



Minnesota Search Dog Network

Expectations and Certification Standards

For the

Venturing Search and Rescue Bronze Award

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These Standards and Expectations will be maintained by the Minnesota Search Dog Network (MSDN) and will remain in effect until updated or rescinded by the Network.

I. BACKGROUND

This background is important to share, if only for the user of this document to understand where this document came from, and why.

The Minnesota Search Dog Network was founded in 2003, is comprised of four search and rescue units that focus on the use of dogs to locate missing people and human remains. These units, Central Lakes Search and Rescue, K-9 Search Services, Northstar Search and Rescue and S.T.A.R. (Search, Tracking and Rescue) Dogs, all agreed on the basic principle of networking with each other to better serve law enforcement and other government agencies in their efforts to locate missing people. To accomplish this goal, all four units also agreed to train together, help to evaluate each other's capabilities, and to respond with other in units in support of the search effort. Along the way, a set of Expectations and Standards for the network's members was needed to be accepted by all. The initial set was established and accepted in about a year.

A portion of those Standards and Expectations are found in this document – even the K-9 portions, because that is our focus. Those who train and volunteer with us, do not need to handle a dog themselves, but do need to be aware of search dog tactics and capabilities. If other groups would like to use this format, and does not have the need or ability for search dog training, please feel free to make those requirements optional.

We are proud to share that of our 30 plus charter members (and more than 20 canine handler charter members), many have a strong background with the Boy Scouts of America. Two members are Eagle Scouts, two members are Professional Scouters, one was the committee chair for a Venture Crew, and several others were Scouting volunteers and parents of Scouts. The most exciting part, and purpose for this document, is that several of our younger members are Venturers themselves, and have the desire to earn their Bronze Award for involvement in Search and Rescue as a hobby.

II. CONDITIONS OF RECOGNITION

1. Begin working on this award by sharing these requirements with the leadership of your crew, and securing their approval to work toward this Bronze Award.
2. The last step in earning a Venturing Bronze Award is to teach or share with others some of the knowledge you have gained and the skills you have developed from your chosen program. For this Bronze Award, this step is to be done and approved through your Venture Crew. It could be a formal presentation, tabletop display, or even helping others by planning a mock search activity.
3. This recognition does not constitute a right to put in to practice these skills, but signifies only that the individual completing the course has met an established basic standard of knowledge and performance and has demonstrated the competency needed to earn the Venturing Bronze Award as a hobby in the area of Search and Rescue, as perceived by the Minnesota Search Dog Network.
4. Search and Rescue is a very serious hobby. All participants need to be aware of the following for all actual Search and Rescue operations: it is the decision of the Incident Commander as to who is allowed to participate; most often the minimum age requirement is 18 years of age; all SAR volunteers accept some responsibility for their actions during operations; these activities can be strenuous, even hazardous; and there is no way to prepare for all situations that may be encountered – these operations can create stress and evoke strong emotions.

III. TERMINOLOGY

The definitions listed here are for the purpose of these standards only. They may or may not reflect the definitions used by other individuals, groups, or agencies.

Air scent dog - A search dog that will detect airborne human scent.

Aggressive Dog Behavior - Biting or lunging and growling at people or other controlled animals.

Alert - The dog's response, recognizable to the evaluatee, to its detection of human scent.

Area search - Search of a specific geographical area. The area could be urban, suburban, rural or wilderness.

Article search - Search for any object or article that may contain human scent which may be above or below ground.

Cadaver search - Search for human remains that are on the surface or buried on land.

Disaster Search - Search for humans in rubble or debris, such as collapsed buildings and debris piles that are a result of natural or human-caused disasters.

Dog team - 1 certified evaluatee with 1 certified dog.

Evaluatee - The person who controls and directs the dog during a search.

Heeling - The dog walking with the evaluatee, on command, at the evaluatee's side, either on or off lead.

Indication - Dog's method of communicating to the evaluatee that the subject has been found. Examples: returns from subject with bringsel in mouth, stays with subject and barks, returns to evaluatee and jumps on him/her.

Probability of Detection (POD) - The percentage of probability that if a subject were actually in the search area that he would have been located (detected) by the search effort.

Re-find - When the dog has made a find, it returns to the evaluatee and directs the evaluatee back to the subject.

Rural - Terrain often given to farming or to woodland and sparsely to moderately populated areas.

Standards Committee - A committee of representatives of each search dog unit that is a member of the Minnesota Search Dog Network. MSDN may also appoint consultants from related fields such as Police K-9 handlers, DEM and DNR Officials, or representatives from user agencies.

Scent discriminating dog - A search dog that will locate the scent of a specific individual. This type of discipline is sometimes also referred to as a "scent specific" dog.

Tracking dog - is a scent discriminating search dog that will follow almost exactly the ground scent track of a person.

Trailing dog - A search dog that will follow the ground scent of a person, but not necessarily precisely where that person has walked. Trailing dogs are almost always scent discriminating.

Urban, suburban - Moderate to heavily populated areas given primarily to business and residential development.

Water search - Search for humans who are under water, such as a drowned victim.

Wilderness - An area generally uncultivated and uninhabited, often inaccessible by road.

Definitions from Tracking Dog, Theory & Methods, by Glen Johnson Last Revised: May 31, 1997 by the Commonwealth of Virginia, Department of Emergency Services

IV. RESOURCES

These are a few selected resources that we recommend for our training for Search and Rescue.

“The Fundamentals of Search and Rescue” – National Association of Search and Rescue (NASAR)*

“Canine SAR Tech III” - National Association of Search and Rescue (NASAR)*

“Field Book”, 3rd edition – Boy Scouts of America. A great informational guide, it even has a chapter dedicated to *Wilderness Search and Rescue*, as well as other chapters on *Wilderness Survival, Weather, Camping, Hiking, Winter Camping, Back Country Navigation, Gearing Up, Making Equipment* and more.

Various “Merit Badge” books from the Boy Scouts of America, including *Orienteering (land navigation), Wilderness Survival, Emergency Preparedness, First Aid, Camping*, and more.

Other local organizations may also be willing to help. Examples of these organizations include: American Red Cross, American Heart Association, Civil Air Patrol, local orienteering clubs and local fire departments.

*NASAR and the Boy Scouts of America have a *Memorandum of Mutual Support* on file, which basically states that both organizations will work cooperatively together and share information and resources in the joint goal that youth will grow in character, citizenship, responsibility, and with the personal fitness necessary to achieve their greatest potential.

V. KNOWLEDGE AND PERFORMANCE EXPECTATIONS

In order for the evaluators of the Minnesota Search Dog Network to qualify a Venturer for the Bronze Award in the Hobby Area of Search and Rescue, the evaluatee will show an understanding of the items listed under each subject and the ability to demonstrate the skills listed. Specific tests designed for this purpose are described in Section V. EVALUATION METHODS, and are included as part of these standards.

A. SAR Operations

1. Understand how state missions are originated.
2. List several resources that might be utilized during a SAR event.
3. Demonstrate the ability to develop basic search dog assignments for a search incident and provide appropriate recommendations for additional resource support to the incident.
4. Understand the functions of these field team positions.
 - a. Field Team Member
 - b. Field Team Leader
5. Understand proper searcher conduct as it relates to law enforcement, the family of the missing subject(s) and the media.
6. Understand general safety considerations in SAR operations, including dealing with critical incident stress.

B. Legal Aspects of Search and Rescue

1. Understand SAR responsibilities at the state level.
2. Identify the limitations of the Good Samaritan law.
3. Understand several methods of reducing liability exposure.
4. Understand the circumstances when entry upon private property may be justified

C. Survival

1. Understand the basic principals of clothing and equipment selection for the search environment. See **APPENDIX A** for a personal equipment list.
2. Demonstrate the ability to bivouac overnight in the out-of-doors. See **APPENDIX B** for guidelines for an overnight bivouac.

D. Personal Fitness

1. Ability, while in uniform with the required gear, to complete a hike of three (3) miles over varied terrain in one and a half (1-½) hours.

E. Scent Transport Theory - understand the following concepts

1. Lofting
2. Pluming
3. Fumigating
4. Coning
5. Looping
6. Fanning

F. Land Navigation

1. Define the following terms or concepts:
 - a. True north and magnetic north
 - b. Declination
2. Demonstrate the ability to read and interpret topographic map border information, colors and symbols.
3. Demonstrate the ability to use a compass to plot a course on a map.
4. Demonstrate the ability to use the following plotting methods to determine the coordinates of a given point.
 - a. Latitude and Longitude
 - b. UTM
 - c. Ungrided map
5. Demonstrate the ability to perform the following navigational functions.
 - a. Obtain and follow a simple compass bearing.
 - b. Determine a reciprocal.
 - c. Move around obstacles.
 - d. Measure distance by pacing.
 - e. Determine position by terrain feature identification.

6. Describe how to use these land navigation concepts.
 - a. Catching features
 - b. Collecting features
 - c. Aiming off

G. Search Skills

1. Demonstrate an understanding of these search tactics:
 - a. Attraction
 - b. Containment
 - c. Contour search
 - d. Hasty search
 - e. Sweep search (Open grid search)
 - f. Line search (Closed grid search)
 - g. Sign cutting
 - h. Interviewing
 - i. Ridges/Drainages
 - j. K-9 grid search
 - k. Corridor search
2. Describe procedures for working with tracking or trailing dogs and man-trackers.
3. Given a search scenario, discuss and demonstrate the ability to plan the task considering wind direction and other weather conditions, visibility, terrain characteristics and desired POD.
4. Demonstrate the ability to perform the task planned above.
5. Demonstrate the ability to translate field activity onto a topographic map, including route taken, areas searched and not searched, alerts, clues located, wind direction, times for all of the above and estimated POD for the task.
6. Demonstrate the ability to accurately debrief the scenario, providing the de-briefer all of the pertinent information.
7. Understand the hazards to ground personnel working around a helicopter
8. Understand the proper approach to a helicopter, including direction of approach and communication with the crew.

H. Field Communications

1. Define the common problems associated with the field use of portable radios and list some possible solutions.
2. Describe basic radio procedures.

I. First Aid

1. Human
 - a. The evaluatee must have current Basic First Aid, or equivalent, or higher.
 - b. The evaluatee must have current 1-person CPR Authorization.
 - c. The evaluatee must be able to define the following environmentally- related problems and their recognition, treatment and prevention
 - i. Hypothermia
 - ii. Hyperthermia
 - iii. Frostbite
 - iv. Dehydration

VI. EVALUATION METHODS

The following testing procedures are designed to provide a representative evaluation of the expectations listed in Sections II and III.

A. Written Test

1. The evaluatee will complete a comprehensive 100 question written test and will need to achieve a score of at least 70% to pass.
2. The test of 100 multiple choice questions will be provided by the Evaluations Coordinator and will be randomly selected from questions supplied by the MSDN Standards Committee.
3. The test will be administrated by a MSDN evaluator(s) and a copy will be kept with the unit's records.
4. At a minimum, topics will include:
 - a. Scent transport theory
 - b. Canine first aid
 - c. Land navigation
 - d. Search theory
 - e. Victim characteristics
 - f. Topographical maps
 - g. Search strategy
 - h. Clue and site protection procedures

B. Field Evaluation Procedures

1. Field evaluations may be conducted on an individual basis or in conjunction with another MSDN team. Each team test will be observed by a minimum of two (2) evaluators, at least one of which must be an authorized MSDN evaluator who is not a member of the evaluatee's unit. The other evaluator may be a certified evaluator in that discipline from the same or another unit or a representative of a user agency approved by the MSDN Standards Committee. The scenario will be set up in accordance with the description in **Appendix D**.
2. Each evaluator will have a checklist for scoring each of the field teams. At the conclusion of each test, the evaluators will compare their conclusions. This checklist is found in the Evaluators Summary – **Appendix E**.
3. Performance will be rated as either "Pass" or "Fail". Both evaluators must agree on the overall rating for the evaluation to be valid.
4. In the event there are conflicting ratings that the evaluators cannot resolve, the evaluatee may be given a "NO TEST" rating and asked to repeat that test.
5. If any one of the field tests is scored "Fail" by both evaluators, the procedures described under "C. Retesting" will apply.
6. Tests should be set up and conducted following the Evaluator instructions given in **APPENDIX C**.

C. Retesting

1. If the score on any test is below the passing score, the evaluatee may arrange for a retest. The test may not be repeated on the same day.
2. In the case of retesting a field evaluation as the result of a "Fail" rating, at least one of the evaluators that originally tested the evaluatee must be a participant in the retest. If only one MSDN authorized evaluator was used during the first evaluation, then that evaluator must also participate in the retest.
3. After receiving a "failing" rating on a retest, and if the evaluatee feels that he/she is being unfairly rated, then he/she may request a retest with two different evaluators. The evaluators who rated the team as "failing" may observe the retest but will have no input on the evaluation results. This request for retest will be submitted by the evaluatee, in writing, to the MSDN Evaluations Coordinator.

APPENDIX A

Minimum Personal Equipment for a MSDN Search and Rescue Volunteer

These items ARE the basic equipment required to safely and adequately perform a search. Brand or make is not important but personal safety, need and comfort (in that order) is. Equivalent gear is acceptable and personal / team requirements may be extended to include additional equipment.

1. Uniform to include long sleeves and long pants.
 - ◇ (personal safety and easy recognition by other search and law personnel).
2. Boots appropriate for the weather and terrain.
 - ◇ (personal need and comfort)
3. Canteen(s), water bottle(s), or appropriate container(s) to carry minimum 2 quarts of water.
 - ◇ (personal need and safety)
4. Compass orienteering type. High quality with signal mirror and declination variation.
 - ◇ (map and compass work, directional indication, safety and emergency locator).
5. Flashlight, headlamp or equivalent.
 - ◇ (Personal safety – subject safety- illumination).
6. Gloves leather with liners recommended. (Mittens for extreme cold).
 - ◇ (Weather and element protection)
7. Matches - waterproof and leak-proof lighter.
 - ◇ (fire – signal – illumination).
8. Multi-blade pocket knife or all-purpose tool. Should contain knife, screw driver(s), awl and etc.
 - ◇ (personal safety and need).
9. PERSONAL FIRST AID KIT (to include adequate supplies to include canine).
 - ◇ (personal safety and need).
10. Puff bottle
 - ◇ (indicate wind direction and signal)
11. Quick energy food, one-day minimum supplies for canine and evaluatee each.
12. Rain gear (preferably breathable and should include pants/chaps, etc. and top protection including weather resistant headgear).
 - ◇ (personal safety and comfort)
13. Storm shelter (tube tent, space blanket, lightweight tarp, 30 gallon black plastic bags, all or combination of any).
14. Whistle that can be heard for a minimum of ¼ mile in fair weather.
 - ◇ (personal safety, communication, verification, location).
15. Flagging tape.
 - ◇ (location, clue)
16. TOILET OR SIMILAR PAPER
 - ◇ (personal, doubles as note paper)

Additional Recommended Personal Equipment for a MSDN Search Team

- Wind shell jacket with hood.
- Water resistant jacket or parka with hood. A Gore Tex or similar jacket can serve both items 1 and 2
- Heavy wool or equivalent shirts and/or sweaters as required.
- Wool or equivalent fabric pants that retain insulating properties when wet. DOWN IS NOT ACCEPTABLE.
- Long underwear of wool, silk, polypro or other suitable synthetic fabric with moisture wicking properties. COTTON THERMAL IS UNACCEPTABLE.
- Wool or equivalent socks with moisture wicking liner.
- Backpack, fanny pack, search vest or equivalent equipment capable of carrying enough equipment and supplies for 1 to 3 days.
- Sleeping bag good to 0° F.
- 2 way radio.
- GPS (global positioning satellite equipment)
- Fire starter
- Candle
- Sunglasses
- Assorted zip lock bags
- Small note book/pad with pen/pencil
- Boot laces, one extra set
- Cash and or credit card
- 50' ¼" nylon multi purpose cord
- 1 lockable carabiner
- Mosquito head netting.
- Insect repellent
- Sun screen/lotion (winter and summer).
- Balaclava
- Additional wool blanket.
- Snow shoes
- Life vest
- Sleeping bag pad

APPENDIX B

MSDN guidelines for the overnight bivouac

1. The purpose of the overnight bivouac is to test the individual's ability to spend the night in the out-of-doors in a bivouac and still be able to function adequately the next day.
2. The reason for this requirement is that a search and rescue person may find himself or herself in a situation in the field where they are forced to spend the night with whatever equipment they happen to have with them.
3. In order to simulate this situation for an evaluation, the following guidelines should apply.
 - . The individual's equipment should be restricted to what they normally carry in a "day pack" during an actual search.
 - . The bivouac area should be typical terrain found in searches and far enough from roads and vehicles to create some sense of realism.
 - . Access to vehicles and equipment caches during the bivouac should be denied.
 - . The individual must demonstrate the ability to build a fire and shelter.
8. The bivouac should not become an exercise in raw survival. The evaluators should inspect each person's equipment and help ensure that it is at least minimally adequate for the environment.
9. Safety is of paramount importance. The participating individuals should be monitored carefully during the night to ensure that problems such as hypothermia do not develop. The evaluators should have a contingency plan for such emergencies.

APPENDIX C

Evaluator Instructions

1. The MSDN Evaluations Coordinator upon request will issue written test materials to the evaluator(s). All test materials are confidential and security is the responsibility of the evaluator(s) to whom it is issued.
2. All tests and evaluations will be scored on forms approved by the MSDN Standards Committee and will be signed by the evaluator(s).
3. The objectives of the evaluations are to help ensure that both the evaluatee will be able to work together safely, efficiently and in conjunction with other teams and personnel. Performance on these evaluations should be as written evaluations. The written test and field skills evaluations must be given prior to the field evaluation, and the evaluatee must have written proof of successful completion.
4. The objectives of the field evaluations are to evaluate planning ability, search techniques and physical ability and stamina. The following guidelines should be observed.
 - . It is the evaluator's responsibility to ensure that the subjects are properly dressed for the conditions and have adequate food, water and other necessary equipment to remain for the duration of the evaluation.
 - . The subjects should be placed in the search area far enough apart that the team must search a substantial portion of the area before all of the subjects are located.
 - . The goal is not just to locate the subject(s) but also to evaluate planning and technique. It is possible for a team to do an adequate job of searching an area, and to achieve a high POD without finding all of the subjects.
 - . It is also possible for the evaluatee to locate all of the subjects and still score an overall "Fail" on the evaluation.
 - . As subjects are located, they should immediately leave the area by a route that will not interfere with the continuing search effort.

APPENDIX D

Search Skills Evaluation 40-Acre Field Problem

1. An area of approximately 40 acres will be used for the evaluation. The area should contain mostly woods with at least some light to moderate underbrush. The area should not contain large areas of extreme terrain such as dense underbrush, swamps, or large streams, or be extremely steep. It should also not contain large areas of open fields.
2. The evaluation will be conducted during daytime hours, and care should be given in planning to have the evaluation completed at least one hour before sunset. Weather conditions should not be extreme, such as heavy rain or snow, or high winds.
3. One or two subjects will be placed by the evaluators in the search area. The subjects will remain quiet during the evaluation, either sitting or lying down, dressed in muted clothes, and not obvious beyond 25 feet. They are not to assist the team in locating them in any way.
4. The evaluatee will be given a scenario and a map of the search area, and will be told the number of subjects. He/she must describe to the evaluators how the area will be searched based on terrain, wind direction, visibility and any other pertinent factors.
5. The evaluation may last a maximum of three hours. The evaluators may terminate the search at any time if unsafe conditions exist, or if they have observed enough to determine that the evaluatee will, or will not, pass. If the subject(s) is / (are) found within an hour, the evaluators may require the team to continue searching until the evaluators are comfortable with the evaluatee's searching and field skills.
6. At the end of the search the evaluatee will debrief with the evaluators and will indicate on the map, areas searched, areas not searched, estimated POD for the area searched and any other pertinent information.

APPENDIX F

FIELD EVALUATION / PERFORMANCE SUMMARY FOR 40 ACRE PROBLEM

Skills Evaluation Guidelines.

The table below summarizes the guidelines for evaluating critical skills. Each skill should receive a YES / NO report unless conditions are such that the skill is not observable or required for the test. It is expected that teams will excel (objective performance) in some areas and perform adequately (threshold performance) in others. The evaluators are encouraged to provide constructive feedback to the team being tested in those areas where their performance meets the threshold criteria but falls short of the ideal.

EVALUATION CRITERIA

No.	Skill	Criteria for Evaluation	Report
FS1	Conduct of Initial Interview	Does not interview or take notes. Conducts adequate interview.	NO
		Gets basic description and enough information to conduct search.	YES (Threshold)
		Conducts excellent and concise interview, asks all relevant questions about subject, conditions of search area, resources available, prior search efforts.	YES (Objective)
FS2	Initial Plan of Action	Has no real plan or plan reflects lack of understanding of search strategy.	NO
		Has adequate plan which shows basic understanding of map reading and search strategy including techniques of hasty search, contouring, grid searching, perimeter search.	YES (Threshold)
		Has excellent plan, which shows good understanding of map reading and search strategy factors. Can articulate good reasons for choosing or rejecting techniques such as hasty search in light of conditions of search area.	YES (Objective)
FS3	Demonstration of Radio Skills	Does not use radio or uses radio inappropriately. Does not know how to communicate information on location, subject condition, etc.	NO
		Uses radio appropriately when called and when locates subjects. Communicates adequately with appropriate ID/address, and doesn't cut off message.	YES (Threshold)
		Excellent use of radio. Imparts information clearly, concisely. Lets base camp know about changes in plan, clues located, condition and location of subjects.	YES (Objective)

FS4	Demonstration of Map & Compass Skills	Does not know how to relate map to actual terrain. Cannot coordinate compass use with map. Does not use basic skills. Even if finds subjects, cannot locate area on map or give base camp accurate location.	NO
		Have basic skills. Can relate map to actual terrain. Coordinates compass use with map. Uses compass in field. If asked, can determine location on the map and point out areas covered and missed.	YES (Threshold)
		Has excellent skills. Uses map and compass to formulate good search plan and keep track of drainages, landmarks, areas searched / missed, etc. Finds location of subjects on map and can describe accurately to base camp.	YES (Objective)
FS5	Implementation of Plan in Field	Search shows little planning other than wandering around. Even if originally described plan of action is adequate, does not actually carry it out or explain changes. Hasty search appropriate for area but not used and no explanation given.	NO
		Carries out original plan of action or explains changes. Does hasty search if appropriate or explains why not using. Plan would be adequate to clear area with good POD.	YES (Threshold)
		Carries out original plan / explains changes. Good understanding of contouring, grid patterns, etc. Uses hasty search or has good reason not to. Plan makes best use of terrain, wind, etc. Is flexible and communicative about changing with changing conditions. Plan maximizes POD.	YES (Objective)
FS6	Alertness to Surroundings and Visual Clues	Shows no interest in possible clues/tracks. Does not check track traps.	NO
		Checks for possible clues/tracks, aware of track traps.	YES (Threshold)
		Finds clue / track. Intelligently decides whether to change plan or not. Does not become consumed with tracking or simple grid searching.	YES (Objective)
FS7	Coverage of Search Area	Leaves many holes, doesn't find/check margins, grid pattern too wide for wind conditions. If finds subjects, appears to have stumbled upon them fortuitously.	NO
		Covers search area adequately. Checks sector perimeters (unless finds subjects first) Does hasty search if appropriate. Does not leave major holes without adequate explanation and plan to return.	YES (Threshold)
		Excellent coverage of search area. Maximizes POD by use of appropriate grid pattern, ridges/drainages, hasty search, etc.	YES (Objective)
FS8	Physical Condition of Evaluatee (Stamina)	Evaluatee in poor condition. Terrain is too much for evaluatee who cannot keep pace adequate to search area with reasonable POD.	NO
		Evaluatee condition adequate for the terrain / conditions.	YES (Threshold)
		Evaluatee in excellent condition, can handle rough terrain and steep grades.	YES (Objective)

