AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Town of Monroe
Sewer Commissioners

is authorized to discharge from the facility located at

Monroe Wastewater Treatment Facility
Mill Street
Monroe Bridge, MA 01350

to receiving water named

Deerfield River

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on December 1, 2010.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on June 22, 2005.

This permit consists of 12 pages in Part I including effluent limitations and monitoring requirements, Part II including General Conditions and Definitions, and Attachment A (Freshwater Acute Toxicity Test Procedure and Protocol).

Signed this 28th day of September, 2010

/S/SIGNATURE ON FILE

Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A.1. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall serial number **001,** treated effluent o the Deerfield River. Such discharges shall be limited and monitored as specified below.

EFFLUENT CHARACTERISTIC	**EFFLUENT LIMITS**					**MONITORING REQUIREMENTS [1]**	
PARAMETER	**AVERAGE MONTHLY**	**AVERAGE WEEKLY**	**AVERAGE MONTHLY**	**AVERAGE WEEKLY**	**MAXIMUM DAILY**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
FLOW[2]	*********	*********	0.015 MGD	*********	Report MGD	CONTINUOUS	RECORDER
FLOW[2]	*********	*********	Report MGD	*********	*********	CONTINUOUS	RECORDER
BOD_5[3]	3.76 lbs/day 1.66 kgs/day	5.63 lbs/Day 2.48 kgs/Day	30 mg/l	45 mg/l	Report mg/l	1/MONTH	24-HOUR COMPOSITE[5]
TSS[3]	3.76 lbs/day 1.66 kgs/day	5.63 lbs/Day 2.48 kgs/Day	30 mg/l	45 mg/l	Report mg/l	1/MONTH	24-HOUR COMPOSITE[5]
pH RANGE[4]	6.5 - 8.3 SU					1/DAY	GRAB
ESCHERICHIA COLI[4,6] (April 1 to October 31)	*********	**********	126 cfu/100 ml	*********	409 cfu/100 ml	1/MONTH	GRAB
AMMONIA NITROGEN	Report lbs/day	**********	Report mg/l	**********	**********	2/YEAR[7]	24-HOUR COMPOSITE[5]
TOTAL KJELDAHL NITROGEN	Report lbs/day	**********	Report mg/l	**********	**********	2/YEAR[7]	24-HOUR COMPOSITE[5]
NITRATE	Report lbs/day	**********	Report mg/l	**********	**********	2/YEAR[7]	24-HOUR COMPOSITE[5]
NITRITE	Report lbs/day	**********	Report mg/l	**********	**********	2/YEAR[7]	24-HOUR COMPOSITE[5]
WHOLE EFFLUENT TOXICITY [8,9,10]	Acute $LC_{50} \geq 50\%$					1/YEAR	24-HOUR COMPOSITE[5]

Footnotes:

1. All required effluent samples shall be representative of the effluent that is discharged through outfall 001 to the Deerfield River. A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of the week each month. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented in correspondence appended to the applicable discharge monitoring report.

   All samples shall be tested using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136.

2. Report annual average, monthly average, and the maximum daily flow. The limit is an annual average, which shall be reported as a rolling average. The value will be calculated as the arithmetic mean of the monthly average flow for the reporting month and the monthly average flows of the previous eleven months.

3. Sampling required for influent and effluent.

4. Required for State Certification.

5. 24-hour composite samples will consist of at least twenty four (24) grab samples taken during one consecutive 24 hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportionally to flow.

6. The monthly average limit for Escherichia coli is expressed as a geometric mean.

7. Nitrogen monitoring shall be performed two times per year in February and August.

8. The permittee shall conduct one acute toxicity test per year. The permittee shall test the daphnid, Ceriodaphnia dubia, only. The toxicity test sample shall be collected during the month of September. The test results shall be submitted by the last day of the month following the completion of the test. The results are due October 31. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

9. The LC_{50} is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 50% limit means that a sample of 50% effluent shall cause no more than a 50% mortality rate.

10. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall either follow procedures outlined in **Attachment A**

(Toxicity Test Procedure and Protocol) Section IV., DILUTION WATER in order to obtain an individual approval for use of an alternate dilution water, or the permittee shall follow the *Self-Implementing Alternative Dilution Water Guidance* which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. This guidance is found in Attachment G of *NPDES Program Instructions for the Discharge Monitoring Report Forms (DMRs)* which may be found on the EPA, Region I web site at http://www.epa.gov/Region1/enforcementandassistance/dmr.html. If this guidance is revoked, the permittee shall revert to obtaining individual approval as outlined in **Attachment A**. Any modification or revocation to this guidance will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A**.

Part I.A.1. (Continued)

a. The discharge shall not cause a violation of the water quality standards of the receiving waters.

b. The pH of the effluent shall not be less than 6.5 or greater than 8.3 at any time.

c. The discharge shall not cause objectionable discoloration of the receiving waters.

d. The effluent shall not contain a visible oil sheen, foam, or floating solids at any time.

e. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.

f. The results of sampling for any parameter done in accordance with EPA approved methods above its required frequency must also be reported.

g. If the average annual flow in any calendar year exceeds 80 percent of the facility's design flow, the permittee shall submit a report to MassDEP by March 31 of the following calendar year describing its plans for further flow increases and describing how it will maintain compliance with the flow limit and all other effluent limitations and conditions.

2. All POTWs must provide adequate notice to the Director of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were

directly discharging those pollutants; and

b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For purposes of this paragraph, adequate notice shall include information on:

(1) The quantity and quality of effluent introduced into the POTW; and

(2) Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

3. Prohibitions Concerning Interference and Pass Through:

a. Pollutants introduced into POTW's by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.

4. Toxics Control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

5. Numerical Effluent Limitations for Toxicants

EPA or MassDEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfall(s) listed in Part I A.1.of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs), are not authorized by this permit and shall be reported to EPA and MassDEP in accordance with Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting).

Notification of SSOs to MassDEP shall be made on its SSO Reporting Form (which includes DEP Regional Office telephone numbers). The reporting form and instruction for its completion may be found on-line at http://www.mass.gov/dep/water/approvals/surffms.htm#sso. Notification of SSOs to EPA shall be made by a telephone call within 24 hours to the EPA Water Technical Unit, followed by a copy of the state reporting form.

C. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

1. Maintenance Staff

   The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Preventative Maintenance Program

   The permittee shall maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure. The program shall include an inspection program designed to identify all potential and actual unauthorized discharges.

3. Infiltration/Inflow Control Plan:

   The permittee shall develop and implement a plan to control infiltration and inflow (I/I) to the separate sewer system. The plan shall be submitted to EPA and MassDEP **within six months of the effective date of this permit** (see page 1 of this permit for the effective date) and shall describe the permittee's program for preventing infiltration/inflow related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and by-passes due to excessive infiltration/inflow.

   The plan shall include:

- An ongoing program to identify and remove sources of infiltration and inflow. The program shall include the necessary funding level and the source(s) of funding.

- An inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts. Priority should be given to removal of public and private inflow sources that are upstream from, and potentially contribute to, known areas of sewer system backups and/or overflows

- Identification and prioritization of areas that will provide increased aquifer recharge as the result of reduction/elimination of infiltration and inflow to the system.

- An educational public outreach program for all aspects of I/I control, particularly private inflow.

Reporting Requirements:

A summary report of all actions taken to minimize I/I during the previous calendar year shall be submitted to EPA and MassDEP annually, **by March 31**. The summary report shall, at a minimum, include:

- A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.

- Expenditures for any infiltration/inflow related maintenance activities and corrective actions taken during the previous year

- A map with areas identified for I/I-related investigation/action in the coming year.

- A calculation of the annual average I/I and the maximum month I/I for the reporting year.

- A report of any infiltration/inflow related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to the Unauthorized Discharges section of this permit.

4. Alternate Power Source

In order to maintain compliance with the terms and conditions of this permit, the permittee shall continue to provide an alternative power source with which to sufficiently operate its treatment works (as defined at 40 CFR §122.2).

D. SLUDGE CONDITIONS

1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices, including EPA regulations promulgated at 40 CFR Part 503, which prescribe "Standards for the Use or Disposal of Sewage Sludge" pursuant to Section 405(d) of the CWA, 33 U.S.C. § 1345(d).

2. If both state and federal requirements apply to the permittee's sludge use and/or disposal practices, the permittee shall comply with the more stringent of the applicable requirements.

3. The requirements and technical standards of 40 CFR Part 503 apply to the following sludge use or disposal practices.

   a. Land application - the use of sewage sludge to condition or fertilize the soil

   b. Surface disposal - the placement of sewage sludge in a sludge only landfill

   c. Sewage sludge incineration in a sludge only incinerator

4. The requirements of 40 CFR Part 503 do not apply to facilities which dispose of sludge in a municipal solid waste landfill. 40 CFR § 503.4. These requirements also do not apply to facilities which do not use or dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g. lagoons, reed beds), or are otherwise excluded under 40 CFR § 503.6.

5. The 40 CFR. Part 503 requirements including the following elements:

   - General requirements
   - Pollutant limitations
   - Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
   - Management practices
   - Record keeping
   - Monitoring
   - Reporting

   Which of the 40 C.F.R. Part 503 requirements apply to the permittee will depend upon the use or disposal practice followed and upon the quality of material produced by a facility. The EPA Region 1 Guidance document, "EPA Region 1 - NPDES Permit Sludge Compliance Guidance" (November 4, 1999), may be used by the permittee to

assist it in determining the applicable requirements.[1]

6. The sludge shall be monitored for pollutant concentrations (all Part 503 methods) and pathogen vector attraction reduction (land application and surface disposal) at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year

less than 290	1/ year
290 to less than1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

Sampling of the sewage sludge shall use the procedures detailed in 40 CFR 503.8.

7. Under 40 CFR § 503.9(r), the permittee is a "person who prepares sewage sludge" because it "is … the person who generates sewage sludge during the treatment of domestic sewage in a treatment works …." If the permittee contracts with *another* "person who prepares sewage sludge" under 40 CFR § 503.9(r) – i.e., with "a person who derives a material from sewage sludge" – for use or disposal of the sludge, then compliance with Part 503 requirements is the responsibility of the contractor engaged for that purpose. If the permittee does not engage a "person who prepares sewage sludge," as defined in 40 CFR § 503.9(r), for use or disposal, then the permittee remains responsible to ensure that the applicable requirements in Part 503 are met. 40 CFR §503.7. If the ultimate use or disposal method is land application, the permittee is responsible for providing the person receiving the sludge with notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

8. The permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (incineration)) by **February 19** (*see also* "EPA Region 1 - NPDES Permit Sludge Compliance Guidance"). Reports shall be submitted to the address contained in the reporting section of the permit. If the permittee engages a contractor or contractors for sludge preparation and ultimate use or disposal, the annual report need contain only the following information:

   - Name and address of contractor(s) responsible for sludge preparation, use or disposal
   - Quantity of sludge (in dry metric tons) from the POTW that is transferred to the sludge contractor(s), and the method(s) by which the contractor will prepare and use or dispose of the sewage sludge.

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1 This guidance document is available upon request from EPA Region 1 and may also be found at: http://www.epa.gov/region1/npdes/permits/generic/sludgeguidance.pdf

E. MONITORING AND REPORTING

1. **For a period of one year from the effective date of the permit**, the permittee may either submit monitoring data and other reports to EPA in hard copy form, or report electronically using NetDMR, a web-based tool that allows permittees to electronically submit discharge monitoring reports (DMRs) and other required reports via a secure internet connection. **Beginning no later than one year after the effective date of the permit**, the permittee shall begin reporting using NetDMR, unless the facility is able to demonstrate a reasonable basis that precludes the use of NetDMR for submitting all DMRs and reports. Specific requirements regarding submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

   a. Submittal of Reports Using NetDMR

      NetDMR is accessed from: http://www.epa.gov/netdmr. Within one year of the effective date of the Permit, the permittee shall begin submitting DMRs and reports required under this permit electronically to EPA using NetDMR, unless the facility is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and reports ("opt out request").

      DMRs shall be submitted electronically to EPA no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted to EPA, including the MassDEP Monthly Operations and Maintenance Report, as an electronic attachment to the DMR. Once a permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to EPA and will no longer be required to submit hard copies of DMRs to MassDEP. However, permittees shall continue to send hard copies of reports other than DMRs (including Monthly Operation and Maintenance Reports) to MassDEP until further notice from MassDEP.

   b. Submittal of NetDMR Opt Out Requests

      Opt out requests must be submitted in writing to EPA for written approval at least sixty (60) days prior to the date a facility would be required under the Permit to begin using NetDMR. This demonstration shall be valid for twelve (12) months from the date of EPA approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to EPA unless the permittee submits a renewed opt out request and such request is approved by EPA. All opt out requests should be sent to the following addresses:

Attn: NetDMR Coordinator
U.S. Environmental Protection Agency, Water Technical Unit
5 Post Office Square, Suite 100 (OES04-4)
Boston, MA 02109-3912

And

Massachusetts Department of Environmental Protection
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

c. Submittal of Reports in Hard Copy Form

Hard copy DMR submittals shall be completed and postmarked no later than the 15th day of the month following the completed reporting period. MassDEP Monthly Operation and Maintenance Reports shall be submitted as an attachment to the DMRs. Signed and dated originals of the DMRs, and all other reports required herein, shall be submitted to the appropriate State addresses and to the EPA address listed below:

U.S. Environmental Protection Agency
Water Technical Unit
5 Post Office Square, Suite 100 (OES04-4)
Boston, MA 02109-3912

The State Agency addresses are:

Massachusetts Department of Environmental Protection
Western Regional Office
Bureau of Resource Protection
436 Dwight Street
Springfield, MA 01103

and

Massachusetts Department of Environmental Protection
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

F. STATE PERMIT CONDITIONS

1. This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are (i) a federal National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the Federal Clean Water Act, 33 U.S.C. §§1251 et seq.; and (ii) an identical state surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53, and 314 CMR 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 CMR 3.19, are hereby incorporated by reference into this state surface water discharge permit.

2. This authorization also incorporates the state water quality certification issued by MassDEP under § 401(a) of the Federal Clean Water Act, 40 C.F.R. 124.53, M.G.L. c. 21, § 27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.

3. Each agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the agency taking such action, and shall not affect the validity or status of this permit as issued by the other agency, unless and until each agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared invalid, illegal or otherwise issued in violation of state law such permit shall remain in full force and effect under federal law as a NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of federal law, this permit shall remain in full force and effect under state law as a permit issued by the Commonwealth of Massachusetts.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO THE WATERS OF THE UNITED STATES

NPDES NO: MA0100188

NAME AND ADDRESS OF APPLICANT:

Town of Monroe
3 C School Street
Monroe Bridge, MA 01350

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Monroe Wastewater Treatment Facility
Ecology Drive
Monroe Bridge, MA 01350

RECEIVING WATER: Deerfield River (MA33-01)

CLASSIFICATION: B - Cold Water Fishery

I. Proposed Action, Type of Facility, and Discharge Location

The above-named applicant has requested that the U.S. Environmental Protection Agency reissue its NPDES permit to discharge into the designated receiving waters. The Monroe Wastewater Treatment Facility is a 0.015 MGD secondary treatment facility consisting of primary clarification, a rotating biological contactor, secondary clarification/filtration and ultraviolet disinfection.

The wastewater treatment facility discharges to the Deerfield River. Figure 1. The Deerfield River is classified as a Class B cold water fishery (see 314 CMR 4.00). Class B waters are designated as a habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. Cold water fisheries are waters in which the mean of the maximum daily temperature over a seven day period generally does not exceed 68°F (20°C) and when other ecological factors are favorable (such as habitat), are capable of supporting a year-round population of cold water stenothermal aquatic life such as trout (salmonidae). The *Massachusetts Year 2008 Integrated List of Waters* indicates that the river segment receiving the discharge is attaining uses for aquatic life, primary and

secondary contact and aesthetics, with other uses not assessed. The Monroe WWTF discharge is located just downstream of the Deerfield No. 5 Dam, and approximately 4 miles upstream of the Fife Brook Dam.

II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters based on recent monitoring data is shown in Table 1.

III. Limitations and Conditions

The effluent limitations and monitoring requirements may be found in the draft permit.

IV. Permit Basis: Statutory and Regulatory Authority

The Clean Water Act (CWA or the Act) prohibits the discharge of pollutants to waters of the United States without an NPDES permit unless such a discharge is otherwise authorized by the Act. A NPDES permit is used to implement technology based and water quality based effluent limitations as well as other requirements including monitoring and reporting. This draft NPDES permit was developed in accordance with statutory and regulatory authorities established pursuant to the Act. The regulations governing the NPDES program are found in 40 CFR Parts 122, 124 and 125.

Under Section 301(b)(1)(B) of the Clean Water Act (CWA), Publicly Owned Treatment Works (POTWs) were required to achieve effluent limitations based upon secondary treatment by July 1, 1977. The secondary treatment requirements are set forth in 40 CFR Part 133 and define secondary treatment as an effluent achieving specific limitations for biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on water quality standards. The Massachusetts Surface Water Quality Standards, 314 CMR 4.00, include requirements for the regulation and control of toxic constituents and also require that EPA criteria, established pursuant to Section 304(a) of the CWA, shall be used unless a site specific criteria is established. The state will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained.

According to Clean Water Act Section 402(o) and federal regulations at 40 CFR § 122.44(1), when a permit is reissued, effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards or conditions in the previous permit, except under certain limited conditions

V. Explanation of Effluent Limitation Derivation

A. Dilution Factor

A dilution factor was calculated to help determine whether any pollutant in the discharge has the reasonable potential to cause or contribute to excursion of state water quality standards (see 40 CFR Section 122.44(d)(1)(i)). The dilution factor calculated in connection with the current permit issuance was about 4,366, based on a 7Q10 flow of 87.3 cfs based from the USGS stream gage at Rowe, MA (period of record 1975 -1996; gage discontinued 1996).

The Deerfield River is subject to flow manipulation in connection with numerous upstream dams, including the Harriman dam approximately 7.5 miles upstream in Vermont, the Sherman dam approximately one mile upstream, and the Deerfield No. 5 dam located just upstream of the discharge. For this reason EPA has conducted an alternative dilution calculation based on required minimum releases from the upstream dams. The three closest upstream dams, along with five other hydropower facilities in VT and MA, are operated in a comprehensive coordinated water release and power generation schedule intended to enable recreational use of the river and protect riverine habitat. Minimum flow requirements are set forth in the 40-year license renewal issued by FERC in 1997, and are as follows:

Hydropower facility	Minimum Flow
Harriman Station and Reservoir Operation:	57 cfs (July 1-September 30) 70 cfs (October 1-June 30)
Sherman Dam and Reservoir:	None specified
Deerfield No. 5 Dam:	Lesser of 73 cfs or inflow*

* Special condition: inflow will not be less than 57 cfs guaranteed at Harriman Reservoir in Vermont.

FERC, *Order Approving Offer of Settlement and Issuing New License*, Project No. 2323-012 (1997), Appendices A and B.

The minimum flow of 57 cfs is a guaranteed low flow from storage from the Harriman Reservoir, *see Id.* It is used to calculate the dilution factor as follows:

Design flow = 0.015 MGD = 0.023 cfs
Dilution factor = (WWTP design flow+River low flow) / WWTP design flow
= (0.023 + 57) / 0.023 = 2,452

No modification of permit effluent limits is required due to the revised dilution factor.

B. BOD and TSS

The draft permit includes average monthly and average weekly BOD_5 and TSS limitations which are based on the secondary treatment requirements set forth at 40 C.F.R. § 133.102(a)(1), (2), (3), and 40 CFR § 122.45(f). These limits are the same as those in the current permit.

C. pH

The draft permit includes pH limitations which are required by state water quality standards, and are at least as stringent as pH limitations set forth at 40 C.F.R. § 133.102(c). Title 314, Code of Massachusetts regulations, Part 4.05(b)(3) states that the pH for Class B waters shall be in range of 6.5 to 8.5 standard units. The limit is the same as that in the current permit.

D. Fecal Coliform and Eschericia coli Bacteria

The current permit includes bacteria limits on fecal coliform bacteria. Since issuance of the current permit, Massachusetts has promulgated, and EPA has approved, revised water quality standards for bacteria, which include Class B water quality criteria based on *Eschericia coli*, replacing fecal coliform. (see Massachusetts Surface Water Quality Standards, 314 CMR 4.05(3)(b)(4)).

The draft permit therefore includes water quality-based effluent limitations for E.coli bacteria, in lieu of fecal coliform bacteria. Pursuant to both MassDEP and EPA guidance, mixing zones for bacteria are not allowed, so the E.coli limits were not calculated using a dilution factor. E. coli limits in the draft permit are a monthly geometric mean of 126 cfu/100 ml mean and a maximum daily limit of 409 cfu/100 ml (this is the 90% distribution of the geometric mean of 126 cfu per 100 ml.)

E. Whole Effluent Toxicity

National studies conducted by the Environmental Protection Agency have demonstrated that domestic sources contribute toxic constituents to POTWs. These constituents include metals, chlorinated solvents and aromatic hydrocarbons among others. The Region's current policy is to include toxicity testing requirements in all municipal permits, while Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts.

Based on the potential for toxicity resulting from domestic and industrial contributions, and in accordance with EPA regulation and policy, the draft permit includes acute toxicity limitations and monitoring requirements. See, e.g., 50 Fed. Reg. 30,784 (July 24, 1985) (Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants); EPA, *Technical Support Document for Water Quality-Based Toxics Control*, EPA/505/2-90-001 (1991). EPA Region I has developed a toxicity control policy which requires wastewater treatment facilities to perform toxicity bioassays on their effluents. The principal advantages of biological techniques are: (1) the effects of complex discharges of many known and unknown constituents can be measure only by biological analyses; (2) bioavailability of pollutants after discharge is best measured by toxicity testing including any synergistic effects of pollutants; and (3) pollutants for which there are inadequate chemical analytical methods or criteria can be addressed. Therefore,

toxicity testing is being used in conjunction with pollutant specific control procedures to control the discharge of toxic pollutants.

Pursuant to EPA Region I policy, and MADEP's *Implementation Policy for the Control of Toxic Pollutants in Surface Waters*, discharges having a dilution ratio greater than or equal to 100:1 require acute toxicity testing one time per year. Accordingly, the permittee shall perform one acute toxicity test per year on *Ceriodaphnia dubia* (one species) in accordance with **Attachment A** to the draft permit, during September. Test reports shall be submitted prior to October 31st.

F. Nitrogen

It has been determined that excessive nitrogen loadings are causing significant water quality problems in Long Island Sound, including low dissolved oxygen. In December 2000, the Connecticut Department of Environmental Protection (CT DEP) completed a Total Maximum Daily Load (TMDL) for addressing nitrogen-driven eutrophication impacts in Long Island Sound. The TMDL included a Waste Load Allocation (WLA) for point sources and a Load Allocation (LA) for non-point sources. The point source WLA for out-of-basin sources (Massachusetts, New Hampshire and Vermont wastewater facilities discharging to the Connecticut, Housatonic and Thames River watersheds) requires an aggregate 25% reduction from the baseline total nitrogen loading estimated in the TMDL.

The baseline total nitrogen point source loadings estimated for the Connecticut, Housatonic, and Thames River watersheds were 21,672 lbs/day, 3,286 lbs/day, and 1,253 lbs/day respectively (see table below). The estimated current point source total nitrogen loadings for the Connecticut, Housatonic, and Thames Rivers respectively are 13,836 lbs/day, 2,151 lbs/day, and 1,015 lbs/day, based on recent information and including all POTWs in the watershed. The following table summarizes the estimated baseline loadings, TMDL target loadings, and estimated current loadings:

Basin	Baseline Loading[1] (lbs/day)	TMDL Target[2] (lbs/day)	Existing Loading[3] (lbs/day)
Connecticut River	21,672	16,254	13,836
Housatonic River	3,286	2,464	2,151
Thames River	1,253	939	1,015
Totals	26,211	19,657	17,002

The TMDL target of a 25 percent aggregate reduction from baseline loadings is currently being met. In order to ensure that the aggregate nitrogen loading from out-of-basin point

[1] Estimated loading from TMDL (see Appendix 3 to CT DEP "Report on Nitrogen Loads to Long Island Sound", April 1998).
[2] Reduction of 25% from baseline loading.
[3] Estimated current loading from 2004 – 2005 DMR data – see Attachment B.

sources does not exceed the TMDL target of a 25 percent reduction over baseline loadings, EPA intends to include nitrogen-related conditions in permits for existing treatment facilities in Massachusetts and New Hampshire that discharge to the Connecticut, Housatonic and Thames River watersheds. For facilities discharging loads equal greater than 35 lbs/day total nitrogen, permit conditions will require the optimization of nitrogen removal with the existing treatment technology. For existing facilities discharging less than 35 lbs/day, monitoring of nitrogen discharges will be required. This is consistent with the approach applied by the Connecticut Department of Environmental Protection, which applied a threshold of 20 lbs/day (equivalent in impact to a 35 lb/day threshold at facilities upstream in MA and NH) when imposing nitrogen controls on existing facilities. See *Nitrogen Control for Small Sewage Facilities* (CT DEP); *General Permit for Nitrogen Discharges* (CT DEP 2005).

The annual average total nitrogen load from the Monroe WWTF is estimated to be 2.5 lbs/day (based on facility design flow at a nitrogen concentration of 19.6 mg/l, the average of MA secondary treatment facilities). This is well below the threshold of 35 lbs/day. Therefore, the draft permit establishes a requirement for nitrogen monitoring two times per year, in February and August.

VI. Inflow/Infiltration Requirements

Infiltration is groundwater that enters the collection system though physical defects such as cracked pipes, or deteriorated joints. Inflow is extraneous flow entering the collection system through point sources such as roof leaders, yard and area drains, sump pumps, manhole covers, tide gates, and cross connections from storm water systems.

Significant I/I in a collection system may displace sanitary flow, reducing the capacity and the efficiency of the treatment works and may cause bypasses to secondary treatment. It greatly increases the potential for sanitary sewer overflows (SSO) in separate systems, and combined sewer overflows in combined systems.

The draft permit includes requirements for the permittee to control infiltration and inflow (I/I) into the collection system it owns and operates. The permittee shall develop an I/I removal program commensurate with the severity of the I/I in its collection system. In sections of the collection system that have minimal I/I, the control program will logically be scaled down.

The permit standard conditions for ‘Proper Operation and Maintenance’ are found at 40 CFR §122.41(e). These conditions require proper operation and maintenance of permitted wastewater systems and related facilities to achieve permit conditions. Similarly, the permittee has a ‘duty to mitigate’ as stated in 40 CFR §122.41 (d). This requires the permittee to take all reasonable steps to minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment. EPA and MassDEP maintain that an I/I removal program is an integral component of ensuring permit compliance under both of these provisions.

VII. Sludge

The Monroe WWTF generates approximately 9,000 gallons of sludge per year that is transported to the Hoosac Water Quality District in Williamstown, MA for preparation and disposal.

Section 405(d) of the Clean Water Act (CWA) requires that EPA develop technical standards regulating the use and disposal of sewage sludge. These regulations, found at 40 CFR Part 503, regulate the use and disposal of domestic sludge that is land applied, disposed in a surface disposal unit, or fired in a sewage sludge incinerator. Part 503 regulations have a self-implementing provision; however, the CWA requires implementation through permits.

The draft permit has been conditioned to ensure that sewage sludge use and disposal practices meet the CWA Section 405(d) Technical Standards and the 40 CFR Part 503 regulations. In addition, EPA Region I has developed a 72-page document entitled "EPA Region I - NPDES Permit Sludge Compliance Guidance" (November 1999) for use by the permittee in determining the appropriate sludge conditions for the chosen method of sewage sludge use or disposal practices. This guidance document is available on EPA's website at http://www.epa.gov/region1/npdes/permits/generic/sludgeguidance.pdf.

The permittee is required to submit an annual report to EPA and MassDEP by **February 19th** of each year, containing the information specified in the Sludge Compliance Guidance Document for the permittee's chosen method of sludge disposal.

VIII. Essential Fish Habitat Determination (EFH)

Under the 1996 Amendments (PL 104-267) to the Magnusun-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the National Marine Fisheries Services (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat," (16 U.S.C. § 1855(b)).

The Amendments broadly define "essential fish habitat" (EFH) as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," (16 U.S.C. § 1802(10)). "Adverse impact" means any impact which reduces the quality and/or quantity of EFH (50 CFR § 600.910(a)). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Essential fish habitat is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b)(1)(A)). Anadromous Atlantic salmon (*Salmo salar*) is the only managed species with designated EFH within this section of the Deerfield River, which is classified by the State as a cold water fishery. 314 CMR 4.06, Table 5. The Deerfield River has been stocked with juvenile Atlantic salmon for 23 years

(600,000 per year at current rates) as part of the multistate Connecticut River Atlantic Salmon Restoration Program. It is currently unlikely that Atlantic salmon would be found in the vicinity of the discharge, due to the barrier formed by the Deerfield No. 2 Dam located approximately 28 miles downstream, and by other dams located between Deerfield No. 2 and the discharge. *See* MA Division of Fisheries and Wildlife, "Comments on the Low Impact Hydropower Institute's ("LIHI") Pending Application for the proposed LIHI certification of the Deerfield River Hydroelectric Project" (January 28, 2010). Nonetheless EPA has considered the potential effect of this discharge on Atlantic salmon habitat assuming Atlantic salmon may reach this portion of the Deerfield River, i.e. if upstream fish passages are ultimately constructed as contemplated by the FERC license for the Deerfield River Project. FERC (1997).

EPA has concluded that the limits and conditions contained in this draft permit minimize adverse effects to Atlantic salmon EFH for the following reasons:

- This is a re-issuance of an existing permit, and all permitted limits in the draft permit are as or more stringent than those in the current permit;
- The design flow of the facility is low (0.015 mgd) and the dilution factor is high (2,452);
- The facility uses ultraviolet disinfection so that there is no risk of chlorine-related toxicity;
- Acute whole effluent toxicity tests will be conducted one time per year on Ceriodaphnia dubia. Current results of the toxicity tests are in compliance with the permit limits;
- The draft permit contains requirements to comply with all state water quality standards for the protection of fish and fish habitat.

EPA believes the draft permit adequately protects Atlantic salmon EFH, and therefore additional mitigation is not warranted. EPA has submitted the draft permit and fact sheet, along with an EFH letter, to NMFS for review and comment as part of the Magnuson-Stevens consultation process.

IX. Endangered Species Act (ESA)

Section 7(a) of the Endangered Species Act (ESA) of 1973, as amended (the "Act"), grants authority to and imposes requirements upon Federal agencies regarding threatened or endangered species of fish, wildlife, or plants ("listed species") and habitat of such species that have been designated as critical ("critical habitat").

Section 7(a)(2) of the Act requires every Federal agency in consultation with and with the assistance of the Secretary of the Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine species and anadromous fish. The United

States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species.

As the federal agency charged with authorizing the discharges from this facility, EPA has reviewed available habitat information developed by USFWS and NOAA to see if one or more of the federal endangered or threatened species of fish, wildlife, or plants may be present within the influence of the discharge. The only federally listed species known to inhabit the area of the facility discharge is the shortnose sturgeon. The Connecticut River, to which the Deerfield River discharges, is home to one of 20 distinct population segments of the shortnose sturgeon, all of which are listed as endangered. A concentration of shortnose sturgeon has been identified in the Connecticut River at its confluence with the Deerfield River. See NOAA, "Draft Endangered Species Act Section 7 Consultation Biological Opinion (BO) for the Holyoke Hydroelectric Project." There have also been reports of shortnose sturgeon within the Deerfield River.

It is currently unlikely that shortnose sturgeon would be found in the vicinity of the discharge, due to the barrier formed by the Deerfield No. 2 Dam located approximately 28 miles downstream of the discharge, and by other dams located between Deerfield No. 2 and the discharge. *See* discussion of Atlantic salmon EFH, above. Nonetheless EPA has considered the potential effect of this discharge on shortnose sturgeon assuming that shortnose sturgeon may reach this portion of the Deerfield River, i.e. if upstream fish passages are ultimately constructed as contemplated by the FERC license for the Deerfield River Project. FERC (1997).

It is the EPA's opinion that the operation of this facility, as governed by this permit action, is not likely to adversely affect the listed species occurring in the vicinity of the receiving water for the following reasons:

- This is a re-issuance of an existing permit. All permitted limits in the draft permit are as or more stringent than those in the current permit.
- The design flow of the facility is low (0.015 mgd) and the dilution factor is high (2,452);
- The facility uses ultraviolet disinfection so that there is no risk of chlorine-related toxicity;
- Acute whole effluent toxicity tests will be conducted one time per year on Ceriodaphnia dubia. Current results of the toxicity tests are in compliance with the permit limits;
- The draft permit contains requirements to comply with all state water quality standards for the protection of fish and fish habitat.

Based on the relevant information examined, EPA finds that the draft permit limits adequately protect the ESA species. Reissuance of the draft permit is not likely to adversely affect threatened or endangered species or their critical habitat. EPA has submitted the draft permit and fact sheet, along with an ESA letter, to NOAA Fisheries Protected Resources for review and comment as part of the Section 7 consultation process.

The permittee should contact the State regarding a Massachusetts Natural Heritage and Endangered Species Program (NHESP) review. The entire Deerfield River corridor has been identified as priority habitat for rare species under the Massachusetts Endangered Species Act.

X. State Certification Requirements

EPA may not issue a permit unless the Massachusetts Department of Environmental Protection certifies that the effluent limitations included in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards. EPA has requested permit certification by the State pursuant to 40 CFR §124.53 and expects the draft permit will be certified.

XI. Comment Period and Procedures for Final Decision

All persons, including applicants, who believe any condition of the permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period to Susan Murphy, U.S. Environmental Protection Agency, 5 Post Office Square, Suite 100 (OEP06-1), Boston, MA 02109. Any person prior to such date may submit a request in writing for a public hearing to consider the draft permit to EPA and the State Agency. Such requests shall state the nature of the issues to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after the public hearing, if held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and to each person who has submitted written comments or requested notice.

XII. Contacts

Requests for additional information or questions concerning the draft permit may be addressed Monday through Friday, between the hours of 9:00 a.m. and 5:00 p.m., to :

Susan Murphy
U.S. Environmental Protection Agency
5 Post Office Square, Suite 100 (OEP06-1)
Boston, MA 02109
Telephone: (617) 918-1534 Fax: (617) 918-0534
EMAIL: murphy.susan@epa.gov

Kathleen Keohane
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627 Main Street, 2nd Floor
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Telephone: (508)-767-2856 Fax: (508) 791-4131
Kathleen.Keohane@state.ma.us

Stephen Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

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Date

Attachments:
Figure 1 – Location Map
Table 1 - Two year facility DMR data

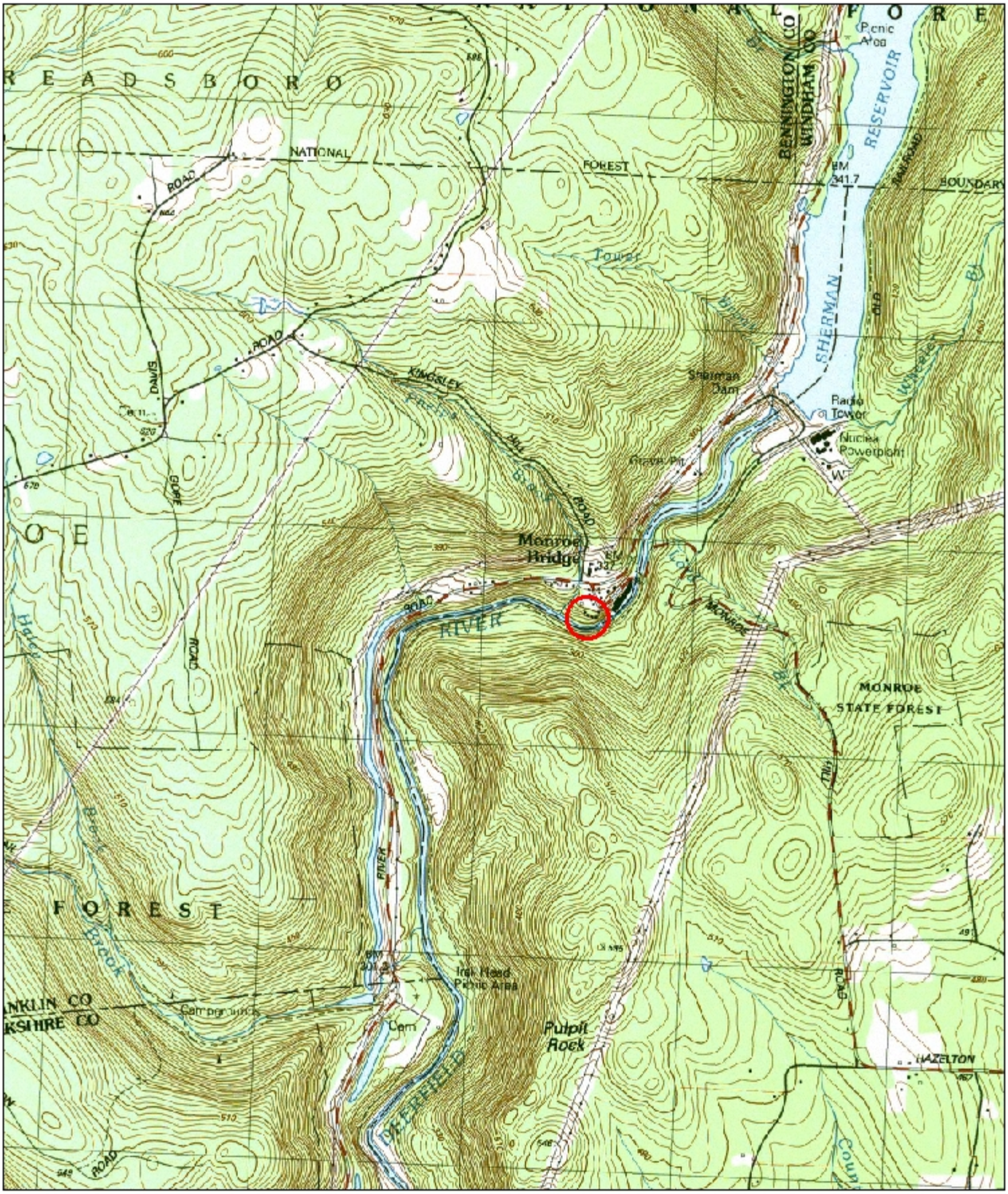

Figure 1. Location Map
Monroe WWTF
NPDES Permit No. MA0100188

Facility location

N

1 inch = 2,000 feet

Monroe Wastewater Treatment Facility
NPDES Permit No. MA 0103110

Table 1
Two year facility DMR Data

	Flow	BOD			TSS			pH		fecal colilform	
	12mo avg (MGD)	avg (mg/l)	max (mg/l)	% rem	avg (mg/l)	max (mg/l)	% rem	min	max	avg (cfu/100ml)	max (cfu/100ml)
Limits:	0	30	45	85	30	45	85	6.5	8.3	200	400
Sampling Frequency:	CONTINUOUS	1/MONTH			1/MONTH			1/MONTH		1/MONTH	
November 2007	0.01	16.3	16.3	85	5.8	5.8	88	6.5	6.8		
December	0.01	13.5	13.5	92	5	5	88	6.5	6.8		
January 2008	0.01	12	12	92	7	7	90.2	6.5	6.9		
February	0.01	11.5	11.5	92	6.4	6.4	84	6.5	7		
March	0.02	9.7	9.7	95	2.3	2.3	96	6.5	6.7		
April	0.02	10.7	10.7	95	4.7	4.7	97	6.5	6.7	11	11
May	0.01	17	17	95	16	16	93	6.4	6.6	8	8
June	0.01	10.5	10.5	96	4.2	4.2	98	6.4	6.6	84	84
July	0.01	19.2	19.2	94	15	15	93	6.7	7	22	22
August	0.01	19	19	93	11	11	95	6.3	7	62	62
September	0.01	13	13	95	8	8	91	6.3	7	40	40
October	0.01	11.4	11.4	92	7.6	7.6	80.5	6.4	7.1	17	17
November	0.01	9.7	9.7	95	4.3	4.3	97	6.7	7		
December	0.01	8.5	8.5	94	2.9	2.9	96	6.6	7		
January 2009	0.01	12	12	93	4.4	4.4	95.5	6.7	7.6		
February	0.01	11	11	94	6	6	95	6.9	7.2		
March	0.02	13	13	92	7	7	95	7	7.2		
April	0.01	19	19	91	4	4	97.5	6.5	7.2	250	250
May	0.01	10	10	93	7.3	7.3	97	6.2	6.8	12	12
June	0.01	8.3	8.3	95	8	8	90	6.4	7.1	0	0
July	0.00	8.5	8.5	93	7	7	94	6.5	7	6	6
August	NODI	9.8	9.8	96	7	7	78	6.5	7.1	17	17
September	NODI	9	9	94	8	8	91	6.5	6.8	200	200
October	0.01	9	9	99.8	5	5	94	6.2	7.1	11	11
Average:	0.01	12.2		93.6	6.8		92.2			52.86	
Maximum:			19.20			16.00		6.2	7.60		250.00

Response To Comments

Monroe Wastewater Treatment Facility
NPDES #MA0100188

On August 4, 2010, the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) public noticed a Draft Permit (MA0100188) for the Monroe Wastewater Treatment Facility. The following are summaries of and responses to all comments received and descriptions of any changes made to the public-noticed permit.

1. The National Marine Fisheries Services, in a letter dated September 17, 2010, responded to EPA's request for an informal consultation under the Endangered Species Act. NMFS's conclusion states:

"Based on the analysis that listed species are extremely unlikely to occur in the action area, NMFS is able to concur with EPA's determination that the authorization of discharges associated with the Monroe WWTF through the reissuance of a NPDES permit to the Town of Monroe is not likely to adversely affect shortnose sturgeon. Therefore, no further consultation pursuant to Section 7 of the ESA is required."

Response # 1: NMFS's concurrence is noted for the record.

2. MassDEP, in an email dated September 9, 2010, noted the following:

The Whole Effluent Toxicity effluent limit of $LC_{50} \geq 100\%$ appears to be a typographical error. The correct limit as stated in the previous permit and consistent with the state policy is $LC_{50} \geq 50\%$.

Reponse #2: MassDEP is correct. The MassDEP *Implementation Policy for the Control of Toxic Pollutants in Surface Waters*, cited in the Fact Sheet, establishes a limit of $LC_{50} \geq 50\%$ for discharges with dilution greater than 100. The calculated dilution factor for the Monroe discharge is 2,452. A limit of $LC_{50} \geq 50\%$ was set in the previous permit and was not intended to be changed in this permit reissuance. The Final Permit has been revised to contain the correct limit of $LC_{50} \geq 50\%$ in section I.A.1, and footnote 9 has been amended to be consistent with the corrected effluent limit.

3. Other changes

The units for reporting monitoring results for Ammonia Nitrogen, Total Kjeldahl Nitrogen, Nitrate and Nitrite in section I.A.1 have been revised from kg/day to lbs/day, for consistency with the Long Island Sound TMDL load allocation analysis for which this data is being collected.