TKN and VOC) for the lower James Brook assessment. As part of the Watershed Academy component of the water quality assessment students received training in sample collection, use of field instruments to measure temperature, pH, dissolved oxygen, watershed definition and other related subjects. These monitoring programs are expected to continue throughout the summer. Students are trained by Cohasset High School Faculty, North and South River Watershed Association staff as well as other Town of Cohasset Employees.

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)	Planned Activities – Permit Year 6
1	Health Notes to Cohasset Mariner	BOH-Steve Bobo	Produce (4) articles per year	Five (5) Health Notes relating to stormwater were published in the Cohasset Mariner	Continue to publish at least four (4) articles per year.
Revised					
2	Informational Mailing	Water Commission	Households reached	North and South River Watershed Association "Greenscapes" mailed to all residents.	Continue to mail "Greenscapes" to all residents
Revised					
3	Beach and Stream Cleaning Day	Girl Scouts/BOH	Number of truckloads of material disposed	Collected six (6) truckloads (one ton capacity) of waste.	Have at least two (2) cleanup days.
Revised			Do at least two collections per year		

1a. Additions

4	Provide information on the Town Website	BOH – Tara Tradd	Revise/update website quarterly		Car washing information; NE Rain barrel program
					Others as developed

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)	Planned Activities – Permit Year 6
1.	Utilize local groups	BOH – Steve Bobo and CMHS Faculty	Attendance at related meetings	Classes offered by the Watershed Academy can be found in Attachment A. Non-municipal partners (instructors) were Coughlin Engineering; Thompson and Grady Consultants	Offer classes in the Watershed Academy. Curriculum to be determined.
Revised			Number of topics offered		
2.	Collect samples from stormdrain outfalls after storm events	Stormwater Committee and CSCR	Reports on water quality	Applied for grant for both James Brook / Jacobs Meadow LID and Little Harbor stormwater retrofit projects which were awarded. Projects are underway.	Perform wet weather sampling of both James Brook/Jacobs Meadow area and Little Harbor area as part of LID retrofit projects.
Revised					
3.	Volunteer Monitoring Program Water Quality	BOH-Steve Bobo and CHS Faculty	Reports on water quality	SEE ITEM 2. ABOVE.	Continue sampling of Cohasset Harbor, Gulf River, and North Scituate Village. Sample stormwater outfalls in Little Harbor.
Revised					
4.	Beach and Stream Cleanup Day	BOH/Girl Scouts	Do at least two (2) cleanups	Citizen volunteers picked up litter and debris and filled six loads of one ton pickup truck. Materials disposed of at the Cohasset Transfer Station.	Continue with organized cleanup days.
Revised					
Revised					
Revised					

2a. Additions

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)	Planned Activities – Permit Year 6
1.	Connectivity Mapping	DPW-Carl Sestito	Complete field form. Put information into GIS catch basin and outfall mapping.	No significant amount of data gathered. No additional personnel.	Continue to gather connectivity data.
Revised			Number of basins and outfalls measured		
2.	Illicit Connection Regulation	BOH-Steve Bobo	Number of connection reported and removed	No additional illicit connections discovered.	Continue to enforce regulation.
Revised					
Revised					
Revised					
Revised					
Revised					

3a. Additions

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)	Planned Activities – Permit Year 6
1.	Bylaw Development	Stormwater Committee	Adopt Bylaw	ATM accepted the new Bylaw developed by the Stormwater Committee.	Develop regulations and Enforce Bylaws
Revised		Conservation Commission			
Revised					
Revised					
Revised					
Revised					
Revised					

4a. Additions

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)	Planned Activities – Permit Year 6
1.	Bylaw enforcement	Stormwater Committee	Adoption of Bylaw	ATM accepted the new Bylaw developed by the Stormwater Committee.	Develop regulations and Enforce Bylaws
Revised		Conservation Commission			
Revised					
Revised					
Revised					
Revised					
Revised					

5a. Additions

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)	Planned Activities – Permit Year 6
1. Revised	Rain Gardens Installation	Water Commission – Glenn Pratt	Construct more BMP's in the Lilly Pond Watershed.	Constructed 21 new BMP's (rain gardens) in the Lily Pond watershed; Design 4 to 8 new BMPs (rain gardens) in the James Brook / Jacobs Meadow watershed; Design 5 to 10 new BMPs (rain gardens) in the Little Harbor watershed.	Construct 20 more BMP's Construct 4 to 8 more BMP's Construct 5 or more BMP's
2. Revised	Catch basin cleaning and maintenance	DPW – Carl Sestito	Number of catch basins cleaned	Basins cleaned by DPW – 434 Basins rebuilt by DPW – 10 Cleaned and maintained self regulating tide gate at Harbor – 2 Brooks and Streams cleaned by Plymouth County Mosquito Control District: (PCMCD) ➢ Heather Dr. to Cedar Acres Lane ➢ Sohier Street behind the Mobil Gas Station ➢ 3A and King Street to Sanctuary Pond ➢ Section of Treats Pond	Continue catch basin cleaning and maintenance. Continue to work with PCMCD
3. Revised	Develop signage for catch basins and other infrastructure	Water Resource Protection Commission James Kinch, Chairman	Number of catch basins signed	No signs applied.	Apply signage in James Brook and Little Harbor Areas.
4. Revised	Street sweeping	DPW – Carl Sestito	Number of Streets swept	All Streets swept	Continue to sweep streets in spring.
5.	Training	DPW- Carl Sestito	Educate all DPW staff on catch basin cleaning and street sweeping protocols	In house training conducted for all DPW personnel	Update training. Implement IPM training for all personnel. Garden Club sponsored organic gardening training. To use Beechwood

Revised					
6.	Rain Garden maintenance	Water Dept. – Glenn Pratt	Retain the services of a landscaping company to perform bi-annul maintenance on all existing BMPS	Landscape company was retained by the Water Department.	Continue regular maintenance of BMPs (twice a year)

6a. Additions

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

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)	Planned Activities – Permit Year 6
1	Rain gardens in Lily Pond water shed	Water Dept, Glenn Pratt	Reduce TSS and nutrient load at Peppermint Brook entry to Lily Pond	Annual Town Meeting 2007 Authorized funds to construct.	Complete construction of project.
Revised					
2	Upgrade catch basins around Little Harbor	DPW-Carl Sestito	Reduce TSS and bacterial load from outfalls into Little Harbor	Annual Town Meeting authorized funds for upgrades of all catch basins.	Upgrade catch basins.
Revised					
3	Rain Gardens in Little Harbor watershed	William Griffin Town Manager	Reduce TSS, nutrient and bacterial load from outfalls into Little Harbor	Initiated permitting and design	Complete permitting and design and construct new BMPs
Revised					
4	Rain Gardens in Little James Brook / Jacobs Meadow watershed	William Griffin Town Manager	Reduce TSS, nutrient and bacterial load from outfalls into James Brook	Initiated permitting and design	Complete permitting and design and construct new BMPs
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

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, 2007 through March 31, 2008)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	N
Annual program budget/expenditures **	($)	20,000
Total program expenditures since beginning of permit coverage	($)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	100%
Stormwater management committee established	(y/n)	Y
Stream teams established or supported	(# or y/n)	N
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	Y
Shoreline cleaned since beginning of permit coverage	(mi.)	1.0
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	1
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	Y

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					X
▪ Erosion & Sediment Control					X
▪ Post-Development Stormwater Management					X
Accompanying Regulation Status (indicate with "**X**")					
▪ Illicit Discharge Detection & Elimination					X
▪ Erosion & Sediment Control					X
▪ Post-Development Stormwater Management					X

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	330
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	20%
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	75%
▪ GIS	(%)	25%
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	
Illicit discharges identified **	(#)	0
Illicit discharges identified (Since beginning of permit coverage)	(#)	1
Illicit connections removed **	(#); and (est. gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	1, unknown
% of population on sewer	(%)	40
% of population on septic systems	(%)	60

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	0
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	0
Site inspections completed **	(# or %)	0
Tickets/Stop work orders issued **	(# or %)	0
Fines collected **	(# and $)	0
Complaints/concerns received from public **	(#)	0

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	0
Site inspections (for proper BMP installation & operation) completed **	(# or %)	0
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	N
Low-impact development (LID) practices permitted and encouraged	(y/n)	Y

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	<1
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	<1
Qty of structures cleaned **	(#)	424
Qty. of storm drain cleaned **	(%, LF or mi.)	0%
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)**	($)	$19,568.00
• Hourly or per basin contract rate **	($/hr or $ per basin)	$32.00 PerHr
• Disposal cost**	($)	Compost
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)1	1 Owned
• Vacuum truck(s) owned/leased	(#)	0
• Vacuum trucks specified in contracts	(y/n)	N
• % Structures cleaned with clam shells **	(%)	All
• % Structures cleaned with vactor **	(%)	0%

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	1
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	(#)1	Owned
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	
• % Roads swept with rotary brush sweepers **	%	All
• % 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 %)	1,000 lbs
▪ Herbicides	(lbs. or %)	2 gallon
▪ Pesticides	(lbs. or %)	400 lbs
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Y

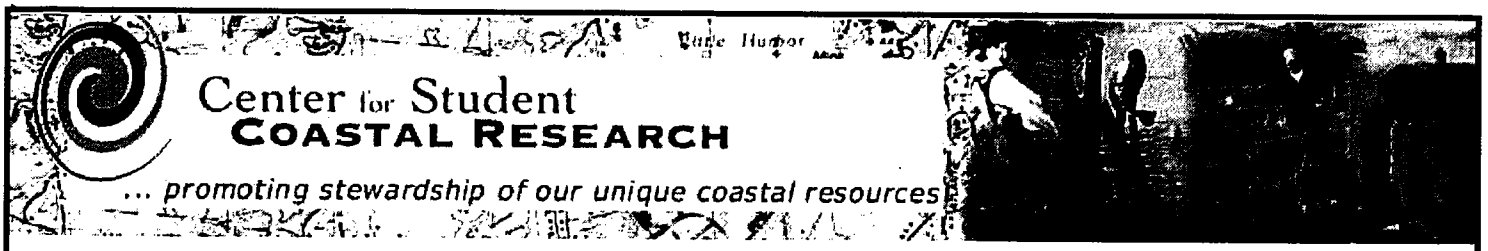
	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	10% 90%
Pre-wetting techniques utilized **	(y/n or %)	
Manual control spreaders used **	(y/n or %)	YES 100%
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)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	1
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	100%

Water Supply Protection

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

ATTACHMENT A

WATERSHED ACADEMY PROGRAM (2008) PROJECT DESCRIPTIONS



Projects

Educational activities to study coastal watershed issues... real issues in coastal communities.

CMHS Summer Institute and CSCR's Watershed Academy 2008 Project Descriptions

Signup for Summer '08 - please download and mailin a signup form and indicate which group you are interested in joining, or ask for more information.

Summer '08 Projects

Wetland Monitoring

Wetland Monitoring is a project now entering its fourth year.
Students monitor 7 area wetland sites and collect data for the Massachusetts Coastal Zone Wetlands Restoration Program managed by Tim Smith of CZM.
CSCR students and staff monitor sites located in Marshfield, Scituate, Hingham (2 sites), Hull, and Cohasset.
Monitoring data includes vegetation studies, salinity readings, fish analyses, and bird observations.

Cohasset Harbor Study, EOEA Summer '07 project, part II

This project will begin with an analysis of last summer's work.
The project is intended for those students who worked on the study last summer.
Finalizing last year's results and designing the summer '08 study is the focus of this project.

Parker Ave "Cut" Monitoring

The Parker Ave cut is a narrow tidal creek connecting Baily's Creek (Cohasset Harbor) with the Gulf River.
Unfortunately, the daily tidal flushing in this small waterbody is severely restricted by a collapsed culvert and invading phragmites. Consequently, it is a suspected source of bacterial contamination to the very popular Bassings Beach.
This study is geared to provide the Cohasset Harbor Health Committee and Conservation Committee with data needed to track ecosystem restoration.
As this project progresses, students will combine bacteriology studies and wetland monitoring protocols to provide town officials with a more complete understanding of the current health of this fragile system within Cohasset Harbor.
Post-culvert monitoring will become critical to this study, as successive years of data should document improvements to the system once the culvert is rebuilt and tidal flushing is improved.

Board of Health Beaches study

This project is in its second year.
Last year CSCR students demonstrated that CSCR student data compares favorably to data produced by a professional lab. During Summer '08, students will once again collect bacteria samples at 6 different swimming beaches in Cohasset and split samples with G and L Labs, Quincy, Ma. Students will again statistically compare CSCR student results with those of G and L.

Stormwater (Non Point Source) Pollution Assessment

This project focuses exclusively on measuring the impact of storm water that flows into Cohasset Harbor and into Little Harbor.
It is a project that will be undertaken in collaboration with town boards and with local professional engineers.
Students will submit their findings to the Cohasset Board of Health, Cohasset Stormwater Committee, Habor Health Committee, DEP, EOEA, and CZM.

Junior Marsh Monitors, Mac Haran (various terms throughout the year)

This is a brand new initiative developed by wetland monitoring faculty leader, Mac Haran, and her students.
Team Haran's goal is to introduce the importance of marshes and associated monitoring techniques to a small group of 4th and 5th graders in order to impress upon them the values associated with this habitat and thereby transform the youngsters into active stewards of the environment and future CSCR research leaders.
Team Haran's curriculum for this group is aligned with the Mass Dept of Ed Science Frameworks, an added bonus for the participants!

Treats Pond (Tentative)

Treats Pond is the focus of considerable attention in town, as various groups of residents consider how best to ensure a healthy Pond habitat while simultaneously improving outfall flow to the coast and stormwater management.
Some in town see Treats Pond as a salt marsh in need of restoration and improved tidal flushing, while others in town see the Pond as a fragile fresh water system in need of protection from saltwater and stormwater infiltration.
Due to CSCR's previous successes in providing the town with data, CSCR students have been asked to collect some basic water quality measurements in this system. Working alongside community activists, experienced CSCR students have begun an investigation.
Though perspectives about Treats Pond differ greatly among many of the residents actively working to find a solution to this habitat management problem, it is a widely held view in town that CSCR students can contribute significantly to a better understanding of the habitat.

Throughout the year

Seeing the world through GIS

Jared Stabach, Woods Hole Research Center, GIS specialist.
GIS stands for Geographic Information Systems. All professional environmental scientists today display their findings in GIS formats. GIS is cutting-edge technology used to present information to others so that they can better "see" and understand their world- and it's a wicked cool technology available to students through the Watershed Academy.

There are so many reasons for students to be attracted to this class.
The lead instructor, Jared Stabach, is a Woods Hole researcher with expertise in applying GIS technology on a global basis to help conservationists save endangered animals. Students will learn the computer mapping technology that gives them the tools to present to the community a set of pictures, or maps, that explains what we know about our coastal ecosystem- maps that tell us where pollution is a concern, maps that tell us why a problem exists, and maps that inform us about how to act for the future.

Watershed Academy, CSCR staff

This is an after school and evening program to begin in September, 2007.
The Academy is a Microsoft grant-funded program that will teach students all of the skills associated with CSCR research projects and provide opportunities for Summer Institute students to advance or complete research conducted in June, July, and August.
Students will learn GIS computer mapping and data presentation skills. Additionally, global literacy and citizenship will be further examined in the context of connecting students in Cohasset with peers in the Student Partners Project (www.studentpartnersproject.org)

CSCR Staff Training and Leadership Development

This is a new initiative underway at CSCR. CSCR is student-centered in its approach to producing environmental research data needed in the community. This student orientation in name and practice is now being implemented in the administrative domain at CSCR. A group of highly responsible students have formed to learn how to tackle the weekly, monthly and yearly management needs of CSCR.

CSCR Website and Maintenance

Students in this course will help maintain and develop the website ccscr.org. Those who successfully complete this course will be able to claim that they helped transform CSCR from a local organization with little web presence to a Web 2.0 organization ready to play a global leadership role.

Signup for one of these projects now OR find out more

Email Us 40 Parker Avenue Cohasset, MA 781-383-012