

# Cape Ann Amateur Radio Association

6 Stanwood Street  
Communications Center

CAPE ANN  
EMERGENCY  
COMMUNICATIONS  
CENTER  
8 Stanwood Street

CAARA  
CAPE ANN  
AMATEUR RADIO ASSOCIATION



# CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<i>What is the 6 Stanwood St. Communications Center and Emergency Shelter?.....</i>	<i>1</i>
<i>Who Pays for CAARA and Operation of the 6 Stanwood Street Facility? .....</i>	<i>2</i>
<i>What is Amateur Radio?.....</i>	<i>2</i>
<i>What is CAARA?.....</i>	<i>2</i>
<b>I. BENEFITS AND SERVICES THAT CAARA PROVIDES TO GLOUCESTER .....</b>	<b>3</b>
<i>INTRODUCTION.....</i>	<i>3</i>
<i>CAPE ANN AMATEUR RADIO ASSOCIATION MISSION.....</i>	<i>3</i>
<i>The Role of Amateur Radio after Katrina and 9/11/2001.....</i>	<i>4</i>
<i>CAARA Mission Profiles .....</i>	<i>5</i>
Mission 1 - Local (Day-to-Day) or Minor Emergencies .....	5
Mission 2 - Major Emergency .....	6
Mission 3 - Catastrophic Emergency .....	6
<i>Selected CAARA liaison partners include: .....</i>	<i>6</i>
AMATEUR RADIO EMERGENCY SERVICES (ARES) .....	6
RADIO AMATEUR CIVIL EMERGENCY SERVICE (RACES).....	7
NATIONAL TRAFFIC SYSTEM (NTS) .....	7
<i>CAARA IN PAST DISASTERS .....</i>	<i>8</i>
Communications Central - 6 Stanwood Street .....	8
CAARA Emergency Equipment .....	9
Repeaters .....	9
VHF Base Stations and Mobile Hand-Held Radios.....	9
High-Frequency Radio Stations.....	9
VHF Digital Communication Units.....	9
Additional Support Equipment.....	10
<b>II. A BRIEF HISTORY OF THE CAPE ANN AMATEUR RADIO ASSOCIATION .....</b>	<b>11</b>
<b>III. IMPROVEMENTS AND REPAIRS COMPLETED ON 6 STANWOOD ST. ....</b>	<b>13</b>
<i>IMPROVEMENTS AND REPAIRS PLANNED FOR 6 STANWOOD ST.....</i>	<i>15</i>
<b>IV. CAPE ANN AMATEUR RADIO ASSOCIATION FINANCIALS.....</b>	<b>15</b>
<i>FINANCIAL OVERVIEW.....</i>	<i>15</i>

## EXECUTIVE SUMMARY

Since 1974, the Cape Ann Amateur Radio Association (CAARA) has provided health and safety communications for emergencies in Gloucester and surrounding communities. This package describes CAARA and the 6 Stanwood Street communications center that allows CAARA to provide a broad range of emergency, disaster and community service activities to the city.

The members and supporters of the Cape Ann Amateur Radio Association appreciate the interest and support the Mayor and the City Council have shown in the past in helping CAARA fulfill its mission of community service and pray that we be allowed to continue our service.



### ***What is the 6 Stanwood St. Communications Center and Emergency Shelter?***

The 6 Stanwood Street property is a former fire station and consists of a two-room wood frame building just off Rt. 127 (Washington St.) in the Riverdale section of Gloucester. In 1994 the City Council accepted and approved a proposal to officially designate 6 Stanwood Street as an emergency communication center.

CAARA rehabilitated and has maintained 6 Stanwood for many years, installing new heaters, electrical services, plumbing, paint, windows, doors and trim. Inside, CAARA overhauled the communication capabilities by upgrading the antenna tower, antennas, adding a second operating station and overhauling the backup 220 MHz repeater. Additional capabilities are added on a regular basis as funds are available.

In 1999, prior to Y2K, Gloucester designated 6 Stanwood Street as the communication's center site and as one of the sites in its 13-site disaster communications plan.

Since 1999 CAARA again overhauled the site, setting up the building with training classrooms and emergency communications on the second floor, emergency accommodations and a second communications console on the first floor, and a transfer switch and generation set so as to heat, light and operate in a "loss of power" emergency. In 2011, the generator was converted to natural gas, providing extended uninterrupted power capability.

CAARA has established a limited capacity at the 6 Stanwood Street site to offer respite to communications and safety workers in an emergency, acting as a staging area until the larger shelters are operating. The 6 Stanwood Street site is not licensed as a shelter and cannot be operated as a shelter for the general public.

CAARA has made provision for free training for all city employees in amateur radio, and offers training to the public for the cost of consumable materials.

### ***Who Pays for CAARA and Operation of the 6 Stanwood Street Facility?***

The Cape Ann Amateur Radio Association is a non-profit, charitable organization that is completely self-sufficient.

#### **CAARA charges the city nothing to operate the 6 Stanwood Street Center.**

1. All operational funding comes from dues, fund-raising and voluntary donations.
2. CAARA and its members maintain and equip the 6 Stanwood street facility as a communications center (local, regional and long-distance radio communications capability); purchases, maintains, stocks and will at need distribute radio equipment to support the 13 area shelters and communications points; and maintains through its members hundreds of pieces of communications equipment (code, data, picture and voice) which is available to support CAARA missions.
3. CAARA pays to maintain the 6 Stanwood Street property, insures the 6 Stanwood Street property, heats the property and pays all expenses to run the 6 Stanwood Street Communications and Emergency Respite Site.
4. CAARA also operates the emergency communications system at the Gloucester Emergency Operations Center at O'Maley School and links to amateur radio operators both on and off Cape Ann.

### ***What is Amateur Radio?***

Amateur radio operators (“hams”) are individuals who take an examination and receive a license from the U.S. Federal Communications Commission (FCC) that allows them to transmit and receive non-commercial radio messages using certain portions of the radio spectrum.

The government provides these frequencies to amateurs because of the historical experience of amateur radio operators acting as a communications resource for Federal, State and Local government in times of need.

### ***What is CAARA?***

The Cape Ann Amateur Radio Association is a 38 year old, non-profit, charitable volunteer organization whose mission includes:

- providing health and safety communication services for emergencies and disasters on Cape Ann and in other areas when requested,
- providing health, safety and coordination services for community events,
- maintaining disaster and emergency readiness by conducting regular simulation drills and participating in local, state, regional and national disaster simulations, and
- supporting First Responders and the community by providing a local facility for classes, testing and peer support for individuals seeking amateur radio licensure.

Cape Ann Amateur Radio Association and its members may not take any form of remuneration for their services which are provided free of charge as a service to the public.

## **I. BENEFITS AND SERVICES THAT CAARA PROVIDES TO GLOUCESTER**

### ***INTRODUCTION***

CAARA was founded in 1974 at the suggestion of the Civil Defense Radio Officer for Gloucester. Since that time the Cape Ann Amateur Radio Association (CAARA) has provided health and safety communications for emergencies and disasters. Serving our community in time of disaster is an important part of our mission, as are providing communications training at no cost to city employees and citizens, conducting amateur radio testing, supporting community events, and promoting positive community values in a recreational activity that is the world's most inclusive hobby. We are proud that "ham" radio is the most inclusive hobby there is, where age, race, gender, national origin and residency, physical or other disability are of no consequence.

This package has been developed to:

- inform city government of the long history the amateur service has had in local and national emergency and disaster service
- outline the benefits Gloucester and Cape Ann have received from CAARA's community service
- provide an overview of the history of the Cape Ann Amateur Radio Association
- describe the important local and national emergency and disaster organizations that CAARA is part of
- provide a description of CAARA's disaster team and its services, preparedness, and emergency equipment
- list major new improvements planned for 6 Stanwood Street

CAARA hopes to maintain the building as a base for emergency, disaster and community service operations for years to come.

### ***CAPE ANN AMATEUR RADIO ASSOCIATION MISSION***

The Cape Ann Amateur Radio Association is a non-profit, charitable organization whose mission is to:

- a) provide health and safety communication services for emergencies and disasters on Cape Ann and in other areas when requested
- b) provide health, safety and coordination services for community events
- c) maintain disaster and emergency readiness by conducting regular simulation drills and participating in national disaster simulations
- d) educate and train new amateur operators and to maintain an effective disaster team
- e) conduct U.S. Federal Communications Commission (FCC) testing for new licenses and those wishing to upgrade

- f) provide educational services and demonstrations to local area schools and community organizations such as the Boy Scouts
- g) conduct public demonstration and education events
- h) assist public utilities, such as the Mass Electric Company, in finding radio frequency interferences that could potentially harm or hinder emergency communication activities for local fire, police, DPW and civil defense workers.
- i) create a positive, supportive environment for our members that promotes camaraderie and fellowship

Cape Ann Amateur Radio Association members serve the public unselfishly, will not take any form of remuneration for their services, and will only undertake activities that are 100% for the general good.

### ***The Role of Amateur Radio after Katrina and 9/11/2001***

The risk of a “normal” accident becoming a major regional or national problem has never been higher. Cape Ann is an “island” economy, miles from major resources, with three vulnerable links over the river and one major highway that must transport food, material needs and economic traffic. We live in an era when fewer and fewer members of our population have the resources, youth or knowledge to successfully “shelter in place” and no one has to tell any local government how thin our public service reserves have been stretched.

Katrina showed us we are vulnerable to natural forces, while Oklahoma City and 9/11 showed us that we are vulnerable to human evil as well. In evaluating the national responses to all of these disasters, the conclusions of the investigating bodies were all quite clear. The major, over-riding, most serious problem that City, State, Regional and Federal officials face in responding to an emergency is the breakdown of communications interfering with emergency response and continuity of operations.

So people have been working on the problem. The Federal Government has officially recognized that when communications are overwhelmed in emergency situations, it will call on the amateur radio community. When the power goes out, the hams are uniquely able to keep talking.

The amateur radio community, led by its major non-profit organization, the American Radio Relay League (ARRL), has been devoting time, effort and money into making hams an effective part of our national emergency response system.

What has been learned is that effective volunteers have to be trained in advance, know what is needed, know what to do, and seamlessly slip into governmental organizations as pre-planned, valuable resources, not strangers who show up to volunteer when things are at their worst.

**Why do hams have such a strong tradition of public service?**

The answer is actually quite simple. We are genuinely interested in communication, we study for licensing tests, build complex radios, learn communications skills, and then we want to use them. Hams are people who want to help, and there is no better time to help than when we are needed.

Modern hams train in the Incident Command System, drill alongside fire, police, and emergency services, and take many of the same certification exams as do their uniformed counterparts.

There is one difference, however. We don't carry guns, cannot fight fires, and do not operate heavy equipment. We cannot serve in the place of trained professionals, but by our communications support we can free up those professionals to do the work only they can do.

### ***CAARA Mission Profiles***

CAARA is a volunteer organization with the role of providing emergency communications support to the Cape and to Gloucester, Magnolia and Rockport in times of need and logistics support to communications teams from outside of the area. We are supported to the south by the North Shore Radio Association (NSRA) and Beverly RACES that service the region with a highly effective communications team and by the amateurs supporting MEMA Region 1(F).

Most citizens of Gloucester are unaware that the Horribles parade, the Round the Cape Run, Run Gloucester, the Gloucester Triathlon, the Blackburn Challenge and many other events are supported by NSRA and CAARA. Members help the police and event organizers make sure that the water stops are open, the roads are closed, no one gets hit by the train and the stragglers don't get lost. What many do not know is that these are actually emergency communications field drills in civilian disguise.

Y2K, 9/11, Columbine, Hurricane Katrina and the Danvers explosion have made it evident that the risks of a significant winter loss of power, a severe storm, a flooding rain, or a criminal or terrorist event are real, and that in such situations the police, fire, and public utility services could be over-run.

The amateur radio community as a whole and CAARA in particular have been preparing for such events. CAARA members have been taking the National Incident Management System (NIMS) training, preparing their emergency supplies, and preparing the 6 Stanwood Center for just such events.

There are three missions for CAARA. The following paragraphs provide descriptions and examples of each scenario.

### **Mission 1 - Local (Day-to-Day) or Minor Emergencies**

These are short (24-48 hour) local events where unanticipated communications needs are experienced by the City. Typical short-term events are:

1. A winter storm with loss of power long enough to put citizens at risk
2. A local incident (lost child, lost boat, etc.) requiring citizen participation
3. A loss of communication emergency by police, fire, public works services
4. Heavy rain, storm and flooding emergencies.

In such emergencies the CAARA 6 Stanwood Street facility is deployed as a communications center (net control) with CAARA members detailed as directed by Gloucester Civil Defense or Area Command. These events are short enough not to pose

support problems for CAARA volunteers, and we serve as a means of communication reinforcing local public employee services.

The mission model is staffed and supported as a variant of the public service events that CAARA uses as training in procedures and readiness.

### **Mission 2 - Major Emergency**

These are situations where the problem affects not only the city, but the region as well. Typical Regional emergencies are either larger versions of local emergencies (e.g. Katrina, Rita) or situations where local resources are becoming depleted and regional help is requested.

In such situations ARES and RACES teams from the region are activated and CAARA resources are merged with regional resources from MEMA Region 1. Variants of this class involve loss of telephone and Internet services requiring the use of longer-distance radio links to State and Federal authorities. This was the Katrina mission profile in the acute stage.

### **Mission 3 - Catastrophic Emergency**

Planning for catastrophic emergencies, such as a possible “pandemic influenza” outbreak, is a new mission for CAARA. This kind of event involves multiple states under a scenario where external resources are likely to be unavailable or overwhelmed. Examples are a major earthquake, a regional “winter loss of oil and power” scenario, a “dirty” nuclear event, a major influenza pandemic or a severe disturbance of social order.

In this scenario, CAARA becomes one of the limited resources that the City has to use to meet its own needs, sheltering in place till the situation improves. The essential difference in this scenario is logistics and supply. CAARA and the 6 Stanwood Street center must be stocked (inventoried, stored, maintained and rotated) with sufficient supplies and material to provide respite, repair and sufficient facilities to keep the helpers from becoming the casualties.

Going forward, CAARA emergency services members are running certification classes in the National Incident Command System, amateur radio licensure classes and testing, training in MEMA (Massachusetts Emergency Management Agency), ARES (Amateur Radio Emergency Service) and RACES (Radio Amateur Civil Emergency Service) emergency protocols, teaching their members how to shelter in place and meeting with City officials in preparation of plans for pandemics, floods, severe weather and (the most likely) extended winter loss of power emergencies.

### ***Selected CAARA liaison partners include:***

#### **AMATEUR RADIO EMERGENCY SERVICES (ARES)**

The Amateur Radio Emergency Service (ARES) was established by Federal law for the sole purpose of health, safety and public service communications during disasters. The FCC Part 97, Rule's and Regulations under the “Basis and Purpose” section governing amateur radio states:

“(a) recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial service,



particularly with respect to providing emergency communications.”

The Regional ARES teams consist of specially trained licensed amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public service when disaster strikes. Only licensed amateurs are eligible to serve. The ARES team is part of a national network that coordinates with Homeland Security, MEMA, police, fire, Coast Guard, military, federal relief services and other disaster responders. In the event of a disaster, such as a hurricane or a severe winter storm, the amateur radio disaster teams could provide the only comprehensive coordinated health and safety communications on and off of Cape Ann. An ARES team can be activated by a request for services from any local, state or federal official, including agencies such as the Red Cross.

### **RADIO AMATEUR CIVIL EMERGENCY SERVICE (RACES)**

The Radio Amateur Civil Emergency Service (RACES) is administered by the Federal Emergency Management Agency (FEMA) and is part of the Amateur Radio Service. RACES provides radio communication for civil-preparedness purposes only during periods of local, regional or national civil emergencies.



RACES teams are made up of many of the same amateurs that staff the ARES teams. The major difference in the two services is that a RACES team can only be activated by the FCC at the request of a state or federal official. ARES is a non-governmental organization, RACES is a FEMA/MEMA organization. If you think Civil Defense, think RACES, if you think Red Cross, think ARES.

### **NATIONAL TRAFFIC SYSTEM (NTS)**

The National Traffic System (NTS) is a volunteer service that provides an alternative means of passing messages across the country in the event of breakdown of normal means of communication. It is a network of radio amateurs who practice weekly to maintain equipment and procedures so as to be able to reach into areas that have lost ordinary communications. It is one of the few systems that will work if there is no electrical line power whatsoever.



This provides:

- rapid movement of traffic (messages) from point-of-origin to its destination as quickly as possible during emergencies and non-emergencies
- training of amateur operators to handle written traffic and
- participation in and management of directed emergency communication nets

The National Traffic System is most often the vehicle used by the ARES and RACES teams during a disaster. Also during times of non-emergencies, the National Traffic System can provide any person the opportunity to send or to receive a message anywhere in the world, (where local laws allow), cost free.

## **CAARA IN PAST DISASTERS**

The Cape Ann Amateur Radio Association (CAARA) has a thirty year history of disaster services to Cape Ann. Most CAARA members are permanent Gloucester residents and they take great pride in the service they render to their community and to their neighbors.

Actual disaster services that the CAARA has provided include health and safety communications for: hurricanes, winter storms, forest fires, coastal evacuations, man-made accidents, searches for missing persons and coordinated disaster drills.

Typical emergencies or disaster responses have required the CAARA Disaster Team to coordinate response services with the Civil Defense units, Police Department, Fire Department, National Guard, Coast Guard, Red Cross, Addison Gilbert Hospital, and local and federal authorities.

Services have included: acting as an adjunct communication arm passing health and safety traffic; acting as the communication bridge between the various response teams, for example between the Civil Defense teams and the Red Cross; and providing a total communication system when local communication services falter.

### **Communications Central - 6 Stanwood Street**

The Cape Ann Amateur Radio Association maintains and operates a fully equipped local, regional and national emergency communications base station at 6 Stanwood Street. This base station, when called upon to do so, acts with the ARES and RACES local and national communications headquarters during disasters. (Please see the discussion on ARES and RACES, above).

With the emergence of possible pandemic illness, new dimensions have been added to CAARA planning. When contacted by Chief McKay, Lt. Aiello and Brian Tarr in 2006, we agreed to plan for and provide services in the kind of extended emergencies that epidemic illness represents.



The 6 Stanwood St. property has light, heat, power and communications, and is being set up as a “respite” station to rest emergency responders. No one yet knows how long we would have to endure in place in response to a widespread crisis, (current estimates are 6-8 weeks), but we are working on the task force to ensure that our members are prepared, and we will have excess capacity to serve emergency workers and our own volunteers. 6 Stanwood is not licensed for and cannot serve as a public shelter at this

time, although emergency respite of volunteer communications workers is possible and part of our mission.

### **CAARA Emergency Equipment**

Aside from the more than \$400,000 in private equipment available to the Cape Ann Amateur Radio Association Disaster team from the membership, CAARA maintains more than \$30,000 of its own emergency equipment. This equipment includes, but is not limited to,:

#### **Repeaters**

Repeaters allow for comprehensive VHF communications around Cape Ann. They pick up transmissions from short-range (1-3 miles) walkie-talkies and re-transmit them over a 5-10 mile radius.

CAARA maintains three repeater systems:

1. The primary 2-meter (W1GLO - 145.13 MHZ) repeater covers all of Gloucester and Rockport and extends beyond Cape Ann.
2. The 220 MHZ repeater located at 6 Stanwood, acts as a backup machine in case of failure or interference.
3. The 440 MHZ repeater located at 6 Stanwood provides more communications channels for primary or backup use.

The three repeaters are maintained at two separate sites reducing the risk of losing communications when disaster strikes a particular location.

#### **VHF Base Stations and Mobile Hand-Held Radios**

CAARA owns numerous VHF radios that disaster team members use during events. VHF communications are focused on local communications and communications via satellite.

#### **High-Frequency Radio Stations**

High-frequency radios provide communication capability all over the country and all over the world. CAARA has several dedicated units and multiple backup units available.

#### **VHF Digital Communication Units**

Digital communication units include radios, computers and terminal node controllers. This equipment allows for numerous types of digital communication. These types of communication allow for high precision communication to national emergency and disaster communication networks directly and via the remaining Internet links.

#### **Emergency Communications Trailer**

CAARA and the City of Gloucester Emergency Management Department have cooperated on converting a city-owned surplus trailer into an emergency communications trailer. This trailer has a climate controlled operating station for two operators and a large area for storage of generators, tables, chairs, antennas, feedlines and support equipment to create an on-site communications and command center. This trailer is used every year for CAARA's Field Day operation. Plans are for upgrading the trailer for battery power to reduce reliance on emergency generator power.

### Additional Support Equipment

CAARA owns significant additional equipment including antennas, cables, tools, spare parts, power amplifiers, power supplies, emergency generators, ladders, tents, first-aid supplies, and documentation.

As part of the pandemic influenza preparations, CAARA is pre-positioning disaster relief supplies (paid for at no cost to the city) to provide for its own volunteers and emergency respite for communications teams from out of the area.

We are proud of our equipment, but are well aware that the critical resource in emergencies is not the equipment, but the trained, self-supporting individuals who operate it. If we have the hams, we can get our messages out.



Figure 1. CAARA President Stan Stone at the first activation of Gloucester EOC.



Figure 2. Operating station at 2011 Field Day exercise at Fuller School (Gloucester EOC).



Figure 3. Main operations tent for CAARA's 2011 ARRL Field Day exercise.

## II. A BRIEF HISTORY OF THE CAPE ANN AMATEUR RADIO ASSOCIATION

The following is a brief outline of the history and the connection that the Cape Ann Amateur Radio Association has to emergency services for the Gloucester community.

**1975** The concept of the Cape Ann Amateur Radio Association (CAARA) began when the then Civil Defense Communications Director, Larry Sargent (W1ZBE), determined that the city needed to expand the C.D. Communications Team. The West Gloucester Fire Station served as Larry's training center as two members Michael Burke and Larry Corliss were Fire fighters and stationed at West Gloucester as a team. Mike and Larry obtained permission from the Fire Chief at that time. Larry Sargent began teaching the first course to eight other potential amateur radio operators which brought the total number of trainees to ten who, coupled with an additional four Amateur Radio Operators who were already licensed. This would make up the first expansion of the C.D. Communications Team in a while for the city. The Cape Ann Amateur Radio Association began with thirteen of these members.

As a result of the success of that first class and the interest in serving the Gloucester and Greater Cape Ann communities, the idea of a formal organization was born. The Sawyer Free Library hosted the first organizational meeting to create the organization's by-laws and to elect the first officers and directors of CAARA.

The initial purpose of CAARA was *to train anyone interested in the art of radio communications and to establish a reservoir of trained communication specialists to assist the City of Gloucester in times of an emergency service via the Civil Defense.*

The founding members, in this very first year, affiliated the organization with the A.R.R.L., the principal national coordinating body for amateur emergency communication services.

**1975** An agreement was established with the Cape Ann Pigeon Flyers, who owned the then current lease, to share the city-owned 6 Stanwood Street building.

The building provided an important resource, as it still does today, to CAARA 6 Stanwood Street became a facility that was outfitted with emergency communications equipment, housed important training activities and served as a testing location for FCC licensing exams.

**1977** The Cape Ann Amateur Radio Association incorporated and became a Massachusetts 501(c)(7) corporation.

**1978** The first emergency repeater, 147.345 MHz frequency, was put into operation. The repeater transmitter antenna was initially located on a tower at Francis Vidal's-WU1S (then WA1HCN) Harrison Avenue home. The receiving antenna was located at 6 Stanwood on a tower that CAARA had constructed. The transmitter and receiver were connected to each other via a dedicated telephone line between the two sites. Later the transmitter was relocated to a tower on the rooftop of Varian. This move gave the repeater greater coverage due to the increase in height from the transmitter.

**1989** A 220 MHz frequency repeater was purchased and put on-line. This repeater would serve as the primary backup and traffic overflow machine during disasters.

The repeater frequency was changed from 147.345 to 145.130 in order to give CAARA better receiving and transmitting conditions as the CAARA repeater was close in range with another repeater that caused interference for both organizations. CAARA relocated its repeater both transmitter and receiver to the Cellular-One site. For a dollar a year, Cellular-One rents CAARA space on their tower. As a result, the Cape Ann Amateur Radio Association's 145.130 MHz repeater provides one of the widest coverage emergency communication tools on the North Shore. The repeater located on the Cellular-One tower now has the use of the sites emergency power back-up system.

**1992** A third emergency repeater, in the 440 MHz frequency range, was put online. As the 220 MHz repeater does, this equipment supplies important backup and traffic overflow services.

**1999** The 6 Stanwood Street facility is designated as one of the 13 Gloucester disaster shelters.

**2003** CAARA rehabilitates the facility, doubles the number of communication stations, improves the emergency generation and transfer switchgear, and upgrades the galley equipment for emergency food service.

**2006** CAARA accepts City of Gloucester request to begin planning for longer term communication's emergencies such as pandemic influenza. CAARA upgrades its training section adding free licensing classes for any City employee and local emergency volunteers.

**2007** CAARA reinitiated a weekly network known as CAARAnet on the 145.13 MHz repeater (2 meter). This net is a weekly exercise of equipment and personnel on the primary channel for emergency communications. The range of this system can be as far as southern Maine to the South Shore of Massachusetts.

**2008** Echolink system installed for connecting CAARA's 2m repeater to the Internet. Stations from anywhere in the world can contact Gloucester through this system. One CAARA member contacted the repeater from Reykjavik Iceland.

**2009** CAARA members design and install a long distance WiFi link between Thacher Island and Rockport. Internet service is provided for visitors to Thacher Island and to monitor the island in the off-season.

**2009** A Tech-in-a-Day program is established to help people obtain the FCC Technician license in one day. Many first responders, Red Cross volunteers, Community Emergency Response Team (CERT) members and even a Gloucester City Council President have used this free class to become hams.

**2010** APRS digipeater installed at 6 Stanwood Street. This system provides a repeater system for Automatic Packet Reporting System (APRS) to relay digital packet information to other stations and the Internet.

#### **A FEW IMPORTANT FACTS**

- All amateurs are licensed and regulated by the Federal Communications Commission (FCC).
- All services provided by amateur radio operators *must* be free of charge.
- To obtain an initial license to operate, the amateur operator must pass a technical written test.
- To advance to the highest license, an amateur operator must pass a series of technical written tests.

**2011** CAARA conducted its annual ARRL Field Day exercise at the Fuller School to demonstrate emergency communications capabilities at the new Gloucester Emergency Operations Center (EOC). CAARA attains ARRL Special Service Club status.

**2012** CAARA accepts a trailer from the City to create significant mobile operations capabilities. The trailer is a joint venture between the City of Gloucester Emergency Management Department and CAARA. CAARA has created a two position operating station, plus storage for generators, tents, tables, chairs, antennas, RF feedlines and tools. The trailer is exercised yearly at the ARRL Field Day.

### **III. IMPROVEMENTS AND REPAIRS COMPLETED ON 6 STANWOOD ST.**

The Cape Ann Amateur Radio Association has completed the following improvements and repairs, at *no cost* to the City of Gloucester, since 1966. The following list is a review of the *major* repairs and improvements, cost estimated to be over \$70,000.

#### **LEGEND**

**PC = Cape Ann Pigeon Flyers**

**CAARA = Cape Ann Amateur Radio Association**

**1966** First floor. Painted and paneled, enclosed radiators, sanded and refinished floor, repaired all windows, cleaned and painted toilet and replaced wash basin. Second floor. Lowered ceiling, repaired plaster and repainted, repaired toilet and repaired windows. **PC**

**1967** Repaired half of roof, stripped old shingles and tar paper, replaced rotten boards, laid new tar paper and shingles. **PC**

**1969** Building exterior. Replaced broken siding, scraped old paint, caulked windows and doors, repainted. **PC**

**1970** All windows on first floor broken by rocks on Halloween. Replaced all broken glass and installed metal screens to prevent further breakages. **PC**

**1972** Touched up paint, replaced broken siding, and caulked where necessary. **PC**

**1973** Installed new gas heater system 1<sup>st</sup> floor, replacing old deteriorating steam heating system. **PC**

**1975** Second floor. Painted floor, puttied and repainted windows, installed a gas heater, repaired tables and installed a workbench. **CAARA**

**1978** Scraped and touched up exterior paint, replaced broken siding, caulked windows and doors. **PC & CAARA**

**1979** Completed second half of roof, stripped off old shingles and tar paper, replaced rotted boards, laid new tar paper and shingles. **PC & CAARA**

**1980** Shingled exterior walls of building with new cedar shingles. **PC & CAARA**

**1981** Replaced rotted boards and fascia boards around roof, installed new gutters and down spouts. **PC & CAARA**

**1982** Installed lights in cellar. **CAARA**

**1983** Repaired pipes in cellar. **CAARA**

**1984** Completely renovated bathroom. Installed shutoff valves in bathroom plumbing. Installed stair treads. **CAARA**

**1985** Installed new door casing and repaired door. Installed down spouts from roof. Painted entrance walls and ceiling. Repaired service cable to meter box. **CAARA**

**1986** Second floor. Painted ceiling, walls and floors. Repaired windows and blinds. Covered cellar window. Graded land for proper runoff. Covered first floor glass in front door with Masonite. **CAARA**

**1987** Upgraded heating system for even distribution. Installed insulated heating ducts. Painted and tiled toilet. Removed and disposed of old steam pipes. **CAARA**

**1988** Built enclosed radio operating room. Replaced windows. Repainted hallway and floors. Overhauled entire plumbing system. **CAARA**

**1989** Touched up exterior paint. Serviced heaters. Re-puttied all windows. Installed automatic safety light system on the second floor and stairway. **CAARA**

**1990** Second floor. Installed an escape door in rear. Repaired ceiling in radio room. Installed new threshold in lower entrance and first floor aluminum window. **CAARA**

**1992** Installed cement base and stanchions to protect new gas meter from damage. **CAARA**

**1993** Installed complete new electrical service. Rewired building. Brought building up to code. Installed new outlets and electrical boxes. Installed new light outside of entrance door. **CAARA**

**1994** Replaced windows and painted trim. Removed oil tank from cellar. Removed broken and dangerous pipe on front patio. **CAARA**

**1996** Stained the outside shingles, replaced screening on attic vents. **CAARA**

**2000** Cleaned and overhauled kitchen and downstairs. Established emergency supplies cabinet in downstairs, replaced refrigerator and microwave and added second operating station. **CAARA**

**2004** Obtained new tables for downstairs, sealed leaks in basement windows, lagged and insulated water pipes, shifted to year-round heating. **CAARA**

**2006** Replaced chimney from the roofline to the peak. Surveyed the electrical systems for emergency services upgrades and the roof for replacement. **CAARA**

**2007** New roof installed. **CAARA**

**2011** Natural gas line modified to accommodate fueling a backup power generator. Existing generator modified to operate on natural gas. **CAARA**

**2012** Extensive renovations on 2<sup>nd</sup> floor to increase number of station and to improve operations and training space. Also improved area for small group meetings. **CAARA**

**IMPROVEMENTS AND REPAIRS PLANNED FOR 6 STANWOOD ST.**

- Exterior maintenance (paint & shingle replacement)
- Renovation of the 1<sup>st</sup> floor for more effective meeting, training and operations space.
- Ventilation to the basement and humidity control are a chronic problem and may be more manageable with upgrades to the ventilation system.

**IV. CAPE ANN AMATEUR RADIO ASSOCIATION FINANCIALS**

**FINANCIAL OVERVIEW**

The Cape Ann Amateur Radio Association is funded entirely by its members' donations and community fundraisers. CAARA is supported by service and donations of equipment.

The following is a typical (CAARA's FY 2012 draft) budget.

<b>Income</b>	
Dues	\$2,800.00
Donations	\$1,500.00
Scholarship Donations	\$1,000.00
Coffee fund	\$550.00
Fundraising	\$2,500.00
Misc. inc Int.	<u>\$200.00</u>
Total	\$8,550.00
<b>Expenses</b>	
Utilities	\$3,000.00
Insurance	\$500.00
Lease	\$1,000.00
Scholarship	\$1,000.00
Supplies & Equip.	\$2,000.00
Snowplowing	\$250.00
Misc.	<u>\$750.00</u>
Total	\$8,500.00
Surplus/Deficit	\$50.00

# **Cape Ann Amateur Radio Association Mission Statement**

The Cape Ann Amateur Radio Association is a non-profit organization whose mission is to:

- provide health and safety communication services for emergencies and disasters on Cape Ann and in other areas when requested
- provide health, safety and coordination services for community events
- maintain disaster and emergency readiness by conducting regular simulation drills and participating in national disaster simulations
- educate and train new amateur radio operators and to maintain a well-tuned disaster team
- conduct FCC testing for new licenses and those wishing to upgrade
- provide educational services and demonstrations to local area schools and community organizations such as the Boy Scouts
- conduct public demonstrations and educational events
- assist public utilities, such as the Mass Electric Company, in finding radio frequency interferences that could potentially harm or hinder emergency communication activities
- create a positive, supportive environment for our members that promotes camaraderie and fellowship.

Cape Ann Amateur Radio Association members will serve the public unselfishly, will not take any form of remuneration for their services, and will only undertake activities that are 100% for the general good.

*Cape Ann Amateur Radio Association*



*Gloucester Massachusetts*

