



SAR Spotlight Forum

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The Initial and Other Planning Points for Search

This article identifies the essential concepts required to establish a reasonably accurate initial planning point, and also attempts to establish the foundation for nomenclature and methods for standardization during future search operations. Various points and their descriptions plotted by planners on maps during a search represent the best estimate of where missing people were and what they were doing when the situation began. These plotted points should also represent a chronology of discoveries and the points where the applications of tactics were applied during that search operation. Many opinions exist about how these reference points should be determined and their potential use. The results of differing interpretations have caused both ambiguity and misunderstanding among the ranks in the SAR community.

In his seminal work "Analysis of Lost Person Behavior" (1976) Bill Syrotuck used a distance "as the crow flies radius" from the PLS (Point Last Seen) with which he compared distances traveled by different categories of lost persons. The term PLS was used even though in many cases, there was no relevant point where the missing person was last seen. As a result, a car in a parking area at a trailhead was labeled PLS when in fact no one ever saw the missing person there. PLS served as a catch all acronym that specified a location to start planning and measurements for the search.

During the development of more sophisticated approaches to land search management training and practical field operations in the late 80s and early 90s, the term **PLS** gradually took on the real meaning of the original acronym (*a Point Last Seen by a witness*). Both SAR Community individuals involved in operations and those more focused on training development realized the need for a distinction between various reference point designations during a search. The issue boiled down to a relatively simple one: If they were going to compare previous lost person incident cases and the distances traveled, then where should measurements be taken? Another question also came up repeatedly: What to call the reference point where the search starts and how to compare distances traveled by people in the same category of subject when there is no PLS?

For a period of time, Point of Origin was suggested and even used in some circles. The difficulty became obvious when the acronym for Point of Origin (POO) was used or discussed. That term wasn't going to fly and alternative points of designation were explored. Those familiar with maritime search and the acronyms used in search theory suggested using the already tried and true term **Initial Planning Point** (IPP). This term gradually gained acceptance, became the norm, and has prevailed in land search ever since.

However, controversy still surrounds where the IPP should be designated and what it actually means. The importance of the IPP as a planning point and reference should never be underestimated, and by the same token, ICs and planners need to very carefully about how it is placed and used. It should not be a catch all term with multiple meanings like the original designation of PLS. There may be **multiple planning points** used in the context of a search for distance comparisons, reference for direction of travel, elevation, or potential decision points for the missing person, but each search has only one Initial Planning Point. As a general rule, it should not be moved, but keep in mind that there could be extenuating circumstances to do so as will be shown later. This has implications both for the search

planner and the statisticians gathering data for future reference on missing person behavior. Where and how should a planner locate this important reference point? Are there specific criteria for determining its placement? Perhaps the following will help clarify these questions.

Before moving on, let's distinguish between terms and define the reference points used in land search today. These terms are fairly standard within current search operations and are generally well accepted.

The **Point Last Seen (PLS)** is now used exclusively to describe a point where the subject was seen by a witness (*i.e. the mother physically saw the child playing by a tree near the creek*). The PLS adds credibility and reliability to the Initial Planning Point or to another point for data comparison.

The **Last Known Position (LKP)** is the last substantiated (by clues or evidence) location of the missing subject. If subsequent clues or evidence point out another location, (*later in time*) then the new point becomes the LKP. The LKP changes with the discovery of more clues, direction of travel and physical evidence. The reliability of the LKP is governed by the weight or strength of the evidence discovered and often gives direction of travel when more than one LKP is discovered.

Cartographers use the term **Datum** to describe any point on a map which conveys information to the person reading it.

The definition for **Datum** (*Webster's*) is as follows:

1. Something known or assumed; a fact from which conclusions can be inferred.
2. A real or assumed thing, used as a basis for calculations or measurements.

The **INITIAL PLANNING POINT (IPP)** is a datum designated on the search map where the planner or IC indicates the start of the search. The early stages of a search always lack credible information and for future reference it is important to recognize where planning began with the first point on the map.

Measurements are taken in the **International Search and Rescue Incident Database** (*Koester, 2008*), using distances traveled from the designated IPP in straight flight miles or kilometers to where the searchers found the subject. In this way the IPP represents a good reference point to measure distance and to compare previous incidents involving missing persons from the same category.

Alternatively, in placing the IPP, imagine the location where the subject will try to return. (*a campsite, car, home, trail junction, etc.*) From a tactical standpoint the IPP starts the survey of the surrounding area for potential clues.

The **IPP** should not be confused with the physical operations base, which often ends up some distance from the search starting point. The IPP could be the place last seen (*PLS*) or the Last Known Position (*LKP*), or some other point based on the best available information.

Under many circumstances, the IPP is easily placed and ultimately becomes a valuable measurement reference. Examples like a person suffering from dementia that goes missing from a care facility, or a despondent driving to a remote parking area and leaving a car, both lend themselves to a straightforward designation of the IPP. However, some situations call for more careful thought, investigation and clearly more indications of intent or circumstance. A reference datum (the IPP) in the absence of a PLS or LKP used (*in this search or in the future*) for distance calculations should not be indiscriminately or arbitrarily placed.

Planners often have difficulty designating the IPP when the missing person or persons intend to travel from one location to another along a linear route or trail system. Usually, in these cases,

the subjects have a set destination with a clear point of embarkation and some form of transportation on both ends. The dilemma arises when trying to place planning points in general, not just the initial one. Colwell (1997) suggested using decision points along a linear route (trail) to determine where the missing person may have made mistakes in navigation or possibly left the trail. Each one of these decision points could very well constitute a planning point for further consideration. Depending on circumstances and timing, either the destination point or embarkation point for a trail based search problem could be designated the IPP with a number of additional planning points in between.

We mentioned above that the IPP could be the place last seen (*PLS*) or the Last Known Position (*LKP*), or some other point based on the best available information. An example of this follows:

- Let's say that a person is reported missing from home and information initially received indicates that the individual intended to go backpacking alone. The individual stated he was either going to do Route A or B. The starting points for these two routes are about 10 miles or 16 km apart. In this case both hiking route start points should be designated an IPP until further investigation negates one of them.

As the initial phase of a search and ensuing investigation continues, new Points Last Seen (*PLS*) or Last Known Positions (*LKP*) often may be identified. These are new planning points and they should be chronologically numbered with the IPP remaining point #1. Let's look at another example which points out some subtle differences for these reference points:

- Larry is on vacation in a campground with his wife and at 0900 hrs he leaves their RV saying that he is going for a hike in the nearby hills and intends to return at 1600 hrs. At 2200 hrs his wife contacts law enforcement to report him overdue. At this stage the IPP, and Datum point #1 is the RV, since he would probably try to return there. The RV is also the *PLS* and *LKP* at this time.
- A search and investigation is begun and information comes to light that Larry probably rendezvoused with a hiker friend who was also staying in the campground. Speculation is they traveled in another vehicle to hike in the next valley some 20 miles/ 32 km away. Enquiries reveal that the car belonging to Larry's hiking friend has been located in the next valley unattended at the trail-head. This new last known position (*LKP*) becomes another datum (*Datum point #2*). Search history experience dictates that this location should be used as a reference point (*IPP in this case because of proximity to the area being searched*) to comparatively measure lost/missing person distances. This is a case where extenuating circumstances of the situation would call for re-establishing the IPP. This is also the location to which the hikers will probably try to return.
- Continuing the previous scenario, new datums often unfold with further discoveries. During the process of a hasty search, searchers find an erected tent some 2 miles/ 3.2 km from the car. Investigators confirm the tent belongs to Larry's companion and find a climbing diary inside saying the two set out to climb a nearby mountain. The pair was not actually seen at this location, but this still represents another *LKP* (*we deduce they had to be there*) and would become, in the absence of other information, datum point #3. Once again the question arises: "Where is the location to which the hikers would probably try to return?" For this category of missing person, the campsite should be a good indication of where to locate a reference point for distance comparisons, but not the IPP (*It would still remain at the vehicle left at the trailhead as mentioned above*).

Common situations involving despondents, dementia sufferers or children missing from suburban facilities or homes do not take much thought about the location for the IPP. Even most hiker, hunter and gatherer situations are fairly straight forward. It is the unique

situations like trail routes or multiple location options for differing scenarios that complicate the planning process and placement of the initial planning point.

Keep in mind that it is possible for the Initial Planning Point, Point Last Seen, and the Last Known Position to all end up at the same geographic location initially, or equally all may be separate. Usually, the first LKP or PLS discovered is the IPP, but not always. Remember that clues are not necessarily discovered in the same order they were laid down. Be as accurate as possible when identifying and using planning reference points, particularly the IPP. Here are some guideline criteria for establishing the Initial Planning Point.

The Initial Planning Point should:

- Be the point from which the search begins.
- Be the first planning point in the operation.
- If possible, be either a PLS or an LKP.
- Be relevant to the search area (*in terms of proximity*).
- Be a good location to start a survey of the area for clues.

While this article may seem at first glance rather mundane in the scheme of issues confronting planners and ICs on a search, a closer look reveals the importance of documenting search incidents for future data retrieval. Data gathered during a search must be both relevant and represent a consistently applied standard to maximize its usefulness in the future. The question was mentioned above. If we are going to compare previous search incident cases and the distances traveled, then where should measurements be taken? We suggest that planners and statisticians measure from the Initial Planning Point. If we are to derive maximum benefit from lost and missing person behavior data in the future, we have to pay more attention to and clearly document a standard method for the placement of reference planning points, particularly the IPP. And if the conclusions that we make from this data are to be reliable, the reference location measurements must be applied in a consistent way.