BUREAU OF MATERIALS MANAGEMENT AND COMPLIANCE ASSURANCE
WATER PERMITTING AND ENFORCEMENT DIVISION

NPDES PERMIT

issued to

University of Connecticut
Marine Sciences and Technology Center
1080 Shennecossett Road
Groton, CT 06340-6097

Location Address:
Avery Point
Groton, Connecticut

Facility ID: 059-010

Permit ID: CT0028631

Receiving Stream: Long Island Sound

Permit Expires: June 11, 2011

SECTION 1: GENERAL PROVISIONS

(A) This permit is issued in accordance with section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and section 402(b) of the Clean Water Act, as amended, 33 USC 1251, et. seq., and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer an N.P.D.E.S. permit program.

(B) **University of Connecticut, Marine Sciences and Technology Center,** ("Permittee"), shall comply with all conditions of this permit including the following sections of the RCSA, which have been adopted pursuant to section 22a-430 of the CGS and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(10)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of section 22a-430-3.

Section 22a-430-3 General Conditions

(a) Definitions
(b) General
(c) Inspection and Entry
(d) Effect of a Permit
(e) Duty
(f) Proper Operation and Maintenance
(g) Sludge Disposal
(h) Duty to Mitigate
(I) Facility Modifications; Notification
(j) Monitoring, Records and Reporting Requirements
(k) Bypass
(l) Conditions Applicable to POTWs
(m) Effluent Limitation Violations (Upsets)
(n) Enforcement
(o) Resource Conservation
(p) Spill Prevention and Control
(q) Instrumentation, Alarms, Flow Recorders
(r) Equalization

Section 22a-430-4 Procedures and Criteria

(a) Duty to Apply
(b) Duty to Reapply
(c) Application Requirements
(d) Preliminary Review
(e) Tentative Determination
(f) Draft Permits, Fact Sheets
(g) Public Notice, Notice of Hearing
(h) Public Comments
(I) Final Determination
(j) Public Hearings
(k) Submission of Plans and Specifications Approval
(l) Establishing Effluent Limitations and Conditions
(m) Case by Case Determinations
(n) Permit issuance or renewal
(o) Permit Transfer
(p) Permit revocation, denial or modification
(q) Variances
(r) Secondary Treatment Requirements
(s) Treatment Requirements for Metals and Cyanide
(t) Discharges to POTWs - Prohibitions

(C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the Permittee to enforcement action including, but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.

(D) Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense under section 22a-438 or 22a-131a of the CGS or in accordance with section 22a-6, under section 53a-157b of the CGS.

(E) The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner. To request such approval, the Permittee and proposed transferee shall register such proposed transfer with the Commissioner, at least 30 days prior to the transferee becoming legally responsible for creating or maintaining any discharge which is the subject of the permit transfer. Failure, by the transferee, to obtain the Commissioner's approval prior to commencing such discharge may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the CGS and RCSA.

(F) No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the Permittee pursuant to this permit will result in compliance or prevent or abate pollution.

(G) Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.

(H) An annual fee shall be paid for each year this permit is in effect as set forth in section 22a-430-7 of the Regulations of Connecticut State Agencies.

(I) This permitted discharge is consistent with the applicable goals and policies of the Connecticut Coastal Management Act (section 22a-92 of the Connecticut General Statutes).

SECTION 2: DEFINITIONS

(A) The definitions of the terms used in this permit shall be the same as the definitions contained in section 22a-423 of the CGS and section 22a-430-3(a) and 22a-430-6 of the RCSA.

(B) In addition to the above, the following definitions shall apply to this permit:

"-----" in the limits column on the monitoring table means a limit is not specified but a value must be reported on the DMR

"Annual" in the context of any sampling frequency found in Section 5, shall mean the sample must be collected in the month of July.

"Average Monthly Limit"; means the maximum allowable "Average Monthly Concentration" as defined in section 22a-430-3(a) of the RCSA when expressed as a concentration (e.g. mg/l); otherwise, it means "Average Monthly Discharge Limitation" as defined in section 22a-430-3(a) of the RCSA.

"Maximum Daily Limit", means the maximum allowable "Daily Concentration" (defined above) when expressed as a concentration (e.g. mg/l); otherwise, it means the maximum allowable "Daily Quantity" as defined above, unless it is expressed as a flow quantity. If expressed as a flow quantity it means "Maximum Daily Flow" as defined in section 22a-430-3(a) of the RCSA.

"NA" as a Monitoring Table abbreviation means "not applicable".

"NR" as a Monitoring Table abbreviation means "not required".

"Range During Month" ("RDM"), as a sample type, means the lowest and the highest values of all of the monitoring data for the reporting month.

"Semi-Annual" in the context of a sampling frequency, means the sample must be collected in the months of July and October.

SECTION 3: COMMISSIONER'S DECISION

(A) The Commissioner of Environmental Protection ("Commissioner") has issued a final determination and found that the discharge will not cause pollution of the waters of the state. The Commissioner's decision is based on **Application No. 200302005** for permit issuance, received on July 16, 2003 and the administrative record established in the processing of that application.

(B) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced application, and all approvals issued by the Commissioner or the Commissioner authorized agent for the discharges and/or activities authorized by, or associated with, this permit.

(C) The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or CGS or regulations adopted thereunder which are then applicable.

SECTION 4: GENERAL EFFLUENT LIMITATIONS

(A) No discharge shall contain, or cause in the receiving stream, a visible oil sheen or floating solids; or, cause visible discoloration or foaming in the receiving stream.

(B) No discharge shall cause acute or chronic toxicity in the receiving water body beyond any zone of influence specifically allocated to that discharge in this permit.

(C) The temperature of any discharge shall not increase the temperature of the receiving stream above 83°F, or, in any case, raise the temperature of the receiving stream by more than 4°F. The incremental temperature increase in coastal and marine waters is limited to 1.5°F during the period including July, August and September.

SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(A) The discharge shall not exceed and shall otherwise conform to the specific terms and conditions listed below. The discharge is restricted by, and shall be monitored in accordance with the table below:

Table A

Discharge Serial Number (DSN): 001-1 | **Monitoring Location:** 1

Wastewater Description: Aquarium Sea Water

Monitoring Location Description: 15" P.V.C. Drain outside building.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or measurement to be reported	
Aquatic Toxicity, Mysidopsis bahia[3, 4] (NOAEL=100%)	%	NA	NA	NR	NA	> 90% Survival Rate	Annual	Grab Sample	[5]
Aquatic Toxicity, Menidia beryllina [3,4] (NOAEL=100%)	%	NA	NA	NR	NA	> 90% Survival Rate	Annual	Grab Sample	[5]
Flow, Maximum Daily [1]	gpd	NA	720,000	Daily/Monthly	Daily Flow	NA	NR	NA	
Temperature	°F	NA	NA	NR	NA	-----	Monthly	Grab Sample	
pH, Continuous	S.U.	NA	NA	NR	NA	6.0 - 9.0	Continuous/Monthly	Range During Monthly	
Zinc, Total	mg/l	NA	NA	NR	NA	-----	Annual	Grab Sample	[6]
Lead, Total	mg/l	NA	NA	NR	NA	-----	Annual	Grab Sample	[6]
Copper, Total	mg/l	NA	NA	NR	NA	-----	Semi Annual	Grab Sample	[6]
Sulfates	mg/l	NA	NA	NR	NA	-----	Semi Annual	Grab Sample	
Nitrogen, Ammonia (Total N)	mg/l	NA	NA	NR	NA	-----	Semi Annual	Grab Sample	
Nitrogen, Nitrate (Total N)	mg/l	NA	NA	NR	NA	-----	Semi Annual	Grab Sample	
Nitrogen, Nitrite (Total N)	mg/l	NA	NA	NR	NA	-----	Semi Annual	Grab Sample	
Biochemical Oxygen Demand$_5$, (BOD_5)	mg/l	NA	NA	NR	NA	-----	Semi Annual	Grab Sample	
Total Suspended Solids (TSS)	mg/l	NA	NA	NR	NA	-----	Semi Annual	Grab Sample	

Table Footnotes and Remarks:

Footnotes:

Note: All analysis shall be on the same sample.

[1] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each sampling month.

[2] The first entry in this column is the 'Sample Frequency'. If a 'Reporting Frequency' does not follow this entry and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] A table indicating tank group, tank use, volume and flow rate, pi/operator, and experimental description for the sample day will be attached to the ATMR.

[4] The results of the Toxicity Tests are recorded in % survival based on criteria in Section 6(B) of this permit.

[5] See Section 6(B).

[6] See Section 6(A).

Remarks:

The Permittee shall record and report the maximum and minimum pH values for each month. All daily pH results shall be kept on-site.

(1) All samples shall be comprised of only the wastewater described in this table. Samples shall be collected prior to combination with receiving waters or wastewater of any other type, and after all approved treatment units, if applicable. All samples collected shall be representative of the discharge during standard operating conditions.

(2) In cases where limits and sample type are specified but sampling is not required by this permit, the limits specified shall apply to all samples, which may be collected and analyzed by the Department of Environmental Protection personnel, the Permittee, or other parties.

(3) The limits imposed on the discharge listed in this permit take effect on the issuance date of this permit, hence any sample taken after this date which, upon analysis, shows an exceedance of permit limits will be considered non-compliance.

(4) The monitoring requirements begin on the date of issuance of this permit if the issuance date is on or before the 12th day of a month. For permits issued on or after the 13th day of a month, monitoring requirements begin the 1st day of the following month.

SECTION 6: SAMPLE COLLECTION, HANDLING AND ANALYTICAL TECHNIQUES

(A) Chemical Analysis

(1) Chemical analyses to determine compliance with effluent limits and conditions established in this permit shall be performed using the methods approved pursuant to the Code of Federal Regulations, Part 136 of Title 40 (40 CFR 136) unless an alternative method has been approved in writing pursuant to 40 CFR 136.4 or as provided in section 22a-430-3(j)(7) of the RCSA. Chemicals which do not have methods of analysis defined in 40 CFR 136 shall be analyzed in accordance with methods specified in this permit.

(2) The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible consistent with the requirement of this section of the permit.

(3) The Minimum Levels specified below represent the concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Section 5 Table A. Analyses for these parameters must include check standards within ten percent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.

Parameter	Minimum Level
Copper	5.0 ug/L
Lead	5.0 ug/L
Zinc	20.0 ug/L

(B) Acute Aquatic Toxicity Test

(1) Samples for monitoring of Aquatic Toxicity shall be collected and handled as prescribed in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821-R-02-012).

(a) Grab samples shall be chilled immediately following collection. Samples shall be held at 4

degrees Centigrade until Aquatic Toxicity testing is initiated.

(b) Effluent samples shall not be dechlorinated, filtered, or, modified in any way, prior to testing for Aquatic Toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility.

(c) Chemical analyses of the parameters identified in Section 5 Table A, including BOD_5, ammonia, nitrate, and phosphate shall be conducted on an aliquot of the same sample tested for Aquatic Toxicity.

(i) At a minimum, pH, specific conductance, salinity, total alkalinity, total hardness, and total residual chlorine shall be measured in the effluent sample and, during Aquatic Toxicity tests, in the highest concentration of test solution and in the dilution (control) water at the beginning of the test and at test termination. If Total Residual Chlorine is not detected at test initiation, it does not need to be measured at test termination. Dissolved oxygen, pH, and temperature shall be measured in the control and all test concentrations at the beginning of the test, daily thereafter, and at test termination. Salinity shall be measured in each test concentration at the beginning of the test and at test termination.

(d) Tests for Aquatic Toxicity shall be initiated within 24 hours of sample collection.

(2) Monitoring for Aquatic Toxicity to determine compliance with the permit limit on Aquatic Toxicity (invertebrate) above shall be conducted for 48-hours utilizing neonatal Mysidopsis bahia (1-5 days old with no more than 24-hours range in age)

(3) Monitoring for Aquatic Toxicity to determine compliance with the permit limit on Aquatic Toxicity (vertebrate) above shall be conducted for 48-hours utilizing larval Menidia beryllina (9-14 days old with no more than 24-hours range in age).

(4) For Aquatic Toxicity Limits and for monitoring only conditions, expressed as an NOAEL value, Pass/Fail (single-concentration) tests shall be conducted at a specified Critical Test Concentration (CTC) equal to the Aquatic Toxicity Limit, or 100% in the case of monitoring only conditions, as prescribed in section 22A-430-3(j)(7)(A)(I) of the Regulations of Connecticut State Agencies, except that five replicates of undiluted effluent and five replicates of effluent diluted to the CTC shall be included.

(5) Mysids shall be fed during the tests.

(6) Sodium lauryl sulfate or sodium dodecyl sulfate shall be used as the reference toxicant.

(7) Synthetic seawater for use as dilution water or controls shall be prepared with deionized water and artificial sea salts as described in EPA/821-R-02-012.

(8) If the salinity of the source water is more that 5 parts per thousand higher, or lower than the culture water used for rearing the organisms, a second set of controls matching the salinity of the culture water shall be added to the test series. Test validity shall be determined using the controls adjusted to match the source water salinity.

(9) Compliance with limits on Aquatic Toxicity shall be determined as follows:

(a) For limits expressed as an NOAEL value, compliance shall be demonstrated when the results of a valid pass/fail Aquatic Toxicity test indicates there is greater than 50% survival in the undiluted effluent and 90% or greater survival in the effluent at the specified CTC.

SECTION 7: REPORTING REQUIREMENTS

(A) The results of chemical analyses and any aquatic toxicity test required above shall be entered on the Discharge Monitoring Report (DMR), provided by this office, and reported to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing) at the following address. The report shall also include a detailed explanation of any violations of the limitations specified. The DMR shall be received at this address by the last day of the month following the month in which samples are collected.

Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing)
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

(B) Complete and accurate aquatic toxicity test data, including percent survival of test organisms in each replicate test chamber, LC50 values and 95% confidence intervals for definitive test protocols, and all supporting chemical/physical measurements performed in association with any aquatic toxicity test, including measured daily flow and hours of operation for the day of sample collection shall be entered on the Aquatic Toxicity Monitoring Report form (ATMR) and sent to the Bureau of Water Protection and Land Reuse by the last day of the month following the month in which samples are collected.

Bureau of Water Protection and Land Reuse (Attn: Aquatic Toxicity)
Connecticut Department of Environmental Protection
79 Elm St.
Hartford, CT 06106-5127

(C) If this permit requires monitoring of a discharge on a calendar basis (e.g. monthly, quarterly, etc.), but a discharge has not occurred within the frequency of sampling specified in the permit, the Permittee must submit the DMR and ATMR, as scheduled, indicating "NO DISCHARGE". For those Permittees whose required monitoring is discharge dependent (e.g. per batch), the minimum reporting frequency is monthly. Therefore, if there is no discharge during a calendar month for a batch discharge, a DMR must be submitted indicating such by the end of the following month.

SECTION 8: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS

(A) If any sample analysis indicates that an effluent limitation in Section 5 of this permit has been exceeded, another sample of the effluent shall be collected and analyzed for the parameter(s) in question, and the results reported to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing), at the address listed above, within 30 days of the exceedance or invalid test. Results of all tests, whether valid or invalid, shall be reported.

(B) If any two consecutive test results or any three test results in a twelve month period indicates that an Aquatic Toxicity Limit has been exceeded, the Permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall submit a report to Bureau of Water Protection and Land Reuse (Attn: Aquatic Toxicity) for the review and approval of the Commissioner in accordance with section 22a-430-3(j)(10)(c) of the RCSA describing proposed steps to eliminate the toxic impact of the discharge on the receiving water body. Such a report shall include a proposed time schedule to accomplish toxicity reduction and the Permittee shall comply with any schedule approved by the Commissioner.

(B) The Permittee shall notify the Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division, within 72 hours and in writing within thirty days of the discharge of any substance listed in the application but not listed in the permit if the concentration or quantity of that substance exceeds two times the level listed in the application.

This permit is hereby issued on 6/12/06.

/s/GINA MCCARTHY
Gina McCarthy
Commissioner

GM/BBF

DATA TRACKING AND TECHNICAL FACT SHEET

Permittee: University of Connecticut, Marine Sciences and Technology Center **PAMS Company ID:** 102105

PERMIT, ADDRESS, AND FACILITY DATA

PERMIT #: CT0028631 APPLICATION #: 200302005 FACILITY ID.: 059-010

Mailing Address:			**Location Address:**		
Street: 1080 Shennecossett Road			**Street:** 1080 Shennecossett Road		
City: Groton	**ST:** CT	**Zip:** 06340-6048	**City:** Groton	**ST:** CT	**Zip:** 06340-6048
Contact Name: Mr. Turner Cabaniss			**DMR Contact:** Mr. Turner Cabaniss		
Phone No.: 860-405-9178			**Phone No.:** 860-405-9178		

PERMIT INFORMATION

DURATION 5 YEAR X 10 YEAR __ 30 YEAR ____

TYPE New X (Late Application) Reissuance __ Modification ___

CATEGORIZATION POINT (X) NON-POINT ( ) GIS # 2995

NPDES (X) PRETREAT ( ) GROUND WATER(UIC) ( ) GROUND WATER (OTHER) ( )

NPDES MAJOR (MA) _____
NPDES SIGNIFICANT MINOR or PRETREAT SIU (SI) _____
NPDES or PRETREATMENT MINOR (MI) X

PRETREAT SIGNIFICANT INDUS USER (SIU) _____
PRETREAT CATEGORICAL (CIU) _____
Note: If it's a CIU then check off SIU

POLLUTION PREVENTION MANDATE _ ENVIRONMENTAL EQUITY ISSUE ____

COMPLIANCE SCHEDULE **YES**__ **NO X**

POLLUTION PREVENTION ___ TREATMENT REQUIREMENT____WATER CONSERVATION

WATER QUALITY REQUIREMENT __ REMEDIATION __ OTHER _____

OWNERSHIP CODE

Private __ Federal __ State X Municipal (town only) _ Other public ____

DEP STAFF ENGINEER: Barak Brako Frempong

PERMIT FEES

Discharge Code	DSN	Annual Fee
1060000	001-1	$ 525.00

FOR NPDES DISCHARGES

Drainage basin Code: **2000** Present/Future Water Quality Standard: **SC / SB**

NATURE OF BUSINESS GENERATING DISCHARGE

DSN 001-1: Consists of aquarium seawater used for biological oceanography research.

PROCESS AND TREATMENT DESCRIPTION (by DSN)

DSN 001-1: Treatment is not necessary.

RESOURCES USED TO DRAFT PERMIT

__ Federal Effluent Limitation Guideline 40 CFR _____
name of category

__ Performance Standards

__ Federal Development Document
name of category

__ Treatability Manual

X Department File Information

X Connecticut Water Quality Standards

__ Anti-degradation Policy

X Coastal Management Consistency Review Form

X Other - Explain

BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

X Case-by-Case Determination (See Other Comments)
DSN 001-1: pH, Temperature, Total Copper, Sulfates, Total Suspended Solids (TSS)

X In order to meet in-stream water quality (See General Comments)

GENERAL COMMENTS

It should be noted that University of Connecticut, Marine Sciences and Technology Center did not submit their renewal application prior to expiration of their NPDES permit. Therefore, this is a new permit, not a reissuance.

The discharge consists of aquarium seawater used solely for holding of live marine organisms such as microalgea, plankton, vertebrates, and invertebrates for marine biology research. Laboratory studies conducted within the facility deal primarily in the area of biological oceanography with topics such as growth, recruitment, competition, and behavioral observation. The nature of the work is non-polluting and non-invasive, which does not involve chemical input or chemical manipulation of the discharge water stream. Hence, there is no need to include water quality based discharge limitations in this permit. A monitoring requirement is included in this permit for temperature, pH, zinc, lead, copper, sulfates, ammonia, nitrates, nitrites, total suspended solids, and Biochemical Oxygen Demand$_5$ (BOD_5) consistent with the Connecticut Water Quality Standards and Criteria. The discharge is not anticipated to have any significant impact on water quality.

OTHER COMMENTS

This permit contains effluent limitations consistent with a Case-by-Case Determination using the criteria of Best Professional Judgment as noted above.