Control of Variable Water Milfoil in Bashan Lake

2006

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Introduction

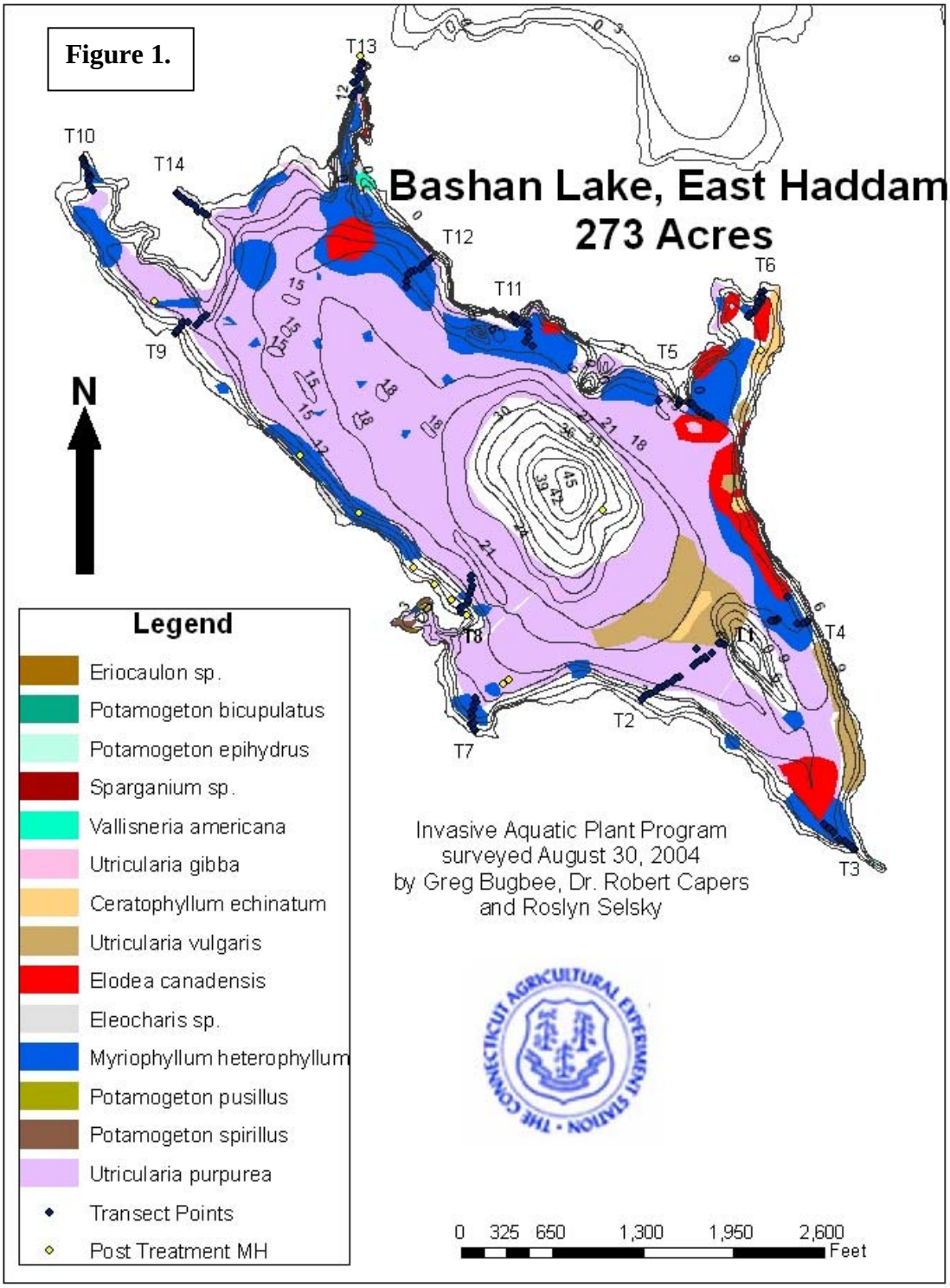
This report summarizes the work performed by the Connecticut Agricultural Experiment Station (CAES) in 2006 on the control of variable milfoil (*Myriophyllum heterophyllum*) in Bashan Lake. It is a continuation of research started 1999 on controlling the aquatic weed with spot applications of a granular herbicide containing 2,4-D (2,4-Dichlorphenoxyacetic acid butoxyethyl ester). Control has generally been good, rates have been reduced from 200 lbs/A to 75-100 lbs/A and fall treatments have replaced spring/summer treatments in order to limit the exposure of people and spawning fish to the herbicide. Native aquatic plants such as pondweeds *(Potamogeton* sp.*)* and bladderwort *(Ultricularia* sp.*)* have not been seriously affected by the 2,4-D treatments and often repopulate the areas were milfoil has been eliminated. Further details on the CAES studies can be found in the previous yearly reports supplied to the Bashan Lake Association (BLA).

Although control of variable milfoil tends to be successful in treated areas, new areas of milfoil have been located each year and occasionally regrowth has occurred in treated areas.

Pretreatment Vegetation Survey

CAES performed a complete aquatic vegetation survey of Bashan Lake (Figure 1) as part of a statewide program on August 30, 2004. This survey showed that bladderwort covered most of the bottom except in the very deepest water and was by far the most common plant. Variable milfoil was extensive on the northeast side of the lake and patchy elsewhere particularly in coves where the water was less than 15 feet deep. Waterweed (*Elodea canadensis)* was found in several coves at the southern and eastern side of the lake

Figure 1.


Bashan Lake, East Haddam
273 Acres
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
T13
T14
N
Legend
Eriocaulon sp.
Potamogeton bicupulatus
Potamogeton epihydrus
Sparganium sp.
Vallisneria americana
Utricularia gibba
Ceratophyllum echinatum
Utricularia vulgaris
Elodea canadensis
Eleocharis sp.
Myriophyllum heterophyllum
Potamogeton pusillus
Potamogeton spirillus
Utricularia purpurea
Transect Points
Post Treatment MH
Invasive Aquatic Plant Program
surveyed August 30, 2004
by Greg Bugbee, Dr. Robert Capers
and Roslyn Selsky
THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION
0 325 650 1,300 1,950 2,600
Feet

often intermixed with variable milfoil. Coontail (*Ceratophyllum echinatum)* grew densely in Sunset Acres Cove and in other scattered locations. Pondweeds (*Potamogeton epihydrus, P. bicupulatus* and P. *pusillus)* were found in very shallow water north of the boat launch and on the western side of the lake. Eelgrass (*Vallisneria americana)* was present in a cove at the northern end of the lake. Other plants recorded were the emergent species, *Sparganium* sp. and an *Eleocharis* sp. Fourteen georeferenced transects (marked as T1-T14; Figure 1) were established and plants along them was identified at 10 meter intervals. These transects can be used in the future to quantitatively tract changes in vegetation.

Surveillance

Surveillance for milfoil continued during 2006 using an underwater camera system that was fed into an onboard computer and viewed on a monitor attached to the drivers console. A global positioning system (GPS) overlaid the locations (latitude and longitude) over still pictures or video. Still pictures or video of the bottom vegetation were then stored on a hard drive for future review. To confirm the video identification, plant samples are obtained with a grapple and identified.

In 2006, significant populations of variable milfoil occurred in areas from Brooks Cove to Laurel Cove and several other dense patches from Laurel Cove to the state boat launch ramp (Figure 2). Georeferenced positions and abundances of the milfoil are shown in the appendix of this report. These areas can provide plant fragments that float into the treated areas and take root. Controlling this milfoil is critical if long-term control in treated sites is to be achieved. Control of milfoil in deep water is likely to be more difficult than in shallower areas due to greater dilution of the herbicide. The extensive milfoil present in the in the southeast portion of the lake that was treated in September 2005 (Figure 3), was virtually gone. Areas treated in 2004 from the Sunset Acres Cove to the state boat ramp were remained primarily clear of milfoil (no figure shown).

Permitting

CAES prepared and filed a CTDEP permit application for Navigate/Aqua-Kleen on January 26, 2006. On April 5, 2006 the permit was approved by CTDEP. The permit allowed for an application of 5000 pounds of the herbicide. The applications

Figure 2.

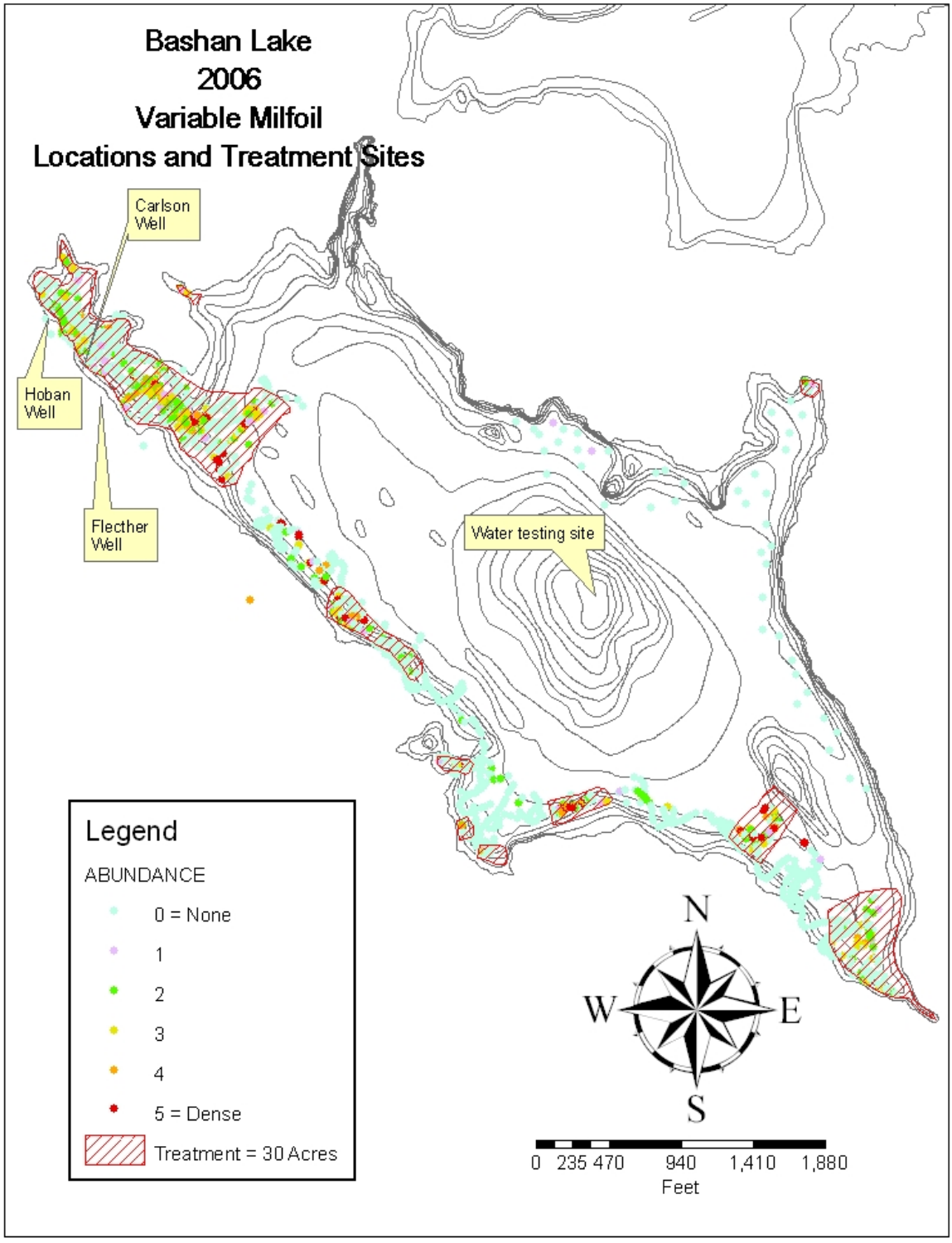
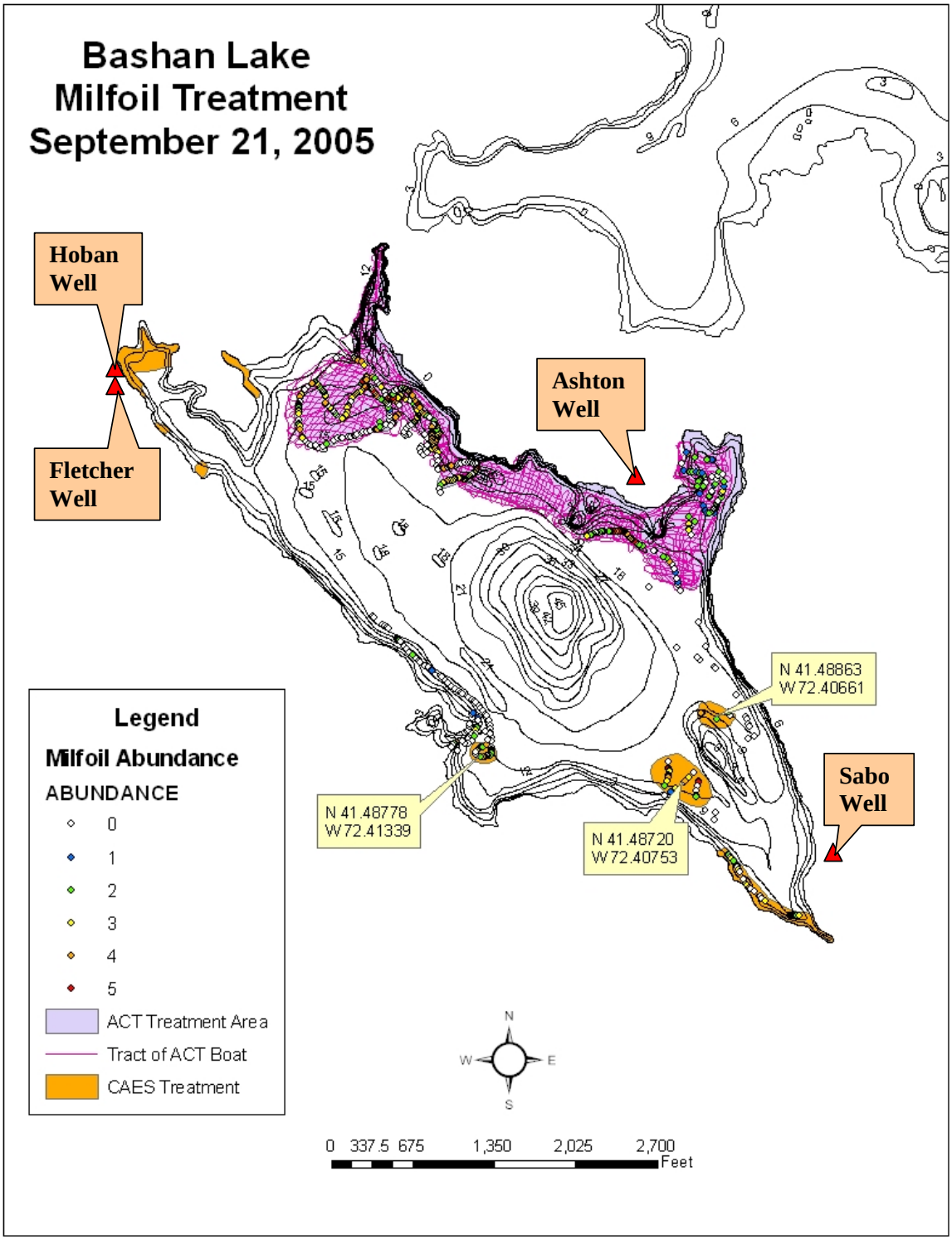

Bashan Lake
2006
Variable Milfoil
Locations and Treatment Sites
Carlson Well
Hoban Well
Flecther Well
Water testing site
Legend
ABUNDANCE
0 = None
1
2
3
4
5 = Dense
Treatment = 30 Acres
N
W
E
S
0 235 470 940 1,410 1,880
Feet

Figure 3.


Bashan Lake
Milfoil Treatment
September 21, 2005
Hoban Well
Fletcher Well
Ashton Well
Sabo Well
N 41.48863
W72.40661
N 41.48778
W72.41339
N 41.48720
W72.40753
Legend
Milfoil Abundance
ABUNDANCE
0
1
2
3
4
5
ACT Treatment Area
Tract of ACT Boat
CAES Treatment
N
W
E
S
0 337.5 675 1,350 2,025 2,700
Feet

could be performed in June or September. A requirement of the permit was that ground water wells, close to the treatment areas, be tested for 2,4-D. Further details regarding the applications and permits are in the appendix of this report.

Notification

The public was notified of the herbicide application during the week preceding the treatment. Newspaper notification occurred in the Hartford Courant and the BLA newsletter. Signs were posted at public entrances around the lake. Notification protocol was pursuant to Section 22a-66a(g) of the CT General Statutes. A copy of the newspaper notifications and sign are in the appendix of this report.

Application of Navigate

On September 28 the herbicide Navigate (granular 2,4-D) was applied at a rate of 100 lbs/A to Brooks Cove, portions of Laurel Cove and a small area in between (Figure 2). On October 2, the state boat launch cove and the remainder of the treatment areas shown in Figure 2 were treated at the same rate. A 12-volt Truckster-mount spreader, attached to the back of a motorized boat, was used to distribute the granules. To minimize inconsistencies in coverage treatment areas were located by GPS and crisscrossed in multiple directions. The weather on days of treatment was partly cloudy and mild (60^{o}- 70 ^{o}F) with moderate to strong winds.

Sampling of Lake Water for 2,4-D

Lake water was not sampled for 2,4-D because irrigation was not allowed for the remainder of the growing season.

Sampling Groundwater Wells for 2,4-D

Groundwater from three wells near the Brooks Cove treatment sites (Carlson, Fletcher, Hoban,) was sampled for 2,4-D. The locations of these wells are shown on the milfoil treatment map (Figure 2). Efforts were made to find an additional well to test to meet CT DEP requirements but none could be located. Water samples were obtained from outdoor outlets approximately two weeks after treatment. These samples were tested by CAES using solid phase extraction and liquid chromatography with a detection limit of 2 ppb. No 2,4-D was found in any well. A copy of the water test results was sent to CTDEP Pesticide Unit as soon as received.

Figure 4. Temperature and dissolved oxygen profile on May 25, 2006

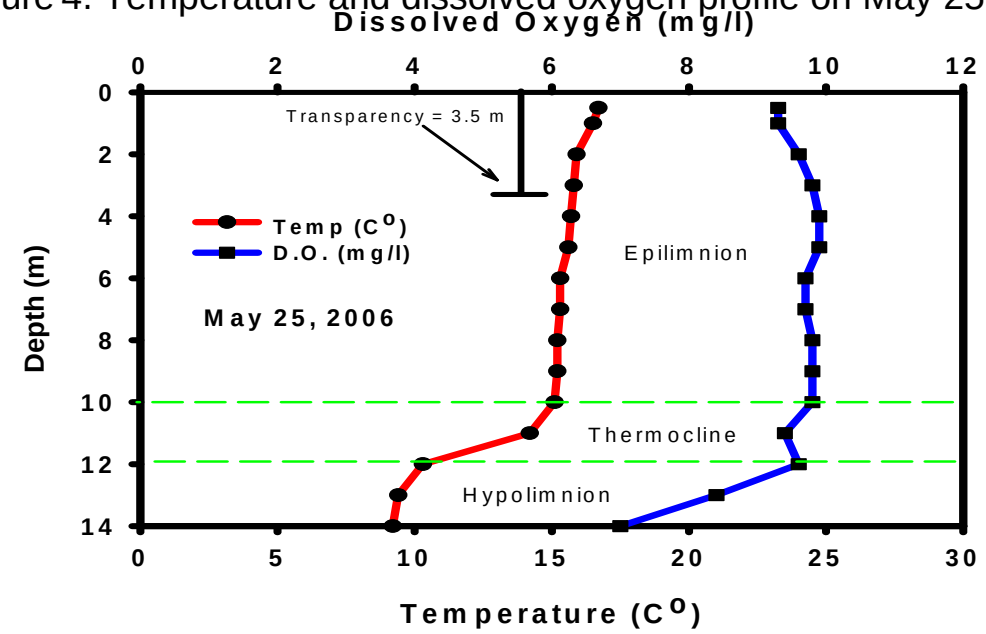


Figure 5. Temperature and dissolved oxygen profile on July 21, 2006

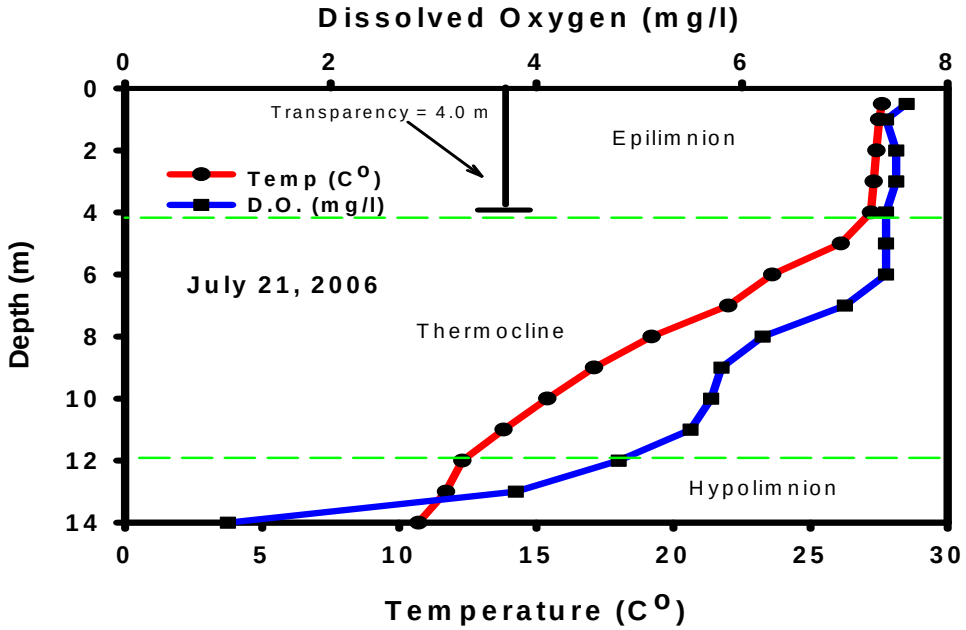
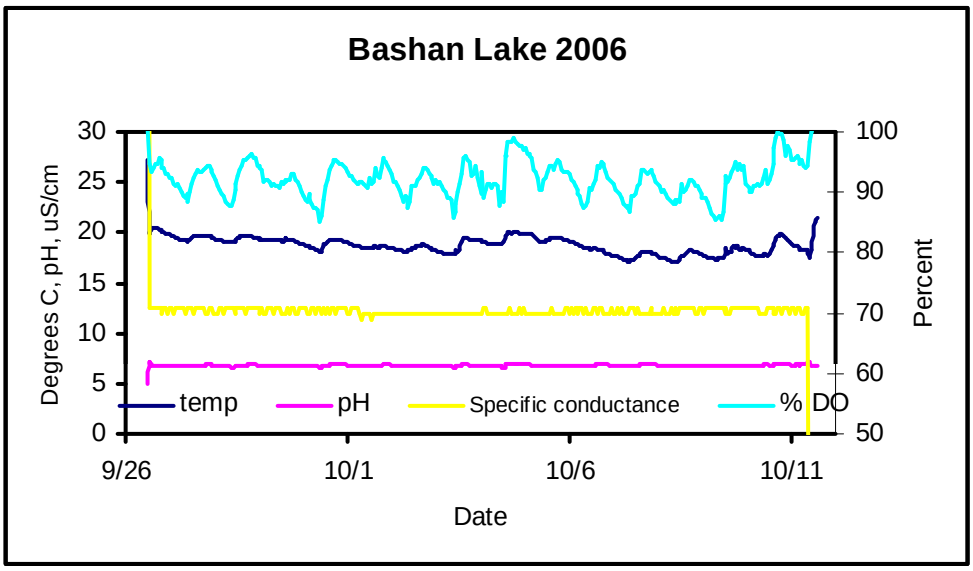


Figure 6. Water chemistry before and after herbicide treatment in Brooks Cove.



Milfoil Control

No post treatment survey to asses milfoil control was performed in 2006 because of the lateness of the season. Control will be assessed in 2007.

Water Chemistry

Transparency measurements found Bashan Lake to continue to be a very clear lake. Secchi measurements made on May 25, and July 21 (Figures 4 and 5) were 3.5 and 4 meters respectively (13 - 15 feet). Clear water favors the growth of milfoil and other vegetation at greater depths. Surface water (epilimnion) temperatures (Figures 4 and 5) ranged from near 17 ^{o}C (63 ^{o}F) on May 25 to 28 ^{o}C (81 ^{o}F) on July 21. The water temperature at the bottom (hypolimnion) stayed considerably cooler near 10 ^{o}C (50 ^{o}F) on both dates.

Dissolved oxygen (Figures 4 and 5) was abundant in all surface measurements and ranged between 7.6 and 9.3 mg/l. In bottom water, the dissolved oxygen concentration was high during the May measurement (7.0 mg/l) but dropped to 0.6 mg/l on July 21. Dissolved oxygen levels of below 3 mg/l generally are not well tol-

erated by most fish but are not uncommon in deep lakes in summer and early fall. Fish will move to areas of higher dissolved oxygen concentrations and usually not be harmed. Comparisons of the May and July temperatures and dissolved oxygen profiles found a typically small thermocline in May and an more dramatic thermocline in July starting at depth 5 meters (15 feet).

The pH of Bashan Lake on May 25 was 6.3 at the surface and 5.7 near the bottom. On July 21 the pH had risen to 7.0 and 6.7 near the surface and bottom respectively. Alkalinity was 6 and 3 mg/l $CaCO_3$ at the surface and bottom respectively on May 25 and 1 and 5 mg/l $CaCO_3$ at the same depths respectively on July 21. This alkalinity is considered low, allows rapid fluctuations in pH, and could enhance future acidification. Water tests found total phosphorus (P) to be very low (<12 ppb, oligotrophic) on both dates.

Water chemistry including temperature, pH, dissolved oxygen, and specific conductance (Figure 6) was monitored in Brooks Cove from slightly before the herbicide treatments until two weeks later (9/26 –10/11). A recently obtained sensor, called a HydroLab, was tested by placing it at a depth of 1.5 meters (5 feet) adjacent to the Hoban's dock. The HydroLab was not removed for the two-week period while water data was recorded every hour. This technique allowed the effects of the herbicide on water quality to be monitored. Often dissolved oxygen levels plummet, as treated plants can no longer conduct photosynthesis. Other changes such as acidification might also occur. No changes associated with the herbicide treatment were evident (Figure 6) although the natural day/night increase and decrease in dissolved oxygen was most obvious. It is likely the cooler water temperatures and slower plant growth rates associated with the fall treatment helped buffer any changes in water chemistry. Late spring and summer treatments might be expected to cause greater changes in water chemistry. It is also likely that natural water circulation from untreated areas will dilute the effects of the treatments on water.

2006 Summary

Treatments of variable milfoil with granular 2,4-D continue to be an effective tool for reducing variable milfoil in Bashan Lake. The areas of milfoil treated from the dam to Sunset Acres in 2005 showed minimal regrowth in 2006. Areas treated in 2004, along the southeast shore from Sunset Acres beach toward the state boat launch,

also showed little regrowth of milfoil. Milfoil treated in 2006 consisted of areas such as Brooks Cove, the state boat launch cove and innermost Sunset Acres Cove that have been shown prone to regrowth and a long narrow area of milfoil running from outer Brooks Cove to Laurel Cove that had not received adequate treatment in the past. This area is difficult to treat because of it 's rapid drop off to deep open water and probable wind generated currents. Although the trend is clearly toward less overall milfoil in recent years, enough milfoil remains to cause reinfestation by plant fragmentation thus continued monitoring and treatments are suggested. If the current trend continues, treatments may soon only be necessary in alternate years or possibly longer intervals. Tests on ground water near the treatment sites found no 2,4-D. This finding in conjunction with the negative well water tests performed in previous years continues to solidify the evidence that the treatment of milfoil in Bashan Lake or other similar lakes with granular 2,4-D will not cause contamination of nearby groundwater wells.

Work Suggested for 2006

Milfoil treatments in 2007, should be based on summer surveillance with underwater video camera with GPS overlay. Milfoil treatments in mid September after major public use of the lake has ceased are suggested. A Navigate/Aqua-Kleen rate of 100 lbs./A has been found most successful. A CTDEP permit to treat Bashan Lake with up to 3000 pounds of Navigate/Aqua-Kleen is suggested.

Water testing should be done for pH, temperature, dissolved oxygen, total phosphorus, alkalinity and clarity from the surface and bottom in the center of the lake. Lakeside drinking water wells will be tested pursuant the CT DEP permit.

A report should be prepared for the BLA and CTDEP.

Proposed CAES Budget

2007

Bashan Lake Research Project

ITEM	Quantity	Unit Cost	Expense
Professional Services			
Dept. of Soil and Water, CAES			
permitting, vegetation surveys, herbicide applications, mapping, meetings			$800
laboratory work			$900
Total			**$1700**
Vehicles, Boats, Trailers, Fuel etc.			**$500**
Herbicide			
Navigate/Aqua-Kleen (2,4-D)			$2500
Total			**$2500**
Supplies, Public Notices etc.			**$100**
Grand Total			**$4800**

APPENDIX

Work in Progress

Testing HydroLab in Brooks Cove

Table of GPS Coordinates and Milfoil Abundance (0 = none – 5 = abundant)

Latitude	Longitude	Abundance	Date
41.49320	-72.41216	0	7/27/2006
41.49264	-72.41077	0	7/27/2006
41.48674	-72.40700	2	7/27/2006
41.48679	-72.40691	1	7/27/2006
41.48613	-72.40645	0	7/27/2006
41.48603	-72.40590	0	7/27/2006
41.48562	-72.40579	0	7/27/2006
41.48406	-72.40433	0	7/27/2006
41.48426	-72.40453	0	7/27/2006
41.48468	-72.40444	0	7/27/2006
41.48472	-72.40445	2	7/27/2006
41.48484	-72.40448	1	7/27/2006
41.49261	-72.40968	0	7/27/2006
41.48489	-72.40449	2	7/27/2006
41.48497	-72.40452	2	7/27/2006
41.48499	-72.40453	2	7/27/2006
41.48508	-72.40457	2	7/27/2006
41.48509	-72.40457	2	7/27/2006
41.48510	-72.40457	0	7/27/2006
41.48530	-72.40457	3	7/27/2006
41.48531	-72.40457	2	7/27/2006
41.48539	-72.40458	2	7/27/2006
41.48556	-72.40448	2	7/27/2006
41.48670	-72.40731	5	7/27/2006
41.48560	-72.40442	0	7/27/2006
41.48561	-72.40438	0	7/27/2006
41.48540	-72.40432	1	7/27/2006
41.48532	-72.40444	2	7/27/2006
41.48527	-72.40459	0	7/27/2006
41.48542	-72.40511	0	7/27/2006
41.48630	-72.40570	1	7/27/2006
41.48638	-72.40581	0	7/27/2006
41.48646	-72.40589	0	7/27/2006
41.48667	-72.40745	2	7/27/2006
41.48660	-72.40606	5	7/27/2006
41.48660	-72.40608	5	7/27/2006
41.48673	-72.40750	0	7/27/2006
41.48685	-72.40737	3	7/27/2006
41.48682	-72.40732	2	7/27/2006
41.48677	-72.40726	0	7/27/2006
41.48669	-72.40710	5	7/27/2006

Latitude	Longitude	Abundance	Date
41.49475	-72.42206	0	7/27/2006
41.49491	-72.42222	0	7/27/2006
41.49498	-72.42229	0	7/27/2006
41.49503	-72.42235	0	7/27/2006
41.49509	-72.42241	0	7/27/2006
41.49517	-72.42250	0	7/27/2006
41.49526	-72.42263	0	7/27/2006
41.49533	-72.42274	0	7/27/2006
41.49543	-72.42288	0	7/27/2006
41.49554	-72.42303	0	7/27/2006
41.49559	-72.42309	0	7/27/2006
41.49565	-72.42318	0	7/27/2006
41.49570	-72.42324	0	7/27/2006
41.49575	-72.42332	0	7/27/2006
41.49580	-72.42337	0	7/27/2006
41.49581	-72.42339	0	7/27/2006
41.49586	-72.42345	3	7/27/2006
41.49587	-72.42346	3	7/27/2006
41.49595	-72.42356	3	7/27/2006
41.49596	-72.42358	3	7/27/2006
41.49597	-72.42359	3	7/27/2006
41.49605	-72.42367	3	7/27/2006
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41.49666	-72.42396	0	7/27/2006
41.49664	-72.42385	0	7/27/2006
41.49636	-72.42374	0	7/27/2006
41.49631	-72.42364	0	7/27/2006
41.49629	-72.42360	0	7/27/2006
41.49629	-72.42360	0	7/27/2006
41.49624	-72.42355	0	7/27/2006
41.49623	-72.42354	0	7/27/2006
41.49605	-72.42351	0	7/27/2006
41.49609	-72.42348	0	7/27/2006
41.49600	-72.42344	0	7/27/2006
41.49594	-72.42336	0	7/27/2006
41.49590	-72.42330	0	7/27/2006
41.49585	-72.42324	0	7/27/2006
41.49582	-72.42319	0	7/27/2006
41.49571	-72.42305	0	7/27/2006
41.49565	-72.42297	0	7/27/2006
41.49541	-72.42280	1	7/27/2006
41.49555	-72.42276	0	7/27/2006
41.49554	-72.42275	1	7/27/2006

Latitude	Longitude	Abundance	Date
41.49544	-72.42251	0	7/27/2006
41.49543	-72.42250	0	7/27/2006
41.49536	-72.42241	2	7/27/2006
41.49533	-72.42236	0	7/27/2006
41.49529	-72.42230	0	7/27/2006
41.49522	-72.42223	0	7/27/2006
41.49520	-72.42220	2	7/27/2006
41.49513	-72.42210	0	7/27/2006
41.49508	-72.42202	2	7/27/2006
41.49506	-72.42198	2	7/27/2006
41.49503	-72.42188	0	7/27/2006
41.49500	-72.42179	0	7/27/2006
41.49496	-72.42172	0	7/27/2006
41.49494	-72.42169	2	7/27/2006
41.49493	-72.42166	4	7/27/2006
41.49491	-72.42159	2	7/27/2006
41.49486	-72.42149	4	7/27/2006
41.49485	-72.42149	3	7/27/2006
41.49484	-72.42147	5	7/27/2006
41.49482	-72.42144	5	7/27/2006
41.49480	-72.42142	4	7/27/2006
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41.49474	-72.42136	4	7/27/2006
41.49473	-72.42135	3	7/27/2006
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41.49460	-72.42107	3	7/27/2006
41.49457	-72.42112	3	7/27/2006
41.49455	-72.42099	2	7/27/2006
41.49452	-72.42096	2	7/27/2006
41.49449	-72.42092	2	7/27/2006
41.49447	-72.42089	2	7/27/2006
41.49444	-72.42083	2	7/27/2006
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41.49428	-72.42045	4	7/27/2006
41.49437	-72.42014	0	7/27/2006
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41.49398	-72.41996	0	7/27/2006
41.49387	-72.42024	0	7/27/2006
41.49388	-72.42029	1	7/27/2006
41.49396	-72.42054	0	7/27/2006
41.49400	-72.42059	4	7/27/2006
41.49403	-72.42063	3	7/27/2006
41.49405	-72.42065	2	7/27/2006
41.49408	-72.42067	3	7/27/2006

Latitude	Longitude	Abundance	Date
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41.49415	-72.42074	2	7/27/2006
41.49421	-72.42081	2	7/27/2006
41.49424	-72.42087	3	7/27/2006
41.49432	-72.42098	2	7/27/2006
41.49434	-72.42100	3	7/27/2006
41.49437	-72.42102	2	7/27/2006
41.49444	-72.42111	0	7/27/2006
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41.49449	-72.42117	2	7/27/2006
41.49453	-72.42124	4	7/27/2006
41.49454	-72.42129	3	7/27/2006
41.49464	-72.42152	2	7/27/2006
41.49465	-72.42155	3	7/27/2006
41.49472	-72.42169	3	7/27/2006
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41.49496	-72.42230	0	7/27/2006
41.49506	-72.42242	0	7/27/2006
41.49508	-72.42078	0	7/27/2006
41.49514	-72.42253	1	7/27/2006
41.49515	-72.42255	0	7/27/2006
41.49526	-72.42265	1	7/27/2006
41.49540	-72.42278	0	7/27/2006
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41.49578	-72.42339	2	7/27/2006
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41.49588	-72.42356	0	7/27/2006
41.49590	-72.42359	0	7/27/2006
41.49593	-72.42363	0	7/27/2006
41.49594	-72.42364	2	7/27/2006
41.49597	-72.42364	2	7/27/2006
41.49605	-72.42366	2	7/27/2006
41.49614	-72.42373	2	7/27/2006
41.49618	-72.42376	2	7/27/2006

Latitude	Longitude	Abundance	Date
41.49626	-72.42392	2	7/27/2006
41.49629	-72.42400	0	7/27/2006
41.49636	-72.42409	0	7/27/2006
41.49645	-72.42415	3	7/27/2006
41.49654	-72.42419	0	7/27/2006
41.49666	-72.42419	0	7/27/2006
41.49671	-72.42414	0	7/27/2006
41.49672	-72.42403	0	7/27/2006
41.49648	-72.42369	2	7/27/2006
41.49641	-72.42361	0	7/27/2006
41.49640	-72.42361	3	7/27/2006
41.49628	-72.42348	0	7/27/2006
41.49622	-72.42342	0	7/27/2006
41.49616	-72.42338	0	7/27/2006
41.49604	-72.42332	0	7/27/2006
41.49600	-72.42328	0	7/27/2006
41.49592	-72.42314	0	7/27/2006
41.49588	-72.42310	0	7/27/2006
41.49586	-72.42303	0	7/27/2006
41.49579	-72.42289	0	7/27/2006
41.49576	-72.42284	0	7/27/2006
41.49570	-72.42271	0	7/27/2006
41.49571	-72.42263	0	7/27/2006
41.49577	-72.42253	0	7/27/2006
41.49582	-72.42240	0	7/27/2006
41.49586	-72.42236	0	7/27/2006
41.49590	-72.42230	0	7/27/2006
41.49599	-72.42221	0	7/27/2006
41.49605	-72.42223	0	7/27/2006
41.49608	-72.42237	0	7/27/2006
41.49603	-72.42242	0	7/27/2006
41.49566	-72.42252	0	7/27/2006
41.49561	-72.42252	0	7/27/2006
41.49555	-72.42250	0	7/27/2006
41.49545	-72.42235	0	7/27/2006
41.49539	-72.42222	0	7/27/2006
41.49539	-72.42217	0	7/27/2006
41.49540	-72.42211	0	7/27/2006
41.49537	-72.42203	0	7/27/2006
41.49535	-72.42197	0	7/27/2006
41.49535	-72.42190	0	7/27/2006
41.49537	-72.42183	0	7/27/2006
41.49534	-72.42172	0	7/27/2006
41.49528	-72.42167	0	7/27/2006
41.49528	-72.42161	0	7/27/2006
41.49526	-72.42153	0	7/27/2006
41.49523	-72.42146	0	7/27/2006
41.49522	-72.42143	0	7/27/2006
41.49520	-72.42134	2	7/27/2006

Latitude	Longitude	Abundance	Date
41.49513	-72.42127	0	7/27/2006
41.49510	-72.42126	3	7/27/2006
41.49508	-72.42126	2	7/27/2006
41.49503	-72.42125	0	7/27/2006
41.49495	-72.42116	0	7/27/2006
41.49491	-72.42104	0	7/27/2006
41.49488	-72.42095	0	7/27/2006
41.49487	-72.42093	0	7/27/2006
41.49476	-72.42084	0	7/27/2006
41.49451	-72.42070	0	7/27/2006
41.49438	-72.42073	0	7/27/2006
41.49436	-72.42072	2	7/27/2006
41.49433	-72.42072	4	7/27/2006
41.49431	-72.42071	3	7/27/2006
41.49423	-72.42074	3	7/27/2006
41.49422	-72.42077	2	7/27/2006
41.49423	-72.42088	3	7/27/2006
41.49423	-72.42093	3	7/27/2006
41.49423	-72.42100	2	7/27/2006
41.49422	-72.42117	2	7/27/2006
41.49421	-72.42126	0	7/27/2006
41.49422	-72.42133	0	7/27/2006

Latitude	Longitude	Abundance	Date
41.49376	-72.41923	2	7/27/2006
41.49400	-72.41941	3	7/27/2006
41.49410	-72.41940	0	7/27/2006
41.49423	-72.41937	0	7/27/2006
41.49431	-72.41931	3	7/27/2006
41.49436	-72.41927	3	7/27/2006
41.49439	-72.41924	3	7/27/2006
41.49449	-72.41913	1	7/27/2006
41.49452	-72.41907	2	7/27/2006
41.49472	-72.41885	0	7/27/2006
41.49486	-72.41880	0	7/27/2006
41.49493	-72.41886	0	7/27/2006
41.49490	-72.41894	0	7/27/2006
41.49483	-72.41885	0	7/27/2006
41.49479	-72.41877	0	7/27/2006
41.49468	-72.41873	0	7/27/2006
41.49459	-72.41883	0	7/27/2006
41.49448	-72.41899	0	7/27/2006
41.49442	-72.41907	1	7/27/2006
41.49439	-72.41909	3	7/27/2006
41.49437	-72.41912	3	7/27/2006
41.49435	-72.41913	5	7/27/2006
41.49434	-72.41914	3	7/27/2006
41.49098	-72.41921	4	7/27/2006
41.49431	-72.41923	2	7/27/2006
41.49422	-72.41941	0	7/27/2006
41.49418	-72.41952	0	7/27/2006
41.49417	-72.41967	0	7/27/2006
41.49417	-72.41980	0	7/27/2006
41.49416	-72.41991	0	7/27/2006
41.49414	-72.41998	0	7/27/2006
41.49413	-72.42002	0	7/27/2006
41.49408	-72.42010	0	7/27/2006
41.49403	-72.42018	0	7/27/2006
41.49401	-72.42031	0	7/27/2006
41.49401	-72.42033	0	7/27/2006
41.49401	-72.42037	4	7/27/2006
41.49401	-72.42038	3	7/27/2006
41.49401	-72.42043	2	7/27/2006
41.49400	-72.42051	0	7/27/2006
41.49400	-72.42061	4	7/27/2006
41.49401	-72.42063	4	7/27/2006
41.49401	-72.42065	3	7/27/2006
41.49404	-72.42068	3	7/27/2006
41.49407	-72.42070	2	7/27/2006
41.49411	-72.42071	4	7/27/2006
41.49414	-72.42072	3	7/27/2006
41.49416	-72.42072	0	7/27/2006
41.49421	-72.42074	3	7/27/2006
41.49425	-72.42079	2	7/27/2006
41.49426	-72.42081	3	7/27/2006
41.49427	-72.42083	4	7/27/2006

Latitude	Longitude	Abundance	Date
41.49429	-72.42086	3	7/27/2006
41.49433	-72.42092	2	7/27/2006
41.49435	-72.42094	1	7/27/2006
41.49440	-72.42101	2	7/27/2006
41.49444	-72.42107	0	7/27/2006
41.49445	-72.42108	2	7/27/2006
41.49450	-72.42113	3	7/27/2006
41.49450	-72.42115	3	7/27/2006
41.49451	-72.42116	4	7/27/2006
41.49451	-72.42122	2	7/27/2006
41.49449	-72.42126	0	7/27/2006
41.49445	-72.42129	2	7/27/2006
41.49440	-72.42130	1	7/27/2006
41.49435	-72.42126	2	7/27/2006
41.49430	-72.42114	0	7/27/2006
41.49425	-72.42108	1	7/27/2006
41.49420	-72.42103	0	7/27/2006
41.49414	-72.42098	0	7/27/2006
41.49409	-72.42092	3	7/27/2006
41.49405	-72.42088	3	7/27/2006
41.49403	-72.42087	3	7/27/2006
41.49397	-72.42080	0	7/27/2006
41.49386	-72.42065	0	7/27/2006
41.49373	-72.42051	0	7/27/2006
41.49370	-72.42044	0	7/27/2006
41.49368	-72.42021	0	7/27/2006
41.49371	-72.41994	0	7/27/2006
41.49373	-72.41984	0	7/27/2006
41.49378	-72.41973	0	7/27/2006
41.49383	-72.41966	3	7/27/2006
41.49385	-72.41963	0	7/27/2006
41.49388	-72.41959	2	7/27/2006
41.49391	-72.41954	3	7/27/2006
41.49396	-72.41948	0	7/27/2006
41.49402	-72.41942	3	7/27/2006
41.49404	-72.41940	2	7/27/2006
41.49407	-72.41937	3	7/27/2006
41.49410	-72.41933	3	7/27/2006
41.49411	-72.41932	5	7/27/2006
41.49415	-72.41925	0	7/27/2006
41.49417	-72.41920	1	7/27/2006
41.49419	-72.41915	1	7/27/2006
41.49424	-72.41905	3	7/27/2006
41.49428	-72.41898	3	7/27/2006
41.49430	-72.41895	3	7/27/2006
41.49435	-72.41887	1	7/27/2006
41.49449	-72.41869	2	7/27/2006
41.49453	-72.41858	0	7/27/2006
41.49457	-72.41834	0	7/27/2006
41.49455	-72.41808	0	7/27/2006
41.49445	-72.41794	0	7/27/2006
41.49445	-72.41794	0	7/27/2006

Latitude	Longitude	Abundance	Date
41.48731	-72.41352	0	9/22/2006
41.48727	-72.41364	0	9/22/2006
41.48724	-72.41375	0	9/22/2006
41.4872	-72.41390	0	9/22/2006
41.48718	-72.41400	0	9/22/2006
41.48709	-72.41411	0	9/22/2006
41.48699	-72.41418	0	9/22/2006
41.48695	-72.41420	2	9/22/2006
41.48691	-72.41421	4	9/22/2006
41.4868	-72.41418	0	9/22/2006
41.48669	-72.41401	0	9/22/2006
41.48667	-72.41390	0	9/22/2006
41.48666	-72.41378	0	9/22/2006
41.48663	-72.41366	0	9/22/2006
41.48659	-72.41357	0	9/22/2006
41.48654	-72.41352	0	9/22/2006
41.48647	-72.41353	0	9/22/2006
41.4864	-72.41361	0	9/22/2006
41.48641	-72.41378	0	9/22/2006
41.48655	-72.41386	0	9/22/2006
41.48671	-72.41386	0	9/22/2006
41.48677	-72.41377	0	9/22/2006
41.48687	-72.41357	0	9/22/2006
41.48691	-72.41341	0	9/22/2006
41.48692	-72.41331	0	9/22/2006
41.48727	-72.41392	0	9/22/2006
41.48714	-72.41389	0	9/22/2006
41.48703	-72.41388	0	9/22/2006
41.48697	-72.41387	0	9/22/2006
41.48689	-72.41388	0	9/22/2006
41.4868	-72.41388	0	9/22/2006
41.48666	-72.41384	0	9/22/2006
41.4866	-72.41381	0	9/22/2006
41.48652	-72.41376	0	9/22/2006
41.48649	-72.41374	1	9/22/2006
41.48645	-72.41369	3	9/22/2006
41.48642	-72.41364	0	9/22/2006
41.48643	-72.41354	0	9/22/2006
41.48658	-72.41361	0	9/22/2006
41.48675	-72.41377	0	9/22/2006
41.48686	-72.41386	0	9/22/2006
41.48696	-72.41394	0	9/22/2006
41.48712	-72.41410	0	9/22/2006
41.48719	-72.41420	0	9/22/2006
41.48728	-72.41425	0	9/22/2006
41.48734	-72.41423	0	9/22/2006
41.48741	-72.41417	0	9/22/2006
41.48745	-72.41409	0	9/22/2006
41.48748	-72.41400	0	9/22/2006
41.48752	-72.41386	0	9/22/2006
41.48759	-72.41373	0	9/22/2006

Latitude	Longitude	Abundance	Date
41.48762	-72.41368	0	9/22/2006
41.48769	-72.41361	0	9/22/2006
41.48786	-72.41352	0	9/22/2006
41.48794	-72.41351	2	9/22/2006
41.48803	-72.41352	0	9/22/2006
41.48808	-72.41365	0	9/22/2006
41.488	-72.41375	0	9/22/2006
41.4879	-72.41376	0	9/22/2006
41.48782	-72.41376	0	9/22/2006
41.48773	-72.41374	0	9/22/2006
41.48764	-72.41375	0	9/22/2006
41.4876	-72.41381	0	9/22/2006
41.48752	-72.41391	0	9/22/2006
41.48749	-72.41409	0	9/22/2006
41.48753	-72.41424	0	9/22/2006
41.48784	-72.41435	0	9/22/2006
41.48791	-72.41428	0	9/22/2006
41.48796	-72.41410	0	9/22/2006
41.48795	-72.41393	0	9/22/2006
41.4879	-72.41371	0	9/22/2006
41.48786	-72.41357	0	9/22/2006
41.48779	-72.41349	0	9/22/2006
41.48775	-72.41345	2	9/22/2006
41.48774	-72.41333	0	9/22/2006
41.48776	-72.41328	2	9/22/2006
41.48782	-72.41309	0	9/22/2006
41.48765	-72.41297	0	9/22/2006
41.48759	-72.41305	0	9/22/2006
41.48751	-72.41311	0	9/22/2006
41.4874	-72.41316	0	9/22/2006
41.48735	-72.41319	0	9/22/2006
41.4873	-72.41323	0	9/22/2006
41.48722	-72.41331	0	9/22/2006
41.48713	-72.41340	0	9/22/2006
41.48706	-72.41350	0	9/22/2006
41.487	-72.41359	0	9/22/2006
41.48691	-72.41370	0	9/22/2006
41.48685	-72.41378	0	9/22/2006
41.48673	-72.41387	0	9/22/2006
41.48661	-72.41388	0	9/22/2006
41.48655	-72.41383	0	9/22/2006
41.48649	-72.41363	0	9/22/2006
41.48651	-72.41352	0	9/22/2006
41.48655	-72.41346	0	9/22/2006
41.48661	-72.41343	0	9/22/2006
41.48668	-72.41345	0	9/22/2006
41.48687	-72.41344	0	9/22/2006
41.48695	-72.41339	0	9/22/2006
41.48704	-72.41331	0	9/22/2006
41.48712	-72.41319	0	9/22/2006
41.4871	-72.41303	0	9/22/2006

Latitude	Longitude	Abundance	Date
41.48705	-72.41289	0	9/22/2006
41.48702	-72.41266	0	9/22/2006
41.487	-72.41260	0	9/22/2006
41.48698	-72.41251	0	9/22/2006
41.487	-72.41243	0	9/22/2006
41.48718	-72.41236	0	9/22/2006
41.48722	-72.41240	0	9/22/2006
41.48723	-72.41247	0	9/22/2006
41.48716	-72.41256	0	9/22/2006
41.48711	-72.41260	0	9/22/2006
41.4871	-72.41276	0	9/22/2006
41.48717	-72.41283	0	9/22/2006
41.48733	-72.41286	0	9/22/2006
41.48733	-72.41286	2	9/22/2006
41.48741	-72.41276	0	9/22/2006
41.48747	-72.41250	0	9/22/2006
41.4874	-72.41242	0	9/22/2006
41.48734	-72.41238	0	9/22/2006
41.48725	-72.41236	0	9/22/2006
41.48718	-72.41236	0	9/22/2006
41.48713	-72.41234	0	9/22/2006
41.4871	-72.41227	0	9/22/2006
41.48709	-72.41203	0	9/22/2006
41.4871	-72.41196	0	9/22/2006
41.48713	-72.41187	3	9/22/2006
41.48716	-72.41182	5	9/22/2006
41.48719	-72.41178	3	9/22/2006
41.48721	-72.41176	4	9/22/2006
41.48726	-72.41173	3	9/22/2006
41.48728	-72.41173	3	9/22/2006
41.48747	-72.41160	0	9/22/2006
41.48738	-72.41172	0	9/22/2006
41.48731	-72.41178	2	9/22/2006
41.48728	-72.41180	3	9/22/2006
41.48726	-72.41183	2	9/22/2006
41.48724	-72.41185	5	9/22/2006
41.48722	-72.41189	4	9/22/2006
41.48721	-72.41193	1	9/22/2006
41.4872	-72.41207	0	9/22/2006
41.48713	-72.41190	0	9/22/2006
41.48713	-72.41188	2	9/22/2006
41.48714	-72.41186	0	9/22/2006
41.48715	-72.41183	3	9/22/2006
41.48716	-72.41181	4	9/22/2006
41.48721	-72.41176	4	9/22/2006
41.48724	-72.41172	5	9/22/2006
41.48726	-72.41169	4	9/22/2006
41.48726	-72.41164	5	9/22/2006
41.48727	-72.41159	5	9/22/2006
41.48727	-72.41154	2	9/22/2006
41.48727	-72.41149	4	9/22/2006

Latitude	Longitude	Abundance	Date
41.48727	-72.41144	2	9/22/2006
41.48727	-72.41140	0	9/22/2006
41.48727	-72.41137	4	9/22/2006
41.48727	-72.41127	0	9/22/2006
41.48736	-72.41111	0	9/22/2006
41.48739	-72.41123	0	9/22/2006
41.48737	-72.41127	2	9/22/2006
41.48734	-72.41133	0	9/22/2006
41.48732	-72.41137	5	9/22/2006
41.4873	-72.41139	3	9/22/2006
41.48728	-72.41141	4	9/22/2006
41.48726	-72.41143	5	9/22/2006
41.48724	-72.41146	0	9/22/2006
41.48723	-72.41151	2	9/22/2006
41.48724	-72.41157	5	9/22/2006
41.48745	-72.41115	0	9/22/2006
41.48739	-72.41109	0	9/22/2006
41.48733	-72.41089	0	9/22/2006
41.48733	-72.41086	1	9/22/2006
41.48735	-72.41075	3	9/22/2006
41.4875	-72.41048	0	9/22/2006
41.48752	-72.41043	1	9/22/2006
41.48756	-72.41032	0	9/22/2006
41.48778	-72.41012	0	9/22/2006
41.48774	-72.40994	0	9/22/2006
41.48769	-72.40990	0	9/22/2006
41.48762	-72.40987	0	9/22/2006
41.48753	-72.40987	0	9/22/2006
41.48745	-72.40987	0	9/22/2006
41.48738	-72.40990	3	9/22/2006
41.48732	-72.40995	0	9/22/2006
41.48732	-72.41029	0	9/22/2006
41.48754	-72.41009	0	9/22/2006
41.48752	-72.41001	2	9/22/2006
41.48748	-72.40996	2	9/22/2006
41.48743	-72.40987	2	9/22/2006
41.48737	-72.40980	2	9/22/2006
41.48731	-72.40975	2	9/22/2006
41.48727	-72.40970	0	9/22/2006
41.48719	-72.40967	0	9/22/2006
41.48706	-72.40968	0	9/22/2006
41.48699	-72.40965	0	9/22/2006
41.48689	-72.40954	0	9/22/2006
41.4869	-72.40948	0	9/22/2006
41.48693	-72.40940	0	9/22/2006
41.48699	-72.40931	0	9/22/2006
41.48701	-72.40925	0	9/22/2006
41.48705	-72.40919	0	9/22/2006
41.48715	-72.40916	0	9/22/2006
41.4872	-72.40919	0	9/22/2006
41.48725	-72.40933	3	9/22/2006

Latitude	Longitude	Abundance	Date
41.48721	-72.40941	0	9/22/2006
41.48719	-72.40942	0	9/22/2006
41.48709	-72.40939	0	9/22/2006
41.48697	-72.40932	0	9/22/2006
41.48696	-72.40922	0	9/22/2006
41.48695	-72.40916	0	9/22/2006
41.48696	-72.40909	0	9/22/2006
41.487	-72.40897	0	9/22/2006
41.48703	-72.40889	0	9/22/2006
41.48705	-72.40885	0	9/22/2006
41.48708	-72.40878	0	9/22/2006
41.48712	-72.40865	0	9/22/2006
41.48714	-72.40841	0	9/22/2006
41.48714	-72.40840	0	9/22/2006
41.48709	-72.40829	0	9/22/2006
41.48703	-72.40828	0	9/22/2006
41.48698	-72.40821	0	9/22/2006
41.48698	-72.40815	0	9/22/2006
41.48698	-72.40802	0	9/22/2006
41.48697	-72.40796	0	9/22/2006
41.48691	-72.40788	0	9/22/2006
41.48685	-72.40785	0	9/22/2006
41.48679	-72.40786	0	9/22/2006
41.48673	-72.40785	0	9/22/2006
41.48669	-72.40781	0	9/22/2006
41.48665	-72.40770	0	9/22/2006
41.4866	-72.40767	0	9/22/2006
41.48655	-72.40764	0	9/22/2006
41.48648	-72.40761	0	9/22/2006
41.48646	-72.40751	0	9/22/2006
41.48648	-72.40741	2	9/22/2006
41.48649	-72.40740	0	9/22/2006
41.48653	-72.40726	0	9/22/2006
41.48656	-72.40714	0	9/22/2006
41.48657	-72.40712	2	9/22/2006
41.48659	-72.40705	0	9/22/2006
41.48663	-72.40697	0	9/22/2006
41.48663	-72.40697	0	9/22/2006
41.4867	-72.40689	0	9/22/2006
41.48677	-72.40684	0	9/22/2006
41.48683	-72.40682	4	9/22/2006
41.4869	-72.40679	4	9/22/2006
41.48699	-72.40678	2	9/22/2006
41.48703	-72.40678	5	9/22/2006
41.48706	-72.40677	4	9/22/2006
41.4871	-72.40677	4	9/22/2006
41.48714	-72.40677	2	9/22/2006
41.48716	-72.40678	3	9/22/2006
41.48722	-72.40686	0	9/22/2006
41.48724	-72.40694	0	9/22/2006
41.48722	-72.40700	5	9/22/2006

Latitude	Longitude	Abundance	Date
41.48718	-72.40704	5	9/22/2006
41.48706	-72.40695	4	9/22/2006
41.48698	-72.40688	0	9/22/2006
41.487	-72.40678	0	9/22/2006
41.487	-72.40674	3	9/22/2006
41.48698	-72.40668	2	9/22/2006
41.48691	-72.40670	0	9/22/2006
41.48687	-72.40675	4	9/22/2006
41.48685	-72.40678	5	9/22/2006
41.48673	-72.40686	0	9/22/2006
41.48668	-72.40689	0	9/22/2006
41.48663	-72.40695	0	9/22/2006
41.48658	-72.40702	3	9/22/2006
41.48652	-72.40717	0	9/22/2006
41.48649	-72.40724	0	9/22/2006
41.48648	-72.40735	3	9/22/2006
41.48648	-72.40745	0	9/22/2006
41.48649	-72.40753	0	9/22/2006
41.48653	-72.40763	0	9/22/2006
41.48656	-72.40768	0	9/22/2006
41.48659	-72.40773	0	9/22/2006
41.48664	-72.40780	0	9/22/2006
41.48672	-72.40787	0	9/22/2006
41.48676	-72.40791	0	9/22/2006
41.48681	-72.40801	0	9/22/2006
41.48688	-72.40808	0	9/22/2006
41.48699	-72.40806	0	9/22/2006
41.487	-72.40802	0	9/22/2006
41.48695	-72.40782	0	9/22/2006
41.48689	-72.40772	0	9/22/2006
41.48683	-72.40763	0	9/22/2006
41.48682	-72.40761	4	9/22/2006
41.4868	-72.40759	5	9/22/2006
41.48676	-72.40755	4	9/22/2006
41.48671	-72.40750	4	9/22/2006
41.48669	-72.40743	3	9/22/2006
41.48664	-72.40732	0	9/22/2006
41.48658	-72.40725	2	9/22/2006
41.48654	-72.40721	0	9/22/2006
41.48646	-72.40717	0	9/22/2006
41.48639	-72.40716	0	9/22/2006
41.48633	-72.40716	0	9/22/2006
41.48624	-72.40719	0	9/22/2006
41.48614	-72.40719	0	9/22/2006
41.48605	-72.40714	0	9/22/2006
41.486	-72.40710	0	9/22/2006
41.48597	-72.40702	0	9/22/2006
41.48596	-72.40698	0	9/22/2006
41.486	-72.40687	0	9/22/2006
41.48605	-72.40681	0	9/22/2006
41.48608	-72.40677	0	9/22/2006

Latitude	Longitude	Abundance	Date
41.48611	-72.40673	0	9/22/2006
41.4862	-72.40665	0	9/22/2006
41.48625	-72.40658	0	9/22/2006
41.48627	-72.40654	0	9/22/2006
41.48631	-72.40645	0	9/22/2006
41.48627	-72.40631	0	9/22/2006
41.48618	-72.40630	0	9/22/2006
41.48609	-72.40633	0	9/22/2006
41.48603	-72.40636	0	9/22/2006
41.48598	-72.40641	0	9/22/2006
41.48593	-72.40647	0	9/22/2006
41.48589	-72.40652	0	9/22/2006
41.48578	-72.40657	0	9/22/2006
41.48569	-72.40658	0	9/22/2006
41.48564	-72.40656	0	9/22/2006
41.48559	-72.40649	0	9/22/2006
41.48559	-72.40643	0	9/22/2006
41.48562	-72.40638	0	9/22/2006
41.48565	-72.40638	0	9/22/2006
41.48573	-72.40639	0	9/22/2006
41.48583	-72.40637	0	9/22/2006
41.48588	-72.40630	0	9/22/2006
41.48591	-72.40625	0	9/22/2006
41.48595	-72.40617	0	9/22/2006
41.48598	-72.40608	0	9/22/2006
41.48601	-72.40601	0	9/22/2006
41.48606	-72.40592	0	9/22/2006
41.4861	-72.40583	0	9/22/2006
41.48615	-72.40574	0	9/22/2006
41.48621	-72.40573	0	9/22/2006
41.48625	-72.40585	0	9/22/2006
41.48609	-72.40596	0	9/22/2006
41.48603	-72.40602	0	9/22/2006
41.48596	-72.40607	0	9/22/2006
41.48592	-72.40612	0	9/22/2006
41.48582	-72.40624	0	9/22/2006
41.48575	-72.40630	0	9/22/2006
41.48565	-72.40632	0	9/22/2006
41.48558	-72.40636	0	9/22/2006
41.48556	-72.40638	0	9/22/2006
41.48547	-72.40639	0	9/22/2006
41.48542	-72.40627	0	9/22/2006
41.48547	-72.40620	0	9/22/2006
41.48552	-72.40616	0	9/22/2006
41.48563	-72.40604	0	9/22/2006
41.48567	-72.40600	0	9/22/2006
41.4857	-72.40593	0	9/22/2006
41.48577	-72.40582	0	9/22/2006
41.48585	-72.40576	0	9/22/2006
41.48593	-72.40577	0	9/22/2006
41.48599	-72.40582	0	9/22/2006

Latitude	Longitude	Abundance	Date
41.48602	-72.40591	0	9/22/2006
41.486	-72.40602	0	9/22/2006
41.4861	-72.40621	0	9/22/2006
41.48606	-72.40616	0	9/22/2006
41.48597	-72.40620	0	9/22/2006
41.48588	-72.40628	0	9/22/2006
41.48578	-72.40637	0	9/22/2006
41.48566	-72.40633	0	9/22/2006
41.48563	-72.40629	0	9/22/2006
41.48558	-72.40624	0	9/22/2006
41.48551	-72.40620	0	9/22/2006
41.48541	-72.40615	0	9/22/2006
41.48536	-72.40613	0	9/22/2006
41.4853	-72.40613	0	9/22/2006
41.4852	-72.40614	0	9/22/2006
41.48513	-72.40613	0	9/22/2006
41.48507	-72.40605	0	9/22/2006
41.48509	-72.40587	0	9/22/2006
41.48512	-72.40583	0	9/22/2006
41.48515	-72.40576	0	9/22/2006
41.48517	-72.40564	0	9/22/2006
41.48518	-72.40558	0	9/22/2006
41.48519	-72.40549	0	9/22/2006
41.4852	-72.40541	0	9/22/2006
41.48521	-72.40533	0	9/22/2006
41.48522	-72.40525	0	9/22/2006
41.48516	-72.40514	0	9/22/2006
41.48509	-72.40515	0	9/22/2006
41.48507	-72.40516	2	9/22/2006
41.48503	-72.40519	0	9/22/2006
41.48499	-72.40522	0	9/22/2006
41.48497	-72.40523	0	9/22/2006
41.48493	-72.40529	0	9/22/2006
41.48489	-72.40538	0	9/22/2006
41.48487	-72.40546	0	9/22/2006
41.48486	-72.40551	0	9/22/2006
41.48486	-72.40555	0	9/22/2006
41.48483	-72.40564	0	9/22/2006
41.48475	-72.40568	0	9/22/2006
41.48468	-72.40566	0	9/22/2006
41.48467	-72.40564	0	9/22/2006
41.48465	-72.40561	0	9/22/2006
41.48468	-72.40550	0	9/22/2006
41.48477	-72.40544	0	9/22/2006
41.48479	-72.40542	3	9/22/2006
41.48486	-72.40533	0	9/22/2006
41.48491	-72.40524	0	9/22/2006
41.48493	-72.40518	0	9/22/2006
41.48497	-72.40509	0	9/22/2006
41.48501	-72.40500	0	9/22/2006
41.48505	-72.40487	0	9/22/2006

Latitude	Longitude	Abundance	Date
41.48442	-72.40460	0	9/22/2006
41.48449	-72.40451	0	9/22/2006
41.48453	-72.40444	3	9/22/2006
41.48453	-72.40441	4	9/22/2006
41.48453	-72.40437	0	9/22/2006
41.48447	-72.40430	0	9/22/2006
41.48441	-72.40432	0	9/22/2006
41.4843	-72.40446	0	9/22/2006
41.48429	-72.40453	0	9/22/2006
41.48426	-72.40459	0	9/22/2006
41.48422	-72.40465	0	9/22/2006
41.48418	-72.40468	0	9/22/2006
41.48415	-72.40469	0	9/22/2006
41.48413	-72.40468	2	9/22/2006
41.4841	-72.40464	0	9/22/2006
41.48411	-72.40459	3	9/22/2006
41.48415	-72.40451	0	9/22/2006
41.48419	-72.40445	0	9/22/2006
41.48423	-72.40435	0	9/22/2006
41.48424	-72.40423	0	9/22/2006
41.48419	-72.40418	0	9/22/2006
41.48411	-72.40421	0	9/22/2006
41.48401	-72.40428	0	9/22/2006
41.48399	-72.40428	3	9/22/2006
41.48396	-72.40422	0	9/22/2006
41.48396	-72.40418	3	9/22/2006
41.48397	-72.40414	0	9/22/2006
41.48399	-72.40402	0	9/22/2006
41.48394	-72.40398	0	9/22/2006
41.48391	-72.40396	2	9/22/2006
41.48389	-72.40393	0	9/22/2006
41.48388	-72.40390	0	9/22/2006

Latitude	Longitude	Abundance	Date
41.48509	-72.40479	0	9/22/2006
41.48511	-72.40472	3	9/22/2006
41.48515	-72.40461	0	9/22/2006
41.48515	-72.40457	3	9/22/2006
41.48512	-72.40449	0	9/22/2006
41.48503	-72.40445	0	9/22/2006
41.48498	-72.40446	0	9/22/2006
41.48494	-72.40448	3	9/22/2006
41.48492	-72.40450	3	9/22/2006
41.48486	-72.40457	0	9/22/2006
41.48481	-72.40462	4	9/22/2006
41.48476	-72.40466	3	9/22/2006
41.48471	-72.40474	0	9/22/2006
41.48465	-72.40486	0	9/22/2006
41.48461	-72.40499	0	9/22/2006
41.4846	-72.40505	0	9/22/2006
41.48458	-72.40517	0	9/22/2006
41.48457	-72.40519	3	9/22/2006
41.48456	-72.40527	0	9/22/2006
41.48454	-72.40533	0	9/22/2006
41.48455	-72.40542	0	9/22/2006
41.48461	-72.40547	0	9/22/2006
41.48467	-72.40548	0	9/22/2006
41.48471	-72.40549	0	9/22/2006
41.48476	-72.40549	0	9/22/2006
41.48485	-72.40552	0	9/22/2006
41.48492	-72.40550	0	9/22/2006
41.48497	-72.40542	0	9/22/2006
41.48502	-72.40535	0	9/22/2006
41.48506	-72.40530	0	9/22/2006
41.4851	-72.40527	0	9/22/2006
41.48515	-72.40521	0	9/22/2006
41.4852	-72.40511	0	9/22/2006
41.48519	-72.40505	0	9/22/2006
41.48513	-72.40489	0	9/22/2006
41.48506	-72.40483	0	9/22/2006
41.485	-72.40481	0	9/22/2006
41.48489	-72.40481	4	9/22/2006
41.48483	-72.40482	3	9/22/2006
41.48472	-72.40485	3	9/22/2006
41.48463	-72.40489	0	9/22/2006
41.48458	-72.40492	0	9/22/2006
41.48454	-72.40493	0	9/22/2006
41.48451	-72.40494	2	9/22/2006
41.48447	-72.40496	0	9/22/2006
41.48441	-72.40498	0	9/22/2006
41.48423	-72.40493	0	9/22/2006
41.48422	-72.40489	0	9/22/2006
41.48425	-72.40473	0	9/22/2006
41.48427	-72.40472	2	9/22/2006
41.48434	-72.40466	0	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
41.495850	-72.423322	0	9/22/2006
41.495935	-72.423445	2	9/22/2006
41.495973	-72.423495	0	9/22/2006
41.495980	-72.423502	4	9/22/2006
41.496008	-72.423530	3	9/22/2006
41.496022	-72.423543	2	9/22/2006
41.496067	-72.423583	2	9/22/2006
41.496140	-72.423650	0	9/22/2006
41.496185	-72.423687	0	9/22/2006
41.496262	-72.423743	0	9/22/2006
41.496312	-72.423770	0	9/22/2006
41.496422	-72.423808	0	9/22/2006
41.496487	-72.423793	0	9/22/2006
41.496533	-72.423750	0	9/22/2006
41.496517	-72.423393	0	9/22/2006
41.496460	-72.423313	0	9/22/2006
41.496368	-72.423280	2	9/22/2006
41.496282	-72.423300	0	9/22/2006
41.496202	-72.423328	0	9/22/2006
41.496107	-72.423372	0	9/22/2006
41.496033	-72.423417	0	9/22/2006
41.495967	-72.423455	1	9/22/2006
41.495898	-72.423477	1	9/22/2006
41.495812	-72.423492	0	9/22/2006
41.495722	-72.423438	0	9/22/2006
41.495688	-72.423380	0	9/22/2006
41.495670	-72.423195	1	9/22/2006
41.495672	-72.423145	2	9/22/2006
41.495668	-72.423042	0	9/22/2006
41.495668	-72.422960	0	9/22/2006
41.495673	-72.422868	0	9/22/2006
41.495677	-72.422798	0	9/22/2006
41.495668	-72.422633	0	9/22/2006
41.495652	-72.422530	0	9/22/2006
41.495615	-72.422605	0	9/22/2006
41.495558	-72.422393	0	9/22/2006
41.495507	-72.422400	0	9/22/2006
41.495450	-72.422447	0	9/22/2006
41.495400	-72.422512	0	9/22/2006
41.495367	-72.422580	0	9/22/2006
41.495350	-72.422620	0	9/22/2006
41.495323	-72.422707	1	9/22/2006
41.495313	-72.422798	0	9/22/2006
41.495315	-72.422833	1	9/22/2006
41.495347	-72.422947	0	9/22/2006
41.495377	-72.423003	0	9/22/2006
41.495420	-72.423043	0	9/22/2006
41.495487	-72.423040	1	9/22/2006
41.495562	-72.422995	0	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
41.495598	-72.422965	0	9/22/2006
41.495678	-72.422873	0	9/22/2006
41.495713	-72.422822	4	9/22/2006
41.495725	-72.422805	2	9/22/2006
41.495773	-72.422738	0	9/22/2006
41.495807	-72.422685	2	9/22/2006
41.495835	-72.422637	2	9/22/2006
41.495898	-72.422467	0	9/22/2006
41.495917	-72.422352	0	9/22/2006
41.495805	-72.422245	0	9/22/2006
41.495737	-72.422292	0	9/22/2006
41.495668	-72.422348	0	9/22/2006
41.495552	-72.422498	0	9/22/2006
41.495518	-72.422607	0	9/22/2006
41.495513	-72.422710	0	9/22/2006
41.495522	-72.422838	0	9/22/2006
41.495512	-72.422878	3	9/22/2006
41.495395	-72.422993	3	9/22/2006
41.495395	-72.423030	0	9/22/2006
41.495378	-72.423032	0	9/22/2006
41.495310	-72.423017	0	9/22/2006
41.495220	-72.422978	2	9/22/2006
41.495155	-72.422938	1	9/22/2006
41.495090	-72.422887	0	9/22/2006
41.495053	-72.422750	0	9/22/2006
41.495067	-72.422702	2	9/22/2006
41.495078	-72.422673	1	9/22/2006
41.495098	-72.422625	1	9/22/2006
41.495117	-72.422595	0	9/22/2006
41.495138	-72.422535	1	9/22/2006
41.495155	-72.422493	0	9/22/2006
41.495177	-72.422418	0	9/22/2006
41.495220	-72.422233	0	9/22/2006
41.495230	-72.422177	0	9/22/2006
41.495243	-72.422087	0	9/22/2006
41.495247	-72.422030	0	9/22/2006
41.495255	-72.421917	0	9/22/2006
41.495255	-72.421907	0	9/22/2006
41.495265	-72.421807	0	9/22/2006
41.495265	-72.421740	0	9/22/2006
41.495267	-72.421695	2	9/22/2006
41.495270	-72.421628	3	9/22/2006
41.495268	-72.421572	3	9/22/2006
41.495220	-72.421443	2	9/22/2006
41.495158	-72.421385	3	9/22/2006
41.495118	-72.421370	3	9/22/2006
41.495070	-72.421370	0	9/22/2006
41.494990	-72.421407	4	9/22/2006
41.494953	-72.421437	0	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
41.494940	-72.421452	2	9/22/2006
41.494905	-72.421493	3	9/22/2006
41.494862	-72.421558	2	9/22/2006
41.494842	-72.421593	2	9/22/2006
41.494823	-72.421630	2	9/22/2006
41.494783	-72.421705	0	9/22/2006
41.494760	-72.421753	2	9/22/2006
41.494727	-72.421820	1	9/22/2006
41.494702	-72.421867	3	9/22/2006
41.494697	-72.421877	3	9/22/2006
41.494685	-72.421905	3	9/22/2006
41.494682	-72.421915	4	9/22/2006
41.494670	-72.421945	4	9/22/2006
41.494640	-72.422028	2	9/22/2006
41.494628	-72.422058	4	9/22/2006
41.494610	-72.422095	2	9/22/2006
41.494593	-72.422123	4	9/22/2006
41.494533	-72.422190	3	9/22/2006
41.494475	-72.422193	2	9/22/2006
41.494445	-72.422182	0	9/22/2006
41.494405	-72.422167	1	9/22/2006
41.494277	-72.422120	0	9/22/2006
41.494252	-72.422072	0	9/22/2006
41.494272	-72.421993	0	9/22/2006
41.494418	-72.421902	0	9/22/2006
41.494447	-72.421878	0	9/22/2006
41.494490	-72.421838	0	9/22/2006
41.494543	-72.421777	0	9/22/2006
41.494585	-72.421712	0	9/22/2006
41.494627	-72.421647	0	9/22/2006
41.494678	-72.421568	3	9/22/2006
41.494705	-72.421523	3	9/22/2006
41.494757	-72.421443	3	9/22/2006
41.494798	-72.421380	5	9/22/2006
41.494815	-72.421352	2	9/22/2006
41.494908	-72.421157	1	9/22/2006
41.494917	-72.421080	0	9/22/2006
41.494913	-72.421025	0	9/22/2006
41.494895	-72.420958	0	9/22/2006
41.494863	-72.420925	0	9/22/2006
41.494807	-72.420918	0	9/22/2006
41.494743	-72.420950	0	9/22/2006
41.494688	-72.421007	2	9/22/2006
41.494672	-72.421032	1	9/22/2006
41.494610	-72.421147	0	9/22/2006
41.494592	-72.421185	4	9/22/2006
41.494578	-72.421215	2	9/22/2006
41.494567	-72.421243	0	9/22/2006
41.494558	-72.421263	2	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
41.494532	-72.421333	0	9/22/2006
41.494503	-72.421427	0	9/22/2006
41.494462	-72.421525	0	9/22/2006
41.494418	-72.421592	0	9/22/2006
41.494378	-72.421650	0	9/22/2006
41.494348	-72.421690	0	9/22/2006
41.494317	-72.421728	0	9/22/2006
41.493738	-72.421758	0	9/22/2006
41.494227	-72.421690	0	9/22/2006
41.494275	-72.421592	0	9/22/2006
41.494428	-72.421337	1	9/22/2006
41.494462	-72.421287	0	9/22/2006
41.494525	-72.421197	0	9/22/2006
41.494550	-72.421153	0	9/22/2006
41.494575	-72.421110	5	9/22/2006
41.494608	-72.421063	3	9/22/2006
41.494688	-72.420953	0	9/22/2006
41.494732	-72.420870	0	9/22/2006
41.494755	-72.420813	0	9/22/2006
41.494755	-72.420740	2	9/22/2006
41.494683	-72.420687	0	9/22/2006
41.494617	-72.420705	0	9/22/2006
41.494535	-72.420762	0	9/22/2006
41.494483	-72.420803	3	9/22/2006
41.494465	-72.420843	2	9/22/2006
41.494407	-72.420935	5	9/22/2006
41.494385	-72.420967	3	9/22/2006
41.494375	-72.420983	5	9/22/2006
41.494365	-72.421000	5	9/22/2006
41.494328	-72.421097	0	9/22/2006
41.494298	-72.421158	0	9/22/2006
41.494298	-72.421158	0	9/22/2006
41.494245	-72.421233	0	9/22/2006
41.494195	-72.421298	0	9/22/2006
41.494130	-72.421257	0	9/22/2006
41.494167	-72.421198	0	9/22/2006
41.494305	-72.421028	2	9/22/2006
41.494295	-72.420983	2	9/22/2006
41.494325	-72.420932	3	9/22/2006
41.494372	-72.420855	3	9/22/2006
41.494400	-72.420800	2	9/22/2006
41.494440	-72.420693	0	9/22/2006
41.494467	-72.420610	1	9/22/2006
41.494485	-72.420537	0	9/22/2006
41.494515	-72.420440	0	9/22/2006
41.494550	-72.420285	0	9/22/2006
41.494432	-72.420238	0	9/22/2006
41.494387	-72.420260	3	9/22/2006
41.494263	-72.420363	0	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
41.494252	-72.420377	0	9/22/2006
41.494220	-72.420410	3	9/22/2006
41.494200	-72.420428	1	9/22/2006
41.494168	-72.420458	2	9/22/2006
41.494125	-72.420495	3	9/22/2006
41.494103	-72.420513	5	9/22/2006
41.494078	-72.420540	4	9/22/2006
41.494012	-72.420608	0	9/22/2006
41.493958	-72.420662	0	9/22/2006
41.493912	-72.420722	0	9/22/2006
41.493868	-72.420772	0	9/22/2006
41.493845	-72.420800	2	9/22/2006
41.493763	-72.420782	0	9/22/2006
41.493765	-72.420733	0	9/22/2006
41.493863	-72.420560	0	9/22/2006
41.493933	-72.420420	0	9/22/2006
41.493963	-72.420367	0	9/22/2006
41.494012	-72.420288	0	9/22/2006
41.494065	-72.420202	0	9/22/2006
41.494100	-72.420155	0	9/22/2006
41.494137	-72.420115	0	9/22/2006
41.494052	-72.420293	0	9/22/2006
41.494097	-72.420638	5	9/22/2006
41.494122	-72.420662	2	9/22/2006
41.494197	-72.420672	4	9/22/2006
41.494233	-72.420648	2	9/22/2006
41.494258	-72.420613	5	9/22/2006
41.494282	-72.420465	4	9/22/2006
41.494248	-72.420375	0	9/22/2006
41.494233	-72.420338	4	9/22/2006
41.494192	-72.420232	0	9/22/2006
41.494167	-72.420163	0	9/22/2006
41.494157	-72.420095	0	9/22/2006
41.494115	-72.420027	0	9/22/2006
41.494098	-72.419977	0	9/22/2006
41.494077	-72.419838	0	9/22/2006
41.494102	-72.419775	0	9/22/2006
41.494145	-72.419723	0	9/22/2006
41.494225	-72.419662	0	9/22/2006
41.494305	-72.419617	0	9/22/2006
41.494355	-72.419598	0	9/22/2006
41.494417	-72.419587	0	9/22/2006
41.494468	-72.419593	0	9/22/2006
41.494518	-72.419613	0	9/22/2006
41.494558	-72.419725	0	9/22/2006
41.494520	-72.419792	0	9/22/2006
41.494458	-72.419882	0	9/22/2006
41.494398	-72.419958	0	9/22/2006
41.494367	-72.420007	0	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
41.494345	-72.420040	0	9/22/2006
41.494268	-72.420170	0	9/22/2006
41.494233	-72.420228	4	9/22/2006
41.494225	-72.420245	5	9/22/2006
41.494203	-72.420297	2	9/22/2006
41.494173	-72.420393	2	9/22/2006
41.494162	-72.420455	3	9/22/2006
41.494157	-72.420498	2	9/22/2006
41.494155	-72.420532	5	9/22/2006
41.494155	-72.420573	5	9/22/2006
41.494158	-72.420638	5	9/22/2006
41.494168	-72.420752	5	9/22/2006
41.494173	-72.420733	4	9/22/2006
41.494200	-72.420840	3	9/22/2006
41.494223	-72.420902	2	9/22/2006
41.494252	-72.420958	4	9/22/2006
41.494295	-72.421022	2	9/22/2006
41.494365	-72.421102	2	9/22/2006
41.494403	-72.421140	5	9/22/2006
41.494530	-72.421252	3	9/22/2006
41.484457	-72.421285	3	9/22/2006
41.494588	-72.421295	4	9/22/2006
41.494653	-72.421340	3	9/22/2006
41.494690	-72.421365	5	9/22/2006
41.494710	-72.421380	4	9/22/2006
41.494780	-72.421430	4	9/22/2006
41.494862	-72.421543	4	9/22/2006
41.494885	-72.421618	3	9/22/2006
41.494895	-72.421708	3	9/22/2006
41.494893	-72.421740	4	9/22/2006
41.494892	-72.421877	0	9/22/2006
41.494890	-72.421993	4	9/22/2006
41.494895	-72.422055	5	9/22/2006
41.494920	-72.422168	0	9/22/2006
41.494943	-72.422227	2	9/22/2006
41.494990	-72.422327	0	9/22/2006
41.495063	-72.422370	0	9/22/2006
41.495113	-72.422353	0	9/22/2006
41.495135	-72.422338	0	9/22/2006
41.495255	-72.422252	2	9/22/2006
41.495298	-72.422223	0	9/22/2006
41.495382	-72.422197	0	9/22/2006
41.495432	-72.422200	0	9/22/2006
41.495478	-72.422230	0	9/22/2006
41.495500	-72.422345	0	9/22/2006
41.495480	-72.422403	0	9/22/2006
41.495448	-72.422447	0	9/22/2006
41.495410	-72.422500	0	9/22/2006
41.495380	-72.422553	0	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
41.495320	-72.422642	0	9/22/2006
41.495287	-72.422722	0	9/22/2006
41.495270	-72.422782	0	9/22/2006
41.495260	-72.422977	0	9/22/2006
41.495263	-72.423043	0	9/22/2006
41.495338	-72.423267	0	9/22/2006
41.495392	-72.423273	1	9/22/2006
41.495445	-72.423237	2	9/22/2006
41.495455	-72.423160	0	9/22/2006
41.495443	-72.423070	2	9/22/2006
41.495458	-72.422977	0	9/22/2006
41.495518	-72.422842	0	9/22/2006
41.495545	-72.422773	0	9/22/2006
41.495570	-72.422720	0	9/22/2006
41.495590	-72.422690	1	9/22/2006
41.495643	-72.422623	0	9/22/2006
41.495697	-72.422553	0	9/22/2006
41.495745	-72.422498	0	9/22/2006
41.495805	-72.422473	0	9/22/2006
41.495838	-72.422508	4	9/22/2006
41.495842	-72.422522	5	9/22/2006
41.495843	-72.422543	4	9/22/2006
41.495840	-72.422565	4	9/22/2006
41.495827	-72.422595	4	9/22/2006
41.495778	-72.422690	0	9/22/2006
41.495693	-72.422853	0	9/22/2006
41.495663	-72.422922	0	9/22/2006
41.495642	-72.422992	0	9/22/2006
41.495595	-72.423120	0	9/22/2006
41.495567	-72.423175	0	9/22/2006
41.495548	-72.423225	0	9/22/2006
41.495537	-72.423298	3	9/22/2006
41.495558	-72.423422	0	9/22/2006
41.495602	-72.423493	0	9/22/2006
41.495692	-72.423502	0	9/22/2006
41.495742	-72.423473	0	9/22/2006
41.495790	-72.423433	4	9/22/2006
41.495822	-72.423387	0	9/22/2006
41.495847	-72.423328	0	9/22/2006
41.495875	-72.423238	0	9/22/2006
41.495925	-72.423160	0	9/22/2006
41.495958	-72.423143	0	9/22/2006
41.495992	-72.423140	0	9/22/2006
41.496020	-72.423147	0	9/22/2006
41.496057	-72.423172	0	9/22/2006
41.496087	-72.423225	4	9/22/2006
41.496095	-72.423288	0	9/22/2006
41.496088	-72.423333	2	9/22/2006
41.496063	-72.423380	0	9/22/2006

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41.496000	-72.423440	2	9/22/2006
41.495960	-72.423475	0	9/22/2006
41.495917	-72.423515	0	9/22/2006
41.495863	-72.423575	3	9/22/2006
41.495832	-72.423613	0	9/22/2006
41.495798	-72.423647	3	9/22/2006
41.495782	-72.423657	2	9/22/2006
41.495740	-72.423645	2	9/22/2006
41.495703	-72.423587	0	9/22/2006
41.495665	-72.423432	0	9/22/2006
41.495663	-72.423370	0	9/22/2006
41.495665	-72.423305	0	9/22/2006
41.495670	-72.423218	0	9/22/2006
41.495668	-72.423108	0	9/22/2006
41.495713	-72.422980	0	9/22/2006
41.495750	-72.422968	0	9/22/2006
41.495828	-72.423023	0	9/22/2006
41.495892	-72.423175	0	9/22/2006
41.495938	-72.423280	0	9/22/2006
41.495988	-72.423383	0	9/22/2006
41.496013	-72.423430	3	9/22/2006
41.496043	-72.423483	0	9/22/2006
41.496078	-72.423547	0	9/22/2006
41.496118	-72.423618	0	9/22/2006
41.496143	-72.423662	0	9/22/2006
41.496180	-72.423738	0	9/22/2006
41.496200	-72.423788	2	9/22/2006
41.496203	-72.423798	2	9/22/2006
41.496230	-72.423868	0	9/22/2006
41.496308	-72.424008	0	9/22/2006
41.496017	-72.424047	0	9/22/2006
41.496413	-72.424077	0	9/22/2006
41.496443	-72.424080	0	9/22/2006
41.496487	-72.424063	0	9/22/2006
41.496548	-72.423998	0	9/22/2006
41.496600	-72.423970	0	9/22/2006
41.496627	-72.423982	0	9/22/2006
41.496648	-72.424013	0	9/22/2006
41.496660	-72.424097	0	9/22/2006
41.496623	-72.424167	0	9/22/2006
41.496558	-72.424207	0	9/22/2006
41.496492	-72.424188	0	9/22/2006
41.496455	-72.424125	0	9/22/2006
41.496385	-72.424065	0	9/22/2006
41.496340	-72.424062	0	9/22/2006
41.496308	-72.424063	0	9/22/2006
41.496233	-72.424048	0	9/22/2006
41.496240	-72.423925	0	9/22/2006
41.495740	-72.423925	0	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
41.496293	-72.423818	0	9/22/2006
41.496315	-72.423773	2	9/22/2006
41.496378	-72.423683	0	9/22/2006
41.496433	-72.423598	2	9/22/2006
41.496462	-72.423555	2	9/22/2006
41.496495	-72.423508	2	9/22/2006
41.496542	-72.423447	0	9/22/2006
41.496587	-72.423397	0	9/22/2006
41.496627	-72.423355	0	9/22/2006
41.496667	-72.423317	0	9/22/2006
41.496702	-72.423288	1	9/22/2006
41.496777	-72.423267	1	9/22/2006
41.496815	-72.423275	0	9/22/2006
41.496868	-72.423310	0	9/22/2006
41.496898	-72.423342	0	9/22/2006
41.496918	-72.423383	0	9/22/2006
41.496927	-72.423412	3	9/22/2006
41.496937	-72.423442	3	9/22/2006
41.496985	-72.423523	1	9/22/2006
41.497025	-72.423558	2	9/22/2006
41.497083	-72.423602	2	9/22/2006
41.497127	-72.423635	3	9/22/2006
41.493327	-72.419937	5	9/22/2006
41.493130	-72.419892	5	9/22/2006
41.493280	-72.419830	5	9/22/2006
41.493300	-72.419757	0	9/22/2006
41.493333	-72.419673	0	9/22/2006
41.493440	-72.419555	0	9/22/2006
41.493538	-72.419585	0	9/22/2006
41.493563	-72.419700	0	9/22/2006
41.493582	-72.419817	0	9/22/2006
41.493600	-72.419860	5	9/22/2006
41.493645	-72.419940	0	9/22/2006
41.493685	-72.419980	0	9/22/2006
41.493727	-72.419987	0	9/22/2006
41.493812	-72.419978	2	9/22/2006
41.493838	-72.420022	0	9/22/2006
41.493830	-72.420073	0	9/22/2006
41.493787	-72.420108	0	9/22/2006
41.493712	-72.420130	0	9/22/2006
41.493657	-72.420150	0	9/22/2006
41.493590	-72.420152	0	9/22/2006
41.493532	-72.420063	3	9/22/2006
41.493493	-72.420002	5	9/22/2006
41.493473	-72.419987	5	9/22/2006
41.493425	-72.419958	5	9/22/2006
41.493315	-72.419907	0	9/22/2006
41.493258	-72.419877	0	9/22/2006
41.493172	-72.419740	3	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
41.493135	-72.419648	0	9/22/2006
41.493042	-72.419192	0	9/22/2006
41.492930	-72.419250	0	9/22/2006
41.492793	-72.419290	0	9/22/2006
41.492750	-72.419173	0	9/22/2006
41.492592	-72.418838	0	9/22/2006
41.492453	-72.418770	0	9/22/2006
41.492402	-72.418560	0	9/22/2006
41.492373	-72.418500	0	9/22/2006
41.492355	-72.418472	5	9/22/2006
41.492327	-72.418453	5	9/22/2006
41.492282	-72.418473	0	9/22/2006
41.492255	-72.418535	0	9/22/2006
41.492265	-72.418680	0	9/22/2006
41.492305	-72.418753	0	9/22/2006
41.492347	-72.418793	0	9/22/2006
41.492397	-72.418863	0	9/22/2006
41.492400	-72.418937	0	9/22/2006
41.492383	-72.419017	0	9/22/2006
41.492340	-72.419052	0	9/22/2006
41.492295	-72.419017	0	9/22/2006
41.492283	-72.418930	0	9/22/2006
41.492273	-72.418753	0	9/22/2006
41.492258	-72.418720	3	9/22/2006
41.492222	-72.418670	0	9/22/2006
41.492183	-72.418633	0	9/22/2006
41.492125	-72.418608	0	9/22/2006
41.492072	-72.418607	0	9/22/2006
41.491998	-72.418593	0	9/22/2006
41.491962	-72.418580	0	9/22/2006
41.491925	-72.418563	0	9/22/2006
41.491888	-72.418533	0	9/22/2006
41.491863	-72.418472	0	9/22/2006
41.491888	-72.418413	0	9/22/2006
41.491947	-72.418415	0	9/22/2006
41.491988	-72.418490	0	9/22/2006
41.492020	-72.418538	0	9/22/2006
41.492083	-72.418560	0	9/22/2006
41.492140	-72.418512	0	9/22/2006
41.492187	-72.418368	2	9/22/2006
41.492205	-72.418280	0	9/22/2006
41.492227	-72.418197	0	9/22/2006
41.492217	-72.418078	0	9/22/2006
41.492165	-72.418045	1	9/22/2006
41.492138	-72.418045	5	9/22/2006
41.492090	-72.418052	5	9/22/2006
41.491993	-72.418050	0	9/22/2006
41.491970	-72.418053	3	9/22/2006
41.491905	-72.418090	3	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
41.491855	-72.418120	0	9/22/2006
41.491788	-72.418170	0	9/22/2006
41.491763	-72.418200	0	9/22/2006
41.491728	-72.418227	0	9/22/2006
41.491700	-72.418233	2	9/22/2006
41.491650	-72.418233	2	9/22/2006
41.491605	-72.418225	0	9/22/2006
41.491547	-72.418123	0	9/22/2006
41.491553	-72.418035	0	9/22/2006
41.491558	-72.417987	2	9/22/2006
41.491612	-72.417840	0	9/22/2006
41.491627	-72.417808	3	9/22/2006
41.491640	-72.417773	5	9/22/2006
41.491657	-72.417728	1	9/22/2006
41.491673	-72.417640	0	9/22/2006
41.491753	-72.417340	0	9/22/2006
41.491802	-72.417268	0	9/22/2006
41.491728	-72.417193	0	9/22/2006
41.491627	-72.417327	0	9/22/2006
41.491600	-72.417408	4	9/22/2006
41.491530	-72.417510	0	9/22/2006
41.491498	-72.417555	4	9/22/2006
41.491387	-72.417665	0	9/22/2006
41.491365	-72.417675	2	9/22/2006
41.491308	-72.417703	0	9/22/2006
41.491243	-72.417687	0	9/22/2006
41.491225	-72.417615	0	9/22/2006
41.491253	-72.417532	0	9/22/2006
41.491307	-72.417470	4	9/22/2006
41.491318	-72.417458	5	9/22/2006
41.491382	-72.417430	2	9/22/2006
41.491497	-72.417308	0	9/22/2006
41.491610	-72.417250	0	9/22/2006
41.491640	-72.417183	0	9/22/2006
41.491643	-72.417063	0	9/22/2006
41.491573	-72.416990	0	9/22/2006
41.491478	-72.416980	0	9/22/2006
41.491377	-72.417037	0	9/22/2006
41.491335	-72.417055	0	9/22/2006
41.491265	-72.417062	0	9/22/2006
41.491228	-72.417063	0	9/22/2006
41.491140	-72.417078	0	9/22/2006
41.491097	-72.417088	0	9/22/2006
41.491050	-72.417113	0	9/22/2006
41.491028	-72.417125	3	9/22/2006
41.490972	-72.417152	5	9/22/2006
41.490848	-72.417175	0	9/22/2006
41.490768	-72.417158	4	9/22/2006
41.490705	-72.417130	5	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
41.490673	-72.417108	3	9/22/2006
41.490650	-72.417087	5	9/22/2006
41.490622	-72.417042	3	9/22/2006
41.490607	-72.417008	3	9/22/2006
41.490588	-72.416953	0	9/22/2006
41.490567	-72.416878	2	9/22/2006
41.490512	-72.416803	2	9/22/2006
41.490490	-72.416715	2	9/22/2006
41.490582	-72.416633	0	9/22/2006
41.490617	-72.416655	5	9/22/2006
41.490772	-72.416743	0	9/22/2006
41.490852	-72.416692	0	9/22/2006
41.490907	-72.416562	0	9/22/2006
41.490772	-72.416543	0	9/22/2006
41.490712	-72.416613	0	9/22/2006
41.490668	-72.416680	5	9/22/2006
41.490657	-72.416903	0	9/22/2006
41.490680	-72.416993	0	9/22/2006
41.490737	-72.417062	0	9/22/2006
41.490795	-72.417112	0	9/22/2006
41.490885	-72.417222	0	9/22/2006
41.490877	-72.417245	2	9/22/2006
41.490828	-72.417272	1	9/22/2006
41.490773	-72.417233	2	9/22/2006
41.490763	-72.417222	3	9/22/2006
41.490752	-72.417210	3	9/22/2006
41.490585	-72.417060	2	9/22/2006
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41.490535	-72.416928	3	9/22/2006
41.490532	-72.416857	3	9/22/2006
41.490545	-72.416770	0	9/22/2006
41.490580	-72.416537	0	9/22/2006
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41.490683	-72.416652	0	9/22/2006
41.490668	-72.416677	4	9/22/2006
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41.490678	-72.416800	4	9/22/2006
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41.490803	-72.416833	0	9/22/2006
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41.490958	-72.416800	0	9/22/2006
41.490990	-72.416893	0	9/22/2006
41.490960	-72.416982	0	9/22/2006
41.490927	-72.417058	0	9/22/2006
41.490880	-72.417140	0	9/22/2006
41.490805	-72.417128	0	9/22/2006
41.490780	-72.417112	3	9/22/2006
41.490705	-72.417045	0	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
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41.490462	-72.416060	0	9/22/2006
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41.490317	-72.416077	0	9/22/2006
41.490275	-72.416088	2	9/22/2006
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LATITUDE	LONGITUDE	Abundance	Date
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41.490133	-72.416208	0	9/22/2006
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41.490250	-72.416153	0	9/22/2006
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41.490113	-72.415783	0	9/22/2006
41.490043	-72.415730	0	9/22/2006
41.489985	-72.415662	0	9/22/2006
41.489928	-72.415628	2	9/22/2006
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41.489805	-72.415573	0	9/22/2006
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41.489675	-72.415538	0	9/22/2006
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41.489420	-72.415253	0	9/22/2006
41.489417	-72.415082	0	9/22/2006
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41.489005	-72.414362	0	9/22/2006

LATITUDE	LONGITUDE	Abundance	Date
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41.488778	-72.414123	0	9/22/2006
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41.488728	-72.413873	0	9/22/2006
41.488637	-72.413785	0	9/22/2006
41.488558	-72.413743	0	9/22/2006
41.488413	-72.413695	0	9/22/2006
41.488327	-72.413663	0	9/22/2006
41.488253	-72.413675	0	9/22/2006
41.488128	-72.413745	0	9/22/2006
41.488107	-72.413785	0	9/22/2006
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41.488017	-72.414060	0	9/22/2006
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41.487968	-72.414272	3	9/22/2006
41.487943	-72.414293	3	9/22/2006
41.487855	-72.414345	0	9/22/2006
41.487865	-72.414405	0	9/22/2006
41.487983	-72.414375	0	9/22/2006
41.488007	-72.414348	4	9/22/2006
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41.487967	-72.414077	0	9/22/2006
41.487953	-72.414168	0	9/22/2006
41.487978	-72.414240	5	9/22/2006
41.487985	-72.414257	5	9/22/2006
41.488003	-72.414290	3	9/22/2006
41.488050	-72.414360	0	9/22/2006
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41.488105	-72.414523	0	9/22/2006
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41.488163	-72.414748	0	9/22/2006
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41.488145	-72.414542	0	9/22/2006

Georeferenced Milfoil Pictures
(See Attached CD)

CTDEP Permit Application

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Central Permit Processing Unit
79 Elm Street
Hartford, CT 06106-5127

DEP USE ONLY

Permit Application Transmittal Form

Please complete this transmittal form in accordance with the instructions in order to ensure the proper handling of your application(s) and the associated fee(s). Print legibly or type.

Part I: Applicant Information

Applicant: **The Connecticut Agricultural Experiment Station**

Mailing Address: **P.O. Box 1106**

City/Town: **New Haven** State: **CT** Zip Code: **06504**

Business Phone: **203 974-8512** ext.: Fax: **203 974-8512**

Contact Person: **Greg Bugbee** Phone: **203 974-8512** ext.

Applicant (check one): ☐ individual ☐ company ☐ federal gov't ☒ state agency ☐ municipality

If a Company, list company type (e.g., corporation, limited partnership, etc.):

☐ Check if any co-applicants. If so, attach additional sheet(s) with the required information as supplied above.

Please provide the following information to be used for *billing purposes only*, if different:

Company/Individual Name: **Same**

Mailing Address:

City/Town: State: Zip Code:

Contact Person: Phone: ext.

Part II: Project Information

Brief Description of Project: *(Example: Development of a 50 slip marina on Long Island Sound)*

Application of aquatic herbicide to Bashan Lake. Research project on the control of variable milfoil.

Location (City/Town): **East Haddam**

Other Project Related Permits (*not* included with this form):

Permit Description	Issuing Authority	Submittal Date	Issuance Date	Denial Date	Permit #

Part III: Individual Permit Application and Fee Information

New, Mod. or Renew	Individual Permit Applications	Initial Fees	No. of Permits Applied For	Total Initial Fees	Original + Required Copies
	AIR EMISSIONS				
	New Source Review	$750.00			1 + 0
	Title V Operating Permits	none			1 + 0
	WATER DISCHARGES				
	To Groundwater	$1050.00			1 + 1
	To Sanitary Sewer (POTW)	$1050.00			1 + 1
	To Surface Water (NPDES)	$1050.00			1 + 2
	INLAND WATER RESOURCES				
	Dam Construction	none			1 + 2
	Flood Management Certification	none			1 + 1
	Inland 401 Water Quality Certification	none			1 + 5
	Inland Wetlands and Watercourses	none			
	Stream Channel Encroachment Lines	★			
	Water Diversion	★			1 + 5
	OFFICE OF LONG ISLAND SOUND PROGRAMS				
	Certificate of Permission	$400.00			1 + 2
	Coastal 401 Water Quality Certification	none			1 + 3
	Structures and Dredging/Tidal Wetlands	$525.00			1 + 3
	WASTE MANAGEMENT				
	Aerial Pesticide Application	★			1 + 2
	Aquatic Pesticide Application	$100.00	1	$100	1 + 0
	CGS Section 22a-454 Waste Facilities	★			1 + 1
	Hazardous Waste Treatment, Storage and Disposal Facilities	★			1 + 1
	Marine Terminal License	$125.00			1 + 0
	RCRA Closure Plan	$3750.00			1 + 0
	RCRA Post Closure	$3750.00			1 + 0
	Solid Waste Facilities	★			1 + 2
	Waste Transportation	★			1 + 0
		Subtotal ➡			
	GENERAL PERMITS and AUTHORIZATIONS Enter subtotals from Part IV, pages 3 & 4 of this form	Subtotals Page 3 ➡ Subtotals Page 4 ➡			
		TOTAL ➡	1	$100	
	☐ Indicate whether municipal discount or state waiver applies.	Less Applicable Discount ➡			
		AMOUNT REMITTED ➡		$100	

Check # ➡ _____ Check or money order should be made payable to: "Department of Environmental Protection"

★ See fee schedule on individual application.

Permit Application for the Use of Pesticides in State Waters

Please complete this form in accordance with Section 22a-66z CGS and the instructions (DEP-PEST-INST-200) in order to ensure the proper handling of your application. Print or type unless otherwise noted.

DEP USE ONLY
Application No.:
Rec'd CPPU:

Part I: Permit Type and Fee Information

Please note: effective August 21, 2003 the application fee for the Application of Pesticides in State Waters has increased to $100.00

Part II: Site Location

1. Name of Waterbody: **Bashan Lake-**
   Street address and/or description of location:
   Roue 82
   City or Town: **East Haddam**
2. GIS/ID No. (If known):

Part III: Applicant Information

1. Fill in the applicant's name and phone number as indicated on the *Permit Application Transmittal Form* (DEP-APP-001).
   Applicant: **The Conn. Agric. Expt. Sta.** Phone: **203-974-8512**
2. List primary contact for departmental correspondence and inquiries, if different than the applicant.
   Name: **Greg Bugbee**
   Mailing Address: **P.O. Box 1106**
   City/Town: **New Haven** State: **CT** Zip Code: **06504-**
   Business Phone: **203-974-8512** ext. Fax: **203-974-8502**
   Contact Person: **Greg Bugbee** Title: **Assitant Scientist**
3. List attorney or other representative, if applicable.
   Firm Name:
   Mailing Address:
   City/Town: State: Zip Code: -
   Business Phone: - - ext. Fax: - -
   Attorney: Title:

Part III: Applicant Information (continued)

4. List the owner(s) of the site(s) to be treated. ☐ Check box if additional sheets are attached.

Name: **State of Connecticut**

Mailing Address: **CTDEP**

City/Town: **Hartford** State: **CT** Zip Code: **06106-5127**

Business Phone: **860-424-3716** ext. Fax: **860-424-4055**

Contact Person: **Chuck Lee** Title: **Director of Lakes**

5. List the person or company applying the pesticides.

Name: **The Conn. Agric. Expt. Sta.,(ACT may be retained)**

Mailing Address: **P.O. Box 1106**

City/Town: **New Haven** State: **CT** Zip Code: **06504-**

Business Phone: **203-974-8512** ext. Fax: **203-974-8502**

Contact Person: **Greg Bugbee** Title: **Asst. Scientist II**

Certification Number: **S-1299**

Part IV: Site Information

1. Is the activity, which is the subject of this application located within the coastal boundary as delineated on DEP approved coastal boundary maps? ☐ Yes ☒ No

   If yes, you must submit a *Coastal Consistency Review Form* (DEP-APP-004) with your application as Attachment C.

2. *(Optional - See Instructions)* Is the project site located within an area identified as a habitat for endangered, threatened or special concern species as identified on the "State and Federal Listed Species and Natural Communities Map"? ☐ Yes ☐ No Date of Map: / /

   If yes, complete and submit a *Connecticut Natural Diversity Data Base* (CT NDDB) *Review Request Form* (DEP-APP-007) to the address specified on the form.

   When submitting this permit application, please include copies of any correspondence to the NDDB, including copies of the completed CT NDDB Review Request Form, any field surveys, and any other information which may lead you to believe that endangered or threatened species may or may not be located in the area of your existing or proposed permitted activity, as Attachment D.

   Has a field survey been conducted to determine the presence of any endangered, threatened or special concern species? ☐ Yes ☐ No If yes, provide:

   Biologist's Name:

   Address:

   and submit a copy of the field survey with your application as Attachment D.

3. Type of area to be treated: ☐ Tidal Waters ☒ Pond or Lake ☐ Stream

4. Name and number of drainage basin (if known): **Moodus River, 4710**

Part IV: Site Information (continued)

5. Is the waterbody located in a public water supply watershed? ☐ Yes ☒ No

6. Where does the waterbody flow to? **Moodus Reservoir**
   Is the outflow usually flowing? ☒ Yes ☐ No Can outflow be stopped? ☐ Yes ☒ No

7. Identify the size of the waterbody: **5000** Length (ft.) **2400** Width (ft.) **276** Acres
   50 Maximum Depth (ft.) **20** Average Depth (ft.) **5520** Volume (Ac-ft)

8. Portion of the waterbody to be treated: **50** Acres **NA** Volume (Ac-ft.)

9. Does the waterbody have public access? ☒ Yes ☐ No

10. Is the waterbody stocked with fish by the state? ☒ Yes ☐ No

11. Identify use(s) of waterbody:
    ☐ domestic water supply ☒ irrigation ☐ watering livestock ☒ swimming ☒ fishing

12. Are there any downstream users of the water who may be affected by treatment? ☐ Yes ☒ No
    If yes, please explain:

13. Within 1/2 mile of the treatment area, are there any drinking water wells 50 ft. or less from the shoreline?
    ☒ Yes ☐ No

14. Identify all plants or animals to be controlled: **Variable Milfoil**

15. Identify all types of fish present: **Bass, pickeral, perch, crappie, eels, sunnies, bluegills, shiners, trout, catfish**

16. Identify chemicals to be used, the amount per treatment and number of times:

Chemical	*Amount per Treatment*	*Number of Times*
a) **Navigate/AquaKlean**	**5000 pounds**	**1**
b)		
c)		

17. Projected date(s) of pesticide use: **September 15 (small June treat possible)**

18. List prior years in which chemicals were applied to this waterbody:
    2000 - 2005

Part V: Supporting Documents

Be sure to read the instructions (DEP-PEST-INST-200) to determine whether the attachments listed are applicable to your specific activity. Please enter a check mark by the attachments as verification that *all applicable* attachments have been submitted with this permit application form. When submitting any supporting documents, please label the documents as indicated in this Part (e.g., Attachment A, etc.) and be sure to include the applicant's name as indicated on the *Permit Application Transmittal Form*.

☒	Attachment A:	An 8-1/2" x 11" copy or original of a USGS Topographic Quadrangle Map (scale 1:24,000) indicating the exact location of the area to be treated.
☒	Attachment B:	*Applicant Compliance Information Form* (DEP-APP-002) (if applicable)
☐	Attachment C:	*Coastal Consistency Review Form* (DEP-APP-004) (if applicable)
☐	Attachment D:	*Connecticut NDDB Review Request Form* (DEP-APP-007) and copies of any correspondence to the NDDB, including copies of any field survey conducted to identify the presence of any endangered, threatened or special concern species (if applicable)

Part VI: Application Certification

The applicant *and* the individual(s) responsible for actually preparing the application must sign this part. An application will be considered insufficient unless *all* required signatures are provided.

I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute.

I certify that this application is on complete and accurate forms as prescribed by the commissioner without alteration of the text.

Signature of Applicant — **01/26/2006** Date

Greg Bugbee Name of Applicant (print or type) — **Assistant Scientist** Title (if applicable)

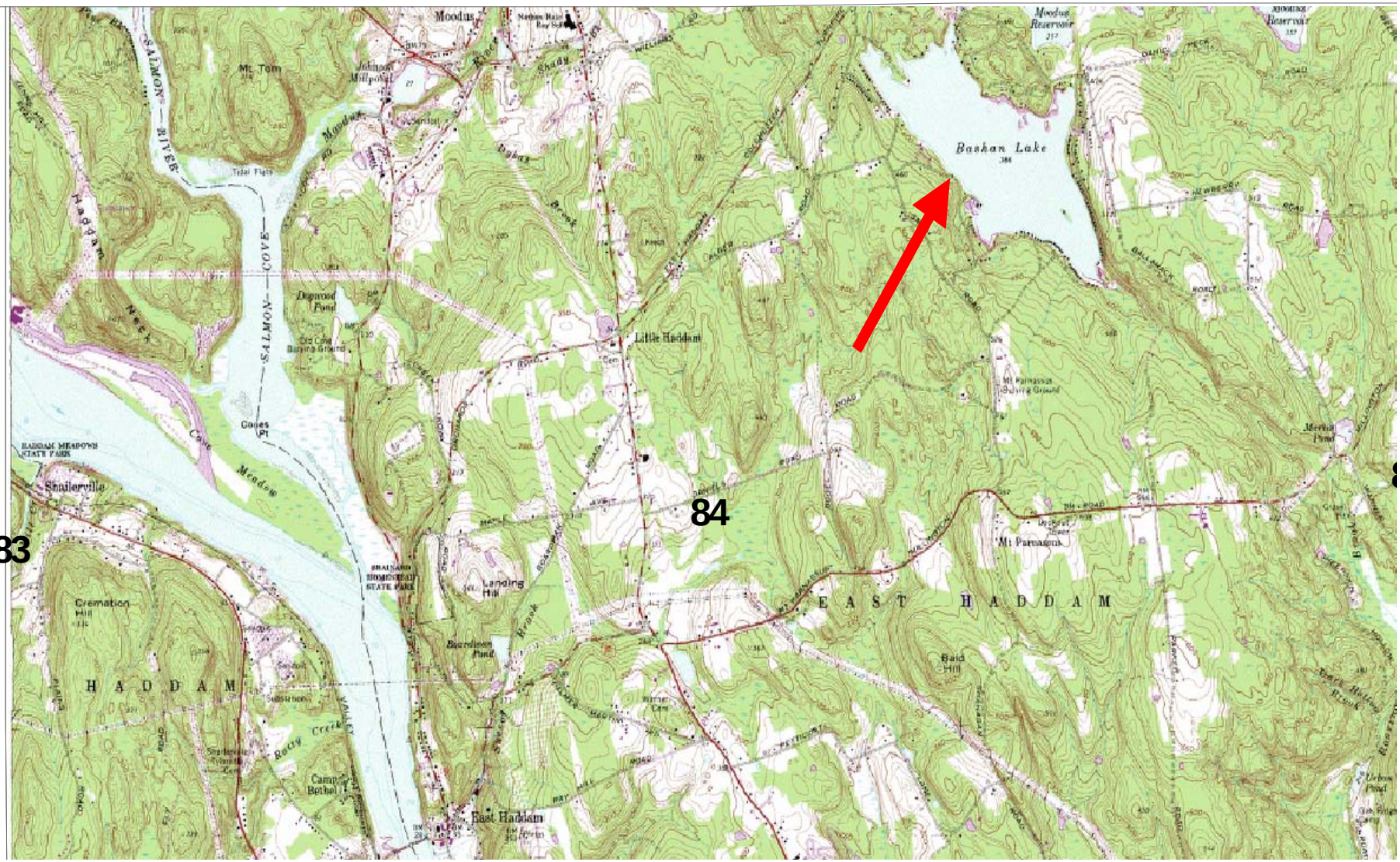
Signature of Preparer — **01/26/2006** Date

Greg Bugbee Name of Preparer (print or type) — **Assistant Scientist** Title (if applicable)

☐ Please enter a check mark if additional signatures are necessary. If so, please reproduce this sheet and attach signed copies to this sheet.

Note: Please send one copy of your completed application along with the required cover letter (see attached) to the appropriate local inland wetland agency.

Bashan Lake
East Haddam, CT
USGS Quadrangle 84



Applicant Compliance Information

DEP ONLY
App. No. _____ Co./Ind. No.

Applicant Name: **The Connecticut Agricultural Experiment Station**
(as indicated on the *Permit Application Transmittal Form*)

If you answer *yes* to any of the questions below, you must complete the Table of Enforcement Actions on the reverse side of this sheet as directed in the instructions for your permit application.

A. During the five years immediately preceding submission of this application, has the applicant been convicted in any jurisdiction of a criminal violation of any environmental law?

☐ Yes ☒ No

B. During the five years immediately preceding submission of this application, has a civil penalty been imposed upon the applicant in any state, including Connecticut, or federal judicial proceeding for any violation of an environmental law?

☐ Yes ☒ No

C. During the five years immediately preceding submission of this application, has a civil penalty exceeding five thousand dollars been imposed on the applicant in any state, including Connecticut, or federal administrative proceeding for any violation of an environmental law?

☐ Yes ☒ No

D. During the five years immediately preceding submission of this application, has any state, including Connecticut, or federal court issued any order or entered any judgement to the applicant concerning a violation of any environmental law?

☐ Yes ☒ No

E. During the five years immediately preceding submission of this application, has any state, including Connecticut, or federal administrative agency issued any order to the applicant concerning a violation of any environmental law?

☐ Yes ☒ No

CTDEP Approved Permit

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CONNECTICUT AGRICULTURAL EXPERIMENT STATION
PO BOX 1106
NEW HAVEN CT 06504-

1. This permit is hereby issued pursuant to Section 22a-66z of the General Statutes, and regulations adopted thereunder.
2. This permit 06071 is issued to: CONNECTICUT AGRICULTURAL EXPERIMENT STATION
   of PO BOX 1106
   NEW HAVEN CT 06504-
3. This permit authorizes the application of chemicals at the property owned by:
   STATE OF CONNECTICUT, DEPT. OF ENVIRONMENTAL PROTECTION
   located at: OFF ROUTE 82 EAST HADDAM
4. This permit authorizes the application of chemicals by CONNECTICUT AGRICULTURAL EXPERIMENT STATION .
5. This permit is issued on 05-APR-2006 and will expire on 31-DEC-2006 .
6. This permit is subject to the following conditions:
   a. Permittee may apply the following chemicals to BASHAN LAKE GIS No.- 6930

Chemical	Amount of chemical	Times Applied
2, 4-D GRANULAR	5000 POUNDS	1

   b. Permittee may conduct the application described in paragraph 6a at least 30 DAYS apart, no more than the number of times specified above, and prior to 31-DEC-06 .
   c. The permittee shall follow all restrictions and directions as instructed on the chemical label.

d. The permittee shall also adhere to the following specific conditions:

BASHAN LAKE
Conditions for Bashan Lake

1. Maintain 100 foot buffer between drinking water wells and treated area (this setback includes land and water distance added together.
2. Take samples from the five shallow wells closest to the treatment area before treatment and again within the time from 14 to 21 days after treatment. These samples must be analyzed by a Connecticut Certified Laboratory and the results reported to the pesticide program as soon as available. Also include with the sample results the distance from the shore to the well, the depth of the well and the depth of the well screen and the depth of the water table.
3. If 2,4-D is detected in any sample, confirmation sampling must be done immediately.
4. Water from the Lake may not be used for drinking. Water from treated areas may not be used for irrigation, or mixing of pesticide or fertilizer spray solutions unless an approved assay shows that the concentration of 2, 4-D in the water is 100 ppb or less.
5. The Pesticide Program office must be notified 48 hours in advance of the application.

e. For any permit to apply chemicals on a lake or pond with any public access owned by the state or a municipality: The permittee shall, prior to any chemical application authorized by this permit, publish notice of such application and post signs in accordance with Section 22a-66a(h) of the Connecticut General Statutes and regulations adopted thereunder.

For any permit to apply chemicals to a private lake or pond having more than one owner of shoreline property: The permittee shall, prior to any chemical application authorized by this permit, publish notice of such application in accordance with Section 22a-66a(h) of the Connecticut General Statutes and regulations adopted thereunder.

f. In evaluating the application for this permit and any other document submitted pursuant to this permit, DEP relies on information and data provided by the applicant and on the applicant's representations. If such information proves to be false, deceptive, incomplete or inaccurate, this permit may be modified, suspended or revoked in accordance with Section 22a-3a-5(d) of the Regulations of Connecticut State Agencies, and any unauthorized activities may be subject to enforcement action.

g. Any document which is required to be submitted by the permittee to DEP under this permit shall be signed by the permittee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense, in accordance with Section 22a-6 of the General Statutes, pursuant to Section 53a-157b of the General Statutes, and in accordance with any other applicable statute."

h. Issuance of this permit does not relieve the permittee of the obligation to obtain any other authorizations required by applicable federal, state and local law.

i. This permit is subject to and does not derogate any present or future rights or powers of the State of Connecticut and conveys no rights in real or personal property nor any exclusive privileges, and is subject to any and all public and private rights and to any federal, state or local laws pertinent to the property or activity affected by such permit.

j. This permit shall be signed below by the registered pesticide dealer at the time of chemical purchase. Once signed, this permit is invalid for further purchase of chemicals.

05-APR-2006
Date of Permit Issuance

Robert C. Isner, Director
Waste Engineering & Enforcement Division

06071
Permit Number

Date of Chemical Purchase

Signature of Registered Pesticide Dealer

Please cut along dotted line:

The permittee shall return this section to:

PESTICIDE PROGRAM
BUREAU OF WASTE MANAGEMENT
79 ELM STREET
HARTFORD, CT 06106-5127

Please return this section by December 31 of the calendar year in which the permit was issued and indicate the actual date and which of the approved chemicals were applied.

Permit Number: 06071 Date of chemical application: _____

Place a check mark in the box if the application of chemicals was not performed. ☐

Public Notification

Notice of Pesticide Application in Bashan Lake

Bashan Lake, East Haddam, CT will be treated with the herbicide Navigate and/or Aqua-Kleen (granular 2,4-D), to control milfoil *(Myriophyllum heterophyllum)*. Milfoil is an invasive aquatic weed that threatens the recreational use of Bashan Lake. Treatment will occur during the period September 25– 29, 2006. There are no restrictions on swimming, fishing and watering livestock. Do not use water from Bashan Lake for drinking and cooking. Do not use water from Bashan Lake for irrigating plants or sprays for ornamental or agricultural crops until tests show levels of 2,4-D are below 100 parts per billion. The Connecticut Agricultural Experiment Station will be conducting the water tests.

Information may be obtained from:

Mr. Greg Bugbee
Department of Soil and Water
The Connecticut Agricultural Experiment Station
P.O. Box 1106
New Haven, CT 06504
(203) 974-8512

The Hartford Courant.
A TRIBUNE PUBLISHING COMPANY

Affidavit of Publication

State of Connecticut

Tuesday, September 19, 2006

County of Hartford

I, Joy Shroyer, do solemnly swear that I am Financial Operations Assistant of the Hartford Courant, printed and published daily, in the state of Connecticut and that from my own personal knowledge and reference to the files of said publication the advertisement of Public Notice was inserted in the regular edition.

On dates as follows: 09/19/2006

In the amount of $35.76
ST OF CT AGRICULTURAL DEPT
700002
ZONE 1

Not of Pesti

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The Connecticut Agricultural Experiment Station
P.O. Box 1106
New Haven, CT 06504
(203) 974-8512

Financial Operations Assistant
Joy Shroyer

Subscribed and sworn to before me on September 19, 2006

Notary Public

LISA CARDINI
NOTARY PUBLIC
MY COMMISSION EXPIRES JUNE 30, 2011

CAUTION

Lake Treated with Pesticide to Control Milfoil

PESTICIDE NAME: Navigate DATE APPLIED: 9/27-28/2006

APPLICATOR: Greg Bugbee TIME APPLIED: 8:30 AM - 3:30 PM

Department of Soil and Water PHONE: 203 974-8512

Connecticut Agricultural Experiment Station

Do Not Use Water for the Following Purposes Until the Date and Time Noted Below:

Swimming or Other Water Contact: *No Restriction*
Fishing: *No Restriction*
Irrigation: *Do Not Use For Remainder of 2005 Growing Season.*
Drinking and Cooking: *Do Not Use.*
Livestock Watering: *Do Not Use for watering dairy cattle or farm animals.*
Other: *Do Not Use for making pesticide spray solutions*

THIS SIGN MUST REMAIN POSTED UNTIL THE LATEST DATE ABOVE

Navigate Label and Material Safety Data Sheet

NAVIGATE®

GRANULAR AQUATIC HERBICIDE FOR CONTROLLING CERTAIN UNWANTED AQUATIC PLANTS

ACTIVE INGREDIENTS:	
2,4-Dichlorophenoxyacetic acid, butoxyethyl ester	27.6%
INERT INGREDIENTS:	72.4%
TOTAL	**100.0%**

*Isomer specific by AOAC method No. 6.D01-5

*2,4-Dichlorophenoxyacetic acid equivalent 19% by weight

EPA Reg. No. 71368-4-8959 **EPA Est. No. 407-IA-2**

KEEP OUT OF REACH OF CHILDREN

CAUTION

For Chemical Emergency, Spill, Leak, Fire, Exposure or Accident
Call Chemtrec Day or Night 1-800-424-9300

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anything by mouth and do not induce vomiting.
IF ON SKIN: Wash with plenty of soap and water. Get medical attention.
IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.
IF IN EYES: Flush eyes with plenty of water. Call a physician if irritation persists.

PRECAUTIONARY STATEMENTS

CAUTION

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Harmful if swallowed, absorbed through skin, or inhaled. Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust. When handling this product, wear chemical resistant gloves. Wash thoroughly with soap and water after handling.

When mixing, loading, or applying this product or repairing or cleaning equipment used with this product, wear eye protection (face shield or safety glasses), chemical resistant gloves, long-sleeved shirt, long pants, socks and shoes. It is recommended that safety glasses include front, brow and temple protection.

Wash hands, face and arms with soap and water as soon as possible after mixing, loading, or applying this product. Wash hands, face and hands with soap and water before eating, smoking or drinking. Wash hands and arms before using toilet. After work, remove all clothing and shower using soap and water. Do not reuse clothing worn during the previous day's mixing and loading or application of this product without cleaning first. Clothing must be kept and washed separately from other household laundry. Remove saturated clothing as soon as possible and shower.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Drift or runoff may adversely affect fish and non-target plants. Do not apply to water except as specified on this label. Do not contaminate water when disposing of equipment washwaters. Do not apply to waters used for irrigation, agricultural sprays, watering dairy animals or domestic water supplies.

Clean spreader equipment thoroughly before using it for any other purposes. Vapors from this product may injure susceptible plants in the immediate vicinity. Avoid drift of dust to susceptible plants.

MIXING OR LOADING: Most cases of ground water contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of ground water supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent ground water contamination.

DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.
READ THIS ENTIRE LABEL BEFORE USING THIS PRODUCT

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

STORAGE

Store in original container in a dry secured storage area.

PESTICIDE DISPOSAL

Pesticide wastes are toxic. Improper disposal of excess pesticide is a violation of Federal law and may contaminate ground water. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL

Do not reuse empty bag. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If bag is burned, stay out of smoke.

NAVIGATE is a trademark of Applied Biochemists

NET WT. 50 LBS. (22.68 KG) **13529**

GENERAL PRECAUTIONS AND RESTRICTIONS
Do not use in or near a greenhouse.

OXYGEN RATIO
Fish breathe oxygen in the water and a water-oxygen ratio must be maintained. Decaying weeds use up oxygen, but during the period when NAVIGATE® should be used, the weed mass is fairly sparse and the weed decomposition rate is slow enough so that the water-oxygen ratio is not disturbed by treating the entire area at one time.

If treatments must be applied later in the season when the weed mass is dense and repeat treatments are needed spread granules in lanes, leaving buffer strips which can then be treated when vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2 to 3 week period following treatment.
Buffer lanes should be 50 to 100 feet wide. Treated lanes should be as wide as the buffer strips.

WATER pH
Best results are generally obtained if the water to be treated has a pH less than 8. A pH of 8 or higher may reduce weed control. If regrowth occurs within a period of 6 to 8 weeks, a second application may be needed.

PERMIT TO USE CHEMICALS IN WATER
In many states, permits are required to control weeds by chemical means in public water. If permits are required, they may be obtained from the Chief, Fish Division, State Department of Conservation or the State Department of Public Health.

GENERAL INFORMATION
NAVIGATE® is formulated on special heat treated attaclay granules that resist rapid decomposition in water, sink quickly to lake or pond bottoms and release the weed killing chemical in the critical root zone area.

This product is designed to selectively control the weeds listed on the label. While certain other weeds may be suppressed, control may be incomplete. Reduced control may occur in lakes where water replacement comes from bottom springs.

WHEN TO APPLY
For best results, spread NAVIGATE® in the spring and early summer, during the time weeds start to grow. If desired, this timing can be checked by sampling the lake bottom in areas heavily infested with weeds the year before.

If treatments are delayed until weeds form a dense mat or reach the surface, two treatments may be necessary. Make the second treatment when weeds show signs of recovery.

Treatments made after September may be less effective depending upon water temperatures and weed growth.

Occasionally, a second application will be necessary if heavy regrowth occurs or weeds reinfest from untreated areas.

HOW TO APPLY
FOR LARGE AREAS: Use a fertilizer spreader or mechanical seeder such as the Gerber or Gandy or other equipment capable of uniformly applying this product. Before spreading any chemical, calibrate your method of application to be sure of spreading the proper amount. When using boats and power equipment, you must determine the proper combination of (1) boat speed (2) rate of delivery from the spreader, and (3) width of swath covered by the granules.

FOR SMALL AREAS: (Around Docks or Isolated Patches of Weeds): Use a portable spreader such as the Cyclone seeder or other equipment capable of uniformly applying this product. Estimate or measure out the area you want to treat. Weight out the amount of material needed and spread this uniformly over the area. More uniform coverage is obtained by dividing the required amount in two and covering the area twice, applying the second half at right angles to the first.

Use the following formula to calibrate your spreader's delivery in pounds of **NAVIGATE** PER MINUTE:

$$\frac{\text{Miles per hour X spreader width X pounds per acre}}{495} = \text{pounds per minute}$$

Example: To apply 100 pounds of **NAVIGATE** per acre using a spreader that covers a 20 foot swath from a boat traveling at 4 miles per hour, set the spreader to deliver 16 pounds of **NAVIGATE** granules per minute.

$$\frac{\text{4 mph x 20 feet x 100 Lbs./A}}{495} = \text{16 Lbs/Min.}$$

AMOUNTS TO USE
Rates of application vary with resistance of weed species to the chemical, density of weed mass at time of treatment, stage of growth, water depth, and rate of water flow through the treated area. Use the higher rate for dense weeds, when water is more than 8 feet deep and where there is a large volume turnover.

	NAVIGATE POUNDS PER ACRE	NAVIGATE POUNDS PER 2000 SQ. FT.
SUSCEPTIBLE WEEDS		
Water Milfoil (Myriophyllum spp.) Water stargrass (Heteranthera dubia)	100 TO 200	5
SLIGHTLY TO MODERATELY RESISTANT WEEDS		
Bladderwort (Utricularia spp.) White water Lily (Nymphaea spp.) Yellow water lily (Nuphar spp.) Or spatterdock* Water shield (Brasenia spp.) Water chestnut (Trapa natans) Coontail* (Ceratophyllym Demersum)	150 to 200	7-1/2 to 10

- Repeat treatments may be needed

LIMITED WARRANTY AND DISCLAIMER
The manufacturer warrants (a) that this product conforms to the chemical description on the label; (b) that this product reasonably fit for the purposes set forth in the directions for use when it is used in accordance with such directions; and (c) that the directions, warning and other statements on the label are based upon responsible experts' evaluation of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants, and of residues on food crops and upon reports of field experience. Tests have not been made on all varieties or in all states or under all conditions. THE MANUFACTURER NEITHER MAKES NOR INTENDS, NOR DOES IT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE, ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, AND IT EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

THIS WARRANTY DOES NOT EXTEND TO, AND THE BUYER SHALL BE SOLELY RESPONSIBLE FOR, ANY AND ALL LOSS OR DAMAGE WHICH RESULTS FROM USE OF THIS PRODUCT IN ANY MANNER WHICH IS INCONSISTENT WITH THE LABEL DIRECTIONS, WARNINGS OR CAUTIONS.

BUYER'S EXCLUSIVE REMEDY AND MANUFACTURER'S OR SELLER'S EXCLUSIVE LIABILITY FOR ANY AND ALL CLAIMS, LOSSES, DAMAGES, OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE SHALL BE LIMITED. AT THE MANUFACTURER'S OPTION, TO REPLACEMENT OF, OR THE REPAYMENT OF THE PURCHASE P0RICE FOR, THE QUANTITY OF PRODCUT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

NOTICE TO BUYER
Purchase of this material does not confer any rights under patents governing this product or the use thereof in countries outside of the United States.

MANUFACTURED FOR:

applied biochemists
MILWAUKEE, WI 1-800-558-5106

Material Safety Data Sheet

EMERGENCY

FOR CHEMICAL EMERGENCY: SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL
CHEMTREC - DAY or NIGHT - (800) 424-9300

Product Name: **AB NAVIGATE** EPA Reg. No. 71368-4-8959

SECTION I - GENERAL INFORMATION

Manufacturer's Name:	APPLIED BIOCHEMISTS W175 N11163 Stonewood Drive Suite 234 Germantown, WI 53022-4799 (800) 558-5106
Trade Name & Synonyms:	**AB NAVIGATE**
Chemical Name & Synonyms:	2,4-D: 2,4-DICHLOROPHENOXYACETIC ACID, BUTOXYETHYL ESTER
Generic Description:	AQUATIC HERBICIDE
Formula:	$C_{12}H_{18}Cl_2O_4$
D.O.T. Proper Shipping Name:	Not Regulated
U.N. or N.A. Identification #:	Not Regulated
D.O.T. Hazard Class:	Not Applicable
D.O.T. Emergency Response Guide:	Not Assigned

Hazardous Mat'ls ID System Values (HMIS):	Health -1	Flammability -1	Reactivity -0	Personal Protection -F
Nat'l Fire Protection Assn. (NFPA 704M):	Health -1	Flammability -1	Reactivity -0	Specific Hazard: None

SECTION II - HAZARDOUS INGREDIENTS

Hazardous Component(s)	CAS#	PEL	TLV
2,4-Dichlorophenoxyacetate Acid, Butoxyethyl Ester	1929-73-3	10 mg/m^3	10 mg/m^3
Crystalline Silica	14808-60-7	0.1 mg/m^3	0.1 mg/^{3}

Ingredients listed in this section have been determined to be hazardous as defined in 29 CFR 1910.1200. Materials determined to be health hazards are listed if they comprise 1% or more of the composition. Materials identified as carcinogens are listed if they comprise 0.1% or more of the composition. Information on proprietary materials is available as provided in 29 CFR 1910.1200 (i) (1).

SECTION III - PHYSICAL DATA

Boiling Point (F):	NOT KNOWN	Specific Gravity (water = 1):	NOT KNOWN
Vapor Pressure (mm Hg):	NOT KNOWN	% Volatile (by Volume):	NOT DETERMINED
Vapor Density (air = 1):	NOT KNOWN	Evaporation Rate:(Ether = 1)	< 1
Melting Point (F):	NOT KNOWN		
Solubility in Water:	INSOLUBLE		
Appearance & Odor:	GRAY/TAN GRANULES WITH MILD PHENOLIC ODOR.		

SECTION IV - FIRE & EXPLOSION DATA

Flash Point (F):	NOT FLAMMABLE Method:
Extinguishing Media:	CO_2, WATER, DRY CHEMICAL OR FOAM TO FIGHT FIRES IN WHICH THIS PRODUCT IS INVOLVED.
Special Fire Fighting Procedures:	WEAR APPROVED SELF-CONTAINED BREATHING APPARATUS. DIKE TO PREVENT CONTAMINATION OF WATER SOURCES.
Unusual Fire & Explosion Hazards:	THERMAL DECOMPOSITION PRODUCTS INCLUDE OXIDES OF CARBON, SULFUR DIOXIDES AND HYDROCHLORIC ACID.

SECTION V - REACTIVITY DATA

Stability -	_____Unstable	__X___Stable
Conditions to Avoid:	NONE KNOWN	
Incompatibility (Materials to Avoid):	ACIDS, BASES, OXIDIZERS.	
Hazardous Decomposition Products:	THERMAL DECOMPOSITION PRODUCTS INCLUDE OXIDES OF CARBON, SULFUR DIOXIDES AND HYDROCHLORIC ACID.	
Hazardous Polymerization:	_____Will Occur	__X___Will Not Occur
Conditions to Avoid:	NONE	

AB NAVIGATE

SECTION VI - HEALTH HAZARD DATA

Acute Health Hazards: $LD_{50(Rat)}$ >2000 mg/Kg

Chronic Health Hazards: THIS PRODUCT CONTAINS CLAY. IARC HAS CLASSIFIED CRYSTALLINE SILICA (A COMPONENT OF CLAY) AS A PROBABLE HUMAN CARCINOGEN. PROLONGED CONTACT MAY CAUSE LIVER DAMAGE, KIDNEY DAMAGE, CHRONIC MUSCLE DAMAGE.

Signs & Symptoms of Exposure: EYE CONTACT MAY CAUSE TEARING AND REDNESS. MAY CAUSE SLIGHT SKIN IRRITATION. INHALATION OF DUST MAY CAUSE IRRITATION TO RESPIRATORY TRACT. INGESTION MAY CAUSE NAUSEA, VOMITING, ABDOMINAL PAIN, MUSCLE WEAKNESS MYOTONIA, AND A FALL IN BLOOD PRESSURE.

Medical Conditions Generally Aggravated by Exposure: MAY AGGRAVATE EXISTING CHRONIC RESPIRATORY PROBLEMS SUCH AS ASTHMA, EMPHYSEMA, OR BRONCHITIS; CONTACT MAY IRRITATE SKIN DISEASE.

Chemical Listed as Carcinogen or Potential Carcinogen by:

National Toxicology Program:	Yes:	No:	✓
I.A.R.C. Monographs:	Yes:	No:	✓
O.S.H.A.	Yes:	No:	✓

Emergency & First Aid Procedures: FOR PRINCIPLE ROUTE OF ENTRY, SEE APPROPRIATE EMERGENCY PROCEDURES BELOW.
NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Route of Entry:
- Inhalation: REMOVE TO FRESH AIR, CONTACT A PHYSICIAN IF NECESSARY.
- Eyes: FLUSH WITH FRESH WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN.
- Skin: WASH SKIN WITH PLENTY OF SOAP AND WATER. WASH CLOTHES THOROUGHLY BEFORE REUSE.
- Ingestion: DRINK 2-3 GLASSES OF MILK OR WATER, INDUCE VOMITING. CALL A PHYSICIAN.

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: SWEEP UP AND PLACE IN APPROVED CONTAINERS.DO NOT FLUSH AREA WITH WATER AS IT CAN CAUSE CONTAMINATION OF SEWER SYSTEM.

Waste Disposal Methods: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. 100 LBS. RESULTS IN A REPORTABLE QUANTITY AS SPECIFIED BY D.O.T.

SECTION VIII - SPECIAL PROTECTION AND CONTROL MEASURES

Respiratory Protection (Specify Type): NOT REQUIRED

Ventilation - Local Exhaust: MECHANICAL — Special Exhaust: STAND DOWN WIND WHEN USING.

Mechanical Exhaust: — Other Exhaust:

Protective Equipment - Gloves: PLASTIC OR CHEMICAL RESISTANT

Eye Protection: SAFETY GLASSES OR CHEMICAL GOGGLES

Other Protective Equipment: PROTECTIVE CLOTHING

Work or Hygienic Practices: USE SAFE CHEMICAL HANDLING PROCEDURES SUITABLE FOR THE HAZARDS PRESENTED BY THIS MATERIAL.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storage: DO NOT SWALLOW, BREATH DUST, STORE NEAR FOOD, CONTAMINATE WATER FOOD OR FEED, APPLY TO WATERS USED FOR IRRIGATION, AGRICULTURAL SPRAYS, WATERING DAIRY ANIMALS OR DOMESTIC WATER SUPPLIES.

Other Precautions: AVOID DRIFT TO SUSCEPTIBLE PLANTS. AVOID GETTING INTO EYES, ON SKIN OR CLOTHING. **KEEP OUT OF REACH OF CHILDREN**

DJK

Date of Last Revision: 9/30/99