



# Annex I: Emergency Support Function #9 – Search & Rescue

November 2022

---

## Coordinating Agency

Hamilton County Fire Chief's Urban Search & Rescue (USAR) Task Force

## Supporting Agencies

Hamilton County Communications Center  
Hamilton County Emergency Management/Homeland Security  
Hamilton County Engineer's Office  
Hamilton County Sheriff's Office  
Loveland-Symmes Task Force One  
Ohio Department of Natural Resources  
Ohio National Guard  
Ohio State Highway Patrol  
Ohio Task Force One

## Introduction

### Purpose

The purpose of Emergency Support Function (ESF) #9 – Search & Rescue is to establish how activities related to Search and Rescue (SAR) will be coordinated during and after disasters to meet the emergency needs of Hamilton County, OH. This ESF describes the operational components as well as roles and responsibilities of the agencies necessary to fulfill the duties of ESF #9.

### Scope

ESF #9 serves to provide for the guidance and organization of County agencies that may be employed during SAR operations. SAR operations include, but are not limited to, the location, recovery, and extrication of victims who become lost or entrapped as the result of a natural or human-caused incident. The goal of SAR operations is to save the lives of victims who are unable to ensure their own survival without assistance but may also include the location, extrication, and recovery of deceased victims.

Activities of ESF #9 include information sharing and management and coordinating resource support for SAR teams in the field.

### Situation

ESF #9 is activated when an incident occurs or is anticipated to occur that may result in a request for a unified SAR response to an affected area that requires coordination at the county-level. Agencies and departments participating in SAR operations must consider hazards such as fire, confined spaces, high-rise structures, urban or rural areas, trenches, subsurface, recreational areas/facilities, waterways, and chemical, biological, radiological, nuclear, & explosive (CBRNE) contamination.

ESF #9 will support responders who may face additional difficulties or hindrances after a disaster because of extensive damage to the local infrastructure. Such damage may then create environmental safety and health hazards such as downed power lines, unstable foundations or structures, rapidly rising waters, exposure to biohazards, toxins, blood-borne pathogens, and explosive environments. Responders must also take into consideration when their safety and the safety of the victims are being impacted by severe weather conditions such as temperature extremes, snow, rain, flooding, and high winds.

## Current Capabilities

The Hamilton County Urban Search and Rescue (USAR) Task Force is one of six jurisdiction-based structural collapse search and rescue teams in Ohio. The team is comprised of approximately 125 members from 26 fire departments in Southwest Ohio and patterned operationally after a federal USAR Task Force. This Task Force covers all of Ohio Region 6, and parts of Regions 7 and 9 and has been typed by the Ohio Urban Search and Rescue Technical Advisory Committee as a Type II Team. The team responds to and manages structural collapses, waterborne, inland/wilderness, and aerial SAR operations, as well as trench, confined space, high-angle, machinery, and swift water rescues. The team has demonstrated the ability to place 45 members on scene within 60 minutes. The Task Force has a cache of equipment distributed between two vehicles (see images below) that are stored in two separate locations in the County for quick mobilization.



**Above:** Inside Hamilton County USAR Task Force's vehicle, Rescue 200. **Right:** USAR's second vehicle, Rescue 201. Both vehicles are deployed during an incident.



For aerial SAR operations, the Hamilton County USAR Task Force has established an Aerial Reconnaissance Unit (ARU). Drones, or unmanned aerial vehicles (UAVs), are deployed in an area of interest, perform sensory operations to gather information, detect the signs or presence of a victim, and send data and imagery to a rescue team on-scene or to a remote command station. Drone SAR missions also allow teams to avoid unnecessarily entering hazardous areas while searching a wider area quickly and for less cost than traditional planes or helicopters.

The Hamilton County ARU has seven drones that can be deployed for various uses. The ARU can be utilized for missing persons search, water rescue, creating updated maps for event planning, gathering damage assessment information, monitoring flood impacts at different river stages, and gathering air readings remotely during a hazardous materials release.

Of the seven ARU drones, five are DJI Mavic 2 Enterprise Dual drones with thermal and optical cameras. The other two drones are DJI Matrice 300's with higher resolution optical and thermal cameras and a laser range finder, which provides reliable distance data. The Matrice's can also carry and drop off loads up to 10 pounds if needed. All ARU drones have the ability to relay (not receive) audio, in case a stranded person needs to be guided to safety or a pickup location.

The City of Cincinnati has two heavy rescue teams, which can be utilized in the initial stages of SAR operations while Hamilton County's USAR Task Force is being deployed or until mutual aid arrives. Heavy rescue teams have the same training as USAR Task Force members, without the same amount of equipment or personnel for sustained SAR operations. Some members of Cincinnati's heavy rescue teams are also members of the USAR Task Force.

The Loveland-Symmes Fire Department maintains the Ohio Homeland Security Region 6 Task Force 1 (TF-1). TF-1 is a locally operated Ohio Water-Based Search and Rescue Special Operations Team that provides regional responses for underwater search, rescue, and recovery operations for humans and animals in

swift water and flood environments, as well as tactical emergency medical support in Southwestern Ohio. TF-1 has approximately 50 members on their dive team that are swift water rescue certified and have responded to incidents in Ohio, Kentucky, and Indiana. The dive team has the ability to dive to depths of 150 feet and are equipped with boats that have side scan, hop down, and sector scan sonars, and top-down remote operated vehicles.

TF-1 has been typed by the Ohio Water Technical Advisory Committee per FEMA standards as a Type I team, the highest qualification level. They will assist the County USAR Task Force with waterborne searches that require more technical expertise and equipment than surface water rescues.

### Assumptions

Planning requires assumptions based on statistics, history, behavior patterns and likely future trends. The following assumptions were made in consideration of ESF #9:

- A major disaster or emergency situation may result in large numbers of displaced, stranded, lost, or trapped individuals needing prompt rescue and medical attention.
- The need for SAR operations may be experienced by any community.
- Many SAR operations only necessitate the need for local resources or responders.
- If a SAR incident overwhelms local capabilities, the Hamilton County Emergency Operations Center will be activated.
- Especially in a localized incident, spontaneous unaffiliated volunteers often want to assist with SAR mission(s). These volunteers must be directed to volunteer reception centers or established volunteer organizations to prevent their personal injury, contamination of the search area, and to provide accountability.
- Access to the areas impacted by the disaster may be limited or restricted. Initially some areas may only be accessible to aviation, maritime assets or by foot.
- Support such as helicopters, tracking dogs, and external SAR groups may be required from adjoining political subdivisions or from state resources.
- A survival window for many victims occurs within the first 48 hours of an incident. A concentration of efforts should be directed towards locations where the greatest potential for survivors exists and begin immediately.
- The search for, and recovery of, bodies will be conducted only after the rescue of survivors has been completed and the environment will allow for safe operation by SAR personnel.

### Concept of Operations

Emergency Support Function (ESF) #9 – Search & Rescue consists of two broad activities in relation to the Hamilton County Emergency Operations Plan. These activities are:

ESF #9 Activities	
1.	SAR Information Sharing and Management
2.	Coordinating Resource Support for SAR Teams in the Field

## General

Fire departments are the primary entity to initiate a SAR mission that may require the utilization of air, ground, and/or water rescue operations to preserve life. Most SAR operations can be handled locally by jurisdictional assets or the Hamilton County USAR Task Force without requiring additional resources or an EOC-supported response.

The Incident Commander may request the Hamilton County USAR Task Force from the Hamilton County Communications Center (HCCC). If a Unified Command structure is in place, the fire department's Incident Commander would approve the request for additional SAR assets. All requests for the USAR Task Force must go through the HCCC. Task Force members are notified of a dispatch through Active911.

For waterborne SAR incidents, TF-1 can be deployed by contacting the HCCC, which will contact the Northeast Communications Center based in the City of Loveland. All dive team members are notified of a dispatch through Active911.

If a disaster or emergency event requires a county-level response, the Hamilton County EOC will be activated. Once active, a representative from Hamilton County USAR will report to the EOC and serve as ESF #9 Coordinator. The Coordinator will be one of three rotating fire chiefs with the Hamilton County USAR Task Force. All requests for additional SAR resources will be channeled through the EOC and ESF #9.

## SAR Information Sharing and Management

The Hamilton County EOC is the primary location for coordination and control of emergency SAR operations. Information sharing and management is one of the primary activities of ESF #9. ESF #9 is responsible for ensuring field operations have the support from the EOC for gaining information and collecting data to meet reporting requirements.

Upon activation, ESF #9 will communicate pertinent information amongst all Supporting Agencies. The information will include the goals of the EOC and on-scene Incident Command and determining strategies and tasks for supporting the EOC and Incident Command in the execution of their goals from a SAR perspective. ESF #9 will maintain operational awareness through direct communications with SAR units in the field. They will collect and analyze information relevant to the incident response and ensure it is reported in WebEOC and EOC documents including the EOC Action Plan and Situation Reports.

ESF #9 will collect disaster impacts and needs assessments from SAR personnel to ensure situational awareness is maintained in the EOC. It will also assist ESF #9 in determining their objectives. Throughout the response and recovery periods, ESF #9 will analyze information regarding SAR operations, develop and update assessments of the SAR situation and status in the impact area, and conduct contingency planning to meet anticipated demands or needs.

The ARU adds an additional method of information gathering by allowing personnel at the EOC to get a real-time view of the impacts and assess remotely. Search patterns can be programmed into the drones and the photos can be automatically uploaded into mapping software to create a real time map that can be shared with the EOC. The drone controllers have video signal that can transmit directly to Command 400, the County's mobile command post. Command 400 can then disseminate the video to the EOC and relevant external partners for situational awareness. This allows for a larger operational picture to be assembled rapidly because of the drones' ability to quickly navigate unsafe, difficult to access terrain.

Examples of information that may be provided to ESF #9 by SAR members on-scene include:

- Impacts to infrastructure, including road conditions and structural integrity of buildings and other infrastructure
- Scope of damage
- Location and status of injured victims

- Needs of survivors
- Resource needs
- Fatality estimates
- Presence of hazardous materials or conditions

The diagram on the next page depicts how ESF #9 gathers information and shares it within the EOC. ESF #9 would work with its Supporting Agencies and other partners to monitor impacts to survivors, infrastructure and SAR resources. The Operations Coordination Section Chief will ensure the information gathered by ESF #9 is shared in the EOC and with the appropriate ESFs.

### Coordinating Resource Support for SAR Teams in the Field

ESF #9 is responsible for coordinating all resource support for ESF #9 personnel. This includes tracking the location and availability of resources, determining the best placement for available resources, anticipating future resource needs, prepositioning resources, identifying and requesting mutual aid, and considering what ESF #9 resources may be useful in supporting the objectives of Incident Command and/or the EOC.

Tracking the location and availability of resources can be accomplished by communicating with:

- Dispatch centers
- Incident Command
- Local jurisdictions/agencies responding to the emergency
- EMHSA
- The on-scene logistics section, if activated
- The EOC Logistics Coordination Section (ESF #7)
- External partners such as the Red Cross

Once ESF #9 has an understanding of what the incident needs are, where current SAR resources are located and what SAR resources are available, they can begin to evaluate the situation and determine what resources should be called to respond. Working from the EOC gives ESF #9 a greater understanding of the operations and what areas have the greatest need. From there ESF #9 can inform the Incident Commander of available resources and areas of greatest impact/need and assist with coordination if requested. Resources must be coordinated and discussed with ESF #7.

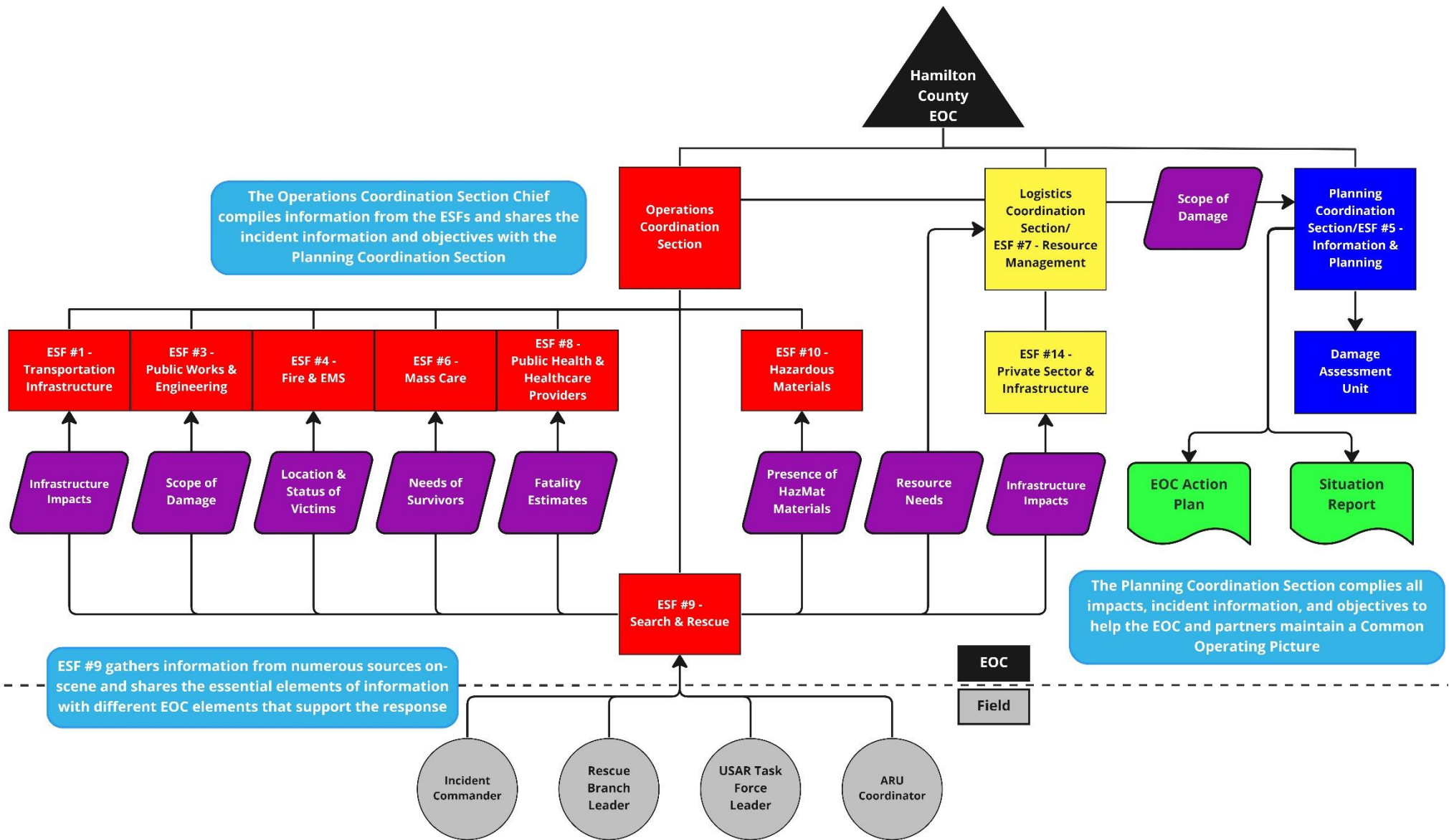
Related to the action of placing limited resources in the areas of greatest impact/need is anticipating future resource needs. Incidents may expand faster than resources can be deployed and arrive on-scene. By being aware of the on-scene incident objectives, status of the incident and tactical operations, ESF #9 can anticipate the future resource needs of on-scene responders and SAR personnel, thus allowing ESF #9 to request mobilization of additional resources before the incident needs can exceed resource availability. This is also when ESF #9 will preposition the requested resources by determining what area the resources will most likely be needed and directing them to the closest staging area. This allows for quicker response time during an incident and lets personnel on-scene focus on the tactical response with support from the EOC.

All resource requests and needs must be submitted to the EOC Logistics Coordination Section (ESF #7). ESF #9 will be responsible for gathering requests from the field and submitting them to ESF #7. ESF #9 will maintain operational logs of actions taken, messages, resource requests/orders, reports, and other appropriate documentation for future reference. The system for documenting this information may be done through WebEOC, paper forms, or another method as specified by ESF #7.

Examples of resource requests that would go through ESF #9 and the EOC include:

- Ohio Task Force 1 (OH-TF1)
- Lumber packages from local stores
- Trailer-mounted equipment cache available through the Ohio Fire Marshall
- Helicopters and K-9's from Buckeye Search and Rescue for live victim and cadaver searches





The diagram above depicts how ESF #9 gathers information and shares it within the EOC. ESF #9 would work with its Supporting Agencies and other partners (gray circles) to monitor impacts to the county. Information should be shared with other ESFs in the Operations Coordination Section. The Operations Coordination Section Chief will ensure the information is also shared with the Planning Coordination Section (ESF #5).

Mutual aid is a commonly used method of assistance during normal operations and during disasters. Hamilton County has a *Fire and EMS Mutual Aid Agreement* with nearly every jurisdiction in the County. This agreement allows for fire/emergency medical personnel and equipment to respond to another jurisdiction when an emergency arises that cannot be handled by one company, or when that company is already engaged in another emergency. Most jurisdictions also have mutual aid agreements with neighboring jurisdictions for assistance in the form of Memorandums of Understanding (MOUs) or Memorandums of Agreement (MOAs). It is the responsibility of ESF #9 to identify these mutual aid agreements and activate them during a disaster, as needed.

If it is determined that the scope of the incident will or has overwhelmed local, county, and mutual aid resources, the Hamilton County EOC will contact the Ohio EOC through the Ohio Watch Desk and inform them of the County's needs. The State will then deploy appropriate assets to fit the needs of the emergency.

### FEMA's Core Capabilities

- **Mass Search and Rescue Operations** – ESF #9 conducts SAR operations to locate and rescue persons in distress through traditional and atypical SAR capabilities, including personnel, services, animals, and assets to survivors in need with the goal of saving the greatest number of endangered lives in the shortest time possible.
- **Fatality Management Services** – One of the responsibilities of USAR is the recovery of decedent remains. ESF #9 will coordinate these efforts with the Hamilton County Coroner and ESF #8 – Public Health & Healthcare Providers.
- **Situational Assessment** – Due to USAR teams being on-scene of an incident during a response, they have firsthand knowledge of the situation and can relay damage assessment and victim needs information to ESF #9. ESF #9 can then deliver information sufficient to inform decision making regarding immediate lifesaving and life-sustaining activities within and outside of the affected area.

#### *Command and Control*

All fire departments in Hamilton County utilize the ICS structure for daily operations. In the event an incident requires SAR operations, a Rescue Branch may be established directly under the Incident Commander. The Rescue Branch will make decisions regarding the needs and status of SAR operations and relay information to the Incident Commander who has ultimate authority over the incident. The Hamilton County USAR Task Force integrates with the command system of the Authority Having Jurisdiction.

If SAR operations exceed the capabilities of the Hamilton County USAR Task Force, the Rescue Branch leader will make the request for additional assistance to ESF #9. ESF #9 may then call the Butler County Communications Center to request mutual aid from their Technical Rescue Team.

There are three separate channels on the Multi-Agency Radio Communications System (MARCS) network dedicated to USAR operations. These can be utilized for day-to-day events or when SAR activities expand beyond day-to-day capabilities.

A staging area for all incoming agencies to be involved in the SAR mission(s) should be established. When mutual aid or State provided resources are activated, the Incident Commander will insure that those resources are integrated into established ICS-based structures and operations. Each agency involved in the SAR mission(s) will maintain authority with its jurisdictional assets and relay "Situation Status Reports" to ESF #9.

All requests for mutual-aid support will be submitted through established channels. State-level SAR mutual-aid/support requests will be submitted and managed through the Ohio EOC. SAR resource requests that are made through the Emergency Management Assistance Compact (EMAC) will be processed through the Ohio EOC in cooperation with appropriate agencies.

Ohio's jurisdiction-based structural collapse search and rescue teams, including Hamilton County's USAR Task Force, are dispatched through the Ohio Fire Chiefs Association's Ohio Fire Service Emergency Response System. This system is activated through the HCCC. For deployment of Ohio's single Type I Urban Search and Rescue Force – Ohio Task Force 1 (OH-TF1) the County EOC can contact the Ohio Watch Office. OH-TF1 is available for deployment throughout the State with the approval of the Ohio Emergency Management Agency Executive Director.

OH-TF1's response capabilities include providing response personnel and resources for: structural collapse; wide-area searches in urban and water environments; response to searches and rescues in CBRNE environments; K-9s for both live victim and cadaver searches; engineers for building, bridge, and other structural assessments; logistics support for SAR missions as well as management of commodity receiving and distribution facilities; and communications and incident management support.

Additionally, there are several state agencies that may be deployed to assist in extreme disaster situations that may assist with SAR operations. These agencies and departments will only be activated under certain circumstances and should not be depended upon for all incidents.

- The Ohio National Guard, if activated, may provide additional personnel and resources including aviation assets, aerial survey platforms and global positioning systems, and emergency debris hauling.
- The Ohio State Highway Patrol may be deployed to provide additional law enforcement personnel and aviation assets.
- The Ohio Department of Natural Resources, State Parks & Watercraft division has waterborne assets that may be deployed to assist with swift water rescue and other waterborne SAR operations. They also have aviation assets and K-9 units that may be utilized.

## **Organization and Assignment of Responsibilities**

Hamilton County Fire Chief's Urban Search & Rescue (USAR) Task Force has the primary responsibility for SAR functions in Hamilton County and will serve as the Coordinating Agency for this ESF.

### **Coordinating Agency Responsibilities**

Hamilton County Fire Chief's Urban Search & Rescue (USAR) Task Force will:

1. Coordinate the activities of Supporting Agencies within ESF #9 to fulfill operational objectives.
2. Prioritize ESF #9 operational strategies in alignment with the EOC and on-scene objectives.
3. Direct the activities of ESF #9 in conjunction with assistance from ESFs at the local, State, and federal levels as applicable.
4. Collaborate with other Coordinating Agencies to ensure an effective response between ESFs.
5. Designate sufficient representatives (no less than three) to support/staff 24-hour operations at the Hamilton County EOC. EMHSA will maintain listings of these personnel, 24-hour contact information, and directions for contacting them in the event of communication outages.
6. Share ESF #9 activity information with appropriate EOC personnel, including the Planning Coordination Section Chief and ESF #5 to inform development of the Situation Report and Incident Action Plan.
7. Provide, as required, information on the availability of SAR equipment on a countywide or area specific basis.
8. Coordinate SAR related staffing to ensure that the function can be staffed across operational periods.
9. Coordinate with ESF #4 – Fire and EMS to receive medical assistance and transportation for victims.
10. Receive, manage, and track resource requests for ESF #9 in accordance with established



resource management procedures.

11. Coordinate with ESF #15 – Emergency Public Information for the inclusion of appropriate information for public dissemination.
12. Assist in the development of the After-Action Report. This report is a detailed, written analysis of the strengths and weaknesses of county-level emergency response and short-term recovery activities based upon extensive research of the event and interviews with participating assessment, response, and short-term recovery personnel.

### Supporting Agencies Responsibilities

Hamilton County Communications Center will:

1. Dispatch the Hamilton County USAR Task Force, if requested by the Incident Commander.
2. Contact the Northeast Communications Center to request the TF-1 water-based SAR team.
3. Activate Ohio Fire Chiefs Association’s Emergency Response System, if requested by ESF #9.
4. Inform the County EOC of areas with high call volume regarding trapped or missing individuals.

Hamilton County Emergency Management & Homeland Security Agency will:

1. Coordinate Rapid Needs Assessments to prioritize communities for SAR operations.

Hamilton County Engineer’s Office will:

1. Provide vehicles and crews to assist in debris removal and access to SAR mission(s) area(s).
2. Provide for the transportation of supplies and equipment to the affected area(s), if able.

Hamilton County Sheriff’s Office will:

1. Assist in SAR operations within capabilities.
2. Provide site security and access restrictions to areas upon request.
3. Ensure evidence collection is provided once a deceased person(s) is found.
4. Provide aviation assets to assist in aerial reconnaissance and other SAR activities as requested.

Loveland-Symmes Task Force One (TF-1) will:

1. Provide and coordinate personnel and equipment to support SAR operations as requested.
2. Provide ESF #9 a comprehensive list of deployable waterborne SAR assets.
3. Provide specially trained watercraft operators and watercraft equipment during SAR operations in aquatic environments.

Ohio Department of Natural Resources (ODNR) may:

1. Provide aviation assets, including fixed wing and rotary aircraft.
2. Provide trained personnel and watercraft resources for missions involving SAR in aquatic environments.
3. Provide assistance with swift water rescues, side-scan sonar, underwater video capabilities, night vision and thermal imaging equipment.
4. Provide a wide range of vehicles, including 4-wheel drive and all-terrain vehicles.
5. Provide K-9 units for assistance in searches.

Ohio National Guard, if activated, may:

1. Provide aerial reconnaissance/survey platforms and global positioning systems for accurately pinpointing locations and establishing SAR grids.
2. Provide both land and water-based helicopter rescue hoist capability.
3. Provide vehicles and crews to assist in debris removal and access to SAR mission(s) area(s).

Ohio State Highway Patrol may:

1. Provide additional law enforcement personnel.
2. Provide aviation assets, including fixed wing and rotary aircraft.
3. Assist with site security as requested.

Ohio Task Force One (OH-TF1) will:

1. Assist with SAR operations within Hamilton County, if activated by the State of Ohio.
2. Provide Type I SAR Team-level personnel and resources to respond to structural collapse, wide-area land, K-9, urban, water and aerial searches.
3. Provide subject matter experts as liaisons to city and county incident management personnel and local incident commanders regarding disaster SAR operations, planning, and support.

## References

Hamilton County Fire Chief's Association. (2015). *Fire EMS Mutual Aid Agreement*.

Ohio Emergency Management Agency. (2019). *State of Ohio Emergency Operations Plan; Emergency Support Function #9 – Search and Rescue*. Retrieved from [https://ema.ohio.gov/EOP\\_Overview.aspx](https://ema.ohio.gov/EOP_Overview.aspx)