

MICROMOUNTERS OF NEW ENGLAND NEWSLETTER

The MMNE was organized on November 8, 1966 for the purpose of promoting the study of minerals that require a microscope

No. 255

May, 200x4

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MMNE News

Our Annual Northeast one day symposium is rapidly approaching. We have a new venue, the Elks Lodge at 91 Park Street, Hudson, MA, which is only a mile or so from our previous venue. A map is on the back page as well as on the back of the sign-up sheet. The meeting area is substantially larger than at our previous location, and physical access to the space is considerably better with no stairs or physical barriers. Our speaker is our own Bob Janules, speaking about collecting in the Conway (New Hampshire) granites. The *Newsletter* has been running a serialized set of articles and photographs on the same subject by Bob, and they will resume with the summer issue.

We need donations for that meeting from all members as our stocks of both sales and give-away material are running quite low. If each MMNE member would consider donating ten to fifteen specimens for the sales table and a couple of flats or egg cartons of material for giveaways, there would be plenty for everyone. We also need items for the silent auction and door prizes which could include hardware, books, posters, other printed material, and mounting supplies (or anything else a micromounter might be interested in). Please bring your donations with you to the meeting, or get them to Hal Herard ahead of time. Please put prices on them whenever appropriate. If you are bringing mounted material for sale, please color code them with price stickers (dots) as follows: \$1.00 yellow, \$2.00 red, \$3.00 green, \$4.00 silver, \$5.00 gold. Anything above \$5.00 needs to have an actual price tag. If you do not have the colored stickers, group them by price category, and they can be marked at the meeting.

The meeting officially convenes at 9:00AM, but anyone who can come in at 8:00AM to help set up the various venues (sales, silent auction, etc.) will be appreciated.

Please sign up promptly for the meeting so that we can get an accurate count for the caterer. Bring a friend or two if you can. There is plenty of space.

MEMBERSHIP NEWS

Please welcome new member Arthur Smith – 9118 Concho St., Houston, TX 77036-6742. Phone: (713) 774-1689. E-mail: artsmithite@msn.com. Art is a nationally recognized micromounter and a long standing friend and collecting partner of Gene Bearss.

Please note: Hal Herard's e-mail address should be hherard1@rcn.com

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ATTENTION: Contrary to early reports, the first MSH collecting trip will be the weekend of May 29-30, not May 22-23.

Next Meeting

Saturday, May 15, 2004
Annual Northeast
Meeting

Elk's Lodge, Hudson, MA
**Map and directions are
on the MEETING
INSERT and back page**

For information regarding
MEETING CANCELLATION
due to inclement weather,
contact President
Jim Cahoon at
(978) 897-8221 or
cahooncj@aol.com

The **Newsletter** is the official publication of the Micromounters of New England (MMNE). The last by-laws revision was April 19, 2003. The MMNE is a member of the Eastern Federation of Mineralogical and Lapidary Societies (EFMLS) (<<http://www.amfed.org/efmls>>) and the American Federation of Mineralogical Societies (AFMS) (<http://www.amfed.org>). Material from the *Newsletter* may be copied in other rock and mineral publications if credit is given to the author and the *Newsletter* and permission has been obtained from the author. If there are questions regarding copying contact the editor. The club address is c/o the Secretary. Meetings are held monthly, September through May, except for December, and usually on an informal basis in July and August. Sites rotate and will be posted in the *Newsletter* as far in advance as possible. Visitors are welcome to attend all meetings. Bring a microscope and light source if you have one.

DUES are \$10/year for a single person and \$15/year for a family membership, levied on a calendar basis. The family membership includes two adults and all children under 18 living at the same address. One copy of the *Newsletter* will be sent on a family membership.

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2004 CALENDAR OF UPCOMING EVENTS

Micromounters of the North Shore Rock and Mineral Club meet the 2nd Wednesday of every month at the home of John and Margaret Stewart, 244 Mill Street, Burlington, MA. All members and visitors are welcome. For more information, call John or Margaret at (781) 272-0854.

SHOWS

May

1-2 – 41st Annual Show. North Shore Rock and Mineral Club. Topsfield, MA Fairgrounds, Coolidge Hall and Trade Bldg., Rte 1 N, Rivergate Entrance. Sat. 9-5. Sun. 10-4.

7-9 – Maine Mineral Symposium. Senator Inn & Conference Center, Augusta, ME. Contact Woodrow Thompson, Maine Geological Survey, 22 State House Station, Augusta, ME 04333-0022. (207) 287-7178.

Woodrow.b.thompson@maine.gov

19 – MMNE 23rd Annual Reunion Meeting, Elks Lodge, Hudson, MA

22-23 – Maine Mineralogical and Geological Society 21st Annual Gem and Mineral Show. Finley Gym, U. New England, 716 Stevens Ave., Portland, ME. 10-5 both days. Contact: Wes Baker (207) 784-1738 or wesbton@adelphia.net.

June

26-27 – 40th Annual Rock Swap and Mineral Show, Gilsum Elementary School and Town Recreation Fields, Rte 10, Gilsum, NH. 8-6 Saturday. 8-4 Sunday. Contact: (603) 357-9639. No admission charge.

July

7-12 - EFMLS/AFMS Convention & Show. Gem & Mineral Society of Syracuse. State Fairgrounds. Syracuse, NY.

August

13-15 – East Coast Gem, Mineral & Fossil Show. Eastern States Exposition. 1305 Memorial Drive, West Springfield, MA. <http://www.mzexpos.com/eastcoast.htm>

October

9-10 – 41st Annual Gem and Mineral Festival. Capital Mineral Club. Sat. 9-5. Sun. 10-4. Sunapee State Park, Rte 103, Newbury, NH. Adults - \$3, Seniors - \$2, 12 and under free with adult.

MICROMINERAL RELATED CONFERENCES AND SYMPOSIUMS

May

14-16 – CMMA Spring Symposium, Brock Univ., St. Catharines, Ontario, Canada

15 – MMNE Northeast Meeting. Elk's Lodge, Hudson, MA. 9AM to 4:30PM.

June

25-27 – Northern California Mineralogical Assoc. Annual meeting. Pollock Pines, CA.

www.geocities.com/yedlinite/Meeting.htm

Note change in MSH dates in May 2004

MSH field trips: May 29-30, July 3, July 24, September 4, October 21-24 MSH Symposium

MMNE MEETING, APRIL 17, 2004

President Jim Cahoon called the meeting to order at Westford, MA Library with 17 members present. The secretary's report was approved as printed in the *Newsletter*. Anna Wilkin, who had assumed the duties of treasurer prior to the elections, said there was no treasurer's report, as the funds have not yet been transferred to her bank and no audit has been performed.

Gene Bearss reminded us that we are low on give-aways, and that Hal Herard needs Sale Table minerals at the May meeting. Volunteers are requested to give Edna Lerer and Hal a break at the Sales Table. He asks that people pre-price their donated specimens using the following color coding: \$1.00 yellow, \$2.00 red, \$3.00 green, \$4.00 silver, \$5.00 gold, greater than \$5.00 labeled with actual price.

Gene also reported that he attended a very pleasant micro meeting of the Atlantic Micromounters Conference in Virginia. He said it is similar in size and amount of give-aways to our show. Sugar White was the speaker.

Janet Cares spoke about her and Steve's move to a retirement community in 2006. Steve plans to take his microscope and his Palermo, Loudville, and Tip Top minerals to study, but other micros will be sold or given away.

Elections were then carried out. A motion was made, seconded and approved for the Secretary to cast one ballot for the slate of officers. The motion was passed and the slate elected unanimously including seven absentee ballots. The new officers are: President, Jim Cahoon; Vice President, Bob Janules; Secretary, Pat Barker; Treasurer, Anna Wilken; Director (two year term), Bob Wilken.

Jim announced that he will be at the Elk's Lodge for an hour (from 8:00 – 9:00AM) to set up the silent auction table (where books, pamphlets, maps, posters, etc. will be sold) but he would not be available after that. Bob Wilken will take over when Jim has to leave.

Margaret Stewart will be the Registrar as usual, **Phyllis Leighton, Betty Sevens, Josephine MacIndewar,** and **Pat Barker** will supervise the morning Coffee and Snack Table. **Marilyn Dodge** is donating a framed picture for the door prize.

Mike Swanson has a number of posters from Charlie Weber, a few of Marcelle's micromounts which will be available at the Sale and Auction Tables.

Jim assured the membership the Elk's Lodge has plenty of tables, and he will check to make sure that the room can be darkened for the slide program; if not, he will obtain black plastic bags and tape.

The menu for lunch will be the same as last year, but it is a new caterer. The meal will be served inside the Elk's Lodge.

President Cahoon adjourned the Meeting at 1:00PM.

Respectfully submitted,
Pat Berry Barker

Hilairite from Mont Saint-Hilaire, some new information

By

Tony Steede

Hilairite was found at and named for one of the most prolific mineral sites in the world, the quarry at Mont Saint-Hilaire, Quebec. It has been known as occurring in two forms; a distinctive trigonal crystal with three pyramidal terminal faces, and a six sided form. In the latter form the faces can be quite equidimensional, in which case it can be mistaken for a dodecahedron, much like a light brown garnet. Fortunately, garnets of this colour have not been described from MSH. These forms are very well demonstrated in the *Mineralogical Record* article by Horváth and Gault (1990). Hilairite has also been found twinned. Mandarino and Anderson (1989) state that twinning is "...common according to two twin laws, $[201]_{180^\circ}$ and $[001]_{180^\circ}$. Crystals are often multiple twinned according to both laws and may involve four, eight or more individuals." An excellent description of the mineral is provided by Horváth and Pfenninger (2000) who state in part "It is a late stage mineral most commonly found in altered pegmatites and rarely in miarolitic cavities. Hilairite occurs as sharp, vitreous, transparent, brown, pale yellow and pink to rose, short to elongated, trigonal or hexagonal prisms terminated by the rhombohedron...."

Several years ago Pete Richards mentioned to me that he had found some colourless hilairite. I was intrigued as I too had found some tiny colourless crystals that looked somewhat like hilairite, but they fluoresced exactly like gaidonnayite (green, long and short wave). I had never heard of hilairite fluorescing, so I queried Pete about the identification and he stated that Bill Henderson had done optics on these crystals and he was sure of the identification. Well, Bill is an expert on optics, and I should not have questioned his judgment; nevertheless, I was not convinced.

Pete kindly supplied me with a specimen of the subject material at the last Canadian Micro Mineral Association conference. Some of it certainly looked like hilairite, but it too fluoresced just like gaidonnayite. This material came from the hornfels next to the Poudrette pegmatite. It contained both single crystals and twins, and was associated with beryllonite plates, cordylite, and tiny balls of saponite.

Chemically, hilairite and gaidonnayite are almost identical. Hilairite is $\text{Na}_2\text{ZrSi}_3\text{O}_9 \cdot 3\text{H}_2\text{O}$ and gaidonnayite is $\text{Na}_2\text{ZrSi}_3\text{O}_9 \cdot 2\text{H}_2\text{O}$. This makes it impossible to differentiate by energy dispersive spectroscopy (EDS) or micro probe. However, their crystal structures are different and I was able to persuade Malcolm Back at the Royal Ontario Museum to do X-ray diffraction (XRD) on one of Pete's crystals (given the constraints on Malcolm's time lately, this was a huge favour to me – thanks Mal).

The colourless crystals are, indeed, hilairite – Bill, my apologies for ever doubting your analysis, I should have known better. So, not only do we now have colourless hilairite, we must add it to the list of fluorescing minerals from MSH.

The story is not quite over, I have checked all the "gaidonnayites" that I added to my collection from around the Poudrette pegmatite and have at least four (from both the pegmatite and the nearby hornfels) that are more likely the colourless hilairite than gaidonnayite. Also, just last year I found light brown and transparent crystals with the hilairite morphology from two separate **igneous breccia** boulders. On one occasion they are associated with labuntsovite. These provide EDS signatures of either hilairite or gaidonnayite and fluoresce slightly in short wave ultraviolet radiation. Are they hilairite? Given the morphology and the new knowledge that hilairite can fluoresce, I have little doubt.

References:

Chao, G.Y., Watkinson, D.H. and Chen, T.T. (1974): Hilairite, $\text{Na}_2\text{ZrSi}_3\text{O}_9 \cdot 3\text{H}_2\text{O}$, A New Mineral from Mont St. Hilaire, Quebec. *The Canadian Mineralogist*, Vol, 12, 237-240.

Horváth, L. and Gault, R. (1990): The Mineralogy of Mont Saint-Hilaire, Quebec. *The Mineralogical Record*, Vol. 21, No. 4, 284-359.

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A Simple Test to Distinguish between some of the White Fibrous Minerals at Mont Saint-Hilaire

by
Tony Steede

The challenge of Mont Saint-Hilaire isn't just becoming familiar with the huge number of minerals that can be found there; it is that so many of them come in a variety of habits and can look like other minerals found at the location. An example of this is dawsonite.

Dawsonite can be found at MSH as nice euhedral, colourless crystals. But, it can also be found as masses of white, fairly compact powder; as well as masses of white oriented but intertwined fibres (like an aggregate of tight curls). The latter are visually identical to some franconite (and, probably, hochelagaite).

As dawsonite is a carbonate, a simple acid test will distinguish between it and the other two. Indeed, because of the large amount of surface area, the powder and fibrous forms of dawsonite effervesce rapidly, even in very dilute hydrochloric acid. Franconite and hochelagaite are niobates and do not effervesce in acid.

But, I have been looking for another white fibrous mineral, micheelsenite, which occurs in some of the same mineral assemblages in which both dawsonite and franconite/hochelagaite are found (pegmatites, miarolitic cavities, hornfels, and marble xenoliths). Micheelsenite also occurs in several forms, but the usual ones from Mont Saint-Hilaire are "...acicular to fibrous crystals in loosely packed spherical aggregates...and in bundles of randomly oriented, hair-like matted fibres....", which sounds very much like some of the franconite/hochelagaite and dawsonite.

As another carbonate, micheelsenite effervesces in acid; hence, the need for a distinguishing test between it and dawsonite. Fortunately, the chemical composition of dawsonite is very accommodating. It is $\text{NaAl}(\text{CO}_3)(\text{OH})_2$. When dissolved in hydrochloric acid the acid breaks down the CO_3 , carbon dioxide is liberated, and the sodium from the dawsonite forms with the chlorine from the acid to form NaCl - halite (or common salt). If the solution is now dried, tiny little cubes of halite precipitate out and can be seen in the dried residue. As micheelsenite does not contain sodium, halite will not form in its dried residue. This is a very sensitive test; very little of the mineral is required to be dissolved.

I should mention that there are, by my count, 47 other sodium bearing carbonates that can be found at MSH. I haven't tested them all but most should effervesce or dissolve in HCl . Hence, this test may help in identifying them as well. There are 33 additional carbonates that do not contain sodium, but with the possible exception of thaumasite, none of these should be confused with micheelsenite.

References:

Gault, R. (abstract - 2003): MSH News, *Micronews*, Vol. 37, No. 4.

Horváth, L & Gault, R. (1990): The Mineralogy of Mont Saint-Hilaire, Quebec. *The Mineralogical Record*, Vol. 21, No. 4, 284-359.

Horváth, L & Pfenninger, E. (2000): I minerali di Mont Saint-Hilaire. *Rivista Mineralogica Italiana*, Vol. 24, No. 3, 140-202.

Mandarino, J.A. & Anderson, V. (1989): *Monteregian Treasures*. Cambridge University Press, Cambridge.

McDonald, A.M, Peterson, O.V., Gault, R.A., Johnson, O., Niedermeyr, G., Brandstatter, F. & Giester, G. (2001) :

Micheelsenite, $(\text{Ca}, \text{Y})_3\text{Al}(\text{PO}_3\text{OH}, \text{CO}_3)(\text{CO}_3)(\text{OH})_6 \cdot 12\text{H}_2\text{O}$, a new mineral from Mont Saint-Hilaire, Quebec, Canada and the Nanna pegmatite, Narsaarsuup Qaava, South Greenland. *Neues Jahrbuch für Mineralogie, Monatshefte* 2001 (8): 337-351.

Wight, Q. & Chao, G. Y. (1995): Mont Saint-Hilaire Revisited, Part 2. *Rocks & Minerals*, Vol. 70, No. 2, 90-103, 131-138.

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MICROMOUNTERS OF NEW ENGLAND
Saturday, May 15th
23rd Annual Reunion Meeting
The Elks Lodge
91 Park Street, Hudson, MA

Schedule:	9:00 AM – 12 noon	Registration, informal session
		Silent auction, sales table
	12 noon – 1:00 PM	Lunch (catered)
	1:00 PM – 2:00 PM	Speaker
	2:00 PM	Door prize drawings
	2:00 PM – 4:30 PM	Informal session

PROGRAM

**Bob Janules, a member of the Micromounters of New England
who has collected extensively in New England, will talk about the
“Minerals of the New Hampshire Conway Granite.”**

Bring your microscope, light, extension cord and specimens for show and tell, discussion, identification, giveaway or the sales table. There will be some give away material available, primarily from New England and Mont St.-Hilaire, but we would appreciate donations of material from other sources to spice up the selections. There will be a sales table as well as a silent auction. Please consider donating some choice micromount material and micromount related items to help defray the cost of the meeting.

There is a registration fee of \$20 for MMNE members and \$25 for non-members which includes light refreshments, lunch and a souvenir program.

The following lodging sites are available nearby. Please make your own reservations.

Best Western, 121 Coolidge St., Hudson, MA (978) 562-1001
Lincoln Inn, 3342 Lincoln St., Marlboro, MA (508) 263-5500
Radisson Inn Marlboro, 75 Felton St., Marlboro, MA (508) 480-0015
Holiday Inn Hotels, 265 Lakeside Ave., Marlboro, MA (508) 481-3000

A map to the meeting site is on the reverse of this page.

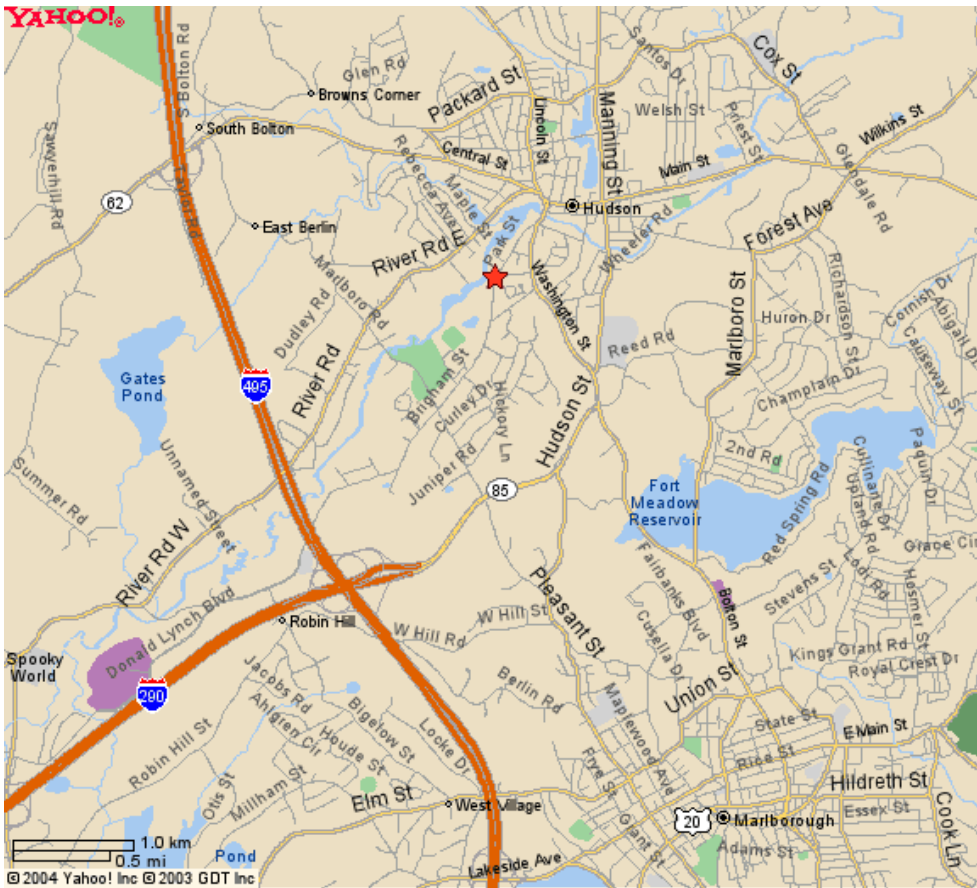
REGISTRATION FORM

REGISTRATION FEE: Members \$20, Non-members \$25
MAKE CHECKS PAYABLE TO: Micromounters of New England
RETURN TO: Anna Wilken
551 West Shore Road, Bristol, NH, 03222

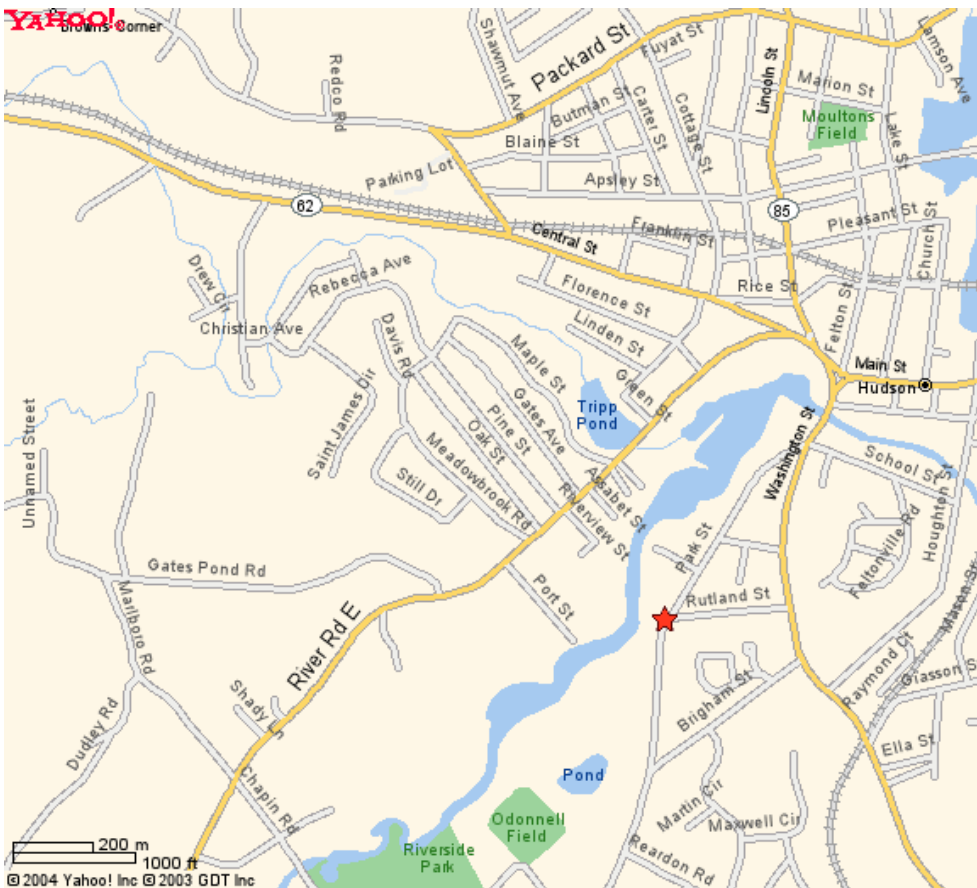
NAME(S) _____ **@ \$20 each** _____

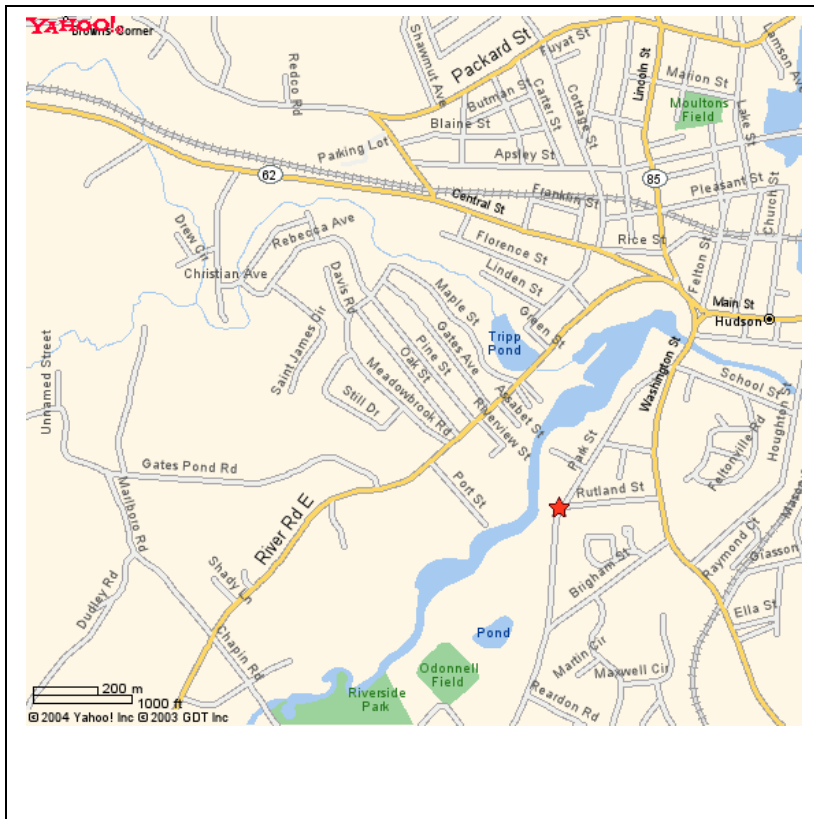
ADDRESS _____ **@ \$25 each** _____

Please return this form by May 10, 2004 as space is limited.
48 hour notice is required for cancellation with refund.



HUDSON, MA overview (above) and Elks Lodge (below)





MMNE Northeast Meeting May 15, 2004

Hudson, MA Elks Lodge
91 Park Street, Hudson, MA
Doors open at 9:00AM

From the intersection of I-495 and I-295 take Rte 85 East on Hudson Rd. into Hudson. Follow Hudson Road to the end, then bear left on Manning St. for a short distance and turn left onto Washington St. Follow Washington St. for about a mile then turn left onto Rutland St. Follow Rutland St. to the end where it runs into Park St. The lodge is located close to the intersection at 91 Park St.

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