

QUINNIPIAC RIVER FUND GRANT PROJECT TO  
CONDUCT POLLUTION PREVENTION ASSESSMENTS  
AT SIX VOLUNTEER MANUFACTURING COMPANIES

Grant Number 980283/TC

Final Report

Prepared by  
CONN/STEP

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CONN/STEP was awarded a grant to conduct pollution prevention (P2) assessments at six volunteer manufacturing companies to identify opportunities to reduce discharges and environmental impacts. The grant was awarded by the Community Foundation for Greater New Haven Quinnipiac River Fund. The Quinnipiac River Fund was established in 1990 by a court settlement between the Upjohn Company, the Connecticut Fund for the Environment, and the Natural Resources Defense Council. The Fund is to be used “to improve the environmental quality of the Quinnipiac River and the New Haven Harbor and the watersheds of these water bodies, and otherwise to benefit the environment of these resources.” This final report will provide a narrative of the activities. Copies of materials used in the program are attached.

### GOAL

CONN/STEP’s goal was to develop and implement a pilot project which ultimately will help to improve the water quality of the Quinnipiac River and the Long Island Sound. The focus of the project was to help selected manufacturers along the Quinnipiac River watershed area to identify and recommend methods of reducing pollution and environmental impacts.

### APPROACH

CONN/STEP focused the confidential P2 assessments on manufacturing facilities in the towns of Southington, Cheshire, Meriden, and Wallingford. The goal of the assessments is help the volunteer manufacturers by evaluating the current practices in order to make suggestions and recommendations for reducing stormwater and waste water impacts. Hazardous and solid waste generation and reduction, natural resource conservation, and other process and operational improvements affecting productivity and pollution will be also addressed. CONN/STEP will be available to work directly with the facility to implement operational changes that result from the assessment efforts.

The confidential assessments were conducted at no charge to the volunteer facilities.

To further promote technology transfer and the goals of the Foundation’s Quinnipiac River Fund, brief case studies will be prepared upon completion of the program highlighting recommendations.

## PILOT PROJECT

The pilot project consisted of the following activities:

1. Soliciting volunteer facilities.
2. Conducting the assessments.
3. Education and information transfer.
4. Evaluation.

### 1. Soliciting volunteer facilities

#### a.) Identify Targeted Facilities

The first priority, as described in the proposal, was to identify facilities to visit.

- CONN/STEP members spoke with various associations and organizations, including the Quinnipiac River Linear Trail Advisory Committee and the Quinnipiac River Watershed Association, to solicit input and recommendations.
- CONN/STEP met with CTDEP representatives in the Bureau of Water Management and discussed the issues involved and inquired if there were any companies DEP recommended for a visit. CONN/STEP obtained a list of 40 companies holding water discharge and stormwater permits in the targeted towns of Cheshire, Meridian, Southington, and Wallingford.

#### b.) Solicit Volunteer Facilities

CONN/STEP field staff developed a methodology to contact the 40 companies in the targeted towns to explain the program and the benefits. The methodology included a mailing to the companies to explain the intent of the program. A package of information regarding CONN/STEP programs and other pollution prevention information was sent with the letter. All 40 companies were also contacted by telephone to set up an initial site visit.

#### c.) Promotion of opportunity

CONN/STEP published articles outlining the P2 opportunity in *The Advantage*, CONN/STEP newsletter which is mailed to approximately 6,000 CT manufacturers and the monthly newsletter of the Manufacturing Alliance of CT (MAC), *MAC in Action*.

#### d.) Initial Site Visit

CONN/STEP arranged initial site visits with as many of the 40 companies as were willing. The purpose of the visit was to understand the pilot project, and to begin to develop a relationship with the company. Approximately one-half of the companies agreed to an initial site visit. During the solicitation process, these companies were given pollution prevention information and assistance that could be self implemented.

#### e.) Other Activities - Field staff training

##### Guidance Document

A Guidance Document was developed for the field agents to better understand the scope of the project. This document contained:

- Brief description of the grant.
- Description of the commitments.
- Benefits to clients.
- Selection criteria.

##### CTDEP Training

In preparation of this grant and other pollution prevention opportunities in conjunction with the CTDEP, all CONN/STEP field staff received training from the CTDEP on pollution prevention in the areas of hazardous waste and stormwater. This training was the first of a series of three monthly activities and began on 9/1/98. The intent of the training was to help staff understand regulatory requirements and recognize opportunities for improvement.

## 2. Conducting the Assessments

A *Pre-Assessment Site Visit Questionnaire* was developed to distribute to the six volunteer companies prior to the assessment. This questionnaire gathered all necessary information in order to maximize the site visit portion of the assessment. Upon receipt of completed questionnaire, a visit was scheduled.

#### a.) Scope of assessments

- An tour of the premises and interview with key staff about chemical storage, handling, and usage practices for the purposes of identifying pollution prevention opportunities by CONN/STEP or a CONN/STEP representative.

- A brief summary of the findings of the site visit, including the action-items which are intended to reduce the likelihood for pollution emanating from the subject facility was prepared. The action-items will not be detailed evaluations, but rather suggestions for further inquiry. A separate letter report was generated for each site.
- A debriefing meeting was held at the subject facility to discuss the findings and recommendations of the reports.

b.) Outcomes of assessments

The following briefly identifies the company by SIC code, type of assistance, and recommendations and opportunities for improvement.

3312 - Blast Furnace and steel mills

This company has already implemented several pollution prevention activities, including reducing the quantity of hazardous waste generated, reducing the quantity of waste waters discharged from the facility and installing an acid reclamation system.

The company requested focusing the assistance on reducing air emissions from a pickling process.

Recommendations:

- Technology changes from converting existing equipment to purchasing new equipment.
- Adjusting bath temperature.
- “Leading-edge” process modifications to reduce emissions.

3399 - Primary Metal Products NEC

This company has implemented several pollution prevention activities, including reducing hazardous waste generation and installing elaborate dust collecting systems.

The company requested focusing the assistance on stormwater toxicity issues. This company has undertaken several measures to try to reduce stormwater toxicity, including hauling chiller blowdown off-site, using treated wastewater from the air compressor system as makeup water for chiller.

Recommendations:

- There are no obvious sources of stormwater pollutants at the site. After discussion with the CTDEP, there is no direct correlation with results and time of the year the

sample is collected. The CTDEP indicated that they have been unable to correlate seasonal data, however, it was suggested that salt and sand used in the winter may impact testing. Although there is not much data to support seasonal sampling variations, collecting a sample in the spring or summer, after parking lots have been swept, may be attempted.

- Many companies are having the same problems with stormwater toxicity testings. CTDEP may be sponsoring a stormwater Toxicity Identification Evaluation (TIE) study during the summer of 1999. The objective is to help pinpoint where problems occur. This will be an opportunity to identify prevention opportunities.

#### 3634 - Value Manufacturing

This company has engaged in several pollution prevention activities including reducing the quantity of hazardous waste generated and prohibiting outdoor storage of potential stormwater pollutant sources.

The company requested focusing the assistance on air discharge issues. CONN/STEP engaged an independent consultant to review the air permit application package prepared and submitted in 1995. The CTDEP was contacted to verify an exemption one process from permitting.

#### Recommendations:

Additional permitting will not be necessary if the processes are maintained below required limits. Maintenance of the air pollution control equipment is required to keep the equipment in proper working order since the exemption was based on the use of the device. Proper procedures for maintaining limits were provided.

#### 3463 – Nonferrous Forging

This company has already engaged various pollution prevention activities including installing a closed loop wastewater treatment system and installing a stormwater treatment system. The company requested focusing the assistance on waste coolant practices.

Waste coolant is currently collected and pumped into a holding tank, where the material is batch treated inside the tank. After oils are separated from the coolant, the coolant is cracked. Approximately 400 gallons per month of treated wastewater is discharged to the sewer.

#### Recommendations:

It appears that the use of an evaporator to treat waste coolant is a common application and should be allowed by the CTDEP as long as all applicable regulations are followed. A

copy of DEP Guidance Documents were provided to the client. Analyzing the waste coolant to ensure that it is not hazardous and conducting bench-scale tests and additional research to determine what regulations are applicable were the recommended next steps. Vendor contacts were provided, who may take a sample and do a performance study for no charge.

### 3357 – Drawing and Insulating of Nonferrous Wire

The company has implemented pollution prevention programs including reuse of non-contact cooling water. Company is in the process of changing its hazardous waste status to a conditionally exempt small quantity generator (CESQG) from a small quantity generator (SQG). Assistance was focused on recommendations to assist the change.

#### Recommendations:

Assistance was provided on:

- closure of a <180 -day storage area.
- Documentation practices
- General Best Management Practices.

### 3471 - Plating and Polishing

This company has engaged in pollution prevention activities including segregating their wastewater streams, installing double and triple counterflow rinsing, putting restrictors on incoming city water to reduce water usage.

#### Recommendations:

An overall assessment was conducted and the following opportunities are being investigated:

- Upgraded recycling program for solid waste.
- Steam and condensate reuse/recycle from metal finishing tank. This will capture the steam that is being evaporated into the air, and recycle it back in the process.
- Recovery of sulfuric acid/aluminum salt waste from anodizing operations.
- Energy audit conducted by NU.

### 3. NEXT STEPS -- EDUCATION AND TECHNOLOGY TRANSFER

As part of this grant project, CONN/STEP will be preparing a project overview summary, describing the program, the types of technical assists, P2 activities already engaged by the participants, and recommendations for P2 opportunities for distribution to the

manufacturers in the Quinnipiac River region. Since the final assessments have recently been completed, this document will be completed in the summer, to allow time for results of any implementation or change to be documented. The document and the mailing list will be forwarded to Foundation upon completion. It is anticipated that there are 400+ manufacturers in the region.

CONN/STEP will also have this information published in an upcoming issues of *The Advantage*.

#### 4. EVALUATION

##### Program Successes

Over the course of the project, CONN/STEP was able to identify P2 opportunities at the participating companies, leading to implementations of pollution prevention programs, and/or the enhancement of existing P2 programs. CONN/STEP's assessment based approach provided both a means for identifying opportunities and the appropriate benchmarks by which progress could be measured.

The program created goodwill and recognition for the Quinnipiac River Fund and the Community Foundation for Greater New Haven. Many of the companies that CONN/STEP visited were not aware of the program and its efforts. The program also provided increased exposure for CONN/STEP and enhanced the ability to educate manufacturers about the benefits.

##### Progress

In order to progress from the environmental paradigm based on cleanup and control to one of prevention, companies must move to behaviors focusing on assessment, anticipation, and the avoidance of pollution. The companies that participated in the program have already engaged in P2 activities to reduce the impact of their respective operations on the environment. All participants went forward with these P2 endeavors because they realize the value of prevention rather than control, and the direct benefits of a proactive approach with respect to financial gains and the well being of the local community. Many opportunities for environmental and process improvement still exist. CONN/STEP will continue to work with these companies to implement positive change.

##### Barriers Encountered

It is recognized that traditional environmental regulation has been primarily aimed at achieving pollution control, rather than pollution prevention. Historically, fines and penalties have been assessed in cases of noncompliance, yet little or no activity in the way of rewards and incentives for improvement have been documented. Additionally, the present regulatory system, being oriented to pollution control, has some inadvertent but quite serious disincentives to implementing pollution prevention programs.



In attempting to identify candidates to participate in the project, CONN/STEP found some degree of hesitancy or resistance on the part of nearly every manufacturer that was approached. This hesitation to participate seemed to exist, for the most part, because of federal and state regulatory concerns and the company's lack of resources to make change.

Candid discussions with members of the manufacturing community provided the perspective that the majority of companies feel that they could indeed improve the environmental aspects of their businesses, but lack the requisite resources, regulatory and technical knowledge, or financial wherewithal. It was also apparent that many companies view local, state, and federal regulatory agencies as adversaries rather than potential resources that could assist them with P2 program implementations.

### Recommendations

CONN/STEP has discovered that there is a need for an aggressive educational program, targeted toward the manufacturing community, which can explain the potential opportunities and advantages of developing and implementing P2 related projects. Manufacturers frequently cited financial and staffing resources as constraints to P2 activities. The educational program that focuses on moving "beyond compliance" must highlight both the financial and the material benefits of becoming a more "environmentally friendly" manufacturer, providing the necessary incentives for corporate management to investigate P2 projects.

Additionally, as part of the educational program, outreach resources that provide manufacturers with contacts capable of explaining regulations, providing technical assistance, and assessing potential P2 opportunities, such as the Connecticut Environmental Network and the Connecticut Environmental Directory, must be highlighted. While there is a good deal of such information available, the manufacturers contacted were not aware of where it could be found.

### PROJECT BUDGET

A statement of expenses and matching funds to date is attached. The remaining funds will be used for the summary report to be sent to 400+ manufacturers in the four towns. It is anticipated that these costs will include the preparation, printing, distribution and mailing of the summary.

Matching funds for this project to date were generated from the following activities:

1. Soliciting volunteer facilities, including identification, mailing, contacting and visiting.
2. Conducting the assessments through an in-kind match from the independent consulting firm conducting some of the assessments.
3. Training activities.

## ATTACHMENTS

- Financial Reporting
- New releases
- Quinnipiac River Project Guidance Document
- Letter to companies
- Environmental Competitiveness Self-Test
- Pre-Assessment Site Visit Questionnaire