



# Air Bubbles



The Newsletter of the North Shore Frogmen's Club

Volume 47, Number 2

February 2005



## From the President's Slate

24-Jan-05

Greetings to all my fellow divers!~

I hope this issue finds all of our members and their families having weathered the holidays and in good health.

The month of January seems to have taken on the personality of March; coming in like a lamb and going out like a lion. For those of us who were able to shake off the bubbly of New Year's Eve, we enjoyed a fantastic dive on New Year's Day. On an almost spring-like morning, a brave group of Froggies gathered at Back Beach to make the annual pilgrimage to the water. I have to admit, the water temperature was more reminiscent of spring but the visibility was just not there. Five feet at best. I also noticed a lot more silt covering the bottom than on a spring or summer dive.

After the dive, Holly and Pete Cassidy graciously hosted the annual New Years Day party in their new home in West Newbury. Our thanks to the Cassidys for making the day a memorable one!

As I write this, I have shaken off the last of the flakes of snow that covered the area during the Blizzard of '05. As the storm was just winding up, I "surfed" the web to check the readings at the Boston and Nantucket buoys. The wave height in Boston harbor was an astounding 22 feet! It was somewhat less at Nantucket; probably because the arm of the cape protected the buoy from the strong northeast gales. That Sunday, everyone had an excuse not to go diving because Route 128 north of the Grant Circle Rotary was closed. If anyone has any surf pictures they would like to share, please send them in!

Our 2005 activities calendar spent the month of January building up momentum for the new year. Since January is cold and not a lot of diving going on, I decided to offer a couple evenings worth of my trip to Hawaii last year. The

first presentation took us to the islands of Oahu, Hawaii (a.k.a. "The Big Island") and Maui. The second was the "Circle of Fire" tour over the Pu'u 'O'o vent at Kilauea Volcano. When people see pictures of the volcano at Hawaii, they generally associate it with Kilauea. The actual Kilauea caldron has been dormant (or for those geologically "PC" readers; "active non-erupting") for hundreds of years now. The vent is downslope towards the ocean.

Although it is now nothing like the pictures you have probably seen on the news or in magazines, it is still nonetheless an incredible sight. The Hawaiian Volcano Observatory maintains a real-time webcam at the vent. Check it out and you may see something happening! The website is <http://hvo.wr.usgs.gov/cam/>.

As we head into February, to quote an old weather saying, "as the days lengthen, the cold strengthens". As well does our selection of activities! We will be having more video presentations from our Activities Committee. Look for more exciting adventures of Sea Hunt as well as other trip presentations put on by our fellow Froggies. We also have Fred Calhoun's Boston Scuba Show on Saturday February 12<sup>th</sup>.

To keep updated on the latest events of the Froggies, check out the complete listing of events in this issue's. Also, go online at: <http://www.geocities.com/nsfrogmen/activities.html> for a constantly updated listing. We are eager to listen to any of your comments, concerns, and suggestions! Just send an email to: [DiveTalk@hotmail.com](mailto:DiveTalk@hotmail.com) and you WILL be heard!.

*urino incumbo* (Dive ON!)

Dave Smith

President

NSF '05

### In This Issue

- Meeting Summaries – pg. 2-3
- Wednesday Ski Trips – pg. 3
- Nuclear Diving 101 by Jack Munro – pg. 4-6
- Activities Calendar and Listing – pg. 6-7
- New Year's Day Dive pictures – pg. 8
- Pizza Night – pg. 9

## Air Bubbles – February 2005



**The North Shore Frogmen's Club**  
PO Box 3604  
Peabody, MA 01961

### 2005 OFFICERS

President: Dave Smith  
Tel: (978) 774-1043  
Email: [diverdave8@hotmail.com](mailto:diverdave8@hotmail.com)

VP: John Ferrier  
Tel: (978) 500-5066  
Email: [lobstalust@juno.com](mailto:lobstalust@juno.com)

Treasurer: Ray Porter  
Tel: (781) 944-1292  
Email: [rporter@ch2m.com](mailto:rporter@ch2m.com)

Secretary: Dan Hering  
Tel: 978-921-2796

### 2004 COMMITTEE CHAIRS

Membership: John Ferrier  
Tel: (978) 500-5066  
Email: [lobstalust@juno.com](mailto:lobstalust@juno.com)

Activities:  
Daryl Findlay - 978-376-6669  
Dave Smith - [diverdave8@hotmail.com](mailto:diverdave8@hotmail.com)

Newsletter: Mary Howard  
Tel: (781) 944-1292  
Email: [m.m.howard@comcast.net](mailto:m.m.howard@comcast.net)

## Meeting Summaries

### **23–December–2004**

Meeting called to order: 8:10 PM  
Attendance: 4 Officers, 17 Members  
Guests: 1, Al Morris

**Announcements:** Election tonight.

#### **Committees:**

- **Secretary's Report:** Ray Porter – No report.
- **Treasurer's Report:** Rich Kinkade – Account balances accepted as read. Year end balance \$1479 minus some banquet-related bills.
- **Membership:** John Ferrier – Nothing to report.

- **Program:** Dave Smith & Daryl Findlay - See activities list.
- **Air Bubbles:** Mary Howard – AB will go out soon.
- Old Business:** John Sears had his 44<sup>th</sup> birthday.
- New Business:** Change of officers!! New president Dave Smith took seat of outgoing president Michael Donovan. New treasurer Ray Porter took seat of outgoing treasurer Rich Kinkade. Neither the new VP nor the new secretary could be at the meeting. Mary sat in for Dan Hering for remainder of meeting.

#### **Dive Talk:**

- See Susan Copelas for info on her Honduras trip.
- Al got his gear together; he's ready to go!

#### **General Discussion:**

- **Mike's moments:**
  - Current pope has promoted the most saints & beatified the most people of any pope.
  - Block Island; Princess August sunk Dec 27, 1728, now haunts the coast.
  - The sailfish is on Barbados coins, but no sailfish left in Barbados.
  - Man named Thomas Doc Rowe made a submarine that moves like a dolphin.
  - Surfer in Australia was eaten by a great white shark. Father of victim was against a movement to find and kill the shark.

Adjourn: 8:40

### **30–December–2004**

**Pizza Party;** no formal meeting.

### **6–January–2005**

Meeting called to order: 8:08 PM  
Attendance: 4 Officers, 8 Members

#### **Committees:**

- **Secretary's Report:** Dan Hering – no report. New year, so no old business.
- **Treasurer's Report:** Ray Porter – Need to change signatures at the bank.
- **Membership:** John Ferrier – Heard from Frank Sardone.

- **Program:** Daryl & Mia - See activities list.

#### **New Business:**

Mike Denneler requests list of membership join dates to honor 25-year members.

#### **Dive Talk:**

- **Mia, Mary, Ray, Daryl, Susan and Dave Smith,** with support of Arnie Pettiglio and Dave Metrano, and film crew Jerry Sutherland – Saturday, New Year's Day at Back Beach. 43°F at 26ft, 10ft vis. No fish or lobsters, just crabs. Susan lost a dive computer which was recovered by another dive group. Great day! Warm & sunny.

#### **General Discussion:**

- Mike D: Party at Peter Cassidy's: great food, great crowd, great time!
- John Ferrier: White Mountain Ski Tours: Jan 19 Sugarbush / Jan 26 Sunday River / Feb 2 Stratton / Feb 9 Sunday River / Feb 16 Jay Peak, Feb 23 Sunday River / Feb 26-Mar 5 Blackcumb/Whistler.
- **Mike's Moments**
  - BBC Web: Completely submerged lighthouse in India still functioned.
  - Thailand, Tsunami: Dolphin and calf washed in ½ mile from shore and deposited into puddle. They were rescued.
  - Herald: Lost woman drives car on frozen lake, drives in circles, wears a hole in ice and drowns.

**Raffles:** Dollars Box: Ray Porter

Mystery Prize: Mike Denneler  
Bug Bag: Ongoing

Adjourn: 8:40PM

**Video:** Dave's Great Hawaiian Vacation Pt I.

### **13–January–2005**

Meeting called to order: 8:04 PM  
Attendance: 4 Officers, 15 Members

#### **Committees:**

- **Secretary's Report:** Dan Hering – Minutes accepted as read.
- **Treasurer's Report:** Ray Porter – Accepted as read. Note: 35 members "paid" to date.

## Air Bubbles – February 2005

- **Membership:** John Ferrier – Nothing to report.
- **Program:** Daryl & Mia - See activities list.

### Dive Talk:

- Susan Copelas: Back Beach, 4 dives, 4 leaks in dry suit. Flooded through right zip seal. Vis 1-10 ft, 40°F temp.

### General Discussion:

- Dave Smith: 4 Wright whales found dead recently, one off Nantucket.
- Al Morris: new vernacular for PC America.
- Mike's Moments
  - Herald: Tugboat in Pennsylvania flipped in 12 ft of water, 3 dead.
  - Herald: Nuclear sub crashes into reef at full speed, 14 injured, 1 dead.
  - Sports Illustrated: Diving in Sri Lanka.
  - BBC Web: Diver tries to recover body in Bushman's cave in S. Africa and drowns at 894 ft

**Raffles:** Dollars Box: Peter Cassidy  
Mystery Prize: Paul Sauvageau  
Bug Bag: Ongoing – book Shadow Divers/ Genesis  
Reg donated by Bob Boyle

Adjourn: 8:35PM

### 20-January-2005

Meeting called to order: 8:02 PM  
Attendance: 3 Officers, 13 Members, Mary H filling in for Treasurer.

### Committees:

- **Secretary's Report:** Dan Hering – Minutes accepted as read.
- **Treasurer's Report:** Mary Howard – Accepted as read.
- **Membership:** John Ferrier – Nothing to report.
- **Program:** Daryl & Mia - See activities list.

**New Business:** Dawn Denneler reports that Dodie Carvalho interested in hosting Easter Egg Dive party.  
- through right zip seal. Vis 1-10 ft, 40°F temp.

### General Discussion:

- Mary Howard: Brian Skerry will be speaking at MBL in Woods Hole Friday, Jan 28.
- John Ferrier & Paul Sauvageau (and Bill Werner & Myoung): skied at Sugarbush yesterday. 7°F at base, -4°F at top.
- Mike's Moments
  - Herald: Article on Nautilus Nuclear Sub.
  - Herald: False Tsunami alarm send panic through Chile.
  - BBC Web: Of 16 marine habitats in UK, 13 are declining in fish population.
  - Salem News: Births of Wright Whales on the rise.
  - 34 whales beached themselves in N. Carolina.
  - Laguna Beach CA: scores of large squid (up to 17 lbs) wash up on beach.

**Raffles:** Dollars Box: Dave Smith  
Mystery Prize: Peter Cassidy  
Bug Bag: Ongoing – book Shadow Divers/ Genesis  
Reg donated by Bob Boyle

Adjourn: 8:40PM

**Video:** Dave's Great Hawaiian Vacation Pt II.

### Dues are Due!

Don't forget that your 2005 membership dues are due during the month of January. Any dues not received by March will be considered delinquent.

Dues for a regular single membership are \$42 per year, \$63 for a couple. Associate Member dues are \$21.

Check with Treasurer Ray Porter for your current status.

## Member of the Month February 2005 Mia Peluso

**A new member who is willing to put herself out for the club as co-chair of the program committee.**

### Wednesday Ski Trips

Almost every Wednesday until the beginning of April, White Mountain Express Ski Tours will be taking members of the NSF to New England slopes. \$60 covers lift ticket and bus ride up and back. Bus leaves from West Gate Mall in Haverhill, Exit 49 off Rte 495. Meet at 6:00AM for 6:30 departures. Contact John Ferrier for more information, or call Mike Akstin and Wally Reardon at (978)346-8667

### Schedule:

Feb 2	Stratton
Feb 9	Sunday River
Feb 16	Jay Peak
Feb 23	Sunday River
Mar 9	Sugarbush
Mar 16	Sunday River
Mar 23	Stratton
Mar 30	Killington
Apr 6	Sunday River

Be sure to check out the Activities Website at:

<http://www.geocities.com/nsfrogmen/activities.html>

## **Once Upon a Dive** **Nuclear Diving (101)**

By Jack Munro

The first Commercial Nuclear Power Generating stations went on line in 1958 (Froggys, too). The stations were at the Shipping Port in Pennsylvania and Yankee Rowe in Rowe, Massachusetts. These first power plants were Pressurized Water Reactors, nearly the same as what the Navy Nuclear Powered submarines had.

The exception between these power plants, Navy and Commercial, was that the Navy ran their plants only when at sea and at power levels as needed. By doing so, the Navy reactor, like the ship I was on, lasted 3 years and 10 months before refueling was necessary. By contrast, the commercial reactors would last 1½ to 2 years before refueling.

This brings us to diving inside spent fuel pools, where the fuel rods that are taken out of the reactor are stored. Prior to the 1970s, all fuel rods in spent fuel pools were reprocessed, which meant they were moved via special containers to reprocessing plants where 40 to 60% of the fuel bundles were recovered for reuse. This meant that less U-235 had to be processed, thus cutting down on the amount to get rid of.

Diving in these fuel pools is not like what regular commercial divers do. It's very procedurally similar to an astronaut going into space. All dive gear is cleaned and tested prior to going in, then rechecked several times after being put together to insure it is clean and working properly. All personnel are schooled at the plant for 5 to 8 days before being allowed into the pool area. Then, Health Physics (medically trained in Nuclear medicine and procedures) run all safety procedures before, during, and after diving. All divers are tested by a Body Count machine. Urine and stool samples are taken, as well as food and water intake, etc., before going in. All of the testing is done again before you leave the plant.

Diving is done using surface supplied air from in-house compressors or company compressors via volume tank and filter systems and 1 or 2 large HP bottles are used for back up air. All compressors are external to fuel pool unless using house air. Then, they are covered to prevent any possibility of contamination by any source. Tanks, manifolds, and diver radios are kept at the fringes of the diving operations, are covered with plastic, and taped up in order to keep the gear contamination to a minimum.

A Ben Miller Helmet was the diving choice, because of the rugged construction, which includes:

- Monolithic cast bronze
- tilt valve demand regulator

- oral nasal exhaust valve configuration
- 5/16<sup>th</sup> inch lexan windshield
- neck dam

The Viking suit which is made of Hypalon material is very rugged and easy to clean and less prone to contamination. This combination, plus the first use of the cuff ring on hands in 1978 and the shoulder entry zipper and no valves on the suit made Viking a good deal for contaminated water use. After the shoulder zipper is closed, we connected the helmet neck dam directly to the Viking neck piece. This allowed us to have a single piece connected to the helmet. All this made it 90% easier to keep contamination from getting inside the helmet.



**Yankee Rowe - Rowe, Ma**

The pictures above and below this text show this diver wearing a Ben Miller helmet and Viking suit with wrist rings, multiple gloves, valves, and harness (not used after this job). Also, the neck entry has been replaced with shoulder entry. This job required divers to enter the water with tools and equipment. A staging was used here which made it easier to clean the diver before the helmet and suit were removed.



Why are we in spent fuel pools where they store used or spent fuel rods from a nuclear reactor? The following jobs answer this question:

## Air Bubbles – February 2005

- **Yankee Rowe:** This seven week job consisted of dividing the fuel pool in half. A 5 ton stainless steel bracket was installed using a hydraulic drill and anchor bolts in the walls and floor of the pool after which we epoxy-injected glue behind the bracket to fill the voids.
- **Florida Power:** A one month job consisting of cutting and removing old fuel racks and cleanup of high radiation waste.
- **Salem Generating Station Number One:** This one-and-a-half week job was to find a stainless steel wall leak, seal it with epoxy, and prep for welding-U/W.
- **Salem Generating Station Number Two:** In this one-and-a-half week job, we moved fuel racks and installed monitoring equipment in the pool.
- **Peach Bottom Station Number Two:** In this one month job, we installed a new filter system and removed the old from the Taurus area.



### Salem Generating Station - Salem, NJ

Topside photo of the 40 ft-deep fuel pools. At the top of the photo are new high-density racks. The bottom of the photo shows older, low-density racks. Blocks with crosses in them are fuel bundles.

When the diver is dressed for diving, he wears plant-issued clothing under the Viking suit and on each arm and leg of these underclothes, he wears a dosimeter (an instant reading of high-rad areas) and a T.L.D. (a thermal luminescent dosimeter, which has four windows: alpha, beta, gamma, and neutron radiation). Also, inside the windshield of the helmet, he wears a chirper (another instant reading dosimeter, which has an audible alarm). The four packets of dosimeters and T.L.D.s, as well as the chirper, protect the diver, both while he is in the water and from the total NRC-exposure limits.

The first time the chirper was desperately needed was at Florida Power. There, I encountered a high-radiation source, which I removed from the water using a bucket and a stick. Because I was in the water, my exposure was very low. However, when the bucket reached the surface, the bottom of the bucket offered no shielding and subsequently set off all the alarms in the building.



### Peach Bottom, Delta, PA - Taurus Area

Diver getting washed with de-mineralized water by your author. Before the helmet is removed, the diver is dried and checked with a radiation meter.

When the diver completes his dive, he is washed with de-mineralized water. Then, he is completely wiped down until dry. Next, he is checked by health physics personnel with a Geiger counter and swipes to ensure he is radiation-clean. Afterward, the tenders remove the helmet with clean gloves. The helmet is checked, inside and out, and stored in a plastic bag at the site. The diver is helped out of the suit with clean gloves and the suit is stored after rechecks.



### Salem Generating Station – Salem, NJ

The picture above shows a diver being washed with de-mineralized water prior to coming into dive station, where he is dried and checked for contamination.



After the job is over, the helmet, suit, weight belts, etc., are checked for fixed-contamination. If they are found to be over the NRC limits, they must stay at the power plant. Eleven helmets, sixteen suits, hoses, and weight belts are still at power plants up and down the Eastern seaboard. This gear is in usable condition awaiting our return.

In a few weeks, if the Froggy readers want it after this article is published, I will bring in more photos, paperwork, film badge, and possibly a helmet for show-and-tell and a question-and-answer period.



Activities Calendar

**February 2005**

		<b>1</b>	<b>2</b> Ski trip – Stratton Mountain	<b>3</b> 8PM Meeting Sea Hunt Video	<b>4</b>	<b>5</b>
<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b> Ski trip – Sunday River BSC Mtg 7:30PM	<b>10</b> 8PM Meeting	<b>11</b>	<b>12</b> Boston Scuba Show
<b>13</b>	<b>14</b> 	<b>15</b>	<b>16</b> Ski trip – Jay Peak	<b>17</b> 8PM Meeting Video night	<b>18</b> 8PM IMAX "Aliens of the Deep"	<b>19</b>
<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b> Ski trip – Sunday River	<b>24</b> 8PM Meeting	<b>25</b>	<b>26</b>
<b>27</b>	<b>28</b>	<b>March 2005</b> 				

		<b>1</b>	<b>2</b>	<b>3</b> 8PM Meeting	<b>4</b>	<b>5</b> Sea Rovers
<b>6</b> Sea Rovers	<b>7</b>	<b>8</b>	<b>9</b> Ski trip – Sunday River	<b>10</b> 8PM Meeting	<b>11</b>	<b>12</b> St Pat's Party
<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b> Ski trip – Sunday River	<b>17</b> 8PM Meeting	<b>18</b>	<b>19</b>
<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b> Ski trip – Stratton Mountain	<b>24</b> 8PM Meeting	<b>25</b>	<b>26</b>
<b>27</b> Easter Sunday	<b>28</b>	<b>29</b>	<b>30</b> Ski trip – Killington	<b>31</b> 8PM Meeting		

Spring is coming, believe it or not!!

## Activities List

- **Feb 2, Wed,**     **Ski trip to Stratton Mountain** with White Mountain Express Ski Tours. Cost is \$60/person for bus up and back and lift ticket. Bus leaves from West Gate Mall in Haverhill, Exit 49 off Rte 495. Meet at 6:00AM for 6:30 departures. Contact John Ferrier for more information.
- **Feb 3, Thu,**     **Video night** - After the meeting we'll show a **Sea Hunt** video.
- **Feb 9, Wed,**     **Ski trip to Sunday River** with White Mountain Express Ski Tours.
- **Feb 9, Wed,**     **Bay State Council Meeting**, 7:30PM, Neptunes' Clubhouse in Quincy.
- **Feb 12, Sat,**    **Boston Scuba Show**, 10AM-4PM, Marlboro, MA Holiday Inn on Rte 20 just east of 495. Tickets \$20. Featured speakers are Cathy Church and Herb Rafael on "Digital In-Water Photography".
- **Feb 16, Wed,**    **Ski trip to Jay Peak**, VT, with White Mountain Express Ski Tours.
- **Feb 17, Thurs,** **Video night.**
- **Feb 18, Fri,**    **"Aliens of the Deep 3D"** showing at **IMAX Theater** at Jordan's Furniture in Reading, 6:30PM. Sign up and pay at a meeting or contact program committee. Cost is \$8.50/person (+handling?).**Feb 23, Wed,** **Ski trip to Sunday River** with White Mountain Express Ski Tours.
- **Mar 6-7, Sat & Sun,**   **Boston Sea Rovers Underwater Clinic 2005** at the Copley Plaza Hotel in Boston. Check out their website at [www.bostonsearovers.com](http://www.bostonsearovers.com) for information on the many speakers and events scheduled for this year's show. We will have a booth at the show; come support your club and help man the booth.
- **Mar 12, Sat,**    **St. Patrick's Day Party** at Mary and Ray's.
- **Mar-Apr??**     **Easter Egg Dive & Party.** Check future issues for date, times and locations.
- **Jul 16, Sat,**    **4<sup>th</sup> Annual Great Annual Fish Count** at Stage Fort Park, Gloucester.

**Deadline for submissions to the  
March issue of Air Bubbles is  
Monday, February 21**

Air Bubbles – February 2005

New Year's Day Dive – Back Beach – January 1, 2005

Photos courtesy of Dave Metrano and Dave Smith



Several Froggies met at Back Beach on New Year's Day for the "First Dive of 2005". Pictured above are Susan Copelas testing out gear for her trip to Antarctica (top two pictures), with Arnie Pettiglio (left) and Dave Metrano and Daryl (right), Ray and Mary gearing up, and Mia on the beach with her gear spread out all over the place.



**Pizza Night, Dec 4, 2004**

Photos: Dave Smith



"SMILE, dammit!"



**UNDERSEA DIVERS**  
SCUBA & SNORKELING  
CENTER

42 Water St.  
Beverly MA

1-978-927-9551  
DIVE@underseadivers.com

**OUR WEBSITE IS**

**ALL NEW FOR 2004!**

**WWW.UNDERSEADIVERS.COM**

**Sales ♦ Service ♦ Rentals**

AQUA LUNG \* SEAQUEST \* SUUNTO  
GENESIS \* DUI \* VIKING \* HENDERSON  
VISA \* MASTERCARD \* AE \* DISCOVER

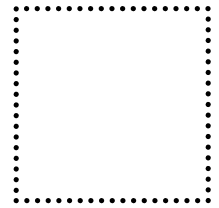
**MEMBERSHIP FORM FOR THE BAY STATE COUNCIL OF DIVERS**

The **BAY STATE COUNCIL of DIVERS** is a non-profit organization representing the organized divers of Massachusetts. Activities of the Council focus on diving related legislation and the promotion of recreational diving in the Commonwealth. Membership dues are \$5/ year. Please mail your dues today, to: **PO Box 518, Quincy, MA 02169**

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City / State / Zip \_\_\_\_\_  
Phone \_\_\_\_\_ E-mail \_\_\_\_\_  
Scuba certified?      ( ) Yes ( ) No      Membership type      ( ) New ( ) Renewal

## Air Bubbles – February 2005

The North Shore Frogmen's Club Inc  
PO Box 3604  
Peabody, MA 01961-3604



## Upcoming Events!

- Feb 3: Video Night - Sea Hunt
- Feb 9: Bay State Council Meeting
- Feb 12: Boston Scuba Show
- Feb 17: Video Night
- Feb 18: IMAX - Aliens of the Deep



**Dues are due**

**“Winter” Sunday Dives: Meet at Burger King on Rte 128 in Beverly, at 9:00AM ready to depart for dive site at 9:30AM.**

**The North Shore Frogmen's Club Meetings**  
are held every Thursday night at 8PM (except Thanksgiving) at:

The Franco-American Club  
44 Park Street  
Beverly, MA

Directions: From Rte 128, take the Rte 62 exit, #22E, towards Beverly. Turn RIGHT onto BRIDGE ST at the new light after Danversport Yacht Club. At the end of Bridge St, turn LEFT onto RIVER ST. Turn RIGHT onto FEDERAL ST, turn RIGHT onto PARK ST. Free parking in lot across from Franco-American Club.