Missing Person Behaviour

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An Aid to the Search Manager

1st Edition

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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.

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Contents

> 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):	*(Hill, Syrotuck):*

(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

(June 2003)

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

Outcomes **(n = 8)**

Fatalities	0%
Injured	0%
Unhurt	100%
No Trace	0%

Distance from IPP **(n = 8)**

	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

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%

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

(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%

Confinement should be a high priority

Rapid response teams to high priority areas

Use air scenting dog teams

Passive attraction methods are rarely successful

Youth (13 – 15 years)

Characteristics	Where?
(Hill, Syrotuck):	(Hill, Syrotuck)

Characteristics *(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

Where? *(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

(June 2003)

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*

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):	*(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 *	Scenic locations, high points over-looking beauty spots and/or civilization
Frequently located at the interface of two types of terrain and/or vegetation boundary.	Places well known to them, favourite places previously/frequently visited - Favourite walks, tracks, trails *
Often head for a scenic location or well-known beauty spot such as a hill, which may overlook civilization *	Terrain interfaces – vegetation changes, breaks of slope, cliffs
Sometimes these places are well known to them * and their relatives	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
Rarely found in dense under-brush or trees	
They rarely respond to calls and whistles and may even hide and avoid searchers *	

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

There is an extremely high fatality rate – drugs and/or alcohol are frequently involved *

*supported by UK study

Data adapted from Koester, Personal Communication (2000)

Despondents

How?	A UK Study

(June 2003)

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

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

(June 2003)

How?	A UK Study
Search urgency high	**Outcomes (n = 21)**
Investigation is important – speak to any professionals involved as well as family and friends to build an accurate subject profile	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

How? (continued):

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

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	
Possible associated physical impairment	Not 'route' orientated
	21% found in drainages
Rarely travel to a set target though often make for a random building to seek shelter	**Statistics (n = 29)**
	Distance from IPP
Will travel and penetrate into woods, forests and undergrowth	
Subject may run away from and avoid searchers	

Statistics (n = 29)

Distance from IPP

	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

(June 2003)

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

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):	*(Koester):*
This profile is based upon search subjects suffering from possible Alzheimer's disease and related disorders	50% are found within 0.6 miles of IPP; 96% are found within 1.5 miles of IPP
Poor memory	Usually found a short distance from a road
Impaired ability to make sense of surroundings, and recognize hazards	Usually found in a creek or drain-age and/or caught in briars/bushes and often continue until they get stuck
May experience hallucinations or perceptual distortions	
Loss occurs when subject leaves residence or nursing home, possibly with last sighting on a roadway	May cross roads and/or trails, tracks
	May attempt to travel to a place previously known to them
Previous history of wandering	**Statistics (n = 87)**
Coexisting medical problems limiting mobility	Distance from IPP

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

Characteristics (continued):

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)

Data adapted from Koester (2000)

Alzheimer's

How?	A UK Study

(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

(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	Where?

(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

(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 become 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

(June 2003)

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

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

(June 2003)

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*

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	(no equivalent category)
Attractive methods may be effective	
Clue aware teams along trails and riverbanks	
Small, rapid response groups to high priority areas	

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 individuals in this category are **generally well equipped and self-sufficient**.
• 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.	• They **tend to remain on or near designated routes**.
• A very high percentage of this mission category is boat related.	• A **primary factor for these incidents is weather or hazardous conditions** which limit an individual's abilities.
• **Often this will be a recovery mission.**	• 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)	**Organised Groups** (A UK Study)

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.