NOI for Physical and Biological Control of Nuisance Aquatic Vegetation

LAKE COCHITUATE
NATICK, MASSACHUSETTS

PREPARED FOR

Department of Conservation and Recreation
Lake and Ponds Program
c/o Mr. James Straub
251 Causeway Street, Suite 700
Boston, Massachusetts 02114

PREPARED BY

ESS Group, Inc.
888 Worcester Street, Suite 240
Wellesley, Massachusetts 02482

Project No. D147-000.2

January 19, 2006

www.essgroup.com

ESS Group, Inc.

Engineers
Scientists
Consultants

888 Worcester Street
Suite 240
Wellesley
Massachusetts
02482
p 781.431.0500
f 781.431.7434

January 19, 2006

Natick Conservation Commission
Natick Town Hall
13 East Central St
Natick, MA 01760

Re: Notice of Intent
Lake Cochituate Aquatic Vegetation Management Plan

Dear Members of the Commission,

ESS Group, Inc. is pleased to submit this Notice of Intent application on behalf of our client, the Department of Conservation and Recreation (DCR), for the control of nuisance aquatic vegetation within Land Under Waterbodies and Waterways associated with Lake Cochituate (the Site). Therefore, this NOI is submitted per the Massachusetts Wetlands Protection Act and the Town of Natick Wetlands Protection Bylaw.

DCR has selected a 5-year vegetation management plan that utilizes a combination of herbicide application and various physical control methods. This NOI is submitted for the use of physical means such as hand-pulling, suctioning harvesting, and benthic barriers to control nuisance aquatic vegetation. In addition, DCR proposes conducting a milfoil weevil pilot study in a portion of North Pond to assess the effectiveness of this biological control method, while a separate NOI has been filed with the Commission on this date for the use of herbicides. Lake Cochituate is a 614-acre lake located in the towns of Framingham, Natick, and Wayland. Similar NOIs are being filed concurrently with the Framingham and Wayland Conservation Commission for work in those towns.

To aid in your review of the proposed work, enclosed please find a copy of the NOI form, appropriate site locus map, a project narrative, abutter information, filing fee and copies of the filing fee checks and Project Plans. Please note that all abutters have been notified accordingly and a copy of this application has been sent to DEP Northeast Regional Office. We respectfully request that you place this matter on your agenda for the February 2, 2006 Public Hearing. If you have any questions, please do not hesitate to contact me at (401) 330-1224 or Mr. Michael Gildesgame at (617) 626-1371. Thank you for your consideration in this matter.

Sincerely,

ESS Group, Inc.

Carl Nielsen
Senior Water Resource Scientist

Cc: DEP, NERO
Mike Gildesgame, DCR
MNHESP

J:\D147-000 Lake Cochituate\Natick\NOI\Mechancial Removal\ccovl.doc

NOTICE OF INTENT
FOR PHYSICAL AND BIOLOGICAL CONTROL
OF NUISANCE AQUATIC VEGETATION
Lake Cochituate
Natick, Massachusetts

Prepared For:

Department of Conservation and Recreation
Lakes and Ponds Program
c/o Mr. James Straub
251 Causeway Street, Suite 700
Boston, Massachusetts 02114

Prepared By:

ESS Group, Inc.
888 Worcester Street, Suite 240
Wellesley, Massachusetts 02482

ESS Project No. D147-000.2

January 19, 2006

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Massachusetts Department of Environmental Protection
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WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by DEP:
DEP File Number:
Document Transaction Number:
Natick
City/Town

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button for GIS locator):

Lake Cochituate	Natick	MA
a. Street Address	b. City/Town	c. Zip Code

Latitude and Longitude:

42.30	71.37
d. Latitude	e. Longitude
N/A	N/A
f. Assessors Map/Plat Number	g. Parcel /Lot Number

2. Applicant:

Myron	Gildesgame	Department of Conservation and Recreation
a. First Name	b. Last Name	c. Company

251 Causeway Street
d. Mailing Address

Boston	MA	02114
e. City/Town	f. State	g. Zip Code

617-626-1371	617-626-1455	Mike.Gildesgame@state.ma.us
h. Phone Number	i. Fax Number	j. Email address

3. Property owner (if different from applicant): ☐ Check if more than one owner

a. First Name	b. Last Name	c. Company

d. Mailing Address

e. City/Town	f. State	g. Zip Code

h. Phone Number	i. Fax Number	j. Email address

4. Representative (if any):

ESS Group, Inc.
a. Firm

Carl	Nielsen
b. Contact Person First Name	c. Contact Person Last Name

401 Wampanoag Trail, Suite 400
d. Mailing Address

East Providence	RI	02915
e. City/Town	f. State	g. Zip Code

401-330-1224	401-434-8158	cnielsen@essgroup.com
h. Phone Number	i. Fax Number	j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

$500.00	$237.50	$262.50
a. Total Fee Paid	b. State Fee Paid	c. City/Town Fee Paid

6. General Project Description:

The proposed project consists of the use of hand-pulling, suction harvesting, benthic barriers, and milfoil weevils to control nuisance aquatic vegetation at Lake Cochituate as part of a long-term vegetation management plan.

A. General Information (continued)

7. Project Type Checklist:

a. ☐ Single Family Home
b. ☐ Residential Subdivision
c. ☐ Limited Project Driveway Crossing
d. ☐ Commercial/Industrial
e. ☐ Dock/Pier
f. ☐ Utilities
g. ☐ Coastal Engineering Structure
h. ☐ Agriculture – cranberries, forestry
i. ☐ Transportation
j. ☒ Other

8. Property recorded at the Registry of Deeds for:

Middlesex a. County	N/A b. Page Number
N/A c. Book	N/A d. Certificate # (if registered land)

9. Has work been performed on the property under an Order of Resource Area Delineation involving Simplified Review within 3 years of the date of this application?

a. ☐ Yes b. ☒ No

10. Buffer Zone Only - Is the project located only in the Buffer Zone of a bordering vegetated wetland, inland bank, or coastal resource area?

a. ☐ Yes - answer 11 below, then skip to Section C.
b. ☒ No - skip to Section B.

If yes, no Notice of Intent or Request for Determination of Applicability may be filed for work within the 50-foot-wide area in the Buffer Zone along the resource area during the three-year term of an Order of Resource Area Delineation, or any Extended Order, or until the applicant receives a Certificate of Compliance, whichever is later.

11. Buffer Zone Setback – For projects that involve work only in the buffer zone, select the applicable adjacent resource area (check one):

a. ☐ BVW b. ☐ inland bank c. ☐ coastal resource area

The distance between the closest project disturbance and the associated resource area is:

_____
d. linear feet

B. Resource Area Effects

1. Inland Resource Areas

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Bank	1. linear feet	2. linear feet
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☒ Land Under Waterbodies and Waterways	Refer to project description 1. square feet 3. cubic yards dredged	2. square feet
d. ☐ Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 4. cubic feet of flood storage replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet of flood storage replaced
f. ☐ Riverfront area	1. Name of Waterway (if available)	

1. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☐ 200 ft. - All other projects

2. Total area of Riverfront Area on the site of the proposed project: _____ Square Feet

3. Proposed alteration of the Riverfront Area:

a. Total Square Feet _____ b. Square Feet within 100 ft. _____ c. Square Feet between 100 ft. and 200 ft. _____

4. Has an alternatives analysis been done and is it attached to this NOI? ☐ Yes ☐ No

5. Was the lot where the activity is proposed created prior to August 1, 1996? ☐ Yes ☐ No

B. Resource Area Effects

2. Coastal Resource Areas:

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. Square feet 2. Cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. Square feet	2. Cubic yards beach nourishment
e. ☐ Coastal Dunes	1. Square feet	2. Cubic yards dune nourishment
f. ☐ Coastal Banks	1. Linear feet	
g. ☐ Rocky Intertidal Shores	1. Square feet	
h. ☐ Salt Marshes	1. Square feet	2. Sq ft restoration, rehab., or creation
i. ☐ Land Under Salt Ponds	1. Square feet 2. Cubic yards dredged	
j. ☐ Land Containing Shellfish	1. Square feet	2. Square feet restoration, rehab.
k. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. Cubic yards dredged	
l. ☐ Land Subject to Coastal Storm Flowage	1. Square feet	

3. Limited Project:

Is any portion of the proposed activity eligible to be treated as a limited project subject to 310 CMR 10.24 or 310 CMR 10.53?

a. ☒ Yes ☐ No If yes, describe which limited project applies to this project:

310 CMR 10.53(4) - resource area improvements
b. Limited Project

C. Bordering Vegetated Wetland Delineation Methodology

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Check all methods used to delineate the Bordering Vegetated Wetland (BVW) boundary:

1. ☐ Final Order of Resource Area Delineation issued by Conservation Commission or DEP (attached)
2. ☐ DEP BVW Field Data Form (attached)
3. ☐ Final Determination of Applicability issued by Conservation Commission or DEP (attached)
4. ☒ Other Methods for Determining the BVW Boundary (attach documentation): ***(see narrative)***
   a. ☐ 50% or more wetland indicator plants
   b. ☐ Saturated/inundated conditions exist
   c. ☐ Groundwater indicators
   d. ☐ Direct observation
   e. ☐ Hydric soil indicators
   f. ☐ Credible evidence of conditions prior to disturbance
5. Other resource areas delineated: Land Under Waterbodies and Waterways, Bank

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

D. Other Applicable Standards and Requirements

1. Is any portion of the proposed project located in estimated habitat as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program?

   a. ☒ Yes ☐ No — If yes, include proof of mailing or hand delivery of NOI to:
   Natural Heritage and Endangered Species Program
   Division of Fisheries and Wildlife
   Route 135, North Drive
   Westborough, MA 01581

   June 2003
   b. Date of Map

2. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

   a. ☐ Yes ☐ No — If yes, include proof of mailing or hand delivery of NOI to:
   Massachusetts Division of Marine Fisheries
   251 Causeway Street, Suite 400
   Boston, MA 02114

   b. ☒ Not applicable – project is in inland resource area only

3. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

   a. ☐ Yes ☒ No — If yes, provide name of ACEC (see instructions to WPA Form 3 or DEP Website for ACEC locations). **Note:** electronic filers click on Website.

   b. ACEC

D. Other Applicable Standards and Requirements

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

   a. ☐ Yes ☒ No

5. Is any activity within any Resource Area or Buffer Zone exempt from performance standards of the wetlands regulations, 310 CMR 10.00.

   a. ☐ Yes ☒ No If yes, describe which exemption applies to this project:

   b. Exemption

6. Is this project subject to the DEP Stormwater Policy? a. ☐ Yes ☒ No

   If yes, stormwater management measures are required. Applicants should complete the Stormwater Management Form and submit it with this form.

   b. If no, explain why the project is exempt:

   No addition of impervious surface

E. Additional Information

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.
3. ☒ Other material identifying and explaining the determination of resource area boundaries shown on plans (e.g., a DEP BVW Field Data Form).
4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.
5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.
6. ☒ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
8. ☒ Attach NOI Wetland Fee Transmittal Form
9. ☐ Attach Stormwater Management Form, if needed.

F. Fees

The fees for work proposed under each Notice of Intent must be calculated and submitted to the Conservation Commission and the Department (see Instructions and NOI Wetland Fee Transmittal Form).

No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

5115	12/20/05
1. Municipal Check Number	2. Check date
5118	12/20/05
3. State Check Number	4. Check date
ESS Group, Inc	
5. Payor name on check: First Name	6. Payor name on check: Last Name

G. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

Signature of Applicant	12/22/05 Date
Signature of Property Owner (if different)	Date
Signature of Representative (if any)	Date

For Conservation Commission:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents; two copies of pages 1 and 2 of the NOI Wetland Fee Transmittal Form; and the city/town fee payment must be sent to the Conservation Commission by certified mail or hand delivery.

For DEP:
One copy of the completed Notice of Intent (Form 3), including supporting plans and documents; one copy of pages 1 and 2 of the NOI Wetland Fee Transmittal Form; and a copy of the state fee payment must be sent to the DEP Regional Office (see Instructions) by certified mail or hand delivery. (E-filers may submit these electronically.)

Other:
If the applicant has checked the "yes" box in any part of Section D, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

Filing Fee Materials

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

A. Applicant Information

1. Applicant:

Myron (a. First Name) | Gildesgame (b. Last Name) | Department of Conservation and Recreation

Office of Water Resources, 251 Causeway Street, Suite 600
d. Mailing Address

Boston (e. City/Town) | MA (f. State) | 02114 (g. Zip Code)

617-626-1371
h. Phone Number

2. Property Owner (if different):

a. First Name | b. Last Name | c. Company

d. Mailing Address

e. City/Town | f. State | g. Zip Code

h. Phone Number

3. Project Location:

Lake Cochituate
a. Street Address

Natick
b. City/Town

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

B. Fees

Notice of Intent (Form 3) or Abbreviated Notice of Intent (Form 4):

The fee should be calculated using the following six-step process and worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract $12.50. To calculate the city/town share of the fee, divide the total fee in half and add $12.50..

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 2h - control of nuisance vegetation	1	$500.00	$500.00

Step 5/Total Project Fee: _____

Step 6/Fee Payments:

Total Project Fee:	$500.00 a. Total fee from Step 5
State share of filing fee:	$237.50 b. 1/2 total fee **less** $12.50
City/Town share of filling fee:	$262.50 c. 1/2 total fee **plus** $12.50

C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

c.) **To DEP Regional Office** (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

5115

ESS GROUP, INC.
401 WAMPANOAG TRL., SUITE 400
RIVERSIDE, RI 02915

57-1/115

DATE 12/20/05

PAY TO THE ORDER OF Town of Natick $ 262.50

Two Hundred Sixty Two 50/100 DOLLARS

Security Features Included. Details on Back.

Bank of America

10111 Providence, Rhode Island

FOR

Catalina P. Chavier

MP

⑈005115⑈ ⑆011500010⑆ 93953 87350⑈

5114

ESS GROUP, INC.
401 WAMPANOAG TRL., SUITE 400
RIVERSIDE, RI 02915

57-1/115

DATE 12/20/05

PAY TO THE ORDER OF Town of Natick $ 150.00

One Hundred Fifty 00/100 DOLLARS

Security Features Included. Details on Back.

Bank of America

10111 Providence, Rhode Island

FOR

Catalina P. Chavier

MP

⑈005114⑈ ⑆011500010⑆ 93953 87350⑈

5118

ESS GROUP, INC.
401 WAMPANOAG TRL., SUITE 400
RIVERSIDE, RI 02915

57-1/115

DATE 12/20/05

PAY TO THE ORDER OF Commonwealth of Massachusetts $ 237.50

Two Hundred Thirty Seven 50/100 DOLLARS

Security Features Included. Details on Back.

Bank of America

10111 Providence, Rhode Island

FOR

Catalina P. Chavier

MP

⑈005118⑈ ⑆011500010⑆ 93953 87350⑈

Abutter Notification Materials

NOTICE OF INTENT
ABUTTER NOTIFICATION LETTER

DATE: January 19, 2006

RE: Natick Conservation Commission Public Hearing

To Whom It May Concern,

As an abutter of a proposed project, please be advised that **two** NOTICE OF INTENT applications have been filed with the Natick Conservation Commission under the Massachusetts Wetlands Protection Act and Regulations and Town of Natick Wetland Protection Bylaw.

APPLICANT: Commonwealth of Massachusetts, Department of Conservation and Recreation

PROJECT ADDRESS OR LOCATION: Lake Cochituate

PROJECT DESCRIPTION: Two separate NOI's have been submitted for the control of nuisance aquatic vegetation at Lake Cochituate. One NOI is for the use of physical means such as hand-pulling, suctioning harvesting, and benthic barriers to control nuisance aquatic vegetation. In addition, DCR proposes conducting a milfoil weevil pilot study in a portion of North Pond to assess the effectiveness of this biological control method. The second NOI is submitted for the use of chemical herbicides to control nuisance vegetation. This letter satisfies abutter notification requirements for both NOI submittals.

APPLICANT'S AGENT:
ESS Group, Inc.
401 Wampanoag Trail, Suite 400
East Providence, Rhode Island 02915
(401) 330-1224

PUBLIC HEARING:
Natick Conservation Commission
Town Building
13 East Central St

DATE: February 2, 2006
TIME: Meetings start at 7:00 p.m. Call to confirm time.

NOTE: You may consult a copy of the *Metro West* for more information regarding the time and date of the public hearing, or contact the Natick Conservation Commission at 508-647-6452.

NOTE: Plans and application describing the proposed activity are on file with the Natick Conservation Commission by calling 508-647-6452.

NOTE: You also may contact the Department of Environmental Protection, Northeast Regional Office for more information about this application or the Wetlands Protection Act at (617) 654-6500.

AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act, I, Thomas Liddy, hereby certify under the pains and penalties of perjury that on January 19, 2006 I mailed a "Notification to Abutters" in compliance with the second paragraph of Massachusetts General Laws, Chapter 131, s. 40 and the DEP Guide to Abutter Notification dated April 8, 1994, in connection with the following matter:

A Notice of Intent filed under the Wetlands Protection Act by the Commonwealth of Massachusetts Department of Conservation and Recreation with the Natick Conservation Commission on January 19, 2006 for the property located at Lake Cochituate.

This form of the notification, and list of abutters and their addresses to whom it was given, are attached to this Affidavit of Service.

Thomas Liddy

Name

1/19/06

Date

Town of Natick
Abutters Report

6/29/2005

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
30 SUPERIOR DR	BOSTON SCIENTIFIC CORP	LC1161		
17-0000005A	ATT ACCOUNTS PAYABLE DEPT	00108		
	ONE BOSTON SCIENTIFIC PL	19960916		
	NATICK MA			
	01760			
36 SUPERIOR DR	BOSTON SCIENTIFIC CORP	LC1161		
17-0000005B	ATT ACCOUNTS PAYABLE DEPT	00108		
	ONE BOSTON SCIENTIFIC PL	19960916		
	NATICK MA			
	01760			
341 SPEEN ST	GATESIDE NATICK LLC	31901		
17-0000005D	GBR CHRYSLER ROAD LIMITED LIABILI	00346		
	555 THEODORE FREMD AVE S B304	20000829		
	RYE NY			
	10580			
19 SUPERIOR DR	BOSTON SCIENTIFIC CORP	LC1110		
17-0000009A	ATT:ACCOUNTS PAYABLE DEPT	00160		
	ONE BOSTON SCIENTIFIC PLACE	19930520		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
0 SUPERIOR DR 17-0000009E	BOSTON SCIENTIFIC CORP ATT:ACCOUNTS PAYABLE DEPT ONE BOSTON SCIENTIFIC PLACE NATICK MA 01760	LC1110 00160 19930520		
1187 WORCESTER ST 25-00000253	BOSTON SCIENTIFIC CORP ATT: ACCOUNTS PAYABLE DEPT ONE BOSTON SCIENTIFIC PLACE NATICK MA 01760	LC1119 00064 19931117		
0 WORCESTER ST 25-00000275	BOSTON SCIENTIFIC CORP ATT:ACCOUNTS PAYABLE DEPT ONE BOSTON SCIENTIFIC PLACE NATICK MA 01760	LC1110 00160 19930520		
1085 WORCESTER ST 25-0000252A	1085 WORCESTER ROAD REALTY TRU HOLMES GARY R TRS 1085 WORCESTER ST NATICK MA 01760	31796 00502 20000907		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
1071 WORCESTER ST	TOOLMEX CORP	12782		
25-0000252B		00086		
	1075 WORCESTER ST	19750416		
	NATICK MA			
	01760			
1020 WORCESTER ST	NAT REALTY TRUST	LC1078		
26-0000167A	CLAIR JAMES E TR	00080		
	1575 VFW PARKWAY	19910215		
	BOSTON MA			
	02132			
1065 WORCESTER ST	TOOLMEX CORP	12782		
26-0000168C		00086		
	1075 WORCESTER ST	19750416		
	NATICK MA			
	01760			
5 SECOND ST	NILES INC ETAL	15402		
34-00009+10		00254		
	100 CONGRESS ST	19840112		
	QUINCY MA			
	02169			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
5 KANSAS ST 35-00000243	VILLAGE REALTY DEV CORP 2 SOUTH AVE NATICK MA 01760	LC945 00143 19810512		
3 SUNSET PATH 11-00000001	ROSEN JONATHAN 3 SUNSET PATH NATICK MA 01760	24863 00571 19940919		
78 EVERGREEN RD 11-00000002	BODLEY DONNA M 78 EVERGREEN RD NATICK MA 01760	15425 00210 19840130		
80 EVERGREEN RD 11-00000003	HUMPHREY ROY D 80 EVERGREEN RD NATICK MA 01760	08865 00530 19561129		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
82 EVERGREEN RD 11-00000004	CUBRANICH DOMENIC PAULINE C CUBRANICH 82 EVERGREEN RD NATICK MA 01760	12601 00030 19740315	MURRAY ROBERT A 82 EVERGREEN RD NATICK MA 01760	43377 0096 20042707
84 EVERGREEN RD 11-00000005	WEINSTEIN PEARL B ROBERTS SUSAN J 84 EVERGREEN RD NATICK MA 01760	31139 00237 20000216		
86 EVERGREEN RD 11-00000006	VINE GLASS REALTY TRUST MARON BEVERLY E TR 16 LEAF LANE CHOCORUANH 03817	14296 00422 19810522		
90 EVERGREEN RD 11-00000008	GRANT CLYDE D 90 EVERGREEN RD NATICK MA 01760	13572 00530 19781013		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
0 EVERGREEN RD END 11-00000009	WESSEL NAN 92 EVERGREEN RD NATICK MA 01760	19127 00281 19880616		
87 EVERGREEN RD 11-00000010	GOODMAN ANDREW W 87 EVERGREEN RD NATICK MA 01760	34066 00004 20011115		
83 EVERGREEN RD 11-00000011	GOODMAN ANDREW W 87 EVERGREEN RD NATICK MA 01760	20011115		
81 EVERGREEN RD 11-00000012	WALDMAN PAMELA J 81 EVERGREEN RD NATICK MA 01760	26022 00013 19960202	WRIGHT LESLIE B GOLDBAUM RICHARD J 81 EVERGREEN RD NATICK MA 01760	43370 0582 20042607

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
25 OFF COMMONWEALTH 11-00000018	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
25 COMMONWEALTH RD 11-00000019	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
225 COMMONWEALTH RD 11-00000020	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
25 COMMONWEALTH RD 11-00000022	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
88 EVERGREEN RD	CARR EDWARD J	15392		
11-0000007B	KAREN A CARR	00178		
	88 EVERGREEN RD	19840105		
	NATICK MA			
	01760			
0 EVERGREEN RD END	COMMONWEALTH OF MASSACHUSETT			
11-0000009A	DEPT OF NATURAL RESOURCES	00000		
	PO BOX 123	0		
	COCHITUATMA			
	01778			
77 1/2 EVERGREEN RD	COMMONWEALTH OF MASSACHUSETT	12108		
11-0000013A	DEPT OF NATURAL RESOURCES	00313		
	PO BOX 123	19711111		
	COCHITUATMA			
	01778			
77 EVERGREEN RD	KIRBY TODD C	27789		
11-0000013B		00091		
	75 EVERGREEN RD	19971020		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
79 EVERGREEN RD	WALDMAN PAMELA J	26022		
11-0000013C		00013		
	81 EVERGREEN RD	19960202		
	NATICK MA			
	01760			
75 1/2 EVERGREEN RD	KIRBY TODD C	27789		
11-0000013D		00091		
	75 EVERGREEN RD	19971020		
	NATICK MA			
	01760			
75 EVERGREEN RD	KIRBY TODD C	27789		
11-0000014A		00091		
	75 EVERGREEN RD	19971020		
	NATICK MA			
	01760			
73 OFF EVERGREEN RD	COMMONWEALTH OF MASSACHUSETT			
11-0000014B	DEPT OF NATURAL RESOURCES	00000		
	PO BOX 123	0		
	COCHITUATMA			
	01778			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
77 OFF EVERGREEN RD 11-0000014C	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
39 COMMONWEALTH RD 11-0000021B	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	09168 00475 19580424		
0 (R) COMMONWEALTH 11-0000022A	MASS TURNPIKE AUTHORITY 80 BOYLSTON ST BOSTON MA 02116	00000 0		
8 CREST RD 12-00000036	BREADY ROBERT L 8 CREST ROAD NATICK MA 01760	21204 00466 19910606	BREADY DEBORAH A BREADY ROBERT L 8 CREST ROAD NATICK MA 01760	42379 0559 20040104

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
22 CREST RD 12-00000037	GILLOTT LISA GILLOTT EDWARD C 22 CREST RD NATICK MA 01760	41147 00308 20031008		
60 EVERGREEN RD 12-00000060	CLIFFORD ANN HALPIN ROBERT T/C 60 EVERGREEN RD NATICK MA 01760	35138 00324 20020325		
62 EVERGREEN RD 12-00000061	CLIFFORD ANN HALPIN ROBERT T/C 60 EVERGREEN RD NATICK MA 01760	35108 00324 20020325		
6 SUNSET PATH 12-00000062	PRESCOTT FAMILY TRUST PRESCOTT RONALD A JANICE A TRS 6 SUNSET PATH NATICK MA 01760	32575 00048 20010328		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
67 EVERGREEN RD 12-00000063	BROCHU DEBORAH 67 EVERGREEN RD NATICK MA 01760	36190 00319 20020821		
14 CREST RD 12-0000036A	WHITE KEVIN H WHITE DONNA J 14 CREST RD NATICK MA 01760	30177 294 19990517	GAUDET LINCOLN 14 CREST RD NATICK MA 01760	43429 0568 20040208
20 CREST RD 12-0000037A	TILTON MICHAEL F DENISE Y TILTON 20 CREST RD NATICK MA 01760	14311 00434 19810608		
18 CREST RD 12-0000037B	DOUCETTE DAVID P MARGARET M DOUCETTE 18 CREST RD NATICK MA 01760	15228 00500 19830922		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
28 CREST RD	YEE KENNETH	39381		
12-0000039A	YEE CAROLINE	00467		
	30 CREST RD	20030530		
	NATICK MA			
	01760			
54 EVERGREEN RD	MAFFEO MARTIN A	30949		
12-0000039D	D A COLLINS STEIN MARIO A KUMIKO T	00490		
	58 EVERGREEN RD	19991210		
	NATICK MA			
	01760			
58 EVERGREEN RD	MAFFEO MARTIN A	13317		
12-0000059A	DEBORAH A COLLINS	00711		
	58 EVERGREEN RD	19771026		
	NATICK MA			
	01760			
60 EVERGREEN RD	COMMONWEALTH OF MASSACHUSETT			
12-0000060A	DEPT OF NATURAL RESOURCES	00000		
	PO BOX 123	0		
	COCHITUATMA			
	01778			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
69 EVERGREEN RD 12-0000062A	MILLS DIANA E 73 EVERGREEN ROAD NATICK MA 01760	31602 411 20000713		
63 EVERGREEN RD 12-0000064B	LUKE ANDREW W PATRICIA D LUKE 63 EVERGREEN RD NATICK MA 01760	17142 00204 19860626		
43 CYPRESS RD 12-0000084A	BAZINET ALMA H 43 CYPRESS RD NATICK MA 01760	10406 00221 19631120		
39 CYPRESS RD OFF 12-0000084C	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
15 BAYBERRY RD	NATICK INHAB OF THE TOWN	19257		
12-0000085F	BOARD OF SELECTMEN	00283		
	13 EAST CENTRAL ST	19880810		
	NATICK MA			
	01760			
13 BAYBERRY RD	WILKINSON MARK A	31216		
12-0000085G	WILKINSON BEVERLY T	00365		
	13 BAYBERRY RD	20000315		
	NATICK MA			
	01760			
11 BAYBERRY RD	DRURY HERBERT JR	37919		
12-0000085H	DRURY JOANNE	00602		
	11 BAYBERRY RD	20030208		
	NATICK MA			
	01760			
0 OFF MAGNOLIA RD	MAGNOLIA LAKEFRONT REALTY TRUS	32520		
12-0000086A	FANCOURT ROXANNA D TRS	00085		
	39 FLORENCE ST	20010319		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
0 MASS TURNPIKE 12-0000086D	MASS TURNPIKE AUTHORITY 80 BOYLSTON ST BOSTON MA 02116	08614 00368 19551108		
0 MASS TURNPIKE 12-0000086E	MASS TURNPIKE AUTHORITY 80 BOYLSTON ST BOSTON MA 02116	00000 0		
24 CREST RD 12-000038+A	STEIN MARIO A STEIN KUMIKO T 24 CREST RD NATICK MA 01760	LC1215 73 19991210		
1131 WORCESTER ST 17-00000010	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
1053 WORCESTER ST 17-00000011	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
1053 WORCESTER ST 17-00000012	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
1053 WORCESTER ST 17-00000015	SORENSEN GEORGE P COCHITUATE BUILDING TRUST 119 OAK ST AMVTS POST 79 NATICK MA 01760	09893 00251 19610329		
41 SUPERIOR DR 17-00000016	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
0 SPEEN ST	PENN CENTRAL CO	10780		
17-000005FC		00450		
	6 PENN CENTER PLAZA	19650326		
	PHILADELPPA			
	19104			
51 LAKESHORE RD	GOWLOWICZ BOLESLOW S	07192		
18-00000039		00422		
	592 REMERT PL	19470919		
	NORTH BALNY			
	11510-1727			
45 LAKESHORE RD	TANGERINI CHESTER G	31384		
18-00000040		00287		
	41 LAKESHORE RD	20000508		
	NATICK MA			
	01760			
41 (R) LAKESHORE RD	THE CAMP PLEASANT TRUST	30143		
18-00000041	BROWN SHIRLEY M TR	00371		
	6 MEGONKO RD	19990505		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
6 MEGONKO RD 18-00000065	BROWN CLARENCE SHIRLEY M BROWN 6 MEGONKO RD NATICK MA 01760	09219 00537 19580705		
7 MEGONKO RD 18-00000066	MCCOLL THOMAS ROBERT JANE MORRIS MCCOLL 7 MEGONKO RD NATICK MA 01760	23212 00533 19930521		
29 VESTA RD 18-00000069	COWEN FRED V ANNA MICHAUD COWEN 29 VESTA RD NATICK MA 01760	19000 00234 19880422		
27 VESTA RD 18-00000070	ARGYROPLE CHRISTOPHER N 68 VESTA RD NATICK MA 01760	37267 00500 20021205		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
68 VESTA RD	ARGYROPLE CHRISTOPHER N	37267		
18-00000071		00500		
	172 COUNTRY DR	20021205		
	WESTON MA			
	02493			
16 VESTA RD	MURPHY WILLIAM T	24826		
18-00000073	MURPHY JULIET S	00151		
	16 VESTA RD	19940831		
	NATICK MA			
	01760			
18 PERRY RD	BAKER ARNOLD J	07591		
18-00000074	MARY C BAKER	00376		
	18 PERRY RD	19500610		
	NATICK MA			
	01760			
20 PERRY RD	BRADLEY MICHAEL R	13445		
18-00000075	DONNA BRADLEY	00054		
	PO BOX 1211	19780519		
	NOKOMIS FL			
	34274			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
13 VESTA RD	JOSSELYN MARY LOUISE	19512		
18-00000076	MICHAEL F JOSSELYN	00557		
	17 PERRY RD	19881206		
	NATICK MA			
	01760			
2 VESTA RD	BENSLEY ROBERT A	31784		
18-00000077	MOYNIHAN DEBORAH A	000052		
	2 VESTA RD	20000901		
	NATICK MA			
	01760			
9 VESTA RD	CLARK MICHAEL R	30950	KASSER JAMES R	43508
18-00000078	CLARK ERIN M	00114	KASSER CANDACE W	0202
	9 VESTA RD	19991210	9 VESTA RD	
	NATICK MA		NATICK MA 01760	20041208
	01760			
7 VESTA RD	BLASKI GERALYN M	13261		
18-00000079	RICHARD A SPAULDING	00359		
	10 VESTA RD	19770815		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
12 VESTA RD 18-00000080	BROGAN DANIEL R BROGAN SHERRIE R 12 VESTA RD NATICK MA 01760	41087 00267 20031001		
3 VESTA RD 18-00000111	WIGGLESWORTH LOUISE A L/E 3 VESTA RD NATICK MA 01760	08984 00183 19570705		
12 DARTMOUTH ST REA 18-00000112	HUNTER LAWRENCE J 704 GREENTREE RD LINTHICUMMD 21090	14937 00200 19830321	HUNTER STEVEN F 704 GREENTREE RD LINTHICUM MD 21090	41813 0156 20040121
48 BIRCH RD 18-00000113	KINKEAD LOIS E 48 BIRCH RD NATICK MA 01760	12362 00533 19730112		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
41 BIRCH RD	WRIGHT DAVID J	07811		
18-00000114	RITA M WRIGHT	00161		
	41 BIRCH RD	19511009		
	NATICK MA			
	01760			
10 SUNSET PATH	ZULLO EDWARD A	27787		
18-00000115		00342		
	89 UNION ST	19971020		
	NATICK MA			
	01760			
10 SUNSET PATH	MACGREGOR DAVID E	26199		
18-00000116		00530		
	10 SUNSET PATH	19950329		
	NATICK MA			
	01760			
7 SUNSET PATH	ANDERSON WALTER J	07190		
18-00000117	EVELYN L ANDERSON	00508		
	7 SUNSET PATH	19470919		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
0 SUNSET PATH END 18-00000118	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
45 LAKESHORE RD 18-0000039A	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
214 NORTH MAIN ST 18-0000056C	BROWN CLARENCE SHIRLEY BROWN 6 MEGONKO RD NATICK MA 01760	13004 00527 19760629		
0 MEGONKO RD OFF 18-0000067A	ETTER MARTIN A CATHERINE M ETTER 6 MEGONKO RD NATICK MA 01760	18869 00525 19880216		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
5 MEGONKO RD 18-0000067B	NATICK INHAB OF THE TOWN BOARD OF SELECTMEN 13 EAST CENTRAL ST NATICK MA 01760	15706 00022 19840727		
31 VESTA RD 18-0000068F	NATICK INHAB OF THE TOWN BOARD OF SELECTMEN 13 EAST CENTRAL ST NATICK MA 01760	15706 00022 19840727		
23 VESTA RD 18-0000072A	CARR BRENDAN M 23 VESTA RD NATICK MA 01760	LC1221 00138 20000525		
8 VESTA RD 18-0000072B	KING BARABARA 8 VESTA RD NATICK MA 01760	LC1224 00118 20000721		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
23 (R) VESTA RD 18-0000072C	RYAN JOHN REALTY TRUST CARR BRENDAN M HEATHER N TRS 23 VESTA RD NATICK MA 01760	LC1228 00199 20001024		
0 PERRY RD END 18-0000075A	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
0 BIRCH RD END 18-0000113A	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
25 RIDGE AVE 25-00000004	HAGGETT PAMELA C 25 RIDGE AVE NATICK MA 01760	36397 00239 20020913		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
26 PURINGTON AVE	LAVERY SHIRLEY R	10702		
25-00000005		00196		
	26 PURINGTON AVE	19641201		
	NATICK MA			
	01760			
29 RIDGE AVE	LANGHORST NANCI H	26784		
25-00000006	LANGHORST FREDERICK H JR	00160		
	29 RIDGE AVE	19961024		
	NATICK MA			
	01760			
31 RIDGE AVE	SMITH MAXIM G	13304		
25-00000007	PATRICIA E SMITH	00514		
	31 RIDGE AVE	19771006		
	NATICK MA			
	01760			
33 RIDGE AVE	BROWN CHERYL J	16459		
25-00000008		00558		
	33 RIDGE AVE	19850926		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
35 RIDGE AVE 25-00000009	MCCAFFREY EDWARD J MCCAFFREY CAROLE M 35 RIDGE AVE NATICK MA 01760	LC1187 00138 19980519		
37 RIDGE AVE 25-00000010	GOULD PHYLLIS S 37 RIDGE AVE NATICK MA 01760	00574 00065 19560625		
39 RIDGE AVE 25-00000011	CONNER JANET C 39 RIDGE AVE NATICK MA 01760	LC1198 00063 19981218		
41 RIDGE AVE 25-00000012	HESS PAM 41 RIDGE AVE NATICK MA 01760	LC1066 00197 19900228		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
30 RIDGE AVE 25-00000013	DELLICOLLI PETER 164 NORTH MAIN STREET NATICK MA 01760	LC957 00090 19820617		
34 ROBINHOOD RD 25-00000014	BOGAN NATHANIEL R BOGAN BOBBIE-JO H 34 ROBINHOOD RD NATICK MA 01760	LC1149 00124 19951208		
32 ROBINHOOD RD 25-00000015	TOLMAN THOMAS A EULA TOLMAN 32 ROBINHOOD RD NATICK MA 01760	LC765 00074 19680614		
30 ROBINHOOD RD 25-00000016	QUINN VINCENT K SUE B QUINN 30 ROBINHOOD RD NATICK MA 01760	LC1075 00137 19901113		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
28 ROBINHOOD RD	FRAZIER WILLIAM J	LC1080		
25-00000017	DAWN L FRAZIER	00079		
	28 ROBINHOOD RD	19910425		
	NATICK MA			
	01760			
26 ROBINHOOD RD	ELOVITZ DAVID M	LC689		
25-00000018	FRANCES K ELOVITZ	00114		
	26 ROBINHOOD RD	19630730		
	NATICK MA			
	01760			
24 ROBINHOOD RD	CHASE W BRADFORD JR	LC1001		
25-00000019	ANNE Y CHASE	00033		
	24 ROBINHOOD RD	19850729		
	NATICK MA			
	01760			
15 RIDGE AVE	BOATES HARRIET R	13030		
25-0000001B		00210		
	15 RIDGE AVE	19760804		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
22 ROBINHOOD RD 25-00000020	NEWMARK RAYMOND D NEWMARK CAROL L 22 ROBINHOOD RD NATICK MA 01760	LC1135 00130 19941206		
20 ROBINHOOD RD 25-00000021	KUSHNER SUZETTE E 20 ROBINHOOD RD NATICK MA 01760	LC1077 00041 19910102		
3 ARCHER DR 25-00000022	BATT GERARD C FUCHIOKA KEIKO 3 ARCHER DR NATICK MA 01760	LC1185 00100 19980330		
5 ARCHER DR 25-00000023	SUPPLE EDWARD A III 5 ARCHER DR NATICK MA 01760	LC1198 00097 19981221		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
7 ARCHER DR	SUPPLE EDWARD A III	LC1233		
25-00000024		00087		
	7 ARCHER DR	20010205		
	NATICK MA			
	01760			
15 1/2 RIDGE AVE	FLINCHBAUGH KATHLEEN B	LC952		
25-0000002A		00090		
	15 RIDGE AVE	19811214		
	NATICK MA			
	01760			
17 RIDGE AVE	DREISSIG ROBERT W	26853		
25-0000003A	DREISSIG SANDRA E	00310		
	17 RIDGE AVE	19961122		
	NATICK MA			
	01760			
19 RIDGE AVE	NICKERSON LINDA	22732		
25-0000003B		00095		
	19 RIDGE AVE	19921216		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
21 RIDGE AVE	SAMELS JAMES E	30184		
25-0000003C	SAMELS EILEEN M	076		
	21 RIDGE AVE	19990519		
	NATICK MA			
	01760			
23 RIDGE AVE	GOLAN NOMINEE TRUST	29520		
25-0000003D	GOLAN HAROLD P IRENE S TR	00390		
	23 RIDGE AVE	19981215		
	NATICK MA			
	01760			
37 RIDGE AVE	COMMONWEALTH OF MASSACHUSETT			
25-0000009A	DEPT OF NATURAL RESOURCES	00000		
	PO BOX 123	0		
	COCHITUATMA			
	01778			
30 ROBINHOOD RD	COMMONWEALTH OF MASSACHUSETT			
25-0000012A	DEPT OF NATURAL RESOURCES	00000		
	PO BOX 123	0		
	COCHITUATMA			
	01778			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
1130 WORCESTER ST 25-0000024A	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
1093 WORCESTER ST 25-0000253A	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
1131 WORCESTER ST 25-0000253B	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
1 LAKEWOOD RD 26-00000019	BURKE JANICE C 1 LAKEWOOD RD NATICK MA 01760	LC1115 00057 19930819		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
27 ARCADIA RD 26-00000035	BAYER BETHANY A BAYER MARK D 27 ARCADIA RD NATICK MA 01760	31943 00123 20001020	BAYER MARK D 27 ARCADIA RD NATICK MA 01760	42269 0021 20041903
30 ARCADIA RD 26-00000037	KESSEL IRENE F MEYERS TERRY L KESSEL T/C 29 WATER ST NATICK MA 01760	28873 00029 19980724		
23 ARCADIA RD 26-00000038	KELLER DEANNE WILLIAM F FLYNN 23 ARCADIA RD NATICK MA 01760	23106 00325 19930423		
19 ARCADIA RD 26-00000039	PARKER ERIC R COADY STACEY L 19 ARCADIA RD NATICK MA 01760	30466 00074 19990727		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
1 ARCADIA RD	MODELL MARK D	33105	MODELL MARK D	41992
26-00000040		00520	RAKHLEVSKAYA VEDA	0190
	1 ARCADIA RD	20010622	1 ARCADIA RD NATICK MA 01760	20040602
	NATICK MA			
	01760			
5 LOKER ST	BORGHI RAYMOND A	32889		
26-00000116	BORGHI MARY T	00292		
	5 LOKER ST	20010518		
	NATICK MA			
	01760			
3 LOKER ST	DOIRON WILLIAM C	35583		
26-00000117		00007		
	3 LOKER ST	20020531		
	NATICK MA			
	01760			
1 LOKER ST	BRADY HARRISON A	13857		
26-00000119	DEBRA S BRADY	00030		
	300 BACON ST	19791213		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
3 LOKER ST 26-00000120	SANGREY KARLA 302 BACON ST NATICK MA 01760	38996 00087 20030430		
298 BACON ST 26-00000121	BROUDE NATALIA 298 BACON ST NATICK MA 01760	26526 00112 19960726		
300 BACON ST 26-00000122	BRADY HARRISON A DEBRA S BRADY 300 BACON ST NATICK MA 01760	13857 00030 19791213		
302 BACON ST 26-00000123	SANGREY KARLA 302 BACON ST NATICK MA 01760	38996 00087 20030430		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
304 BACON ST	POSSON CRAIG S	13243		
26-00000124	KATHLEEN C POSSON	00416		
	304 BACON ST	19770722		
	NATICK MA			
	01760			
306 BACON ST	LEBLANC PATRICIA F TR	06551		
26-00000125		00088		
	3 WARD LANE	19411016		
	SHERBORNMA			
	01770			
308 BACON ST	GHETTI PAUL	12605		
26-00000126	RUTH A GHETTI	00399		
	308 BACON ST	19740326		
	NATICK MA			
	01760			
316 BACON ST	FAY ROBERT J JR	16251		
26-00000128	KAREN M FAY	00037		
	316 BACON ST	19850627		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
318 BACON ST	FOLEY MICHAEL E	25774		
26-00000129	FOLEY JANET E	00349		
	318 BACON ST	19951030		
	NATICK MA			
	01760			
320 BACON ST	PUCILLO JAMES	11479		
26-00000130		00453		
	320 BACON ST	19680318		
	NATICK MA			
	01760			
322 BACON ST	NATICK INHAB OF THE TOWN	30508		
26-00000131		00603		
	13 EAST CENTRAL ST	19990804		
	NATICK MA			
	01760			
324 BACON ST	NATICK INHAB OF THE TOWN	30553		
26-00000132		00008		
	13 EAST CENTRAL ST	19990817		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
326 BACON ST	NAT REALTY TRUST	LC1078		
26-00000133	CLAIR JAMES E TR	00080		
	151 RIVERMOOR ST	19910215		
	BOSTON MA			
	02132			
1076 WORCESTER ST	NATICK INHAB OF THE TOWN			
26-00000168	PUBLIC WORKS DEPT	00000		
	13 EAST CENTRAL ST	0		
	NATICK MA			
	01760			
71 LAKESHORE RD	BENSON NANCY H	13713		
26-00000169		00164		
	71 LAKESHORE RD	19790614		
	NATICK MA			
	01760			
69 LAKESHORE RD	HART JOHN I	27687		
26-00000170	HART JUDITH N	00127		
	69 LAKESHORE RD	19970915		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
67 LAKESHORE RD 26-00000171	EDITH L ALPERS TRUST THE ALPERS EDITH L 67 LAKESHORE RD NATICK MA 01760	21752 00311 19920211		
65 LAKESHORE RD 26-00000172	FISHER JOHN 65 LAKESHORE RD NATICK MA 01760	34211 00347 20011203		
0 FISHER ST END 26-0000019A	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
63 FISHER ST 26-0000020B	NEWIS JOHN K DIONNE MARGARET E ZERO LAKEWOOD RD NATICK MA 01760	LC1158 00181 19960715		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
61 FISHER ST 26-0000020C	GARVEY HAROLD T MARTHA A RIVARD-GARVEY 61 FISHER ST NATICK MA 01760	LC1183 00025 19980126		
29 ARCADIA RD 26-0000036A	BREDA DONALD J SR BREDA ANN M 29 ARCADIA RD NATICK MA 01760	32699 00491 20010418	BREDA ANN M 29 ARCADIA RD NATICK MA 01760	42010 0525 20041002
31 ARCADIA RD 26-0000036B	GARVEY ANNA T 31 ARCADIA RD NATICK MA 01760	10378 00548 19631011		
34 ARCADIA RD 26-0000036C	COLLINS JOANNE E 34 ARCADIA RD NATICK MA 01760	27297 00491 19970507		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
32 ARCADIA RD 26-0000036D	LERME CATHERINE S BENDHEIM ANDREW 32 ARCADIA RD NATICK MA 01760	23309 00150 19930611		
13 ARCADIA RD 26-0000039A	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
310 BACON ST 26-0000127A	WRIGHT AUGUSTUS S MARY WRIGHT 312 BACON ST NATICK MA 01760	09261 00577 19580630		
314 BACON ST 26-0000127C	BYRNE KAREN A 314 BACON ST NATICK MA 01760	14563 00437 19820318		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
1136 WORCESTER ST	COMMONWEALTH OF MASSACHUSETT			
26-0000168A	DEPT OF NATURAL RESOURCES	00000		
	PO BOX 123	0		
	COCHITUATMA			
	01778			
1055 WORCESTER ST	COMMONWEALTH OF MASSACHUSETT			
26-0000168D	DEPT OF NATURAL RESOURCES	00000		
	PO BOX 123	0		
	COCHITUATMA			
	01778			
63 LAKESHORE RD	GOLDMAN HARRY W	25053		
26-0000173A	GOLDMAN EVELYN	00036		
	63 LAKE SHORE RD	19941204		
	NATICK MA			
	01760			
61 LAKESHORE RD	MILLER A RICHARD	11515		
26-0000173B	JILL A MILLER	00006		
	61 LAKESHORE RD	19680531		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
9 RIDGE AVE	REITERS REALTY TRUST	33140		
33-00000002	REITERS AUSTRA JANIS E TRS	00428		
	9 RIDGE AVE	20010627		
	NATICK MA			
	01760			
7 RIDGE AVE	OCKERBY FRANK W	13045		
33-00000003	BARBARA A OCKERBY	00570		
	7 RIDGE AVE	19760826		
	NATICK MA			
	01760			
5 RIDGE AVE	SHAFFER ROBERT A	13075	SHAFFER MARK A	44028
33-00000004	MAUREEN D SHAFFER	00535	SHAFFER PATRICIA A	00121
	5 RIDGE AVE	19761015	5 RIDGE AVE NATICK MA 01760	20041102
	NATICK MA			
	01760			
3 RIDGE AVE	MAHONEY EDWARD F	15059		
33-00000005	BARBARA A MAHONEY	00080		
	3 RIDGE AVE	19830613		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
1 RIDGE AVE	WADSWORTH JOHN W	35827		
33-00000006	WADSWORTH MARIA M	00198		
	1 RIDGE AVE	20020702		
	NATICK MA			
	01760			
11 1/2 RIDGE AVE	NUNN ELEANOR C L/E	30271		
33-0000001B	NUNN KENNETH P & NUNN CLAUDIA E	376		
	11 RIDGE AVE	19990609		
	NATICK MA			
	01760			
11 RIDGE AVE	NUNN ELEANOR C L/E	30271		
33-0000001C	NUNN KENNETH P JR & NUNN CLAUDIA	376		
	44 CANTERBURY RD	19990609		
	BROOKLYNCT			
	06234			
201 SPEEN ST	MITCHELL JOHN E	LC917		
33-00000025	DEBBIE A MITCHELL	00171		
	201 SPEEN ST	19790319		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
199 SPEEN ST 33-00000026	MITCHELL JOHN E DEBBIE A MITCHELL 201 SPEEN ST NATICK MA 01760	LC917 00171 19790319		
197 SPEEN ST 33-00000027	BACKMAN KENNETH J 68 PINE ST DOVER MA 02030	LC1254 00049 20020626	BACKMAN SANDRA L 68 PINE ST DOVER MA 02030	01272 0124 20030708
21 CRESCENT ST 33-00000028	PINGALORE MARY ANN PATRICIA E GRAY 21 CRESCENT ST NATICK MA 01760	LC1069 00116 19900517		
17 CRESCENT ST 33-00000029	MAYBE REALTY TRUST DUFF MAY B TRUSTEE 19 CRESCENT ST NATICK MA 01760	1133 00131 19941012		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
15 CRESCENT ST 33-00000030	TAVILLA ANTHONY TAVILLA JOSEPHINE 15 CRESCENT ST NATICK MA 01760	LC1195 00133 19981023		
13 CRESCENT ST 33-00000031	DININIO ROBERT M ETAL 13 CRESCENT ST NATICK MA 01760	LC1261 00049 20021125		
11 CRESCENT ST 33-00000032	11 CRESCENT ST REALTY TRUST HAWTREY PETER 11 CRESCENT ST NATICK MA 01760	LC1198 00042 19981216		
9 CRESCENT ST 33-00000033	BERKOWITZ CAROLE ANN 9 CRESCENT ST NATICK MA 01760	LC1072 00001 19900727		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
5 CRESCENT ST 33-00000034	SINGH FALGUNI V 5 CRESCENT ST NATICK MA 01760	LC1254 00071 20020627		
5 1/2 RIDGE AVE 33-0000003B	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
0 RIDGE AVE 33-0000021A	VANSPEYBROECK ERIN H ZERO RIDGE AVE NATICK MA 01760	1096 00142 19920622		
6 LODGE LN 33-0000022B	LESNIAK JEANNE M 6 LODGE LANE NATICK MA 01760	22038 00448 19920515		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
7 LODGE LN 33-0000023A	HUGHES CHARLES A JR C ARTHUR HUGHES 7 LODGE LANE NATICK MA 01760	LC1088 00008 19911105		
205 SPEEN ST 33-0000024A	HUGHES CHARLES A JR 205 SPEEN ST NATICK MA 01760	LC1206 00156 19990623		
19 CRESCENT ST 33-0000029A	MAYBE REALTY TRUST DUFF MAY B TRUSTEE 2206 Q STREET NW WASHINGTDC 20008	1133 00131 19941012	LAKESHORE REALTY TRUST BRACKEN THEODORE L 2206 Q STREET NW WASHINGTON DC 20008	01291 0089 20040610
185 SPEEN ST 33-0000035A	NATICK INHAB OF THE TOWN PARKS & RECREATION 13 EAST CENTRAL ST NATICK MA 01760	10527 00196 19640514		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
0 KANSAS ST END	UNITED STATES OF AMERICA	8072		
34-00000027	NTK QM RES & DEV LABORATORY	447		
	END KANSAS ST	19530513		
	NATICK MA			
	01760			
0 KANSAS ST END	UNITED STATES OF AMERICA	8072		
34-00000027	NTK QM RES & DEV LABORATORY	447		
	END KANSAS ST	19530513		
	NATICK MA			
	01760			
18 LAKEWOOD RD	CZEISLER CHARLES A	LC1063	WICKHAM ROBERT C	01286
34-00000039		00161	WICKHAM DIEDRE A	0193
	18 LAKEWOOD RD	19891117	18 LAKEWOOD RD NATICK MA 01760	20043006
	NATICK MA			
	01760			
11 LAKEWOOD RD	OSGOOD A NEILL	LC919		
34-00000040	GRACE V OSGOOD	00097		
	11 LAKEWOOD RD	19790503		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
9 LAKEWOOD RD 34-00000041	RUGGIERO RICHARD A JANET P BAKER 9 LAKEWOOD RD NATICK MA 01760	LC935 00029 19800620		
7 LAKEWOOD RD 34-00000042	FITZGERALD IRENE M 7 LAKEWOOD RD NATICK MA 01760	LC412 00181 19470526		
5 LAKEWOOD RD 34-00000043	TINNEY JAMES E TINNEY LYNN D 5 LAKEWOOD RD NATICK MA 01760	LC1173 00100 19970627		
3 LAKEWOOD RD 34-00000044	GAROIAN GEORGE CATHERINE GAROIAN 3 LAKEWOOD RD NATICK MA 01760	LC934 00075 19800528		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
16 LAKEWOOD RD 34-0000038A	BERKMAN MICHAEL W 16 LAKEWOOD ROAD NATICK MA 01760	LC1034 00073 19870813		
1 LAKE ST 35-00000245	MEARES LAURA MEARES MICHAEL 1 LAKE ST NATICK MA 01760	39671 00588 20030624		
5 LAKE ST 35-00000246	ROBERTS MARK J ROBERTS TERESA M 5 LAKE ST NATICK MA 01760	33317 00068 20010725		
9 LAKE ST 35-00000248	TIMMINS ANA V 9 LAKE ST NATICK MA 01760	34635 00233 20020123		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
11 LAKE ST 35-00000249	MIX JEFFREY D MIX BEVERLY 11 LAKE ST NATICK MA 01760	33628 00391 20010912		
17 LAKE ST 35-00000250	HEBERT PAMELA A 17 LAKE ST NATICK MA 01760	13041 00401 19760820		
19 LAKE ST 35-00000251	DEMBROWSKI MICHAEL G JUDITH M DEMBROWSKI 19 LAKE ST NATICK MA 01760	22870 00647 19930129		
21 LAKE ST 35-00000252	PITTMAN MICHELLE E 21 LAKE ST NATICK MA 01760	39026 00167 20030502		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
23 LAKE ST	CLOVER REALTY TRUST	16108		
35-00000254	CLOVER MARIA G TRUSTEE	00105		
	23 1/2 LAKE ST	19850417		
	NATICK MA			
	01760			
0 LAKE ST	COMMONWEALTH OF MASSACHUSETT	12668		
35-00000311	DEPT OF NATURAL RESOURCES	00390		
	PO BOX 123	19740717		
	COCHITUATMA			
	01778			
3 LAKE ST	ROBERTS MARJORIE M	30513		
35-0000245A		00297		
	3 LAKE ST	19990805		
	NATICK MA			
	01760			
0 LAKE ST R	LAKE STREET REALTY TRUST	16108		
35-0000255A	CLOVER MARIA G TRS	00116		
	23 1/2 LAKE ST	19850417		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
15 VALLEY RD	CASSIDY DIANNE K	24606		
35-0000288C	CASSIDY CHARLES	00252		
	15 VALLEY RD	19940609		
	NATICK MA			
	01760			
17 VALLEY RD	SIABA MICHAEL E	23349		
35-0000288D	DENISE M LINDQUIST	00524		
	17 VALLEY ROAD	19930625		
	NATICK MA			
	01760			
19 VALLEY RD	DIGIANDOMENICO RICHARD D	242481		
35-0000288E	DIGIANDOMENICO SUSAN S	00304		
	19 VALLEY RD	19940207		
	NATICK MA			
	01760			
7 LAKE ST	OLEARY KEVIN E	36095		
35-000247A+		00327		
	P.O. BOX 2135	20020809		
	FRAMINGHAMA			
	01703			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
149 SPEEN ST 41-00000084	COMMONWEALTH OF MASSACHUSETT ARMORY COMMRS CH 205 ACTS 33 149 SPEEN ST NATICK MA 01760	0		
113 WEST CENTRAL ST 41-0000092A	NATICK POST 1274 VFW/USA 113 WEST CENTRAL ST NATICK MA 01760	11501 00239 19680503		
113 WEST CENTRAL ST 42-00000034	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
111 WEST CENTRAL ST 42-00000035	COMMONWEALTH OF MASSACHUSETT DEM 10 PARK PLAZA BOSTON MA 02116	00000 0		

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
111 WEST CENTRAL ST	NATICK INHAB OF THE TOWN	11457		
42-00000037		00566		
	13 EAST CENTRAL ST	19680119		
	NATICK MA			
	01760			
111 WEST CENTRAL ST	NATICK INHAB OF THE TOWN	12115		
42-0000045B		00294		
	13 EAST CENTRAL ST	19711123		
	NATICK MA			
	01760			
0 HUNTER CT END	NATICK INHAB OF THE TOWN	12460		
43-00000402		00348		
	13 EAST CENTRAL ST	19730621		
	NATICK MA			
	01760			
21 VALLEY RD	SHIMONI YUVAL	33104		
43-00000488	SHIMONI RACHEL	00057		
	21 VALLEY RD	20010622		
	NATICK MA			
	01760			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
26 BELLEVUE RD	KUKLA PAMELA A	15193		
43-0000444D		00471		
	26 BELLEVUE RD	19830830		
	NATICK MA			
	01760			

This report contains the certified list of owners on record with the Town of Natick. The Record Owner is the property owner on January 1st. The Deed Owner is the current owner of the property. The Deed Owner is updated throughout the year as records are received from the Middlesex South Registry of Deeds

Lorna Conrad

Authorized Signature.

Town of Natick
Abutters Report

6/29/2005

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
25 COMMONWEALTH RD	COMMONWEALTH OF MASSACHUSETT			
11-00000022	DEPT OF NATURAL RESOURCES	00000		
	PO BOX 123	0		
	COCHITUATMA			
	01778			
0 MASS TURNPIKE	MASS TURNPIKE AUTHORITY			
11-00000024		00000		
	80 BOYLSTON ST	0		
	BOSTON MA			
	02116			
34 OFF COMMONWEALTH	COMMONWEALTH OF MASSACHUSETT			
11-00000031	DEPT OF NATURAL RESOURCES	00000		
	PO BOX 123	0		
	COCHITUATMA			
	01778			
0 MASS TURNPIKE	MASS TURNPIKE AUTHORITY			
11-00000032		00000		
	80 BOYLSTON ST	0		
	BOSTON MA			
	02116			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
0 MASS TURNPIKE	MASS TURNPIKE AUTHORITY			
11-00000033		00000		
	80 BOYLSTON ST	0		
	BOSTON MA			
	02116			
0 MASS TURNPIKE	MASS TURNPIKE AUTHORITY			
11-00000034		00000		
	80 BOYLSTON ST	0		
	BOSTON MA			
	02116			
73 OFF EVERGREEN RD	COMMONWEALTH OF MASSACHUSETT			
11-0000014B	DEPT OF NATURAL RESOURCES	00000		
	PO BOX 123	0		
	COCHITUATMA			
	01778			
77 OFF EVERGREEN RD	COMMONWEALTH OF MASSACHUSETT			
11-0000014C	DEPT OF NATURAL RESOURCES	00000		
	PO BOX 123	0		
	COCHITUATMA			
	01778			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
39 COMMONWEALTH RD	MASS TURNPIKE AUTHORITY			
11-0000021A		00000		
	80 BOYLSTON ST	0		
	BOSTON MA			
	02116			
39 COMMONWEALTH RD	COMMONWEALTH OF MASSACHUSETT	09168		
11-0000021B	DEPT OF NATURAL RESOURCES	00475		
	PO BOX 123	19580424		
	COCHITUATMA			
	01778			
0 (R) COMMONWEALTH	MASS TURNPIKE AUTHORITY			
11-0000022A		00000		
	80 BOYLSTON ST	0		
	BOSTON MA			
	02116			
0 MASS TURNPIKE	MASS TURNPIKE AUTHORITY			
11-0000023A		00000		
	80 BOYLSTON ST	0		
	BOSTON MA			
	02116			

Property Location	Owner of Record	Deed Information	Deed Owner	New Deed
45 OAK KNOLL RD 12-00000157	GAUDET LINCOLN J GAUDET DEANNE 45 OAK KNOLL RD NATICK MA 01760	36355 00479 20020910	HOWLAND KIMBERLY A DAILEY DONALD F JR 45 OAK KNOLL RD NATICK MA 01760	44027 00028 20041102
43 CYPRESS RD 12-0000084A	BAZINET ALMA H 43 CYPRESS RD NATICK MA 01760	10406 00221 19631120		
39 CYPRESS RD OFF 12-0000084C	COMMONWEALTH OF MASSACHUSETT DEPT OF NATURAL RESOURCES PO BOX 123 COCHITUATMA 01778	00000 0		
0 MASS TURNPIKE 12-0000086E	MASS TURNPIKE AUTHORITY 80 BOYLSTON ST BOSTON MA 02116	00000 0		

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Lorna M Conrad

Authorized Signature.

Attachment A

Notice of Intent Narrative

1.0 INTRODUCTION

On behalf of the Department of Conservation and Recreation (DCR) Lakes and Ponds Program, ESS Group, Inc. (ESS) has prepared this Notice of Intent (NOI) to control nuisance aquatic vegetation in Lake Cochituate through the use of various physical and biological control methods.

After considering several options to control aquatic vegetation in Lake Cochituate, DCR has selected a 5-year vegetation management plan that utilizes a combination of physical, biological, and chemical control methods; a copy of the Lake Cochituate Long Term Vegetation Management Plan is provided with this filing. This NOI is submitted for the physical/biological removal of nuisance aquatic vegetation in Lake Cochituate, while a separate NOI has been filed with the Natick Conservation Commission on this date for the use of herbicides.

Physical removal methods proposed under this NOI include the use of hand-pulling and suctioning harvesting. In addition, DCR may conduct a milfoil weevil pilot study in a portion of Lake Cochituate to assess the effectiveness of this biological control method. Because aquatic weeds are present immediately upstream of the Natick municipal boundary, it is important that DCR obtain this approval in order to implement a pro-active management plan that can respond quickly to the aggressive spread of these invasive species.

This NOI is submitted pursuant to M.G.L. c. 131 s. 40 (Massachusetts Wetlands Protection Act) and its implementing regulations (310 CMR 10.00), and the Town of Natick Wetlands Protection Bylaw and Regulations. Similar NOIs are also being filed concurrently with the Natick and Wayland Conservation Commissions for work in those towns. This management plan is proposed as a Limited Project under 310 CMR 10.53(4) for resource area improvements.

2.0 SITE DESCRIPTION

Lake Cochituate is a 614-acre lake located in the towns of Framingham, Natick and Wayland (see Figure 1 in Attachment B). It is owned by the Commonwealth and managed by DCR. As shown in Figure 1, the lake is divided into three distinct basins – North Pond (western half is located in Framingham; eastern half is located in Wayland with a small portion in Natick), Middle Pond (Wayland and Natick) and South Pond (Natick). Water flows in a northerly direction from South Pond, through Middle Pond, to North Pond where it discharges out a dam on the western shoreline into Cochituate Brook, a tributary to the Sudbury River. Water depths reach a maximum of approximately 69 feet, with an average depth over the entire lake of 22 feet. Additional information on the lake's bathymetry, water quality, and other characteristics are provided in the Lake Cochituate Long Term Vegetation Management Plan (bound separately).

The lake is an important freshwater recreational resource for the Metrowest area and is used intensively for boating, swimming, and fishing. Surrounding land use includes Cochituate State Park, municipal open

space and recreational lands, and densely-developed commercial and residential areas. In addition, the lake is bisected by several major roadways; the MassPike (I-90) and Cochituate Road (Route 30) separate the North and Middle Ponds, while Worcester Road (Route 9) divides the Middle and South Ponds. Several non-indigenous invasive plant species have recently become established and threaten to compromise the lake's native plant and animal communities.

2.1 Vegetation Management History

After documenting an infestation of non-native and invasive Eurasian watermilfoil (*Myriophyllum spicatum*) and variable watermilfoil (*M. heterophyllum*) in South Pond and Middle Pond in 2002, immediate steps were taken to prevent additional spread, including the installation of fragment barriers across the channels that connect the main basins to capture milfoil fragments and prevent them from spreading north from South Pond. The barriers also prevented boat travel between basins, further reducing the transport of milfoil within the lake. However, despite these measures, milfoil continued to spread to other parts of Middle Pond and into North Pond.

DCR then decided to implement a multi-treatment approach to the short-term management of aquatic plants. An NOI was filed in April 2003 with the Natick Conservation Commission for the chemical treatment of 50-60 acres, installation of bottom weed barriers, and use of diver hand-pulling within portions of the lake in the town of Natick (DEP File No. 233-0547). An Order of Conditions was issued by the Natick Conservation Commission, but it was appealed due to opposition to the use of herbicides. Due to the lengthy appeal process and the need to undertake immediate measures to control the invasive plants, DCR filed a second NOI in July 2003 for the physical removal portions of the short-term management plan, including the use of bottom weed barriers, fragment barriers, and diver hand-pulling (DEP File No. 233-0550). This Order of Conditions was issued and was not appealed, and the work commenced in August 2003.

DEP issued a Superseding Order of Conditions on the original NOI on March 9, 2004, allowing the application of herbicides and physical control measures to proceed. During the subsequent lengthy appeal process of that Order, detailed aquatic plant surveys continued to be performed by Aquatic Control Technologies (ACT), which indicated that the original short-term management plan was no longer adequate to control the increasing growth of milfoil in the lake. Based on these surveys, ACT therefore developed a Long Term Vegetation Management Plan in 2003 for Lake Cochituate but was not initiated (ACT, 2004; bound separately). This management plan, with some minor modifications based on the results of plant surveys in 2005, is the focus of the two NOIs submitted on this date.

2.2 Aquatic Vegetation Surveys

2.2.1 2003 Survey

Two comprehensive vegetation survey efforts were performed at Lake Cochituate in 2003. The first survey was performed in June and focused on South Pond and portions of Middle Pond, while the second survey was performed in October on the remainder of Middle Pond and North Pond. The methods and results of these surveys are provided in the Lake Cochituate Long Term Vegetation Management Plan (bound separately).

South Pond (246-acres) supported the most extensive milfoil coverage, with varying (moderate to high) milfoil densities found in approximately 26% (64 acres) of this basin and the densest milfoil coverage occurring in Pegan Cove. Lower milfoil densities were found in the remainder of South Pond with somewhat denser patched found in the shallow cove areas along both shorelines. Milfoil coverage was less in the northern third of the basin where water depths were greater with the exception being for the northernmost shoreline near the junction with Carling Basin. Variable watermilfoil was encountered in the northwest corner, along the southern shoreline near Pegan Cove and in the small cove that lies just north of Pegan. Dominant aquatic plants identified in South Pond along the eastern and western shorelines included Robbins pondweed, clasping-leaf pondweed, slender naiad, bladderwort, elodea, and thin-leafed pondweed. In Pegan Cove, the dominant plants were Eurasian watermilfoil, bladderwort, curlyleaf pondweed, Robbins pondweed, and elodea. Along the northeast shoreline, the dominant species was slender naiad. Overall total plant cover in South Pond was moderate and estimated at 76 acres, representing approximately 31% of this basin.

The milfoil (*M. spicatum* and *M. heterophyllum*) coverage in Middle Pond (168-acres) during 2003 was found to be more extensive than originally estimated in 2002. Approximately 12% (20 acres) of Middle Pond (including Carling Basin) supported milfoil growth, with the densest patches located at the eastern edge of the public boat ramp, in the shallow cove east of the public boat ramp and the northern cove divided by Route 30 and the MassPike bridges. Variable watermilfoil was found in the small cove near the connection to Carling Basin. Dominant aquatic plants identified in Middle Pond in the littoral zone included Robbins pondweed, wild celery, slender naiad, and variable leaf pondweed. The shallow coves in the northwestern portion were dominated by Robbins pondweed, coontail, filamentous algae, and watermeal. Overall total plant cover in Middle Pond was generally common to abundant and estimated at 35 acres, representing approximately 21% of this basin.

No milfoil had been found in North Pond (198-acres) during surveys in 2002 and efforts were made, including the installation of fragment nets at the MassPike bridge, to prevent the spread of milfoil into this basin. Unfortunately, a limited distribution of milfoil plants was discovered at the

southern end of North Pond in 2003. Milfoil plants in North Pond were widely scattered; coverage was less than 10% and the total area where milfoil was found and comprised less than 2 acres. Milfoil represented approximately 8% of the total plant cover found in North Pond in 2003. Dominant aquatic plants identified in North Pond included variable-leaf pondweed, Robbins pondweed, slender naiad, submersed arrowhead and wild celery. Overall total plant cover in North Pond was scattered and estimated at 16 acres, representing approximately 8% of this basin.

2.2.2 2005 Survey

In June 2005, ESS identified and mapped aquatic vegetation throughout Lake Cochituate in order to assess changes in the aquatic plant community and spread of milfoil and other nuisance aquatic plants. For consistency, the transect and data point sampling methodology utilized in 2005 was consistent with that used in the 2003 survey (but was done by a different company) but a greater number of transects and survey points were added in 2005 to provide additional detail. Data point locations were surveyed with a Magellan SporTrak Map GPS receiver and are depicted on Figures 2 through 10 (Attachment B).

In South Pond, aquatic plant coverage was concentrated in Pegan Cove and along the west and east shorelines and was estimated at 81 acres, representing approximately 33% of this 246-acre basin (Figure 4). Approximately 9% (7.5 acres) of this total plant coverage included curlyleaf pondweed (*Potamogeton crispus*), an invasive aquatic plant (Figure 7). Milfoil was concentrated along the northern and southern portions of the basin (see Figure 10). Coverage in these areas ranges widely from 0-75%. South Pond continued to support the most extensive milfoil coverage, with varying densities of milfoil (*M. spicatum* and *M. heterophyllum*) cover occurring in approximately 21% (50.5 acres) of this basin.

In Middle Pond, aquatic plant coverage was concentrated in the basin located between Route 30 and the MassPike, and the area immediately south of MassPike. Lesser amounts of aquatic plant coverage are located along the remaining portions of the shoreline; coverage was estimated at 35 acres, representing 21% of this 168-acre basin (Figure 3). Approximately 36% (12.6 acres) of this total plant coverage included curlyleaf pondweed, an invasive aquatic plant (Figure 6). Approximately 16% (26.7 acres) of Middle Pond (including Carling Basin) supported milfoil growth, with the densest patches (up to 75-100% coverage) on the northeast side of the Middle Pond and the area between the Route 30 and MassPike bridges (figure 9). This represents an increase from what was observed in 2003.

In North Pond, aquatic plant coverage was concentrated along the lake shoreline and was estimated at 21 acres, representing approximately 11% of this 198-acre basin (see Figure 2). Approximately 79% (16.5 acres) of this total plant coverage included curlyleaf pondweed, an

invasive aquatic plant (see Figure 5). Milfoil continued to be present within North Pond at relatively low densities. Milfoil plants were widely scattered, located in small patches near Route 30 and the eastern shoreline at densities less than 10% (see Figure 8). The total area where milfoil was found comprised less than 1 acre. It should be noted that although milfoil coverage and densities observed in North and South Ponds in 2005 are slightly less than those observed in 2003, there is no indication of a decline in milfoil populations; surveys in 2005 were performed early in the growing season (June) while observations in 2003 were made late in the growing season (October) when the plant community was at peak maturity. This conclusion is supported by subsequent visual observations made by ESS in July that revealed increases in the density and coverage of milfoil in several areas of the lake that had not yet "bloomed" in June.

2.3 Wetland Resource Areas

The Department of Environmental Protection's (DEP) *Guidance for Aquatic Plant Management in Lakes and Ponds as it Relates to the Wetlands Protection Act* (DEP, 2004) allows resource areas associated with treatment of expansive areas to be delineated using DEP Orthophoto Wetland Maps. Based on these maps, available from MassGIS (see Figure 11), Lake Cochituate is regulated under the Massachusetts Wetlands Protection Act as Land Under Waterbodies and Waterways (LUWW) and Bank, and under the Natick Wetlands Protection Bylaw as Lake, Bank, and Land Under Waterbodies and Waterways. These resource areas are defined as follows:

- **Land Under Waterbodies and Waterways (LUWW):** As defined by 310 CMR 10.56(2)(a)&(c), LUWW is "land beneath any creek, river, stream, pond or lake. Said land may be composed of organic muck or peat, fine sediments, rocks, or bedrock." The boundary of LUWW is defined as "the mean annual low water level."

- **Bank:** As defined by 310 CMR 10.54(2)(a)&(c), Bank is "...the portion of the land surface that normally abuts and confines a water body." This land surface "...may be partially or totally vegetated, or it may be comprised of exposed soil, gravel, or stone." The upper boundary of Bank is defined as "the first observable break in the slope or the mean annual flood level, whichever is lower."

- **Lake**: The Natick Wetlands Protection Bylaw defines a Lake as "an open body of fresh water with a surface area of ten (10) acres or more, and shall include great ponds."

Lake Cochituate is not surrounded by extensive Bordering Vegetated Wetlands (BVW). Based on a review of the DEP's Wetland Datalayer, adjacent wetlands are primarily limited to the Pegan Cove portion of South Pond in Natick (see Figure 11 in Attachment B). This adjacent BVW includes red maple swamp and emergent marsh components.

2.4 Fish and Wildlife

LUWW associated with Lake Cochituate is significant to fish and wildlife habitat. Based on field observations in June 2005 and on July 19, 2005, Lake Cochituate is likely to provide habitat for those water-dependent wildlife species that can tolerate developed areas, such as muskrat (*Ondatra zibethicus*), Canada goose (*Branta canadensis*), great blue heron (*Ardea herodias*), mute swan (*Cygnus olor*), mallard (*Anas platyrhynchos*), tree swallow (*Tachycineta bicolor*), bullfrog (*Rana catesbeiana*), green frog (*Rana clamitans*), red spotted newt (*Notophthalmus viridescens*), snapping turtle (*Chelydra serpentine*), and painted turtle (*Chrysemys picta*).

Fish species known to occur in the lake include large and small mouth bass (*Micropterus salmoides* and *M. dolomieui*), chain pickerel (*Esox niger*), bluegill (*Lepomis macrochirus*), yellow and white perch (*Perca falvescens* and *Morone americana*), and other common species. The Division of Fisheries and Wildlife has also routinely stocked the lake with rainbow and brown trout (*Salmo gairdneri* and *S. trutta*), along with occasional stocking of Atlantic salmon (*Salmo salar*) brood stock. Stockings of northern pike (*Esox lucius*) and tiger muskies (*Esox masquinongy x Esox lucius*) have also occurred in the past.

2.5 Rare Species

According to the 2003 edition of the Massachusetts Natural Heritage Atlas, the Middle Pond of Lake Cochituate in the towns of Natick and Wayland is located within an Estimated Habitat of Rare Wildlife (WH 4066) and Priority Habitat of Rare Species (PH 735). A letter was submitted to the Natural Heritage and Endangered Species (NHESP) on June 20, 2005 requesting information on the occurrence of state-listed rare wildlife at the Site (see Attachment C). According to their response letter, NHESP is "*not aware of any current rare plant or animal records in the vicinity of this site*." However, they have historical records of both bridle shiner (*Notropis bifrenatus*) and the boreal turret snail (*Valvata sincera*); historical records are those that are more than 25 years old. Based on e-mail correspondence with NHESP (Attachment C), NHESP will not require surveys for the bridle shiner or the boreal turret snail because the records for these species are more than 25 years old. NHESP states that "*For the purpose of regulatory review, we do not consider rare species observations that have not been observed within the past 25 years to be extant*."

Because of concerns raised previously, DCR hired an invertebrate biologist to conduct surveys for the boreal turret snail, which was completed in October 2005. The boreal turret snail was not found during the sampling that was performed at 6 stations in the Lake and the conditions did not appear to provide optimum habitat. Please refer to Attachment D for the results of the survey. Copies of this NOI and the Natick NOI will be submitted to NHESP for their review pursuant to 310 CMR 10.59. Please refer to Attachment C for copies of all correspondence with NHESP. Please refer to

Attachment D for the letter report from Dr. Smith regarding the findings of his field investigation of the snail.

3.0 PROPOSED MANAGEMENT PLAN

The goal of the proposed vegetation management plan for Lake Cochituate is to control the spread of aquatic invasive plants, particularly Eurasian milfoil (*Myriophyllum spicatum*), variable milfoil (*M. heterophyllum*) and curlyleaf pondweed (*Potamogeton crispus*), while minimizing the need to use herbicides to the extent practicable. This NOI focuses only on the use of physical and biological methods to control nuisance aquatic plants within Lake Cochituate's North, Middle, and South Ponds. In conjunction with the physical removal in Middle and South Pond, herbicide use has been proposed under separate cover to the Commission. However, by pro-actively removing these plants now from North Pond, while densities are still relatively low, DCR hopes to avoid the future use of herbicides at North Pond. However, in the event that herbicides are necessary in the future for North Pond, a separate NOI has been filed with the Natick Conservation Commission on this date for their use. Similar NOIs have been or will soon be submitted in the towns of Framingham and Wayland for those measures proposed within their municipal boundaries.

A detailed discussion of the proposed management plan, including management objectives, methods, and a detailed alternatives analysis, is provided in the Lake Cochituate Long Term Vegetation Management Plan (ACT, 2004; bound separately). While the 2004 Long-Term Vegetation Management Plan for Lake Cochituate outlined specific management strategies for different areas of the lake, these recommendations are subject to change based on the continually-changing distribution and density of invasive plants. DCR therefore seeks approval of a flexible management plan that will enable DCR and qualified and experienced lake management professionals selected by DCR to effectively apply the management techniques best suited to control this "moving target." Decisions regarding management strategy techniques will follow a carefully established set of thresholds, outlined in Figure 13, which will maximize aquatic plant control while seeking to reduce the use of chemical treatments. Annual vegetation monitoring (described in Section 5.6 below) will allow DCR to continually assess the success of the management efforts and determine whether modifications to the plan, including more aggressive mechanical techniques or the use of herbicides, are required in North, Middle or South Pond.

Because vegetation management is expected to be an ongoing maintenance effort, DCR requests that the Commission approve a Five-year Vegetation Management Plan through the issuance of a 5-year Order of Conditions. Pursuant to the regulations at 310 CMR 10.05(6)(d), "the issuing authority may issue an Order for up to 5 years where special circumstances warrant and where those special circumstances are set forth in the Order." Special circumstances are warranted in this instance since controlling invasive species requires a long-term management approach that includes initial control followed by annual monitoring and potentially follow-on maintenance actions. It should be noted that the 2005 survey of the plant community documented curlyleaf pondweed to be present in all three basins of

Lake Cochituate. Given that curlyleaf pondweed is an exotic and invasive species, it does pose a threat to the ecological health of the lake, especially if coverage of this species increases. Currently, DCR employs benthic barriers and hand pulling of curlyleaf pondweed at the town beach and boat ramp areas. If coverage of curlyleaf pondweed is observed to be expanding, additional management actions designed to target this species will be considered during the periodic update of the proposed management plan. DCR proposes to provide specific written notice to the Conservation Commission at least 30 days prior to initiating any management actions, and will comply with the operating guidelines provided in the *Generic Environmental Impact Report, Eutrophication and Aqautic Plant Management in Massachusetts* (GEIR) and the accompanying *The Practical Guide to Lake Management in Massachusetts*. DCR also propose to regularly update the Commission regarding the status of the invasive species in the lake and control actions to date.

The following sections outline the anticipated use of physical and biological control in each basin under the proposed 5-year Vegetation Management Plan.

3.1 North Pond

North Pond is located in all three towns. The southern most section of North Pond is located within Natick (1.5 acres). Although milfoil was found in low densities in North Pond in 2003 and 2005, every effort must be made to control and prevent any further expansion of milfoil in this basin, particularly considering the abundance of milfoil present upstream in Middle and South Ponds. At this time, the following measures are anticipated within North Pond during Year 1 and Years 2 to 5 of the vegetation management plan:

Year 1

- Hand-pulling, suction harvesting, and/or benthic barrier placement to control moderate milfoil cover in the small cove on the eastern shoreline adjacent to the Wayland Town Beach (approximately 0.4 acres)
- Hand-pulling of sparse milfoil cover primarily found near shore in the southern half of the basin (approximately 1.4 acres)
- Milfoil weevil pilot study will be developed to target moderate to dense monotypic stands of Eurasian milfoil. Milfoil in the southern half of the basin may be suitable for such a study and are a logical target for inclusion in the pilot study. If future stands of milfoil develop within this basin, they too may be considered as potential sites to evaluate the effectiveness of the milfoil weevils.

Years 2 to 5

- Hand-pulling of sparse milfoil cover and/or benthic barrier placement
- Continuation of milfoil weevil pilot study

Aquatic biologists from DCR's Lakes and Ponds Program carried out "Weed Watcher" training of citizen volunteers on two occasions in Wayland and are available to do so in Natick as well. The training consisted of discussions of the significant problems related to invasives in Lake Cochituate and in general, hands-on identification of invasive species, provision of guides and information to use in field work; training on how to hand pull the invasive species and dispose of them in an appropriate manner. In accordance with DEP Guidance, the Wayland conservation commission issued a notice of non-applicability for this hand pulling. This training was part of a statewide Weed Watcher training program carried out by DCR Lakes and Ponds biologists which in the years 2003-2005 has trained several hundred volunteers.

Based on observations made in 2003 and 2005, hand-pulling and suction harvesting may be sufficient to effectively control milfoil currently growing in North Pond. Benthic barriers, which consist of a commercially manufactured material that is weighted to the lake bottom to kill plants through compression and blockage of sunlight, may also be utilized where dense patches of milfoil and/or curlyleaf pondweed are encountered. Finally, DCR would like to conduct a controlled experiment testing the effectiveness of the milfoil weevil on controlling Eurasian milfoil, its preferred host. Details on the proposed methods are provided in Sections 3.4.1 to 3.4.4 below. The Lake Cochituate Long Term Vegetation Management Plan (bound separately) provides additional details on the proposed physical and biological control methods, including their mechanism of action, target species, effectiveness/limitations, and potential impacts to non-target species.

3.2 Middle Pond

The following physical methods will be utilized within Middle Pond, located in the towns of Wayland and Natick:

Year 1

- Hand-pulling and/or suction harvesting, of sparse milfoil cover primarily along the eastern shoreline (approximately 1.7 acres)
- Hand-pulling, suction harvesting, and/or benthic barrier placement for control of moderate to dense milfoil cover primarily in areas adjacent to public access points.

Years 2 to 5

- Hand-pulling of sparse milfoil cover less than 500 plants per acre

3.3 South Pond

The following physical methods will be utilized within South Pond, located in the town of Natick:

Year 1

- Hand-pulling, if plants are not completely controlled by the herbicide Sonar.

Years 2 to 5

- Suction harvesting of areas located within 1,000 feet of Town Well Field and other small locations.
- Hand-pulling of sparse milfoil cover

3.4 Physical and Biological Methods

3.4.1 Hand-Pulling

Hand-pulling of aquatic plants such as milfoil and curlyleaf pondweed involves dislodging plants from the bottom sediments by hand and placing the entire plant in mesh collection bags. Care will be taken not to create plant fragments or allow them to escape. Trained hand-pullers will be equipped with a mask and snorkel for shallow water areas, typically less than 4-6 feet deep. In waters greater than 4-6 feet deep, SCUBA divers with specific training and experience at hand pulling milfoil will be utilized; it is expected that a minimum of two SCUBA divers will be working during hand-pulling efforts at Lake Cochituate. A person in a support boat will empty the mesh collection bags and collect plant fragments missed by the hand-pullers. All plants removed by hand-pulling will be temporarily stockpiled at an upland collection site on shore then removed to an appropriate permanent upland location for composting or disposal. All work will be performed in accordance with DCR's Standard Operating Procedure (SOP), provided in Attachment E.

At Lake Cochituate, hand-pulling is most appropriate for low density milfoil or curlyleaf pondweed growth (less than one percent) of less than 500 plants per acre (Wagner, 2003). It may also be appropriate for moderate density growth (less than 10 percent cover) in some of the smaller, localized patches. Please refer to Figure 13 for a flow chart depicting the general circumstances in which hand-pulling will be undertaken at Lake Cochituate.

Pursuant to the SOP, if it is determined that low density curlyleaf pondweed must be removed, it will be removed by hand-pulling in May, before the plants produce seeds. Hand-pulling of milfoil, should this become necessary, will occur throughout the growing season as milfoil plants are located through ongoing monitoring efforts. It is the intent that the majority of the hand-pulling effort will be made by DCR staff and the Lake Management Contractor (LMC) for the project. However, it is requested that approval be given for volunteer hand-pulling to be performed in

shallow waters by lake residents, Lake Association members or other interested citizens that receive educational materials/training from DCR or the LMC.

3.4.2 Suction Harvesting

Suction harvesting is a more efficient form of hand-pulling that typically involves the use of two SCUBA divers operating a pair of suction lines connected to a pump on a boat or barge. Plants are dislodged from the sediment by hand (as described above), fed into the suction line, and discharged into a mesh collection basket on the boat or barge. Suction harvesting is best suited for controlling small areas with sparse to moderate growth that would require a considerable hand-pulling effort. Due to the potential turbidity generated with this technique, floating turbidity barriers may be used to isolate the area where the barge and divers are working to capture fragments. All plants removed by suction harvesting will be temporarily stockpiled at an upland collection site on shore, before being removed to an appropriate permanent upland location for composting or disposal.

At Lake Cochituate, suction harvesting is most appropriate to control moderate to dense infestations of milfoil and/or curlyleaf pondweed in small areas, as shown in Figure 13. Although not required at this time, curlyleaf pondweed would be removed by suction harvesting in May, prior to seed production if densities reach levels that become a threat to the ecological health of the native vegetation community. DCR is seeking permission through this NOI so that any milfoil plants that are identified through annual monitoring or during the course of other management actions may be removed through hand-pulling or suction harvesting throughout the growing season depending upon the size and density of the plant bed.

3.4.3 Benthic Barriers

Benthic barriers will be used to control small, selected areas of dense, monotypic stands of milfoil in areas of critical access or use. They consist of commercially-manufactured material that is weighted to the lake bottom in order to kill plants through compression and blockage of sunlight.

Three barriers that are commercially manufactured for aquatic weed control are Palco®, Texel® and Aquascreen®. Palco® is a solid PVC material that has a specific gravity greater than water, while Texel® is a felt-like polyester material that is negatively buoyant. Aquascreen®, a PVC-coated fiberglass mesh, is the preferred benthic barrier for Lake Cochituate. Mesh materials such as Aquascreen® are generally preferred for aquatic plant control, especially where the sediments are of an organic nature. The aperture size of the Aquascreen® mesh is small enough to effectively block sunlight, while still allowing gas transpiration to limit billowing. Aquascreen® was used successfully around the Cochituate State Park Beach in Middle Pond in August 2003.

Barriers will be placed in the desired location and will be weighted to the bottom using lengths of steel rebar or steel rebar encased in capped PVC tubes, if being installed in swimming areas. Benthic barriers will be installed in accordance with DCR's SOP, provided in Attachment E.

The barriers will kill plants in about a month, but may be left in for the remainder of the summer season to ensure full control within the treatment area. Although barriers can be placed at any time to kill plants, it is often best to deploy them in the spring before the biomass of the plant makes deployment more difficult. Barriers will be routinely checked, as described in Section 5.4 below, to ensure that excess billowing/uplifting does not occur that could endanger swimmers or entangle boat props. Every 1 to 2 years the barriers will be removed, cleaned-off, and redeployed or relocated. Properly maintained, the benthic materials have a useful life of 5-10 years or longer.

3.4.4 Milfoil Weevil Pilot Study

A native aquatic weevil (*Euhrychiopsis lecontei*) that has developed a preference for Eurasian milfoil over its native species (*Myriophyllum sibiricum*) has been used with mixed success as a milfoil control strategy. The weevil does not eradicate milfoil, but has the ability to impact milfoil plants through structural damage to apical meristems and basal stems (Wagner, 2004), preventing growth and causing the plants to collapse towards the bottom. The weevils feed on milfoil as adults and larvae, lay eggs on it, and pupate within burrows in the stem (Wagner, 2004).

A number of milfoil-infested lakes in the northeast have attempted weevil stocking programs. Some significant milfoil reductions have been reported, but there have been oscillations between the milfoil and weevil densities as a result of typical predator-prey interactions. This has resulted in unpredictable levels of milfoil control. VTDEC has, after a thorough investigation, determined that milfoil weevils cannot be expected to provide the desired level of milfoil control in most systems. (VT DEC, 2001) Introduction of weevils to the following lakes also have produced undesired level of milfoil control: Long Sought For Pond (Westford), Twin Lakes (CT), Goose Pond (Lee), Quabog Pond (Brookfields), Saratoga Lake (NY), and Woodridge Lake(CT).

DCR is seeking approval to test the effectiveness of this biological control on areas of Eurasian milfoil growth in the North Pond of Lake Cochituate. It is expected that at least one and possibly both of the mapped milfoil beds in North Pond (Figure 8) could serve as ideal sites for this pilot project. Weevils will be obtained from a commercial source and will be stocked by an experienced contractor within the proposed study area(s) at a stocking rate of 3,000 adults per acre. In order to avoid interference from competing control techniques, weevils will be used only in those locations where no physical control measures (e.g., hand-pulling, suction harvesting, and benthic barriers) or herbicides are proposed.

The success of this management technique will be assessed by annual vegetation monitoring, as discussed in Section 5.0 below.

4.0 POTENTIAL IMPACTS OF MANAGEMENT PLAN

This section summarizes potential impacts of hand-pulling, suction harvesting, benthic barriers, and milfoil weevils on the physical and biotic characteristics of Lake Cochituate. Data and conclusions on potential impacts of each technique on the physical and biotic characteristics of this lake are based largely on information provided in the *Generic Environmental Impact Report for Eutrophication and Aquatic Plant Management in Massachusetts* (Mattson, et al., 2004) and the accompanying *The Practical Guide to Aquatic Lake Management in Massachusetts* (Wagner, 2004).

4.1 Potential Impacts to Physical Characteristics and Water Quality

No significant impacts to the physical characteristics of Lake Cochituate are anticipated as part of this project. Unlike dredging and other aggressive mechanical control measures, the proposed techniques do not directly alter lake bathymetry. Hand-pulling and suction harvesting may result in a temporary and localized increase in turbidity and suspended sediments as plants are removed along with their roots. Pursuant to DCR's SOP (Attachment E), soil disturbance will be minimized to the extent practicable by pulling plants out slowly and carefully, by hand tamping disturbed sediments where possible, and by minimizing the number of people in the work area and the amount of time spent there. Increases in turbidity and suspended sediments are expected to be temporary and largely contained within the relatively small work areas. It should be noted that hand pulling and suction harvesting will not be performed in areas mapped by US Army Natick Labs as having contaminated sediments.

Water quality impacts from the suspension of metals or other pollutants from the sediment into the water column are not anticipated in North Pond. Furthermore, the techniques proposed for Middle Pond and South Pond are not expected to alter other water quality parameters due to the limited work area and the lack of significant decaying plant matter generated.

4.2 Potential Direct Impacts to Biota

4.2.1 Aquatic Invertebrates

No significant impacts to local populations of aquatic invertebrates are anticipated from the proposed work. However, limited direct mortality of aquatic invertebrates may result from hand pulling, suction harvesting, and benthic barrier installation. As milfoil, and potentially curlyleaf pondweed in the future, is removed by hand-pulling and suction harvesting, aquatic invertebrates

attached to the plant may be inadvertently removed as well. Mortality is expected to be slightly higher with suction harvesting efforts than hand-pulling, since the plants and attached invertebrates are removed from the system more rapidly. Furthermore, since suction harvesting is typically conducted in larger plant beds, there is an increased potential for the disturbed sediments to smother benthic organisms as sediment settles out of the water column in the more stagnant areas of the lake.

Benthic barriers may also result in direct mortality during installation as barriers smother benthic organisms and aquatic invertebrates within the footprint of the barrier. Mortality will be limited to the proposed 0.4 acre work area in North Pond and potentially within the immediate vicinity of Lake Cochituate State Park, representing a total of less than 2% of the lake area; therefore, no significant impacts to local populations of aquatic invertebrates are expected.

The proposed milfoil weevil pilot study is not anticipated to have any direct impacts to aquatic invertebrate populations other than the introduction of this species within the lake.

4.2.2 Fish and Wildlife

The proposed work is not expected to have a significant direct impact on local populations of fish and wildlife. However, temporary and localized disturbance of breeding or foraging activities of fish and wildlife may result from the proposed hand-pulling, suction harvesting, and benthic barrier installation. Aquatic vegetation provides spawning sites for some species of fish, such as pickerel, and fish eggs may be inadvertently removed during hand-pulling and suction harvesting or may be smothered during benthic barrier installation. Disturbance of wildlife resulting from work activities near nesting or foraging sites is anticipated to be temporary and localized and of similar nature to recreational activities that already occur at the lake. For this reason, DCR will carry out the majority of the work at a time of minimal spawning. If work needs to be done at a specific time which overlaps with fish spawning cycle, the management work will be done on a small scale and spaced out over the lake system.

4.2.3 Non-Target Vegetation

Significant impacts to non-target vegetation are not anticipated from the proposed project. Hand-pulling and suction harvesting are highly selective means of plant control (Wagner, 2004), although suction harvesting may be slightly less selective, particularly in turbid waters, as plants other than milfoil and curlyleaf pondweed may be inadvertently harvested as operations are underway. Staff and volunteers conducting these efforts will be trained to identify target vegetation from non-target vegetation and care will be taken to avoid removing non-target vegetation. Benthic barriers are not selective, killing all plant species within their footprint; therefore, these barriers will be used only in small areas that are densely vegetated with target

plants. Finally, milfoil weevils are highly selective, feeding only on milfoil plants and particularly on Eurasian milfoil (Wagner, 2004).

4.3 Potential Indirect Impacts to Biota

Although significant direct impacts to the biota of Lake Cochituate are not expected from the proposed physical and biological control techniques, loss of vegetation may have some indirect impacts on aquatic biota. Aquatic vegetation provides cover for a variety of organisms, including aquatic invertebrates, fish, turtles, and amphibians. It provides a food source for beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), and several species of duck (Martin et al., 1951), although no specific evidence that beaver, muskrat and duck eat milfoil, or curlyleaf is available. And finally, aquatic vegetation may provide spawning sites for some species of fish such as pickerel.

By design, the proposed management plan will temporarily alter the aquatic plant community in portions of the lake and may therefore result in temporary, minor indirect impacts to fish and wildlife habitat. "Guidance for Aquatic Plant Management in Lakes and Ponds as it relates to the Wetlands Protection Act", Policy BRP/DWM/WW/GO4-1 which states that "The Department presumes that non-indigenous aquatic plants within lakes ponds [sic] are not 'significant to the protection of wildlife habitat', either in whole or as a component of a larger plant community. As such, the control or elimination of non-indigenous aquatic hyrophytes within lakes and ponds will not exceed any threshold established at 310 CMR 10.56(4)(a) 4 or 310 CMR 10.60..." Although the abundance of this food source, cover, and spawning habitat will be reduced by the use of these techniques within the limited treatment areas, the overall long-term benefits of controlling invasive milfoil populations are expected to exceed these potential short-term costs. Milfoil and curlyleaf pondweed can out-compete native vegetation, resulting in a loss of biodiversity in a lake. By working to eradicate invasive species and maintain the native vegetation community, it is expected that Lake Cochituate will continue to be capable of supporting a wide diversity of native aquatic life.

4.4 Impacts Specific to the Wetlands Protection Act

Based on information provided within the *Practical Guide to Lake Management in Massachusetts GEIR* (Wagner, 2004), the potential use of hand-pulling, suction harvesting, benthic barriers, and milfoil weevils in the Ponds are expected to have the following effect on the interests of the Wetlands Protection Act:

Hand Pulling and Suction Harvesting

- **Protection of public and private water supply –** Generally neutral (no significant interaction)
- **Protection of ground water supply –** Generally neutral (no significant interaction)
- **Flood control –** Generally neutral (no significant interaction)

- **Storm damage prevention –** Generally neutral (no significant interaction)
- **Prevention of pollution –** Generally neutral (no significant interaction) but could be a detriment if sediment disruption and turbidity are high. Sediment disruption and turbidity will be minimized to the extent practicable by pulling plants out slowly and carefully, by hand tamping disturbed sediments where possible, and by minimizing the number of people in the work area and the amount of time spent there. In instances when large plant beds are to be hand or suction harvested, turbidity curtains will be deployed around the work area. All increases in turbidity and suspended sediments are expected to be temporary and largely contained within the relatively small work areas.
- **Protection of land containing shellfish –** Generally neutral (no significant interaction)
- **Protection of fisheries –** Generally neutral (no significant interaction) unless a very large effort is undertaken, in which case there may be benefits and detriments. Hand pulling and suction harvesting activities proposed in the three pond basins at this time will not constitute a large effort; areas of hand-pulling and suction harvesting in North Pond and hand-pulling in Middle Pond are currently anticipated within less than 2 acres (approximately 1%) of North Pond and Middle Pond. Long-term benefits to fisheries are expected as a result of the implementation of this pro-active management plan.
- **Protection of wildlife habitat –** Generally neutral at expected scale of operation, but may have benefit and detriment to different species in same lake from same effort. Long-term benefits to wildlife habitat are expected as a result of the implementation of this pro-active management plan.

Benthic Barriers

- **Protection of public and private water supply –** Generally neutral (no significant interaction), although reduced plant density may benefit taste and odor control
- **Protection of groundwater supply –** Neutral (no significant interaction)
- **Flood control –** Neutral (no significant interaction)
- **Storm damage prevention –** Neutral (no significant interaction)
- **Prevention of pollution –** Neutral (no significant interaction), but could be a detriment if nutrient cycling promotes algal blooms
- **Protection of land containing shellfish –** Generally neutral (no significant interaction), but covering of significant shellfish resources must be avoided. No significant shellfish resources are known within the North Pond or any other basin of Lake Cochituate.
- **Protection of fisheries –** Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover), but over a relatively small area no lakewide effects are expected
- **Protection of wildlife habitat –** Potential benefit by habitat improvement, but may have benefit and detriment to different species in the same relatively small area. Long-term benefits to wildlife habitat are expected from the implementation of this pro-active management plan.

Milfoil Weevil Pilot Study

- **Protection of public and private water supply –** Generally neutral, but reduced plant density may benefit taste and odor control
- **Protection of groundwater supply –** Generally neutral (no significant interaction)
- **Flood control –** Generally neutral (no significant interaction)
- **Storm damage prevention –** Generally neutral (no significant interaction)
- **Protection of pollution –** Generally neutral, but reduced plant density may benefit taste and odor control
- **Protection of land containing shellfish –** Generally neutral (no significant interaction)
- **Protection of fisheries –** Possible benefit (habitat enhancement, reduction of invasive species density)
- **Protection of wildlife habitat –** Possible benefit (habitat enhancement, reduction of invasive species density)

Overall, the physical and biological management techniques proposed within the North, Middle, and South Pond of Lake Cochituate are anticipated to have localized, temporary impacts from the loss of vegetation. However, these short-term costs are greatly outweighed by the long-term benefit of a vegetation management plan that will reduce the abundance of invasive aquatic plants and promote the diversity and cover by native vegetation communities.

5.0 MITIGATION MEASURES

The proposed management plan will remove nuisance aquatic vegetation within the resource area LUWW through the use of physical and biological means, as described herein, and the use of herbicides, as proposed under a separate NOI. Mitigation measures for the proposed use of mechanical and biological methods will include their proper selection and use and the implementation of a comprehensive monitoring program.

5.1 Selection of Physical Control Options

The selection of the appropriate management option(s) is the key to success for any lake management program. *The Practical Guide to Lake Management in Massachusetts* summarizes the advantages and disadvantages of each management option in Table 4, and the Lake Cochituate Long Term Vegetation Management Plan (ACT, 2004) provides a detailed Alternatives Analysis of each management option, including herbicide use, for Lake Cochituate. The effectiveness and practicality of a management option is largely a function of the target species, its density, and the size of the impacted area.

In North Pond, milfoil density and areal coverage is small at this time, making physical control measures ideal. Middle and South Pond support a higher milfoil density and areal coverage than

North Pond therefore making physical control methods less appropriate to control the entire coverage of milfoil. The best approach to controlling milfoil in Middle and South Pond is to use of a combination of herbicides (filed under a separate NOI) and physical methods. This will allow for more effective control of these invasive species and will reduce the potential for milfoil to increase its coverage in North Pond. As shown in Table 4 of the Lake Cochituate Long Term Vegetation Management Plan (bound separately) and Figure 13 of this report (Attachment B), hand-pulling will be used in areas where target plants are widely scattered, with less than 1 to 5% cover per acre. Suction harvesting will be used for small areas (generally less than 1 acre) with sparse to moderate growth that would require considerable hand-pulling effort. Finally, benthic barriers will be used for small (1 acre or less) dense patches of target plants.

DCR and the Lake Management Contractor selected to implement this project will use the flow chart provided in Figure 13 as a guideline to select appropriate management options at Lake Cochituate. By selecting management options appropriate to the target species, its density, and areal coverage, direct and indirect impacts to the lake's physical and biological community will be minimized.

5.2 Turbidity Control

Hand-pulling and suction harvesting may result in temporary increases in turbidity levels as plants are removed with their roots. Pursuant to DCR's SOP (Attachment E), turbidity levels will be minimized by pulling plants out slowly and carefully, by hand tamping disturbed soils where possible, and by minimizing the number of people in the work area and the amount of time spent there. Increases in turbidity and suspended sediments are expected to be temporary and largely contained within the relatively small work areas. This technique has been successfully employed in Lake Quacumquasit in Brookfield, MA. Turbidity levels within the proposed work area will be monitored visually and with a turbidity meter before, during, and approximately 2 hours after hand-pulling and suction harvesting operations.

The removal and cleaning of the benthic barriers is also expected to result in a temporary increase in turbidity levels as sediment is dislodged during barrier removal. Turbidity levels during barrier removal will be minimized to the extent possible by removing the barriers slowly and carefully, by hand tamping disturbed soils where possible, and by minimizing the number of people working within the footprint of the barrier. After barrier removal, additional suspended sediments are also expected from the area beneath the benthic barrier as a result of suspension from wave action in shallower areas or in areas heavily used for swimming and boating until a native plant community can become re-established within the area. Turbidity increases will be temporary and largely limited to the area of the proposed work.

5.3 Fragment Control

Hand-pulling and suction harvesting has the potential to fragment plants. Because milfoil spreads by fragmentation, the following measures will be implemented to control fragmentation during operations:

- The use of a spotter on the boat to net any fragments observed in the water column;
- Thorough cleaning and inspection of all equipment and clothing for fragments or seeds before moving from the work area; and
- Installation of turbidity barriers around work areas to capture plant fragments and help control turbidity.

5.4 Benthic Barrier Maintenance Program

To ensure their effectiveness and safety, benthic barriers will be inspected, maintained, and cleaned monthly throughout their deployment. Monthly safety maintenance will ensure that the barriers are anchored securely so they do not float and create a hazard to boaters and swimmers. Monthly cleaning of accumulated sediments on the barrier, as necessary, will prevent nuisance aquatic plants from rooting onto the barrier surface.

5.5 Milfoil Weevil Monitoring Program

Monitoring of milfoil weevil populations within the pilot study area will be performed 1 month following release of the weevils to ensure that a healthy population has become established within the targeted milfoil bed and to document the initial effect of the treatment on the milfoil plants. Annual monitoring will occur to track the effectiveness of the program at containing and controlling the milfoil bed and, if necessary, to determine whether additional weevil stocking is recommended or if alternative management options are required should the program prove ineffective.

5.6 Vegetation Monitoring Program

In order to pro-actively manage the changing distribution and abundance of nuisance aquatic vegetation in Lake Cochituate, annual vegetation monitoring will be undertaken during implementation of this management plan. Pre-treatment monitoring was performed in 2003 and 2005, as described in Section 2.2 above. Upon approval and implementation of this management plan, subsequent vegetation surveys will be conducted annually in June to assess the effectiveness of the management efforts to date and to refine the management plan for the upcoming season. For consistency, vegetation monitoring will follow the transect and data point sampling methodology in 2005 and 2003, as described in the Lake Cochituate Long Term Vegetation Management Plan (bound separately). Annual reports will be submitted to the Natick Conservation Commission detailing the

results of the vegetation monitoring survey and providing recommendations for the subsequent year's management efforts for the Commission's approval.

6.0 REGULATORY COMPLIANCE

The proposed management plan has been designed to comply with the Massachusetts Wetlands Protection Act and its implementing regulations, policies, and guidelines, as well as the Natick Wetlands Bylaw and Regulations. In addition, the management plan will comply with the performance guidelines outlined in the Generic Environmental Impact Report (GEIR). The following sections describe compliance with these regulations.

6.1 Limited Project

This vegetation management plan is proposed under the limited project provisions of 310 CMR 10.53(4), which allow the issuing authority to issue an Order of Conditions for projects that will improve the natural capacity of the resource area to protect the interests identified in the Wetlands Protection Act. According to the regulations, "such projects include, but are not limited to, the removal of aquatic nuisance vegetation to retard pond and lake eutrophication and the thinning or planting of vegetation to improve habitat value." This project will improve the natural capacity of the resource area to protect the interests of the Wetlands Protection Act, as described in Section 4.4, by controlling non-native vegetation and promoting the establishment of a native vegetation community.

6.2 Land Under Waterbodies and Waterways

The proposed removal of nuisance aquatic vegetation through hand-pulling, suction harvesting, benthic barriers, and milfoil weevils will meet the performance standards for LUWW [310 CMR 10.56(4)] to the extent practicable, as outlined below:

(a) Any proposed work within Land Under Waterbodies and Waterways shall not impair the following:

1. The water carrying capacity within the defined channel, which is provided by said land in conjunction with the banks;

This standard has been met. No fill is proposed within the lake. The proposed activities will remove vegetation without changing the topography of the lake bottom and therefore will not alter the water carrying capacity of Lake Cochituate.

2. Ground and surface water quality;

This standard has been met. Section 5.2 above discusses measures to be implanted to minimize turbidity and suspension of sediments during hand-pulling and suction harvesting

operations. Although an issue in the South Pond of Lake Cochituate, contaminated sediments are not reported to occur in North Pond or Middle Pond. Therefore, no suspension of heavy metals or other contaminants is expected from the proposed activities.

3. *The capacity of said land to provide breeding habitat, escape cover and food for fisheries;*

   This standard has been met. The proposed mechanical and biological methods of aquatic plant management will temporarily alter the aquatic plant community in portions of the lake and may therefore result in temporary, minor impacts to fisheries habitat. Although the abundance of this food source, cover, and spawning habitat will be reduced by the application of herbicides within the limited treatment areas, the overall long-term benefits of controlling invasive milfoil populations are expected to exceed these potential short-term costs. Milfoil and curlyleaf pondweed can out-compete native vegetation, resulting in a loss of biodiversity in a lake. By working to promote the establishment of native vegetation communities, the lake will be capable of supporting a wider diversity of native aquatic life.

4. *The capacity of said land to provide important wildlife habitat functions.*

   This standard has been met. The proposed mechanical and biological methods of aquatic plant management will temporarily alter the aquatic plant community in portions of the lake and may therefore result in temporary, minor impacts to wildlife habitat. Although the abundance of this food and cover will be reduced by the application of herbicides within the limited treatment areas, the overall long-term benefits of controlling invasive milfoil populations are expected to exceed these potential short-term costs. Milfoil and curlyleaf pondweed can out-compete native vegetation, resulting in a loss of biodiversity in a lake. DEP presumes that "non-indigenous aquatic plants within lakes and ponds are not significant to the protection of wildlife habitat, either in whole or as a component of a larger plant community" (DEP, 2004). By working to promote the establishment of native vegetation communities, the lake will be capable of supporting a wider diversity of native aquatic life.

(b) *Notwithstanding the provisions of 310 CMR 10.56(4)(a), the issuing authority may issue an Order in accordance with M.G.L. c. 131 s. 40 to maintain or improve boat channels within Land Under Water Bodies and Waterways when said work is designed and carried out using the best practical measures so as to minimize adverse effects such as the suspension or transport of pollutants by organisms or the destruction of fisheries habitat or nutrient source areas.*

   This standard is not applicable. The proposed work does not include the maintenance or improvement of boat channels.

(c) *Not withstanding the provisions of 310 CMR 10.56(4)(a) or (b), no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.*

   This standard has been met. Middle Pond contains a mapped estimated habitat of rare vertebrate or invertebrate species (see Figure 12). As previously discussed under Section 2.5, NHESP is "*not aware of any current rare plant or animal records in the vicinity of this site*." However, during the previous appeal process, DCR agreed to hire an invertebrate biologist to conduct surveys for the boreal turret snail, which was completed this summer. The boreal turret snail

was not found during the sampling that was performed at multiple stations in the Lake and the habitat for this species was found marginal at best. Please refer to Attachment D for the results of the survey.

6.3 Performance Guidelines for Hand-Pulling/Suction Harvesting

The *Practical Guide to Lake Management in Massachusetts* (Wagner, 2004) establishes performance guidelines for the use of hand harvesting to control nuisance aquatic vegetation. This section demonstrates compliance with these guidelines.

(1) Map the distribution of the target species and any protected non-target species in the lake.

This standard has been met. Vegetation surveys have been conducted by ACT in 2003 and by ESS in 2005. Maps of the plant community densities and distributions are provided as Figures 2 through 10 in Attachment B. Please refer to Section 2.2 of this report for the methods and results of this study. Based on correspondence with NHESP and the results of field surveys, no state-listed rare plants are known to occur within Lake Cochituate.

(2) Train all harvesting personnel to recognize the target species and any non-target species of concern.

This standard will be met. It is intended that the majority of the hand-pulling effort and all suction harvesting efforts will be completed by trained DCR staff. Trained volunteers may be used for a portion of the hand pulling effort in shallow waters. All personnel will be specifically trained to recognize the target species and to follow DCR's SOP (Attachment E) to minimize indirect impacts.

(3) Restrict hand harvesting to areas of sparse density of the target species (<500 stems/acre in most cases).

This standard will be met. Decisions on the use of hand pulling and suction harvesting will be made by DCR staff and the Lake Management Contractor (LMC) for the project. The attached flow chart (Figure 13) will be utilized as a general guide for the milfoil removal effort at Lake Cochituate. In general, the flow chart specifies the use of hand pulling and suction harvesting where milfoil cover is sparse, or concentrated within a very small area.

(4) Provide fragment barrier around areas to be harvested and bags in which harvested plants are to be placed.

This standard will be met. Fragment barriers will be installed as appropriate around suction harvesting areas to minimize the spread of aquatic plant fragments.

(5) Harvest entire plants; pull out root systems to the greatest extent possible.

This standard will be met. As described in DCR's SOPs (Attachment E), target plants will be removed from the base, removing as may roots as possible while disturbing the sediment as little as possible.

(6) Observe safety precautions in areas where boat traffic may be encountered or other risks exist.

This standard will be met. As described in DCR's SOP (Attachment E), the area of treatment will be marked clearly. Boundary markers will be placed around the work area in a manner that will not pose a hazard to boaters or swimmers. Staff positioned on a spotter boat will be responsible for ensuring that boat traffic does not interfere with the harvesters. Additional safety considerations are discussed in Attachment E.

(7) Monitor turbidity in the harvest area before, during and after harvest.

This standard will be met. Turbidity will be monitored visually and with a turbidity meter before, during, and approximately 2 hours after harvesting to ensure that levels do not exceed state water quality criteria for aquatic life.

(8) Monitor pre- and post-harvest density of target plants.

This standard has been met. Pre-treatment densities of target plants were assessed by ESS in June 2005. Post-treatment densities will be monitored annually in accordance with the proposed vegetation monitoring program (see Section 5.6).

(9) Plan for follow-up inspection and harvesting within the same growing season and in the following growing season.

This standard will be met. As outlined in DCR's SOP for Hand Pulling (Attachment E), the treatment area will be monitored monthly during the growing season to ensure effectiveness of treatment.

6.4 Performance Guidelines for Benthic Barriers

The *Practical Guide to Lake Management in Massachusetts* (Wagner, 2004) establishes performance guidelines for the use of benthic barriers to control nuisance aquatic vegetation. This section demonstrates compliance with these guidelines.

(1) Map the vegetation and other resources in the target area; avoid barrier use on protected species.

This standard has been met. Vegetation surveys have been conducted by ACT in 2003 and ESS in 2005. Maps of the plant community densities and distributions are provided as Figures 2 through 10 in Attachment B. Please refer to Section 2.2 of this report for the methods and results of this study. Based on correspondence with NHESP, no state-listed rare plants are known to occur within Lake Cochituate.

(2) *Select a benthic barrier with properties consistent with project goals and site features.*

This standard has been met. Aquascreen®, a PVC-coated fiberglass mesh, is the preferred benthic barrier for Lake Cochituate. The aperture size of the Aquascreen mesh is small enough to effectively block sunlight, while still allowing gas transpiration to limit billowing. Aquascreen® was used successfully around the Cochituate State Park Beach in Middle Pond in August 2003.

(3) *Avoid installation over >10% of lake littoral zone.*

This standard has been met. The area of proposed benthic barrier installation in North Pond and Middle Pond will be less than 2 acres, combined, representing less than 1% of the littoral zone of these basins.

(4) *Lay out and anchor barrier in a manner that maximizes stability in response to wave action or other influences.*

This standard will be met. Barriers will be placed in the desired location and then will be weighted to the bottom using lengths of steel rebar or steel rebar encased in capped PVC tubes, if being installed in swimming areas.

(5) *Post the area to inform potential users of barrier presence.*

This standard will be met. As described in DCR's SOP for benthic barriers, the area of barrier installation will be marked very clearly with visible, durable markers or buoys. The barriers will also be inspected and maintained regularly for safety.

(6) *Leave barrier in place for at least one month.*

This standard will be met. Barriers will remain in place for at least one month, and may be left in place for the duration of the growing season.

(7) *Develop a maintenance program that monitors and maximizes barrier effectiveness; avoid discontinuous coverage, sediment accumulation, and rooting plants through porous barriers.*

This standard has been met. A maintenance program has been developed for the benthic barriers to ensure effectiveness and safety. This management program will include regular inspections, cleaning to remove accumulated sediments, and the removal of plants rooting through the barriers. Details of the proposed maintenance program are provided in Section 5.4 above.

(8) *Monitor the plant community before and after barrier application.*

This standard has been met. Pre-treatment surveys of plant communities were performed by ESS in June 2005. Post-treatment surveys will be performed annually in accordance with the proposed vegetation monitoring program (see Section 5.6).

(9) *Monitor water quality near the barrier and in the lake in general if the installation is large (>1 acre).*

This standard is not applicable. As shown in Figure 13, benthic barriers will not be used in areas greater than 1 acre.

6.5 Performance Guidelines for Milfoil Weevil Pilot Study

The *Practical Guide to Lake Management in Massachusetts* (Wagner, 2004) establishes performance guidelines for the use of milfoil weevils and other herbivorous insects to control nuisance aquatic vegetation. This section demonstrates compliance with these guidelines. It should be noted that use of this native species usually does not require approval under the Wetlands Protection Act, and conservation commissions have issued notices of non-applicability to the introduction of weevils.

(1) Match the herbivore to the target plant; high specificity is desirable.

This standard has been met. Two target species for control at Lake Cochituate are Eurasian watermilfoil and, to a lesser degree, variable watermilfoil. The milfoil weevil is highly specific to milfoil plants, particularly Eurasian watermilfoil, and does not utilize non-milfoil species (Wagner, 2004).

(2) Develop and follow a scientifically based plan to achieve target densities of invertebrate herbivores.

This standard has been met. Milfoil weevils will be stocked at a rate equal to or higher than the recommended density of 3,000/acre (Wagner, 2004). Monitoring of milfoil weevil populations (1-month post-release and then annually, as described in Section 5.5 above) will ensure that target densities of milfoil weevil populations are achieved and maintained.

(3) Use native and indigenous species to the maximum extent possible.

This standard has been met. The milfoil weevil is a native North American insect species (Wagner, 2004).

(4) Be prepared to pursue biological programs for at least 5 years before achieving all goals.

This standard has been met. As described previously, DCR is seeking approval of a 5-year Lake Management Plan in order to effectively achieve its goals for aquatic plant management through the use of mechanical and biological control measures.

(5) Monitor target populations (plant and herbivore).

This standard will be met. A Vegetation Monitoring Program is described in Section 5.6 above, while monitoring of water milfoil populations will be performed in accordance with the monitoring program outlined in Section 5.5 above.

7.0 REFERENCES

Aquatic Control Technologies, 2004. Lake Cochituate Long Term Vegetation Management Plan.

Degraaf, R.M. and M. Yamasaki, 2001. New England Wildlife. University Press of New England: Hanover.

Department of Environmental Protection, 2004. Guidance for Aquatic Plant Management in Lakes and Ponds as it Relates to the Wetlands Protection Act.

Martin, A.C., H.S. Zim, and A.L. Nelson, 1958. American Wildlife and Plants. Dover Publications, Inc.: New York.

Mattson, M.D., P.J. Godfrey, R.A. Bartletta, A. Aiello, and K.J. Wagner, 2004. Final Generic Environmental Impact Report (GEIR) on Eutrophication and Aquatic Plant Management in Massachusetts.

Vermont Department of Environmental Conservation (DEC). 2001. Aquatic Nuisance Control Permit Program. Permit # 2001- C08. Lake St. Catherine Association, Applicant/Permittee.

Wagner, K.J., 2004. The Practical Guide to Lake Management in Massachusetts.

Attachment B

Figures

Attachment C

Rare Species Correspondence

Commonwealth of Massachusetts

Division of Fisheries & Wildlife

MassWildlife

Wayne F. MacCallum, *Director*

July 21, 2005

Thomas Liddy
ESS Group, Inc.
888 Worcester Street, Suite 240
Wellesley, MA 02482

Re: Lake Cochituate Data Request
Framingham, Natick, and Wayland, MA
NHESP Tracking Number: 05-18215

Dear Mr. Liddy,

Thank you for contacting the Natural Heritage and Endangered Species Program ("NHESP") of the MA Division of Fisheries & Wildlife for information regarding state-protected rare species in the vicinity of the above referenced site. We have reviewed the site and would like to offer the following comments.

At this time we are not aware of any current rare plant or animal records in the vicinity of this site. The NHESP has historical records of both Bridle Shiner (*Notropis bifrenatus)* and Boreal Turret Snail (*Valvata sincera)* located within Lake Cochituate. The NHESP considers records last observed 25 years ago or more to be "historic" for the purpose of state-listed species regulatory review.

The NHESP understands that surveys for the Boreal Turret Snail may be performed in Lake Cochituate this summer. If the species is found, this project's plans **must** be reviewed by the NHESP for compliance with the state-listed rare species protection provisions of MESA (321 CMR 10.00) and/or the WPA (310 CMR 10.00). If the project site is within Estimated Habitat for Rare Wildlife and a Notice of Intent (NOI) is required, then a copy of the NOI must be submitted to the NHESP in a timely manner, so that it is received at the same time as the local conservation commission. If the proposed project is located within a Priority Habitat, then project plans, a fee, and other required filing materials must be sent to NHESP Environmental Review to determine whether a probable "take" under the MA Endangered Species Act would occur (321 CMR 10.18). For a MESA filing checklist and additional information about the MESA review process, please see our website: www.nhesp.org under the "Regulatory Review" tab.

This evaluation is based on the most recent information available in the NHESP database, which is constantly being expanded and updated through ongoing research and inventory. Should your site plans change, or new rare species information become available, this evaluation may be reconsidered. If you have any questions regarding this review please call Joanne Theriault, Environmental Review Assistant, at ext. 310.

Sincerely,

Thomas W. French

Thomas W. French, Ph.D.
Assistant Director

Attachment D

Boreal Turret Snail Survey

Douglas Grant Smith
30 Montague Road
Sunderland, MA 01375
25 October 2005

Mike Gildesgame
Office Water Resources
Massachusetts DCR
251 Causeway Street
Boston, MA 02114

Dear Mike,

The following report provides the results of a survey of Lake Cochituate, with the assistance of the Massachusetts DCR (10/20/05), for the presence or absence of Valvata sincera, the boreal turret snail, in the lake. Sampling was at 6 stations throughout the lake and was concentrated in areas characterized by above neutral pH values and the presence of water milfoil, Myriophyllum sp., a rooted aquatic plant, upon which the snail grazes for microbials. Studies have shown that V. sincera is limited by pH, its preferred range is 7-9, and is intolerant of even slightly acidic water. The table below shows the distribution of snail species encountered in the lake. The station key is on page 2.

Gastropoda (snails)	1	2	3	4	5	6
Prosobranchia (operculate snails)						
Viviparidae						
Bellamya chinensis	(not sampled but observed near shore)					
Hydrobiidae						
Amnicola limosa	0	+	+	+	+	+
Pulmonata (air breathing snails)						
Physidae						
Physa sp.	0	-	-	+	0	-
Planorbidae						
Helisoma anceps	0	0	-	0	0	-
Helisoma campanulata	0	0	-	0	0	0
Gyraulus sp. (?hirsutus)	0	-	-	+	+	+
Pelecypoda (clams)						
Sphaeriidae						
Musculium partumeium	0	0	-	+	0	0
Pisidium sp.	0	0	-	+	0	0

Key: 0 = absent, - = present but rare, + = common

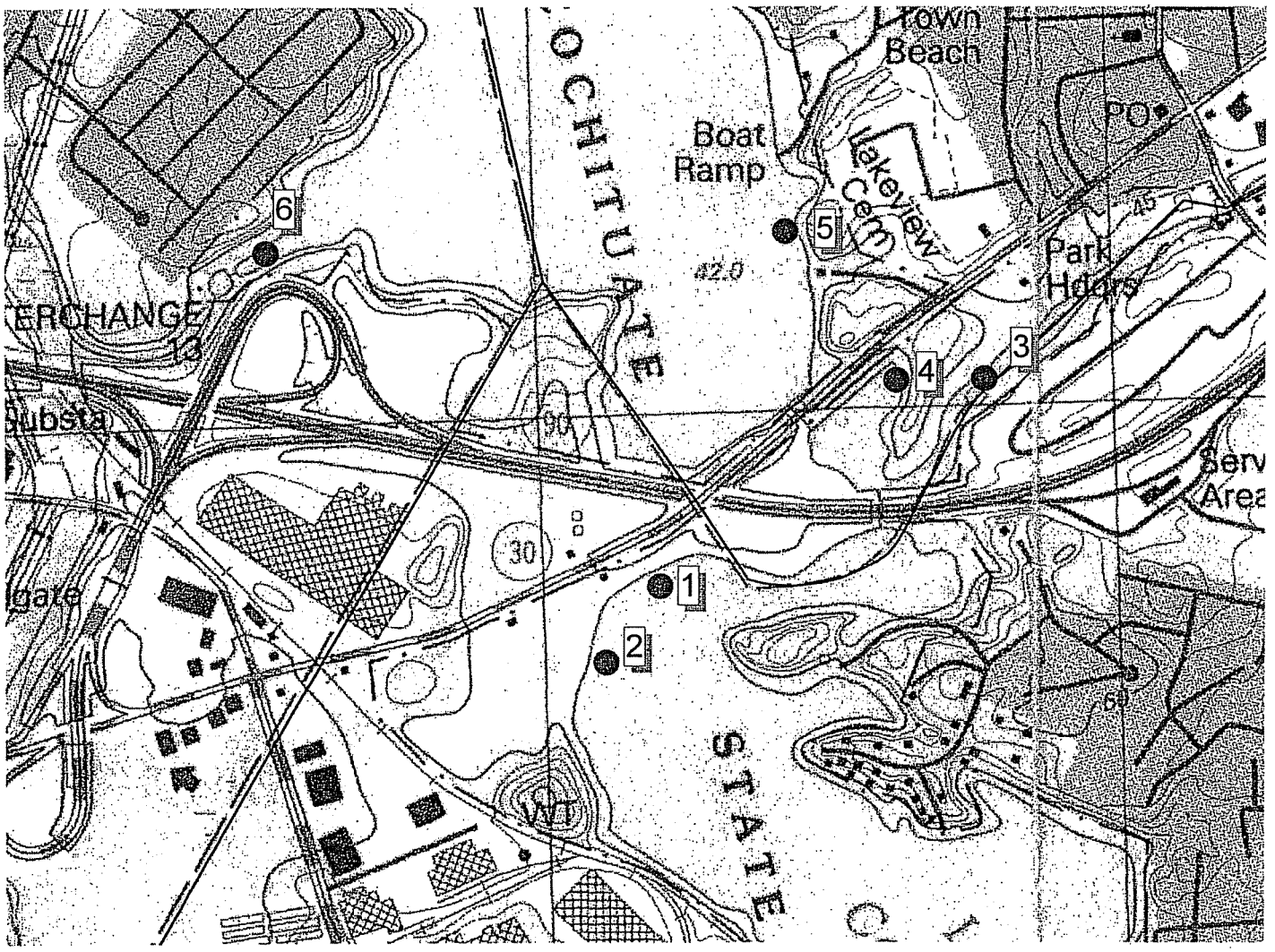
Stations: **1**, Boat launch, pH = 5.5-6.0, 4 feet; **2**, Beach, pH = 7.1-7.4, 4-5 feet; **3**, Middle Pond-Snake Brook, *river*, pH = 7.2, 2-4 feet; **4**, Middle Pond-Snake Brook *Cove*, pH = 7.2-7.3, 3-4 feet; **5**, North Pond-pump house, pH = 7.4, 2-3 feet; **6**, North Pond-dam, pH = 7.5, 5 feet.

As can be seen, Valvata sincera was not detected. The species is a member of the Valvatidae, a family of operculate snails characterized by a planospiral shell with a round aperture and a distinct multispiral operculum. All members of the Valvatidae are calciphiles and tend to occur in marl lakes, limited to Berkshire Co. in Massachusetts. Ph values in Lake Cochituate are barely adequate to support populations of this species.

Respectfully submitted,

Douglas Grant Smith

Lake Cochituate State Park
Boreal turret snail survey
October 20, 2005



Sample Sites

N
W E
S

Map Prepared by DCR
Lakes & Ponds

Attachment E

Standard Operating Procedures for Hand Pulling and Benthic Barriers

Standard Operating Procedure

Title: Hand Pulling of aquatic vegetation

Department of Conservation and Recreation
Office of Water Resources - Lakes and Ponds Program
251 Causeway Street, Suite 800 Boston, MA 02114

Date: May 15, 2003

Prepared By: Michelle Robinson (DCR) Jim Straub (DCR)

Volunteer Monitoring Coordinator: _____

QA/QC Officer: _____

DCR Coordinator: Michelle Robinson

Approved: Myron Gildesgame, Director Office of Water Resources

1.0 SCOPE AND APPLICATION

Harvesting invasive aquatic species by hand pulling can be an effective seasonal short-term treatment. Hand pulling is easy to plan and implement and is often the best way to control small infestations or the first detection of an invasive plant. Hand pulling may be a good alternative in sites where herbicides or other methods cannot be used. This technique is extremely species specific and can target the invasive plants with little or no damage to non-target species. The advantages of hand pulling include its confined ecological impact and low (or no) cost for supplies. In cases where the water is too deep, scuba divers can be utilized. The number of divers and the amount of time required will affect the cost of the hand pulling technique. The disadvantages are that it is very time and labor intensive and it is not effective against plants with deep underground stems and roots which, if left behind, will resprout.

2.0 SUMMARY

This inexpensive technique is favored against small infestations or where a large pool of volunteer labor is available. This technique is very species specific, has minimal damage to non-target species or other biota. Although hand pulling is an inexpensive management technique, the use of scuba divers may increase the cost.

3.0 SAFETY CONSIDERATIONS

It is wise to wear gloves, long pants and a long sleeved shirt when hand pulling. Some plants can cause moderate to severe skin irritation, especially when their stems and leaves are crushed and broken. Some plants can leave hands raw after several hours of pulling. It is essential to carry out this technique with a partner rather than alone and to take into consideration weather conditions, such as extreme heat or approaching storms. Life jackets are recommended and always follow the boating/water rules and regulations. If scuba divers are required, the divers will follow the safety guideline outline by PADI, SCUBA or the certifying company.

4.0 APPARATUS / MATERIALS

- Gloves
- Long pants/shirts
- Plant bags
- Plant nets
- Trawl (hand digger)/Plant wrench
- Spotter boat (if needed)
- Scuba divers (if needed)

5.0 PROCEDURE

5.1 Identify plant and obtain confirmation by a member of the rapid response team (see attached list of RRT members).

5.2 Conduct a pond survey to be certain to locate any other infestations.

5.3 Obtain approval under the Wetlands Protection Act from your local conservation commission. A negative determination may be appropriate if the area to be pulled affects less than 5000 square feet, or an Order of Conditions may be required for areas greater than 5,000 square feet of native vegetation. Non-native vegetation identified on the Rapid Response List can be removed without restriction on areal extent.

5.4 Define the area of treatment. Mark area clearly and be sure that the boundary will remain in place for post monitoring. Be sure that the boundary markers will not pose a hazard to boaters or swimmers. Inform the public, boating and swimming communities and lakeshore homeowners.

5.5 Define the number of volunteers required and organize accordingly.

5.6 Choose a day with suitable weather conditions, (days with good visibility, calm conditions and no predicted storms), and in accordance with the species specific considerations (section 5.14) and no fish spawning activity.

5.7 Arrange for a spotter boat and two volunteers: one to drive and one to net any fragments that may float up.

5.8 Begin at the furthest boundary of the defined area and line up the volunteers along the boundary. Work towards the shore with the volunteers maintaining the line formation.

5.9 Remove target plants from the base, removing as many roots as possible while disturbing the sediment as little as possible. Place the removed plants carefully in a collecting bag, try not to fragment the plants or leave any fragments in the water. The spotter boat should remain near the the transect, either down wind/current, and have a volunteer with a net collect any fragments and place them in a storage bag. The boat operator needs to be very cautious of the volunteers in the water.

5.10 Once the entire transect has been covered, repeat steps 5.7 through 5.9.

5.11 Once the removal is complete, dispose of the contents of the storage bags far from the water so that they cannot cause a re-infestation.

5.12 Record the details of the procedure and include date, time, site, town, volunteers involved, size of area pulled, approximate number or volume of plants removed, how they were disposed of and other relevant notes.

5.13 Monitor the site monthly during the growing season to ensure effectiveness of treatment. Visit the treated area on a routine basis and monitor the site for a reappearance of invasive species. Using the attached reporting form, keep accurate records of your monitoring visits.

5.14 Species Specific Considerations:

- *Trapa natans* Water Chestnut
  -Since the plant roots are not embedded in the soil, lift from the rosette.
  -This plant needs to be pulled prior to August.
- *Lythrum salicaria*
  -Purple Loosestrife needs to be pulled prior to seeding (July- September)
- *Phragmites australis*
  -Common Reeds need to be pulled prior to seeding (~ end of August).
- *Potomogeton crispus* Curly-leaved pondweed
  - Plants need to be pulled in May, before they produce seeds.
  -The treated area needs to be rechecked (~ November) for sprouting turions.
- *C. caroliniana, M. heterophyllum, M. spicatum, Najas minor, Egeria densa, M. aquaticum, Hydrilla verticillata*
  -These plants all fragment easily so it is critical to limit fragmentation and remove any fragments that do occur during hand pulling.

6.0 QUALITY CONTROL

- The site and species needs to be properly identified before any management technique is applied.
- All details of the hand pulling need to be accurately recorded.
- The plants need to be properly identified by an expert prior to any management techniques.
- Many aquatic plants spread via fragmentation so it is critical to thoroughly clean and inspect all equipment and clothing (even the soles of shoes) for fragments or seeds before moving off site. This will lessen the chance of infesting a new site when you leave.
- Minimize soil disturbance by pulling out plants slowly and carefully, and replace soil to disturbed areas where possible.
- Minimize trampling by limiting the number of people in the site and the amount of time spent there.
- Proper disposal of pulled plants is very important. Plants must be double bagged and removed from the site, and brought to a compost facility or other upland disposal facility.
- The site must be thoroughly inspected to be certain that all the target plants have been removed.
- The site must be monitored monthly during the growing season and all monitoring activities documented and reported to the authority designated in the Order of Conditions (OOC).

7.0 KEY POINTS TO REMMEMBER TO ACHIEVE SUCCESS

- Proper identification of plants.
- Complete removal the target plants.
- No plant fragments or seeds left at the site, as these may later re-infest the site.
- Timing is critical for hand pulling in several species, and pulling at the wrong time, for example when the plant has seeds, would be ineffective.
- Accurate record keeping.
- Good water clarity when hand pulling submerged plants.
- Consistent monitoring after the site has been hand pulled.

8.0 CORRECTIVE ACTIONS

- Education and public awareness of the issue.
- Signage (boat ramp signs, posters in kiosks at access points etc)
- Watershed monitoring.

9.0 REFERENCES

1. Tu, M., Hurd, C., & J.M. Randall, 2001. Weed Control Methods Handbook, The Nature Conservancy, http://tncweeds.ucdavis.edu, Version: April 2001.
2. Mattson, M., Godfrey, P., Barletta, R., Aeilo, A., 1998 Eutrophication and Aquatic Plant Management in Massachusetts: Draft Generic Environmental Impact Report. Water Resources Research Center, University of Massachusetts.

Standard Operating Procedure

Title: Benthic Barriers to control aquatic vegetation

Department of Conservation and Recreation
Office of Water Resources - Lakes and Ponds Program
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Date: May 15, 2003

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1.0 SCOPE AND APPLICATION

Benthic barriers are mats, that when placed over a desired area, limit plant development by restricting light and upward growth. They are most suitable for use in smaller areas around docks, beaches and in boating lanes. The benthic barriers are easily controlled and can be removed at any time. In addition to restricting plant growth, they reduce turbidity in areas where the sediment is soft and can improve breeding habitat for some fish species. The cost of material is between $0.22 and $1.25 per square foot. In addition to long-term control, barriers can be used to attack pioneer infestations of submerged invasive species such as Eurasian Milfoil.

Benthic barriers have potential negative impacts at the site of installation, including the impact to non-target species and the potential for anoxia in the sediments immediately beneath the barrier. Benthic vertebrates and the spawning of some fish also may be affected. The mats need to be cleaned occasionally or sediments may accumulate on the mats allowing plants to colonize. Decomposing plant matter beneath an improperly anchored barrier can create gas that may cause the barrier to float to the surface and create a boating/swimming hazard. Benthic barriers are not a good management option for emergent species including Purple Loosestrife and the Common Reed.

2.0 SUMMARY

The installation of benthic barriers can be used to control the growth of aquatic submerged and floating-leaved plants. Benthic barriers are most suitable for small areas such as around docks and swim beaches. This technique can be a long-term control option for plants if the mats are maintained and cleaned.

3.0 SAFETY CONSIDERATIONS

The barrier needs to be securely anchored to the lake bottom or gases from decaying plants can build up beneath the barrier it cause it to rise to the surface where it may create a hazard for boaters and swimmers. Caution must be used in selecting anchors so that they do not pose a hazard for swimmers. Installation should be done on a day with appropriate weather conditions (calm and with no predicted storms). Use the buddy system when performing routine maintenance or inspection of the barrier.

4.0 APPARATUS / MATERIALS

- Anchors (sand bags or rocks are best)
- Durable material (sinks, resistant to decay, limits light)

5.0 PROCEDURE

5.1 Identify plant and obtain confirmation by one of the certified rapid response team members. (see attached RRT list)

5.2 Conduct a pond survey to locate any other infestations.

5.3 Obtain approval under the Wetlands Protection Act from your local conservation commission. A negative determination may be appropriate if the area is less than 5000 square feet, or an Order of Conditions may be required for areas greater than 5,000 square feet of native vegetation. Non-native vegetation identified on the Rapid Response List can be removed without restriction on areal extent.

5.4 Define the area of barrier installation and mark area very clearly with visible, durable markers or buoys.

5.5 Purchase barrier materials and sand bags.

5.6 Identify and adequate number of volunteers or professional entity who will install the barrier.

5.7 Choose a day that has appropriate weather, and is not within a fish spawning period. Notify local boating and swimming communities.

5.8 Record the details of the procedure and include date, time, site, town, number of volunteers or professional company involved, size of area covered, and other relevant notes.

5.9 Post monitor the site monthly during the growing season to ensure that the mat remains well anchored and to assess effectiveness of treatment. Visit the area on a routine basis and monitor the site for a reappearance of invasive species. Keep accurate records of the monitoring visits using the attached reporting form and submit results to DEM.

6.0 QUALITY CONTROL

- The site and species needs to be properly identified before any management technique is applied. The plants need to be properly identified by a member of the Rapid Response Team prior to any management techniques.
- All details of the benthic barrier installment need to be accurately recorded.
- The material used must be specifically designed for this use (heavier than water, withstand rot and decay and limit light to the sediment, etc).
- The barrier must be anchored securely so that it will not float and create a hazard to boaters and swimmers.
- The barrier must be regularly inspected and maintained for safely and effectiveness.
- The barrier must be regularly cleaned to remove accumulated sediments.
- The site must be continuously monitored.

7.0 KEY POINTS TO REMEMBER TO ACHIEVE SUCCESS

- Proper identification of plants.
- Complete coverage of the target plants.
- Secure anchoring and visible, durable marking of the area.
- Good quality durable barrier material.
- Monthly maintenance, cleaning and inspection of the barrier.
- Accurate record keeping.
- Protection of the barrier against destruction or dislodging that may be caused by harvesters, fishing gear, propeller backwash or boat anchors.
- Consistent, accurate, monthly monitoring after the site has been treated.

8.0 PREVENTATIVE MAINTENANCE

9.0 CORRECTIVE ACTIONS

- Education and public awareness of the issue.
- Signage (boat ramp signs, posters at kiosks near access areas etc)
- Watershed monitoring.

10.0 REFERENCES

1. Mattson, M., Godfrey, P., Barletta, R., Aeilo, A., 1998 Eutrophication and Aquatic Plant Management in Massachusetts: Draft Generic Environmental Impact Report. Water Resources Research Center, University of Massachusetts.
2. Tu, M., Hurd, C., & J.M. Randall, 2001. Weed Control Methods Handbook, The Nature Conservancy, http://tncweeds.ucdavis.edu, Version: April 2001.