



Search Operations

Who's on First...

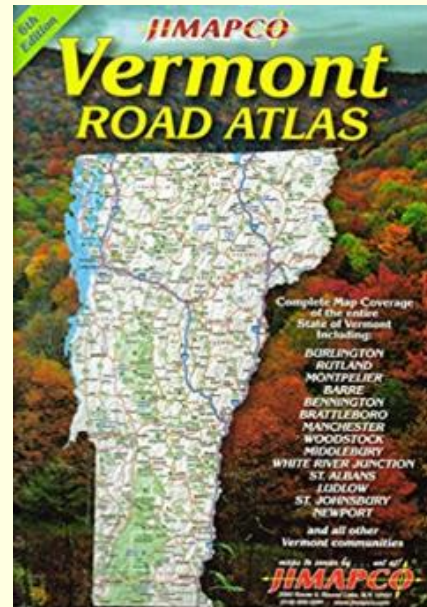
Who is really in charge and makes the decisions for Search and Rescue in Vermont? You learned the answer to this in the Statutory module. If you don't remember here is this list of who is responsible for what.

The Vermont Department of Public Safety (Vermont State Police) is responsible for persons 'lost or missing in the backcountry, remote areas and waters of the State'.

- On federal lands, such as the Green Mountain National Forest the USFS has signed a Memorandum of Understanding (MOU) delegating jurisdiction to the State.
- Local EMS is responsible for persons who are injured in a known location in the backcountry.
- Lake Champlain is considered a federal waterway and falls under the jurisdiction of the US Coast Guard and is effectively the only area in Vermont where any agency other than the State Police may be the lead agency for missing persons.

Information You Need

- Location of the Search
- Meeting Place (staging area)
- Overview of situation (e.g. type of subject)
- Any Special Equipment Requirements



When a search call-out is made, there won't be a lot of time to talk on the phone as you are one of a large number of folks being contacted.

It is important that you get adequate information that includes all of the items on the slide.

How might the location be easily expressed?

- *911 mapping address*
(e.g. *45 State Drive in Waterbury*)
- *Common recreation landmark*
(e.g. *Pico Ski Area base lodge or Little River State Park Campground*)
- *A description location of the Command Post or staging area*
(e.g. *Underhill Fire Department*)
- *Latitude/Longitude*

How Do I Get That Information

- Each team maintains a call out procedure.
- Individual searchers are NOT to contact the command post directly unless told to do so.
- Always use the chain of command before, during, and after a search.

You need to become familiar with the call-out procedure for your SAR unit. Each unit is somewhat different.

Your unit should have one designated person who will be communicating with the Command Post.

As an individual searcher on statewide call-outs you should be getting your information from your team's designated contact, NOT calling the Command Post individually unless absolutely necessary.

Try to minimize calls to dispatch centers as well as they may be trying to juggle a high call volume.

Search Urgency

■ Subject Profile

- Age
- Medical Condition
- Number of Subjects

■ Subject Experience

- Familiarity with Area
- Level of Experience

■ Weather Profile

- Past or existing hazard
- Predicted hazard

■ Equipment & Clothing Profile

- Based on weather and environment

Terrain/Hazards Profile

There is a standardized 'Search Urgency' form used in Vermont that helps give an overall assessment of how serious the situation is.

This helps search managers guide resource requests – i.e. more resources can be justified based on documented 'significant' urgency.

Experienced investigators may apply the various criteria differences within each of the categories shown on the slide, and make a subjective judgment from the result, though best practice is to document this step by completing the form.

Search Urgency Assessment			
Date Completed:		Time Completed:	
Initials:		Date:	
		Score	
A. Subject Profile Score			
<i>Number of Subjects</i>			
One alone		1	
More than one (unless separated)		2-3	
<i>Age</i>			
Very Young (< 10 years)		0	
Very Old		1	
Other		2-3	
<i>Medical Condition</i>			
Known serious illness or impairment		0	
Recent or suspected illness or injury		1-2	
Healthy		3	
<i>Physical Condition</i>			
Unfit		1	
Fit		2	
Very Fit		3	
B. Clothing Profile			
Inadequate or insufficient		0	
Questionable		1-2	
Adequate		3	
C. Equipment Profile			
Inadequate or insufficient		1	
Questionable		2	
Adequate		3	
Very Good		4	
D. Experience Profile			
Not experienced – not familiar with area		1	
Not experienced – knows the area		2	
Experienced – not familiar with area		3	
Experienced – knows the area		4	
E. Weather Profile			
Existing or imminent <u>extremely</u> hazardous weather		0	
Existing or predicted hazardous weather – 8 hours or less		1	
Predicted hazardous weather – more than 8 hours		2	
No hazardous weather predicted		3	
F. Terrain Profile			
Known hazards or difficult terrain		1-2	
Few hazards		2	
Easy terrain – no know hazards		3	
		Total Score	
ANY ZERO RECORDED RESULTS IN IMMEDIATE EMERGENCY RESPONSE			
5-17 Emergency Response		18-25 Measured response	
		26-29 Evaluate & Investigate	

This is the standardized 'Search Urgency' form used in Vermont. Take a moment to look over the form and become familiar with it.

You will note that each 'risk factor' gets scored with the lowest number being the highest risk. For example in the first category clearly one person alone is at higher risk than a missing group of 6 people – so a solo hiker would get a '1' for this category.

Please note that some, but not all of the categories have the option for a '0' score. These are the highest risk categories, and ANY '0' on the form indicates a high urgency search. Most people who don't survive in Vermont after getting lost die of hypothermia which is why the 'clothing' and 'weather' profiles are so important.

After completing the scoring all of the numbers are totaled up and the ranges at the bottom give a general idea as to the urgency of the incident.

But remember ALL searches are an emergency and require some type of response!

Safety of Search Team First Priority

- Regardless of the urgency of the search, the ability and safety of the searchers involved in the operation must be considered first.
- When you are responding, remember that arriving safely is far more important than responding fast.

The bottom line is that, during a Lost Person Incident, as in virtually all other incidents, there are four tiers of responsibility for saving lives.

- Yourself
- Your Partner(s)
- The lost person
- The Rest of the World (R.O.W.)

It's also important to

At a Search

- Check in with your team leader
- Make sure they know any limitations and emergency information
- Inquire about sign-in process.
You will likely need to provide:
 - Name
 - Team affiliation
 - Cell phone #
 - Any limitations
 - Special equipment available
 - Special skills (medical, Search Team Leader, etc.)

Once you arrive at a search you want to first check in with your team leader. Inquire as to where you are supposed to sign into the incident. This is the time to talk to your team leader about any problems like not feeling particularly well, about the fact that you have to leave at a certain time due to child care commitments, or any other limitations.

Normally there is a designated staging area at larger searches. This enables the Command Post area to stay less cluttered with noise and people. At some smaller operations, the staging area may, in fact, be at the Command Post.

You should arrive at a search ready to be deployed quickly. This is not the time to be looking for food and water to put in your pack, changing your clothes, etc.

Having said that, it is also normal to have a delay before you are deployed, so it is important to stay ready and not 'bother' the search managers by asking when you will be put into the field. Experienced searchers stay ready to deploy but understand it may take some time to get their assignment. There is usually a good reason for this as search managers are doing their planning.

Briefing

- Information on missing subject(s)
 - Subject's name
 - Physical description
 - Pertinent medical information
 - Subject behavior profile
 - Circumstances of loss
 - Photo (if available)
- Assignment
 - Location of assignment
 - Objectives of assignment
 - Information about communications
 - Hazards



Before taking to the field each SAR team member will receive a briefing with the information shown on the slide. Please remember, some information, such as a medical condition, may not yet be known. In some searches, there may also be "Law Enforcement (LE) sensitive" information that cannot be revealed. You will be told everything available that you need to search safely and effectively.

Oftentimes generic information (GPS settings, subject name, description, weather forecast etc.) will be posted outside the Command Post.

Debriefing

- Information needed from you:
 - Detailed information on anything found
 - Was assignment completed
 - Estimate POD achieved
 - Any problems encountered
 - Any safety concerns
 - Any lost/damaged equipment or injuries

Likewise, it is important to report information after your assignment. It is critical to share everything about what you found...or any equipment you might have lost or any injuries, no matter how minor.

When searching we carry all trash out with us, but small equipment in particular has a way of going missing in the field and being found later by other searchers. Lost equipment, if not reported, might be found later and considered evidence as to where the subject had gone and redirect the search in the wrong direction.

POD refers to the **P**robability **O**f **D**etection. There are many ways to assess this but a common way is for a team leader to ask everyone for a percentage of the likelihood that the lost person would have been found if he/she were in your search area. The team leader may weight responses differently depending on the experience of the individuals and come to an average to report to the Command Post.

Around the Command Post (ICP)

- During down times between assignments you may be around the CP area with other searchers.
- Be aware that the press or family members may be in the areas as well.
- Be professional, don't be overly humorous, keep personal comments to yourself.
- If you are approached by family or press be respectful, honest and refer to CP for information.



It can be very easy to let off some of the stress of the search with humor and it's important not to appear that you think the situation is funny or you don't take it seriously.

Sometimes we may know things that are not released to the press or family so all inquiries should be referred to the CP.

Accountability is Key!

- Do not leave the search scene without informing your team leader, and signing out from the scene.

SAR 111a		TOWN			OPS PERIOD				DATE			
CHECK-IN LIST		COUNTY			OPS START				TIME			
INCIDENT NAME					OPS END				PAGE			OF
CHECK IN LOCATION												
NAME / TYPE			AGENCY/TEAM	TIME IN	OUT	HRS	MILES	PHONE #	VEH LICENSE	T. CARD		
1.												
2.												
3.												
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6.												
7.												
8.												
9.												
10.												
11.												

You do NOT want the search teams looking for you because you didn't check out when leaving the incident! Before you leave a search scene to head home, be sure you have checked out with your team leader and on the original check in list.

We will initiate a search for anyone who has not checked out at the end of the search.

Investigation

- As soon as the person is reported lost law enforcement will begin an investigation.
- Typically the investigation goes at least until the person is found and sometimes well after until all facts are known.
- The investigation may provide clues about



where and how to search and may alter things part way through the search.

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The investigation will determine things like the Place Last Seen (PLS) and Last Known Place (LKP) which are critical for planning an effective search.

It may tell us if we can expect the person to respond to our calls or not or if they are overdue for medications, etc.

The investigation may also involve talking to family and friends, checking social media accounts for recent activity or trying to obtain cell phone location data.

The Incident Command System

- Used to
 - Manage an emergency incident
 - Manage non-emergency events
- Has
 - Considerable internal flexibility
 - Grows and shrinks to needs
 - Cost effective and efficient
 - Applies to emergency & non-emergencies



The Incident Command System (ICS) is an effective method for managing incident response activities. ICS is a working management system which you will see at every search, not just an organizational chart.

It allows for the efficient delegation of responsibilities.

- It establishes a clear chain of command.
- It avoids unclear communications.
- It ensures key functions are covered.
- It establishes a process to develop an Incident Action Plan for the next operational period.
- It can easily expand and contract as the particular incident requires.

Keep in mind that the completion of the FEMA IS-100 and IS-200 is requiring training for membership in SAR teams in Vermont. These two courses provide additional information about the Incident Command System which is not included in this course.

The links to these courses was provided in Topic 2 – “Introduction.”

ICS Five Major Management Activities

- | | | |
|----------------------------|---|---|
| ■ Command | ← | Sets objectives and priorities; has overall responsibilities at incident or event |
| ■ Operations | ← | Conducts tactical operations to carry out the plan; develops tactical objectives, organization and directs resources |
| ■ Planning | ← | Develops action plan to accomplish objectives, collects / evaluates info & maintains resource status |
| ■ Logistics | ← | Provides support for objective, provides resources and services |
| ■ Finance & Administration | ← | Monitors costs, accounting, procurement, time recording and cost analysis |

These five major management activities are the foundation upon which the ICS organization develops. On small incidents these activities may be handled by one person, who is the Incident Commander. All incidents have an Incident Commander.

Many times on searches in Vermont you may see all of these combined in one person initially and expand into what is required for the particular search.

Command

- Incident Commander
 - In charge of incident
 - Qualified for position and incident
 - May have assistants called Deputies
 - Also qualified for position and incident
- Command Staff
 - Safety, Information, and Liaison



**No matter how limited the other functions,
there will always be an Incident Commander.**

The Incident Commander knows that the command function may be carried out in two ways:

- As a Single Command, in which the Incident Commander will have complete responsibility for the incident management.
- As a Unified Command, in which responding agencies or jurisdictions with responsibilities for the incident are sharing incident management.

Deputies: The Incident Commander may have more than one deputy, who must all be equally capable of assuming the primary role as Incident Commander.

Why is it important to have only one incident commander at any time running a search operation?

"If you don't have one person, by name, in charge, you don't have anyone in charge."

ADM Hiram G. Rickover

Command Staff

- Information Officer
 - Point of contact for media or organizations
 - May have assistants
- Safety Officer
 - Monitor safety conditions
 - Develops measures for assuring safety for all
- Liaison Officer
 - Primary contact for other agencies who have personnel assigned to incident

The individuals filling each of these positions are considered part of the management staff:

- Information Officer - Is usually the point of contact for all major media coverage. There is only one information officer no matter how large the incident becomes.
- Safety Officer - This individual monitors all safety conditions and develops safety measures to be performed during any incident.
- Liaison Officer - On large incidents or events, representatives from other agencies may be assigned to the incident to coordinate their agency's involvement. Other agencies will report through one officer, who is the liaison officer. An example might be somebody from the National Transportation Safety Board (NTSB) responding to assist at a plane crash.

Operations

- Operations Section Chief
 - Develop and manage operations and tactics
- Additional levels of organizations
 - Divisions / Groups (Sectors)
 - Divisions - geographical
 - Groups - functional (usually largest segment)
 - Branches
 - Due to span of control issues or
 - Multiple disciplines

Other functions seen in large evolutions are:

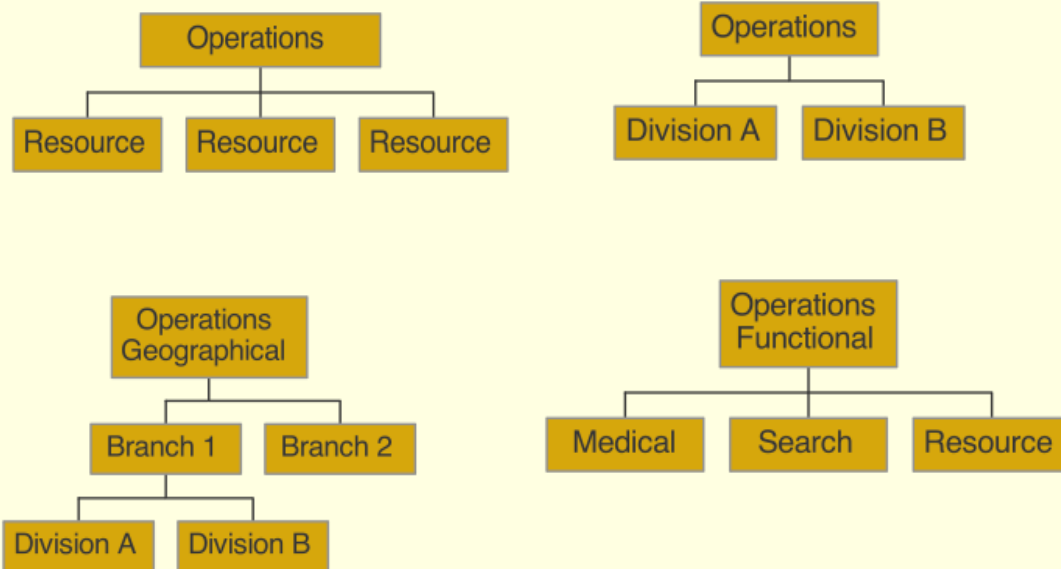
- Operations Section Chief: Will develop and manage the Operations Section, the job of which is to accomplish the incident objectives.
- Division: is established to divide an incident geographically. They usually describe some geographical area related to the incident operations.
- Groups: Are established to describe functional areas of responsibility.
- Branches: There are generally three reasons to use branches during an incident or an event:
 - Span of control
 - Multiple jurisdictions
 - Multi-jurisdictional incidents

Expanded Operations

- Management Units
 - Strike Teams
 - Has specific number of like units
 - Has a leader and common communications
 - Task Forces
 - Has diverse units
 - Has a leader and common communications
- Single Resource

- Strike Teams: consist of resources of the same type. Strike teams are a good way to organize multiple single resources that share the same characteristics.
(An example might be a team of mountain rescuers assigned to search very challenging and technical terrain.)
- Task Forces: any combination and number of single resources usually within the span of control, who are assembled for a particular tactical need. They are not resources that share the same characteristics.
(An example might be a search team that consists of a medic, a law enforcement officer and several volunteer SAR team members.)
- Single Resources: individual personnel, with single pieces of equipment, which can be with or without an operator. (An example might be a K9 tracking dog and handler or a drone operator.)

Examples

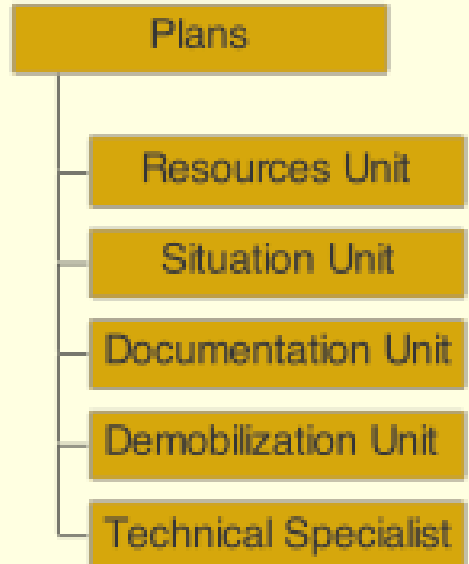


The graph shows how incident management would expand as the incident becomes more complex. With the complexity of the incident, the Incident Commander must be flexible enough to expand in order to accommodate all of the resources needed to sustain the incident.

One of the most positive benefits of Incident Management is its ability to expand and contract to match the situation.

Planning

- Collect, evaluate and display info
- Develop IAP (Incident Action Plan)
- Maintain Resource status info on equipment and personnel
- Maintain Incident Documents



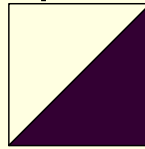
Within the ICS, the incident planning process covers six essential steps. These steps take place on every incident regardless of size or complexity.

This is the job of the Planning Section.

- Understand agency policy and direction
- Assess incident situation
- Establish incident objectives
- Select appropriate strategy or strategies to achieve the objectives
- Perform tactical direction, assigning the right resources, and monitoring their performance
- Provide necessary follow-up, and either add or subtract resources as needed

Incident Command Post

- Location where the IC (Incident Commander) oversees all incident operations
- Only 1 ICP
- Common location for Plans, Logistics and Finance/Administration
- May be marked on a Map as:



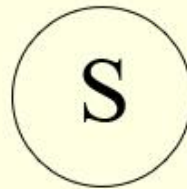
The Incident Command Post (ICP) – there is always only one and it must always be placed in a safe area. Failure to place the ICP in a safe environment will jeopardize the ability to effectively manage the incident.

The CP may be marked with the FEMA sign as shown, a green flashing light or more typically on searches in Vermont simply a sign that says “Command Post.”

Normally you should not enter the Command Post unless told to as they are busy and need to focus on their job without distraction.

Staging Areas

- Convenient temporary location of resources awaiting assignments
- May have more than one
- May have a staging area manager
- May be marked on map as:

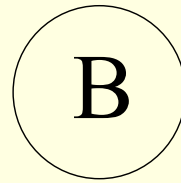


Being at a staging area means you are ready and waiting for an assignment. They can be mobile and are likely to be set up such that they can be expanded in order to hold more resources. Staging areas and the resources within them will always be under the control of the Operations Section Chief.

The staging area may be marked with the annotation on the slide or simply have a sign saying "Staging Area" or "Check In." This is normally where search assets wait until called to the Command Post for an assignment.

Base

- Location where Primary Services and Support activities are performed
- Only one base in an incident if designated
- May be marked on map as:



All supplies are maintained at the base as well as facilities for feeding/resting personnel.

For most searches in Vermont, you will typically find the Staging Area and Base Area in the same place, and it is not unusual for both to be co-located with the Command Post.

The IAP (Incident Action Plan)

- Typically used after initial response phase
- Contains
 - Direction for future actions
 - Measurable objectives to be met
 - Communications and Medical Plans
 - Based on a time frame called an Operational Period



The IAP will vary in some degree between different agencies depending on their needs and structure. Most formal IAPs for searches will be written with the goals and objectives of an incident as planning begins looking ahead to additional operational periods.

As an individual searcher or even a team leader you may never see the IAP but rest assured there is always one in one form or another.

Operational Period

- Can be in various lengths
 - Usual is in 12 hour periods
- Based on needs of the incident
- Planning for IAP
 - Far enough in advance for:
 - Obtaining adequate resources for the needs
 - Relevant for appropriate tactics

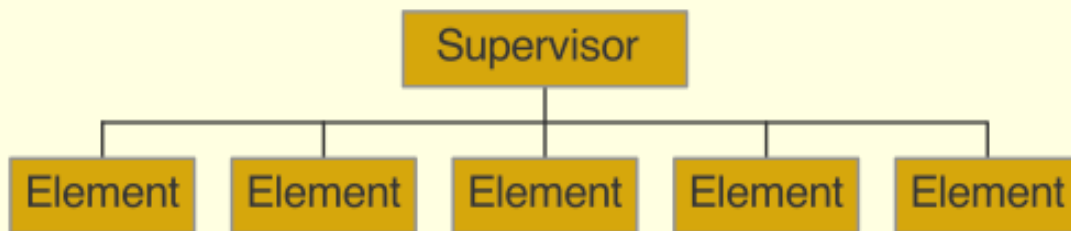
Operational periods will normally not go beyond a 12 hour time frame. There may be exceptions for this, particularly in the initial phase of the search.

Implementing structured operational periods supports sustained operations with rested searchers and ongoing logistics.

In Vermont, it is typical to use 12-hour Operational Periods or until a search assignment is completed.

Span of Control

- From 3 - 7 reporting elements
- Ideal is 5 elements to supervise/control
- Use of Chain of command/communication



The span of control refers to how many elements one person can manage effectively.

This may vary from 1:3 (one supervisor for three field people or elements) to 1:7 (one supervisor for seven field people or elements) with a ratio of 1:5 (one supervisor for five field people or elements) reporting elements recommended.

More than five becomes unwieldy and difficult for the leader to keep track of and fewer than three really don't need a supervisor.

FIVE IS GENERALLY THE MOST EFFECTIVE.



Search Operations



Problem Solving Scenario

This exercise will give you an idea of what the Command Post is doing when they initially set up a search. After covering the basics of Search Operations, take a shot at what you think you would do if YOU were the search manager.

WHAT WOULD YOU DO?

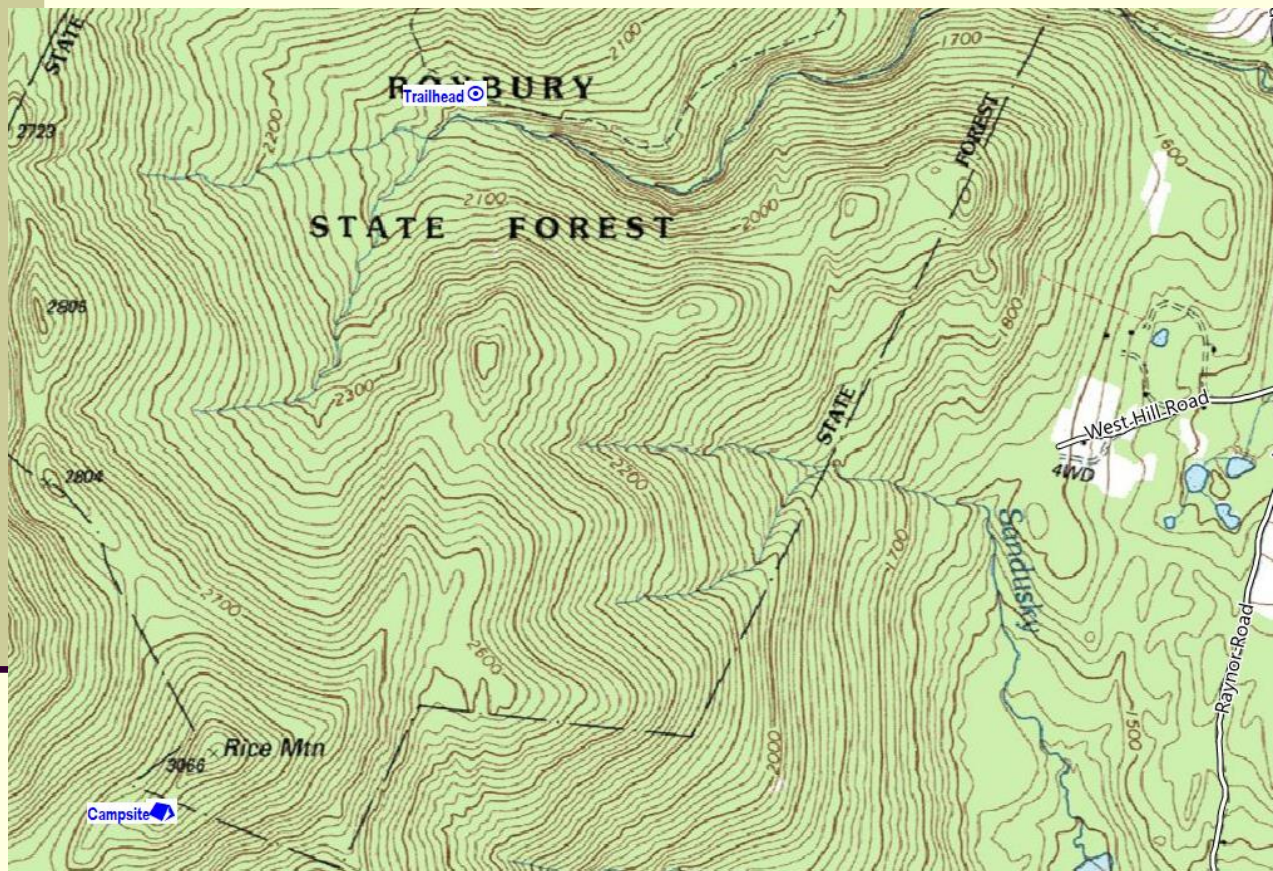
The Initial Report

- It is 11:30pm on February 9. The temperature is 25 degrees with light snow flurries. A woman has called to report that her husband has not returned from an overnight camping trip. He was last seen by his companion at noon as they left their campsite on Rice Mountain to return home. The missing subject is 39 years old, has suffered from mild depression, and has some intermediate level experience with winter camping. His clothing is primarily wool and considered adequate for conditions

Here are some of the questions you will want to ask:

- Where was he last seen (that is the PLS or **P**lace **L**ast **S**een)?
- When was he last seen?
- Is he on any medications and if so when does he need his medication next?
- Has this ever happened with him before? Is he familiar with the area?
- Where is his companion and is he/she available to interview?
- Was there a precipitating event (argument, been depressed, etc.)?
- Is there any place else he might have gone? (e.g. with other friends or family)
- Has anyone done a search of those places?
- What is the predicted weather?

Some answers may cause you to ask follow up questions as well.



Think about what this map tells you about the terrain and area you might be searching.

- Remember that the brown lines on the map are contour lines and the closer together they are the steeper the terrain.
- Do you think there are there any trails that are not shown?
- What are some potential 'terrain traps' where he might have taken the wrong way back from his campsite?

How would you prioritize this Incident ?

- **High Urgency**

- emergency response dictated

- **Moderate Urgency**

- measured response

- **Low Urgency**

- evaluate the response

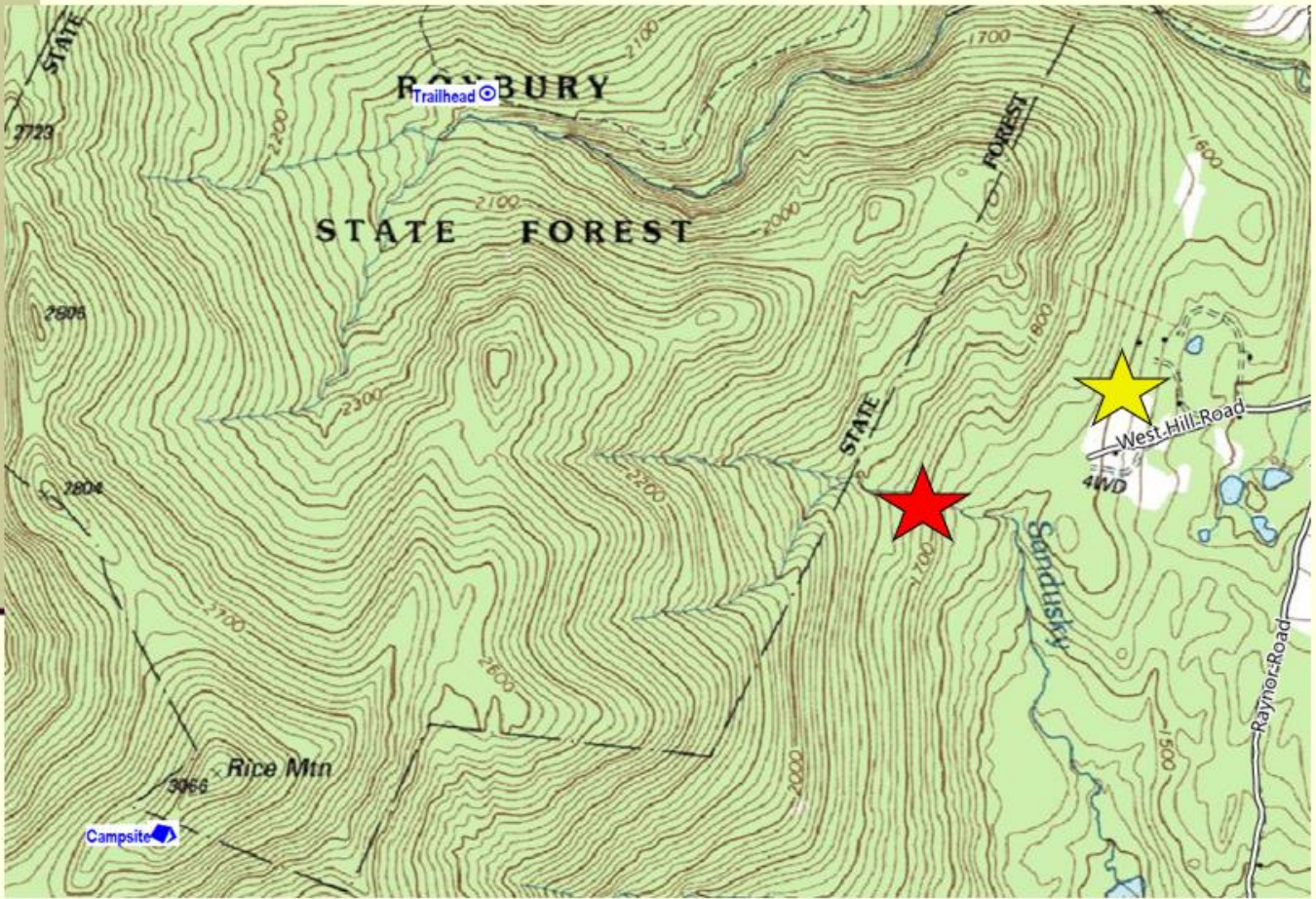
The search urgency form is included earlier in this section.

There is also a copy on the website.

Either print it out or refer to the copy in this section and use it to determine what you think the urgency is for this incident.

As you calculate it, if you aren't sure which to pick, always choose the higher urgency number as it is better to be safe than sorry when potentially dealing with someone's life.

The Outcome



How did it all end?

The subject lost the faint trail that led to the campsite from the trailhead and spent the night along the brook where the red star is located.

Searchers were sent out overnight checking the campsite and some of the drainages to the east and west of the ridge.

He was found walking along West Hill Road the next day having found his way back to the road.

Congratulations, you have finished this module

You may close this window to return to the main course and select another module to complete.

Be sure you keep track on your course checklist so you know which modules you have completed.