

West Hants Ground Search and Rescue

Basic Searcher
and
Introduction to SAR

WHGSAR 2016

Purpose of SAR



- **L**ocate...
- **A**ccess...
- **S**tabilize...
- **T**ransport...



... the Lost Person

Today's Session

- ◉ Searching Theory and History
- ◉ Search Operations and Procedures
- ◉ Dressing for SAR
- ◉ Equipment for SAR
- ◉ Searching Methods
- ◉ After the Find and After the Search

- ◉ Multiple Choice Quiz (watch for yellow text!)

Searches

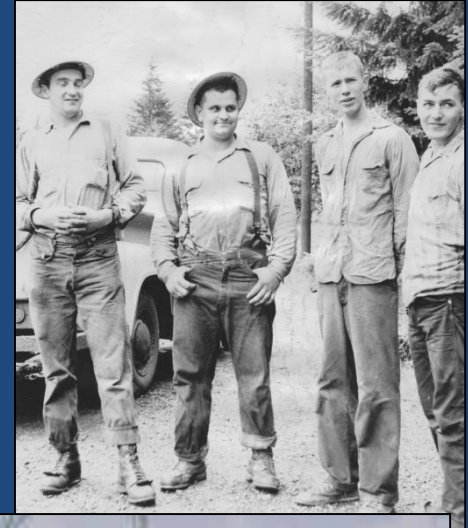
⦿ “A search is an emergency!” -E.M.O.

- You need to respond quickly and be prepared (self sufficient).
- You may be searching for a person who is:
 - alive
 - deceased
 - a child
 - an Alzheimer sufferer
 - psychotic
 - not wanting to be found



Searches in the Past

- The Past ...
shoulder to shoulder
searching from the PLS.
- Success Rate? Your thoughts?
- Why not successful?
 - Survival Time and Search Process



Lack of Success in the Past

What percentage of those lost persons found dead died on the first day?

Not what percent of those who died while lost, but of those who died, how many died on the first day of being lost?

- a.) 10% or less b.) 25% c.) 50% d.) 75%

What do think was the main cause of death?

Lack of Success in the Past

Survival Time and Causes of Death

- Main cause of death – Hypothermia.
- Of those found dead, 50% died within the first day and an additional 24% died within the second day.
- A rapid response is critical, especially in our environment.
- Review historical data of William Syrotuck for Washington State and New York State.

MORTALITY.....

Percentage found dead

229 cases



ALL SOURCES
11% found dead



New York State (dry, cold)
2% found dead



Washington State (wet, cold)
22% dead plus 11% critical



Canada:

Summer = ??

Winter = ??

Of those found dead....

<u>Dead Within:</u>	<u>1 day</u>	<u>2 days</u>	<u>3 days</u>	<u>4 days</u>	<u>5 +</u>
	50%	24%	9%	9%	8%

<u>Dead or Critical:</u>	<u>Children</u>	<u>Adult</u>	<u>Elderly</u>
Good Weather	4%	11%	35%
Bad Weather	67%	53%	67%

Fig. 1: Mortality

(after Wm. Syrotuck)

Lack of Success in the Past

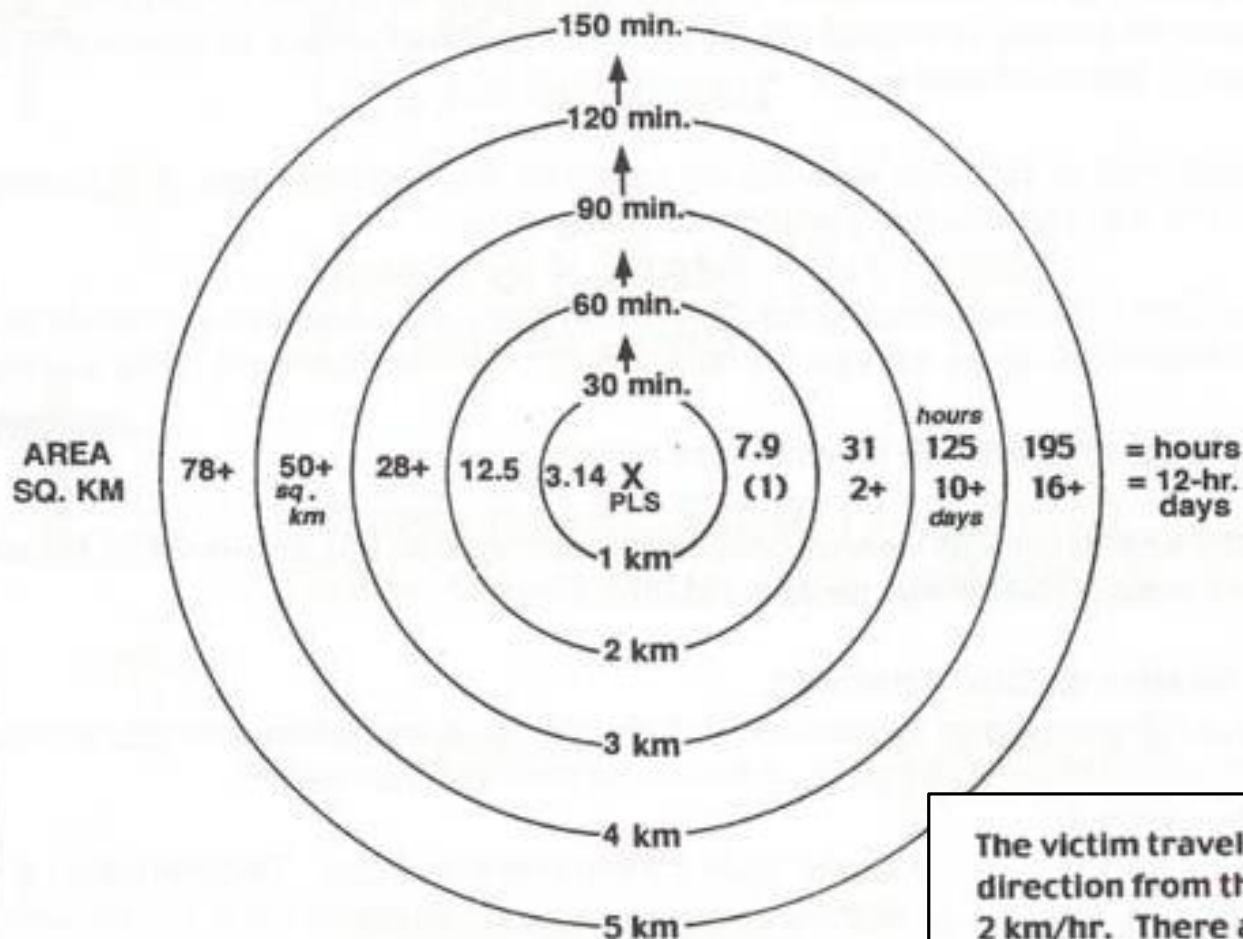
Search Time and Grid Searches

- Many individuals are found too late due to the use of **visual grid** searches.
- Visual grid searches require time to gather and organize searchers. Plus it takes a tremendous amount of time to grid an area.
- Visual grid searches are a last option and should only be used when the subject is believed to be within a very small area.
- Review the Time-Distance-Area chart.

Question

- ⦿ If the search begins two hours, 120 minutes, after a person was last seen and assuming he walked 2 km/h, how big is the area to search from the PLS?
 - A) 5 km²
 - B) 10 km²
 - C) 25 km²
 - D) 50 km²
 - E) 75 km²
 - E) 100 km²

TIME SUBJECT
TRAVELED



Time, Distance, Area Chart

The victim traveled in straight line in an unknown direction from the point last seen (PLS) at a rate of 2 km/hr. There are 20 searchers gridding the area at a 20 metre spacing at a speed of 1 km/hr. We'll assume 100% efficiency, no coordination problems, no rests -- all impossible, of course.

Example: If the victim walked for 120 minutes, the search area would be 50 + square kilometres and require 125 searcher hours or 10+ 12-hour days to search.

Today: Rapid Response not Grids

- ⦿ **Clues oriented** searches as clues will greatly reduce the search area.
- ⦿ **Hasty Teams** can be used for this purpose as well as checking high percentage areas or zones first.
- ⦿ **Sound Searches** are very effective and 3 to 4 times more efficient, if...

After hasty teams

Searches Today: Profiles and Probabilities



Note the circle
for area based
on profile

This was all about the L in LAST

For the Lost Person...

- **L**ocate
- **A**ccess
- **S**tabilize
- **T**ransport

Search Operations

Who does what at a search?

Search Operations ICS

A typical search would involve:

- Police as the Incident Commander
- (Search **Manager** or Search Director)
 - Operations
 - Planning
 - Logistics and Communications

Incident Command System

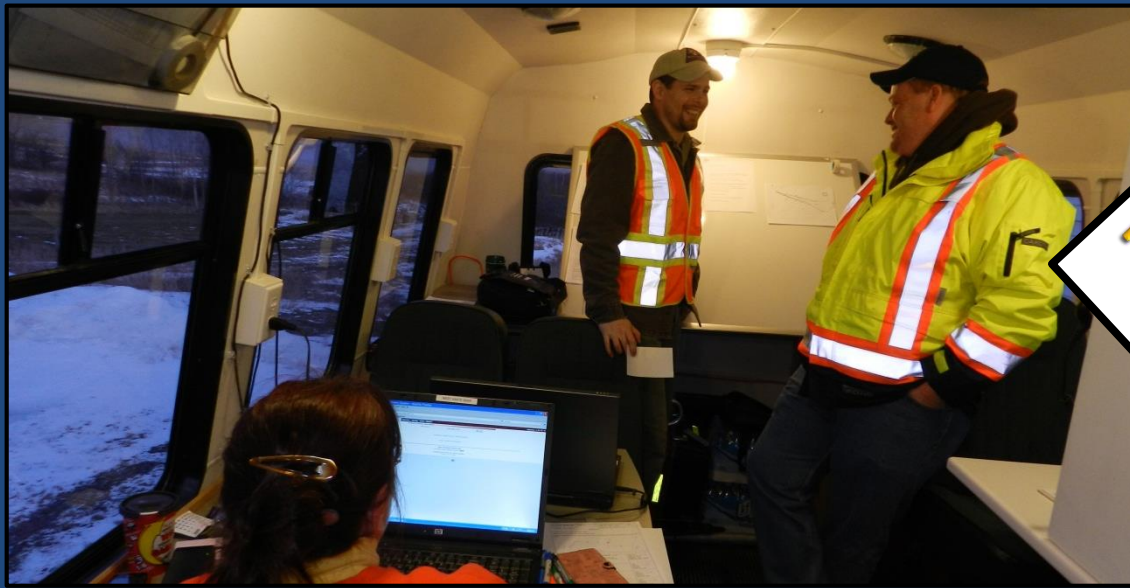
Can be for a traffic accident, a school roof collapse, or even a rock concert.

With ICS each person
supervises just
two to seven others.

Positions and Job Responsibilities

- ◉ **EMO: Emergency Measures Organization** is our sponsoring agency
- ◉ **Incident Commander** (RCMP, Local Police, Military Police) has ultimate authority and responsibility.





Positions and Responsibilities

- **Field Operations** deploys personnel into the field and will supervise Team Leaders
- **Planning** mapping, briefings, strategy for the search
- **Logistics** locates and obtains materials, equipment and supplies for all search personnel.
- **Communications** deals with all radio communication



Searching and a Search

- You will not be expected to work on your own or carry out tasks without supervision.
- You will be expected to perform to the level of your training and experience – so no navigating if you are not confident with navigation.



Field Positions and Responsibilities

Team Leaders

- Lead SAR groups into the field to safely accomplish a tasking.
- This is the person from whom you will take your directions.
- When finished a tasking wait for a debrief from the team leader before leaving the group.



Field Positions and Responsibilities

Team Members

- Bring skills such as navigation, radio operation, tracking, searching and or first aid to the team.



- As a probationary/basic searcher you may have some or none of these skills, either way you are a valuable member to the team and there are many ways you can help the lost person. **You can help at the site or in the field.**

Non-field Positions

- ◉ Logistics – supplies, equipment, food and drink.
- ◉ Communications
- ◉ Site Management – parking, greeting, ..
- ◉ Command Support – SMART typing, planning, operations, ...
- ◉ Transport and drivers



Human Rights

- **No form of discrimination or harassment is tolerated.**
 - This includes, but is not limited to, harassment and discrimination based on race, creed, colour, gender, and sexual orientation. All members must be treated equal.
 - Nova Scotia Ground Search and rescue is a volunteer public service and thus any cases of discrimination or harassment must be reported to the Human Rights Commission.
 - **Human Rights ensure that your feelings and the feelings of others are protected. Behavior that is insensitive, such as telling ethnic jokes is likely to hurt someone's feelings and is considered discrimination.**

Harassment and Discrimination

- ⦿ Sexual harassment can include behavior such as showing sexual pictures, staring, leering, gestures, sexual invitations, touching, or unwelcome remarks or comments.
- ⦿ Racial harassment can include racial slurs, derogatory remarks, racist pictures, assault, jokes, teasing or threats.
- ⦿ Discrimination is when a negative judgment or decision is made about an individual based on something such as skin colour, rather than their individual merits.
- ⦿ **Report all harassment or discrimination to the Team Captain or another member of the overhead team.**

Responding to a Call Out

- When you receive a call do not ask for details or have a conversation!
- You will be provided all necessary information at the briefing.

THIS IS CHANGING

State the following only:

“Yes. I will be there.”

or

“No, I can’t make it.”

- If you can’t make it at that time you can always join the search later. **But if you are out when the call is made then call back to let them know if you are coming or not.**

Notepad by
the phone?

Sign in at the Search

- **Sign in** when you reach a search scene at the Command Unit and then await further instructions. If anything downplay experience and after a couple of searches they will know you. Tired, let them know!
- **Signing in** allows management to:
 - account for your presence,
 - assign taskings,
 - identify limitations (medical or physical),
 - schedule briefings.
- **Have your search pack with you.**



Sign Out from the Search

- ⦿ It is equally important to **sign out** in order to let management:
 - track your whereabouts,
 - call in additional personnel,
 - schedule debriefings
- **Remember to fill out the paperwork for mileage.**

Gear!

- ⦿ What are the most _____ important items to take on a hike in Nova Scotia in the wilderness from the items in front of you.
- ⦿ Choose _____ items
- ⦿ Take a break to stretch before reviewing choices.
- ⦿ Phones? Yes, but remember that the battery can die.

On the Search

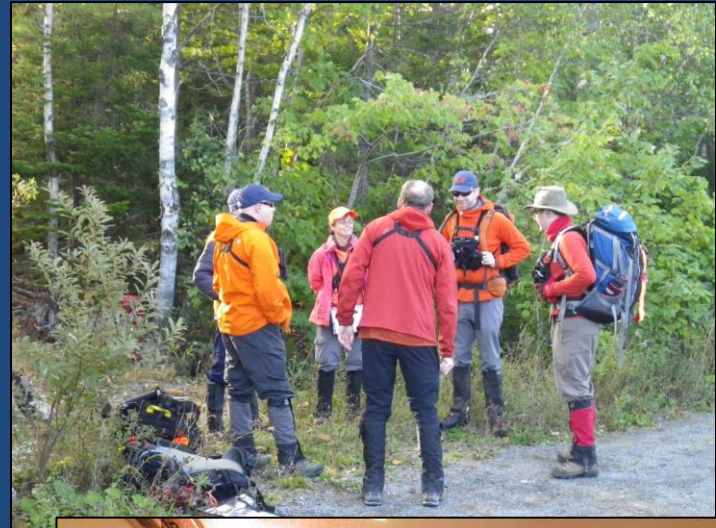


“Go fast, but go prepared”



Hurry Up and Wait?

- A search is like an investigation where both speed and patience are important,
- clues and information are used to make plans,
- teams assigned and created to carry out the plans
- Searchers carry out the plans and the process is repeated



SAR's Role and Responsibility?

For the Lost Person...

- **L**ocate
- **A**ccess
- **S**tabilize
- **T**ransport

Searcher Responsibilities

- ⦿ Be dressed for the season and weather.
 - Team Leaders can and will dismiss you if you are not properly dressed or prepared.
- ⦿ Come fully equipped (self-sufficient for 12 to 24 hours) **Most taskings are 4 to 8 hours.**
- ⦿ Respond as quickly as possible, but be prepared with everything you will need to search.
- ⦿ Take directions from the Team Leader.

Preparation Ideas

- Search pack and another bag.
- Search clothes, gear and extras in two bags.

Search pack by the door or in the back of the car. Search clothes and all gear in the bag.

- Storage bin and search pack
- Search pack is packed and bin has boots, clothes and extras.



Responsibilities en route

- ⦿ Only attend a search if you are sober and drug free.
- ⦿ Do not speed on the way to a search.
- ⦿ Record your mileage so that it may be claimed and submit the forms.
- ⦿ Do not take firearms to a search

Media Protocol

- Media may approach you at any time to gather information.
- Your only reply should be to direct them to the Command Unit where the police or the Public Relations person will speak to them.
- Never pass on any opinions or information about a search to anyone. Some information may be sensitive long after the search stops.



Official Media and Social Media

- Media may approach you at any time to gather information, **but not in a way you expect!**
- “... if approached at a search by media it is essential that you be friendly, but divulge nothing other than go check with the command. Unless you are given express permission to do so.”
- They are crafty and once they get your name and any other simple social media comments about your day and current experience you may have just inadvertently become the spokesperson for the team.”

-HRSAR Search Manager



Department on Site

- Searching can be demanding and you may be tired after a tasking. Concerns should be raised one on one with your team lead or during the debrief.
- Family or others may be on site and in earshot of what you say.
- “Tough tasking” or “Long day, but we’re here for the lost person”



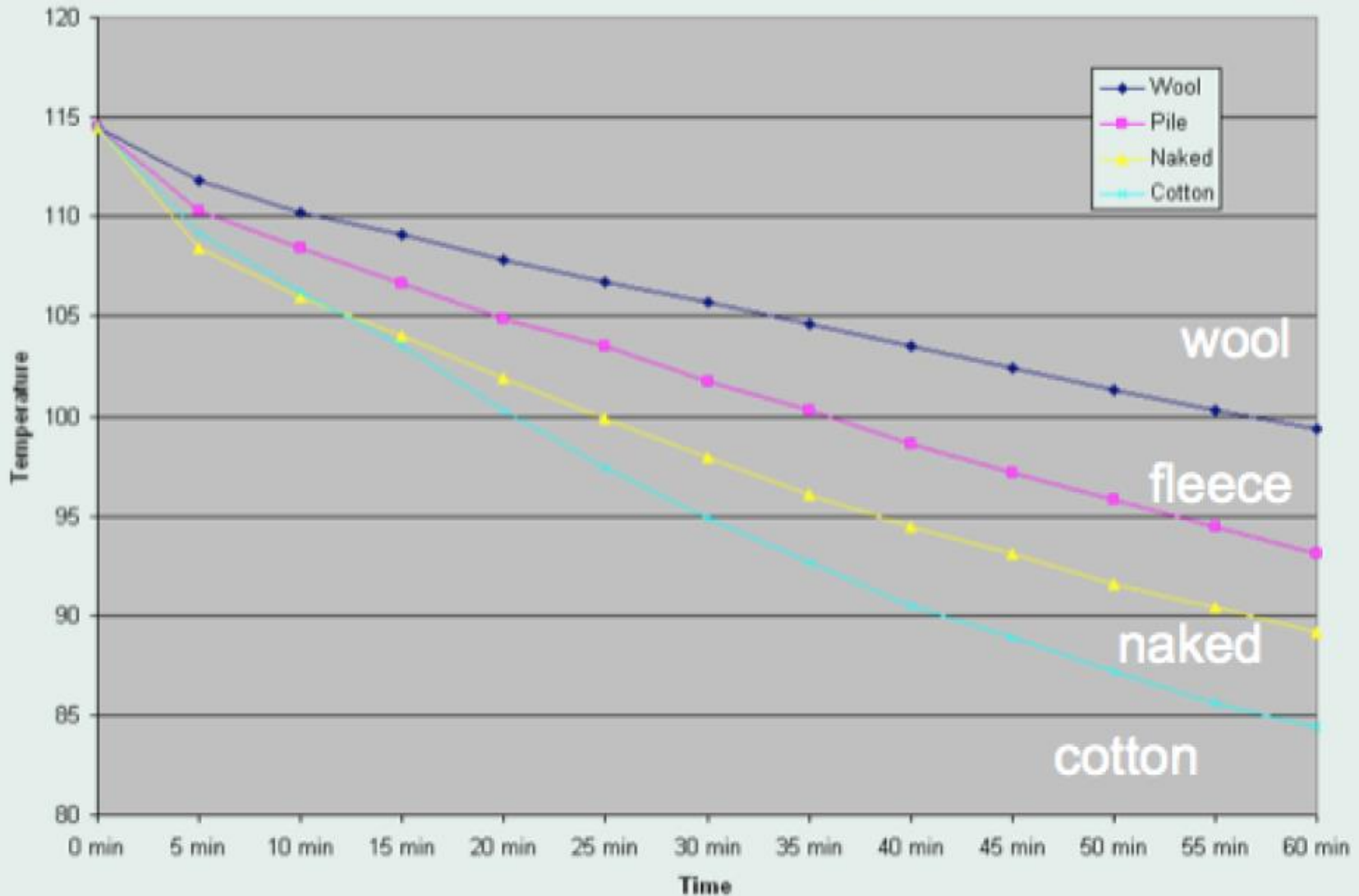
Clothing

- ⦿ **Footwear** -sturdy ankle-height, waterproof boots with insoles for insulation and padding in winter or ...
- ⦿ **Socks** - wool or synthetic and two pairs, one thin one thicker
- ⦿ **Underclothes/base layer**- (wool/synthetic, not cotton)
- ⦿ **Pants** – wool or synthetic ... **NOT JEANS**
- ⦿ **Shirts**- long sleeve, synthetic, or wool

No Cotton!

Remember:
dress in layers, preferably **orange**, and
dress for the season not the day.

Wet Materials Comparison



Dress in Layers



Same for your
legs, hands,
head, and feet

Layering Systems of Clothing

Inner or Wicking Layer

- Provides some insulation and controls the moisture against the skin by transferring perspiration from the skin to the outer layers.
- Use wool, polypropylene or other synthetic materials

Middle Insulation Layer

- Consists of multiple layers of clothing, pile or wool, that trap dead air.
- Ideal materials include wool, synthetic fleece and pile (down?).

Outer Barrier or Shell Layer

- Should protect from rain, snow or wind, yet allow for the release of internally generated moisture.
- A two way zipper with an over-flap and a good neck/hood system are key in a barrier jacket.
- Gore-Tex type material is preferred.

Layering

○ Can you spot the three layers with these searchers?

- Wicking
- Insulation
- Shell



E2C website 2008



What are they wearing on their lower legs?

Clothing

- ◉ **Coat-** rip-proof, hooded, large enough to allow for additional clothing to be worn underneath
- ◉ **Hats-** are essential to protect you from the sun and keep your head warm.
- ◉ **Rain Gear-** this includes a coat and pants.
- ◉ **Gaiters** can be helpful.
- ◉ Night visibility?

Remember: Dress in layers, preferably orange, and dress for the season not the day.



Clothing

- **Gloves** are great for dexterity, **but mitts are warmer**
- **Eye protection**- always and especially at night



Halifax GSAR <://halifaxsar.ca/>

Remember: Dress in layers, preferably orange and dress for the season not the day.

Equipment



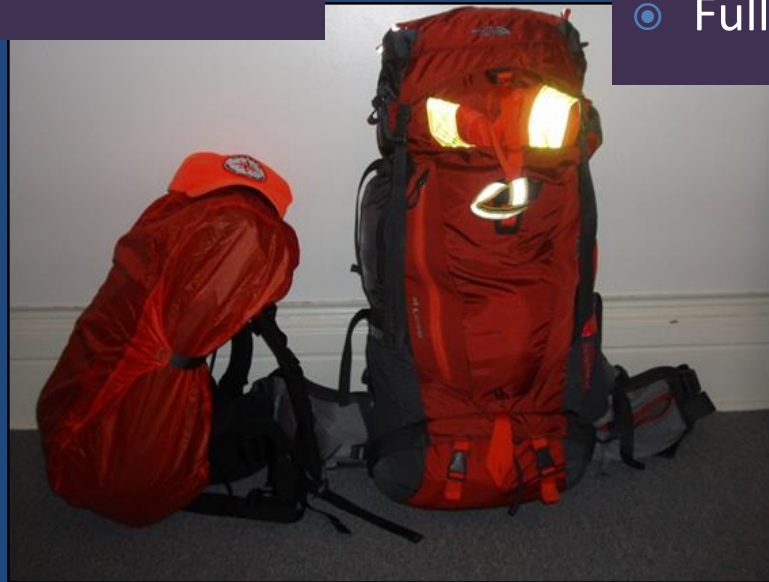
- ⦿ Compass
- ⦿ Sturdy blade
- ⦿ Matches or lighter

This is the minimum list of gear that anyone going into the woods should take with them.

Equipment

- Small pack with water, spare clothes, and survival gear.
- 20 to 30l
- Minimum List

- Larger pack with full list of SAR contents for 24 hours in the woods.
- 40 to 50l
- Full List



- Time is precious when a search is called have your equipment ready!

Equipment



Raincoat and
rain pants

Extra warm
clothes

First aid kit,
survival gear,
shelter, food,
and other SAR
equipment

Water (2L)
and can prep
more

**Is there enough
equipment to keep a
lost person and you
safe for 24 hours?**

Now a Game

- ⦿ Spot the prepared searchers ... and the not so well prepared.
- ⦿ Identify specifics things you see that indicate prepared and not prepared.
- ⦿ These are ALL real media pictures from the web.

Spider Lake Search - CBC Photo



Spot the prepared and not so well prepared searchers

BC North Shore SAR



Search for Son and Mom in Halifax



Crystal Crescent Search



Now for 4 Recent CBC photos



Equipment

- Every searcher has their own style and method of carrying personal equipment.



- All searchers need to be self-sufficient for up to 24 hours in the woods. Most taskings are 4 to 8 hours at most.
- Time is precious when a search is called have your equipment ready!

Safety

Safety is a prime consideration at all times.

Make sure you wear your safety gear: hat, glasses, boots etc.

Never search alone
or without
directions.



Safety

- ⦿ Safety is a prime consideration at all times.
 - Do not overextend yourself, the team will move as fast as the slowest member.
 - Know your personal limitations, training and experience.
 - Do not put yourself or others at risk.
 - Remember you may ask to stop or return.

Safety Something to Consider?

Your first priority is to keep yourself safe.

Your second priority is to keep your fellow searchers safe.

When you do not need to worry about you and your team because you are equipped and prepared ...

The priority can be the LOST PERSON

Important Equipment Activity

- Pick the 10 most important items from the pile in front of you of all the things that you would take with you on a search in your pack.
- Be ready to explain your choices.
- There is a pile of items on a tarp from the search pack of the instructor.



Searching

- ⦿ Remember: You are **searching for clues that will lead you to the lost person**, since there are more clues than there are lost person/people.
- ⦿ As you are searching look all around, including above and behind. **Call out.**



Active Searching

Concentrate on the task at hand and use all your senses to detect clues or the subject.

- **Sight**
 - Your primary search sense, is best used to find clues.
 - ***There is only one subject but thousands of clues.***
- **Hearing**
 - Especially important if the subject is responsive. A person can hear farther than they can see. Listen constantly and check any unexplained sounds.
- **Smell**
 - Be aware of scents such as campfire smoke, cigarettes, fuels, decomposition, etc.

Typical Search

When searching, look for anything that is *not natural*. Look constantly for sign. A person cannot travel without leaving sign behind. Flag and report any sign that is the least suspicious. Try to place yourself in the subject's shoes.

Regardless of the type of search, all routes must be flagged and properly identified to avoid confusion for later searchers who may sweep the area again.



If you have carefully searched an area and found nothing, you have not failed! At least you have reduced the search area in which the subject may be.

Types of Search Methods

- ⦿ This will be covered in later courses and through experience with mock searches.
- ⦿ Your team leader will be acquainted with what needs to happen.
- ⦿ Examples of searches you may be called for ...

Types of Searches

- ⦿ Lost persons, adults, hikers.
- ⦿ Lost person, adult, Alzheimer's.
- ⦿ Injured person, adult in a group, head injury.
- ⦿ Lost persons, children playing hide and seek.
- ⦿ Evidence...

Evidence Search

- If you are asked to become involved in an evidence search, some of the things that will be asked of you are:
 - Do not discuss with anyone what you find.
 - What you may see.
 - What you may hear.
 - Don't take pictures



Sharing what took place on a search?

- ⦿ Read the news and repeat what you read there.
- ⦿ You may have very personal information the lost person does not want shared.



Phases of a Search and Rescue

- Acronym **LAST** for a Search Operation:
 - Locate - the searching then...
 - Access
 - Stabilize
 - Transport



Finding

- ⦿ The lost person can be in various conditions when they are found.
- ⦿ If the person is injured you will need to make them comfortable, reassure them, treat them and help to arrange for them to be transported to safety.
- ⦿ In Nova Scotia often lost persons will be hypothermic!
Get them warm using dry clothes and other methods such as warm drinks and physical activity.
- ⦿ You should have equipment in your pack for you to help the lost person in cases of hypothermia.

Do you have the equipment?

- ⦿ That will allow you to ...

Locate

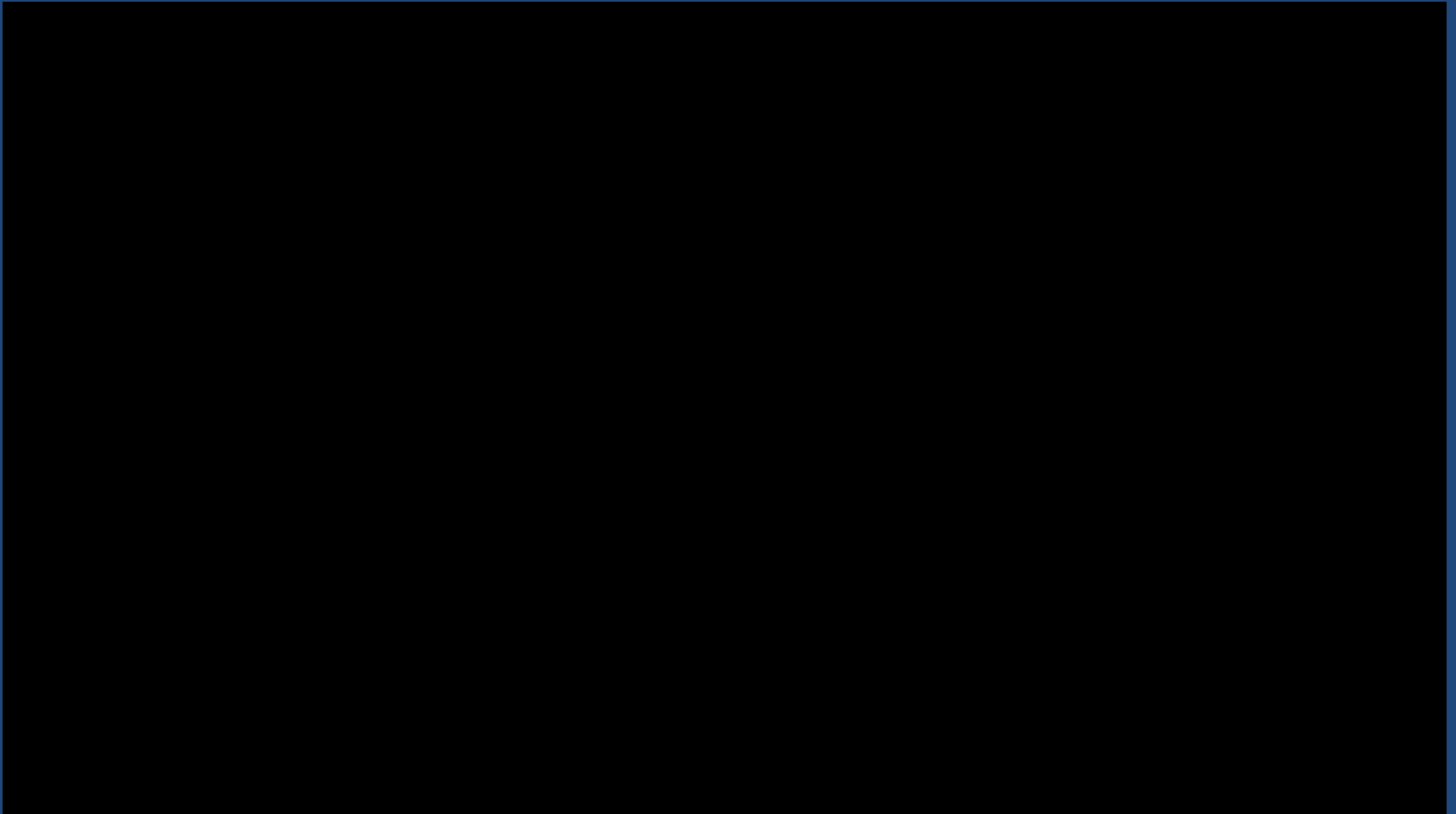
Access

Stabilize

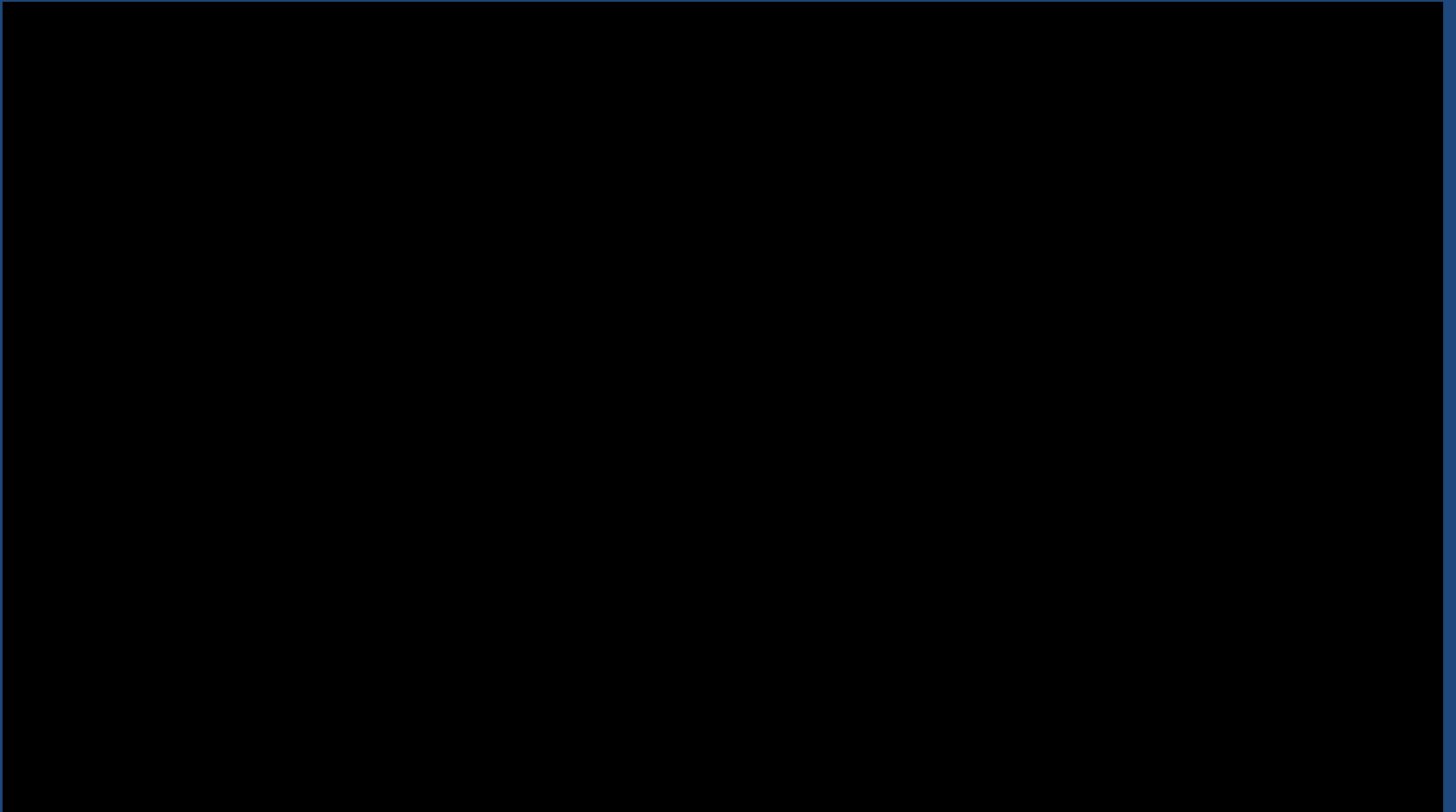
and **T**ransport the **lost person**?

Further training and practice will help you to gain the necessary experience and skills that you will require.

Victoria Vale Search VSAR



Mock Search Winter 2017



Finding

- ⦿ If the person is downed or non-responsive, one person will check for vital signs. If they are deceased, protect the area until the police arrive.
- ⦿ In all these situations it is important that you attend the incident debriefing or critical incident debriefing.

Debriefing After a Tasking

Debriefings are a critical to a search and occur at two times:

- ◎ **Search Team Debriefing/Team Leader Debriefing after tasking during a search.**
 - Occurs at the completion of a mission or tasking



Debriefing After a Search

◉ Search Incident Debriefing

- At the completion of an incident and generally occur within a few days of the search.
- Formal affair involving all cooperating agencies that were involved in the incident.
- Provides an opportunity to identify problems, determine solutions and to assign responsibility for making changes.
- The incident debriefing starts with a discussion of what was done and then progresses to how it can be done better next time.
- Should remain constructive and objective and not confrontational.

Any Questions?

- ◉ Searching Theory and History
- ◉ Search Operations and Procedures
- ◉ Dressing for SAR
- ◉ Equipment for SAR
- ◉ Searching Methods
- ◉ After the Find and After the Search



HRSAR Suggested Searching Equipment

The Safety Officer has the responsibility to restrict the un-prepared from wilderness duty.

In Your Pack

- Food or snacks (Self sufficient for 12 hours)
- Water (2 litres suggested) and capability to prepare more
- Metal pot or cup
- Several lighters
- Waterproofed matches
- Rolls of flagging tape
- Raingear
- Sitting pad (closed cell foam 12"x20")
- Spare compass
- Spare flashlight
- Spare whistle
- Spare batteries
- Spare socks
- Spare toque
- Spare fleece or wool sweater
- Spare mittens
- Spare pens, pencils, grease pencil, permanent markers
- Several large, heavy duty garbage bags, ideally orange
- Various Ziploc style bags
- Heat reflective emergency blanket
- Candle lantern or safety candle
- Duct tape
- Weather proof shelter large enough for more than one person (Tarp, Heavy Plastic, manufactured emergency shelter, etc)
- Para cord, string or twine (strong and easy to use)
- Signalling devices (flares, glow sticks, etc)
- Folding saw
- Tubular webbing strap (twice arm span)
- First aid kit (made to suit your ability)
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

On You, Not In Your Pack

- Safety glasses
- Primary compass
- Primary knife
- Primary flashlight
- Primary whistle
- Small flashlight/headlamp
- Survival kit
- Water
- Watch
- Personal medication
- Kerchief or Bandana
- Identification
- Notebook (waterproof)
- Pencil or all weather pen

Suggested Additional Items

- Toilet kit (paper, trowel, Ziploc bags)
- Hand sanitizer
- Vinyl gloves
- Stove & fuel or Fire bowl
- Fire starters
- Thermos bottle of hot water
- 8-12mm Rope & carabineers
- Sun glasses
- Binoculars
- Spare prescription glasses or contacts
- Blanket
- Lip balm
- Sun block
- Safety pins
- Ruler
- Map case
- Multi-tool
- GPS unit

Clothing Suggestions

Orange is the colour of choice for any clothing.

- Orange jacket
- Non-cotton clothing appropriate to season and conditions
- Light, moisture-wicking inner layer
- Heavy non-cotton socks
- Sturdy appropriate boots
- Toque
- Brimmed hat
- Light gloves
- Mittens
- Gaiters

What you and your fellow searchers have on your backs is **all** that you have when you are finding and caring for the lost subject and each other. *Being prepared means you hope for the best but prepare for the worst.*

Equipment



Be prepared to test your equipment during training, don't rush to buy, and check used shops as well as the dollar store. (\$500/yr)