Implementing Interagency Disaster Management in a Rural Maine County

Waldo County is a small rural mid-coast region located in the State of Maine. The majority of the public services in this county are executed at the municipal level of government. Thus far, the majority of this county’s communities are too sparse in population to have comprehensive emergency response, emergency management and public health services and programs. Historically, there have been little public expectations and therefore, little capability for implementing interagency disaster management. However, current development and population growth is beginning to warrant the need and expectations for wide-ranging emergency services and programs. In order for this county to realize an efficient and effective use of limited emergency resources, interagency disaster management will need to be implemented. The outcome of this case study will be to analyze the current conditions and capabilities, determine the challenges that confront the emergency services in this rural county and to suggest possible solutions and processes to implement inter-agency disaster management.

The purpose of this study is to examine the interagency disaster management system for a rural jurisdiction in the northeastern United States, determine the jurisdiction’s level of incorporation and acceptance, and develop potential implementation strategies for improving this jurisdiction’s interagency disaster management capabilities. Although every jurisdiction is different, with diverse characteristics and conditions, this study may be utilized as an experiment that is adapted to other similar jurisdictions. The author will review, analyze and suggest solutions for this rural jurisdiction in the State of Maine, utilizing national public and private standards and publications to determine its level of interagency disaster management capabilities.
Waldo County is located along the mid coast of the State of Maine and is one of sixteen county governments in Maine. The State of Maine is an Atlantic maritime state and is the most northeastern state in the United States. Maine shares most of its border with the Canadian Providences of Brunswick and Quebec. Its American border is shared with the State of New Hampshire, both of whom are apart of the New England region. The surface area of Waldo County contains 730 square miles; of which 607 square miles is land surface (85.6%) and the remaining is 123 square miles of water bodies and ocean territory (14.4%). (U.S. Census 2006).

According to the U.S. Census’ 2006 estimate, Waldo County consists of 38,715 residents living in 14,726 households and deriving a population density of 53 people per square mile. (U.S. Census 2006) There are twenty-five incorporated towns and one incorporated city contained located within the borders of Waldo County. The county seat or shiretown of Waldo County is the City of Belfast, first settled in 1769, which gained the name of Belfast in 1773 and was incorporated as a city in 1853.

The government of the County of Waldo is limited in scope and contains the County Commissioner’s Office, the Treasurer's Office, the Sheriff's Office and Jail, the Registry of Deeds, Probate Court, the Regional Communications Center and the Emergency Management Agency (EMA). All told, there are 118 full and part-time employees. In the State of Maine, the majority of local government services are not conducted at the county-level, but instead at the municipal level of government. Maine municipal governments are responsible for Finances, Tax Collection, Vital Records, Road Maintenance and Snow Removal, Cemetery Maintenance, Refuse Collection, Land Use Planning/Zoning, Code Enforcement, Animal Control, Fire Protection and Emergency Medical Services (EMS). Some municipal governments also provide
law enforcement services. The twenty-five towns in Waldo County vary from 500 to 3,600 residents, while the City of Belfast has 6,300 residents.

According to the *Waldo County Hazard Vulnerability Assessment*, the top hazards are Structure Fires involving multiple structures, Severe Winter Storms, Epidemic and Pandemic Disease Outbreaks, Roadway Flooding, Transportation Accidents which cause Mass Casualties, Major Forest Fires, Hurricanes, and Hazardous Material Releases. Within the County, there is a chemical manufacturer produces and transports chlorine, sulfuric acid and ammonia. Two major state routes, U.S. Route 1 and 3, run parallel through the County.

To protect the residents of Waldo County, the county and municipal governments operate and maintain law enforcement, fire protection and EMS capabilities. Currently, according to the *Waldo County Public Safety Resource Manual*, there are thirty four (34) county and municipal full and part-time law enforcement officers, roughly 400 volunteer firefighters and approximately 100 volunteer emergency medical technicians (EMT), 2 full time emergency managers and twenty-six (26) volunteer emergency managers. However, many of the police officers, firefighters, EMTs and emergency managers serve on multiple agencies and many serve in more then one capacity. The County maintains the only 911 call and dispatch center. There is one 25-bed hospital located in the City of Belfast.

Two Waldo County municipalities have no fire, EMS or law enforcement departments and the towns rely on neighboring towns or the County for all public safety services. Fifteen municipalities have no EMS and rely on regional volunteer ambulance companies for coverage. Twenty one municipalities have no local law enforcement officers and rely on the County Sheriff’s Office for coverage. There are no special weapons and tactical teams (SWAT), explosive ordnance disposal (EOD) teams or hazardous materials response teams located
anywhere within the county. There are no mobile command vehicles, mass casualty response trailers, ocean-capable rescue boats, or airborne assets maintained for public safety purposes.

Until the 1940s, Waldo County’s population steadily declined during the preceding one hundred years (100) years (Fogler Library). Throughout its history, the State of Maine tended to lose much of its youth to emigration due to opportunities in other parts of the United States. Beginning in the 1970s, citizens from other states began to relocate to rural areas in Maine, such as Waldo County, in order to start a new life away from urban and suburban settings. During the 1970’s and 1980’s, population growth rates spiked in rural Maine. During the period from 2000 to 2006, the population growth in Waldo County (6.7%) was nearly twice the population growth of the State of Maine (3.7%) (U.S. Census). Much of the new home construction has taken place in either ocean front property, in the wildland-urban interface or in condominiums. (Waldo County Hazard Mitigation Plan p. 79). Additionally, as residential construction and population increases in the County, the demand on fire protection, EMS and law enforcement services also increases.

According to the U.S. Census, the State of Maine has the “oldest” resident population in the nation with a Median Age of 41.0 years. The national median age is 36.4 years. (U.S. Census 2006). Many of Maine’s elderly are located in the rural parts of the state and live in poverty. The situation with Maine’s aging population is beginning to strain the volunteer ambulance and law enforcement services in Waldo County.

A consequence of the immigration from other U.S. states is the increase in expectations for public safety response capability. Until the late 1940s, most towns in Waldo County did not even have a volunteer fire department. Most volunteer ambulance services located in the County began in the 1970s. Keeping taxes to a minimum was the primary concern of many of the “native” residents who never expected to receive public safety services.
Waldo County has had very little history of Interagency Disaster Management, primarily due to its very short history of even having emergency services and emergency management organizations. Until the last couple of decades, the only law enforcement agencies in the County were the Waldo County Sheriff’s Office and the Belfast City Police. The only volunteer fire department that existed prior to World War Two was the Belfast Fire Department and the only ambulance service prior to the 1970’s was the Belfast Ambulance Service. The County Office of Civil Defense began in 1951 and in that year each town appointed a municipal civil defense director. At that time, the Civil Defense program was focused on establishing fallout shelters.

Following the devastating forest fires that occurred in Maine in 1947, the state legislature passed the Maine Civil Defense and Public Safety Act of 1949 that established the State of Maine Civil Defense and Public Safety Agency. In 1972, the Agency was renamed the Bureau of Civil Defense. Two years later, the agency title was changed to the Bureau of Civil Preparedness. Following the worst flooding in over a hundred years in 1987, the bureau’s name was again changed – this time to the Maine Emergency Management Agency. (MEMA History 2007). The change in name at the state level also led to the change of name of the Waldo County Office of Civil Defense to the Waldo County Emergency Management Agency. With the change in name came a new mission - all hazards interagency disaster management.

Interagency disaster management in Maine was born with the name change in 1987. Another driving force for the development of interagency disaster management in Maine was the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). This federal law required the development of Local Emergency Planning Committees (LEPC) to initiate emergency response planning for hazardous material releases. In the Maine, the LEPC management fell under the responsibility of the County EMA office.
Following the development of a very large and cumbersome County Hazardous Materials Response Plan (HMRP) in 1989 little was accomplished for the next decade and a half in terms of interagency disaster management in Waldo County. In January 2006, the new Waldo County EMA Director discovered municipal copies of the 1989 County HMRP still in a box in a closet waiting to be distributed. The County Emergency Operations Plan (EOP) had never been completed and signed. Before 1998, there were no written mutual aid agreements between the County EMA office and any other emergency management support entities. Following a State-wide ice storm disaster event in 1998, agreements were signed with local utility companies.

Until 2001, there were no written fire protection mutual aid agreements anywhere in the County. The first County-wide mutual aid agreement between all the volunteer fire departments was coordinated and finalized by the County EMA office on October 10, 2006 (Waldo County Fire Protection Mutual Aid Compact). At present, there are no written agreements between any of the volunteer ambulance services, between any of the municipal EMA programs or between any of the municipal law enforcement departments. In November 2005, the County EMA office scheduled and facilitated the first monthly meeting of the municipal EMA directors. Until this time, the emergency management programs in the vast majority of the County’s municipalities were nonexistent.

The first Incident Command System (ICS) class was taught in August 2002. The County EMA did not schedule and conduct the next ICS class until April 2006. The first training in the Multi-Agency Coordination System (MACS) for municipal EMA directors was conducted in late 2006. To date, there have not been any MACS exercises to test the county-wide system; however there was a limited test of the MACS system during a flooding disaster event that occurred in the County in spring of 2007.
In the past, interagency disaster management was not deemed a necessity in Waldo County. The sparse population of residents did not expect public safety services to be provided by their local governments. With a new group of interstate emigrants and the resulting residential development there is now a general expectation that local governments should provide basic emergency services. Within the County, interagency disaster management is a growing requirement that the municipalities are lagging behind.

The author of this case study will review three national policies in order to evaluate Waldo County’s interagency disaster management program and to develop and analyze possible improvements to the County’s program. These policies will include:

- NFPA 1600 Standard on Disaster/Emergency Management & Business Continuity Programs
- National Incident Management System (NIMS)
- National Response Plan (NRP)

The purpose of the National Fire Protection Association’s 1600 Code: Standard on Disaster/Emergency Management & Business Continuity Programs (NFPA 1600) is to “provide disaster and emergency management and business continuity programs, the criteria to assess current programs or to develop, implement, and maintain aspects for prevention, mitigation, preparation, response, and recovery from emergencies” (NFPA 1600-4). In January 2007, the Federal Emergency Management Agency (FEMA) recommended that NFPA 1600 be voluntarily adopted by state and local emergency management programs. Additionally, the 2004 versions of the National Response Plan (NRP) and the National Incident Management System (NIMS) were developed by the Department of Homeland Security in order to create a single national policy and nation-wide system for implementing inter-agency disaster management. The NRP describes this process as a challenge.
“Achieving these homeland security objectives is a challenge requiring bold steps and adjustments to established structures, processes, and protocols. An important initiative called for … is the development and implementation of a National Response Plan (NRP), predicated on a new National Incident Management System (NIMS), that aligns the patchwork of Federal special-purpose incident management and emergency response plans into an effective and efficient structure. Together, the NRP and the NIMS integrate the capabilities and resources of various governmental jurisdictions, incident management and emergency response disciplines, nongovernmental organizations (NGOs), and the private sector into a cohesive, coordinated, and seamless national framework for domestic incident management.” (NRP 1).

NFPA 1600 describes what needs to be in an emergency management program in order to make it an effective program. It does not describe how to accomplish those tasks. The author of this study will review the Waldo County interagency disaster management program against those sections of NFPA 1600 that apply specifically to interagency disaster management and will recommend activities to accomplish those NFPA 1600 recommendations.

NFPA 1600, Section 5.6 requires that “the entity shall establish resource management objectives…” (NFPA 1600-6). No single jurisdiction or agency maintains all of the resources needed to facilitate a disaster management response; it will require interagency coordination. This process will necessitate identifying all “personnel, equipment, training, facilities, funding, expert knowledge, materials, technology, information, intelligence, and the time frames within which they will be needed…” (NFPA 1600-6). Waldo County EMA should develop a series of resource management databases to track resources needed for disaster response. This database could be divided into subsections to (1) Identify key response personnel; (2) List and categorize all county-wide response facilities, equipment and materials; (3) Identify facility, equipment and
material shortfalls; (4) Track county-wide emergency responder training; and (5) Identify all potential funding avenues.

NFPA 1600, Section 5.7 discusses the need for Mutual Aid programs. This is a follow-on activity to resource management. Once resource shortfalls are identified, then interagency disaster management partners will need to be sought out who can provide those needed resources. Agreements should be written and signed in order to secure those resources. Waldo County EMA should develop a database to track mutual aid agreements. This database shall identify who can provide what resources and the current status of those agreements.

NFPA 1600, Section 5.8 discusses emergency planning, which must include the topic of interagency disaster management in order for those planning activities to have any value at all. This section requires plans to cover the emergency management program’s “strategy, prevention, mitigation, emergency operations/response, business continuity, and recovery.” (NFPA 1600-6). NFPA 1600 also requires that key stakeholders are included in the planning process. It further states that “[t]he program shall include a strategic plan, an emergency operations/response plan, a prevention plan, a mitigation plan, a recovery plan, and a continuity plan.” (NFPA 1600-6). Waldo County EMA should follow the NFPA 1600 planning requirements and elements to develop the above listed plans for the County. Additionally, in order to ensure that interagency disaster management is accomplished, representatives from the municipal governments and emergency management and response agencies should be included in the development of these plans. This will include public safety and emergency management entities, non-governmental organizations and elected officials.

NFPA 1600, Section 5.9 explains the requirement for Incident Management. Like resource management, no single jurisdiction or agency has the capability to perform incident management
single-handedly during a disaster. The adoption, incorporation and employment of the National Incident Management System (NIMS) will meet the requirements of this NFPA 1600 section. NIMS has become the national standard for interagency disaster management and is being utilized by the Federal, state and local governments throughout the United States. NIMS covers many of the same topics as NFPA 1600 and includes Incident Management, Emergency Planning, Exercising, Training, Resource Management and Communications. Waldo County should develop a multi-agency, multi-jurisdictional incident management program that includes all disaster management entities. This will include adopting, incorporating and employing the Incident Command System (ICS), the Multi-Agency Coordination System (MACS) and the Joint Information System (JIS).

NFPA 1600, Section 5.10 reviews the requirements for establishing an Emergency Communications and Warning program. This section requires that an emergency management program has both emergency communications systems and procedures in place to support the interagency disaster management response. The emergency management communications shall have the capability to alert emergency management and response officials and to provide emergency public information to the general public. These systems should be tested and exercised periodically to ensure they will function properly when needed. A key feature in the jurisdiction’s communications program is that it is interoperable with all inter-agency disaster management entities that may be involved with the next disaster. Waldo County must ensure that its communications and warning systems are sufficient to meet the requirements of NFPA 1600.

Under NFPA 1600, Section 5.11, the emergency management program must develop and employ Operational Procedures. These operational procedures “shall address health and safety, incident stabilization, [operational] continuity, property conservation, and protection of the
environment under the jurisdiction of the entity.” (NFPA 1600-7). There shall also be procedures “in place to conduct a situation analysis that includes a needs assessment, damage assessment, and the identification of resources needed to support response and recovery operations.” (NFPA 1600-7). These operational procedures should be based on the emergency operations plans developed within an interagency disaster management system. Language or activities that conflict or are vastly different in approach to an interagency system will cause delays and confusion during an incident response and recovery. Waldo County should integrate and coordinate its operational procedures with the other public safety and emergency management entities that would serve together during a major incident in Waldo County.

NFPA Sections 13 and 14 require the emergency management program to develop and implement training and exercising programs to test and review the entities interagency disaster management program. This will include determining how often and what type of training course and exercise format should be completed in order to adequately analyze the capability of the emergency management and response entities. NFPA 1600 further states that “[a]dditional reviews shall be based on post-incident analyses and reports, lessons learned, and performance evaluations.” (NFPA 1600-7). Finally, the code requires the development and maintenance of a corrective action program in order for the emergency management program to track progress on identified corrective actions. Waldo County shall develop a training plan and a disaster exercise program that will incorporate all emergency and disaster response entities within the County. The County shall also develop and maintain a corrective action program to track its progress.

The National Response Plan or NRP was developed by the Department of Homeland Security in order to “incorporate best practices and procedures from various incident management disciplines—homeland security, emergency management, law enforcement, firefighting,
hazardous materials response, public works, public health, emergency medical services, and responder and recovery worker health and safety—and integrates them into a unified coordinating structure”. (NRP 2). The NRP describes emergency response and recovery guidance for Federal departments and their interaction “with State, local, and tribal governments; the private sector; and NGOs in the context of domestic incident prevention, preparedness, response, and recovery activities.” (NRP 2). This plan is the very definition of interagency disaster management. Waldo County should embrace the concepts of the NRP in all of its emergency and disaster response and recovery activities. Do to this; the Waldo County Emergency Management Agency will need to bring all county and municipal government agencies and all local partners from the public and private sector to the table.

So where does Waldo County stand in meeting the interagency disaster management requirements of NFPA 1600, the NRP and NIMS? The present Director of the Waldo County Emergency Management accomplished several activities in the last two years that move the County forward in meeting these requirements.

To meet the requirements of Resource Management, Waldo County EMA developed the *Waldo County Public Safety Resource Manual*. A survey was submitted to and completed by all public safety agencies located in the county which listed what staffing, vehicles, equipment, and materials those agencies currently had on hand. This was the first time this was accomplished in Waldo County. From this information, the Waldo County EMA office consolidated the survey information in the Resource Manual and “resource typed” all the resources in accordance with the NIMS resource typing guidelines. What activities remain to be completed include developing a database for tracking the status and assignment of these resources and for the completion of a “Needs Assessment” to determine where the resource shortfalls remain in the
county-wide capabilities. These two remaining activities are important in order to ensure that resources are available and shared across jurisdictions and to review efficiencies that may be accomplished in acquiring resources regionally, instead of by municipal jurisdiction. An example of a present shortfall that may be accomplished regionally is to develop a county hazardous materials response team, instead of each municipality attempting to develop their own hazardous materials response capabilities.

The next NFPA 1600 requirement was for the employment of mutual aid systems. Waldo County EMA recently facilitated and coordinated the development of the *Waldo County Fire Protection Mutual Aid Compact*. For the first time, every volunteer municipal fire department in Waldo County is included in a single written mutual aid agreement. Now firefighters from throughout the County can respond when officially requested to assist any other department in the County. This agreement has been a “force multiplier” for the fire service in the County. However, the County still lacks the same capability for the Emergency Medical Service (EMS) and the Law Enforcement agencies. This is important in order to increase the response capacity of EMS and Law Enforcement without having to drastically increase the costs to support these functions. The other activity that Waldo County EMA should accomplish is to create a “Mutual Aid Database” to track what agreements are in effect, what emergency resources are being provided and what renewal dates are coming due. This will be important in order to ensure that agreements are updated periodically to meet changing conditions and do not become stagnant or forgotten.

Emergency Planning is the next interagency disaster management requirement that NFPA 1600 reviews. Waldo County EMA recently developed the NIMS-compliant *2006 Waldo County Emergency Operations Plan* and the *2004 Waldo County Hazard Mitigation Plan*. These
two plans identifies the most likely disaster events for Waldo County, develops a mitigation measure implementation strategy to reduce the severity of those hazards, and establishes the procedures for responding to those disasters. However, the majority of the municipalities in Waldo County have not developed their own municipal emergency operations plans (EOP). It is critical that these communities complete EOPs because all EMS and Fire services are operated at the municipal government level. Additionally, Waldo County has not developed a Terrorist Prevention Plan, a Long-Range Recovery Plan or a Continuity of Operations Plan.

NFPA 1600 calls for the creation of an Incident Management System and the development of Operational Procedures. The NRP and NIMS documents present the national standard for Incident Management. The adoption, incorporation and implementation of NIMS will ensure that a jurisdiction has an effective interagency disaster management capability in place. Presently, the Waldo County government and its municipal governments have adopted NIMS by ordinance or by executive order. Waldo County EMA recently completed the *Waldo County Incident Management Assistance Team Operations Manual* and the *Waldo County Incident Command System Field Guide* in order to standardize the County in NIMS operational procedures. The Waldo County Incident Management Assistance Team (IMAT) is a county-wide team that provides incident management support to local municipal incident commanders who do not have the staff and equipment resources to establish a complete ICS organization. The County ICS Field Guide is a procedural guide in the use of ICS which includes checklists and ICS forms. The forms are filled in with examples to show how to use those forms. However, further practice and use of ICS is needed in order to increase the ICS proficiency of first responder leadership in the County.
NFPA 1600 calls for the development and maintenance of a Communications and Warning system for interagency disaster management. In the last couple of years, Waldo County has utilized the Homeland Security Grant Program (HSGP) to upgrade its public safety radio communications system and its HAM radio communications system. The Waldo County EMA office has acquired a satellite phone and has obtained text pagers for all municipal emergency management directors in the County. Last year, Waldo County EMA implemented a secure online web portal called EStudio to provide an information network between local emergency management directors, fire chiefs, public health officers and the County EMA office. Great strides in interagency disaster management communications have been made. However, the County does not have a County Warning System of any type in place to warn the public of impending dangers. At present, the County relies on the State of Maine’s Emergency Alert System (EAS) and NOAA’s Weather Alert Radios. Both systems require submitting requests for message releases through the Maine Emergency Management Agency (MEMA) and in past events have not proven to be a very rapid process.

Finally, NFPA 1600 calls for the development and maintenance of training and exercise programs and the utilization of a Corrective Action Program (CAP). Waldo County has developed a database to track the status of incident command and hazardous materials response training for first responders in the County. Utilizing this database, the Waldo County EMA director can determine when refresher training courses need to be scheduled and for which departments. Waldo County also manages the County Disaster Exercise program and is hosting the largest interagency disaster exercise in Maine’s history during a four day disaster exercise taking place from September 26 to 29, 2007. This exercise will incorporate federal responders (FBI, US Coast Guard, ARC and the Civil Air Patrol), state responders (State Police Tactical
Team, Marine Patrol, Department of Labor, Department of Environmental Protection, and the Maine & Virginia’s National Guard Civil Support Teams), regional responders (Penobscot HazMat Team and Hancock HazMat Team), county responders (Waldo County EMA, Waldo County Sheriff, Waldo County Regional Comm Center, Waldo County RACES, Waldo County IMAT, Hancock County EMA, and Hancock County RACES) and municipal fire, police, EMS and EMA from throughout the County. The exercise is being developed in accordance with the Homeland Security Exercise Evaluation Program (HSEEP) and Waldo County EMA participates in the HSEEP Corrective Action Program.

This case study was completed to examine the interagency disaster management system for a rural jurisdiction in the northeastern United States, determine the jurisdiction’s level of incorporation and acceptance, and develop potential implementation strategies for improving this jurisdiction’s interagency disaster management capabilities. The author reviewed, analyzed and suggested solutions for the rural jurisdiction of Waldo County, utilizing the NFPA 1600 code, the NRP and NIMS to determine its level of interagency disaster management capabilities. Waldo County has made major strides in the last two years after decades of neglect. However, the current EMA Director still has a large number of interagency disaster management activities to plan, develop, incorporate, implement and maintain. Utilizing national standards such as NFPA 1600 to assess a jurisdiction’s disaster management program identifies the jurisdiction’s shortfalls and helps to create a guide for filling those shortfalls. Interagency disaster management creates greater efficiency and effectiveness to an emergency response capability. It is vital that all communities incorporate interagency disaster management into it mindset.
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