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Standard Terminology Relating to F32 Land Search and Rescue Standards and Guides¹

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1. Scope

1.1 This terminology document is a compilation of definitions of terms, abbreviations, and acronyms used in F32 Land Search and Rescue Standards and Guides, collected in order to provide consistency in communications when used in writing and interpreting the Committee's documents.

2. Referenced Documents

2.1 *ASTM Standards:*²

F1177 Terminology Relating to Emergency Medical Services

F1616 Guide for Scope of Performance of First Responders Who Practice in the Wilderness or Delayed or Prolonged Transport Settings

F1633 Guide for Techniques in Land Search

F1655 Guide for Training First Responders Who Practice in Wilderness, Delayed, or Prolonged Transport Settings

F1847 Guide for Minimum Training of Search Dog Crews or Teams

F1848 Classification System for Canine Search Resources

F2209 Guide for Training of Land Search Team Member

F2685 Guide for Training of a Land Search Team Leader (STL)

F2751 Guide for Training of a Land Search and Rescue Team Member

F2752 Guide for Training for Level I Rope Rescue (R1) Rescuer Endorsement

F2794 Guide for Level 1 (Basic) Mounted Search and Rescue (MSAR) Responder

F2852 Practice for Training a Land Search Tracker

F2954 Guide for Training for Level II Rope Rescue (R2) Rescuer Endorsement

F2955 Guide for Training for Level III Rope Rescue (R3) Rescuer Endorsement

F3024 Guide for Training of a Land Search and Rescue (SAR) Strike Team/Task Force Leader

F3027 Guide for Training of Personnel Operating in Mountainous Terrain (Mountain Endorsement)

F3028 Guide for Training of Search and Rescue Personnel Operating in the Alpine Environment (Alpine Endorsement)

F3048 Guide for Swiftwater/Flood Search and Rescue Operations

F3069 Guide for Requirements for Bodies that Operate Certification Programs in the Field of Search and Rescue

F3070 Guide for Evaluating Area Search Dog Crews or Teams

F3098 Guide for Training of Non-Wilderness Land Search Team Member

F3144 Guide for Evaluating Trailing Search Dog Crews or Teams

F3193 Guide for Training of a Land Search and Rescue Team Leader

2.2 *Other Document:*

Fundamentals of Search and Rescue³

3. Significance and Use

3.1 The terminology in this document is applicable to the standards and guides published by ASTM Committee F32.

3.2 The definitions provided in this terminology standard shall be used when interpreting the meaning, purpose or applicability of a guide, standard, or a specific subsection therein.

4. Terminology

4.1 *Definitions:*

ability, *n*—the capacity to perform a physical or mental activity at the present time.

DISCUSSION—Typically abilities are apparent through functions completed on the job. The terms abilities and skills are often used interchangeably. The main difference is that ability is the capacity to perform where a skill is the actual manipulation of data, things or people. You may have the ability but unless observed through actions that ability may not transfer to a skill set. Example: I am able to tie a knot as I possess the perceptual and motor skills required to do so.

¹ This test method is under the jurisdiction of ASTM Committee F32 on Search and Rescue and is the direct responsibility of Subcommittee F32.01 on Equipment, Testing, and Maintenance.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Cooper, D. Jones & Barlett Learning, Sudbury, MA, 2005, p. 229.

air scenting, *v*—a search dog action whereby a dog attempts to detect the presence of human scent in the air and, if found, follow that airborne scent to its source.

air scent dog, *n*—a dog having the certified ability to detect airborne human scent.

alert, *n*—*relative to search dog crew or team*, a repeatable, demonstrable change in a search dog’s behavior in response to a specific scent, as defined and interpreted by the handler.

alpine environment, *n*—mountainous terrain, typically above tree line, generally above 11,500 ft (3500 m), where the ability to negotiate routes rated Class 2–5⁴ is required and where travel is further affected by combinations of altitude, extreme weather, extensive exposure to snow/ice obstacles, avalanche risk, and crevasses.

alpine land search and rescuer, *n*—an individual who operates in the alpine environment, whose training meets or exceeds that defined in Guide **F2751**, and who has a Guide **F3028** alpine endorsement.

area search dog team or crew, *n*—an air scent dog and handler whose training meets or exceeds that defined in Guide **F3070**.

authority having jurisdiction (AHJ), *n*—(1) *relative to general use*, an organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure;⁵(2) *relative to SAR operations*, the federal, state, or local agency having statutory authority to manage the operations.

certification, *n*—(1) a document of record stating that a product, process, system, or person has successfully completed a defined process administered by a certifying body; (2) the process of providing assurance that a product conforms to a standard or specification or that a person is competent to perform a certain task.⁶

certified, *adj*—having received certification to a standard or specification from a certifying body.

certifying body, *n*—an organization which, having implemented a system for evaluating individuals, animals, or equipment to determine if the individuals, animals, or equipment meet the requirements defined in a specific standard, attests that the individuals, animals, or equipment meet the requirements defined in that standard.

clue awareness, *n*—to be aware of evidence left by a subject(s) which may help to ascertain their location or direction of travel, or both.

competent, *adj*—having the necessary knowledge, skills, and abilities to perform a task or function at a defined level of proficiency.

⁴ Classification per Yosemite Decimal System in, Eng, R. C., and Van Pelt, J., eds., *Mountaineering: The freedom of the hills*, 8th ed., Mountaineers Books, Seattle, WA, 2010, p. 564.

⁵ NFPA Glossary of Terms, 2016 Edition.

⁶ NISTIR 6014, The ABC’s of the U. S. Conformity Assessment System.

competency, *n*—a combination of knowledge, skills and abilities that, when acquired, allows a person to perform a task or function at a defined level of proficiency.

competency-based qualification system, *n*—a system in which qualified evaluators document, in writing, in a standard form (such as a Position Task Book), that an individual has competently performed one or more tasks.

confinement, *n*—the act of limiting the growth of the potential search area by minimizing the likelihood that the subject(s) can leave the search area undetected.

credential, *n*—documentation that identifies personnel and authenticates and verifies the qualifications of such personnel by ensuring that such personnel possess a minimum common level of training, experience, physical and medical fitness, and capability appropriate for a particular position.⁷

effective sweep width (ESW), *n*—a measure of the range at which a particular SAR resource can detect a specified object under specific environmental conditions.

emergency medical services system (EMS), *n*—a coordinated arrangement of resources (including personnel, equipment, and facilities) organized to respond to medical emergencies, regardless of the cause.⁸

endorsement, *n*—documentaion stating that an individual has additional specialized knowledge, skills, and abilities beyond those associated with a specific certification.

field, *n*—(1) the location, away from the base or command post, in which personnel perform a task or tasks; (2) *v*—to send personnel away from the base or command post to perform a task or tasks.

field operations, *n*—searches, rescues, or other organized tasks performed away from the base or command post.

first aid, *n*—the emergency care or treatment given to an ill or injured person before advanced life support can be provided by emergency medical responders.

first aid training, *n*—(1) *relative to F32 guides*, a program identified by the AHJ that provides an individual with the basic knowledge and skills required to provide first aid within the scope determined by the AHJ; (2) *relative to general use*, a program that provides an individual with the basic knowledge and skills required to provide first aid.

flood, *n*—a great flowing or overflowing of water, especially over land not usually submerged.⁹

handler, *n*—an individual whose training meets or exceeds that defined in Guide **F1847** and who has demonstrated the certified ability to control and direct a trained search dog.

hasty search, *v*—(1) to quickly check a high probability area (usually performed by a fast moving, well-trained search

⁷ Guideline for the Credentialing of Personnel, DHS, 2011.

⁸ Terminology **F1177**.

⁹ <http://dictionary.reference.com/browse/flood?s=t>.

team or crew); (2) *n*—a fast search of high probability area by a small team of trained searchers.

high angle, *adj*—when the angle of the terrain becomes so steep that the weight of the individual or the litter is supported primarily by the rope rather than the feet.

initial planning point (IPP), *n*—the point that is initially used to plan the search incident.

DISCUSSION—The IPP may be the original point last seen (PLS) or the last known position (LKP). The IPP may also be a point entirely separate based on the best available investigative information. IPP does not move after planning begins.¹⁰

investigation, *n*—the systematic collection and analysis of information about a lost or missing subject(s) by interviewing individual(s) and reviewing records and evidence, as available.

knowledge, *n*—an organized body of information, usually of a factual or procedural nature, which if applied, makes adequate performance on the job possible.

DISCUSSION—Example: I have the knowledge required to calculate the cumulative POD after multiple operational periods.

last know point (LKP), *n*—synonym for last known position.

last known position (LKP), *n*—(1) the last substantiated geographic location of an individual based on clues or evidence related to the missing subject; (2) the last witnessed, reported, or computed geographic location of an individual.

low angle, *adj*—the angle of the terrain where the weight of the litter is supported primarily by the tender’s legs and the rope system is required to both facilitate movement and for fall protection; the actual angle in degrees will vary depending on the type of surface and the skill level of the tender(s).

mountain land search and rescuer, *n*—an individual who operates in mountainous terrain, whose training meets or exceeds that defined in Guide F2751, and who has a Guide F3027 mountain endorsement.

mountainous terrain, *n*—a tract of land characterized by steep slopes and great variations in elevation, where the ability to negotiate routes rated Class 2–4, and occasionally Class 5,⁴ is required, and where travel is limited by steep to vertical rock, steep forested or brush-covered terrain, talus slopes, boulder fields, and occasional snow and/or ice obstacles.

mounted search and rescue responder, *n*—an individual who operates from horseback during SAR missions and whose training meets or exceeds that defined in Guide F2794.

National Search and Rescue Committee (NSARC), *n*—a federal committee comprised of the Departments of Homeland Security, Defense, Transportation, Interior, Commerce, and the National Aeronautics and Space Administration; it

was established to oversee the national search and rescue plan and act as a coordinating forum for national SAR matters.¹⁰

non-technical terrain, *n*—a tract of land characterized by minimal slopes and little variation in elevation, where a person is able to move safely and effectively on two feet, without handholds, and without the need for a belay.

non-wilderness, *n*—(1) an area with relatively easy access from a road, where the knowledge, skills, and abilities needed to function in the wilderness are generally not necessary; (2) an urban area with intact infrastructure that supports emergency services.

non-wilderness land searcher, *n*—an individual who operates in non-wilderness environments and whose training meets or exceeds that defined in Guide F3098.

normal area of operation, *n*—the geographic area(s) where an AHJ or search and rescue entity usually performs search and/or rescue operations.

point last seen (PLS), *n*—the geographical location where a subject was last seen by a witness, or captured on video or other verifiable means, at a specific time.

position task book (PTB), *n*—a standard document adopted by an AHJ which is used to record individual training and competency on an ongoing basis over a set period of time, related to a single position or operational level.

probability of area (POA), *n*—the likelihood that a subject, or a clue related to the subject, is located within a particular search area or segment.

probability of detection (POD), *n*—the likelihood that the subject, or a clue related to the subject, will be detected in a particular search area or segment.

proficient, *adj*—the state of being competent in a particular subject or skill.

qualified supervisor, *n*—an individual with demonstrated knowledge of, or competence in, a particular task, to whom the AHJ has granted the authority to observe and oversee an individual performing that task.

rescue, *v*—(1) to use specialized equipment and/or techniques to extricate and/or transport a subject from one location to another; (2) *n*—a coordinated operation by individuals or teams using specialized equipment and/or techniques to extricate and/or transport a subject from one location to another.

rescuers, *n*—the individuals or teams engaged in rescue operations.

rope rescuer, *n*—an individual who is trained in performing rope rescue, whose training meets or exceeds that defined in Guide F2751, and who has Guides F2752, F2954, or F2955 rope rescuer endorsement.

scent discrimination, *n*—the ability of a dog to distinguish between different scents and to work an assigned scent to complete a search activity without alerting on scents other than that assigned.

¹⁰ Land Search and Rescue Addendum; National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue Manual, version 1.0, NSARC, Washington, DC, 2011.

search, *v*—(1) to seek a subject (or object) whose location is not known; (2) *n*—a coordinated operation by individuals or teams to locate a subject (or object) whose location is not known.

search area, *n*—the geographic area that is believed to contain the subject of a search.

search and rescue (SAR), *adj*—(1) a common term used to describe personnel or animals who take part in search or rescue incidents; it does not indicate that these persons or animals are trained in both search and rescue; (2) a common term used to describe incidents in which search, and/or rescue, takes place.

search dog team or crew, *n*—a canine and handler (and support personnel if used) that operates in the field as a single resource. The handler’s training shall meet or exceed that defined in Guide F1847. Support personnel, if used, shall have training which meets or exceeds that required for the deployment environment (non-wilderness, mountain, etc.). Canine resources are classified by category, kind, and type in accordance with Classification F1848.

searchers, *n*—the individuals, crews, or teams engaged in search.

segment, *n*—a portion of the search area established for the purpose of effective and efficient assignment of search resources.

segmentation, *v*—the process of establishing segments of a search area.

sign, *n*—the physical evidence of the presence or passage of a person or persons.

skill, *n*—the manipulation of data, things, or people through manual, mental, or verbal means. Skills are measurable through testing, can be observed, and are quantifiable; skills are often referred to as the expertness that comes from training, practice, etc.

DISCUSSION— Example: I have the skill to tie a specific knot, as I have the ability to tie it and the knowledge to determine which knot it is.

small unmanned aircraft systems (sUAS), *n*—a small unmanned aerial system consisting of an unmanned aerial vehicle (UAV), a ground control station, and one or more payloads.

subject, *n*—the individual that is the focus of a search and/or rescue operation.

swiftwater, *n*—water moving with sufficient force to present a significant safety hazard to a person entering it.

swiftwater/flood search and rescue operations, *n*—organized actions intended to locate and save one or more individuals caught in, or stranded by, swift or flood waters.

team, *n*—(1) *relative to SAR generally*, a group of individuals trained and equipped to respond to searches and/or rescues within a defined response area; (2) *relative to SAR*

operations, a single deployable resource that operates within the incident command system to complete a defined mission.

technical terrain, *n*—a tract of land characterized by significant variation in elevation, where a person is not able to move safely and effectively on two feet without the use of handholds and/or a belay.

technical rescue, *n*—an organized operation wherein the rescuers directly involved rely on ropes and other specialized equipment to safely and effectively perform a rescue.

track, *n*—(1) *relative to a tracker*, (a) the physical evidence of a footfall, human or other; (b) a synonym for “sign;” (2) *relative to a tracking dog*, ground scent in the immediate vicinity of an individual’s footsteps; *v*—(1) *relative to a tracker*, the systemic and methodical identification of physical evidence which thereby allows someone to follow a specific person; (2) *relative to a tracking dog*, a search dog action wherein it follows a track.

tracker, *n*—an individual with specialized knowledge and training who can locate, identify, interpret, and systematically follow the evidence of passage of a specific person and whose training meets or exceeds that defined in Guide F2852.

tracking dog, *n*—a non-scent discriminating canine trained to follow a person’s route by detecting fresh human scent on the ground or by following scent caused by the physical disturbance of substrate such as crushed vegetation, soil, etc.

trail, *n*—(1) *relative to searchers*, a path through the immediate environment/terrain that is easier to traverse; (2) *relative to trailing dogs*, ground scent deposited by an individual as a track or in nearby plumes.

trailing, *v*—a search dog action wherein it follows a specific individual’s trail.

trailing dog, *n*—a scent discriminating canine trained to follow a specific person’s route by detecting scent on the ground and in the air nearby.

trailing dog search team or crew, *n*—a trailing dog and its handler whose training meets or exceeds that defined in Guide F3144.

wilderness, *n*—(1) *relative to common use*, a wild and uncultivated region, as of forest or desert, uninhabited or inhabited only by wild animals;¹¹ (2) *relative to EMS*, a setting in which the delivery of patient care by EMS providers is complicated by one or more of the following factors: (a) remoteness with respect to logistics and access; (b) a significant delay in the delivery of care to the patient; (c) an environment that is physically stressful to both patients and rescuers; and (d) lack of equipment, supplies, and transportation;¹² (3) *relative to SAR*, a setting in which SAR personnel are adversely affected by one or more of the following factors: (a) remoteness with respect to logistics

¹¹ <http://www.dictionary.com>.

¹² Guide F1616.

and access; (b) an environment that is physically stressful or hazardous to the SAR personnel; (c) the loss of infrastructure support.

wilderness first aid (WFA), *n*—training that provides an individual with the knowledge, skills, and abilities defined in Minimum Guidelines and Scope of Practice for Wilderness First Aid.¹³

wilderness first responder (WFR), *n*—(1) a course of training which provides an individual with the knowledge, skills, and abilities defined in Guide F1655; (2) *n*—an individual trained to provide basic life support care to a patient in the wilderness, whose training meets or exceeds that defined in Guide F1655, and who operates within the scope defined in Guide F1616.

wilderness land searcher, *n*—an individual who operates in the wilderness or non-wilderness environment and whose training meets or exceeds that defined in Guide F2209.

¹³ Johnson, D. E., Schimelpfenig, T., Hubbell, F., Frizzell, L., Nicolazzo, P., McEvoy, D., Weil, C., Cull, A., and Kimmel, N., “Minimum Guidelines and Scope of Practice for Wilderness First Aid,” *Wilderness & Environmental Medicine*, Vol 24, No. 4, December 2013, pp. 456-462.

wilderness land searcher leader, *n*—an individual who operates in the wilderness or non-wilderness environment and whose training meets or exceeds that defined in Guide F2685.

wilderness land search and rescuer, *n*—an individual who operates in the wilderness or non-wilderness environment and whose training meets or exceeds that defined in Guide F2751.

wilderness land search and rescuer leader, *n*—an individual who operates in the wilderness or non-wilderness environment and whose training meets or exceeds that defined in Guide F3193.

wilderness land search and rescue (SAR) strike team/task force leader, *n*—an individual who operates in either a wilderness or non-wilderness environment and whose training meets or exceeds that defined in Guide F3024.

work capacity test, *n*—a method developed by the National Wildfire Coordinating Committee for evaluating the aerobic fitness of individuals for wildland firefighting.¹⁴

¹⁴ Whitlock, C., and Sharkey, B., *Work Capacity Test Administrator’s Guide*, National Wildfire Coordinating Group National Interagency Fire Center, Boise, ID, 2003.

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