

NEW JERSEY DEPARTMENT OF TRANSPORTATION
Office of Maritime Resources

MEMORANDUM

TO: Angela Huang
Agreement Accounting

FROM: Michael D. Riley *MDR* 6/1/04
Deputy Director

DATE: May 20, 2004

PHONE: 5-4787

SUBJECT: Increase in POR0035-07, Harbor Contaminant Modeling

Per the attached letter, please increase the cost of the project from \$2,900,000.00 to \$3,012,973.00. My initial request for the budget increase to cover the cost of the modification is attached as enclosure (2). The money will be directly accessed by the Port Authority.

If you have any questions, please contact me.



THE PORT AUTHORITY OF NY & NJ

EXHIBIT M TO THE AGREEMENT (THE "MASTER AGREEMENT")
BETWEEN THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY
AND THE NEW JERSEY COMMERCE AND ECONOMIC
GROWTH COMMISSION
MADE AS OF NOVEMBER 1, 1997

Contamination Assessment and Reduction Project (CARP) – The State of New Jersey has requested an increase in the amount of \$112,973 towards the existing Hudson River Foundation Contamination Assessment and Reduction Project, currently authorized at \$3,060,000. This request consists of two components. The first relates to data management activities needed to load new New Jersey Department of Environmental Protection data submittals into the CARP database and to maintain the CARP system for data distribution. The second component is to perform additional testing of sediment samples including coordination with an outside lab, interpretation of the data and reporting. The cumulative funding for this project for New Jersey's share of the committed funds is \$3,172,973.



THE PORT AUTHORITY OF NY & NJ

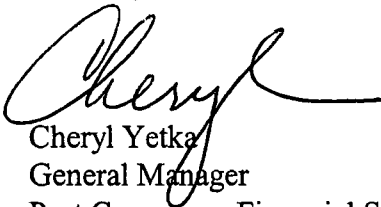
May 17, 2004

Mr. Michael Riley
Deputy Director, Office of Maritime Resources
New Jersey Department of Transportation
1035 Parkway Avenue
E&O Building – 1st Floor
Trenton, New Jersey 08625-0837

Dear Michael:

Enclosed, for your files, is a fully executed Letter of Agreement amending the Master Agreement for the Bi-State Dredging Program. This amendment increases spending for the Contamination Assessment and Reduction Project. If you have any questions, please call me at 212-435-4275.

Sincerely,



Cheryl Yetka
General Manager
Port Commerce Financial Services Department

Enclosure

cc: S. Dorrler
R. Larrabee

*Port Commerce Department
225 Park Avenue South
New York, NY 10003
T: 212 435 7000*



THE PORT AUTHORITY OF NY & NJ

Mr. Richard Gimello
Executive Director, Office of New Jersey Maritime Resources
New Jersey Department of Transportation
1035 Parkway Avenue
E&O Building – 1st Floor
Trenton, New Jersey 08625-0837

Dear Mr. Gimello:

The Port Authority of New York and New Jersey (the “Port Authority”) and The New Jersey Commerce and Economic Growth Commission (formerly the New Jersey Department of Commerce and Economic Development and hereinafter in this agreement called the “Commission”), acting through its Office of Maritime Resources entered into an agreement (the “Master Agreement”) made as of November 1, 1997, pursuant to which the Port Authority is providing up to \$65 million for a program of projects related to the dredging and disposal of dredged material. The New Jersey Department of Transportation (“NJDOT”) has advised the Port Authority that, pursuant to a Memorandum of Understanding between The Commission and NJDOT executed on January 10, 2000, the Commission has transferred all its rights and duties under the Master Agreement to NJDOT, and NJDOT has agreed to assume all such rights and duties.

Section A (2) of the Master Agreement provides that projects (“Program Projects”) to be funded under the Master Agreement include the projects identified in Exhibit “A” to the Master Agreement and are also to include such other projects as the Port Authority and the Commission may from time-to-time agree upon in writing.

I have attached to this letter, as Exhibit “M” to the Master Agreement, a project, which the Port Authority and the NJDOT have recently agreed upon. This letter will confirm that the additional project is a Program Project under the Master Agreement and that all the provisions of the Master Agreement, including Section D entitled “No Port Authority Liability” and Section E entitled “Indemnification; Insurance”, shall apply to such additional Program Projects.

*Port Commerce Department
225 Park Avenue South
New York, NY 10003
T: 212 435 7000*

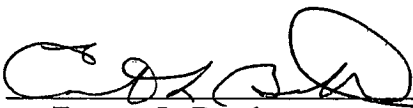


THE PORT AUTHORITY OF NY & NJ

This letter agreement will become binding when it is fully executed in the spaces provided below by both the Port Authority and NJDOT.

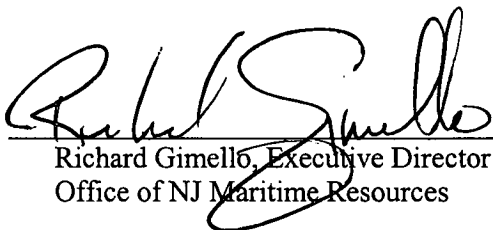
THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

Date: 5/11/04

By: 
Ernesto L. Butcher
Chief Operating Officer

THE NEW JERSEY DEPARTMENT OF TRANSPORTATION

Date: 5/4/04

By: 
Richard Gimello, Executive Director
Office of NJ Maritime Resources



State of New Jersey

DEPARTMENT OF TRANSPORTATION
1035 Parkway Avenue
PO Box 600
Trenton, New Jersey 08625-0600

James E. McGreevey
Governor

John F. Lettiere
Commissioner

Please Reply To:
NJDOT
Office of Maritime Resources
PO Box 837
Trenton, NJ 08625-0837
Phone: 609-530-4770
Fax: 609-530-4860

February 20, 2004

Ms. Cheryl Yetka
General Manager
Port Commerce Financial Services Dept.
225 Park Avenue South
11th Floor
New York, NY 10003

Dear Cheryl:

The Toxics Workplan/Modeling/CARP effort that we have been working on is in desperate need of funds to ensure that our objectives are finally met.

Specifically, we need to complete two tasks that were either unforeseen or under funded initially. First, we need to add money to the data management task that takes the NJDEP data and inserts it into the CARP database. Second, we need to add money to the modeling task to conduct the additional sediment chemistry and toxicity evaluations necessary to ensure that the final model is capable of predicting sediment toxicity.

Scott Douglas, our project manager, has obtained scopes of work for both of these tasks, which are provided as enclosures. The first, from Battelle, for the data management, requires funding to a maximum of \$67,973. The second, from Hydroqual, for the toxicity evaluation, and requires funding to a maximum of \$45,000. The total cost is \$112,973.00. I had previously sent a letter dated June 30, 2003 requesting \$50,000 for the CARP project. To my knowledge, that request was held in abeyance. The June 30 request is no longer appropriate as it is been included in this request.

Both of these tasks are already included in existing Hudson River Foundation contracts with Battelle and Hydroqual, respectively. Based on previous requests, the Port Authority has entered into a contract with the HRF to manage these tasks using our Joint Plan funds. Mr. Douglas has

discussed these projects with Mr. Atef Ahmed of the Port Authority and was told that these two additions can easily be added to the existing HRF contract on our behalf.

The letter serves as authorization for the Port Authority to use \$112,973.00 in New Jersey's Joint Plan funds to cover the additional cost of these projects. Accordingly I will reduce the funds available to the Office of Maritime Resources under the joint plan by \$112,973.00.

Thank you for your continued assistance. If you have any questions do not hesitate to call me at 609-530-4787.

Sincerely,



Michael D. Riley
Deputy Director
Office of Maritime Resources

Enclosures

MDR/mdr

Contamination Assessment and Reduction Project NJ Data Management Services & System Maintenance

CARP Background

The Contamination Assessment and Reduction Project (CARP) formed in response to issues associated with the management of contaminated dredged material in the NY/NJ Harbor Estuary. The program was designed to provide the information necessary to develop solutions to reduce this contamination in the future. Key objectives include:

- Identify and quantify sources of contaminants of concern to the NY/NJ Harbor Estuary from a dredged material standpoint
- Establish baseline levels of contaminants of concern in water, sediments, and fish tissue
- Predict future conditions (bioaccumulation, sediment concentrations & toxicity) based on various reduction scenarios

The CARP sampling program, which started in the summer of 1999, has now collected and analyzed the majority of the water, sediment, biota and physical data identified in the initial work plans. The primary purpose of these data will be to provide input and model calibration for the detailed sediment and contaminant fate and transport modeling effort, as well as to guide source track down and remediation efforts.

Data Management Background

Battelle recently completed a Corps of Engineers funded task to continue coordination of the information management system for the CARP. The CARP software system maintains CARP results in a central repository that now has been merged with non-CARP historical data sources. The central analytical data repository is a relational database using Oracle RDBMS software, and a custom web interface built with ESRI web GIS tools, Visual Basic and Cold Fusion.

The CARP data reporting protocols employ an Electronic Data Deliverable specification and semi-automated processing routines to load and check new results. New data submittals from New York DEC and New Jersey DEP will continue to be incorporated into the CARP database and Battelle will continue to implement the procedures outlined in the Program's Standard Operating Procedures (SOP).

This proposal is in response to the scope of work provided by the Hudson River Foundation and outlines the CARP data management activities that are needed to load new New Jersey DEP data submittals and to maintain the CARP system for data distribution. This scope has two phases, the first will consist of task 0 which is intended to re-assess level of effort required to process NJ DEP SDGs and design output views. The second phase of work involves executing the full suite of tasks, 1 through 4, once final unit costs and processing steps are determined.

STATEMENT OF WORK

Task 0. Determine Levels of Effort to Load NJDEP SDGs and Design Output Views

The goal of this task is to ensure the unit costs and necessary processing steps are fully understood by Hudson River Foundation and Battelle. In order to understand the effort that will be required, Battelle expects to examine up to 3 SDGs of each of the remaining 4 classes of analytical chemistry SDGs awaiting processing: PAHs, PCBs, Dioxin/Furans, Pesticides, as well as potential differences between the dissolved and particulate fractions. Metals have already been examined. Two days of effort per class are proposed to examine SDGs and discuss necessary adjustments with NJ DEP.

Also during this re-assessment task, Battelle will dedicate one day of labor to discuss with Joel Pecchioli the specific database manipulations and correction factors that need to be conducted in order to convert his mass-based aqueous sample results into mass/volume or mass/mass concentration units desired by

outside users of the CARP database. Battelle will conduct a conference call with Joel Pecchioli on water data collection and reporting methods. The teleconference summary will describe the proposed "rules" or formulas used for applying correction factors to data. Battelle's hours include dialog with PIs and Battelle in addition to reviewing PIs data reporting rules.

The deliverable of this task will be final unit cost estimates for SDG processing and database view building.

Task 1. Upload Data from Labs and NJ DEP

Under the period of performance of this proposal, Battelle anticipates receiving Laboratory Sample Delivery Groups (SDGs) for the majority of the NJ lab data. The analytical data will be uploaded to the database within two weeks of receipt. Turnaround time can be within one day; however, for cost savings Battelle is expected to process data submittals twice per month. Electronic data deliverable (EDD) protocols have been established to ensure consistent data reporting standards and enable development of semi-automated procedures to load data. Quality assurance audits will be performed on new SDGs immediately following data loading. Electronic Login data submittal tracking will be maintained during the course of this project.

1.1 Loading Analytical Data

Battelle will load analytical data received from the Principal Investigators (PI) as directed by the client. These data are expected to come as SDGs that meet the EDD format developed by the program.

- A compliant SDG assumes the EDD has no issues. For the purpose of costing this proposal, Battelle assumes there will be 200 NJ compliant SDGs. Previously, Battelle and NJ conducted a test data submission to establish that the NJ metals data meet the EDD requirements. As a result of this test, Battelle assumes that NJ metals SDGs will meet the EDD formats.
- There will be an additional compliance testing for the organics data layout. Battelle expects the testing to take place over a 2-day period with an initial review and a second review after revisions are incorporated. Once this testing is completed, Battelle does not anticipate any additional hours reviewing NJ analytical SDGs for conformance to EDD standards.
- A noncompliant SDG is an EDD with issues that require reviewing the data set, determining the issues, correspondence with the lab, and possibly resubmission. For purposes of costing, Battelle assumes there will be 20 NJ noncompliant SDGs.

1.3 Field Data

Battelle will upload Principal Investigators' field data either using the CARPTrac automated loading application or processing the electronic data files submitted by the field team. Field data files will contain unique sample identifiers. Battelle will work closely with Joel Pecchioli to incorporate field data from the NJDEP teams: Stevens, USGS-NJ, and GLEC. Battelle will work directly with NJDEP to identify and resolve any data discrepancies. All discrepancies will first be reported to the client. Since onsite support to Joel Pecchioli may become necessary to expedite throughput, Battelle included travel costs for one on-site visit.

- For NJ data (referred to as metadata by NJDEP) that was not collected and stored using CARPTrac, Battelle will work with NJ DEP to ensure one field EDD will be used. Battelle will require the data to be submitted in MS Excel. Battelle anticipates 3 field data SDGs.

1.4 Data Management

The CARP database requires a low level of maintenance to ensure that data quality does not degrade due to inconsistencies between states or over the time period being reported. This task includes

- Maintenance of the database code lists
- Correspondence with PIs and general communication with labs and database maintenance.
- Review and update the database QC check script under this task.

Task 2. Build Database Views and Distribute Data

CARP results from the laboratories often require post-processing in order to be expressed as users desire. For example, water samples are reported in mass units and require normalizing by volume sampled and adsorption efficiency in order to be expressed as units of mass per volume. Battelle will work with NJDEP to develop and check database views to perform post-processing. Biota sample results may also require views to re-assemble sample aliquots into results that represent the whole sample from the field. NJDEP may require new views to display their data. Efforts to create these views are not included in this proposal.

2.1 View Maintenance:

Battelle will perform up to 16 hours maintenance on the existing database views as needed or requested by PIs.

Battelle will prepare 3 new views for the interface developers. Each view will coincide with either a class of chemistry data or a media type. Battelle anticipates 16 hours to develop these views.

2.2 Water Views:

Battelle anticipates that there will be several views prepared for NJDEP water data. Battelle will conduct a conference call with NJ PIs to establish the water data reporting rules and will create the new water views incorporating the rules and any proposed formulas. Views will be posted on the Battelle Duxbury Client Web Site. Battelle estimates there will be 4 views. Battelle will modify the views, as needed based on feedback from PIs.

- 1 Incorporate the PIs feedback into the summaries and rules. Corresponding documentation will be updated as needed.
- 2 Evaluate data gaps in PIs proposed data sets versus Oracle database (Samples and number of records per sample).
- 3 Create and populate lookup tables (i.e., media, gear types etc.)
- 4 Modify CAS list table to include PIs additional data.
- 5 Create the views incorporating the rules and formulas. Views will be posted on the Battelle Duxbury Client Web Site. Battelle estimates there will be 4 views.
- 6 Modify the views, as needed based on feedback from PIs.

2.3 Data Access

Battelle will ensure the CARP stakeholders can access or receive requested data via the CARP or D3 website. Website distribution will depend on data release authorizations. Database security will ensure draft, final, and validated data status is implemented to control access. Database views will be used to pre-join required database fields into integrated tables for direct use by CARP stakeholders. The D3 interface has not been totally automated and requires a manual refresh of the data. This is performed monthly.

Battelle will distribute monthly database exports to NJDEP. A script will run on the server 1 day per month to create an export and the script will be sent to the Database Administrator (DBA) at NJDEP.

- Battelle will set up export routines and test an export with the NJDEP DBA
- Battelle will perform monthly exports throughout the period of performance.

Task 3. Operate & Maintain CARP Server

All of the CARP data will be stored on the database server. The servers will be operational 24/7/365 except for late night export/transfer routines that execute between approximately 2am and 5am. Battelle will follow the existing backup and recovery plan for the CARP database server. The Oracle server has a sophisticated backup and recovery system that allows various levels of recovery. The other pieces of the database system currently include a Lotus Notes server, FTP server, and Web Server. All components

will be subject to the same security requirements and backup procedures as the database server.
Maintenance includes:

- Updates to software/install security patches
- Monitoring and tuning for maximum performance
- Maintaining server and networking hardware
- Managing internet service provider connection (T1 line)

For server related issues, Battelle will provide telephone help desk assistance during normal business hours. Follow-up calls are expected within 1 business day.

- Web Server maintenance will be performed throughout the period of performance.
- Oracle database server maintenance will be performed throughout the period of performance.

Task 4. Project Management

Battelle proposed Mr. Thomas Gulbransen as the Project Manager for this project. Mr. Gulbransen will be supported by the entire Battelle EMIS team as needed. The period of performance for this project is proposed as four months.

- Battelle will prepare a Project work plan and will distribute it to the Battelle Project Team.
- Project management activities will include monthly teleconferences with proceedings to note technical accomplishments, issues and costs with Client.
- The Project Manager will attend two CARP meetings, as well as participate in periodic conference calls with the CARP stakeholders (DEP, OMR, HRF, NYNJPA and DEC etc.)

DELIVERABLES/MILESTONES

Table 1. Project Deliverable/Milestone Schedule

Subtask	Deliverable	Due Date
0. Determine Levels of Effort	Final unit cost estimates	Within 1 week of SDG receipt and discussion with NJ DEP.
1.1 Loading SDGs	Final audited data loaded into database NJ Compliant SDGs	Within 2 weeks of receipt
	Process NJ Non-Compliant SDGs	Within 2 weeks of receipt
1.3 Field Data	Final audited data loaded -3 Field SDGs	Within 2 weeks of receipt
1.4 Data Management	Kick off project with PI via email	Within 1 weeks of notice to proceed
	Review and Update QC Check Script	Within 1 weeks of notice to proceed
	Monthly database maintenance	Monthly
2.1 View Maintenance	View Maintenance	Monthly
	3 new views	Within 2 weeks of request
2.2 Water Views	Draft Views	Within 2 weeks of loading water data
	Final Views	Within 1 week of receipt of comments
2.3 Data Access	Refresh D3 denormalized tables	Monthly
	Oracle exports	Weekly
3.0 Server Maintenance	Server maintenance	Monthly
4.0 Project Management	Monthly teleconference proceedings	Monthly
	Final Status	Approximately 3 months from NTP
	Project Status for Stakeholder Meetings	TBD

COSTS

Table 2. DRAFT Cost Estimates 3feb04

Task	Title	Cost per unit	Unit	Total Costs
0.	Determine Levels of Effort	\$733	9	\$6,597
1.1	Upload Data – Compliant SDGs	\$117*	200	\$23,400
1.1	Upload Data – Non Compliant SDGs	\$165*	20	\$3,300
1.3	Field Data	\$1,990	3	\$5,970
1.4	Data Management	\$1,144	4	\$4,576
2.1	View Maintenance	\$3,842	1	\$3,842
2.2	Water Views	\$8,000*	1	\$8,000
2.3	Data Access	\$660	4	\$2,640
3.0	Server Maintenance	\$1,047	4	\$4,188
4.0	Project Management	\$1,365	4	\$5,460
	Total Costs assuming units spent			\$67,973
* half of previous SDG processing unit cost estimate is used in these estimates pending favorable outcome of Task 0.				



HydroQual

Environmental
Engineers & Scientists

July 2, 2003

W. Scott Douglas
Project Manager, Dredging Programs
NJDOT Office of Maritime Resources
1035 Parkway Ave, E & O Building
Trenton, New Jersey 08625-0837

PR03-0100

Subject: Additional sediment PAH compound monitoring

Dear Scott:

During discussions at the June 10, 2002, meeting at HydroQual's Mahwah, New Jersey office, a follow-up telephone conversation on July 10, 2002, and memoranda from HydroQual to Maritime Resources dated November 18, 2002, and December 13, 2002, HydroQual recommended to New Jersey Maritime Resources a field sediment sampling plan targeted at providing information which, when coupled with other facets of CARP, would support preliminary causal evaluation of observed sediment toxicity in NY/NJ Harbor. The suggested sediment sampling plan is targeted at quantifying levels of sediment contamination in NY/NJ Harbor due to contaminants not included in CARP monitoring or on the CARP analyte list which are likely to contribute to sediment toxicity. The central element of HydroQual's recommended plan is analysis for an expanded list of PAH compounds. The potential for widespread PAH contamination, and in particular petrogenic source PAH compounds, in NY/NJ Harbor has been identified (Huntley, S.L. et al. 1995). Based on the recent findings of HydroQual analysis of 1993-94 REMAP data as presented at the SETAC HDC Fall Workshop on September 13, 2002, additional PAH contamination beyond the PAH compounds sampled for under REMAP could potentially explain observed toxicity which does not appear to be attributable to other contaminants routinely measured under REMAP.

HydroQual is pleased to inform you of a cost effective opportunity to accomplish the recommended collection of additional PAH sediment data in the Harbor. REMAP 2003 is about to commence. HydroQual has been in contact with REMAP staff. REMAP is willing to provide up to 20 sub-samples to HydroQual which can be forwarded to an outside laboratory for analysis of 47 PAH compounds. This approach leverages REMAP's investment in ship time, sample collection, analysis of physical parameters, analysis for other contaminant of concern (PCBs, dioxins/furans, SEM:AVS, pesticides, etc.), and toxicity testing with accomplishing the objective of furthering the ability to identify the causal agents of the observed toxicity in NY/NJ Harbor. If HydroQual's recommended sampling plan were carried out as a stand alone study, there would be duplication of these efforts already being covered under REMAP 2003. Further leveraging will be realized as researchers at SUNY Stony Brook and Woods Hole Oceanographic Institute under funding from the Hudson River Foundation will also be

HYDROQUAL, INC.

analyzing sub-samples provided by REMAP for an additional potential causative agent of toxicity in the Harbor, unresolved complex mixture (UCM). Completed CARP monitoring, REMAP 2003, the SUNY Stony Brook/Woods Hole Hudson River Foundation sponsored research, and the proposed HydroQual study are all complementary as opposed to repetitive in terms of forming the knowledge base which may lead to the identification of causes of toxicity in Harbor sediments.

Below are some of the details of HydroQual's proposed effort:

Analytes: 47 PAH compounds and TOC in bulk sediment.

Sample Collection: Sub-samples from 20 REMAP 2003 sediment samples throughout the Harbor in close proximity to the stations identified below and on the appended latitude longitude list and map (see Figure 1). Established REMAP sampling protocols for collection of surficial sediments will be followed. Samples will be forwarded by REMAP to HydroQual to an outside laboratory hired by HydroQual and tracked by HydroQual chain of custody forms. Stations to include both known hot spots or target sites and selected stations, 1 for each water body, from REMAP 1993-94 which show toxicity. Coverage includes up to:

- 2 stations at each of 3 target sites - South Brother Island, upper Arthur Kill, and Gowanus Canal (6)
- Hackensack River (1)
- Passaic River (1)
- Raritan River (1)
- Newark Bay (1)
- Kill van Kull (1)
- Lower Arthur Kill (1)
- Raritan Bay (1)
- Hudson River (2)
- Upper Bay (1)
- East River (1)
- Jamaica Bay (1)
- Long Island Sound (1)
- New York Bight (1)

Cost and Schedule Information: At this time HydroQual anticipates entering into a subcontract agreement with Battelle, Duxbury Massachusetts for the analysis of 47 PAH compounds and TOC in bulk sediments. The anticipated cost per sample is \$500 (this is in the process of being confirmed) for each of 20 samples with a 30 to 45 day turnaround time for the batch of 20 samples suggested. This cost also includes electronic transmission of results and archiving of the samples by Battelle for six months to allow for the possibility that analysis for additional contaminants may be warranted at a later time. In the event Battelle, Duxbury is not agreeable, researchers at SUNY Stony Brook/Woods Hole would be willing to conduct the analysis of 47 PAH compounds at a similar cost. HydroQual would need approximately 200 mostly senior level manhours at a cost on order of \$31,250 for interpretation of the data and reporting. Further, HydroQual would need approximately 16 manhours and sundry expenses at a cost on order of \$2,100 for receipt of and repackaging/re-icing of samples and for

coordination with the laboratory. The total anticipated cost is therefore on order of \$43,350. Since there is some uncertainty in laboratory costs at the time of the drafting of this letter, it is recommended that HydroQual's work assignment be constructed as an amendment to HydroQual's existing contract with the Hudson River Foundation for CARP modeling work on a cost plus fix fee basis (i.e., time and materials expended) with a not to exceed limit of \$45,000 which allows for almost 20% margin of safety on laboratory costs. It is acknowledged that successful completion of HydroQual's effort is contingent upon the cooperation of REMAP 2003. It is anticipated that sample collection will be completed by October 2003, laboratory analyses by HydroQual's subcontractor by December 2003, and HydroQual's initial interpretation of the data and reporting by March 2004. Once REMAP 2003 toxicity test data become available, HydroQual will do a confirmatory check between toxicity predictions based on the PAH and TOC data and narcosis theory and the REMAP 2003 toxicity test results.

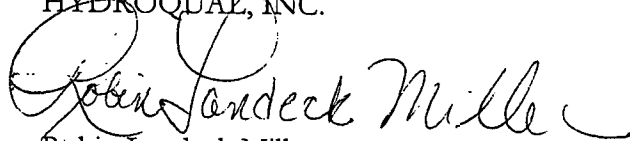
References:

Huntley, S.L., N.L. Bonnevie, and R.J. Wenning. 1995. Polycyclic Aromatic Hydrocarbon and Petroleum Hydrocarbon Contamination in Sediment from Newark Bay Estuary, New Jersey. Arch. Environ. Contam. Toxicol. 28: 93-107.

Please do not hesitate to contact HydroQual should you require clarification or any additional information.

Very truly yours,

HYDROQUAL, INC.



Robin Landeck Miller
Senior Project Manager

RLM/mag
...PR03-0100/DOUGLAS02JUL03LTR

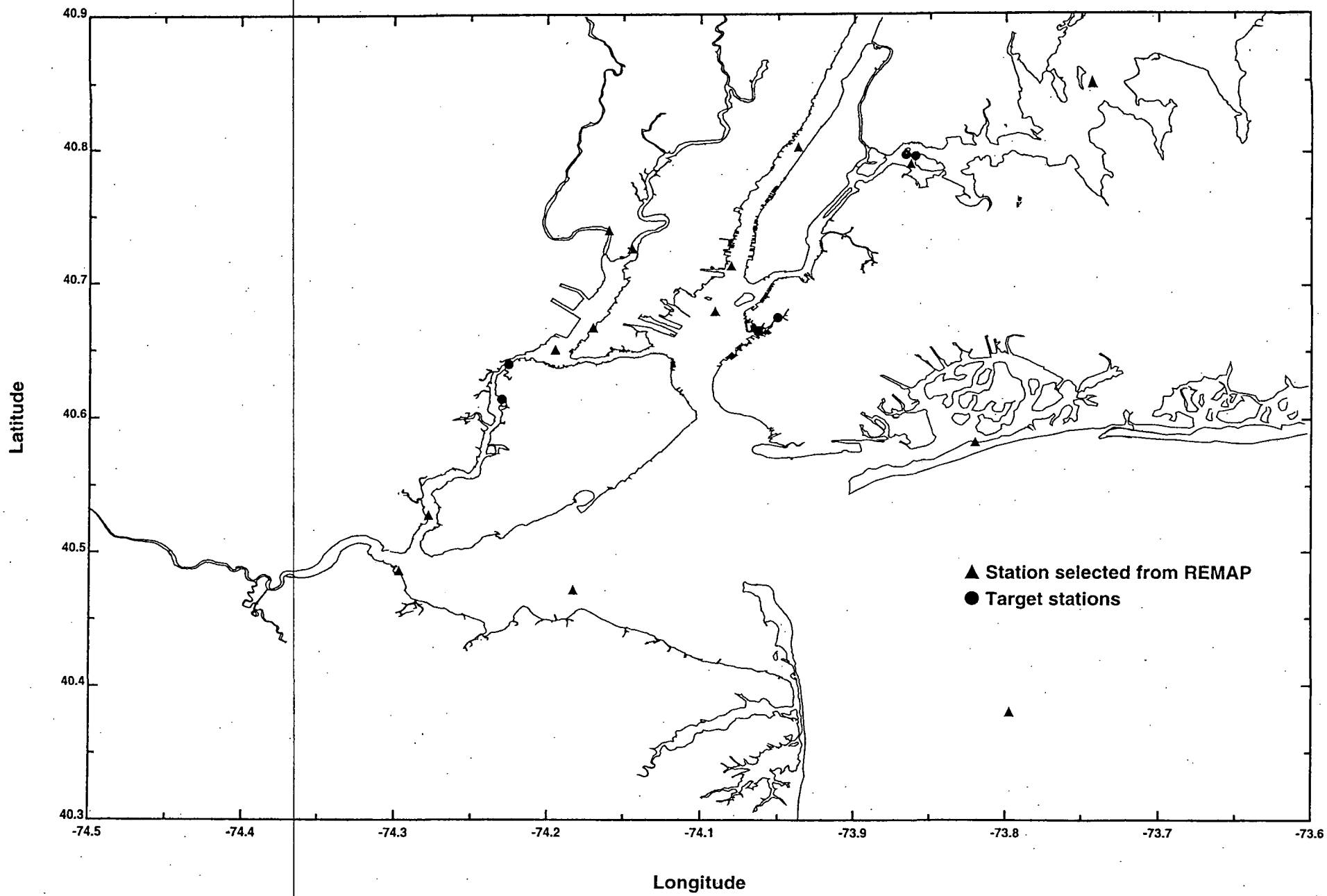


Figure 1. Suggested stations for additional toxicity sampling

Station selected from REMAP

LATITUDE	LONGITUDE
40.381	-73.823
40.583	-73.848
40.850	-73.761
40.803	-73.980
40.727	-74.101
40.667	-74.130
40.528	-74.250
40.740	-74.118
40.651	-74.157
40.486	-74.272
40.472	-74.144
40.791	-73.896
40.714	-74.029
40.680	-74.041

Target Stations

LATITUDE	LONGITUDE
40.675	-73.995
40.665	-74.010
40.614	-74.197
40.640	-74.192
40.796	-73.893
40.797	-73.900