

**National Fish and Wildlife Foundation
Final Programmatic Report**

Project Name and Number: Outdoor Classroom at Hole-in-the-Wall (CT) #2006-0102-021

Recipient Organization/Agency: Town of East Lyme

Recipient Organization Web Address: eltownhall.com

Date Submitted: September 28, 2009

1) Summary of Accomplishments

This outdoor stormwater classroom with remote internet monitoring capabilities has produced a needed tool to allow all generations to understand the importance of keeping stormwater runoff clean. The on-site educational classroom provides the 200,000 plus visitors a year to the beach and the boardwalk the opportunity to learn about stormwater pollution and the methods of treatment as they pass through. This has also become a destination for educational class trips from grade school to college. The real-time stormwater component of the project funded by NFWF allows anyone from around the world to log on to the internet to view and learn from data that is always available either in the classroom environment or just out of personal interest.

2) Project Activities & Results

If your grant agreement included an approved logic framework, paste the logic framework table here. (see next page)

- **All of the students at East Lyme High School have not yet been exposed to messages of this outdoor classroom. This will be accomplished shortly with the completion of the educational signs and the recently completed real-time component.**

Results

- Describe and quantify progress towards achieving the project objectives or outcomes described in your grant agreement.
 - **All project objectives and outcomes have been reached or will be reached shortly**
- Briefly explain discrepancies between what actually happened compared to what was predicted to happen.
 - **Everything went basically according to plan. Some of the results have been delayed slightly because the real-time stormwater just came on-line and the educational signs will not be completely installed until the end of October.**
- Provide any further information (such as unexpected outcomes) important for understanding project activities and results.
 - **The primary detention infiltration basin was constructed with four inches of topsoil in the bottom as recommended by most guidance documents. The amount of stormwater that entered the basin resulted in the creation of an impermeable mud layer that defeated the purpose of the basin. Corrective action was taken to remove the mud exposing the underlying sand which was mixed with a small amount of topsoil. This medium will be planted with the proper plants that will provide adequate root structure to keep the soil permeable. These plants will also be selected to handle frequent inundation by stormwater**

3) Lessons Learned

Describe the key lessons learned from this project, such as the least and most effective conservation practices or notable aspects of the project's methods, monitoring, or results. How could other conservation organizations adapt their projects to build upon some of these key lessons about what worked best and what did not?

In the first week of real time data the turbidity results validated what we have been instructing for years about first flush stormwater events. After nearly two weeks without rain the first flush turbidity went up to around 400 NTU and then settled down to 50 NTU. Two days later the first flush only went up to 120 NTU and then settled down. This is the first time that we have had real technical data from a local source to back up all the teaching that we do on a the commission and school level.

4) Dissemination

Briefly identify any dissemination of lessons learned or other project results to external audiences, such as the public or other conservation organizations.

Activities →	Project Outputs →	Post-Project Outcomes →	Indicator →	Baseline →	Predicted Project Output	Predicted Post-Project Outcome
Install electronic sensors at drainage outlets, at different points along the treatment train and before and after stormwater treatment systems. Install a remote weather station to collect records of daily temperatures, rain fall wind velocity and direction, atmospheric pressure.	Collect data on quantity and water quality parameters and weather to populate a database to create a historical record. Make the real time data and historical records available over the Internet. Obtain and install a server to process and store the data. Create a website to access the data.	Provide educational opportunities to demonstrate effectiveness of different methods used to treat stormwater. Provide data for further in-depth study for college students including the time lag between rain events and peak flows, amount of rainfall versus the amount of runoff, infiltration rates for different surfaces, Etc.	Number of students visiting the project site. Number of "hits" on the web site. Number of organizations that want to partner with the Town to maintain the server and website.	0 students visiting the site. The server, website and weather station do not exist. Three Rivers Community college in Norwich has expressed an interest in working with the Town. East Lyme / Salem Public School's support this project and hope to use it as an educational tool at all levels education	East Lyme / Salem Public schools High School science class include this into their curriculum. Three Rivers Students will design projects to study stormwater runoff and how to reduce pollutants. Other schools and organizations are involved and studying the environmental aspects of the project, on site or remotely	All students in the East Lyme / Salem school system will have learned the importance of reducing and treating runoff that enters Long Island Sound. The public will have an increased awareness of stormwater treatment and will support budgetary items to address runoff related pollution. The Town will amend its stormwater regulations to utilize the technologies identified as the most effective and practical for use.

Activities

- Describe and quantify the primary activities conducted during this grant
 A weather station and electronic stormwater sensors have been installed and are available online. The remote interface allows the viewer to see all weather and stormwater variables real-time from anywhere in the world. All data including historical data is available to be downloaded and analyzed for education purposes or just personal interest. Numerous tours from high schools and colleges have been given. Alliances between Three Rivers Community College, Goodwin College, and the University of Connecticut have been developed.
- Briefly explain discrepancies between the activities conducted during the grant and the activities agreed upon in your grant agreement.
- The real-time data just became available, so the full impact of this technology has not been realized yet.
- Obtaining a sever and the web site creation was not necessary because YSI already had this technology available by simply connecting our monitoring equipment to the Internet.

- Many on-site tours have been conducted to grade schools, colleges, State and federal environmental agency employees, engineering professional, and other interested parties.
- Talks and lectures have been given at Goodwin college, association of state health officials, on public access TV, and to boards and commissions.
- The local High school has developed a daft brochure
- A presentation on this project was given to the Aquidneck Island Watershed council (RI)
- Presentation at the East Lyme Children's Museum
- The local newspapers have had stories about the project
- After the grand opening on Oct 15th the media coverage will greatly increase. The media coverage has been purposely limited until the education signs and the real-time stormwater component went online.

5) Project Documents

- a) Include with your report 2-10 representative photos from the project. Photos need to have a minimum resolution of 300 dpi.
- b) Include with your report publications, GIS data, brochures, videos, outreach tools, press releases, media coverage, and any project deliverables per the terms of your grant agreement.

POSTING OF FINAL REPORT: *This report and attached project documents may be shared by the Foundation and any Funding Source for the Project via their respective websites. In the event that the Recipient intends to claim that its final report or project documents contains material that does not have to be posted on such websites because it is protected from disclosure by statutory or regulatory provisions, the Recipient shall clearly mark all such potentially protected materials as "PROTECTED" and provide an explanation and complete citation to the statutory or regulatory source for such protection.*

Approved: _____

Signature

Date: _____

11/5/09

Paul Fornica First Selectman

Print name and title