APPENDIX D – SUMMARY OF NPDES PERMITTING INFORMATION
CHICOPEE RIVER BASIN

Table D1. Chicopee River Basin Commercial and Industrial Surface Wastewater Discharges

PERMITTEE **Concrete Block Insulating System Inc.**	**NPDES #** **MAG250121**	Non-segment Coys Brook
The Concrete Block Insulating System Inc. is authorized (MA250121) issued in September 2000 to discharge from their facility in West Brookfield a flow of 0.040 gpd average monthly and 0.030 gpd daily average of non-contact cooling water via outfall #001 to wetlands leading to Coys Brook and the Quaboag River (36-14) in the Chicopee River watershed. The source of water for the facility is municipal. This permit expired 4/25/2005.		

PERMITTEE **Connecticut Valley Sanitary Waste Disposal, Inc.**	**NPDES #** **MA0033847**	**SEGMENT** **MA36-41**
The Connecticut Valley Sanitary Waste Disposal, Inc. is authorized (MA0033847) issued in September 1994 to discharge from the Chicopee Sanitary Landfill a flow of 144,000 GPD average monthly and 290,000 GPD daily maximum of uncontaminated groundwater via outfall #001 to Fuller Brook. The discharge pH limit is 6.5 to 8.3 and conductivity is to be reported. This permit also allows discharge of stormwater from outfalls SW1, SW2, SW3, SW4 and SW5 to Fuller Brook. A number of parameters should be reported on including Acute Whole Effluent Toxicity and LC50. This permit was switched to a multisector general permit (MAR05C657). This permit was terminated on May 12,2005. <u>Effluent</u> Whole effluent toxicity tests have been conducted on the Connecticut Valley Sanitary Waste Disposal, Inc. treated effluent. Between May 2000 and September 2004, 9 valid tests were conducted using *C. dubia* and *P. promelas*. The LC_{50} using *C. dubia* were all $\geq$100% effluent (n=9). The LC_{50} using *P. promelas* were all $\geq$100% effluent (n=9). Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between January 2001 and September 2004 ranged from <4.00 mg/L to 17.000 mg/L (n=6). Total Residual Chlorine (TRC) concentrations reported in the whole effluent toxicity reports between May 2000 and September 2004 is <0.02 mg/L (n=1). <u>Ambient</u> The Connecticut Valley Sanitary Waste Disposal, Inc. staff collected water from the Fuller Brook just upstream of New Lombard Road for use as dilution water in the facility's whole effluent toxicity tests. Between May 2000 and September 2004, survival of *C. dubia* exposed (48 hours) to the Fuller Brook water was all 100% (n=9). Between May 2000 and September 2004 survival of *P. promelas* exposed (48 hours) to the Fuller Brook water ranged from 95 to 100% (n=9).		

PERMITTEE **Consolidated Edison Energy Massachusetts, Inc. (CEEMI)**	**NPDES #** **MA0035670, MA0035777, MA0035815, MA0035823, MA0035831**	**Segments** **MA36-25, MA36-24, MA36-23,**
The Consolidated Edison Energy Massachusetts, Inc. (CEEMI) is authorized (MA0035670, MA0035777, MA0035815, MA0035823, MA0035831 issued in September 1999) to discharge from the Dwight Station(MA0035777) thrust bearing leakage via outfall #001, non-contact cooling water via outfall #002, and wheelpit drainage via outfall #003 to the Chicopee River (MA36-25); to discharge from Indian Orchard Station (MA0035815) turbine bearing seal leakage via outfall #001 to the Chicopee River (MA36-24); to discharge from Red Bridge Station (MA0035823) thrust bearing leakage via outfall #001, and floor drainage via outfall #002 to the Chicopee River (MA36-23); and to discharge from Putts Bridge Station(MA0035831) thrust bearing leackage via outfall #001, and floor drainage via outfall #002 to the Chicopee River (MA36-24).		

PERMITTEE Doncasters Inc.	NPDES # MAG250947	SEGMENT MA36-39
Doncasters Inc. is authorized (MA250947**)** issued in December 2000 to discharge from the Storms Forge Division in Springfield a flow of 0.057 MGD average monthly and 0.060 MGD daily average of non-contact cooling water (NCCW) to Poor Brook in the Chicopee River watershed. They conducted one whole effluent toxicity tests with *C. dubia*. The EPA granted them a waiver to use soft reconstituted freshwater as their diluent water. The non-contact water source is municipal water.		

PERMITTEE Double-A-Plastics Co., Inc.	NPDES # MAG250027	SEGMENT MA36-21
Double-A-Plastics Co., Inc. is authorized (MAG250027) issued in June 2003 to discharge from their facility in Monson a flow of 173,000 gal average monthly of non-contact cooling water (NCCW) via outfall #001 to Chicopee Brook (MA36-21). The source of water for the facility is municipal.		

PERMITTEE Eastern Etching & Manufacturing Company	NPDES # MA0000647	SEGMENT MA36-25
The Eastern Etching & Manufacturing Company is authorized (MA0000647) issued in September 1995 to discharge from their facility in Chicopee a flow of 3500 GPD average monthly and 7000 GPD daily maximum of treated wastewater from wire rinsing via outfall #001 to the Chicopee River. The facility's whole effluent toxicity limit is $LC_{50} \geq 50\%$ effluent using *Ceriodaphnia dubia* and *Pimephales promelas* as test species on a biannual basis. There are also limits on total aluminum, chromium 6+, fluoride, total nickel, total zinc, total copper, total chromium, total suspended solids, cyanide, iron, oil and grease, and TT0. Effluent Whole effluent toxicity tests have been conducted on the Eastern Etching & Manufacturing Company treated effluent. Between May 2000 and May 2002, 5 valid tests were conducted using *C. dubia* and *P. promelas*. The LC_{50} using *C. dubia* ranged from 56.10% to >100% effluent (n=5). The LC_{50} using *P. promelas* were all >100% (n=5). All of the tests met the limit of $\geq$50%. Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between May 2000 and May 2002 ranged from 0.170 mg/L to 3.400 mg/L (n=5). Total Residual Chlorine (TRC) concentrations reported in the whole effluent toxicity reports between May 2000 and May 2002 ranges from <0.020 to 0.150 mg/L (n=5). Between May 2000 and May 2002 only once on May 10, 2000 was the total aluminum limited exceeded when the effluent had a aluminum concentration of 5.3 mg/L. Ambient The Eastern Etching & Manufacturing Company staff collected water from the Chicopee River approximately 100 feet upstream of Eastern Etching east parking lot, off of Riverview Terrace, for use as dilution water in the facility's whole effluent toxicity tests. Between May 2000 and May 2002, survival of *C. dubia* exposed (48 hours) to the Chicopee River water ranged from 90 to 100% (n=5). Between May 2000 and May 2002 survival of *P. promelas* exposed (48 hours) to the Chicopee River water was all 100% (n=5). Hardness ranged from 19.00 mg/L to 29.00 mg/L (n=5).		

PERMITTEE Massachusetts Division of Fisheries and Wildlife	NPDES # MA0110043	SEGMENT MA36-09
The Massachusetts Division of Fisheries and Wildlife is authorized (MA0110043 issued in December 2001) to discharge from the Charles L. McLaughlin Trout Hatchery a flow of 7.0 MGD average monthly and 8.1 MGD daily maximum of treated effluent via outfall #001 to the Swift River. The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and C-NOEC $\geq$ 33% effluent using *Ceriodaphnia dubia* as a test species on a quarterly basis when formalin is being used. The total phosphorus limit is 1.0 mg/L daily maximum. The facility has not used formalin since 1998 and therefore not conducted any whole effluent toxicity tests.		

PERMITTEE	NPDES #	SEGMENT
Polymer Injection Molding	**MAG250376**	**MA36-21**
Montec Plastics is authorized (MAG250376 issued in December 2000) to discharge from their facility in Monson a flow of 0.375 MGD daily maximum of non-contact cooling water (NCCW) via two outfalls to the Chicopee Brook. On January 1, 2001 the company name changed to Polymer Injection Molding, A Division of Polymer Corporation. The source of water for the facility is municipal.		

PERMITTEE	NPDES #	SEGMENT
Quabbin Wire & Cable Co. Inc.	**MA0030571**	**MA36-06**
The Quabbin Wire & Cable Co. Inc. is authorized (MA0030571 issued in August 1997) to discharge from their facility in Ware contact cooling water via outfall #003 to the Ware River. There is no flow limit although it should be monitored daily and the maximum daily temperature limit is 83 degrees Fahrenheit. The permit also stipulates the quarterly monitoring of arsenic, copper, lead, zinc BIS (2-Ethyl-Hexayl) Phthalate. PH should also be between 6.8 and 8.3 and monitoring quarterly.		

PERMITTEE	NPDES #	SEGMENT
Solutia Inc.	**MA0001147**	**MA36-24**
Solutia Inc. is authorized (MA0001147 issued in December 1993) to discharge from their facility in Springfield a flow of 4.0 MGD average monthly and 6.0 daily maximum of non-contact cooling water (NCCW) via outfall #017 to the Chicopee River with a maximum daily temperature of 90 degrees Fahrenheit; a flow of 0.4 MGD average monthly and 0.5 MGD daily maximum of non-contact cooling water (NCCW) via outfall #009 to the Chicopee River with a maximum daily temperature of 90 degrees Fahrenheit.		

PERMITTEE	NPDES #	SEGMENT
William E. Wright Limited Partnership	**MAG250031**	**MA36-15**
The William E. Wright Limited Partnership is authorized (MAG250031 issued in January 2005) to discharge from their facility in West Warren a flow of 3,000 MGD average monthly and 2110 MGD daily maximum of surface water discharge and non-contact cooling water to the Quaboag River (MA36-15). Recently in December 2006 Wm. Wright announced that they were closing their operations in Warren. William Wright is currently closed and no longer discharging (McElroy 2007). Wm Wright formerly had an individual permit #MA0001074.		

Table D2: Chicopee River Basin Municipal and Sanitary Surface Wastewater Discharges

PERMITTEE	NPDES #	SEGMENT
Barre Wastewater Treatment Plant (WWTP)	**MA0103152**	**MA36-04**

The Barre Wastewater Treatment Plant (WWTP) is authorized (MA0103152) issued in November 2005) to discharge from this facility a flow of 0.3 MGD average monthly of treated effluent via outfall #001 to the Ware River. The facility's whole effluent toxicity limit is $LC_{50} \geq 100\%$ effluent using *Ceriodaphnia dubia* test species on a quarterly basis. The total phosphorus limit is 1.0 mg/L average monthly.

This permit includes limits on BOD5, total suspended solids (TSS), pH, fecal coliform bacteria, total phosphorus and total copper. The permit stipulates the reporting of flow, total kjeldahl nitrogen and nitrite and nitrate. The total phosphorus limit of 1.0 mg/L is to be met within 3 years of the effective date of the permit. This permit also does not allow the use of chlorine.

Parameter	Average Monthly	Average Weekly	Maximum Daily
BOD_5	30 mg/L (75 lbs/day)	30 mg/L (876 lbs/day)	
TSS	30 mg/L (75 lbs/day)	30 mg/L (876 lbs/day)	
pH	6.5-8.3		
Fecal coliform bacteria	200 cfu/100 mL		400 cfu/100 mL
TP	1.0 mg/L		

PERMITTEE	NPDES #	SEGMENT
City of Chicopee	**MA0101508**	**MA36-24, MA36-25, MA36-38**

The City of Chicopee is authorized (MA0101508 issued in September 1999) to discharge from the Chicopee Water Pollution Control a flow of 15.5 MGD average monthly of treatment plant effluent via outfall #010 to the Connecticut River, combined sewage overflow to the Chicopee River, and stormwater runoff that has passed through an oil/water separator to Cooley Brook. The facility's whole effluent toxicity limit is $LC_{50} \geq 100\%$ effluent using *Pimephales promelas* as a test species on a quarterly basis. The TRC limit between April 1 and October 31 is 0.89 mg/L average weekly and 1.0 mg/L daily maximum.

The Chicopee Water Pollution Control has fourteen CSOs in the Chicopee River (MA36-24). There are currently ten CSO's in the Chicopee River (MA36-25). Previously there were twelve CSOs in the Chicopee River (MA36-25) segment. CSO #023 was plugged in early 2002 while CSO #025 was plugged on June 29, 2005. Previously the twelve CSOs in this segment were estimated to be discharging 165 MG/year.

PERMITTEE Town of Hardwick	NPDES # MA01001021	SEGMENT MA36-05

The Town of Hardwick is authorized (MA0100102 issued in April 2006) to discharge from the Hardwick Water Pollution Control Facility in Gilbertville a flow of 0.23 MGD average monthly of treated effluent via outfall #001 to the Ware River. The facility's whole effluent toxicity limit is $LC_{50} \geq 100\%$ effluent using *Ceriodaphnia dubia* as a test species on a biannual basis. The permit stipulates the reporting of total phosphorus, TKN and nitrite + nitrate nitrogen.

Parameter	Average Monthly	Average Weekly	Maximum Daily
Flow	0.23 MGD		
BOD	30 mg/L (58lbs/day)	45 mg/L (86bs/day)	
TSS	30mg/L (58lbs/day)	45 mg/L (56 lbs/day)	
pH	6.5-8.3		
Fecal Coliform (April 1- October 31)	200 cfu/100mL		400 cfu/100mL
TRC (April 1- October 31	0.6 mg/L		1.0 mg/L
Total Phosphorus	1.0 mg/L		

Effluent

Whole effluent toxicity tests have been conducted on the Hardwick Water Pollution Control Facility treated effluent. Between May 2000 and November 2005, 12 valid tests were conducted using *C. dubia* and 7 using *P. promelas*. The LC_{50} using *C. dubia* was all >100% effluent (n=12), except for May 2001 which was 93.90%, and November 2001 and 2002 which were both 70.70%. The LC_{50} using *P. promelas* were all >100% (n=7).

Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between May 2000 and November 2005 ranged from < 0.100 mg/L to 38.3 mg/L (n=11).

Total Residual Chlorine (TRC) concentrations reported in the whole effluent toxicity reports between May 2000 and November 2005 ranges from 0.010 to < 0.050 mg/L (n=10).

Ambient

The Harwick Pollution Control Facility staff collected water from the Ware River approximately 50 yards above the outfall at the Gilbertville and Wheelwright facilities, for use as dilution water in the facility's whole effluent toxicity tests. Between May 2000 and November 2005, survival of C. dubia exposed (48 hours) to the Ware River water was all 100% (n=12). Between May 2000 and May 2003, survival of P. promelas exposed (48 hours) to the Ware River water was all 100% (n=7). Hardness ranged from 12.0 mg/L to 61.00 mg/L (n=11).

PERMITTEE Town of Hardwick	NPDES # MA0102431	SEGMENT MA36-05

The Town of Hardwick is authorized (MA0102431 issued in April 2006) to discharge from the Hardwick Water Pollution Control Facility in Wheelwright a flow of 0.043 MGD average monthly of treated effluent via outfall #001 to the Ware River. The facility's whole effluent toxicity limit is $LC_{50} \geq 100\%$ effluent using *Ceriodaphnia dubia* as a test species on a biannual basis. The TRC limit between April 1 and October 31 is 1.0 mg/L daily maximum. The town has hired an engineer to implement a flow paced sodium hypochlorite disinfection system. The permit stipulates the reporting of total phosphorus, dissolved phosphorus, TKN and nitrite + nitrate nitrogen.

Parameter	Average Monthly	Average Weekly	Maximum Daily
Flow	0.043 MGD		
BOD5	30 mg/L (11lbs/day)	45 mg/L (16lbs/day)	
TSS	30mg/L (11lbs/day)	45 mg/L (16 lbs/day)	
pH	6.5-8.3		
Fecal Coliform (April 1-October 31)	200 cfu/100mL		400 cfu/100mL
TRC			1.0 mg/L

Effluent

Whole effluent toxicity tests have been conducted on the Hardwick Water Pollution Control Facility treated effluent. Between May 2000 and November 2005, 12 valid tests were conducted using *C. dubia* and 7 using *P. promelas*. The LC_{50} using *C. dubia* ranged from 35.4% to >100% effluent (n=12). Of the 12 tests, four did not meet the limit of $\geq$100%. The LC_{50} using *P. promelas* were all >100% (n=7) with the exception of May 2002 which was 57.40%. Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between May 2000 and November 2005 ranged from <0.100 mg/L to 16.000 mg/L (n=12).

Total Residual Chlorine (TRC) concentrations reported in the whole effluent toxicity reports between May 2000 and November 2005 ranges from <0.020 to 0.180 mg/L (n=12). All the TRC tests met the required limit of 1.0 mg/L daily maximum.

Ambient

The Hardwick Water Pollution Control Facility staff collected water from the Ware River approximately 50 yards above the outfall at the Gilbertville and Wheelwright facilities, for use as dilution water in the facility's whole effluent toxicity tests. Between May 2000 and November 2005, survival of *C. dubia* exposed (48 hours) to the Ware River water was all 100% (n=12). Between May 2000 and May 2003, survival of *P. promelas* exposed (48 hours) to the Ware River water ranged from 95 to 100% (n=7). Hardness ranged from 12.0 mg/L to 27.00 mg/L (n=11).

PERMITTEE Town of Ludlow	NPDES # MA0101338	SEGMENT MA36-24

The Town of Ludlow is authorized (MA0101338issued in August 1985) to discharge from the Ludlow Sewage Collection System combined sewer overflow via outfall #003, #004, #007, #008, #009 to the Chicopee River. This permit expired in 1990 and was not renewed. As of June 2000 the stautus of the CSO's was as follows:

CS0#003, Motyka St Blocked off December 1998
CSO#004a, Manhole Blocked off December 1998
CSO#004b; Box Blocked off December 1998
CSO #005- South, Primary Plant- Side Spill Weir, Active
CSO#007- Albank driveup Blocked off December 1998
CSO#008- State St @ East St. Blocked off December 1983
CSO#009A- State St. @ Bristol Blocked off December 1998
CSO#009B- State St @Duke St Storm drain only, no longer CSO.
CSO#010 State St @ Essex St Blocked off December 1998

Since the permit's expiration the Town of Ludlow has worked with Springfield to craft a Long Term CSO Plan. CSO#005 is the only CSO currently active and is scheduled to be eliminated in 2009.

PERMITTEE Town of North Brookfield	NPDES # MA0101061	SEGMENT MA36-28

The Town of North Brookfield is authorized (MA0101061 issued in March 2007) to discharge from the North Brookfield Wastewater Treatment Facility (WWTF) a flow of 0.76 MGD average monthly of treated effluent via outfall #001 to Dunn Brook. The facility's whole effluent toxicity limit is $LC_{50} \geq 100\%$ effluent using *Ceriodaphnia dubia* and *Pimephales promelas* as test species on a quarterly basis. The permit limit for CNOEC is 100% effluent tested on a quarterly basis. There are also limits on fecal coliform bacteria , pH, copper, zinc and aluminum and seasonal limits on ammonia-nitrogen, total phosphorus, BOD, total suspended solids and dissolved oxygen. The permit also stipulates the quarterly reporting of TKN and nitrite + nitrate.

Parameter	Average Monthly	Average Weekly	Maximum Daily
BOD and TSS each (May 1-October 31)	15 mg/L (95lbs/day)	22 mg/L (139 lbs/day	
BOD and TSS each (November 1 – April 30)	30 mg/L (190lbs/day)	45 mg/L (285lbs/day)	
Ammonia Nitrogen (May 1-October 31)	1.0 mg/L (6.3 lbs/day)	1.5 mg/L (9.5lbs/day)	
Ammonia Nitrogen (November 1 – April 30)	5.4 mg/L (34.3lbs/day)	Report	
Total Phosphorus (May 1-October 31)	0.2 mg/L (6.3lbs/day)	1.0 mg/L (9.5lbs/day)	
Total Phosphorus (November 1 – April 30	Report		
Fecal coliform bacteria	200 cfu/ml		400 cfu/ml
Copper	5.2 ug/L		7.3 ug/L
Zinc	66.6 ug/L		66.6 ug/L
Aluminum	87 ug/L		750 ug/L
Dissolved Oxygen (May 1-October 31)	>5.0 mg/L	>5.0 mg/L	

Effluent

Whole effluent toxicity tests have been conducted on the North Brookfield Wastewater Treatment Facility (WWTF) treated effluent. Between July 2000 and February 2006, 23 valid chronic tests were conducted using *C. dubia* and 25 using *P. promelas.* The chronic whole effluent toxicity tests using *C. dubia* were all >100% effluent (n=23) with the exception of five. January 2001 and February 2005 were both 50.00%, and July 2002 was 12.50%. April 2001 had poor reproduction in 6.25% effluent, so the CNOEC was reported as <6.25%. November 2004 had poor reproduction in 12.5% effluent. The chronic whole effluent toxicity tests using *P. promelas* were all >100% (n=18) with the exception of July 2001 which was 25.00%. Results of the LC_{50} were all 100% effluent.

Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between July 2000 and February 2006 ranged from <0.100 mg/L to 3.100 mg/L (n=26).

Total Residual Chlorine (TRC) concentrations reported in the whole effluent toxicity reports between July 2000 and February 2006 ranges from <0.020 to 0.130 mg/L (n=26).

Ambient

The North Brookfield Wastewater Treatment Facility (WWTF) staff collected water from Forget-Me-Not Brook (MA36-18) approximately 10 feet north of East Brookfield Road, for use as dilution water in the facility's whole effluent toxicity tests. Between July 2000 and February 2006, survival of *C. dubia* exposed (approximately 7 days) to the Chicopee River water ranged from 80 to 100% (n=23). Between July 2000 and February 2001 survival of *P. promelas* exposed (approximately 7 days) to the Chicopee River water ranged from 63 to 100% (n=23). Three tests did not meet the regulations requirement, $\geq$75%.

Hardness ranged from 20.00 mg/L to 64.00 mg/L (n=26).

PERMITTEE Town of Palmer	NPDES # MA0026891	

The Town of Palmer is authorized (MA0026891 issued in March 1979) to discharge from the Dan Wesson firearms Company a flow of 5,000 GPD average monthly of processed wastewater via outfall #001 to the Chicopee River.

This company is out of business but the permit was listed as active as of March 15, 2007.

PERMITTEE Town of Palmer	NPDES # MA0101168	SEGMENT MA36-22, MA36-17, MA36-07, MA36-06, MA36-10

The Town of Palmer is authorized (MA0101168 issued in September 2000) to discharge from the Palmer Water Pollution Control Facilities a flow of 5.6 MGD average monthly of treated effluent via outfall #027 to the Chicopee River and via CSO's to the Quaboag River, the Ware River, and the Swift River. The facility's whole effluent toxicity limit is $LC_{50} \geq 100\%$ effluent using *Ceriodaphnia dubia* as a test species on a quarterly basis. The TRC limit between April 1 and October 31 is 0.11 mg/L average monthly and 0.20 mg/L daily maximum. The total phosphorus limit between May 1 and October 31 is 1.0 mg/L average monthly and 2.0 average weekly. There are also limits on BOD, total suspended solids, fecal coliform bacteria, pH, copper, and aluminum. Numerous CSO's are also included in this permit.

Parameter	Average Monthly	Average Weekly	Maximum Daily
BOD	30 mg/L (1400lbs/day)	45mg/L (2100lbs/day)	report
TSS	30 mg/L (1400lbs/day)	45mg/L (2100lbs/day)	report
Fecal coliform bacteria (April 1-October 15)	200 cfu/ml		400 cfu/ml
Copper Total Recoverable	25 ug/L		32 ug/L
Aluminum	905 ug/L		report

Effluent

Whole effluent toxicity tests have been conducted on the Palmer Water Pollution Control Facility treated effluent. Between July 2000 and March 2006, 22 valid chronic tests were conducted using *C. dubia.* Results of the chronic whole effluent toxicity tests using *C. dubia* ranged from 6.25% to $\geq$100% effluent (n=22). June 2001 showed a significant difference in reproduction for 25% effluent. The LC_{50}'s were all 100% effluent (n=24) with the exception of September 2004, which was 33.00%.

Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between July 2000 and March 2006 ranged from <0.100 mg/L to 19.000 mg/L (n=23).

Total Residual Chlorine (TRC) concentrations reported in the whole effluent toxicity reports between July 2000 and March 2006 ranges from <0.020 to 0.100 mg/L (n=24).

Ambient

The Palmer Water Pollution Control Facilities staff collected water from the Ware River about 500 feet from the railroad tracks, about half a mile from where the Ware River and the Quaboag River converge, for use as dilution water in the facility's whole effluent toxicity Ware. Between July 2000 and March 2006, survival of *C. dubia* exposed (approximately 7 days) to the Ware River water ranged from 80 to 100% (n=23).

Hardness ranged from 12.00 mg/L to 26.00 mg/L (n=23).

PERMITTEE Town of Spencer	NPDES # MA0100919	SEGMENT MA36-20

The Town of Spencer is authorized (MA0100919 issued in February 2003) to discharge from the Spencer Wastewater Treatment Plant (WWTP) a flow of 1.08 MGD average monthly of treated effluent via outfall #001 to Cranberry Brook. The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and C-NOEC $\geq$ 89% effluent using *Ceriodaphnia dubia* as a test species on a quarterly basis. The TRC limit 12 ug/L average monthly and 21 ug/L daily maximum. There are seasonal limits on BOD, TSS, ammonia-nitrogen, total phosphorus and dissolved oxygen. The permit includes limits on fecal coliform bacteria, pH and copper along with stipulating the reporting of TKN and nitrite + nitrate nitrogen.

Parameter	Average Monthly	Average Weekly	Maximum Daily
BOD and TSS each (May 1-October 31)	5.6 mg/L (50lbs/day)	7.5 mg/L(68lbs/day)	
BOD and TSS each (November 1 – April 30)	30 mg/L (270lbs/day)	45 mg/L (405 lbs/day)	
Ammonia Nitrogen (May 1-October 31)	0.56 mg/L (5.0 lbs/day)	0.84 mg/L (7.5lbs/day)	
Ammonia Nitrogen (November 1 – April 30)	8.5 mg/L (76 lbs/day)	Report	
Total Phosphorus (May 1-October 31)	0.3 mg/L (2.7 lbs/day)	Report	
Total Phosphorus (November 1 – April 30	0.75 mg/L (6.8 lbs/day)		
Dissolved Oxygen (May 1-October 31)	>6.0 mg/L	>6.0 mg/L	
Cooper	4 ug/L		5 ug/L
Fecal coliform bacteria (May 1-October 31)	200 cfu/ml		400 cfu/ml

The total phosphorus limit of 0.3 mg/L between May 1 and October 31 is an interim limit, ultimately a 0.2 mg/L limit of total phosphorus average monthly (1.8 lb/day) is to be imposed. A recent optimization study at the treatment plant generally failed to meet the stricter 0.2 mg/L limit and the permit calls for a phosphorus reduction feasibility study to be submitted. The EPA has also issued an Administrative Order due to copper concentrations in the plant's effluent that exceed the permitted value. A report outlining options to reduce cooper in the plants effluent required by the administrative order was recently written (Wright-Pierce, 2007). The draft NPDES permit issued August 17, 2006 has an average effluent copper discharge limit of 10.3 ug/L and a daily maximum of 15.3 ug/L. The current interim copper limits for the plant are 73 ug/L monthly average and 79 ug/L daily maximum concentration.

Effluent

Whole effluent toxicity tests have been conducted on the Spencer Wastewater Treatment Plant (WWTP) treated effluent. Between May 2000 and February 2006, 22 valid chronic tests were conducted using *C. dubia.* The chronic whole effluent toxicity tests using *C. dubia* were all >100% effluent (n=22). Results of the LC_{50} were all > 100% effluent (n=24).

Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between May 2000 and February 2006 ranged from <0.075 mg/L to 0.493 mg/L (n=24). Total Residual Chlorine (TRC) concentrations reported in the whole effluent toxicity reports between May 2000 and February 2006 ranges from <0.020 to 0.050 mg/L (n=24).

Ambient

The Spencer Wastewater Treatment Plant (WWTP) staff collected water from the Cranberry River at the South Spencer Road Crossing for use as dilution water in the facility's whole effluent toxicity tests. Between May 2003 and February 2006, survival of *C. dubia* exposed (approximately 7 days) to the Cranberry River water ranged from 70 to 100% (n=12). Only one test did not meet the $\geq$75% requirement. Hardness measured between May 2003 and February 2006 ranged from 15.00 mg/L to 44.00 mg/L (n=12).

PERMITTEE Springfield Water and Sewer Commission	NPDES # MAG640022	SEGMENT Connects to MA36-42

The Springfield Water and Sewer Commission is authorized (MAG640022 issued in February 2001) to discharge water treatment plant effluent from the Ludlow Reservoir to Higher Brook.

PERMITTEE Springfield Water and Sewer Commission	NPDES # MA01033312	SEGMENT MA36-24
The Springfield Water and Sewer Commission is authorized (MA010331 issued 17 June 2003) to discharge from 24 Combined Sewer Overflows discharges serial numbers: 007,008,010 – 019, 034-037, 043- 046, 048 and 049 to the Connecticut River, Chicopee River and Miller River. CSOs #034-037 , 043 and 044 discharge to the Chicopee River (MA36-24). The estimated discharge from these CSOs is 23 MG/year.		

PERMITTEE Town of Ware	NPDES # MA0100889	SEGMENT MA36-06

The Town of Ware is authorized (MA0100889 issued in September 2000) to discharge from the Ware Wastewater Treatment Plant (WWTP) a flow of 1.0 MGD average monthly of treated effluent via outfall #001 to the Ware River. The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and C-NOEC > 7% effluent using *Ceriodaphnia dubia* as a test species on a quarterly basis. There are seasonal limits on fecal coliform bacteria, total residual chlorine, total ammonia (as N), total posphorus. There are limits on BOS, TSS pH and total copper. The permit stipulates the reporting of TKN and nitrite + nitrate.

Parameter	Average Monthly	Average Weekly	Maximum Daily
BOD and TSS each	25 mg/L (208 lbs/day)	25 mg/L (208 lbs/day)	
Fecal coliform bacteria (April 1-October 31)	200 cfu/ml		400 cfu/ml
Ammonia Nitrogen (June-1 October 31)	1.0 mg/L	1.0 mg/L	1.5 mg/L
Total Residual Chlorine (April-1 October 31)	160 ug/L		277 ug/L
Total Phosphorus (April 1-October 31)	1.0 mg/L	1.0 mg/L	1.5 mg/L
Total Phosphorus (November 1 – April 30	Report		
Dissolved Oxygen (May 1-October 31)	>6.0 mg/L	>6.0 mg/L	
Cooper	41 ug/L		55 ug/L

Effluent

Whole effluent toxicity tests have been conducted on the Ware Wastewater Treatment Plant (WWTP) treated effluent. Between July 2000 and May 2006, 24 valid chronic tests were conducted using *C. dubia.* The chronic whole effluent toxicity tests using *C. dubia* ranged between <6.25% and >100% effluent (n=24). Of the 24 tests, 16 did not meet the required limit of >7%. TheJanuary 2001 test and the tests from November 2002 to May 2006 were all $\leq$6.25%. Results of the LC_{50} ranged from 71.00% to 100% effluent. Five of the 24 tests did not meet the required limit.

Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between July 2000 and May 2006 ranged from <0.075 mg/L to 12.500 mg/L (n=23).

Total Residual Chlorine (TRC) concentrations reported in the whole effluent toxicity reports between July 2000 and February 2006 ranges from <0.010 to 0.060 mg/L (n=23).

Ambient

The Ware Treatment Plant (WWTP) staff collected water from the Ware River (MA36-05) off of Upper Church Street, by the northern end of the landing strip, for use as dilution water in the facility's whole effluent toxicity tests. Between November 2005 and May 2006, survival of *C. dubia* exposed (approximately 7 days) to the Ware River water was 100% (n=3). Hardness ranged from 8.00 mg/L to 20.00 mg/L (n=3).

PERMITTEE Town of Warren	NPDES # MA0101567	SEGMENT MA36-16

The Town of Warren is authorized (MA0101567 issued in September 2000) to discharge from the Warren Treatment Plant a flow of 1.5 MGD average monthly of treated effluent via outfall #001 to the Quaboag River. The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and C-NOEC > 13% effluent using *Ceriodaphnia dubia* as a test species on a quarterly basis. There are seasonal limits on fecal coliform bacteria and total residual chlorine. There are limits on BOS, TSS, pH and copper. The permit also stipulates the reporting of average monthly TKN, nitrite + nitrate and total phosphorus (April 1 to October 31).

Parameter	Average Monthly	Average Weekly	Maximum Daily
BOD and TSS each	30mg/L (375 lbs/day)	45 mg/L (563 lbs/day)	
Fecal coliform bacteria (April 1-October 31)	200 cfu/ml		400 cfu/ml
Total Residual Chlorine (May-1 September 30)	85 ug/L		146 ug/L
Cooper	22 ug/L		29 ug/L

Effluent

Whole effluent toxicity tests have been conducted on the Warren Treatment Plant treated effluent. Between September 2000 and November 2005, 19 valid chronic tests were conducted using *C. dubia*. The chronic whole effluent toxicity tests using *C. dubia* ranged from between 13.00 to >100% effluent (n=19), all of which meet the permit limit of >13.00, except for May 2001 which is exactly 13.00%. The chronic whole effluent toxicity test using *P. promelas* was 25.00% effluent, which meets the permit requirements. Results of the LC_{50} were all 100% effluent, with the exception of May 2003 which was 38.00%, and May 2004 which was 66.00%.

Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between September 2000 and November 2005 ranged from <0.100 mg/L to 4.50 mg/L (n=21).

Total Residual Chlorine (TRC) concentrations reported in the whole effluent toxicity reports between September 2000 and November 2005 ranges from <0.020 to <0.050 mg/L (n=21).

Ambient

The Warren Treatment Plant staff collected water from the Quaboag River (MA36-15), at Gilbert Street, approximately 500 feet upstream from the discharge site, for use as dilution water in the facility's whole effluent toxicity tests. Between September 2000 and November 2005, survival of *C. dubia* exposed (approximately 7 days) to the Quaboag River water ranged from 90 to 100% (n=21). Between September 2000 and November 2001 survival of *P. promelas* exposed (approximately 7 days) to the Quaboag River water was 100% (n=1).

Hardness ranged from 12.00 mg/L to 30.00 mg/L (n=21).

Table D3. Chicopee River Basin-Inactive/Terminated Permits. [Note: All general NPDES permits (MAG######) have a flow limit of 1.0 MGD. Volumes in the permitted flow (MGD) column for these facilities were taken from their NPDES general permit applications.]

Permittee	NPDES #	Last Date of permit issuance	Permitted Flow (MGD)	Type of Discharge	Special Notes/Conditions for next permit
Brookfield Wire Co. Inc., West Brookfield	MA0004715	6/27/1986 Inactive: 4/3/01	Outfall 001 - 0.003 Outfall 002 approx. 180 gal/day	NCCW, treated wastewater from wire rinsing, cleaning and coating operations	Discharge to unnamed tributary to Willow Brook
Cascades Diamond, Inc., Thorndike	MAG250963	2/23/2001 Inactive: 1/7/04	Outfall 002: average monthly flow of 0.13 Outfall 003: average monthly flow of 0.116	NCCW	Discharge to Ware River
Connecticut Valley Sanitary Waste Disposal, Inc	MA0033847	Issued 9/94 Terminated 5/12/05	144,000 GPD average monthly and 290,000 GPD maximum daily flow	Uncontaminated groundwater via outfalls	This permit was switched to a multi-sector general permit (MAR0C657).
The Hanson Group (formerly Glendale Plastics)	MA0032913	1989 application Inactive: 1/12/00	Not applicable	Storm water	Issue either general or individual NPDES permit
Westover AFB, Chicopee	MA0005444	12/09/76 Inactive 3/25/02	No limits	Runway runoff and wash water	Discharges to Cooley Brook,

STORMWATER

The NPDES Phase II General Permit program requires NPDES permit coverage for stormwater discharges from small municipal separate storm sewer systems (MS4s), and construction activity disturbing one acre or more of land in a mapped "urbanized area" defined and delineated by the US Bureau of Census in 2000 http://www.epa.gov/npdes/pubs/fact2-2.pdf. Large and medium MS4s (populations over 100,000) were permitted during Phase I of the NPDES stormwater program. Under EPA's Phase II program, the definition of "municipal" includes Massachusetts communities, U.S. military installations, state or federal owned facilities such as hospitals, prison complexes, state colleges or universities and state highways. An MS4 is a system that: discharges at one or more a point sources; is a separate storm sewer system (not designed to carry combined stormwater and sanitary waste water); is operated by a public body; discharges to the Waters of the United States or to another MS4; and, is located in an "Urbanized Area". The NPDES Phase II General Permit requires operators of regulated MS4s to develop and implement a stormwater management program that prevents harmful pollutants from being washed or dumped directly into the storm sewer system which is subsequently discharged into local waterbodies. The NPDES Stormwater Phase II General Permit requires operators of regulated small municipal separate storm sewer systems (MS4s) to develop a stormwater management program that prevents harmful pollutants from being washed or dumped directly into the storm sewer system, and then discharged into local waterbodies. Certain Massachusetts communities were automatically designated (either in full or part) by the Phase II rule based on the urbanized area delineations from the 2000 U.S. Census.

As a result of the census mapping, all 17 communities in the Chicopee River Watershed were located either totally or partially in the regulated Urbanized Area (see below Table D4). Municipalities that are totally regulated must implement the requirements of the Phase II permit in the entire town, while communities that are partially regulated need to comply with the Phase II permit only in the mapped Urbanized Areas. All Chicopee River drainage area communities applied to EPA and MassDEP for coverage under the Phase II stormwater general permit, issued on 1 May 2003. EPA issued stormwater general permits to all 17 ChicopeeRiver Watershed municipalities after administrative review and, in coordination with MassDEP, will complete a thorough review of the communities' stormwater management program during the five-year permit term. Phase II stormwater general permits will expire on 1 May 2008 (Domizio 2004). For detailed community maps see http://www.epa.gov/region01/npdes/stormwater/ma.html.

Table D4: NPDES Phase II stormwater permit information for Chicopee River Watershed communities.

Community	Permit #	Permit Issued	Mapped Regulatory area in community
Belchertown	MAR041002	9/12/2003	Partial
Charlton	MAR041100	9/2/2003	Partial
Chicopee	MAR041003	9/4/2003	Total
Granby	MAR041007	10/2/2003	Partial
Hampden	MAR041009	9/12/2003	Partial
Leicester	MAR041202	10/1/2003	Partial
Ludlow	MAR041014	10/16/2003	Partial
Monson	MAR041015	10/2/2003	Partial
Palmer	MAR041017	12/8/2003	Partial
Paxton	MAR041148	9/29/2003	Partial
Rutland	MAR041154	9/30/2003	Partial
Spencer	MAR041162	2/11/2004	Partial
Springfield	MAR041023	9/12/2003	Total
Sturbridge	MAR041240	9/9/2003	Partial
Templeton	MAR041225	10/2/2003	Partial
Westminster	MAR041233	3/31/2004	Partial
Wilbraham	MAR041025	10/7/2003	Partial

Information for other general NPDES permittees are available online at: http://cfpub.epa.gov/npdes/stormwater/noi/noisearch.cfm.

Table D5: NPDES General Permits in Chicopee River Watershed

Permitee	Permit #	Date Issued	Waterbody (Segment)
Westover Airforce Base	MAR05B973	2/21/02	Cooley Brook (MA36-38)
Quabbin Wire & Cable Co.	MAR00A028		Ware River (MA36-06)

Works Cited

Domizio, L. 2004. *Stormwater permitting information Phase II Communities*. Massachusetts Department of Environmental Protection, Division of Watershed Management, Worcester, MA. Personal Communication.

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