

Boott Hydropower, Inc.
Subsidiary of Enel North America, Inc.

CHI Operations, Inc.
97 Industrial Ave.
Sanford, Maine 04073
(207) 490-1980
Fax (207) 490-2600

9/30/08
referred

September 29, 2008

Ms. Olga Vergara
United States Environmental Protection Agency
NPDES Program Operations Section
1 Congress Street - CMU
Boston, Massachusetts 02114-2023

Re: Eldred L. Field Hydroelectric Project, Lowell, Massachusetts
Notice of Intent For Coverage By NPDES General Permit

Dear Ms. Vergara:

This letter serves as our Notice of Intent to be covered by the NPDES General Permit for Non-Contact Cooling Water Discharge. The information requested is attached.

If you have any questions or require additional information please do not hesitate to call me at (207) 490-1980, ext. 209.

Sincerely,



Gerald J. Stevens Jr.
Regulatory Specialist

cc: V. Engel, BHI
W. Pincence, BHI
MA DEP

gs/winwd.permits/lownpdes

Notice of Intent for the Noncontact Cooling Water General Permit

1. General Facility Information

- a) Name of Facility: Eldred L. Field Powerhouse
Type of Business: Hydropower Project
Facility Location: 145 Pawtucket Street
Lowell, Massachusetts 01854
Longitude: 42 39 09 N
Latitude: 71 19 21.5 W
Facility SIC Code: 4911
Facility Mailing Address: Boott Hydropower, Inc.
One Tech Drive Suite 220
Andover, Massachusetts 01810
- b) Facility Owner: Boott Hydropower, Inc.
Owner Tel #: (978) 681-1900
Owner Fax #: (978) 681-7727
Owner is: Private
- d) Topo Map: Attached
- e) 1. Has prior NPDES been granted?: YES
Permit Number: MAG250163
2. Is discharge a "new discharge"? No
3. Does project have an Individual NPDES Permit? No
4. Is there a pending application? No

2. Discharge Information

- a) Name of receiving water: Merrimack River
State Water Quality Classification: B Freshwater
- b) Discharge Activity: Discharge non-contact cooling water
- c) Surface water temperature rise calculations:

$$\begin{aligned}\Delta T_r &= mp/mr \times \Delta T_p \\ mp &= 0.662 \text{ mgd} \\ mr &= 897 \text{ cfs} \times 0.645 = 579 \text{ mgd} \\ \Delta T_p &= 5^\circ \\ .662/579 \times 5 &= 0.0057^\circ\text{F}\end{aligned}$$

- d) # of outfalls: 2
- e)

	max daily flow gpd	average monthly flow gpd
Outflow # 1	259,000	See note
Outflow # 2	403,000	See note
Total	662,000	156,500

Note: The average monthly discharge flow is the average monthly flow from all outflows over the past 12 months: = 156,500 gpd

f)

	max daily temp °F	average monthly temp °F
Temperature	84°F	58.98°F

g)

	max monthly pH	min monthly pH
pH	8.2	7.0

- h) Is source water of NCCW potable water? Yes and No*

* The project uses both municipal and surface water for NCCW.

- i) Is discharge continuous? Yes

j)

	Latitude	Longitude
Outflow # 1	42 39 09N	71 19 21.5W
Outflow # 2	42 39 09N	71 19 21.5W

k) 7Q10 -:Merrimack River 897 cfs

Does discharge occur in an ACEC?: No

3. NCCW Source Water Information

- a) Indicate source of NCCW: municipal water supply and surface water
Name of source water: Merrimack River
Is source registered/permitted under MA Water Management Act? Yes (municipal portion only)
Registration number: 3160000
- b) Source water is a freshwater river.
- c) Source water is not groundwater.
- d) Does facility have backup source of NCCW? No

4. Best Technology Available for CWIS

Is facility subject to Part 4.2 of the General Permit?: Yes

Description: The two NCCW surface water intakes are located behind the hydroelectric station's intake trashracks, each of which is protected by a 2 inch grate. Downstream fish passage is provided adjacent to the intake trashracks. Due to there location, it is not practical or safe to monitor the NCCW intakes for entrainment or impingement.

Design capacity of the CWIS: 0.662 MGD

Max monthly average during past 5 years: 0.662 MGD. Whenever both units at the project are running at their capacity the maximum monthly average will be reached.

This occurs routinely.

Source water annual mean flow: 6942 cfs

Design intake flow as a percent of source water's annual mean flow:

$$1.07 \text{ cfs} / 6942 \text{ cfs} = 0.02\%$$

Source water 7Q10: 897 cfs

Design intake flow as a percent of source water's 7Q10:

$$1.07 \text{ cfs} / 897 \text{ cfs} = 0.12\%$$

5. Contamination Information

No pH neutralization or dechlorination chemicals are used in the project's NCCW discharge.

6. Determination of Endangered Species Act Eligibility

Any listed threatened or endangered species or critical habitat in proximity to NCCW discharge? No

Has consultation with Federal services been completed? Yes

Results: As part of the project's FERC licensing process consultation with the Federal and State Fish and Wildlife Services and the National Marine Fisheries Service was completed. Because of the high dilution rate the discharge of non-contact cooling water from the Eldred L. Field Powerhouse will not have any adverse affect on any listed or proposed endangered or threatened species or its critical habitat.

Which five eligibility criteria in Appendix 2, Section B have been met?: A

Federal listing of current endangered and threatened species is attached.

7. Documentation of National Historic Preservation Act

Historic properties listed or eligible for listing located on site or in proximity of the discharge?: No

State of Tribal historic preservation officers been consulted?: No

Which three requirements listed in Appendix 3, Section C has been met?: 1

8. Supplemental Information

None

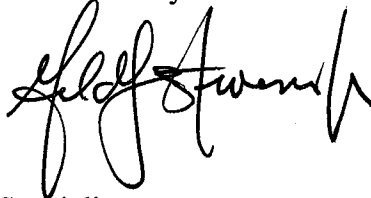
9. Signature Requirements

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the noncontact cooling water (NCCW) system; (2) the discharge consists solely of NCCW (to reduce temperature) and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with raw material, intermediate product, water product (other than heat) or finished product; (4) if the discharge of noncontact cooling water subsequently mixes with other wastewater (i.e. storm water) prior to discharging in the receiving water, any monitoring provided under this permit will be only for noncontact cooling water; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Eldred L. Field Hydroelectric Project

Operator Signature:



Title: Regulatory Specialist

Date:

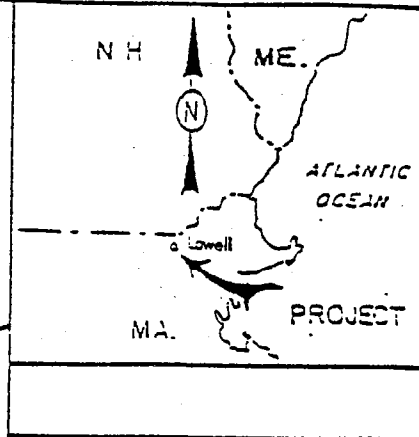
29 Sept 08

42° 42'
71° 20'



TRUE
NORTH

TAILRACE
CHANNEL



DRACUT
LOWELL

ELDRED L. FIELD
POWERHOUSE

FISH
PASSAGEWAY

PAWTUCKET
DAM

UNIVERSITY

MERRIMACK

NORTHERN CANAL

PAWTUCKET

SCHOOL

MERRIMACK

MARKET

FLETCHER

FRENCH

AIKEN

ST.

ST.

ST.

ST.

ST.

ST.

ST.

ST.

ST.

ST.

ST.

ST.

ST.

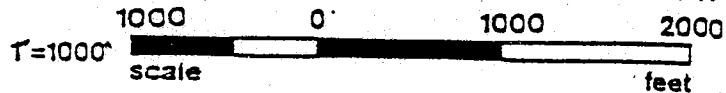
ST.

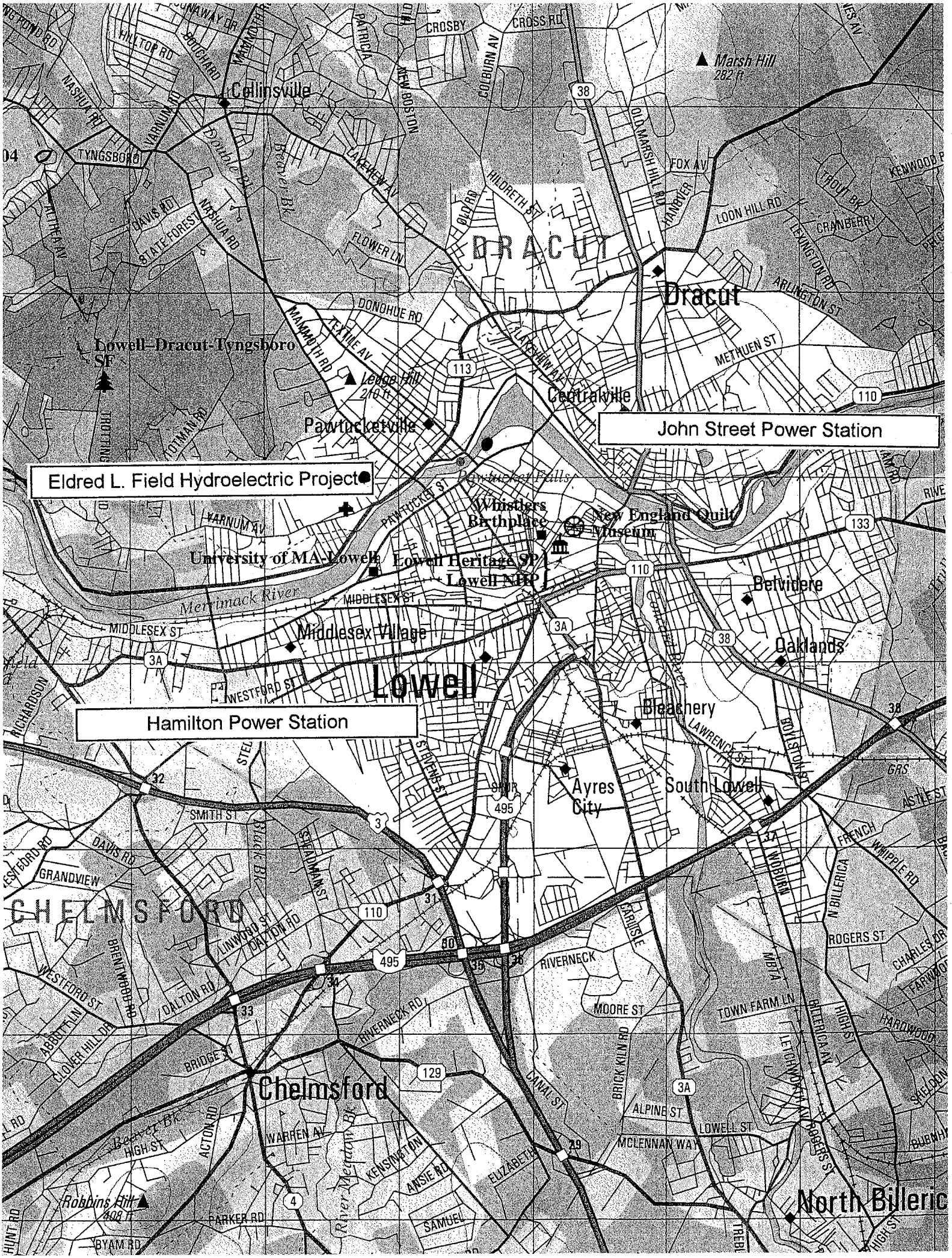
ST.

ST.

ST.

LOCATION AND KEY MAP





Eldred L. Field Hydroelectric Project

John Street Power Station

Hamilton Power Station

University of MA-Lowell

Lowell Heritage SP

New England Quilt Museum

Belvidere

Oaklands

Ayres City

South Lowell

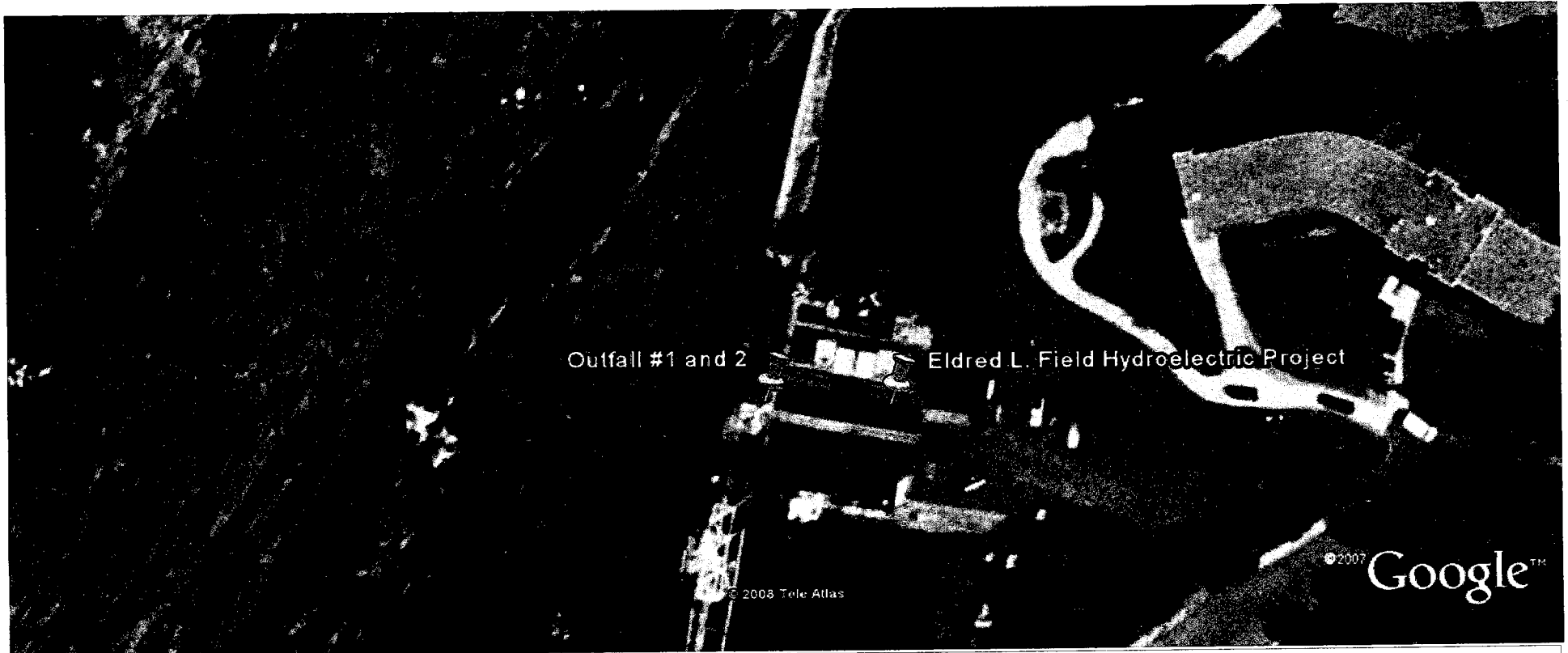
Chelmsford

North Billerica



1. General Facility Information

d) topo map - project location showing outfalls



Eldred L. Field Hydroelectric Project

Massachusetts

Common Name	Scientific Name	Status	Distribution
FISHES:			
Sturgeon, shortnose*	Northeastern bulrush	E	Atlantic coastal waters and rivers (Conn. R.)
REPTILES:			
Turtle, bog	Clemmys muhlenbergii	T	Berkshire County
Turtle, green*	Chelonia mydas	T	Oceanic straggler in southern New England
Turtle, hawksbill*	Eretmochelys imbricata	E	Oceanic straggler in southern New England
Turtle, leatherback*	Dermochelys coriacea	E	Oceanic summer resident
Turtle, loggerhead*	Caretta caretta	T	Oceanic summer resident
Turtle, Atlantic ridley*	Lepidochelys kempii	E	Oceanic summer resident
Turtle, Northern red-bellied cooter (Plymouth redbelly)	Chrysemys rubriventris bangsi	E	Plymouth & Dukes Counties
BIRDS:			
Plover, piping		T	Atlantic coast, nesting
Tern, roseate	Charadrius melodus	E	Atlantic coast/islands, nesting
	Sterna dougallii dougallii		
MAMMALS:			
Bat, Indiana		E	Berkshire County/historic
Whale, blue*	Myotis sodalis	E	Oceanic
Whale, finback*	Balaenoptera musculus	E	Oceanic
Whale, humpback*	Balaenoptera physalus	E	Oceanic
Whale, right*	Megaptera novaeangliae	E	Oceanic
Whale, sei*	Eubalaena spp. (all species)	E	Oceanic
Whale, sperm*	Balaenoptera borealis	E	Oceanic
	Physeter catodon		
MOLLUSKS:			
Wedgemussel, dwarf		E	Hampshire, Franklin County
	Alasmodonta heterodon		
INSECTS:			
Beetle, Puritan tiger		T	Hampshire County
Beetle, Northeastern beach	Cicindela puritana	T	Dukes & Bristol Counties
Beetle, American burying	Cicindela dorsalis dorsalis	E	Penikese & Nantucket Isl., reintroduced populations
	Nicrophorus americanus		
PLANTS:			
Small whorled pogonia		T	Hampshire, Essex, Hampden, Worcester, Middlesex Counties
	Isotria medeoloides		
Sandplain gerardia		E	Barnstable & Dukes Counties
Northeastern bulrush	Agalinus acuta	E	Franklin County
	Scirpus ancistrochaetus		