



Battling Milfoil in Effingham, Freedom, & Ossipee

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Topics

- State/Local Efforts to Manage Milfoil
 - Responsible Groups
 - Size/locations of infestations
- Milfoil Control
 - Historical efforts
 - Recent efforts ('09 – '11)
 - Cost Estimates
- Preventative Measures
- Summary

A New Approach to Milfoil?

Provided by Susan Marks, OLA



An Amphibious Assault Vehicle (AAV) Platoon from 3rd Marine Regiment worked with the Environmental Compliance and Protection Department at Marine Corps Base Hawaii to eliminate invasive plant species in preparation for the breeding season of the endangered Hawaiian stilt bird.

Responsibilities - NHDES

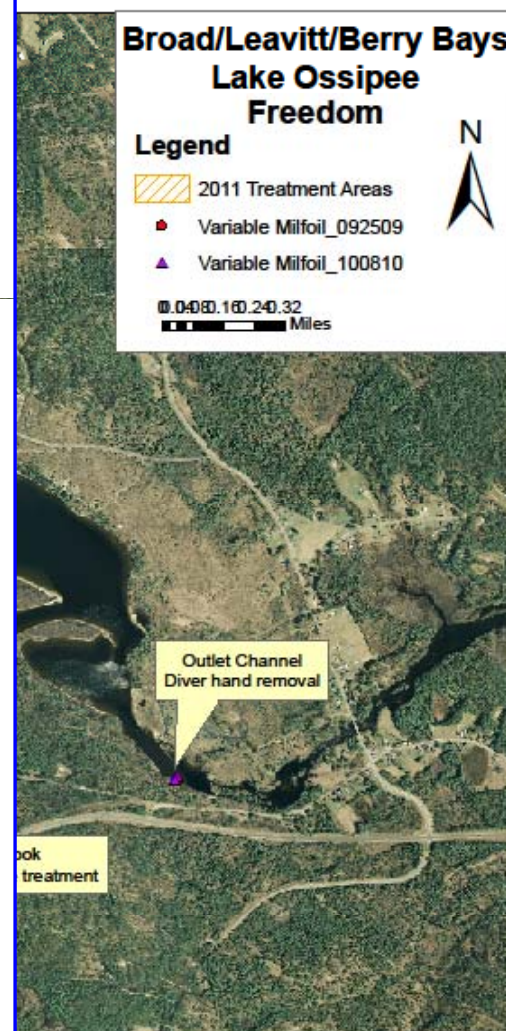
- DES Exotic Species Program coordinates activities associated with control & management of exotic aquatic plants.
- Program has five focus areas:
 - 1) Prevention of new infestations
 - 2) Monitoring for early detection of new infestations
 - 3) Control of new and established infestations
 - 4) Research towards new control methods
 - 5) Regional cooperation
- Efforts controlled by Long-Term Variable Milfoil Management and Control Plans.

Responsibilities - Towns

- Town Efforts worked through Conservation Commissions:
 - Typically subcommittees focused on Exotic Species/Milfoil
 - Provide inputs to NHDES management plans
 - Some town funding for Lake Host Program (e.g. Ossipee)
 - Establish funding for milfoil control Efforts (e.g.):
 - Apply for state grants
 - Town warrant articles
 - Coordinate donations from residents & businesses
 - Working with Selectmen, establish contracts for control efforts with approved suppliers.
 - Help with abutter/lake user communications.

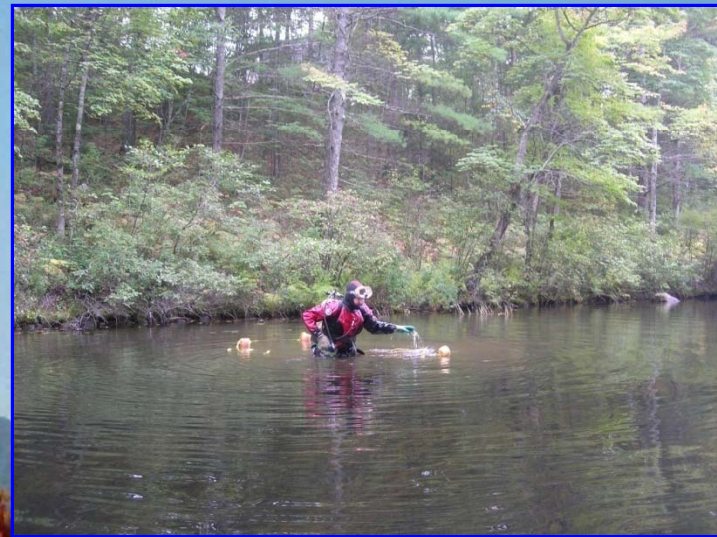
Effingham Milfoil Management

- Small patch of milfoil discovered by kayaker near dam who notified OLA.
 - Location visited by S. Marks & J. McElroy to verify species.
 - J. McElroy contacted Effingham Conservation Commission (ECC) and visited site with Emelyn Albert & Jack Williams.
 - ECC/Town of Effingham hired New England Milfoil (NEM) to remove (3 small areas).
 - 2010 spend = \$1,350.*
 - Likely to do maintenance in 2011.
- * Cost data provided by ECC.



Freedom Milfoil Management

- Discovered '92 on Danforth
- First Herbicide treatment done in '02 (Diquat applied on 5 acres).
- Diver hand pulling done annually since '04:
 - Funded by Town, Ossipee Lake Marina, Danforth Bay Camping Resort, & Residents “Friends of Danforth” (FoD).
 - June & Bruce Howlett have been especially generous.
 - Work by New England Milfoil.
- Not keeping pace!



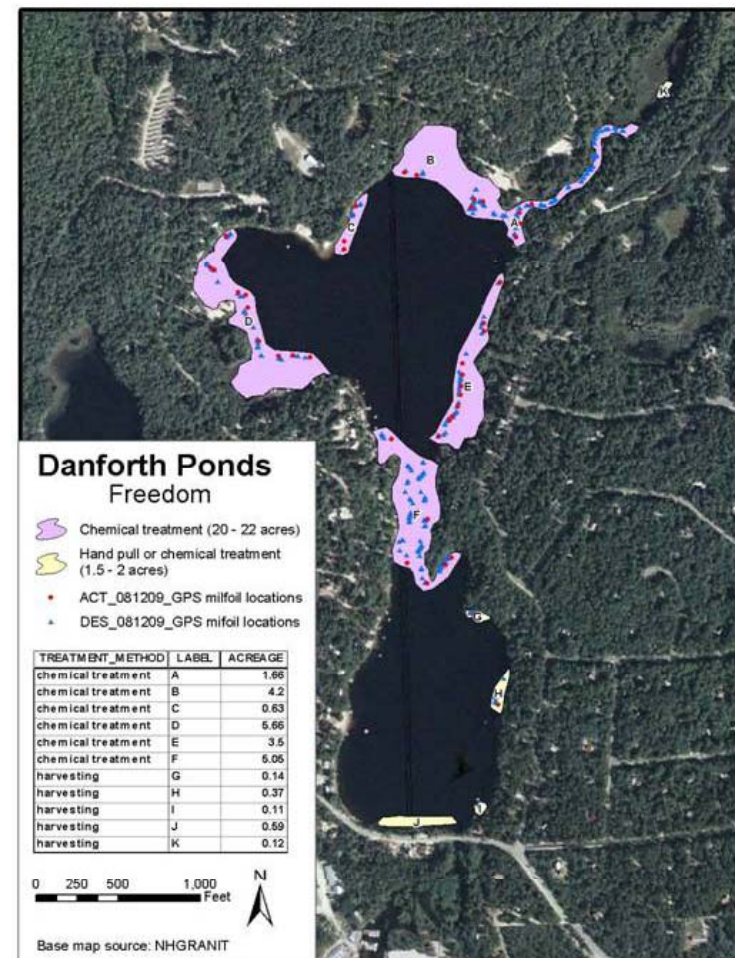
Freedom Milfoil Management

- “Graduated” to Diver Assisted Suction Harvesting (DASH) in 2008.
- Plants still pulled by hand but they are then fed into an underwater “Vacuum Cleaner”.
- Significant Increase in Productivity!
 - Work by New England Milfoil (NEM)
- But Milfoil continued to Spread on Danforth:
 - 22 Acres Infested by 8/09
 - Total area of Lower & Middle Danforth = 83 Acres



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Escalation of Treatment

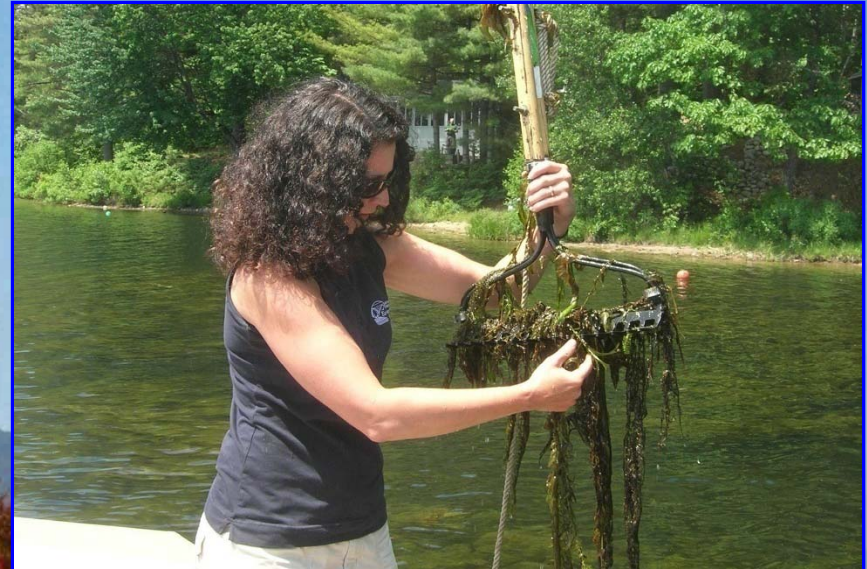
- 12 '07 Conference Call with Amy Smagula (NHDES), Susan Marks (OLA), and Marcia Murphy (FoD):
 - Explored possibility of Herbicide Treatment.
 - Some Funding Available from State but unable to execute contract.
- Susan & Marcia Organized a Public Meeting (8 '08) with Danforth Abutters, NHDES, and Freedom BoS:
 - Amy Smagula reviewed Treatment Alternatives.
 - All Abutters who attended in Favor of Herbicide Treatment.
 - Work Started on Danforth Milfoil Management Plan.
 - With Support from Freedom BoS, Warrant Article passed on 3 '09 to fund treatment.
 - But we were too late to treat in '09 due to permit cycle.

Safety of Herbicide Treatment

- 2,4-D has been registered in the United States since 1948.
- Annual domestic 2,4-D usage in the US is approximately 46 M pounds, with 30 M pounds (66%) used by agriculture.
- EPA has twice reviewed epidemiological studies to attempt to link cancer to 2,4-D.
- EPA reports found that none of the recent epidemiological studies linked human cancer cases to 2,4-D.
- 2,4-D is biodegradable and therefore does not remain in the environment for long time periods (down to traces in weeks).
- Further info. at: <http://www.24d.org/>

Freedom '10 Herbicide Treatment

- Contract Signed Spring '09 with Aquatic Control Technology (ACT) to get favorable Dates in '10.
- Management Plan Updated based on Latest Milfoil Survey.
- Permit Approved by State on 5 '10.
- Abutters informed by Letter:
 - Treatment Schedule.
 - Treatment Restrictions on Swimming & Water Usage.
- Final Survey Conducted on morning of 6/2/10.
- Herbicide Treatment (2,4-D) done on afternoon of 6/2/10.
- Early results favorable – But re-growth started by end of season.



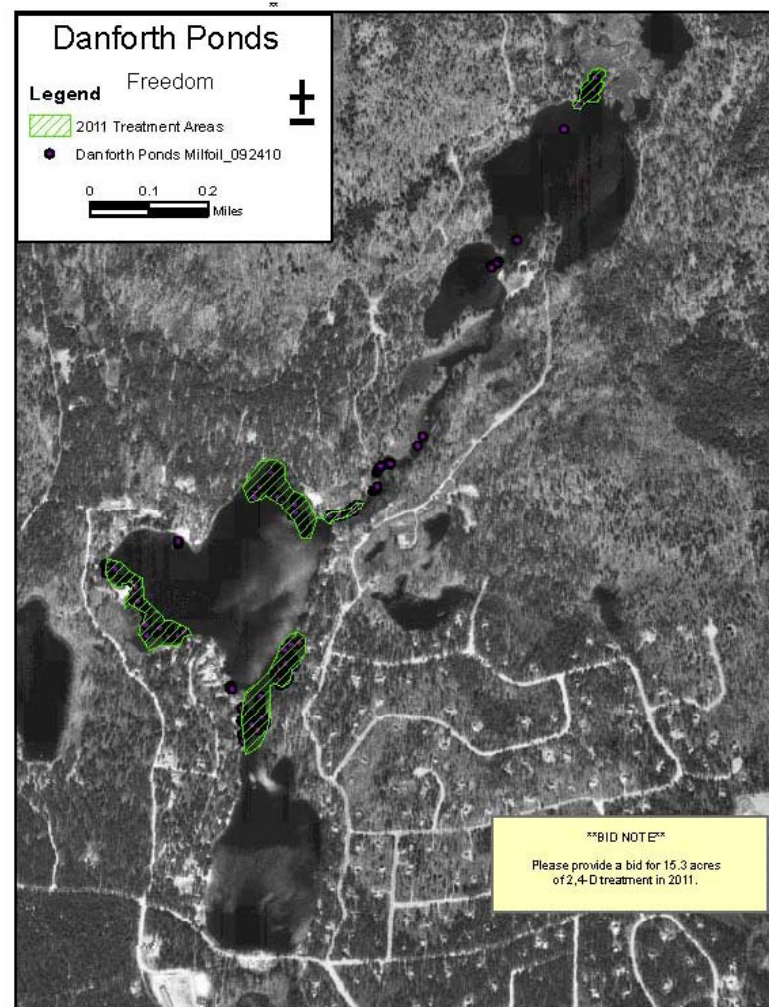
Other Freedom Efforts

- Distributed Milfoil Literature at:
 - Freedom Village Store
 - Library
 - Ossipee Lake Marina
 - Post Office
- Attended NH Lakes Congress.
- Presentation at '10 "State of the Lake" mtg.
- Met with Squam Lakes Association - share info.
- Surveyed Other Areas:
 - New Infestation at Dam (Effingham)
 - Ossipee Lake Marina (long term site)
 - Trout Pond (nothing found)
 - Loon Lake (nothing found)
 - Phillips Brook (long term site)
 - New Infestation in Upper Danforth (found by NHDES)
- Conducted DASH efforts (NEM):
 - Danforth "Small Patches"
 - Ossipee Lake Marina
 - Channel to Upper Danforth



Freedom Milfoil – Plans for '11

- Significant reduction in plant density after '10 treatment!
- But new plant growth observed by Sept. '10
- Plans started in Fall of '10 for second herbicide treatment in June '11.
- This is consistent with recommendation of NHDES Management Plan.
- New outbreak found in Upper Danforth (aka Huckins Pond) by NHDES.



Freedom '11 Herbicide Treatment

- Management Plan Updated based on Latest Milfoil Survey.
- Contract Signed Dec. '10 with Aquatic Control Technology (ACT) for 2nd herbicide treatment to cover:
 - Ossipee Lake Marina
 - Danforth areas (upper & middle)
- Got NHDES Grant for 30% of Cost.
 - Balance of Funds from Town & Donations.
- Permit Approved by State on 5 '11.
- Abutters informed by Letter.
- Treatment done on 6/7/11.
- We are hopeful that second treatment will reduce infestation to manageable level.
- Ossipee treatment on Same Date.



Freedom Milfoil Costs ('02 – '11)

DATE	ACTION	AREA	PROVIDER	TOTAL SPEND	SOURCE
SUMMER 2002	DIQUAT TREATMENT	5 Acres	LYCOTT	\$3,200.	State of NH
SUMMER 2004	DIVING/HAND REMOVAL	VARIED	DES DIVERS	\$16,000.	State of NH Donations
SUMMER 2005	DIVING/HAND REMOVAL	VARIED	NEW ENGLAND MILFOIL (NEM)	\$16,600.	Town of Freedom Donations
SUMMER 2006	DIVING/HAND REMOVAL	VARIED	NEM	\$11,200.	Town of Freedom Donations
SUMMER 2007	DIVING/HAND REMOVAL	VARIED	NEM	\$19,550.	Town of Freedom Donations
SUMMER 2008	DIVING/HAND REMOVAL	VARIED	NEM	\$12,200.	Town of Freedom Donations
SUMMER 2009	DIVING/HAND REMOVAL	VARIED	NEM	\$16,500.	Town of Freedom Donations
SUMMER 2010	DIVING/HAND REMOVAL	VARIED	NEM	\$3,800.	Town of Freedom Donations
JUNE 2010	2,4-D TREATMENT	24 Acres	ACT	\$14,300.	Town of Freedom Donations
JUNE 2011	2,4-D TREATMENT	21 Acres	ACT	\$10,225.	Town of Freedom Donations State of NH
SUMMER 2011	DIVING/HAND REMOVAL	VARIED	NEM	\$8,000.	Town of Freedom Donations
TOTAL SPEND				\$131,600.	

Historical cost data for '02 – '06 by D. Smith, OLA

Ossipee Milfoil Management

- Phillips Brook has had milfoil for a number of years:
 - Hand pulling '05-'10
 - But growth increased
- Milfoil confirmed in Causeway Cove:
 - Hand pulling in '10
 - DASH in '10
- Herbicide treatment conducted on 6/7/11:
 - Phillips Brook
 - Causeway Cove



Ossipee Milfoil Costs ('04 – '11)

DATE	ACTION	AREA	PROVIDER	TOTAL SPEND	SOURCE
2004 - 2008	Phillips Brook /Portsmouth Cove	VARIED	??	\$20,500.	Town of Ossipee State of NH Donations
2009	LAKE HOST PROGRAM		OCC	\$3745.	Town of Ossipee NH Lakes Assoc. Long Sands
2009	DIVING/HAND REMOVAL	VARIED	NEM	\$5,000. *	Town of Ossipee
2010	LAKE HOST PROGRAM		OCC	\$2925.	Town of Ossipee NH Lakes Assoc. Long Sands
2010	DIVING/HAND REMOVAL	VARIED	NEM	\$7,650.	Town of Ossipee NH Lakes Assoc.
2011	2,4-D TREATMENT	12.1 Acres	ACT	\$10,100.	Town of Ossipee State of NH
2011	LAKE HOST PROGRAM		OCC	\$3,675.	Town of Ossipee NH Lakes Assoc. Long Sands
SUMMER 2011	DIVING/HAND REMOVAL	VARIED	NEM	\$2,000.	Town of Ossipee
TOTAL SPEND				\$55,600.	* = Number not confirmed.

Historical cost data ('04 - '08) by D. Smith, OLA

Recent data by E. Gillette, OCC

Total Cost Summary

- Town of Effingham = \$1,350. ('10)
- Town of Freedom = \$131,600. ('02 – '11)
- Town of Ossipee = \$55,600. ('04 – '11)

Grand Total = \$188,550.

Prevention – What else can we do?

- Increase public awareness:
 - Literature
 - Web based tools (e.g. webinars)
 - Milfoil module in boating courses
- Additional Boat Launch Inspections:
 - Expand Lake Host program:
 - Private campgrounds
 - Other “high traffic” areas
- Increase lake surveys:
 - Train volunteers
 - Conduct audits of all water bodies in the area on a regular basis.

Summary

- Once you Have Milfoil, it is Practically Impossible to Eliminate (think Garden Weeds).
- Long Term Management is Required to Control the Spread of Variable Milfoil.
- Ongoing Residential, Business, and Public Investments are Needed to Conduct Long Term Management projects.
- Forming Teams of Local Residents as well as Available Town, State, and Commercial Experts is the Most Cost Effective Approach To Milfoil Management.

A scenic landscape photograph of a lake with autumn foliage and mountains in the background. The foreground shows the calm water of the lake, reflecting the sky and the surrounding landscape. In the middle ground, there is a small island or peninsula covered with trees displaying vibrant autumn colors, including shades of red, orange, and yellow. The background features a range of rolling mountains under a clear blue sky. A white rectangular box with a blue border is superimposed on the upper part of the image, containing the text "Questions?".

Questions?