

9

Cascadia Subduction Zone Catastrophic Annex

ESF 9 – Search and Rescue

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Table of Contents

1	Purpose	ESF 9-1
2	Scope	ESF 9-1
3	Roles and Responsibilities	ESF 9-1
3.1	Primary Agencies	ESF 9-1
3.1.1	Oregon Emergency Management	ESF 9-1
3.1.2	Office of the State Fire Marshal.....	ESF 9-2
3.2	Support Agencies.....	ESF 9-3
3.2.1	Department of Aviation.....	ESF 9-3
3.2.2	Oregon Military Department.....	ESF 9-4
3.2.3	Oregon Department of Transportation	ESF 9-5
3.3	Adjunct Agencies	ESF 9-6
3.3.1	American Red Cross	ESF 9-6
3.3.2	Civil Air Patrol (CAP).....	ESF 9-6
3.3.3	Oregon Department of Corrections	ESF 9-7
4	ESF-9 Operations	ESF 9-10
5	Supporting Documents	ESF 9-13
6	Appendices	ESF 9-13

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ESF 9 Tasked Agencies	
Primary Agencies	Oregon Emergency Management (OEM) Office of the State Fire Marshal (OSFM)
Supporting Agencies	Department of Aviation (AERO) Oregon Military Department (OMD) Oregon Department of Transportation (ODOT)
Adjunct Agencies	American Red Cross (ARC) Civil Air Patrol (CAP) Department of Corrections (DOC)

1 Purpose

Coordinate the provision of State and outside agency resources for Search and Rescue (SAR) and Urban Search and Rescue (USAR) operations including, but not limited to, the location, recovery and extrication of victims who become lost or entrapped as the result of a major disaster or life threatening emergency. SAR and USAR activities include locating, extricating, and providing onsite medical treatment to victims trapped in collapsed structures.

2 Scope

- ESF 9 encompasses Search and Rescue (SAR) operations within the State of Oregon through Oregon Emergency Management, and USAR through the OSFM.
- Missing aircraft related to SAR missions are addressed by a document entitled “Agreement between the State of Oregon and the Executive Agent for Inland SAR” maintained at OEM.

3 Roles and Responsibilities

3.1 Primary Agencies

3.1.1 Oregon Emergency Management

- OEM is the coordinating agency for wilderness SAR in Oregon for all events requiring Federal assets on behalf of the county sheriffs’ office. In addition, OEM is the coordinating agency for missing aircraft within its borders.
- Coordinate rapid deployment components to provide specialized lifesaving assistance to local authorities when activated for incidents.
- During a Federally declared disaster, OEM takes a supporting role to FEMA who coordinates Federal assets.

3.1.2 Office of the State Fire Marshal

See ESF-4 Firefighting for additional OSFM CSZ information

Priorities

- Life and safety of responders and affected public;
- Assure that USAR teams, engineers and equipment are available for response;
- Coordination and direction of USAR resources of the State;
- Incident management.

Assets

- Three Incident Management Teams for coordination, which include certified safety officers;
- Three type 1 USAR trailers in the State: Clackamas, Salem, Eugene. Personnel resources come from local fire departments;
- 13 HAZMAT trucks and personnel in the State – regionally deployed. Trucks include hand pumps which can be used to hand pump gas. HAZMAT Teams in Astoria and Coos Bay will be impacted by the event, and cannot be counted on;
- HAZMAT and SAR teams are trained to the national standard;
- All specialized responders are required to bring enough personal food and water for 72 hours;
- 13 Deputy Fire Marshals throughout the State.
- Three communications trailers (small 4X6 box trailers). Communication trailers include: programmable base station, mobile repeaters, and generators;
- One truck capable of hauling trailers;
- Cache of 150 interoperable / programmable portable handheld radios.

Capabilities

- Responsible for rapid deployment of components of the State USAR response system to provide specialized lifesaving assistance to State, local and other authorities when appropriate;
- All search and rescue equipment is in containers that can be flown into an impacted areas;
- Conduct and coordinate light to heavy urban search and rescue;
- OSFM coordinates and directs the training, equipment and use of the State’s structural collapse resources. Oregon USAR Task Force 1 is staffed by local firefighters organized under a State agreement and member-elected governance board;
- Oregon Task Force 1 (OR-TF1) assists in structural collapse and technical rescue incidents Statewide, at the request of the Governor. Covering multiple jurisdictions, the team is organized geographically in north and south regional response teams;
- OR-TF1 is capable of providing full incident support, up to a Type I Collapse Search and Rescue (National Incident Management compliant). Oregon Task Force 1 may

ESF 9. Search and Rescue

be included in mobilization of State Regional Hazardous Materials Response Team, or the State Fire Marshal's Incident Management Team;

- Inspection of hospitals and care facilities to ensure that they meet the 'life safety' code;
- Providing local communications between responders and IMT's;
- Transportation of communication trailers to impacted areas;
- Capable of continuity of operations without power / computers.

Catastrophic Event Operational Challenges

- By nature of a catastrophic event, essential personnel will be delayed in response due to commitments to personal and family safety and security. Responses will be delayed as personnel check in as 'available' for mission deployment;
- Due to the scale of this incident, existing USAR teams will be immediately overwhelmed and likely isolated;
- Lack of normal communication systems will impact the ability to call up personnel resources;
- Personnel resources living / working in the inundation areas will be compromised by the event;
- Unable to contact usual public sector contractors for support if normal communication systems are down;
- Accessible and usable roadway networks;
- Loss of power and lifeline roadway systems will impact communications and limit firefighting capabilities.

Support Needed Immediately After a Catastrophic Event

- USAR teams and equipment from outside of the impacted area, mobile interoperable communications, and base camps;
- Only two structural engineers available (assigned from ODOT), need will be much greater;
- Equipment and repair abilities to fulfill ESF-9 mission tasks;
- Fuel for generators and responder vehicles;
- Roadway accessibility;
- Air resources to move equipment and personnel.

3.2 Support Agencies

3.2.1 Department of Aviation

See ESF-1 for complete ODA CSZ information

- Department of Aviation provides funding for search and rescue operations with 50% of pilot registration fees going to OEM Search and Rescue;
- Could coordinate aviation asset needs for SAR missions.

3.2.2 Oregon Military Department

See ESF-7 for complete OMD CSZ information

Priorities

- Immediate assessment of surviving equipment and units available for response (including maintenance facilities);
- Establish communications with OMD facilities Statewide and begin implementation of Area of Responsibility (AOR) plans;
- Recall of personnel;
- Identify fuel sources;
- The Oregon National Guard may engage in immediate response lifesaving response actions for up to 72 hours at individual unit commander's decision;
- Respond to mission tasking by OEM;
- If contacted by local emergency management or local government authorities, units could respond (this action would likely be concurrent with Joint Operations Center (JOC) mission tasking to that unit).

Assets

- CERFP has one search and recovery, search and rescue company sized element (50 personnel), capable of USAR;
- 1-82 Cavalry out of Bend has had training and experience in assisting with wilderness search and rescue operations;
- UH-60 Blackhawk helicopters based in Salem;
 - Medical evacuation capability.
- CH-47 heavy lift helicopters based in Pendleton;
- Heavy construction equipment and operators (bulldozers, backhoes, etc.) - no cranes.

Capabilities

- Urban search and rescue;
- Integrated or in support of incident commander and USAR Task Force #1 or #2;
- Aerial reconnaissance, transportation of personnel, operations and relief supplies and equipment via fixed wing and rotary aircraft;
- Debris clearance;
- Communications support to ESF-9 operations;
- Heavy construction equipment and operators (bulldozers, backhoes, etc.) - no cranes;
- Contracting assistance.

Catastrophic Event Operational Challenges:

- By nature of a catastrophic event, essential personnel will be delayed in response due to commitments to personal and family safety and security. Responses will be delayed as personnel check in as 'available' for mission deployment.

ESF 9. Search and Rescue

- Estimated that 24 hours after event only 30% of personnel available for duty.
- Estimated that 72 hours after event 50% of personnel would be available for duty.
- Accessibility to fuel resources;
- Limited petroleum storage;
- Some of equipment for CERFP located at PANG, unit is located in Clackamas County, planning scenario may have unit separated from their needed equipment;
- Lack of training and need of oversight from OSFM USAR Task Force(s) for confined space/ trench rescue operations.

Support Needed Immediately After a Catastrophic Event

- CERFP (CBRNE Emergency Response Force Package) urban search and rescue team would require structural engineer(s) from another agency;
- US Army Corps of Engineers provision of structural engineers and specialists for ESF-9 missions;
- FEMA USAR Teams;
- DCERF (Defense Chemical, Biological, Radiological and Nuclear Response Force) assistance.

3.2.3 Oregon Department of Transportation

See ESF-1 for complete ODOT CSZ information

Priorities

- Life and safety of responders and affected public;
- Determine and deploy available ODOT resources available for ESF-9 response;
- Support of OSFM through provision of qualified structural specialists to participate on the USAR Task Force and mechanic support for equipment cache trailer maintenance and deployments.

Assets

- Can provide two structural engineers to support the State Fire Marshal USAR teams;
- Mechanic support for equipment cache trailer maintenance and deployments;
- Semi-tractor to pull OSFM USAR equipment.

Capabilities

- Provide transit to OSFM USAR teams and equipment;
- Provide structural engineers (only 2) who determine structural integrity for rescuer safety. ODOT USAR support team become part of the USAR teams and report to the State Fire Marshal Incident Commander for assignment.

Catastrophic Event Operational Challenges

- By nature of a catastrophic event, essential personnel will be delayed in response due to commitments to personal and family safety and security. Responses will be delayed as personnel check in as 'available' for mission deployment;

ESF 9. Search and Rescue

- Only two structural engineers available for this mission (assigned to OSFM), need will be much greater;
- Personnel living and working in the impacted areas will be compromised by the event;
- Accessible and usable roadway networks;
- Due to the scale of this incident, existing USAR teams will be immediately overwhelmed and likely isolated.

Support Needed Immediately After a Catastrophic Event

- USAR teams and equipment from outside of the impacted area, mobile interoperable communications, and base camps;
- Only two structural engineers available (assigned from ODOT), need will be much greater;
- Equipment and repair abilities to fulfill ESF-9 mission tasks;
- Fuel for generators and responding vehicles/equipment ;
- Roadway accessibility;
- Air resources to move equipment and personnel.

3.3 Adjunct Agencies

3.3.1 American Red Cross

See ESF-6 for complete ARC CSZ information

- Provide food, water and support resources in for SAR and USAR missions as requested in a major disaster.

3.3.2 Civil Air Patrol (CAP)

The Civil Air Patrol is the official civilian auxiliary of the U.S. Air Force. They can provide aerial reconnaissance, airborne interoperable communications relay support for critical communications, transportation of personnel and supplies (such as medical) and NIMS trained staff personnel to assist in an operating command center.

Priorities

- CAP requires an Operational Risk Assessment (ORM), completed by CAP personnel, before launching an operational sortie. This is their first priority which takes into account available personnel, status of airports and runways, weather conditions and other aspects that could impact the flight.
 - These assessments are standardized and can be completed quickly (within minutes) with perfect conditions. Post-quake and with the likely loss of power, weather knowledge and limited air traffic control these assessments would likely take longer to complete.

Assets

- CAP conducts base operations out of primary facilities in Eugene, Medford, Salem, Bend, and the Portland area airports (Troutdale, Washington County, Aurora and

ESF 9. Search and Rescue

Vancouver, WA). These facilities could all serve as the primary CAP command and control;

- Secondary operational fields include Brookings, Klamath Falls, McMinnville, Redmond and Tillamook;
- CAP currently has approximately 250 senior members and a similar number of cadets distributed across the State. Of the 250 senior members, 40 are registered pilots throughout the State;
- Their aircraft include seven Cessna 182 and one Cessna 172 aircraft.
- Capabilities:
- CAP has developed a catalog of all State highways from and including US 97 to the Coast, which segments that the CAP could fly individual sorties. This catalog is divided based on where CAP aircraft are typically based for rapid response;
- Can provide quick assessments of airport and runway status for their own and other responder operations;
- Once operational, CAP aircraft can:
 - Provide aerial reconnaissance of damaged infrastructure (roads, ports, rail).
 - Transportation of personnel, supplies and equipment.
- In order to maximize damage assessment efficiency, CAP aircraft could include ODOT and other agency personnel or engineers who would be able to provide expertise and familiarity with road and infrastructure issues;
- With prior authorization CAP can add additional interoperable frequencies (within its radio's frequency range) to its airborne radio capability.

Catastrophic Event Operational Challenges

- By nature of a catastrophic event, essential personnel will be delayed in response due to commitments to personal and family safety and security. Responses will be delayed as personnel check in as 'available' for mission deployment;
- Airport runway damage assessments will need to be made prior to the commitment of ready personnel and equipment causing mission delays;
- Accessibility to fuel resources will need to be identified and supplied to CAP.

Support Needed Immediately After a Catastrophic Event

- Responses will be delayed, however not impossible. Fuel needs will be critical to sustained operations;
- Fuel;
- Support (personnel and parts) for maintenance of aircraft;
- Runway clearance and repair of damaged airports.

3.3.3 Oregon Department of Corrections

Priorities

- First priority for all Oregon DOC facilities is to make themselves and their facilities whole and functional first. No assistance will be available to the response effort until this is complete (keep public safe by ensuring inmates stay inside);

- Facilities are contained and able to get up to operational status without outside assistance
- May take one day to one week (or longer?) to get “whole” before they can help State and accept mission assignments
- Must clear facility access paths and roads on site before they can even get to ingress/egress roads;
- Can take State mission assignments after prisons are secure and “whole” again.

Capabilities

- Provide Central Distribution Center (CDC) as possible repository for national stockpile operations;
- Inmate crews can help with USAR & fire teams (set up base camp, provide food, keep things going for the professional USAR teams from the base camps);
- Clean-up crews (debris removal);
- DOC can supply trained inmate flaggers;
- Can provide temporary housing (fire camp tents or at unused /underused DOC facilities);
 - 10% of beds in prison facilities can be used for temp housing
- Provide equipment and operators;
 - Evacuations (moving people)
 - Trucks, bulldozers, other heavy equipment
- Can possibly augment response with DOC fuel supplies.

Assets

- DOC manages 15 correctional facilities in Oregon and two distribution facilities (Salem & Ontario);
- Facilities have heavy equipment (trucks, bulldozers, etc.) in Salem (near Lancaster & State Streets) & Ontario (Snake River Distribution Area) storage locations;
 - Semi-trucks (sleepers)
 - Also have refrigeration & dry good trucks
 - Vehicles have manual fuel pumps on board
 - Some earthmoving equipment (bulldozers, dump trucks)
 - Staff at every facility have CDLs
 - Trained forklift operators (staff and inmates)
- Approximately 143,000 gallons of diesel stored at central processing location;
- Fuel on site at all DOC facilities (need State Voyager card to fuel);
- Limited skill levels on inmate crews;
 - Down tree cleanup & debris cleanup
 - Chainsaw brigade

- Flaggers
- Maintenance
- Mechanics
- Plumbing, carpentry and electricity (inmates);
 - Though felons cannot hold professional licenses, they can perform these duties with supervision
 - Assist journeyman and licensed professionals – inmates trained to this level
- ODF wildfire assistance camp;
 - Crews no longer in use since 2011
 - Equipment and “mobile camp” still exists and could be utilized
- Fire crews (can be deployed with responders & under supervision)
 - Trained to live in tents
 - Trained to live in fire response environment
 - Have own resources / supplies with them
- Two Structural engineers on contract (one in south part of Oregon, one in northern);
- Staging Areas could be located outside on DOC properties;
- Mobile Kitchen (Food prep for crews / personnel / housing);
 - USAR team support (at base camps)
 - Fire team support (at base camps)
- Critical Stress Incident Management (CSIM) – crisis counseling team;
 - Line of duty death
 - Peer counseling
 - Family death
 - CSIM counselors (ESS group) have lawyer/client privileges
 - Could be used in State ECC and other facilities for responder staff members
- Gang Task Force (could be tasked by State and used for security);
 - Not as prepared for riot-type situations as cops are
 - Can be deputized to function as law enforcement
 - Could provide security for firefighters and EMS
- ODC is self-sustaining for approx. 14 days (similar for all facilities);
 - Stores of salt, gravel, etc., to maintain their properties kept on site at prisons (but ingress/egress away from DOC facilities would need ESF #1 assistance)
 - Prisons keep food supplies for four days
- DOC personnel are trained to be deployed to other DOC facilities;
- Has retiree cadre that could be called upon to assist with DOC operations;

ESF 9. Search and Rescue

- Have backup and interoperable communications on site at DOC facilities;
 - Locations east of Cascades facilities may be able to immediately assist State with communication capabilities
- DOC Facilities have generators and back-up fuel;
- All correctional facilities in Oregon have current and constantly updated emergency management plans;
 - Staff well trained to activate plans and respond
 - Very comprehensive plans for all scenarios
 - Plans exercised (and plans activated for many other scenarios routinely)

Catastrophic Event Operational Challenges

- DOC will maybe have 10% of personnel to assist with Statewide response;
- DOC can go two-three days (realistically, at best) without staff relief for their own facilities;
- Possibility some of DOC staff will walk off job in this event to care for families
- DOC will be short staffed immediately after any event like this and may initially need assistance with their own tasks.
- Access to DOC facilities West of Cascades.

Support Needed Immediately After a Catastrophic Event

- By nature of a catastrophic event, essential personnel will be delayed in response due to commitments to personal and family safety and security. Responses will be delayed as personnel check in as 'available' for mission deployment;
- Accessibility to fuel resources;
- Additional trained personnel to assist with DOC operations;
- Transportation assistance to reach DOC facilities;
- Aerial (fixed wing and rotor) support for evacuation, resupply and insertion of teams.

4 ESF-9 Operations

Ensure the synchronized deployment of local, regional, national, and international teams to reinforce ongoing search and rescue efforts and transition to recovery.

4.1 Objective:

Rapidly provide assistance to local authorities for search and rescue operations following an earthquake and resultant tsunami.

4.2 Challenges:

- Access to most severely impacted areas will be limited for both ground and air assets;
- Limited regional capability to conduct SAR operations;
- Limited availability of airports, reception and staging areas for coastal communities impacted by the tsunami.

4.3 Assumptions:

- A catastrophic earthquake and resultant tsunami will result in vast numbers of persons being in life-threatening situations requiring prompt rescue and medical care;
- Since the first 72 hours are crucial to lessening the mortality rate, SAR must begin immediately;
- Depending upon the type and magnitude of the disaster, either urban, wildland, or both types of SAR, might be mandated;
- Local, State, and federal regional capabilities and resources will be overwhelmed by the magnitude of the incident;
- Aftershocks will cause a significant amount of additional damage during the response;
- Response resources in the impacted area will have limited capability to function and some impacted areas will be isolated;
- Resources outside of the impacted area will have extended response times due to significant impact to transportation infrastructure;
- Severe winter weather including rain, snow, and fog will hamper response operations;
- SAR personnel will potentially have to deal with extensive damage to buildings, roadways, public works, communications, and utilities. Secondary to the precipitous event, effects such as fires, explosions, flooding, and hazardous material releases may compound problems and threaten both survivors and rescue personnel;
- SAR teams will not arrive in impacted communities with enough time or resources to save lives in all collapsed structures;
- Initial search and rescue response will be a local effort, with priorities set by local government. ESF-9, ESF-4 and ESF-1 will coordinate to provide additional search and rescue teams and equipment into the Operational Areas as requested;
- Due to the anticipated damage from a strong earthquake, the FEMA USAR task forces will be needed to support the State's search and rescue operations;
- It can be expected that search and rescue mutual aid within the affected areas will be sharply reduced. The widespread regional nature of the event will affect many jurisdictions simultaneously; therefore, search and rescue teams from throughout the State will be needed to provide search and rescue of persons trapped and injured due to collapsed buildings almost immediately;
- Inclement weather and limited visibility will hinder SAR operations;
- Coordination and direction of efforts, including volunteers, will be required;
- Damaged areas will have access restrictions and will not be readily accessible except, in some cases, by air or water;
- Secondary events or disasters will threaten survivors as well as SAR personnel;
- Survivors fleeing tsunami inundation zones will assemble in designated rally points;
- Local CERT teams will have limited ability to provide immediate search and rescue functions;

ESF 9. Search and Rescue

- HAZMAT contamination will impact SAR operations;
- First responders in the impacted area will be overwhelmed and have limited ability to perform SAR.

4.4 ESF-9 Shortfalls and Requirements:

SHORTFALLS	REQUIREMENTS
Trained Personnel and Equipment to conduct search and rescue.	<ul style="list-style-type: none"> ▪ Additional trained urban search and rescue teams ▪ Air search and rescue teams including hoist and rescue swimmer capability ▪ Additional swift water rescue teams ▪ Planning to coordinate and maximize the use of limited assets ▪ Communication and coordination between and prioritization of limited search and rescue assets
Limited capability to provide specialized teams and equipment to the impacted area.	<ul style="list-style-type: none"> ▪ Establish priorities of effort for search and rescue by type ▪ Training for light SAR teams (CERT and other volunteer groups, increased training for first responders)

4.5 Concept of Operations

OEM will coordinate all requests for assistance and communicate with the State agencies to identify the appropriate action and State resources to be used. Once Search and Rescue assets have been identified to meet the request, OEM will create an action for the specific State agencies to accomplish the task.

Immediate SAR operations are conducted in accordance with the U.S. National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual, which defines SAR responsibilities and provides guidance to the agencies with civil SAR mandates.

ESF-9 functions include but are not limited to:

- ESF-9 will coordinate the search and rescue response and requests for resources and identify transportation requirements to move personnel and equipment into Operational Areas. ESF-9 will consider using military resources and watercraft;
- Equipment will be immediately mobilized and ready to deploy upon orders;
- Determine transportation requirements to move search and rescue equipment into Operational Areas;
- Coordinate with ESF-2 to support ESF-9 communications requirements;
- Make a request for search and rescue assistance through EMAC;
- Identify resources necessary to support local, State and FEMA USAR teams to possibly include EMAC requested teams;
- Assess and validate the conditions of search and rescue staging area(s);

ESF 9. Search and Rescue

- Deploy liaison teams to county EOC or incident base of operations, as needed;
- Plan for and establish relief resources to replace or rotate with committed resources for extended operations;
- Coordinate other State and Federal support for search and rescue operations to include planning for reception and deployment to area of operations;
- Coordinate with ESF-1 for use of buses to transport rescue teams or rescued victims or persons evacuated from an emergency area to a safe location or emergency shelter;
- Require ESF -9 agencies maintain appropriate records of costs incurred during the event.

5 Supporting Documents

- National Response Framework, ESF-9 – Search and Rescue
- Oregon Counties ESF-9 Annexes
- County Search and Rescue Plans

6 Appendices

None at this time.

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