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Disaster preparations and relief: The partnership between the American National Red Cross and Amateur Radio

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Disaster preparations and relief:

**The partnership between the American National Red Cross and Amateur
Radio**

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**Thesis submitted to the
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Radio Emergency Service; ARES; Theory of Collaborative Advantage; partnerships**

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Abstract

Disaster preparations and relief:

The partnership between the American National Red Cross and Amateur Radio

Bayley B. Brown

The goal of this master's thesis is to evaluate the current state of the partnership between the American National Red Cross chapters and Amateur Radio Emergency Service (ARES) groups. The alliance between these organizations has historically been outlined by national representatives, the most recent being the 2010 *Memorandum of Understanding between the American National Red Cross and ARRL, the national association for Amateur Radio*. This partnership was assessed through a nationwide survey of American National Red Cross chapter representatives. Findings suggest that most Red Cross chapters have current partnerships with their local ARES group, and collaboration occurs primarily for disaster preparation and during relief efforts. The information gathered in this project helps raise awareness of the partnership between the Red Cross and ARES groups, familiarizes other organizations of both group's resources, and adds to the theory of collaborative advantage.

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Chapter 1: Introduction

When a tornado devastated Joplin, Missouri in the late afternoon on Sunday, May 22, 2011, several residents were left with leveled homes and blocked roadways, wondering if friends and family were safe (“Storm descends on Joplin,” 2011). The Missouri State Highway Patrol confirmed the final death toll at 134, making it the seventh deadliest single tornado in U.S. history (Associated Press, 2011a; “25 Deadliest U.S. Tornadoes,” 2011). The National Guard, the Red Cross and many others came to aid the victims, but one group, amateur (“ham”) radio operators, came to help in a different way (Murphy, 2011; “Radio Amateurs Assist Red Cross,” 2011; Baremore, 2011a; Baremore, 2011b).

Communications were limited or completely absent between emergency personnel immediately following the tornado (Nixon, Parmenter, & O'Connell, 2011; “Radio Amateurs Assist Red Cross,” 2011). Consequently, several amateur radio operators stepped up by helping with search and recovery efforts providing correspondence between the Joplin and Springfield Red Cross offices, supplying the only mode of communication between Freeman Hospital in Joplin and hospitals in Springfield, and delivering health and welfare messages from victims to their loved ones (“Radio Amateurs Assist Red Cross,” 2011; Baremore, 2011a; Baremore, 2011b). The volunteer operators worked day and night for more than a week until all needs were met (Baremore, 2011b). Baremore (2011b), Missouri Section Emergency Coordinator, stressed the importance of this contribution, “Our Ham operators expended almost 2,000 hours during this week. What an unbelievable response...It is a great feeling for me to know that I am part of an organization with people willing to give up vacation or personal time to help out in a time of

need” (para. 5).

The American Red Cross and the national association for amateur radio, the American Radio Relay League (ARRL) formed a partnership in 1940 to better prepare for natural disasters like the aforementioned Joplin Tornado (American Red Cross, 1994). This study explores the current extent of this partnership between the local Amateur Radio Emergency Service groups, or ARES, (which is a corps of amateur radio operator volunteers responsible for public service and emergency communications, sponsored and organized by the ARRL (Thurber, 1996; About the ARRL, n.d.)) and the American Red Cross chapters in order to assess how amateur radio clubs accomplish public service today. This partnership was examined by studying how often and in what form the American Red Cross, the world's largest humanitarian organization, cooperates with local ARES groups. This network was assessed through a nationwide survey of the Red Cross Chapters. The survey examined regular communications between organizations, shared membership, radio operations, training, planning, and relationships during disasters.

Chapter 2: Literature Review

Despite the popularity of this technological sect of communications, there has been little academic research about amateur radio. The academic literature that does exist on the subject primarily looks at the early to mid-20th Century (Slotten, 2006; Lippmann, 2010; Brimson, 2002; Bulkeley, 1999; Haring, 2003). Most of the research uses rhetorical analysis of past documents to look at the evolutions of amateur radio, analyzing topics such as the origins, policy making, and the effects on the personal life of participants (Slotten, 2006; Lippmann, 2010; Brimson, 2002; Bulkeley, 1999; Haring, 2003; Baker, 1996). In addition, there are fewer studies regarding the Red Cross and emergency communications.

This review will first discuss historical studies on amateur radio followed by an examination of non-amateur and amateur emergency communications used by the Red Cross and other relevant organizations. Additionally, the theory of collaborative advantage will be addressed and applied to the partnership between the American Red Cross Chapters and the corresponding local ARES groups in order to accurately evaluate the extent of this alliance. But before taking the first step and assessing previous research, it is important to understand what amateur radio is and what the operators do.

Who are amateur radio operators?

Amateur radio operators, or “hams,” found a home on the airwaves just 10 years after Marconi first discovered an applicable use for electromagnetic spectrum (or radio waves) in 1895 (Slotten, 2006; Thurber, 1996). Today, there are about 737,000 licensed amateur radio operators in the United States (Amateur Radio Service, 2011). These amateur radio operators do

not communicate in the same way that radio broadcasters—or, more precisely, those who transmit information or music one way to a mass audience—do. Amateur radio operators use their hobby in a variety of ways, all of which involve personal two-way communication from a variety of locations, notably from their homes and automobiles (Thurber, 1996).

Amateur radio consists entirely of volunteers, and that is the defining factor that separates it from other sects of radio communication. According to the radio regulations set forth by the International Telecommunication Union (ITU): “Its purpose is self-training, intercommunication, and technological investigation by persons interested in radio technique solely with a personal aim and without any pecuniary (monetary) interest” (Thurber, 1996, pp. 3-4). The participants are involved for a variety of reasons: experimentation, competitive contesting, international and domestic correspondence, and emergency public service communication.

In 1914, Hiram Percy Maxim created the ARRL in order to unite the many local radio clubs (About the ARRL, n.d.). With about 156,000 members, the ARRL is the largest organization in the United States of amateur radio operators. Its core purpose is “To promote and advance the art, science and enjoyment of Amateur Radio” (About the ARRL, n.d., para. 2). The ARRL provides communication with the public and government organizations in the best interest for the amateur radio community. The ARRL, and its monthly journal *QST*, is largely cited in the amateur radio literature articles mentioned (About the ARRL, n.d.).

Emergency public service communication has been an important facet of amateur radio since its inception. In fact, it's one of the major justifications for its existence. Lippmann's (2010) article demonstrated that the public service, in both emergency communications and technological development, is the major reason the United States Government continued to allow

amateur radio operators access to airwaves when commercial broadcasting became dominant in the early 20th Century.

This initial, and continued, government understanding of the public service value amateur radio provides is shown in the U.S. Federal Communications Commission (FCC) amateur radio rules in Part 97, Title 47, of the Code of Federal Regulations (Thurber, 1996, p. 4). Within the rules it explicitly states that “... a primary responsibility of the amateur service is to render public service communications to the general public” (Thurber, 1996, p. 4). Amateurs primarily become involved in public service through the Federal Emergency Management Agency (FEMA) sponsored Radio Amateur Civil Emergency Service (RACES), and the aforementioned non-government version, ARES (Thurber, 1996; About the ARRL, n.d.). In addition to aiding in natural disasters, amateur operators help with parades, sporting, and other local events (Thurber, 1996). These public service activities are usually accomplished by the setup of a net control, or central communications center, which coordinates reports from operators in the field before relaying important information to emergency or public services.

Some question why amateur radio communications is needed in the age of cellphones and the Internet. Townsend and Moss (2005) conducted a study that analyzed telecommunication infrastructure failures in major urban disasters during the 1990s and 2000s. They detail three reasons why telecommunications fail during disasters: physical destruction of network components (namely the telephone system), disruption in supporting network infrastructure (electrical power, cooling systems, and availability of fuel for generators), and network congestion or overload. They then describe the consequences of these telecommunications failures during the subsequent four phases of disaster recovery, which are based on Haas' 1977

NSF-funded study on “Reconstruction Following Disaster:” emergency response, restoration and repair, reconstruction of the destroyed for functional replacement, and reconstruction for redevelopment. The consequences outlined include paralyzing official responses, challenging containment, and delaying mobilization of broader relief efforts, all of which could result in preventable loss of life or damage to property.

Townsend and Moss (2005) stress throughout the document that amateur radio is one resource that exhibits minimal failure. “Amateur high-frequency and short-wave radio are generally the first communications services to be restored, and the last to be destroyed, in any disaster scenario” (p. 16). These amateur radio operators quickly mobilize when major disasters strike to work in conjunction with governments and the International Red Cross to restore critical basic communications. The operators work within an enclosed, established network that doesn't rely on the main electrical power supply or a central network hub, which is prone to bottlenecks or damage—the major reason why many civil telecommunications fail. During disasters, public safety systems are typically incompatible with each other, which prevent communications between responders from neighboring jurisdictions. Amateur radio operators possess equipment that can transmit on a variety of frequencies and have the ability to reach much farther distances than the typical official public safety systems. This gives amateur radio operators the ability to quickly establish communications between the official public safety systems and allow for coordinated, broad relief efforts (Townsend and Moss, 2005).

There are several examples within trade publications, magazines, and websites of how amateur radio provided emergency communications during disasters. Two of the most relevant publications (published by the ARRL) are *The ARRL Letter* and the *ARES E-Letter Issues*.

Perhaps the best examples found include *The ARRL Letter's* September 22, 2005, edition coverage of ARRL President Jim Haynie's written testimony to the U.S. Government Reform Committee, detailing the amateur radio response to the Hurricane Katrina disaster. He stressed the value of amateur radio operators in the relief efforts, especially when the primary communications failed. Additionally, the *ARES E-Letter* for the same day provided several articles detailing specific instances in which amateur radio operators aided in the Hurricane Katrina disaster relief efforts (Palm, 2005).

Historical Studies about Amateur Radio

In 2006, Slotten detailed the origins of radio communication. He covered the beginning of United States' radio legislation, evolution of broadcasting, involvement of universities, amateurs and university stations, and public service broadcasting. Besides briefly discussing the foreign engineers involved with perfecting the medium, his research lies only within the boundaries of the U.S. Although the growth of non-commercial radio is the focus of the article, amateur radio is also substantially covered. Slotten (2006) provided evidence revealing that amateurs developed the broadcasting model of communications during an era when point-to-point communication was predominant. He argues that many amateur radio operators were responsible for getting the first educational, non-commercial stations on the air by 1920. Finally, Slotten discusses amateur radio operator involvement with universities to develop the form of public service broadcasting that is prevalent today.

In the same vein, Lippmann (2010) discussed amateur radio operators' efforts to separate themselves from those few who would intentionally interfere with emergency and government

communications. Both documents cite sources that illustrate the systematic shift of publicity surrounding amateur radio operators by emphasizing the beneficial public service aspect of the hobby (Slotten, 2006; Lippmann, 2010). Slotten's view, however, is more pessimistic than Lippmann's, focusing on the congressional efforts to discipline amateur operators. For example, the 1912 Radio Act allotted undesirable frequencies for amateurs, 200 meters or less (Slotten, 2006). These frequencies are considered undesirable because long distance radio transmissions on 200 meters or less have more signal attenuation (loss in quality) than transmissions on lower frequencies, which are roughly 200 to 30,000,000 meters (Silver, 2006).

Lippmann (2010) researched amateur radio during a slightly later, but nevertheless overlapping, period of time than Slotten. His rhetorical analysis of amateur radio and communications legal literature was conducted to determine how the ARRL was able to change the public perception of the hobby from one of disdain, for the few irresponsible radio operators, to an emphasis on the value of public service. Lippmann (2010) argues that public perception was swayed because the ARRL was able to demonstrate that amateur radio is a serious leisure activity. The serious leisure theory explains why an amateur, hobbyist, or volunteer has a core activity that is highly involved and self-fulfilling. The activity typically includes acquiring and expressing special skills, knowledge, and expertise (Stebbins and Hartel, 2006). Lippmann (2010) used historical literature to demonstrate how this perception of the hobby through media allowed for the public and government to recognize the importance, and the public service benefit, of amateur radio.

Other factors have also historically influenced the government's decision in regards to amateur radio regulations. Brinson's (2002) rhetorical analysis examined a proposed Anti-Red

Rule, “a policy conceived in 1954 and intended to prevent Communists from being granted amateur and commercial radio-telephone licenses” (p. 107). This rule, encouraged by the House Un-American Activities Committee, was never established as official policy, and was dismissed eight years after it was first proposed. Brinson (2002) argues that this is because the FCC found alternative ways to prevent suspected Communists from obtaining licenses, such as an applicant's refusal to answer a questionnaire asking about political party relations.

Bulkeley (1999) also conducted a study revolving around the “Red Scare,” but primarily looked at amateur radio in the Soviet Union. He assessed articles presented in the periodical *Radio* prior to the Soviet Union's launch of Sputnik I in October 1957, stating that this surprise launch could have been preempted by Western intelligence agencies. Bulkeley reviewed the numerous articles that prepared Soviet amateurs for satellite tracking many months before the launch and discussed documented contacts between Western and Russian amateurs after the Soviet blanket ban on contact with the west was lifted 15 months before the launch of Sputnik I. Like Brinson, his examination is from a historical standpoint, conducting a rhetorical analysis of the literature. However, he noted pertinent unanswered questions—such as, whether the Soviet amateur radio preparations doubled as a diplomatic action, releasing publications with information regarding developments or whether the international surprise launch of Sputnik I was intentional because no information was distributed directly to the Western governments. Although Brinson's (2002) and Bulkeley's (1999) articles do not have a central public service theme, they are relevant because they contain contrasting viewpoints about a time period when international amateur radio regulations were influenced by the Cold War.

Haring (2003) also didn't include an emphasis on amateur radio's public service, but her

research is important to discuss because it shows the evolution in amateur radio. Haring takes a sociological perspective by analyzing how men found a personal, masculine space through amateur radio in the 1950s. Through a rhetorical analysis, she addressed the disadvantages that men faced when they tinkered with technology in their leisure time. For instance, it put a strain on family life and could create an extra financial burden. Assets of the hobby are also cited, such as an increasing sense of individuality and belonging to a community apart from the family. Haring (2003), like Brinson and Bulkeley, assessed amateur radio regulations set forth by the U.S. and Soviet governments to prevent possible suspicious activity. But in addition to looking at the “Red Scare,” she briefly discussed the shutdown of the amateur radio service during World War II.

Instead of examining amateur radio in the first half of the 20th Century, Baker (1996) analyzed aspects of the amateur radio service within the last few decades. Because he detailed the debate over community regulations of the placement of antennas, towers, and other radio-affiliated structures, his work adds another dimension to the forces that influence FCC regulations on amateur radio operators. His study provides positive examples of FCC rules that benefit amateur radio operators, such as homeowner's associations not being legally able to make rules restricting the placement of antennas. Baker (1996) argues that homeowners associations are performing a public function because they “... make laws in the form of covenants; enforce those laws through fines or other punitive measures; tax by means of periodic assessments or fees; amend its governing documents; and elect ruling boards. These are all features traditionally reserved to the government; in effect, mini-governments” (p. 18). Therefore, he states that these homeowner's associations should be subject to constitutional and federal government-imposed

restrictions, like local government, and not be able to place restrictions on antennas for aesthetic reasons.

Emergency Communications

Amateur radio clubs and the corresponding ARES groups have historically formed partnerships with public service organizations in order to effectively provide communication services when natural disasters strike. As the world's largest humanitarian organization, the Red Cross is one of the most likely partners with local amateur radio clubs and ARES (Charles, Matzke, & Williams, 2010; Our vision and mission, n.d.). The American National Red Cross was formed by a congressional charter dated January 5, 1905 (American Red Cross, 1994). It now has nearly 700 chapters and is an intricate part of the International Federation of Red Cross and Red Crescent Societies (IFRC), a global network of 186 member societies worldwide, a secretariat in Geneva, and 60-plus delegations (Our vision and mission, n.d.; About Us, n.d.).

The IFRC provides relief to victims of natural disasters. It focuses on four core areas: the promotion of humanitarian values, disaster response, disaster preparedness, and health and community care (Our vision and mission, n.d.). The organization's vision, outlined on its website, is “to inspire, encourage, facilitate and promote at all times all forms of humanitarian activities by National Societies, with a view to preventing and alleviating human suffering, and thereby contributing to the maintenance and promotion of human dignity and peace in the world” (Our vision and mission, n.d., para. 3). The 186 national societies are supported by several local chapters (Our vision and mission, n.d.). This large network is a beneficial partner with the ARRL, RACES, and ARES organizations, allowing amateur radio clubs to be notified and offer

their services when disaster strikes and standard communications become ineffective (Charles, Matzke, & Williams, 2010).

The American Red Cross provides relief to victims of natural disasters in a variety of ways. In fact, the Red Cross has a group of volunteers who have received specialized training to respond to disasters, called Disaster Services Human Resources (DSHR). There are many positions within the group covering several aspects of disaster response (American Red Cross, n.d.). Members are responsible for a variety of services to victims including, but not limited to, sheltering, feeding, bulk distribution of items, recovery information, procurement of supplies and donations, transportation, and training (American Red Cross, n.d.).

In 1940, the ARRL and the American Red Cross signed the first *Statement of Understanding* (American Red Cross, 1994). It has been reviewed and updated on a regular basis since. On March 25, 2010, the most recent revision was signed and titled *Memorandum of Understanding between The American National Red Cross and ARRL, the national association for Amateur Radio*, or *MoU* (American Red Cross, 2010). The purpose of the *MoU* is to provide “a broad framework for cooperation between the two organizations in preparing for and responding to disaster relief situations at all levels in rendering assistance and service to victims of disaster, as well as other services for which cooperation may be mutually beneficial” (American Red Cross, 2010, p. 2). Various methods of cooperation are detailed, such as local partnerships, open communication, radio station operations, training, planning, and on-scene cooperation during disasters. The complete *MoU* is provided in Appendix 1 for reference, as it is the basis for evaluating the local partnerships between the Red Cross chapters and ARES groups.

On July 1, 2006, the American National Red Cross issued a new mandate requiring a

background check of all staff and volunteers working with the American Red Cross (Summers, n.d.). This requirement was put into place because of fraud and waste that occurred during Hurricane Katrina (American Red Cross, 2006b). The Red Cross further clarified the policy in a statement which included ARES members who support Red Cross disaster and recovery efforts within the list of those requiring background checks. The ARES volunteers were included in the statement because “In some past incidents—most notably the 2001 World Trade Center terror attacks and the 2005 Hurricane Katrina response—ARES volunteers have had to badge in as Red Cross volunteers” (American Red Cross, 2006a). The mandate was then placed in the 2010 revision of the *MoU* (American Red Cross, 2010). This requirement is very controversial because some ARES volunteers believe the Red Cross is considering ARES members as Red Cross volunteers and several ARES leaders state that they, and their volunteers, represent ARES when supporting the Red Cross as a served agency (American Red Cross, 2006a; Nazareno, n.d.; Palm, 2011; Red Cross running credit checks on hams?, 2006).

Not all aspects of the partnership are controversial. Several top members of the amateur radio club involved with the Silicon Valley Chapter of the Red Cross in Palo Alto, CA, prepared a comprehensive PowerPoint titled “ARC Shelters and Shelter Communications,” on February 27, 2010, which gives a detailed account of how their local amateur radio clubs aid the local Red Cross chapters in emergency situations. It covers the Red Cross movement, disaster response, shelter operations, and communications (Charles, Matzke, & Williams, 2010). Also involved in the 58-slide presentation is the day-to-day operations of the Silicon Valley Red Cross, how it is supported, and non-Red Cross organizations. Incidents or “triggers” in which the Red Cross is contacted and the amateur club becomes involved include both small and large incidents, ranging

from fires to large-scale disasters. Shelters and their supplies are available at a variety of locations and are opened if there are more than 20-25 clients. The authors mention that amateur radio especially helps when large challenges are presented, such as limited communications, confidentiality, record keeping, and security. They also discuss the value of frequency plans, typical shelter messages, and working conditions (Charles, Matzke, & Williams, 2010).

One example of the government valuing the asset of amateur radio was discussed by Wilkosz in 2004. He detailed President George W. Bush's allocation of \$181,900 of the Homeland Security funds to the ARRL. This was to reimburse amateur radio operators upon completion of the ARES and RACES emergency response training. To see if the incentive resulted in more certifications, Wilkosz (2004) performed a rhetorical analysis of press literature about the allocations for the funds and looked at statistical figures of those who passed the examinations. He found that more people did, in fact, finish the training when the incentive was introduced. This leads Wilkosz (2004) to the conclusion that, with more trained operators, many additional lives could potentially be saved in the wake of disasters, and so the government should continue to reimburse operators for the training.

Although Wilkosz (2004) and others share brief accounts of amateur radio and its involvement with public service, a 2002 article by McCarthy in the Notes and Correspondence section of *Weather and Forecasting* provides the most detailed account. He investigated the central role that amateur radio and the National Warning System (NSWAS) played in warning residents about the approaching Oklahoma tornado outbreak on May 3, 1999. Wilkosz (2004) illustrated how amateur radio operators knew when to ask for more detailed information and how proficient the delivery of important messages was.

Mitka (2007) described in the *Medical News & Perspectives* periodical another account of how amateur radio can provide aid in times of crisis, no matter how small. He spoke about The Maritime Mobile Service Network and how it connects physicians to people in distress. Because cell phones don't work 20 miles offshore, this network is a way for physicians to provide lifesaving instruction to those experiencing medical emergencies. Mitka (2007) focused on one instance in which a cardiologist received a plea regarding a hurt boy on a ship. The doctor stayed on the radio with the victim and his family, helping over the airwaves until the family reached the shore. The physician was able to instruct the family how to stabilize the boy. After surgery, the boy survived, although his legs were paralyzed. Amateur radio helps save the lives of those who are in similarly desperate situations, including everything from gunshot wounds and fractures to food poisoning and unusual rashes (Mitka, 2007).

A 2009 article in the *Southern Maryland Online* periodical details the partnership between the Southern Maryland Chapter of the American Red Cross and the Southern Maryland Amateur Radio Club. The author and vice chair of the board of directors for the Southern Maryland Red Cross, Vic Curtis, adds to the aforementioned instances where amateur radio operators are involved with public service. He depicts non-emergency events where the club was used and its innovative "Hambulance," which is an old ambulance fitted with amateur radio equipment.

Lastly, a contrasting study on the effectiveness of emergency communications must be noted. Penner, Cone, and MacMillan (2003) researched the effectiveness of day-to-day emergency communications by studying radio communication between emergency department triage personnel and inbound ambulances at the Yale-New Haven Hospital. They analyzed how

radio communications resulted in preparations for patient arrival. The study found, through a sample of 437 reports, that only 16 percent of reports resulted in preparation by the triage nurse. But, it also must be mentioned that the emergency personnel providing radio correspondence to the hospital were ill-equipped with information on the condition of the patient, and there were serious limitations with regard to the study design, such as the use of a convenience sample and the hypothesis was known to the four data collectors before the study.

Theory of Collaborative Advantage

In order to accurately evaluate the current state of the partnership between the American Red Cross chapters and the individual ARES groups, the theory of collaborative advantage served as a theoretical lens. Although it may seem risk and crisis communication theories would be more applicable to evaluate this alliance, they primarily deal with disseminating information to the public about environmental hazards, evacuations, and procedures (Reynolds and Seeger, 2005). Amateur radio uses point-to-point communication and is, therefore, not involved with informing the public on any precautionary measures or updates in regards to the disaster relief. Thus, a theoretical perspective on partnerships is the focus.

The most encompassing theory found regarding partnerships is the theory of collaborative advantage (Huxham, 2003). Huxham (2003) worked with several researchers, primarily Vangen, to develop the theory of collaborative advantage over 14 years from previous, more general research on inter-organizational collaboration. He notes that the prior research reaches across a variety of disciplines, and there is little mutual recognition of research across the numerous fields of study, which has created a variety of theoretical perspectives, different focal points, and

various interpretations on basic terminology. Huxham (2003) explains that the “approach to this has been to create a set of overlapping pictures [or themes], which together form a deep theoretical conceptualization of the nature of collaborative writing” (p. 404). This approach differs from work performed by other researchers because it doesn't aim to build practice-relevant understandings, conceptualize collaborative activity in stages or phases, identify success factors, or produce a how-to-do-it guide (Huxham, 2003).

The theory consists of two concepts: collaborative advantage and collaborative inertia (Huxham, 2003). Collaborative advantage is the goal of the two organizations to achieve something that could not be attained separately by either entity. The relationship between the Red Cross chapters and the ARES groups is mutually beneficial because each provides something that the other needs. Red Cross operations are hindered when communications are down during disasters, and the amateur radio clubs must fulfill its public service requirement (American Red Cross, 2010). But Huxham (2003) observed that oftentimes the rate of output from collaboration is very slow. Another concept was developed, collaborative inertia, which takes into account the many factors that hinder efficient progress within collaborations (Huxham, 2003). By using these concepts, the relationship between the Red Cross chapters and ARES groups can effectively be evaluated, using the goals outlined in the *MoU*, in order to determine if collaborative advantage is achieved or if inertia is the outcome.

Out of these concepts, five pictures or themes of collaboration were developed: common aims, power, trust, membership structures, and leadership (Huxham, 2003). The first, common aims, is when organizations seek common goals from the collaboration. A great example of common aims is the *MoU*, which clearly outlines the goals for the many localized Red Cross

chapters and ARES groups (American Red Cross, 2010). Though, Huxham (2003) states “the common practice, however, appears to be that the variety of organizational and individual agendas that are present in collaborative situations make it difficult to agree on aims in practice” (p. 404). It’s suggested that sometimes it’s better to begin taking action before finalizing the common aims. However, with the common goals already agreed upon and reworked for the over 70 years the Red Cross chapters and ARES groups have been collaborating, the organizations don’t have the concern of taking action before the aims are in place (American Red Cross, 2010).

The next theme, power, influences the ability for a collaboration to form common aims because perceived power discrepancies and untrusting relationships makes the negotiation process more difficult (Huxham, 2003). Huxham (2003) argues that power is perceived. “Typically people argue that ‘the power is in the purse strings,’ implying that those who do not have control over the financial resource are automatically disempowered. Our observation is that these perceptions are quite often at odds with ‘reality’ since most parties have at least the ‘power of exit’” (Huxham, 2003, p. 407). However, it was observed that people usually act as though their perceptions are real and act defensively or aggressively. Points of power (such as naming a collaboration) make up the power infrastructure of a partnership (Huxham, 2003). For instance, there is disagreement as to whether the Red Cross has the authority or right to ask the ARES radio operators to submit to a background check, causing some operators to stop volunteering their time (American Red Cross, 2010; Nazareno, n.d.; Palm, 2011; Red Cross running credit checks on hams?, 2006). Therefore, if many amateur radio operators had quit working with the Red Cross as a result of the background check requirement then the partnership between the organizations would have been hurt by this power struggle (American Red Cross, 2010).

Huxham (2003) stresses that trusting relationships, the third theme, “would be an ideal situation, the common practice appears to be that of suspicion, rather than trust” (p. 408). This is because oftentimes those who work in collaborative environments don’t get to choose who they work with; therefore, trust building should be a focus. The members of the Red Cross chapters and the ARES groups don’t choose their volunteers. Whether trust has been built between the organizations is gauged through the study of the partnership between the Red Cross chapters and ARES groups. Huxham (2003) outlines two important factors in establishing trust: mutual expectations about the future of the collaboration and risks taken to trust other members. The *MoU* has outlined the future expectations of the partnership between the American Red Cross chapters and the ARES groups, but whether the new requirement for a background check for radio operators has hindered that trust is a pertinent question (American Red Cross, 2010; Nazareno, n.d.; Palm, 2011; Red Cross running credit checks on hams?, 2006).

The fourth theme, membership structures, possesses three aspects: conceptualizing the structures of collaborations as ambiguous, complex, and dynamic (Huxham, 2003). The ambiguous aspect comes into play when members of a collaboration are unclear who they are in collaboration with. For instance, Huxham sites a few examples in which members were unsure whether they or the institution they represented were the member of the partnership. The *MoU*, however, clearly states who is in the partnership and what the roles are of the organizations (American Red Cross, 2010). Complexity is evident in the “complex hierarchy of collaborations in which the local authority is a member of the regeneration partnership but is also a member of community collaborations which are in turn members of the community umbrella group, which is in turn a member of the regeneration partnership” (Huxham, 2003, p. 411). Because cross-

membership between the Red Cross chapters and the ARES groups is encouraged, complexity is a possibility (American Red Cross, 2010). The dynamic aspect takes into account the continually shifting structure of partnerships as small shifts in purpose are made (Huxham, 2003). When a disaster situation arises, it is a possibility that this small shift in concentration toward the emergency has an effect on the collaboration between the Red Cross chapters and ARES groups.

Leadership, the fifth theme, consists of two strands: media and leadership activities (Huxham, 2003). “The first strand is concerned with the media through which leadership is enacted and argues that structures and processes are as important in leading agendas as are the participants involved in the collaboration” (Huxham, 2003, p. 415). However, Huxham notes that the members do not always solely influence the agendas, but external influences also play a role. For instance, the members of the Red Cross chapters and ARES groups didn't have a direct part in the formation of the *MoU*, instead the national representatives of both groups formed the organizations' agendas (American Red Cross, 2010). The second strand is the leadership activities that participants execute (Huxham, 2003). Within the Red Cross chapters and the ARES groups, there are individuals responsible for the execution of every aspect of the *MoU*, and many times it is left for organizations to choose which individuals are responsible for what activities (American Red Cross, 2010).

Although existing literature effectively analyzes the historical aspect of public service in both amateur radio communications and broadcasting, few studies look at how amateur radio and public service intersect, showing a current gap in academic research. In order to help fill this void, the current extent of the partnership between the Red Cross chapters and ARES groups was assessed through a national survey. The theory of collaborative advantage and the *MoU* allowed

for a basis in which to evaluate the extent of the relationship between the local Red Cross chapters and the individual ARES groups. The goals of the local collaborations outlined in the *MoU* gives a guide that allows the themes within the theory of collaborative advantage to be applied to determine whether the local partnerships are, in fact, producing collaborative advantage or inertia (American Red Cross, 2010; Huxham, 2003). In addition to working to fill the gap in literature, this research could inform other nonprofits of the beneficial assets of amateur radio and the Red Cross. This also benefits the general public because the partnership has the potential to become more efficient and widespread, which will help the organizations be more prepared to aid victims of natural disasters. It will also build on the theory of collaborative advantage by testing it against a long-standing partnership.

Chapter 3: Research Questions

In order to assess how amateur radio clubs accomplish public service today, an evaluation of how a prominent public service organization, such as the American Red Cross, uses amateur radio across the United States is vital. The American Red Cross and the American Radio Relay League have had cooperative statements of understanding since 1940 (American Red Cross, 1994)—the most recent being the 2010 *Memorandum of Understanding between The American National Red Cross and ARRL, the national association for Amateur Radio* provided in the literature review. Therefore this study will explore the following research questions:

RQ1: How prevalent is the use of ARES in the Red Cross emergency response nationwide?

RQ2: How are the methods of cooperation outlined in the *Memorandum of Understanding between the American National Red Cross and ARRL, the national association for Amateur Radio* implemented?

RQ2a: Is there open communication between the groups (sharing data regarding disasters, disaster declarations, and changes in regulation, technology and legislation related to communications)?

RQ2b: Are the local partnerships performing the collaborative efforts suggested in the *MoU* (disaster planning and preparedness, first aid, CPR, health courses, communications training and licensing, and community disaster education)?

RQ2c: Do the organizations have shared members?

RQ2d: Based on the Red Cross respondents, is the corresponding ARES group effectively working toward training more radio operators?

RQ2e: What emergency response training exercises are executed? (Ex: ARRL Field Day, Simulated Emergency Test)

RQ2f: Are both organizations involved with setting up emergency exercises?

RQ2g: How often do Red Cross officials tour ARES facilities to better understand ARES units?

RQ2h: How often does emergency planning take place (pre-staging communications equipment, coordination of mass care and damage assessment support activities, and catastrophic disaster plans for high risk areas of the U.S.)?

RQ2i: If ARES and American Red Cross chapters work together in disaster, how effective are their efforts?

RQ2j: When a disaster takes place, how often do the American Red Cross chapters contact the ARES group responsible for the area of the disaster?

RQ2k: When a disaster takes place, how quickly do the American Red Cross chapters contact the ARES group responsible for the area of the disaster?

RQ2l: How prevalent is equipment sharing between the American Red Cross chapters and the ARES groups?

RQ2m: How proficient are the ARES volunteers in assisting with the delivery of health and welfare messages to the members of the Red Cross responsible for entering the information into the Safe and Well website, which enables people within a disaster area to let friends and family know of their wellbeing, located on the web at safeandwell.communityos.org (American Red Cross Safe and Well, n.d.)?

RQ3: Has the new requirement for a background check resulted in the loss of ARES volunteers?

RQ4: For those American Red Cross chapters that do not have a partnership with their corresponding ARES group, why?

This exploratory study is important because it adds to the limited academic study of amateur radio operators and public service today, it further tests the theory of collaborative advantage, and this could help inform other nonprofit organizations about the valuable resource amateur radio can provide. The most important potential contribution is that it may benefit the general public because the partnership can use the results to become more efficient and widespread. This will help the organizations be more prepared to aid victims of natural disasters.

Chapter 4: Method

The current extent of the existing partnership between the local American Red Cross chapters and Amateur Radio Emergency Service, or ARES, groups was examined through a national survey of personnel or volunteers at the local Red Cross chapters. The following paragraphs detail the data-gathering process, survey implementation, survey apparatus, and data-analysis.

Data-gathering process

Data were obtained through a Web-based survey of personnel at the individual Red Cross chapters. A Web survey was chosen as the primary method of delivery because of monetary and time constraints for the project. In addition, the survey can be taken from any computer, thus allowing for more privacy and flexibility than other survey methods, such as telephone questionnaires. The Red Cross was surveyed, over the ARES groups, because of the time restraints, and an accessible on-line list of chapter websites and contact information was readily available.

The sample was drawn from the national list of the 581 individual local Red Cross chapters linked on the American National Red Cross Website. However, the Red Cross National Headquarters was in the process of consolidating some of the individual chapters during the data-gathering process of this study, making it almost impossible to obtain an exact number of active chapters at the time of survey implementation (Associated Press, 2011b). Disaster services personnel were contacted first because those occupying that position typically have the most interaction with their corresponding local Amateur Radio Club (Charles, Matzke & Williams,

2010). If there is no disaster services staff listed then the executive director or similar title was contacted.

The Qualtrics Web-based survey software, which is supported and provided by the College of Business and Economics at West Virginia University, was used to execute the survey. This allowed for responses to be recorded automatically and to be downloaded to SPSS 19 for review. The Qualtrics software automatically assigned a different link to each potential respondent. No passwords were required, making the survey more accessible for respondents.

Survey implementation

Contacts with participants and the adjusted survey format exercised a similar approach that is outlined in Don A. Dillman's *Mail and Internet Surveys: The Tailored Design Method*. The personally addressed pre-notification letter was sent by postal mail on January 27, 2012 (See Appendix 2: Mail Pre-Notification/Invitation Letter). It was printed on official West Virginia University Perley Isaac Reed School of Journalism letterhead. Ten chapters were excluded from the survey because no e-mail address could be obtained. The chapters whose letters were returned as undeliverable were still sent the recruitment e-mail. When requested, an electronic version of the pre-notification letter was sent to those chapters.

This pre-notification letter potentially reduced the chances that the recruitment e-mail was viewed as “spam” and helped to confirm that the contact information on the chapter's website was current. Additionally, Dillman (2000) has found that using different modes of contact improves response rates. Wording, information, and format of all forms of contact were developed from Dillman (2000) and Colistra (2008). As suggested by Dillman (2000), all

respondents were offered a non-monetary incentive, a summary of the findings, regardless of whether they choose to participate. As stated in the postscript of the letter, respondents had the option of responding by phone or mail. However, only one respondent chose to complete the survey on a Microsoft Word document and e-mail the responses.

A week after the Mail Pre-Notification/Invitation Letter was sent, the official invitation was sent to the potential participants through their e-mail addresses listed on their Red Cross chapter website (See Appendix 3: E-mail Invitation/Recruitment Message). It was presented with official West Virginia University Perley Isaac Reed School of Journalism letterhead. It included brief instructions and respondent-specific links to the survey's consent to participate page (See Appendix 4: Consent for Web Survey) and the modified 42-question survey (See Appendix 5: Survey Questions). The respondent-specific links were generated through the Qualtrics Web-based survey software.

A reminder e-mail followed the initial e-mail five days later, on February 8, 2012 (See Appendix 6: First E-mail Reminder Message). Another six days later, on February 14, 2012, the second, and last, reminder e-mail was sent to non-responders (See Appendix 7: Second/Final E-mail Reminder Message). All reminder e-mails were personalized, contained the respondent-specific link to the survey, and were presented on West Virginian University Perley Isaac Reed School of Journalism letterhead. The Qualtrics Web-based survey software keeps track of those who have responded, thus preventing unnecessary e-mail reminders. All e-mails originated from a West Virginia University account to confirm legitimacy. The chapters had 2 1/2 weeks (from February 3 till February 20, 2012) to complete the survey to allow ample time for data analysis. A third reminder e-mail was planned, but the survey was closed after a 48% (274) response rate

was achieved. Approval of this study, survey, and all communication with participants was granted from the Institutional Review Board (IRB) at West Virginia University.

Survey apparatus

The 42-question survey (See Appendix 5: Survey Questions) was pretested by academics at West Virginia University. These individuals were chosen primarily due to location, because the researcher was available to meet in person. The pre-test was used to determine average completion time and to revise question wording, if necessary. Responses from the groups were not included for data analysis. After modifications were made, correspondence was sent to the Red Cross chapters.

As previously mentioned, 571 chapters were contacted by postal mail and e-mail. If the pre-notification letters were returned as undeliverable, the letters were sent through e-mail to the chapters. Of the 571 chapters contacted, 48% responded to the survey. Six responses were excluded from the analysis because of failure to complete more than 50% of the survey.

From the useable sample (n=268), participants were 48.9% male, 47.4% female, and 3.7% declined to answer. The majority of respondents were in the 55-64, 29.9%, or the 45-54, 28.4% age range. This was followed by the 25-34 age group, 14.6%, those 65 and older, 12.7%, and the 35-44 age range, 12.3%. The youngest group of chapter representatives, 18-24, made up 1.1% of the sample. A few, 1.1% chose not to respond.

The average respondent had worked for the Red Cross in some capacity for 10.8 years and had been with his/her current chapter for 8.7 years. Two responses, however, were eliminated from the analyses regarding how long the respondent had been with their current

chapter because they answered “same as previous” and it was impossible to correlate their response with the question before. Most chapter representatives, 69%, currently have a position within disaster services or similar title and 21% are the executive director or similar title. There were five non-responses and 9% had various other titles, such as volunteer coordinator, Americorps member and board member. Out of the chapters that currently work with their ARES group, 70.0% of respondents work directly with their local ARES group, 29.5% do not, and one chose not to respond. Further respondent information included in Appendix 8: Respondent Demographic information.

Data-analysis

The survey consisted of yes/no, check all that apply, multiple-choice, 7-point scale Likert-type format, and fill-in the blank questions. The questions were ordered according to type. Survey items were worded to assess chapter representative’s opinions regarding the partnership between their Red Cross chapter and local ARES group. Demographic questions were included to provide an overview of the sample. Table 1 lists which survey questions correspond with each research question. The frequencies and descriptive means of the responses were examined to explain the current state of the partnership between the Red Cross chapters and ARES groups in this exploratory, descriptive study. All analyses were run in SPSS 19.

Table 1: *Link between Research and Survey Questions*

Research Questions	Survey Questions
RQ1: How prevalent is the use of ARES in the Red Cross emergency response nationwide?	1, 2
RQ2a: Is there open communication between the groups (sharing data regarding disasters, disaster declarations, and changes in regulation, technology and legislation related to communications)?	4, 7, 8, 9, 10
RQ2b: Are the local partnerships performing collaborative efforts (disaster planning and preparedness, first aid, CPR, health courses, communications training and licensing, and community disaster education)?	24, 25, 26, 27, 28, 29
RQ2c: Do the organizations have shared members?	16, 17, 33
RQ2d: Based on the Red Cross respondents, is the corresponding ARES group effectively working toward training more radio operators?	34
RQ2e: What emergency response training exercises are executed? (ex: ARRL Field Day, Simulated Emergency Test)	35
RQ2f: Are both organizations involved with setting up emergency exercises?	11
RQ2g: How often do the Red Cross officials tour ARES facilities to better understand ARES units?	30
RQ2h: How often does emergency planning take place (pre-staging communications equipment, coordination of mass care and damage assessment support activities, and catastrophic disaster plans for high risk areas of the U.S.)?	24, 36
RQ2i: If ARES and Red Cross chapters work together in disaster, how effective are their efforts?	20, 21
RQ2j: When a disaster takes place, how often do the Red Cross chapters contact the ARES group responsible for the area of the disaster?	5
RQ2k: When a disaster takes place, how quickly do the Red Cross chapters contact the ARES group responsible for the area of the disaster?	6
RQ2l: How prevalent is equipment sharing between the Red Cross chapters and the ARES groups?	31, 32
RQ2m: How proficient are the ARES volunteers in assisting with the delivery of health and welfare messages to the members of the Red Cross responsible for entering the information into the Safe and Well website?	22
RQ3: Has the new requirement for a background check resulted in the loss of ARES volunteers?	3, 19
RQ4: For those Red Cross chapters that do not have a partnership with their corresponding ARES group, why?	1, 3
Theory of collaborative advantage	1, 2, 12, 13, 14, 15, 18, 23

Chapter 5: Results

The purpose of this study was to assess the current extent of the partnership between the American Red Cross chapters and the Amateur Radio Emergency Service (ARES) groups across the U.S. and its territories. The *Memorandum of Understanding between the American National Red Cross and ARRL, the national association for Amateur Radio* (provided in Appendix 1 for reference) was used to evaluate the partnership and is, therefore, the basis for most of the research questions. The frequencies and descriptive means from the correlating survey questions, outlined in Table 1, are analyzed in order to assess each research question. Lastly, the partnership will be further evaluated by testing the partnership with the concepts outlined in the theory of collaborative advantage.

RQ1: How prevalent is the use of ARES in the Red Cross emergency response nationwide?

The first research question examined how many Red Cross chapters currently have or have had a partnership with their local ARES group. Out of 268 responses, 77.6% of chapters stated that they currently have a partnership with their local ARES group, 21.3% of chapters didn't have a current partnership, and 1.1% of chapters declined to respond (illustrated in Figure 1). Those chapters who do currently have a relationship with their ARES group were asked to estimate the number of years the partnership has been in existence in order to gauge the longevity of the current relationships. Their responses are shown in Figure 2. Responses like “since dirt” or “we have contact on a sporadic basis” were omitted, and two respondents “weren't sure.” The majority of respondents, 20.5%, estimated that their chapter has had a relationship with their corresponding ARES group for 6 to 10 years.

Figure 1: Red Cross Chapters currently working with ARES

n= 190

Figure 3: Red Cross chapters who have worked with ARES in the past

Figure 4: Number of Years of Past Partnership

preparing for and responding to disaster relief situations at all levels in rendering assistance and service to victims of disaster, as well as other services for which cooperation may be mutually beneficial” (American Red Cross, 2010, p. 1). Each chapter of the Red Cross was sent a copy of the *MoU* by the American National Red Cross Headquarters when it was signed on March 25, 2010.

RQ2a: *Is there open communication between the groups (sharing data regarding disasters, disaster declarations, and changes in regulation, technology and legislation related to communications)?*

The fourth section of the *MoU* outlines methods of cooperation, and the first point, under the relationship building subsection, is open communications. Within the *MoU* it states:

Each organization will share current appropriate data regarding disasters, disaster declarations, and changes in regulation, technology and legislation related to communications. The same interaction and liaison will be encouraged at all levels of both organizations, to include all Red Cross chapters, ARRL sections and subordinate levels.
(American Red Cross, 2010, p. 3)

The first question asked to test this point asked how often the respondents felt their chapter is in contact with their local ARES group. The majority, 33.8%, answered “a few times per year.” The response “monthly” came in second with 30.2% of chapters feeling this way. The results show that 80.4% of chapters surveyed that currently have a partnership with their ARES group feel that they are in contact with their ARES group more than once a year, with the majority establishing contact at least a few times a year.

The chapters were then asked about the specific aspects of open communications detailed in the *MoU*, the sharing of current, appropriate data regarding disasters, disaster declarations, and changes in regulations, technology and legislation related to communications. Most of the Red Cross chapter representatives, 39.6%, felt that current appropriate information regarding the disaster is “almost always” communicated effectively between the groups. However, the responses incrementally went down on the Likert scale to “never,” 7%.

The majority of Red Cross chapter representatives felt that their ARES group “hardly ever” shared changes in regulations, technology, and legislation related to communications with them. This element was broken up into three survey questions. Approximately, 36.5%, respondents felt that their local ARES group “hardly ever” shared changes in radio regulations with their chapter. A little less, 34%, of chapters felt that their local ARES group “hardly ever” shared changes in technology with their Red Cross chapter. Even more of the respondents, 42.3%, felt that changes in legislation related to communications were “hardly ever” shared with their chapter. The response “sometimes” was also a common answer, with 31% for changes in legislation related to communications, 30.7% for changes in technology, and 28.7% for changes in radio regulations.

RQ2b: *Are the local partnerships performing collaborative efforts (disaster planning and preparedness, first aid, CPR, health courses, communications training and licensing, and community disaster education)?*

The second point of the *MoU* outlines how the national organizations expect the local groups to communicate to explore opportunities for collaboration. “These units may perform

cooperative efforts such as disaster planning and preparedness, first aid, cardiopulmonary resuscitation (CPR), health courses, communications training and licensing, and community disaster education” (American Red Cross, 2010, p. 3). Most respondents who have a current relationship with their local ARES group, 53.7%, estimated that the two groups work “a few times a year” or “yearly” on disaster planning and preparedness. Only 13.9% of chapters estimated that the two groups work “monthly or more,” and 14.8% of chapters stated that they “already have an established plan.” Still, 17.6% of chapters said that they “never” work on disaster planning and preparedness with their ARES group. These results show that most of the Red Cross chapter representatives who responded to the survey work toward collaborating with their local ARES group for disaster planning and preparedness.

The responses to the next three survey questions, however, showed that collaboration in regards to training the public in first aid, CPR, and health courses isn't achieved by most partnerships. The respondents, 56.2%, stated that their local ARES volunteers “never” participate in training others during the first aid courses offered by their chapter. Even more, 64.3%, noted that the ARES volunteers “never” participate in training others during the CPR courses offered by their chapter. Lastly, 66.2% of chapters said that their ARES volunteers “never” participate in training others during the health courses (e.g., parenting and blood pressure classes) offered by their chapter. However, unlike the first aid (5.7%) and CPR (4.3%) responses, 21.6% of those surveyed stated that their chapter does not offer health courses.

The next survey question asked respondents if their local ARES group provided communications training and licensing to their Red Cross volunteers. Like the previous three questions, the most frequent response, 35.3%, was that communications training and licensing

has “never” been provided by the ARES group for their chapter volunteers. Many respondents, 18.1%, “didn't know” if this training was provided, but, 14.9% said this training was provided “a few times a year,” 14% “every few years,” and 11.6% “yearly.” Only 6.1% said the training was provided “monthly or more.”

The final survey question asked to evaluate this second point of the *MoU* asked how often respondent's chapters worked with their local ARES group when providing community disaster education to the public. Similar to the last four aforementioned questions, the most frequent response, 51.2%, was that their Red Cross chapter “never” worked with their local ARES group when providing community disaster education to the public. But, 33.3% of chapters stated that both groups work to provide community disaster education “yearly or more.”

The primary mode of collaboration between the Red Cross chapters and ARES groups is disaster planning and preparedness. Typically, the ARES groups do not participate in training others during the Red Cross first aid, CPR, and health courses. This is understandable because these courses do not involve radio communications or directly involve disaster planning and preparedness. In regards to communications training and licensing, a little over one third felt that this was not provided by the ARES group for the chapter, but over one third stated that training was provided at least every few years. Additionally, most of the chapters responded that their chapter never worked with their ARES group in regards to providing community disaster education. Consequently, these results show that the Red Cross chapters and ARES groups typically don't collaborate unless it regards disaster planning and preparedness.

RQ2c: Do the organizations have shared members?

The next point of the *MoU* talks about shared members between the organizations. “Each organization will encourage interested volunteers to become members and participate in the activities of the other organization” (American Red Cross, 2010, p.3). This point was evaluated by three questions asking how encouraging each organization is for the other members to join, and an estimate of how many cross-members there are between the respondent's chapter and local ARES group.

Of the Red Cross chapters that currently have a partnership with their local ARES group, 38.4% felt that their local ARES group was “encouraging” for their Red Cross volunteers to become members. But, 25.9% stated that they felt that their local ARES group was “not encouraging” cross-membership. However, 50.2% of respondents felt their Red Cross chapter is “encouraging” for the ARES volunteers to become members, and only 13.4% stated that their chapter was “not encouraging” cross-membership. These responses may be biased because respondents are members of the Red Cross. Nevertheless, most partnerships do encourage cross-membership from one party or the other.

Although most respondents reported that cross-membership is “encouraged,” it is not actually prevalent among chapter respondents. The majority, 65.4%, stated that 0 to 5 volunteers are members of both organizations. The responses are listed in bar graph form in Figure 5. This finding indicates that although cross-membership is encouraged, not many members are volunteers of both organizations.

Figure 5: Cross-membership between ARES group and Red Cross chapter

amateur radio duty and not a Red Cross endeavor. Out of the chapters that did know, however, 23.5% said their ARES group is working toward training more radio operators, and 3.7% said that their ARES group is not. The responses are shown in Figure 6. If the chapters listed that their ARES group is currently working toward training more operators, they were asked to estimate how many radio operators were trained in the last six months. The most common responses, 28.6%, stated that their chapter trained one to five operators in the last six months (see Figure 7).

If the chapter listed that their local ARES group has not been working toward training more radio operators, they were asked to write in why they thought so. There were a variety of responses, such as “ARES group acts more of a social club and doesn't seem to be committed to increasing membership,” “The volunteers who are interested are already trained and newer volunteers have not taken advantage of training opportunities when presented,” “We train our own ham radio operators,” and “Our communications lead is from ARES.” “Schedule conflicts,” “the amateur radio club is responsible for training operators,” “new ARES group,” “plenty of trained operators already,” and “very little interest” were also common responses.

Figure 6: Is the local ARES group working toward training more radio operators?

RQ2e: What emergency response training exercises are executed? (Ex: ARRL Field Day, Simulated Emergency Test)

The next two points in the *MoU* involve both groups coordinating joint training exercises. The following three research questions work to better understand how, and if, the partnership executes the guidelines under these points. “The Red Cross will encourage all chapters to participate in ARRL Field Day, the Simulated Emergency Test (SET) and other emergency exercises” (American Red Cross, 2010, p. 4). A check all that apply question worked to answer what emergency response training exercises are executed.

The Simulated Emergency Test (SET) is used by 38.2% of chapters and 41.0% of chapters participate in the ARRL Field Day. Approximately 24.4% of chapters “didn't know” what emergency response training exercises take place, and 7.4% stated that their Red Cross chapter doesn't have any emergency response training exercises. A category of “other” was selected by 36.4% of chapters. Those choosing that response were asked to specify their choice. Most stated local, county, regional, and state-wide drills, such as those organized by the Emergency Management Agency, or EMA (i.e., airport disasters, mass casualties, etc.). These answers show that most chapters are currently involved with one or more emergency training exercises.

RQ2f: Are both organizations involved with setting up emergency exercises?

This research question is building on the previous by asking how often the Red Cross chapters and ARES groups work together when setting up emergency training exercises. Most chapters, 41.8%, “almost always” work with their local ARES group to set up emergency

training exercises. There weren't many responses, 19.5%, that stated that they “never” partner when emergency training exercises take place. Therefore, most chapters work with their ARES group to achieve partnership in this area, in compliance with the *MoU*.

RQ2g: How often do the Red Cross officials tour ARES facilities to better understand ARES units?

The section of the *MoU* detailing joint training exercises also mentions that participation can take several forms. Some examples are given, for instance “Red Cross officials visiting and touring sites to better understand the capabilities of local ARRL volunteers and ARES units, or the joint use of Red Cross equipment such as vehicles or trailers” (American Red Cross, 2010, p. 4). This research question only looks at how often facilities are toured. Refer to RQ2l for equipment sharing statistics.

When asked how often the respondents' Red Cross officials tour the ARES facilities most chapters, 30.5% stated that their local ARES group doesn't have facilities. Of those ARES groups that do have facilities, 23.9% of respondents stated that their officials “never” tour them. But, 28.7% of chapters have officials that tour the ARES group's facilities “at least every few years.” Some partnerships, 16.9%, stated that they have “joint facilities.”

RQ2h: How often does emergency planning take place (pre-staging communications equipment, coordination of mass care and damage assessment support activities, and catastrophic disaster plans for high risk areas of the U.S.)?

The last point under the activities subsection of the *MoU* covers emergency planning. “Planning needs will be identified, tasked and completed to address issues beneficial to both

organizations in responding to events” (American Red Cross, 2010, p. 4). Some issues suggested involve pre-staging communications equipment, coordination of Mass Care and Damage, assessment support activities, and catastrophic disaster plans for high risk area of the U.S.

As stated previously, most chapters, 53.7%, estimated that disaster planning and preparedness occurs “yearly” or “just a few times a year.” Just 13.9% stated that planning happens “monthly or more.” About 14.8% of chapters said that they “already have an established plan” within the partnership and 17.6% “never” work to plan and prepare for disasters with their ARES group.

A check all that apply question inquired about what emergency planning takes place between the respondent's chapter and their local ARES group. Pre-staging communications equipment (48.8%) was the most selected answer, but assessment support activities (41.9%), catastrophic disaster plans (41.0%), and coordination of mass care and damage (39.6%) were all popular choices.

An “other” option was offered and 19.8% of chapters responded to that choice and were then asked to specify. Twelve chapters stated that no emergency planning takes place within the partnership, one stated that they work with RACES and not ARES, another respondent was unaware of any training, and 22 didn't respond to the question. These responses correspond with the 17.6% chapters who responded that they never work with their local ARES group to plan and prepare for disasters. However, two chapters selected responses even though they indicated that they never work with their ARES group to plan and prepare for disasters. The most common write-in responses consisted of local and county response planning and drills, communications support plans, and “in-house” communications.

RQ2i: If ARES and the Red Cross chapters work together in disaster, how effective are their efforts?

The following subsection of the *MoU* details partnership during disasters. “Both ARRL volunteers and American Red Cross workers will work cooperatively at the scene of a disaster and in the disaster recovery, within the scope of their respective roles and duties” (American Red Cross, 2010, p.4). The chapter representatives were asked how effective they felt the on-scene cooperation during disasters is between their chapter and their local ARES group. Most chapters, 55.4%, felt the cooperation during disasters is “effective.” The subsequent responses went incrementally down until only 6.6% stated that they felt the on-scene cooperation “wasn't effective.”

The effectiveness of the communication between the American National Red Cross Headquarters and the ARRL Headquarters was also gauged. The *MoU* states “Operational coordination between Red Cross HQ and ARRL HQ will occur through primary points of contact...Reports and data that are mutually beneficial to each organization's operations and mission assignments will be exchanged” (American Red Cross, 2010, pp. 4-5). The majority of chapters, 58.6%, felt that communication is “somewhat effective.” The other responses were evenly spaced, but only 3.6% felt the communication is “very effective” on the national level.

RQ2j: When a disaster takes place, how often do the Red Cross chapters contact the ARES group responsible for the area of the disaster?

The third point under the during disasters subsection discusses communications.

“Whenever there is a disaster requiring the use of amateur radio communications resources and/or facilities, the local Red Cross Chapter may request the assistance of the local ARES organization responsible for the jurisdiction of the scene of the disaster” (American Red Cross, 2010, p. 5). Most chapter respondents, 44.2%, believed that they contact their ARES group “most, if not every time,” disasters strike. Although the answer “every time” 23.0% and “most times” 21.1% were chosen the most, “only during severe disasters” came in a close third with 19.4% of chapters selecting that response.

RQ2k: *When a disaster takes place, how quickly do the Red Cross chapters contact the ARES group responsible for the area of the disaster?*

This research question expanded on the previous by covering how quickly the respondents' Red Cross chapter contacts their local ARES group from the onset of a disaster. Most of the respondents, 21.3%, stated that they contact their local ARES group “well into the disaster,” but 19.9% reported that they contact their ARES group “almost immediately.” The other responses were spaced relatively evenly along the Likert scale.

RQ2l: *How prevalent is equipment sharing between the Red Cross chapters and the ARES groups?*

The following point in the *MoU* covers equipment sharing between the two groups. “Each organization may request equipment for temporary use to support operations” (American Red Cross, 2010, p. 5). This point of the *MoU* correlates with the subsection activities and RQ2g due to the suggestion in both points and sections regarding the sharing of equipment.

When asked how often the respondents' chapters share equipment, such as vehicles and trailers, with their local ARES group, 44.4% stated that this “never” happens, and 31.3% say that they share equipment “only during emergencies.” Only, 19.1% of chapters share equipment at least “every few years,” and 5.1% “don't own equipment.” Most ARES groups, 35.5%, “never” share their equipment with their corresponding Red Cross chapter, and 35.5% also only share their ARES equipment “during emergencies.” ARES groups are more likely, 25.6%, to share their equipment with their Red Cross chapter. Only 3.3% of ARES groups “don't own equipment.” Therefore, equipment is shared primarily during disasters.

RQ2m: How proficient are the ARES volunteers in assisting with the delivery of health and welfare messages to the Red Cross members responsible for entering the information into the Safe and Well website?

The Safe & Well website provides a way for people within a disaster area to let friends and family know of their wellbeing (American Red Cross Safe and Well, n.d.). “ARRL volunteers are encouraged to assist in registering people on the Safe & Well website by passing the required information from a point in the disaster area to someone outside the disaster area who can enter the information into the Safe & Well website” (American Red Cross, 2010, p. 5). This question was asked to gauge how effective the ARES volunteers are with the delivery of the health and welfare messages to the Red Cross volunteers who are responsible for entering the information into the Safe & Well website.

Most respondents, 33.9%, stated that the ARES volunteers are “somewhat effective” at this task. However, 14.9% of chapter representatives stated that the ARES volunteers “weren't

effective” at delivery of the messages. About 12.6% of chapters perceived that the ARES volunteers were somewhere between “somewhat effective” and “effective,” 12.1% said the volunteers were “effective,” and only 9.8% stated that the volunteers were “very effective.” Consequently, most ARES operators are “somewhat effective” at delivery of the messages, but there is much room for improvement.

RQ3: Has the new requirement for a background check resulted in the loss of ARES volunteers?

Within the MoU there is a relatively new requirement for the amateur radio operators working with the Red Cross to have a background check. “The Red Cross requires the completion of a criminal background check to participate in Red Cross activities...The ARRL accepts the criminal background check for volunteers but prefer such checks be performed by law-enforcement entities” (American Red Cross, 2010, p. 3). There has been reported disagreement as to whether the Red Cross has the authority or right to ask the ARES radio operators to submit to a background check, causing some operators to stop volunteering their time (Nazareno, n.d.; Palm, 2011; Red Cross running credit checks on hams?, 2006).

However, out of the 208 chapters that currently have a partnership with their local ARES group, 50.7% stated that the background check requirement created “hardly, if any, tension.” Only 23.9% said that the requirement created “much tension” within the partnership. About 24.4% estimated that there was “moderate tension.” Out of the chapters that had a partnership in the past, but it dissolved, only 9.5% out of 21 chapters stated that the background check requirement was a reason for the dissolve.

RQ4: *For those Red Cross chapters that do not have a partnership with their corresponding ARES group, why?*

The respondents that noted that their chapters do not currently and have never had a partnership with their local ARES group (65.0%) were asked to specify why. Most respondents, 33.4%, didn't know why a partnership wasn't established or were new to their position. Many respondents, 15.4%, stated that contact with their local ARES group goes through another organization or the local Emergency Operations Center. Evidence of dispute or low prioritization of partnership was found to be a reason why some chapters didn't have a relationship with ARES. Other notable responses included “use R[adio] A[mateur] C[ivil] E[mergency] S[ervice],” “group disbanded,” and “internal amateur radio group.” Some chapters, 12.8%, didn't know about the organization or believed that it didn't exist.

Most of the chapters, 47.6%, that had a partnership in the past with their local ARES group that had dissolved, said that a communication breakdown was one of the factors that caused the break in the relationship. Red Cross staff and volunteers being limited at the chapter (42.9%), lack of interest from the ARES group (33.3%), and lack of amateur radio operators (23.8%) were also common reasons for the break in partnership. Other factors noted included a change in leadership within the local ARES group, conflicts between ARES and the government amateur radio emergency response group—Radio Amateur Civil Emergency Service (RACES), and staff change in Red Cross chapter.

Theory of Collaborative Advantage

Eight survey questions were used to further evaluate the partnership through the theory of

collaborative advantage. Within the theory, five concepts or themes are used to determine if a partnership is achieving collaborative advantage or if inertia is the actual outcome (Huxham, 2003). The partnership between the Red Cross chapters and ARES groups has the potential to be mutually beneficial because each provides something the other needs. The Red Cross needs communications when disasters strike, and the amateur radio clubs need to fulfill their public service requirement (American Red Cross, 2010).

The first concept within the theory, common aims, is achieved by most chapters, 77.6%, because they have complied with a partnership and work toward the common aims that are outlined in the *MoU*. However, it must be noted that these common aims aren't universal because five Red Cross chapters were unaware of ARES, 21.3% of all chapters surveyed don't have a current partnership, and 14.6% of all chapters surveyed had never had a partnership with ARES. Therefore, it's tough for these Red Cross chapters and their local ARES groups to have common aims when they do not have the basis of a partnership.

Huxham (2003) states that the next theme, power, effects the ability to form common aims because of perceived power discrepancies. Most respondents, 78.8%, stated that there were “never” any power disagreements between their chapter and ARES group. Only 1.1% estimated that power conflicts happened “frequently.” However, 4.8% of chapters stated that conflict between ARES and RACES was a factor in the dissolve of their partnership, and 2.5% cited various power discrepancies as the reason why no partnership exists.

The third theme covers trusting relationships. Huxham (2003) stresses that this may be challenging because oftentimes the members of collaborations don't get to choose who they work with. Trust building between the Red Cross chapters and their local ARES group has been

achieved at most chapters. The majority, 68%, believe that both groups “always” trust one another, and only 4.2% of partnerships don't possess trusting relationships.

Membership structures, the fourth theme, possesses three aspects: conceptualizing the structures of collaborations as ambiguous, complex, and dynamic (Huxham, 2003). Only the complexity aspect was gauged in the survey because the ambiguous aspect isn't relevant due to the members already being aware of whom they are in collaboration with, and a more in-depth study is required to accurately assess the dynamic element. Most Red Cross representatives, 62.2%, felt that cross-membership, or the possibility thereof, between the two organizations “didn't make working together complex.” Only 6.9% believed that the cross-membership made for a “very complex” relationship, and the other responses, 30.9%, were somewhere in between.

The fifth theme, leadership, possesses two strands: media and leadership activities (Huxham, 2003). The media strand consists of the avenues through which leadership is enacted, for instance agendas (Huxham, 2003). Most participants, 50%, felt that both their Red Cross chapter and ARES group “sometimes” influence agendas. Only 9.2% believed both groups “always” influence agendas, and 40.9% of respondents estimated that both groups “hardly ever” influence the agendas. The second strand of the leadership theme, leadership activities, involves the activities the participants in a partnership execute (Huxham, 2003). Most respondents, 41.8%, believed that activities vital to the partnership are “always” effectively executed, and 35.4% stated that activities are “sometimes” effectively executed. Only 11.5% marked that activities are “never” effectively executed.

Finally, chapter respondents were asked if they felt the partnership between their Red Cross chapter and local ARES group is achieving something. Most chapters, 44.8%, believed

there is “achievement,” 39.2% estimated that achievement happens “sometimes” within the partnership, and 16% stated that their partnership produces “no achievement.”

Summary of findings

The results show that most Red Cross chapters have a current partnership with their local ARES group, which has been in existence from between 1 and 25 years, with most existing for 6 to 10 years. For those that have never had a partnership, most Red Cross staff are unsure as to why or are new to their position. Contact also occurs through another organization or an Emergency Operations Center. Of those that did have a past partnership, but it dissolved, most cited a communication breakdown, limited staff, or lack of interest from the organizations as the reason for the demise. Disputes and conflicts were also reasons given for not having an existing partnership. Although there is cited dispute over the Red Cross background check requirement (Nazareno, n.d.; Palm, 2011; Red Cross running credit checks on Hams?, 2006), it was not found to be a major factor in most partnership dissolves and did not create tension in existing partnerships.

The current extent of the partnership between the individual Red Cross chapters and their local ARES groups was further examined through research questions based on methods of cooperation detailed by the national organizations in the *MoU*. It was found that although the *MoU* encourages participation on many levels, most collaboration occurs in preparation for and during disasters. Most groups communicate more than once a year and cross-membership is encouraged, although not prevalent. The majority of respondents were unaware of primarily ARES activities, such as whether their local ARES group is working toward training more radio

operators.

In regards to disasters, most partnerships participate in and with organizing several joint-training exercises, such as the ARRL Field Day, Simulated Emergency Test (SET), and drills organized by the Emergency Management Agency (EMA). Disaster planning occurs within most chapters in the form of pre-staging communications equipment, coordination of mass care and damage, assessment support activities, and catastrophic disaster plans. The majority of chapters felt the cooperation during disasters is “effective.” The ARES group is contacted “most, if not every time, when disasters strike;” however, most chapters establish contact “well into the disaster.” Equipment is shared between the groups primarily during disasters. The respondents additionally felt that their ARES group is “somewhat effective” with the delivery of the health and welfare messages for the Safe and Well website.

The chapters that adhere to some aspects of the *MoU* are varied. For instance, the *MoU* encourages Red Cross officials to tour ARES facilities, but about one-third don't own facilities. One-third stated that their officials “never” tour the facilities, and another one-third have officials that tour them “at least every few years.”

According to the survey responses, most chapters are producing collaborative advantage. Common aims and partnerships are achieved by most nationally. Power discrepancies only damage minimal relationships. Most chapters feel they can trust their ARES volunteers, and don't feel that cross-memberships make working together complex. Agendas are sometimes jointly influenced by both groups. The majority feel that activities vital to the partnership are “executed effectively.” Overall, most chapters feel that there is achievement within the partnership. The following section provides a more in-depth discussion of the results and their practical and

theoretical implications, as well as the strengths and limitations of the study and suggestions for future research.

Chapter 6: Discussion

The purpose of this study was to examine the current state of the partnership between the American Red Cross chapters and the ARES groups. The 2010 *Memorandum of Understanding between The American National Red Cross and ARRL, the national association for Amateur Radio* (or *MoU*) was used as the basis for evaluation of the partnership. This *MoU* is agreed upon and updated by the national organizations on a regular basis and sent to all of the Red Cross chapters and amateur radio clubs. The theory of collaborative advantage also provides a basis in which to evaluate if the partnership is achieving collaborative advantage or producing collaborative inertia (Huxham, 2003). To evaluate the points in the *MoU* and the theory of collaborative advantage, the frequencies and descriptive means were analyzed using original data from a national Web survey of Red Cross representatives.

Although most Red Cross chapters have partnerships with and are in contact with their local ARES groups more than once a year, communication is not as open as the *MoU* implies. Most chapters do contact their ARES group often when disasters strike, but a few still do not. It also conflicts with how quickly the disaster declaration is shared with the ARES group, as most of the respondents felt that they contact the ARES group “well into the disaster.” There is a lapse in time with how quickly the disaster declaration is shared. When the information is communicated regarding the disaster, however, most believed it communicated “effectively” between the groups. Equipment is also shared primarily during disasters if, indeed, the chapter or ARES group owns equipment.

Disaster preparation is also prevalent within the partnerships, which correlates with the disaster response results. The ARRL Field Day, Simulated Emergency Test (SET), and drills

organized by the Emergency Management Agency (EMA) are among the most popular disaster preparation exercises. These drills are organized on a large-scale level, which correlates with disaster planning in the form of pre-staging communications equipment, coordination of mass care and damage, assessment support activities, and catastrophic disaster plans, which are all encouraged at the national level (American Red Cross, 2010).

Forms of non-emergency collaboration suggested in the *MoU* aren't prevalent. The respondents feel that the ARES group fails to share changes in regulations, technology, and legislation related to communications with their Red Cross chapter, and many were unaware if the ARES group is working toward training additional radio operators.

Therefore, the strongest aspect of the partnership is in regards to disaster preparations and relief efforts. This finding is not surprising because it is the reason the partnership was formed in the first place (American Red Cross, 1994). Still, collaboration for disaster preparation and relief efforts needs improvement within some partnerships because the effectiveness is not universal. About one-fourth of the chapters surveyed didn't even have an existing basis of a partnership. Other forms of non-emergency collaboration suggested in the *MoU* needs improvement (i.e., ARES group involved with CPR and health courses). Or perhaps these non-emergency collaborative efforts outlined the *MoU* should be reassessed to see if the partnerships should concentrate solely on disaster preparations and relief efforts.

One of the important contributions of the current study includes assessing how a sect of amateur radio achieves public service when working with the world's largest humanitarian organization, the American Red Cross. Public service, in both emergency communications and technological development, is the major reason amateur radio continues to exist and is one of the

requirements outlined by the U.S. Federal Communications Commission (Lippmann, 2010; Thurber, 1996). There is little information available, however, that proves amateur radio's continued public service.

Examining an effective existing partnership, through its methods of cooperation is additionally important. In addition to further building on the theory of collaborative advantage, the current study may help other partnerships produce collaborative advantage, instead of collaborative inertia. Oftentimes, the partnership between the Red Cross chapters and ARES groups must provide collaborative advantage, however, because during disaster relief efforts it is critical that they are effective. Lives may be at stake.

The abnormally high response rate is one of the strongest aspects of this study. Out of the 571 chapters contacted, 268 responded to the survey within a few weeks. This quick response shows the importance of the subject to the chapter representatives. Also, the majority of responses were positive, which further attests to the importance of the partnership to the respondents. Positive response is not common in most surveys (Colistra, 2008). This high response rate (48%) allowed for an accurate outlook on the current state perceived by the Red Cross respondents of their partnership with their local ARES group.

The web survey has its strengths and weaknesses. An advantage was that the web survey provided for an immediate response. This method also allowed for more privacy because it could be taken from any location, unlike a phone questionnaire. However, this method only provides a snapshot of their view at the time the survey was taken, and so a study performed to gauge whether perceptions change over time would be beneficial.

The Red Cross was consolidating chapters while the study was being conducted

(Associated Press, 2011b). This prevented a completely accurate list of active chapters because some chapters were consolidated after first contact was made. Future research should determine whether the Red Cross consolidation has a negative effect on the partnership. Also, due to time and monetary restraints of the project only the Red Cross chapters were surveyed. Therefore, there is only one viewpoint present in the results. Additionally, some chapter's staff were new, unaware of what the amateur radio group was called, or didn't think ARES existed.

Even though existing literature effectively analyzes the historical aspect of public service in both amateur radio communications and broadcasting, fewer studies look at how amateur radio achieves public service in today's environment. The present study concludes that the majority of amateur radio operators involved with ARES achieve public service through effective partnerships with their local Red Cross chapter for disaster preparations and relief efforts. The theory of collaborative advantage is additionally supported because the majority of chapters are working toward collaborative advantage, especially during disasters and relief efforts.

Chapter 7: Conclusions

Overall, this type of research is important because it builds on the limited amount of research regarding amateur radio and could inform other nonprofits of the beneficial assets of amateur radio and the Red Cross. The current study also provides proof of the public serving amateur radio is providing. It additionally builds on the theory of collaborative advantage by testing it against a long-standing partnership, and may allow other organizations to produce more effective partnerships.

Future research could further build on this study by surveying the ARES groups to see if the responses correlate with those of the Red Cross representatives. Time and monetary restraints prevented the survey of the ARES groups in the current study. Many of the survey questions were tailored to consist of opinions and it would be beneficial to compare perceptions of the partnership from both sides.

It would also be interesting to compare Red Cross and ARES responses from different regions of the U.S. Would regions with more disasters have stronger partnerships? Perhaps organizations, such as the local or state Emergency Management Agencies help partnerships become effective.

The Red Cross was consolidating chapters at the time the survey was distributed (Associated Press, 2011b). It would be interesting to see if this consolidation has a negative effect on the partnerships. Instead of one ARES group working with a Red Cross chapter, several ARES groups may work with one Red Cross chapter. Also, there may be less staff at the chapter available to concentrate on the partnership. The consolidation, however, may result in universal methods and more effective organization.

Primarily, this research can help strengthen the partnerships between the Red Cross chapters and their local ARES groups. It also provides evidence of a partnership that produces collaborative advantage which may help other organizations produce more effective partnerships. It would be beneficial for the next revision of the *MoU* to concentrate primarily on disaster preparations and relief efforts so resources can be used efficiently. Additionally, awareness of ARES and their resources should be promoted to the Red Cross chapters. Communication should be improved as that it is one of the reasons the partnerships do sometimes dissolve. Overall, improving this beneficial partnership will aid the general public because these organizations will be more prepared for relief efforts when disasters strike, which could ultimately save lives.

**Appendix 1: *Memorandum of Understanding between the American National Red Cross and
ARRL, the national association for Amateur Radio***

Permission to reprint granted by Dave Patton, NN1N, Manager, Membership and Volunteers
programs of the Amateur Radio Relay League.

West Virginia University

Perley Isaac Reed School of Journalism

December 6, 2011

David Patton
Manager, Membership and Volunteer Programs
ARRL
225 Main Street
Newington, CT 06111-1494

Dear Dave Patton:

This letter will confirm our recent correspondence
entire 2010 *Memorandum of Understanding between
and ARRL, the national association for Amateur Radio*
"Disaster preparations and relief: The partnership between
West Virginia University and ARRL" will be available soon.

Memorandum of Understanding

between

The American National Red Cross

and

ARRL, the national association for Amateur Radio

American Red Cross

I. Purpose

The purpose of the Memorandum of Understanding (MOU) is to document the relationship between the American National Red Cross (the “Red Cross”) and the ARRL, the national association for Amateur Radio (the “ARRL”). This MOU provides a broad framework for cooperation between the two organizations in preparing for and responding to disaster relief situations at all levels in rendering assistance and service to victims of disaster, as well as other services for which cooperation may be mutually beneficial.

II. Independence of Operations

Each party to this MOU will maintain its own identity in providing services. Each organization is separately responsible for establishing its own policies and financing its own activities.

III. Organization Descriptions

The American Red Cross is a humanitarian organization led by volunteers and guided by its Congressional Charter and the Fundamental Principles of the International Red Cross and Red Crescent Movement. The Red Cross provides relief to victims of disasters and helps people prevent, prepare for and respond to emergencies. The Red Cross provides services to those in need regardless of citizenship, race, religion, age, sex, national origin, disability, sexual orientation, veteran status or political affiliation.

The ARRL is the national membership association for Amateur Radio operators. The ARRL is a not-for-profit organization that engages in the promotion of interest in Amateur Radio communication and experimentation; the establishment of Amateur Radio networks to provide electronic communications in the event of disasters or other emergencies; the furtherance of the public welfare; the advancement of the radio art; the fostering and promotion of noncommercial intercommunication by electronic means throughout the world; the fostering of education in the field of electronic communication; the promotion and conduct of research and development to further the development of electronic communication; the dissemination of technical, educational and scientific information relating to electronic communication; and the printing and publishing of documents, books, magazines, newspapers and pamphlets necessary or incidental to any of the above purposes.

IV. Methods of Cooperation

The Red Cross and ARRL desire to expand their mutually-beneficial relationship to enhance community disaster preparedness and coordinate disaster planning and response activities as follows:

Relationship building

- **Open Communications:** Each organization will share current appropriate data regarding disasters, disaster declarations, and changes in regulations, technology and legislation related to communications. The same interaction and liaison will be encouraged at all levels of both organizations, to include all Red Cross chapters, ARRL sections and subordinate levels.
- **Local partnerships:** Each organization will encourage its local units to communicate with the other organization's corresponding local unit to explore opportunities for collaboration. These units may perform cooperative efforts such as disaster planning and preparedness, first aid, cardiopulmonary resuscitation (CPR), health courses, communications training and licensing, and community disaster education. Cooperative efforts could include participation in predisaster planning or any other of the methods of cooperation listed here or as listed in the sample local agreement found in *Attachment C, Sample Statement of Cooperation for local organizational units*. *Attachment C* may be modified or updated by joint agreement of each organization's points of contact (listed in *Attachment A, Organization Contact Information*) without requiring a resigning of this MOU.
- **Shared members:** Each organization will encourage interested volunteers to become members and participate in the activities of the other organization. Such volunteers shall meet the standards, have the responsibilities and be entitled to the privileges of each organization.
- **ARRL volunteers supporting the Red Cross:** The ARRL may provide volunteers to assist the American Red Cross with communications in support of disaster relief roles as may be mutually agreed upon at the local and national levels.
The Red Cross requires the completion of a criminal background check to participate in Red Cross activities. A criminal background check may be performed through the Red Cross process at no cost to the volunteer, or by State or local law enforcement agency at the volunteer's own initiative and expense. The Red Cross is only responsible for the costs of background checks conducted through their processes.
The ARRL accepts the requirement of a criminal background check for volunteers but prefers that such checks be performed by law-enforcement entities. The Red Cross agrees that ARRL volunteers shall not be asked or required to consent to credit checks, mode of living investigations, or investigative consumer reports in order to provide a communications function.
- **Red Cross members supporting the ARRL:** Red Cross volunteers affiliated with a local Chapter that hold a valid Federal Communications Commission (FCC) Amateur Radio License are encouraged to participate in the Amateur Radio Emergency Service (ARES®) program to develop emergency communications skills, cross-train in local disaster drills and exercises, and integrate Chapter communications resources into the local emergency management structure.

Assumptions

- **Radio station operations:** It is understood and agreed that amateur radio operators, being licensed and regulated by the Federal Communications Commission (FCC), shall at all times exercise sole and exclusive control over the operation of their radio stations. Such control cannot be surrendered or delegated, in accordance with Federal law.
- **Radio operators:** It is understood and agreed that radio operators have skills that extend beyond amateur radio frequencies and equipment. These skills may be applied to operate on Red Cross frequencies and equipment.
- **FCC Licenses:** The Red Cross is responsible for any licensing arrangements necessary for Red Cross operations that occur outside amateur radio licenses, or any amateur radio licenses established by American Red Cross Amateur Radio Club Stations. Individual amateur radio operators are responsible for the maintenance and renewal of their personal licenses.

Activities

- **Training:** The Red Cross recognizes the leadership and expertise of the ARRL in the area of amateur radio communications. Where appropriate, the Red Cross will rely on materials created by the ARRL to train radio communicators. Additionally, the ARRL offers training in Amateur Radio emergency communications that is mutually beneficial to the ARRL and to the American Red Cross. Volunteers holding valid ARRL Emergency Communications certificates of completion will be recognized for this knowledge.
- **Joint exercises:** Chapters, Sections and subordinate units of each organization will be encouraged to engage in joint training exercises.
- **ARRL Field Day:** The Red Cross will encourage all chapters to participate in ARRL Field Day, the Simulated Emergency Test (SET) and other emergency exercises. Participation may take many forms, including Red Cross officials visiting and touring sites to better understand the capabilities of local ARRL volunteers and ARES® units, or the joint use of Red Cross equipment such as vehicles or trailers.
- **Planning:** Planning needs will be identified, tasked and completed to address issues beneficial to both organizations in responding to events. Such issues can be, but are not limited to pre-staging communications equipment, coordination of Mass Care and Damage Assessment support activities, and catastrophic disaster plans for high risk areas of the United States.

During disasters

- **On-scene cooperation:** Both ARRL volunteers and American Red Cross workers will work cooperatively at the scene of a disaster and in the disaster recovery, within the scope of their respective roles and duties as recommended in *Attachment D, ARRL Roles on Red Cross Disaster Relief Operations*.
- **National HQ coordination:** Operational coordination between Red Cross HQ and ARRL HQ will occur through the primary points of contact as shown in *Attachment A, Organization Contact Information* or other officially designated staff. Reports and data that are mutually beneficial to each organization's operations and mission assignments

will be exchanged.

- **Communications:** Whenever there is a disaster requiring the use of amateur radio communications resources and/or facilities, the local Red Cross Chapter may request the assistance of the local ARES organization responsible for the jurisdiction of the scene of the disaster. This assistance may include: alert and mobilization of ARRL ARES® personnel in accordance with a prearranged plan; establishment and maintenance of fixed to support the disaster response, mobile, and portable station emergency communication facilities for local radio coverage; point-to-point contact between Red Cross personnel and locations; and the maintenance of the continuity of communications for the duration of the emergency period until normal communications channels are substantially restored, or until radio communications are no longer necessary in support of the response to the disaster.
- **Equipment sharing:** Each organization may request equipment for temporary use to support operations. The specifics of responsibility and liability of the loaned equipment will be developed as part of plans and procedures, in writing, and are separate from this agreement.
- **Health and Welfare Messages:** The Red Cross processes general welfare messages through the Red Cross Safe & Well web site. ARRL volunteers are encouraged to assist in registering people on the Safe & Well website by passing the required information from a point in the disaster area to someone outside the disaster area who can enter the information on the Safe & Well website. No special training or pre-defined agreements are necessary for ARRL volunteers to do this. [The Safe and Well](http://www.redcross.org) website is located on www.redcross.org.

V. General

- a. The Red Cross and ARRL will use or display the name, emblem, or trademarks of the other organization only in the case of defined projects and only with the prior, express, written consent of the other organization.
- b. The Red Cross and ARRL will keep the public informed of their cooperative efforts through their public information offices during the time of disaster.
- c. The Red Cross and ARRL will widely distribute this MOU within the respective departments, administrative offices and subordinate levels of each organization and urge full cooperation.
- d. The Red Cross and ARRL will allocate responsibility for any shared expenses in writing in advance of any commitment.
- e. Local units of the Red Cross and subordinate levels in the ARRL Field Organization that desire a localized MOU to meet specific needs and conditions will utilize a format as shown in *Attachment C, Sample Statement of Cooperation for local organizational units*.
- f. ARRL agrees to adhere to *Attachment B - the Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief* as it applies to disaster-caused situations in the USA. Attachment B will not be changed without a resigning of the MOU by both parties.

VI. Periodic Review and Analysis

Representatives of the Red Cross and ARRL will, on an annual basis on or around the anniversary date of this MOU, jointly evaluate their progress in implementing this MOU and revise and develop new plans or goals as appropriate.

VII. Term and Termination

This MOU is effective as of the date of the last signature below and expires on MARCH 24, 2015 five years from the signature date. The parties may extend this MOU for an additional period not exceeding five years, and if so shall confirm this in a signed writing. It may be terminated by written notice from either party to the other at any time.

VIII. Miscellaneous

Neither party to this MOU has the authority to act on behalf of the other party or bind the other party to any obligation. This MOU is not intended to be enforceable in any court of law or dispute resolution forum. The sole remedy for non-performance under this MOU shall be termination, with no damages or penalty.

IX. Signatures**American Red Cross****ARRL**

By: <u> </u>	By: <u> </u>
Signature	Signature
Name: <u>Joseph C. Becker</u>	Name: <u>Kay Craigie</u>
Print Name	Print Name
Title: <u>Senior Vice President, Disaster Services</u>	Title: <u>President, ARRL</u>
Print Title	Print Title
Date: <u>March 25, 2010</u>	Date: <u>March 25, 2010</u>

ATTACHMENT A – Organization Contact Information**Primary Points of Contact**

The primary points of contact in each organization will be responsible for the implementation of the MOU in their respective organizations, coordinating activities between organizations, and responding to questions regarding this MOU. In the event that the primary point of contact is no longer able to serve, a new contact will be designated and the other organization informed of the change. Contact changes do not require any renegotiation of this MOU.

Relationship Manager* and Operational Contact**

American Red Cross		ARRL	
Contact	Keith Robertory	Contact	David Patton
Title	Manager, Disaster Technology	Title	Manager, Membership and Volunteer Programs
Office phone	202-303-8628	Office phone	860-594-0272
24x7 Contact	202-303-4126	Mobile	
e-mail	robertoryk@usa.redcross.org or dst@usa.redcross.org	e-mail	nn1n@arrl.org

*The Relationship Manager is the person that works with the partner organization in developing and executing the MOU.

**The Operational Contact is the person each organization will call to initiate the disaster response activities as defined in the MOU.

Organization Information

American Red Cross		ARRL	
Department	Disaster Services Technology	Department	ARRL
Address	2025 E Street, NW Washington, DC 20006	Address	225 Main Street Newington, CT 06111-1494
e-mail	dst@usa.redcross.org	e-mail	info@arrl.org
Website	http://www.redcross.org/	Website	www.arrl.org

ATTACHMENT B

Code of Conduct for The International Red Cross and Red Crescent Movement and NGOs in Disaster Relief

Principle Commitments:

1. The Humanitarian imperative comes first.
2. Aid is given regardless of the race, creed or nationality of the recipients and without adverse distinction of any kind. Aid priorities are calculated on the basis of need alone.
3. Aid will not be used to further a particular political or religious standpoint.
4. We shall endeavor not to act as instruments of government foreign policy.
5. We shall respect culture and custom.
6. We shall attempt to build disaster response on local capacities.
7. Ways shall be found to involve program beneficiaries in the management of relief aid.
8. Relief aid must strive to reduce future vulnerabilities to disaster as well as meeting basic needs.
9. We hold ourselves accountable to both those we seek to assist and those from whom we accept resources.
10. In our information, publicity and advertising activities, we shall recognize disaster victims as dignified human beings, not hopeless objects.

More information about the code of conduct can be found at <http://www.ifrc.org/publicat/conduct/>

The Code Register

The International Federation is keeping a public record of all those NGOs who register their commitment to the Code. The full text of the Code including a [registration form](#) is published by the International Federation and is available upon request. (Telephone +41 22 7304222, Fax +41 22 7330395).

Non-governmental Organizations who would like to register their support for this Code and their willingness to incorporate its principles into their work should fill in and return the [registration form](#).

ATTACHMENT C – Sample Statement of Cooperation for local organizational units**American Red Cross XXX Chapter and <<XXX>> Cooperative Agreement**

The purpose of this Statement of Cooperation is to document the relationship between the American Red Cross XXXXX Chapter and the <<XXX (insert ARRL Section, ARES® unit or local radio club)>> for the purposes of disaster planning and response. This Statement of Cooperation provides the methods of cooperation between the two organizations in rendering assistance and service to victims of disaster, as well as other services for which cooperation may be mutually beneficial. This Statement of Cooperation incorporates by reference the details and limitations contained in the national MOU between the American Red Cross and the ARRL, the national association for Amateur Radio (the “ARRL”). Each organization retains its own identity in providing services, and each is responsible for establishing its own policies and financing its own activities.

Concept of Cooperation

The American Red Cross XXXXX Chapter and <<XXXX>> agree to the methods of cooperation listed in the American Red Cross and ARRL national MOU. In addition, they agree to the following specific local methods of cooperation.

The American Red Cross XXXXX Chapter will:

- Incorporate <<XXX>> in its response plans (EXAMPLE)
- Provide preparedness training opportunities (EXAMPLE)
- Provide shelter training (EXAMPLE)

<<XXX>> will:

- Provide personnel to assist with communications in support of disaster relief roles as agreed upon (EXAMPLE)
- Expand their communications support to other activities within the disaster response system (Disaster Assessment, ERV driving)
- Add another action as needed (EXAMPLE)

This Statement of Cooperation is effective as of the date of the last signature below and expires on _____. It may be terminated by written notice from either party to the other at any time.

Neither party to this Statement of Cooperation has the authority to act on behalf of the other party or bind the other party to any obligation. This Statement of Cooperation is not intended to be enforceable in any court of law or dispute resolution forum. The sole remedy for non-performance under this Statement of Cooperation shall be termination, with no damages or penalty.

The primary points of contact are:

American Red Cross XXXXX Chapter	<<XXX>>
Contact:	Contact:
e-mail:	e-mail:
Office:	Office:
Mobile:	Mobile:

Signature American Red Cross XXXXX

Signature <<XXX>>

Print Name: _____ Print Name: _____

Date: _____ Date: _____

Review Date (after one year): _____

ATTACHMENT D – ARRL Roles on Red Cross Disaster Relief Operations

During a Red Cross Disaster Relief Operation (DRO), ARRL volunteers may perform in any of the following roles. These are examples of actual roles; they may or may not actually be included in all operations depending on the needs of the operation. It is possible that one person can support multiple roles or one role may require support from several people. This is not an exhaustive list and ARRL volunteers who have taken Red Cross Disaster Services training can participate in other roles. ARRL volunteers who are assigned roles by the Red Cross during a DRO will be provided with Red Cross credentials as required by the role, consistent with Red Cross policy.

Amateur Radio Liaison: This role is for a person who is familiar with both Red Cross and local amateur radio operations. This role would establish contact with the local ARES unit, amateur radio club and repeater owners to provide a single technical-level point of contact for the DRO. If local agreements already exist, this role could be pre-designated. It would be expected that this role would be linked to a similar role in the partner organization.

Communication Equipment Operator: This is a standard radio operator role for someone who would operate a two-way radio or other communication device at a fixed facility or mobile/portable location to support the DRO. They would pass messages from point to point either directly or through a message relay. Operators may use DRO-issued equipment or personally-owned equipment, and they may be on amateur radio frequencies or frequencies coordinated or licensed by the Red Cross.

Communication Equipment Installation / Repair: This is a more technically hands-on role than the Operator. In this role, the person would be asked to temporarily install two-way radio equipment into a facility or vehicle that is under Red Cross authority through ownership, lease or rental. The equipment could include base-station radios, mobile radios and appropriate antennas. Equipment may also require field repairs, such as the radios installed into Red Cross ERVs.

Disaster Assessment: Individuals who have taken the necessary training with the Red Cross can assess the damage caused by a disaster, and use their radio skills to relay that information back to a central point that will use the information to develop a complete picture of the event.

Appendix 2: Mail Pre-Notification/Invitation Letter

(Letter was sent on official WVU School of Journalism letterhead)

<<Month>> <<Day>>, 2012
<<First_Name>> <<Last_Name>>
<<Organizational_Title>>
<<Red_Cross_Chapter>>
<<Mail_Address>>
<<Mail_City>>, <<Mail_State>> <<Mail_Postal_Code>>

Dear <<Salutation>> <<Last_Name>>:

I am writing to ask for your help in an important study regarding the current state of the relationship between the individual American Red Cross chapters and local Amateur Radio Emergency Service® (ARES) groups. This study is being conducted as part of my master's thesis for the Perley Isaac Reed School of Journalism at West Virginia University. Dr. Rita Colistra is the faculty adviser for the project. West Virginia University's Institutional Review Board (IRB) has acknowledgment of this study on file.

A few days from now you will receive an e-mail message sent to <<Email>> with instructions and a link to a short survey. It is imperative to the study that you respond, even if no partnership exists between your Red Cross chapter and local ARES group. I am writing to you in advance because I realize that many people like to know that they will be contacted ahead of time. If the e-mail address listed above is incorrect or there is someone else at your chapter who is more familiar with your local ARES group, please contact me at bbrown27@mix.wvu.edu and I will send a link to the survey.

This research study is important because it will raise awareness of the partnership between the Red Cross and ARES groups, and it will familiarize other organizations with both group's resources. Your response is crucial to the study's success.

Your answers are private and confidential. I guarantee that your responses will not be identified with you personally. The results of this project will be summarized and presented in various formats, but it will be impossible for anyone to match responses with individual names or chapters. Participation in this survey is voluntary. You may choose to quit the survey at any time. However, I do hope that you choose to participate, as you can add to the accuracy and value of the project.

Regardless of whether you choose to participate, you are welcome to a summary of my findings. To receive a summary, hit "reply" to the e-mail invitation that you will soon receive, and send me a message with the request. If you have any questions or concerns about participating in the study, feel free to contact me anytime by e-mail bbrown27@mix.wvu.edu or by phone (304) 216-9573.

Sincerely,

Bayley B. Brown
Graduate Student
Perley Isaac Reed School of Journalism
West Virginia University

P.S. If you would prefer to complete the survey by mail or phone, please contact me and I will be happy to accommodate you.

[Parts adapted from] Colistra, R. F. (2008). *Reporter perceptions of influences on media content: A structural equation model of the agenda- and frame-building and agenda-cutting processes in the television industry*. (Unpublished version of doctoral dissertation). University of North Carolina, Chapel Hill.
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Appendix 3: E-mail Invitation/Recruitment Message for Potential Survey Participants

<<Salutation>> <<Last_Name>>

A few days ago, you should have received a letter via postal mail asking for your participation in an important research survey as part of my master's thesis research for the Perley Isaac Reed School of Journalism at West Virginia University. The research study is evaluating the current state of the individual partnerships between the American Red Cross chapters and their corresponding local Amateur Radio Emergency Service ® (ARES) groups.

It's my understanding that you work with the <<Red_Cross_Chapter_Name>> chapter of the American Red Cross. If this is an incorrect e-mail address, please send a response, so I can obtain the correct information from the chapter.

If you are interested in participating, you can follow this link to the brief survey: <<**Respondent-Specific_URL**>>. It should only take a few minutes of your time. Keep in mind that there are no right or wrong answers, I am only interested in your opinion on the relationship between your Red Cross chapter and your local ARES group. You may complete and submit the survey electronically from any computer with internet access.

The results are valuable because it will help raise awareness of the partnership between the Red Cross and ARES groups, and it will familiarize other organizations of both group's resources. Your response is crucial to the research study's success. Your opinions and expertise are highly valued.

Your results are completely confidential and will be released only as summaries and presented in various formats. It will be impossible for individual names, chapters, and answers to be identified. This survey is voluntary, and there is no penalty if you do not participate. You may also choose to quit the survey at any time. If you prefer not to respond, please send a short e-mail asking to be removed from the list. However, I hope you choose to participate, as you can add to the value of this project by taking a few minutes to share your opinions and knowledge about the partnership between your Red Cross chapter and your local ARES group.

Regardless of whether you choose to participate, you are welcome to a summary of my findings. To receive a summary, reply to this e-mail with the request. I hope you will consider participating. Again, you can follow this link to the survey <<**Respondent-Specific_URL**>>.

If you have any questions or concerns about completing this survey, I would be happy to talk with you. You can reach me anytime by e-mail bbrown27@mix.wvu.edu or by phone (304) 216-9573. West Virginia University's Institutional Review Board (IRB) has acknowledgment of this study on file.

Thank you for helping with this important study.

Sincerely,

Bayley B. Brown
Graduate Student
Perley Isaac Reed School of Journalism
West Virginia University

P.S. Again, if this is an incorrect e-mail address, please send an e-mail response, so I can obtain the correct information from the chapter.

[Parts adapted from] Colistra, R. F. (2008). *Reporter perceptions of influences on media content: A structural equation model of the agenda- and frame-building and agenda-cutting processes in the television industry*. (Unpublished version of doctoral dissertation). University of North Carolina, Chapel Hill. Reprinted with permission from author.

Appendix 4: Consent for Web Survey

IRB Study # H-23691

By participating in this online survey, you agree to participate in a study being conducted by a master's student at West Virginia University. Your participation is voluntary and you may quit at any time. All precautions have been taken so there are no risks to your participation, unless you feel uncomfortable answering questions about the partnership between you Red Cross chapter and local ARES group and a few general questions about yourself. If you have any questions about this study, you may contact the principal investigator, Bayley Brown, at bbrown27@mix.wvu.edu or (304) 216-9573. The faculty adviser for the project, Dr. Rita F. Colistra, may also be contacted at Rita.Colistra@mail.wvu.edu or (304) 293-6793.

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. West Virginia University's Institutional Review Board (IRB) has acknowledgment of this study on file. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at (304) 293-7073 or Johnathan.Young@mail.wvu.edu. If you contact the IRB, please refer to study number H-23691.

What is the purpose of this study?

The purpose of this research study is to assess, through opinions of the Red Cross members, the current state of the local partnerships between the American National Red Cross chapters and their corresponding Amateur Radio Emergency Service ® groups.

How many people will take part in this study?

If you decide to take part in this study, you will be one of approximately 571 chapter representatives asked to participate in this survey.

How long will your part in the survey last?

The survey takes approximately nine minutes to complete.

How will your privacy be protected?

Every effort will be made to ensure that your privacy and confidentiality will be protected. Your name and contact information will only be used to track who has or has not responded so reminder messages may be sent. Your name and chapter will not be used any of the information obtained from this study or in any of the research reports. No information will be attributed to any individual participant or chapter. Results of each question will be compiled electronically by the Web survey program, and only I, Bayley Brown, and my thesis chair will have access to these data. I will avoid deductive disclosure by limiting my analysis to the overall data collected by respondents.

Thank you for your participation in this research.

Please click on the arrow in the right-hand corner below to begin the survey.

[Parts adapted from] Colistra, R. F. (2008). *Reporter perceptions of influences on media content: A structural equation model of the agenda- and frame-building and agenda-cutting processes in the television industry*. (Unpublished version of doctoral dissertation). University of North Carolina, Chapel Hill. Reprinted with permission from author.

Appendix 5: Survey Questions

Note: Questions won't be numbered in the actual Web survey. Numbers are only provided for clarity and in-text reference.

Please answer the following questions with your best estimate. There are no right or wrong answers. I am only interested in your viewpoints about the partnership between your American Red Cross chapter and local ARES group.

1) Does your American Red Cross chapter *currently* work with your local ARES group?

a) yes

→ if yes, estimate number of years _____

If yes, skip to Q 4

b) no

2) Has your American Red Cross chapter worked with your local ARES group *in the past*?

a) yes

→ if yes, estimate number of years _____

b) no

→ if no, why?

If no, skip to Q 38

3) Why did the partnership with the ARES group in your area dissolve?

Please check all that apply

- ☐ lack of amateur radio operators
- ☐ newly required background checks created tension
- ☐ lack of interest from Red Cross chapter

- ☐ lack of interest from ARES group
- ☐ communication breakdown
- ☐ there is no longer an ARES group in the area
- ☐ the Red Cross staff and volunteers are limited at chapter
- ☐ other, please specify:

Skip to Q 38

4) On average, how often would you say your American Red Cross chapter is in contact with your local ARES group?

- a) daily
- b) weekly
- c) monthly
- d) a few times a year
- e) yearly
- f) only during emergencies
- g) never

→ why?

**If never, skip to
Q 38**

5) When disasters occur, how often has your Red Cross chapter worked with your local ARES group?

a) every time

b) most times

c) every so often

d) very little

e) only during severe disasters

f) my area hasn't had a disaster since I've been working at the Red Cross

g) never

→ why?

Please choose, on a scale of 1 to 7, the option that most closely corresponds with your viewpoint. There are no right or wrong answers. I am only interested in your viewpoints about the partnership between your American Red Cross chapter and local ARES group.

6) Estimate how quickly, from the onset of a disaster, your Red Cross chapter contacts the local ARES group.

Never

1

2

3

4

5

6

Almost immediately

7

7) During emergencies, how often does current, appropriate information regarding the disaster communicated effectively between your Red Cross chapter and the local ARES group?

Never

1

2

3

4

5

6

Always

7

- 8) How often does your local ARES group share changes in radio regulations with your Red Cross chapter in a timely manner?

<i>Never</i>						<i>Always</i>
1	2	3	4	5	6	7

- 9) How often does your local ARES group share changes in technology with your Red Cross chapter in a timely manner?

<i>Never</i>						<i>Always</i>
1	2	3	4	5	6	7

- 10) How often does your local ARES group share changes in legislation related to communications with your Red Cross chapter in a timely manner?

<i>Never</i>						<i>Always</i>
1	2	3	4	5	6	7

- 11) How often does your Red Cross chapter work with the local ARES group when communications emergency response training exercises take place?

<i>Never</i>						<i>Always</i>
1	2	3	4	5	6	7

- 12) Are there any power discrepancies between you Red Cross chapter and ARES group?

<i>Never</i>						<i>Always</i>
1	2	3	4	5	6	7

- 13) Do you feel that the personnel and volunteers at your Red Cross chapter trust the ARES volunteers?

<i>Never</i>						<i>Always</i>
1	2	3	4	5	6	7

- 14) How often do you feel that both your Red Cross chapter and local ARES group influence agendas?

<i>Never</i>						<i>Always</i>
1	2	3	4	5	6	7

15) How often do you feel that the activities vital to the partnership are executed effectively?

<i>Never</i>						<i>Always</i>
1	2	3	4	5	6	7

16) How encouraging is your local ARES group for the Red Cross volunteers to become ARES members?

<i>Not at all</i>						<i>Very encouraging</i>
1	2	3	4	5	6	7

17) How encouraging is your Red Cross chapter for the local ARES volunteers to become members of your Red Cross chapter?

<i>Not at all</i>						<i>Very encouraging</i>
1	2	3	4	5	6	7

18) Do you feel that cross-membership, or the possibility thereof, between the two organizations makes working together complex?

<i>Not at all</i>						<i>Very complex</i>
1	2	3	4	5	6	7

19) Was there tension between your Red Cross chapter and the local ARES group after the background check was introduced?

<i>No tension</i>						<i>Much tension</i>
1	2	3	4	5	6	7

20) How effective is the on-scene cooperation during disasters between your American Red Cross chapter and the local ARES group?

<i>Not effective</i>						<i>Very effective</i>
1	2	3	4	5	6	7

21) How effective is the communication between the American National Red Cross Headquarters and the ARRL Headquarters (the national association for the amateur radio clubs)?

<i>Not effective</i>						<i>Very effective</i>
1	2	3	4	5	6	7

22) How effective are the ARES volunteers in assisting with the delivery of health and welfare messages to the Red Cross volunteers responsible for entering the information into the Safe and Well website?

Not effective 1 2 3 4 5 6 *Very effective*
7

23) Do you feel that the partnership between your Red Cross chapter and local ARES group is achieving something?

No achievement 1 2 3 4 5 6 *Much Achievement*
7

Please choose the option that is your best estimate. There are no right or wrong answers. I am only interested in your viewpoints about the partnership between your American Red Cross chapter and local ARES group.

24) How often does disaster planning and preparedness occur between your Red Cross chapter and the local ARES group?

- a) weekly or more
- b) monthly
- c) a few times per year
- d) yearly
- e) there is already an established plan
- g) never

25) How often do the ARES volunteers participate in training others during the first aid courses offered by your Red Cross chapter?

- a) weekly or more
- b) monthly
- c) a few times per year

- d) yearly
 - e) every few years
 - f) never
 - g) no first aid courses are offered by my Red Cross chapter
- 26) How often do the ARES volunteers participate in training others during the CPR courses offered by your Red Cross chapter?
- a) weekly or more
 - b) monthly
 - c) a few times per year
 - d) yearly
 - e) every few years
 - f) never
 - g) no CPR courses are offered by my Red Cross chapter
- 27) How often do the ARES volunteers participate in training others during the health courses (ex. parenting and blood pressure reading classes) offered by your Red Cross chapter?
- a) weekly or more
 - b) monthly
 - c) a few times per year
 - d) yearly
 - e) every few years
 - f) never
 - g) no health courses are offered by my Red Cross chapter

28) How often does your local ARES group provide communications training and licensing to Red Cross volunteers?

- a) weekly or more
- b) monthly
- c) a few times per year
- d) yearly
- e) every few years
- f) never
- g) don't know

29) How often does your Red Cross chapter work with your local ARES group when providing community disaster education to the public?

- a) weekly or more
- b) monthly
- c) a few times per year
- d) yearly
- e) every few years
- f) never
- g) community disaster education isn't provided by my Red Cross chapter

30) How often do your Red Cross officials tour ARES facilities to better understand the local ARES group?

- a) weekly or more
- b) monthly
- c) a few times per year
- d) yearly

- e) every few years
 - f) never
 - g) the ARES group doesn't have facilities
 - h) the facilities are shared by both groups
- 31) How often does your Red Cross chapter share equipment, such as vehicles and trailers, with your local ARES group?
- a) weekly or more
 - b) monthly
 - c) a few times per year
 - d) yearly
 - e) every few years
 - f) only during emergencies
 - g) never
 - h) my Red Cross chapter doesn't own equipment
- 32) How often does your local ARES group share equipment with your Red Cross chapter?
- a) weekly or more
 - b) monthly
 - c) a few times per year
 - d) yearly
 - e) every few years
 - f) only during emergencies
 - g) never

h) the local ARES group doesn't own equipment

Please use your best estimate when answering the following questions. There are no right or wrong answers. I am only interested in your viewpoints about the partnership between your American Red Cross chapter and local ARES group.

33) About how many volunteers are members of *both* your Red Cross chapter and the local ARES group?

a) 0-5

b) 6-10

c) 11-15

d) 16-20

e) 21-25

f) 26+

34) Is your local ARES group working toward training more radio operators?

a) yes, please estimate number of new operators in the last 6 months _____

b) no, why?

c) don't know

35) What communications emergency response training exercises is your Red Cross chapter and/or the local ARES group involved with?

Please check all that apply

☐ ARRL Field Day

☐ Simulated Emergency Test (SET)

☐ other, please specify:

☐ don't know

☐ no emergency response training exercises take place

36) What emergency planning takes place between your Red Cross chapter and the local ARES group?

Please check all that apply

☐ pre-staging communications equipment

☐ coordination of mass care and damage

☐ assessment support activities

☐ catastrophic disaster plans

☐ other, please specify:

*Now I would like to know a little about you and your role with your Red Cross chapter.
Please fill in the blank or choose the best answer that applies.*

37) Do you personally work directly with your local ARES group?

a) yes

b) no

38) How long have you been working with the Red Cross in some capacity?_____

39) How long have you been working with your current Red Cross chapter? _____

40) What is the name of your official position within your Red Cross chapter? _____

41) Your gender is

a) male

b) female

c) decline to answer

42) What is your age?

a) 18-24

b) 25-34

c) 35-44

d) 45-54

e) 55-64

f) 65+

If you have additional comments, please type them in the box below:

--

Thank you for your time and cooperation!
For questions or added input,
please contact me at bbrown27@mix.wvu.edu or 304-216-9573

Appendix 6: First E-mail Reminder Message

<<First_Name>>,

A few days ago, I sent you an e-mail message with a link to a survey regarding the current state of the partnership between your Red Cross chapter and local ARES group.

If you have already completed the questionnaire, thank you! If you were in the process of filling out the survey but were interrupted, you can return to it and finish it by following this link to the survey: <<**Respondent-Specific_URL**>>.

If you haven't had a chance to review the survey, I hope you will do so soon. It should take nine minutes or less to complete. The information from the survey could help raise awareness of the actual extent of the partnership between the Red Cross and ARES groups, and it will familiarize other organizations with both group's resources. If you do not have a partnership with your local ARES group, your input will be especially valuable because it will provide accurate insight into the extent of this partnership. It will also help me complete my master's thesis!

Thank you for participating in the study of the extent of the partnership between the individual Red Cross chapters and ARES groups. Please follow this link to the survey: <<**Respondent-Specific_URL**>>.

This is a research study. West Virginia University's Institutional Review Board (IRB) has acknowledgment of this study on file.

If you have any comments or questions, please feel free to contact me by e-mail bbrown27@mix.wvu.edu or by phone (304) 216-9573.

Sincerely,

Bayley Brown
Graduate Student
Perley Isaac Reed School of Journalism
West Virginia University

[Parts adapted from] Colistra, R. F. (2008). *Reporter perceptions of influences on media content: A structural equation model of the agenda- and frame-building and agenda-cutting processes in the television industry*. (Unpublished version of doctoral dissertation). University of North Carolina, Chapel Hill.
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Appendix 7: Second/Final E-mail Reminder Message

<<First_Name>>

During the last few weeks I have sent you several e-mails regarding an important study about the current state of the relationship between the individual American National Red Cross chapters and Amateur Radio Emergency Service ® (ARES) groups.

I need about 100 more surveys completed and I need your help! It will only take nine minutes or less to complete the survey. This is a research study. West Virginia University's Institutional Review Board (IRB) has acknowledgment of this study on file.

This survey is important because it will help raise awareness of the actual extent of the partnership between the Red Cross and ARES groups, and it will familiarize other organizations with both group's resources. Your opinions on your local alliance, or lack thereof, is vital to the accuracy of this study.

If you would like to participate now but have disregarded or misplaced the previous messages, **please follow this link to the survey:** <<Respondent-Specific_URL>>

I am concluding the project at the end of the day on Monday and would really like to include your opinions in the final report. Your response is important to this study's success, as I need 100 more survey completions to reach my required response goal. Your time, opinions, and expertise are highly valued. Plus, you would help me complete my master's thesis!

A few notes:

- 1) If you have "finished" the survey but continue to receive reminder messages, you likely need to officially close out your survey. To do so, click on the link in this e-mail, and it should take you to the page with the "comments" box. You need to click on the arrow in the lower right-hand corner, which will take you to the "Your data has been collected" page. This closes out the survey and records your responses. Or, if you prefer, send a reply to this message with the words "do it for me" in the subject line or body of the message, and I will close out the survey for you.
- 2) If you don't feel comfortable taking this survey via your work e-mail, you can forward this message to a personal e-mail account and take the survey from there.
- 3) If you have started the survey, you can finish it by clicking on the link in this message.
- 4) If you requested/received/completed a survey by mail, please disregard this message.

Again, you can access the survey by following this link: <<Respondent-Specific_URL>>

If you have any questions or concerns about completing this survey, you can reach me by e-mail at bbrown27@mix.wvu.edu or by phone at (304) 216-9573.

Thank you for considering my request as I conclude this effort in gathering opinions regarding the current state of the relationship between the Red Cross chapters and ARES groups.

Sincerely,

Bayley Brown
Graduate Student
Perley Isaac Reed School of Journalism
West Virginia University

[Parts adapted from] Colistra, R. F. (2008). *Reporter perceptions of influences on media content: A structural equation model of the agenda- and frame-building and agenda-cutting processes in the television industry*. (Unpublished version of doctoral dissertation). University of North Carolina, Chapel Hill. Reprinted with permission from author.

Gender

Red Cross Staff Works Directly with ARES group

Number of Years of Partnership

Red Cross chapters who have worked with ARES in the past

Number of Years of Past Partnership

Cross-membership between ARES group and Red Cross chapter

Is the local ARES group working toward training more radio operators?

n= 63

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