Missing Person Behaviour

-

An Aid to the Search Manager

1st Edition

Dave Perkins and Pete Roberts
Northumberland National Park SRT, Centre for Search Research
Ged Feeney
Penrith MRT & Mountain Rescue Council Statistics Officer

The original publication was compiled by Dave Perkins and Pete Roberts for their course ‘ Search Management for the Initial Response Incident Commander 2000’, published by ERI International Inc.

It has been modified to include current research into the behaviour of missing persons in the UK, Northern Ireland and Eire.

Document History
First Edition Jun 2003

Contents

Contents 3
Lost Person Behaviour Statistics 4
Using Missing Person Behaviour Information 4
Children (1 – 6 years) 6
Children (7 – 12 years) 8
Youths (13 – 15 years) 10
Despondents 12
Psychological Illness (Psychotics) 14
Developmental Problems (Mentally Retarded) 16
Alzheimer's 18
Miscellaneous Adults 20
Hikers/Walkers 22
Hunters 24
Fishermen, Climbers 26
Skiers & Organised Groups 27
Dementia (General) 28
Glossary 29

By analysing the behaviour of past lost persons in similar situations, it may be possible to "predict" what the subject now being sought might do, where he/she might go, or where he/she might be.

This concept is a search-planning tool, dealing with generalities, and not absolutes.

Lost Person Behaviour Statistics

Lost person behaviour statistics refers to the analysis of historical search data for the purpose of gaining insight into the likely actions of persons being searched for.

William Syrotuck pioneered the concept of analysing the behaviour of lost persons. In 1976 he published a study of 229 cases from the states of New York and Washington.

In 1984 Barry Mitchell analysed 2,814 cases that NASAR had compiled from across the United States. Ken Hill reported on 203 cases from Nova Scotia in 1994.

In 1992 Koester and Stooksbury studied 25 cases involving Alzheimer's patients in Virginia. Bob Koester has continued his research into Alzheimer's and now has a data set of 87 which is included here. Bob has also looked at the category 'walkaways' and he now suggests two new categories – "Psychotics" and "Mentally Retarded" to replace this. He has sufficient data to support these two new categories, and with his kind permission we include them here.

In 2002 Perkins, Robert and Feeney published 'Missing Person Behaviour – a UK study'. They analysed 372 cases of person reported missing in the United Kingdom, Northern Ireland and Eire where voluntary SAR teams had been requested. Many of the categories match those used in previous studies and their findings have been incorporated into this publication.

Where percentages are quoted, the total may not add up to 100% because of error in the rounding up process.

Using Missing Person Behaviour Information

Missing Person Behaviour data is an important and developing aspect of SAR Incident Management. The information contained in this handbook can be used to make best use of limited search resources. It can help the search manager to determine the search area by 'blending' this information with known facts about the incident, a detailed terrain analysis and a scenario analysis. It can help the search manager to determine the extent of any search effort (i.e. the search area). It can help him to deploy the

available resources to the areas mostly likely to contain the missing person and to employ the best tactics for the task. The information can also contribute to the briefings given to the search parties prior to deployment.

The distance travelled by the missing person from the Initial Planning Point (IPP) will assist in drawing up the search area. In addition to barriers to movement, the search manager will need to know how far a person is likely to travel. When considering 'weak' barriers to travel, these distances act as a litmus test to their use in limiting the search area. Because we are dealing with the raw data, distances can be overlaid onto the search area in 10% stages (or more, or less) to give a more accurate picture of distances traveled rather than the traditional 25%, median and 75% 'zones'.

It is always useful to tell the search party prior to deployment how the missing person is likely to behave. How will they react to being the subject of a search? Will they try to hide, or to attract attention to themselves? If they went missing deliberately, how will they try to remain undetected? If they are lost unintentionally, how are they likely to react, what actions will they take to remedy the situation?

Missing persons are drawn to what are called 'magnets'. These are features of the terrain that the missing person is drawn to for shelter, security or privacy etc. It may well be the case that this data gives a clue as to their whereabouts. It will also provide a focus for the searchers in the field.

Even if the subject continues to move in the search area, will they stick to tracks or attempt to cross open ground or fight through dense forestry? The information collected so far will provide pointers to the searchers when operating in open country.
It should be stressed that MPB data by itself will not give the 'answer' to the search problem. It is a planning tool that should be used alongside other considerations to determine the Initial Search Area. It is an important aid to developing likely scenarios and scenario analysis.

Unlike existing MPB data presented in some search management texts this study will allow detailed interrogation of the raw data. It is a growing and developing study which we urge all to contribute to for the benefit of future missing persons.

Note:
an asterisk (*) has been used throughout the text to indicate where the UK study supports the other studies.

Children (1 – 6 years)

Characteristics	Where?
(Hill, Syrotuck): **Young Children, 1 – 3 years**, unaware of the concept of being lost Navigational skills and sense of direction almost non-existent Tend to wander aimlessly Do not respond to whistles or calls Good survivability because of tendency to find shelter **Children, 3 – 6 years**, have a developing concept of being lost and will attempt to return home or go back to a familiar place They may panic and become further lost as they attempt to 'find themselves' Do not understand the fact that a return trip is needed – their explorations are usually one way Tracks, trails etc. plus 'short cuts' that may not readily appear as a well-defined track to an adult More mobile than children 1 – 3 years May become lost following an animal or group of older children into the undergrowth or in exploring	*(Hill, Syrotuck):* They often seek out a place to lie down and go to sleep – under thick brush, an overhanging rock, a picnic table, inside a car boot, inside an abandoned appliance etc. They are difficult to detect Rarely walk out by themselves **Statistics (n = 12)** Distance from IPP

	Km's	Miles
10%	0.47	0.29
20%	0.54	0.34
30%	0.61	0.38
40%	0.72	0.45
50%	0.95	0.60
60%	1.16	0.73
70%	1.51	0.94
80%	1.89	1.18
90%	2.27	1.42
100%	2.65	1.66

Data adapted from Hill (1997)

Children (1 – 6 years)

How?	A UK Study
Passive attraction methods are rarely successful and confinement is a low priority Air scenting dog teams alongside rapid response teams Thorough searching of high priority areas close to IPP – Urgent response needed Sign cutting teams along main trails	*(June 2003)* Outcomes **(n = 8)** Fatalities..... 0% Injured ..... 0% Unhurt..... 100% No Trace..... 0% Distance from IPP **(n = 8)** Where found **(n = 8)** Habitation ..... 25% Building / Shelter ..... 25% Open Ground..... 25% Wall / Fence Line..... 12% Water / Water's Edge . 12% Forest / Woodland ..... 0% No Trace..... 0% Road..... 0% Stream / Ditch..... 0% Forest Edge / Clearing . 0% Path / Track 0%

	Km's	Miles
10%	0.10	0.06
20%	0.40	0.25
30%	0.50	0.31
40%	0.50	0.31
50%	0.65	0.40
60%	0.80	0.50
70%	1.00	0.62
80%	1.10	0.68
90%	1.80	1.12
100%	1.80	1.12

Children (7 – 12 years)

Characteristics	Where?
(Hill, Syrotuck): Navigational and directional skills are much more developed than 1 – 6 year olds. They are learning to construct primitive 'mental maps' of their environments, which may be highly inaccurate Frequently become lost while attempting a short cut to a familiar location May become lost during fantasy play – adventuring etc., and may find the play and reality confusing They may become upset and confused when lost and react irrationally Often resort to trail-running which may take them some distance from the PLS/LKP They may respond more maturely if with a friend or sibling They will attempt to 'find themselves' though often lack adult tactics	*(Hill, Syrotuck):* Tracks, trails, shortcuts – check with friends for any 'secret' places and/or favourite places, hideouts or routes Landmarks, high points, features – ponds, lakes, steams, drainages, forest edges and clearings Any 'known' places – secret play places **Statistics (n = 9)** Distance from IPP

	Km's	Miles
10%	1.12	0.70
20%	1.29	0.81
30%	1.46	0.91
40%	1.68	1.05
50%	2.10	1.31
60%	2.62	1.64
70%	2.97	1.86
80%	4.24	2.65
90%	6.78	4.24
100%	8.00	5.00

Data adapted from Hill (1997)

Children (7 – 12 years)

How?	A UK Study
Confinement should be a high priority Rapid response teams to high priority areas Use air scenting dog teams Passive attraction methods are rarely successful	

(June 2003)

Outcomes **(n = 27)**

Fatalities	7%
Injured	0%
Unhurt	93%
No Trace	0%

Distance from IPP **(n = 27)**

	Km's	Miles
10%	0.00	0.00
20%	0.00	0.00
30%	0.30	0.19
40%	0.50	0.31
50%	1.50	0.93
60%	1.70	1.06
70%	2.00	1.24
80%	4.80	2.98
90%	6.00	3.73
100%	64.40	39.99

Where found **(n = 26)**

Habitation	35%
Building / Shelter	23%
Road	18%
Water / Water's Edge	12%
Open Ground	12%
Forest / Woodland	4%
Forest Edge / Clearing	0%
No Trace	0%
Path / Track	0%
Stream / Ditch	0%
Wall / Fence Line	0%

Youth (13 – 15 years)

Characteristics	Where?
(Hill, Syrotuck): Navigational and directional skills are much more developed than 6 - 12 year olds. Frequently become lost in groups whilst engaged in exploring or adventure activity* They rarely travel far in groups Will usually respond to calls and whistles Often resort to 'direction sampling', looking for a familiar place or landmark They may respond more maturely if with a friend or sibling They will attempt to 'find them-selves' though often lack adult tactics May panic and resort to irrational tactics to locate themselves	*(Hill, Syrotuck)* Tracks, trails, shortcuts – check with friends for any 'secret' places and/or favourite places, hideouts or routes Landmarks, high points, features – ponds lakes. Steams, drainages, forest edges and clearings Any 'known' places – secret play places* **Statistics (n = 20)** Distance from IPP

	Km's	Miles
10%	0.56	0.35
20%	0.72	0.45
30%	0.87	0.54
40%	1.13	0.71
50%	1.80	1.13
60%	2.68	1.68
70%	3.73	2.33
80%	4.82	3.00
90%	5.91	3.70
100%	7.00	4.38

Data adapted from Hill (1997)

**supported by UK study*

Youth (13 – 15 years)

How?	A UK Study
Confinement a low priority unless subject is alone* Rapid response teams to high priority areas Use air scenting dog teams Passive attraction methods can be successful*	*(June 2003)* Outcomes **(n = 20)** Fatalities..... 5% Injured ..... 0% Unhurt..... 95% No Trace..... 0% Distance from IPP **(n = 20)**

	Km's	Miles
10% -	0.05	0.03
20% -	0.25	0.16
30% -	0.75	0.47
40% -	0.90	0.56
50% -	1.30	0.81
60% -	1.95	1.21
70% -	2.00	1.24
80% -	4.10	2.55
90% -	6.55	4.07
100% -	132.00	81.97

Where found **(n = 19)**

Habitation 26%
Building / Shelter 21%
Forest / Woodland 21%
Path / Track 11%
Forest Edge / Clearing 11%
Road..... 5%
Stream / Ditch..... 5%
No Trace..... 0%
Open Ground..... 0%
Wall / Fence Line..... 0%
Water / Water's Edge ... 0%

Despondents

Characteristics	Where?
(Hill, Syrotuck, Koester): It is not usually their intention to travel far, but to find a place where they can be alone and possibly contemplate suicide * Frequently located at the interface of two types of terrain and/or vegetation boundary. Often head for a scenic location or well-known beauty spot such as a hill, which may overlook civilization * Sometimes these places are well known to them * and their relatives Rarely found in dense under-brush or trees They rarely respond to calls and whistles and may even hide and avoid searchers * There is an extremely high fatality rate – drugs and/or alcohol are frequently involved * **supported by UK study*	*(Hill, Syrotuck, Koester):* Scenic locations, high points over-looking beauty spots and/or civilization Places well known to them, favourite places previously/frequently visited - Favourite walks, tracks, trails * Terrain interfaces – vegetation changes, breaks of slope, cliffs Two distinct groups: (1) subjects merely seeking to get out of sight; (2) subjects seeking out a specific location, often scenic and/or significant in their life. This second group may travel long distances to get there. The first group will be close to IPP **Statistics (n = 74):** Distance from IPP

	Km's	Miles
10% -	0.00	0.00
20% -	0.16	0.10
30% -	0.16	0.10
40% -	0.24	0.15
50% -	0.32	0.20
60% -	0.40	0.25
70% -	1.20	0.75
80% -	2.00	1.25
90% -	6.40	4.00
100% -	32.0	20.00

Data adapted from Koester, Personal Communication (2000)

Despondents

How?	A UK Study

Investigation important – speak with friends, family, work colleagues etc. to build an accurate subject profile *

Response should be urgent

Thorough search of small area (up to 70%)

Confinement is a low priority

Passive tactics not successful

(June 2003)

Outcomes **(n = 181)**

Fatalities	34%
Injured	12%
Unhurt	45%
No Trace	9%

Distance from IPP **(n = 181)**

	Km's	Miles
10% -	0.00	0.00
20% -	0.30	0.19
30% -	0.60	0.37
40% -	1.00	0.62
50% -	1.50	0.93
60% -	2.10	1.30
70% -	3.50	2.17
80% -	5.60	3.48
90% -	10.40	6.46
100% -	132.00	81.97

Where found **(n = 160)**

Habitation	21%
Water / Water's Edge	18%
Forest / Woodland	16%
No Trace	13%
Building / Shelter	12%
Road	11%
Forest Edge / Clearing	8%
Open Ground	7%
Stream / Ditch	4%
Path / Track	3%
Wall / Fence Line	1%

Psychological Illness (Psychotics)

Characteristics	Where?
(Koester): May be evasive and run away and/or hide Most do not respond to name Rarely travel purposefully to an identifiable target Associated medication and/or lack of it may be a problem May be frightened of authority and of being found Can be aggressive – be aware of safety of searchers – seek advice Rarely 'lost' in the traditional sense of the word Behaviour may be difficult to predict	*(Koester):* Tend not to penetrate woods and/or thick undergrowth Often found in woods (edges) – 20%; buildings – 23%; along roads – 23% Detailed checks of buildings in search area should be done by Police Drainages, streams, tracks and trails 21% walked out **Statistics (n = 25)** Distance from IPP

	Km's	Miles
10%	0.00	0.00
20%	0.16	0.10
30%	0.40	0.25
40%	0.50	0.30
50%	0.64	0.40
60%	0.80	0.50
70%	1.60	1.00
80%	3.20	2.00
90%	6.00	4.80
100%	12.80	8.00

Data adapted from Koester, Personal Communication (2000)

Psychological Illness (Psychotics)

How?	A UK Study

Search urgency high

Investigation is important – speak to any professionals involved as well as family and friends to build an accurate subject profile

Air scenting dogs around woods and drainages starting near to IPP

Containment along roads/tracks a priority

Re-search areas and tracks

Use of trackers near to IPP

Cut for sign along roads and tracks

Detailed investigation essential

On-going thorough systematic search of buildings and residence

(June 2003)

Outcomes **(n = 21)**

Fatalities	38%
Injured	5%
Unhurt	52%
No Trace	5%

Distance from IPP **(n = 20)**

	Km's	Miles
10% -	0.00	0.00
20% -	0.10	0.06
30% -	0.60	0.37
40% -	0.95	0.59
50% -	2.10	1.24
60% -	3.15	1.96
70% -	7.85	4.87
80% -	10.20	6.33
90% -	12.15	7.55
100% -	16.00	9.94

Where found **(n = 21)**

Water / Water's Edge	19%
Habitation	19%
Road	14%
Building / Shelter	14%
No Trace	9%
Open Ground	9%
Stream / Ditch	5%
Wall / Fence Line	5%
Forest Edge / Clearing	5%
Forest / Woodland	0%
Path / Track	0%

Developmental Problems (Mentally Retarded)

Characteristics	Where?
(Koester):	*(Koester):*
Blend of Young Children and Alzheimer's – lack concept of being 'lost'	Dense undergrowth, 11%, forest edges and will penetrate inside 16%, often to seek shelter
Good survivability	Buildings, (21%) yards, gardens (16%) and outbuildings
Rarely respond	Not 'route' orientated
Possible associated physical impairment	21% found in drainages
Rarely travel to a set target though often make for a random building to seek shelter	**Statistics (n = 29)**
Will travel and penetrate into woods, forests and undergrowth	Distance from IPP
Subject may run away from and avoid searchers	

	Km's	Miles
10%	0.00	0.00
20%	0.16	0.10
30%	0.30	0.20
40%	0.40	0.25
50%	0.80	0.50
60%	1.20	0.75
70%	1.60	1.00
80%	2.80	1.70
90%	4.80	3.00
100%	6.00	4.80

Data adapted from Koester, Personal Communication (2000)

Developmental Problems (Mentally Retarded)

How?	A UK Study

Search urgency is high

Investigation is important – speak to any professionals involved as well as family and friends to build an accurate subject profile

Early deployment of air scenting dogs near to IPP

Detailed ground search of areas up to the 50% zone

Check any streams and drainages

Re-search of areas is important – plan for short search assignments

(June 2003)

Outcomes **(n = 22)**

Fatalities	9%
Injured	0%
Unhurt	86%
No Trace	4%

Distance from IPP **(n = 21)**

	Km's	Miles
10% -	0.00	0.00
20% -	0.10	0.06
30% -	0.20	0.12
40% -	0.40	0.25
50% -	0.50	0.31
60% -	1.30	0.81
70% -	2.40	1.49
80% -	16.00	9.94
90% -	19.00	11.80
100% -	35.00	21.74

Where found **(n = 22)**

Habitation	27%
Forest / Woodland	23%
Building / Shelter	14%
Forest Edge / Clearing	9%
No Trace	9%
Water / Water's Edge	9%
Open Ground	4%
Path / Track	4%
Road	0%
Stream / Ditch	0%
Wall / Fence Line	0%

Alzheimer's

Characteristics	Where?
(Koester): This profile is based upon search subjects suffering from possible Alzheimer's disease and related disorders Poor memory Impaired ability to make sense of surroundings, and recognize hazards May experience hallucinations or perceptual distortions Loss occurs when subject leaves residence or nursing home, possibly with last sighting on a roadway Previous history of wandering Coexisting medical problems limiting mobility Possibly looking for a private location in which to urinate Will not cry out for help or respond to shouts Will not leave many physical clues Usually succumbs to the environment (hypothermia, dehydration)	*(Koester):* 50% are found within 0.6 miles of IPP; 96% are found within 1.5 miles of IPP Usually found a short distance from a road Usually found in a creek or drainage and/or caught in briars/bushes and often continue until they get stuck May cross roads and/or trails, tracks May attempt to travel to a place previously known to them **Statistics (n = 87)** Distance from IPP

	Km's	Miles
10%	0.16	0.10
20%	0.16	0.10
30%	0.40	0.25
40%	0.50	0.30
50%	0.80	0.50
60%	0.80	0.50
70%	1.10	0.70
80%	1.60	1.00
90%	2.00	1.25
100%	3.20	2.00

Data adapted from Koester (2000)

Alzheimer's

How?

(Koester):

Search urgency is high

Early containment is essential

Early use of trackers at IPP

Early use of tracking dogs at IPP and along roadways

Early deployment of air scent dog teams in drainages and streams, starting nearest IPP

Early deployment of hasty ground teams into drainages and streams nearest IPP

Thoroughly search the residence/nursing home and surrounding grounds and buildings; repeat every few hours

Cut for sign along roadways

Search heavy briars/bushes

Search nearby previous home sites and the region between home sites and IPP

A UK Study

(June 2003)

Outcomes **(n = 38)**

Fatalities	21%
Injured	13%
Unhurt	63%
No Trace	3%

Distance from IPP **(n = 37)**

	Km's	Miles
10% -	0.40	0.25
20% -	0.80	0.50
30% -	1.50	0.93
40% -	2.00	1.24
50% -	3.00	1.86
60% -	4.00	2.48
70% -	5.00	3.11
80% -	7.30	4.53
90% -	12.50	7.76
100% -	84.00	52.16

Where found **(n = 38)**

Habitation	21%
Road	18%
Open Ground	18%
Water / Water's Edge	10%
Wall / Fence Line	8%
Building / Shelter	8%
Forest / Woodland	5%
No Trace	5%
Forest Edge / Clearing	3%
Stream / Ditch	3%
Path / Track	0%

Miscellaneous Adults

Characteristics

(Hill, Syrotuck):

This category includes mushroom / fruit pickers, photographers, rock hounds and generally people engaged in some out-door occupational activity such as surveyors, forestry workers, conservation officers etc.

Often inadequately equipped and prepared for activity or the circumstances they find themselves in

Many subjects found away from trails and tracks

May panic on realization of situation

Poorly developed way-finding skills and may not have map and compass

Attempts to 'find themselves' often exacerbate the situation

(Mitchell):

40-50% are adequately equipped

Cause is subject error

50% followed a trail or drainage at some time while missing

30-50% move at night

High percent are communicative

90% are found within five miles of IPP

Where?

(Hill, Syrotuck):

Frequently located near natural boundaries and vegetation inter-faces – forest edge, stream, steep slope – and navigation aids – walls, fence-lines, shelters etc.

Sometimes wander away from regular tracks and trails and be-come lost

Need to identify 'magnets' that may have attracted them

Statistics (n = 29)

Distance from IPP

	Km's	Miles
10%	0.39	0.24
20%	0.68	0.43
30%	0.98	0.61
40%	1.35	0.84
50%	2.05	1.28
60%	3.34	2.08
70%	3.77	2.36
80%	5.37	3.36
90%	8.60	5.38
100%	19.00	11.88

Data adapted from Hill (1997)

Miscellaneous Adults

How?	A UK Study

Investigation is especially important for this 'mixed bag' category

Through careful terrain analysis, need to identify relevant locations (magnets), which may have attracted the person

Rapid response teams and air scenting dogs to cover trails, tracks, streams, forest edges, fence-lines, lines of least resistance etc.

Trackers and trailing dogs at PLS/LKP

(June 2003)

Outcomes **(n = 30)**

Fatalities	43%
Injured	3%
Unhurt	37%
No Trace	17%

Distance from IPP **(n = 25)**

	Km's	Miles
10% -	0.10	0.06
20% -	0.25	0.16
30% -	0.50	0.31
40% -	0.95	0.59
50% -	1.00	0.62
60% -	2.70	1.68
70% -	4.00	2.48
80% -	4.75	2.95
90% -	7.00	4.35
100% -	10.00	6.21

Where found **(n = 30)**

Water / Water's Edge	27%
No Trace	17%
Open Ground	17%
Building / Shelter	10%
Path / Track	10%
Habitation	10%
Forest / Woodland	3%
Road	3%
Wall / Fence Line	3%
Forest Edge / Clearing	0%
Stream / Ditch	0%

Hikers / Walkers

Characteristics	Where?
(Hill, Syrotuck): They are trail oriented and often become lost when their trail becomes obscured or when they encounter a confusing junction or intersection of trails* They tend to travel further than other categories* Sometimes poorly prepared and lack experience of remote areas* Will attempt to find themselves by trail running or finding a high spot May follow 'lines of least resistance' such as a stream, forest edge etc* May regress to less effective methods when panicky May look for shelter at nightfall or if injured* ** supported by UK study*	*(Hill, Syrotuck):* Tracks, trails, lines of least resistance forest edges (navigation aids)* Sheltered points High ground – lookouts **Statistics (n = 24)** Distance from IPP

	Km's	Miles
10%	0.87	0.54
20%	1.21	0.76
30%	1.55	0.97
40%	1.93	1.21
50%	2.33	1.46
60%	2.74	1.71
70%	3.14	1.96
80%	5.64	3.53
90%	10.87	6.80
100%	24.00	15.0

Data adapted from Hill (1997)

Hikers / Walkers

How?	A UK Study

Confinement a priority*

Aerial survey to plot lines of least resistance, trails, navigation points and 'likely spots'

Check Route plans*

Small, widely spaced, rapid response teams and air scenting dogs*

Tracking dogs and trackers from IPP

Clue aware searchers tasked to run trails*

Be aware of potentially large distances and area that may be involved*

(June 2003)

Outcomes **(n = 72)**

Fatalities	11%
Injured	4%
Unhurt	85%
No Trace	0%

Distance from IPP **(n = 72)**

	Km's	Miles
10% -	0.50	0.31
20% -	1.00	0.62
30% -	1.50	0.93
40% -	2.00	1.24
50% -	2.95	1.83
60% -	3.90	2.42
70% -	5.00	3.11
80% -	6.10	3.79
90% -	7.00	4.35
100% -	25.30	15.71

Where found **(n = 72)**

Open Ground	33%
Path / Track	24%
Building / Shelter	11%
Road	11%
Habitation	7%
Wall / Fence Line	4%
Forest Edge / Clearing	3%
Stream / Ditch	3%
Forest / Woodland	3%
Water / Water's Edge	1%
No Trace	0%

Hunters

Characteristics	Where?
(Hill, Syrotuck): Their concentration on game often distracts them from navigation Frequently become disoriented chasing wounded game into thick areas of trees or bush They tend to overextend themselves in darkness and push beyond their physical abilities When game laws prescribe the wearing of 'hunter orange', they can be easily detected from a distance or from a helicopter Will respond to calls and whistles – may fire shots to attract searchers May try to walk out unaided at daybreak after building shelter for the night On average 1 in 3 walk out unharmed High survivability rate *(Mitchell):* A common cause is subject error Weather a factor in 18% of cases; darkness a factor in 33% of cases 39% follow drainages Significant number wanders and go cross-country Many are communicative, 66% found within two miles	*(Hill, Syrotuck):* Trails, tracks and forest roads Drainages, stream/river banks Forest edges, clearings, points for shelter Check local knowledge for favourite places and current conditions **Statistics (n = 100)** Distance from IPP

	Km's	Miles
10%	0.80	0.50
20%	1.28	0.80
30%	1.61	1.00
40%	1.94	1.21
50%	2.40	1.50
60%	3.09	1.93
70%	3.50	2.19
80%	5.00	3.13
90%	8.00	5.00
100%	19.31	12.07

Data adapted from Hill (1997)

Hunters

How?	A UK Study
Confinement is a priority Thorough investigation (subject profile) is important Aerial survey to plot tracks, trails, forest roads and any clearings Attractive methods may be effective Clue aware teams along trails and riverbanks Small, rapid response groups to high priority areas	(no equivalent category)

Fishermen & Climbers

Fishermen (Syrotuck)	**Climbers** (Syrotuck)
• Generally, **they are very well oriented** because of the directional flow of a river or the position of a lake. • The **reason they are overdue is most often accident related**, such as slipping into the water, falls over cliffs while trying to move up or down stream, or swept off of feet in fast moving water. • A very high percentage of this mission category is boat related. • **Often this will be a recovery mission.**	• The individuals in this category are **generally well equipped and self-sufficient**. • They **tend to remain on or near designated routes**. • A **primary factor for these incidents is weather or hazardous conditions** which limit an individual's abilities. • Other major factors are falling debris and avalanche. • **Technical expertise is generally needed** for both search and recovery. • For backcountry mountaineers, the cause is often due to the climbers taking longer to complete the route than planned, or lower limb injuries on non-technical terrain.

Skiers & Organised Groups

Skiers (Mitchell)

- Cause is human error, weather (33%) or darkness (20%).
- Generally follow paths, trails, drainages; 25% attracted by civilization.
- Almost all are communicative, 50% are mobile.
- 85% found within 5 miles of IPP.
- 83% are not moving after the first 24 hours; 30-45% move at night.
- 50% found by SAR effort using hasty search, visual tracking; 50% find themselves.

Organised Groups (A UK Study)

(June 2003)

Outcomes **(n = 14)**

Fatalities	0%
Injured	21%
Unhurt	79%
No Trace	0%

Distance from IPP **(n = 14)**

	Km's	Miles
10% -	0.90	0.56
20% -	1.60	0.99
30% -	2.20	1.37
40% -	3.10	1.93
50% -	3.50	2.17
60% -	4.00	2.48
70% -	4.20	2.61
80% -	4.60	2.86
90% -	5.40	3.35
100% -	6.50	4.04

Where found **(n = 14)**

Open Ground	36%
Building / Shelter	14%
Path / Track	14%
Stream / Ditch	14%
Forest Edge / Clearing	7%
Forest / Woodland	7%
Road	7%
Habitation	0%
No Trace	0%
Wall / Fence Line	0%
Water / Water's Edge	0%

Dementia (General)

Characteristics	Where?

(UK Study)

This category has been identified within the general 'Vulnerable' category, along with the Alzheimer's (pg18), psychological illness (pg 14) and developmental problem (pg 16) categories.

Subject usually described as confused, poor short-term memory, non-specific or senile dementia. They are usually reported as 'wandering off' from residential care. May be compounded with other medical conditions.

(June 2003)

Outcomes **(n = 26)**

Fatalities	23%
Injured	12%
Unhurt	62%
No Trace	4%

Distance from IPP **(n = 25)**

	Km's	Miles
10% -	0.20	0.12
20% -	0.30	0.19
30% -	0.40	0.25
40% -	0.65	0.40
50% -	1.00	0.62
60% -	1.20	0.75
70% -	2.80	1.74
80% -	4.60	2.86
90% -	8.60	5.34
100% -	15.50	9.63

Where found **(n = 26)**

Open Ground	23%
Wall / Fence Line	15%
Path / Track	15%
Habitation	8%
Forest / Woodland	8%
Stream / Ditch	8%
Building / Shelter	8%
Road	8%
No Trace	4%
Water / Water's Edge	4%
Forest Edge / Clearing	0%

Glossary

1. Subject Categories

Child (1 - 6 yr.) - refers to child's chronological age only, providing they do not fall into another category.

Child (7 - 12 yr.) - refers to child's chronological age only, providing they do not fall into another category.

Climber – some intending to climb rock, snow or ice, on or off route, accessing into or out of the climb.

Despondent - anyone where there is evidence that they have deliberately disappeared as a result of clinical depression or intention to harm themselves.

Fellrunner - either as a competitor in an event, training or recreation, including orienteering.

Hiker / walker - any form of recreational walker, of whatever length of walk, involving persons 17 yr. or older.

Miscellaneous – this covers anyone using the outdoors not included in the other categories – photographers, mushroom pickers, bird-watchers etc.

Mountain Biker - where the bike was the main means of transport, on or off-road.

Organised Party - a party with a recognised leader or purpose.

Skier - If so equipped, including the walk in and out

Vulnerable – this covers anyone who can be described as having significant mental impairment. This category is sub-divided into:-
severe learning difficulties (mentally handicapped)
dementia sufferers (senile or Alzheimer's)
sufferers of psychoses.

Youth (13 - 16 yr.) - refers to child's chronological age only, providing they do not fall into another category.

2. Location Found

Building / Shelter - any man-made structure not usually used for human habitation

Forest / Woodland - forest, plantation where progress is difficult

Forest Edge/Clearing - open woodland

Habitation - building usually inhabited

Open Ground - may be sheltering in nature features

Path / Track - may be vehicular but not metalled

Road - Metalled, classified or unclassified

Stream / Ditch - drainage line that can easily be crossed on foot

Wall / Fence Line – this refers to any man-made structure enclosing land.

Water/ Water's Edge - in or surrounding a body of water that could not be crossed easily on foot.