



Missing Person Behaviour

A U.K. Study

(Full Report)

September 2002

By

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Abstract

The report seeks to provide information to help in search management. Up to now, information about missing person behaviour has been derived from North American incidents. This report provides the first indications based on purely UK, N. Ireland and Eire incidents.

The data has been collected using a standard form submitted by teams reporting incidents involving missing persons. It is based on a form designed and tested over a period of 2 years.

The report gives an analysis of two main categories (despondent & vulnerable) where a large enough sample size currently exists. Some analysis for other categories has been attempted where the sample size not quite as large. An attempt has been made to indicate where subjects in a category behave in a way unique to them.

The report seeks to inform those persons who have contributed to the study and to encourage others to join in this important work.

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Document History

Interim Report - November 2001

Full Report – September 2002

Further copies of these documents can be downloaded from:-

www.mountain.rescue.org.uk/stats.html

MISSING PERSON BEHAVIOUR STATISTICS FOR THE UNITED KINGDOM SEPTEMBER 2002

by Dave Perkins & Pete Roberts (Northumberland National Park SRT, The Centre for Search Research) and Ged Feeney (Penrith MRT, MRC Incident Statistics Officer)

BACKGROUND

Since the MRC conference at Lancaster in October 2000, teams have been offered the opportunity to fill in an extra sheet each time they send in an MRC Incident Report, either electronically or on paper. This extra sheet is the MRC Missing Person Behaviour Report. It is used to collect information relating to incidents taking place within the UK, N. Ireland and Eire to add to the Missing Person database.

The ideas behind Missing Person Behaviour Statistics and their use as a management tool have been around since the late 1970s. Until now, however, a criticism regularly aired in the UK has been that all of the available information is based on incidents that took place on the North American continent. This is an attempt to overcome that criticism.

REPORTING THE RESULTS

Missing Person Behaviour Statistics tell us what similar people have done in similar situations in the past. They enable us to construct meaningful scenarios in our attempt to find the person that we are currently looking for. The level of confidence that the user has in these scenarios should reflect the volume of data from which the statistics are derived (the sample sizes). Users should have more confidence therefore in scenarios based on the statistics in this report for a missing despondent (sample size 129) than they should for a missing person classed as 'miscellaneous' (sample size 24).

It is important that the end user understands the level of reliability of the information that they are given. To the authors, that statement can be interpreted as saying that it is wrong to publish the results in all of the categories in exactly the same way - the level of reporting should reflect the sample size. It was considered that categories with a large sample size could stand being reported in detail; categories with a modest sample size should be given a limited report; categories with a very small sample size should not be reported at all.

For example - an analysis of the data reveals that in every incident involving missing mountain bikers a fatality was recorded. However, add to that the fact that the database contains only one record for a missing mountain biker and the point is made - the style of reporting should reflect the sample size.

For these reasons therefore it was decided to confine the level of detail in each category based on the sample size contained within the data set. For sample sizes greater than 50, a full report will be given; for those between 21 and 50 (inclusive), a partial report will be give and for samples between 11 and 20 (inclusive), the report will be limited.

The table below shows how many people were reported as lost or missing in each of the twelve categories (the sample sizes), and the level of reporting that each category is given in this document. The makeup of the categories is described in Appendix 1 - Missing Person Behaviour Study Definitions.

Category	Number of people (sample size)	Level of reporting
despondents	129	reported in full
vulnerables	117	reported in full
hiker / walker	47	partial report
miscellaneous	24	partial report
child 7 to 12	19	limited reported
Youth 13 to 16	13	limited reported
Organised party	12	limited reported
child 1 to 6	7	not reported
fellrunner	2	not reported
Mountain biker	1	not reported
climber	1	not reported
skier	0	not reported
total	372	

Table 1 - Number of subjects reported as lost or missing in each category to mid-July 2002

The level of analysis adopted in this report is dependent on the size of the data set for a particular category. The cut-off sizes are 50, 20 and 10 incidents. The report will confine itself to three areas that lend themselves to straight-forward analysis; these are:-

- condition if located
- location where found
- distance from the Initial Planning Point (IPP)

For data sets greater than 50 cases, as well as presenting the summary statistics for condition and location, a statement of significance will be included. This will indicate whether the behaviour illustrated is unique to this category. The information about the distance from the IPP will be presented as deciles (every tenth percentile) and a cumulative distribution chart for interpolation purposes.

For data sets greater than 20 but not greater than 50, the summary statistics for outcome and location will be given, but no significance statement. The distance from the IPP will be presented every twentieth percentile and a cumulative distribution chart. The authors do not advise its use for interpolation.

For data sets greater than 10 but not greater than 20, summary statistics for outcome and location are given but distance from the IPP is recorded as quartiles (every 25th percentile) with no chart.

STATISTICAL SIGNIFICANCE

(The reader is advised to read Appendix 2 for a detailed explanation of the way the authors have tried to avoid too much jargon and technical language.)

The objective from the start was not only to report on how the missing persons in each category behaved but also to attempt to attach some kind of statement of statistical significance to the results. This is possibly the first time that this has been done in reporting Missing Person Behaviour statistics. For example, approximately half (48%) of the incidents in the database that involve despondents reported a fatality. The fact that this statistic is based on 129 reported incidents makes it worth noting. But when we add the fact that all of the incidents relating to all of the other eleven categories of missing person (243 records in total) show only a 24% rate of fatality then the 48% for despondents really does seem to be telling us something important about despondents. This is an example of a 'significant' result.

As an aside, it is worth looking at the characteristics of the whole population of missing persons in the database. A result recorded as 'significant' is going to be very different from these:

Totals by subject's condition when found:

Unhurt	226	61%
Fatality	90	24%
Injured	33	9%
No trace	23	6%
Total	372	

Table 2 - Subject Condition when Located

General Comments:

- a. Considering all the incidents in which the missing person was located, in approximately 1 incident in 4 a fatality was recorded, whereas in less than 1 incident in 10 the subject required medical treatment. This is an interesting statistics in view of the emphasis given to medical training within SAR generally.
- b. This report reflects the outcome of those searches where a SAR team was involved, together with a very small number that involved only the police.
- c. Not all teams are consistent with their reporting. It is unlikely therefore that all of the searches undertaken by UK SAR teams are included.
- d. It should be remembered that there is a very large number of missing persons incidents that are dealt with entirely by the primary agency in such matters, the police; most therefore are not reported in these statistics.
- e. The two most frequently occurring categories (despondents and vulnerables) accounted for 66% of reported incidents. This is virtually identical to the proportions reported for these two categories in the November 2001 Interim Report.

REPORTS

3. RESPONDENTS – all searches ($n = 129$)

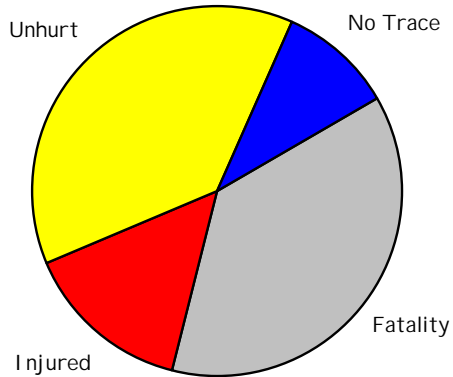
- a. Description of Category – the category respondent has been used where there is evidence that the subject had deliberately disappeared as a result of clinical depression or intention to harm himself or herself.
- b. Outcome – condition if found

Condition	Number	%
Fatality	48	37
Injured	19	15
Unhurt	49	38
No Trace	13	10

Table 3 – Outcomes : Despondents

These proportions are extremely unlikely to have occurred by chance. In other words, you should be aware of the relatively high number of fatalities and the relatively low number classed as unhurt when found.

Diagram 1 – Outcomes : Despondents



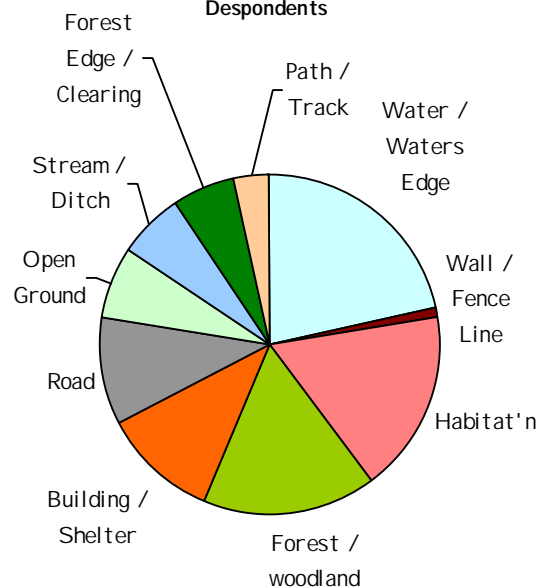
c. Where to search – Location found

Location	No	%
Water / Waters Edge	25	19
Habitation	20	15
Forest / Woodland	19	15
Building / Shelter	13	10
No Trace	13	10
Road	12	9
Open Ground	8	6
Stream / Ditch	7	5
Forest Edge / Clearing	7	5
Path / Track	4	3
Wall / Fence Line	1	1

Table 4 – Location of Find : Despondents

These proportions are extremely unlikely to have occurred by chance. In other words, you should be aware of the relatively high numbers found in locations described by the term water / water's edge.

Diagram 2 – Location of Finds : Despondents

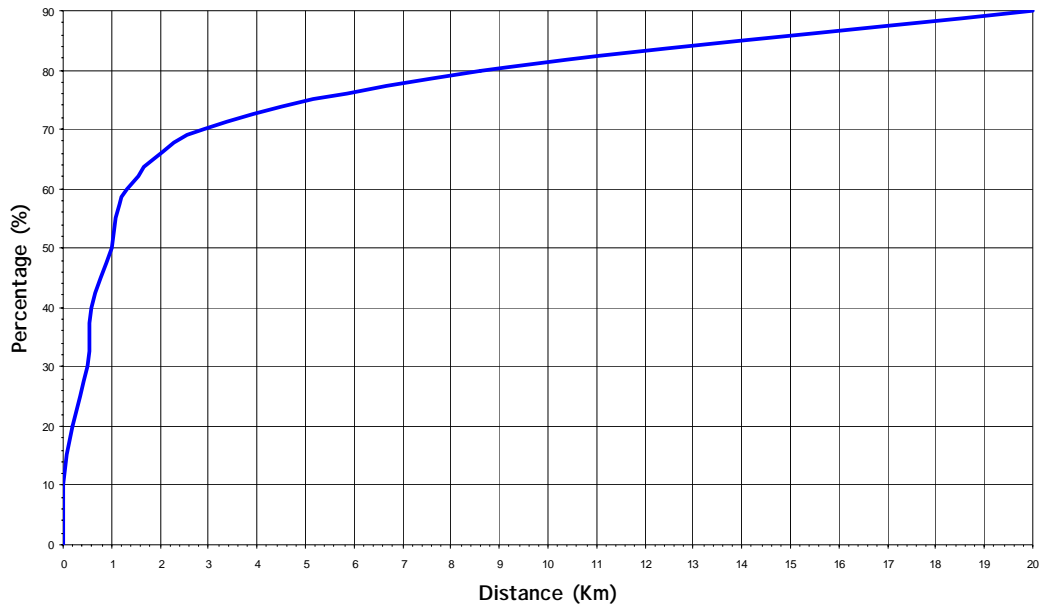


d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
10	0.00	0.00
20	0.20	0.12
30	0.50	0.31
40	0.60	0.37
50	1.00	0.62
60	1.30	0.81
70	2.90	1.81
80	8.60	5.37
90	20.00	12.50
100	120.00	75.00

Table 5 : Distance travelled from IPP : Despondents

Diagram 3 - Distance from IPP (km) : Despondents



- e. Developments - because this data set has sufficient cases, it is now possible to analyse the category in greater depth. Are there any differences in the outcomes where the searches were conducted in different terrains? It is possible to provide partial reports for the two terrain types of farmland and urban areas, and limited reports for open woodland, moorland / upland and water margins. The reader is referred to Appendix 1 where the terrain types used in this study are explained. These reports will be consistent with the format adopted for categories with that sample size.

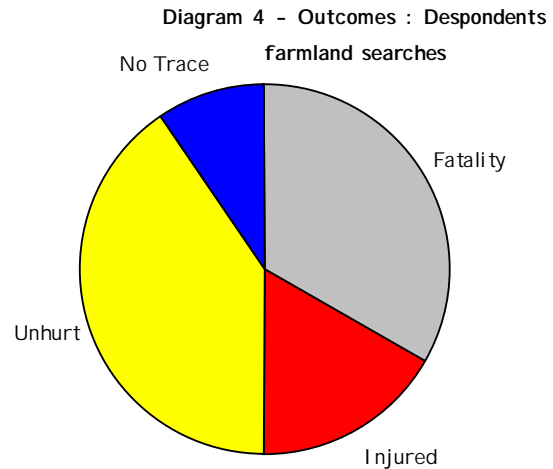
4. **DESPONDENTS - searches in farmland areas** ($n = 42$)

a. Description of Category - where the subject was categorised as despondent and the main focus of the search effort was conducted in lowland arable or pasture land.

b. Outcome - condition if found

Condition	Number	%
Fatality	14	33
Injured	7	17
Unhurt	17	40
No Trace	4	10

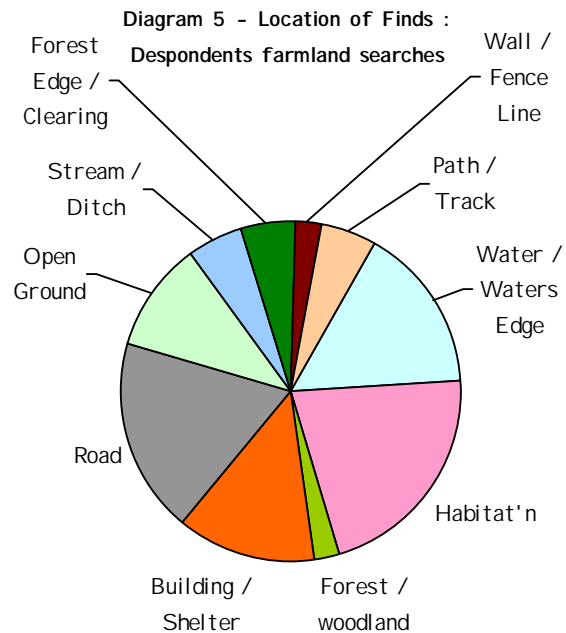
Table 6 - Outcomes : Despondents farmland searches



c. Where to search - Location found

Location	No	%
Habitation	8	19
Road	7	17
Water / Waters Edge	6	14
Building / Shelter	5	12
No Trace	4	10
Open Ground	4	10
Forest Edge / Clearing	2	5
Path / Track	2	5
Stream / Ditch	2	5
Forest / Woodland	1	2
Wall / Fence Line	1	2

Table 7 - Location of Find : Despondents farmland searches

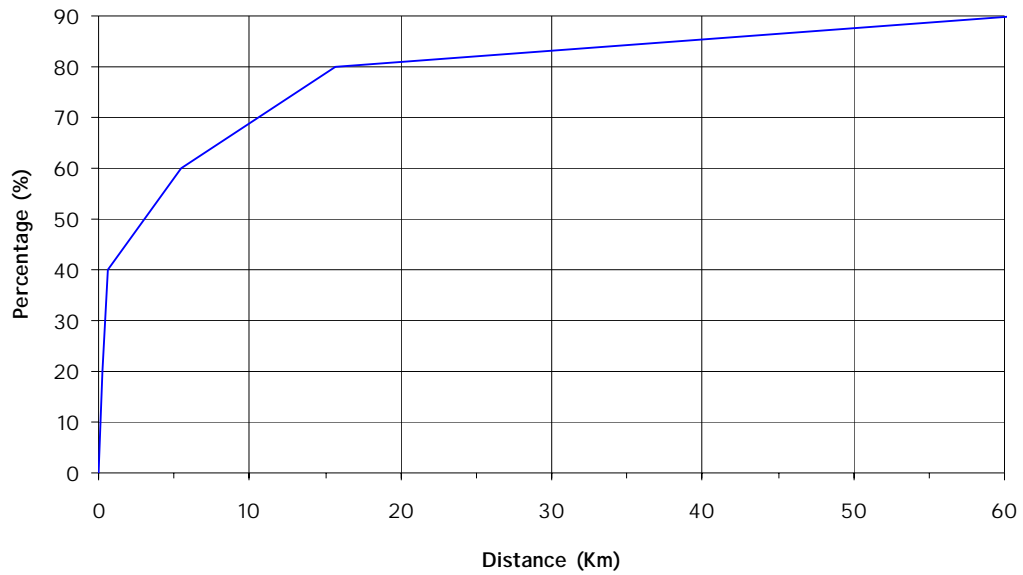


d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
20	0.30	0.19
40	0.60	0.37
60	5.50	3.44
80	15.70	9.81
100	105.80	66.13

Table 8 : Distance travelled from IPP : Despondents farmland searches

Diagram 6 Distance from IPP : Despondents farmland searches



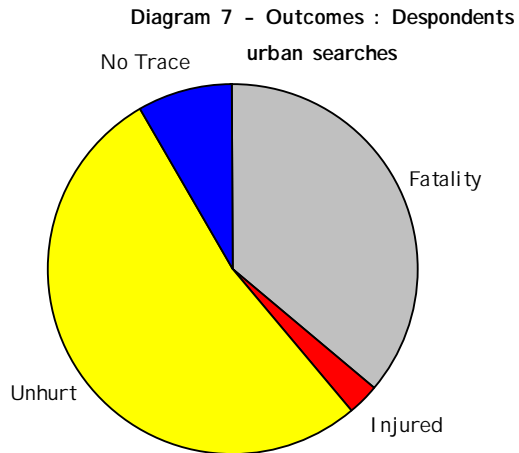
5. **DESPONDENTS - searches in urban areas (n = 36)**

a. Description of Category - where the subject was categorised as despondent and the main focus of the search effort was conducted within the confines of a group of habitations, city, town or village.

b. Outcome - condition if found

Condition	Number	%
Fatality	13	36
Injured	1	3
Unhurt	19	53
No Trace	3	8

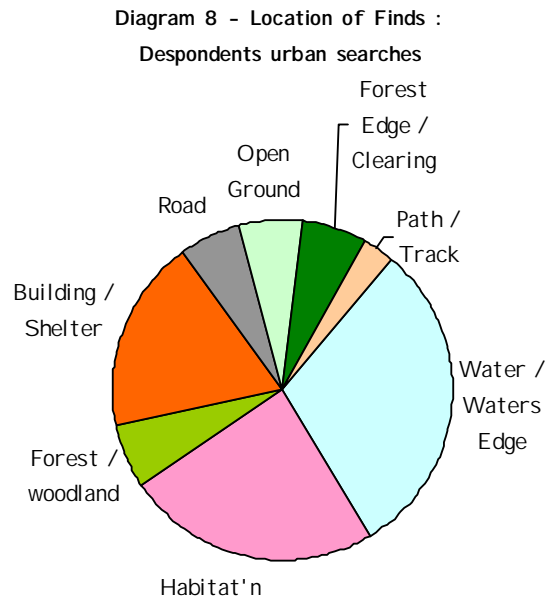
Table 9 - Outcomes : Despondents urban searches



c. Where to search - Location found

Location	No	%
Water / Waters Edge	10	28
Habitation	8	22
Building / Shelter	6	17
No Trace	3	8
Forest / Woodland	2	6
Forest Edge / Clearing	2	6
Open Ground	2	6
Road	2	6
Path / Track	1	3
Stream / Ditch	0	0
Wall / Fence Line	0	0

Table 10 - Location of Find : Despondents urban searches

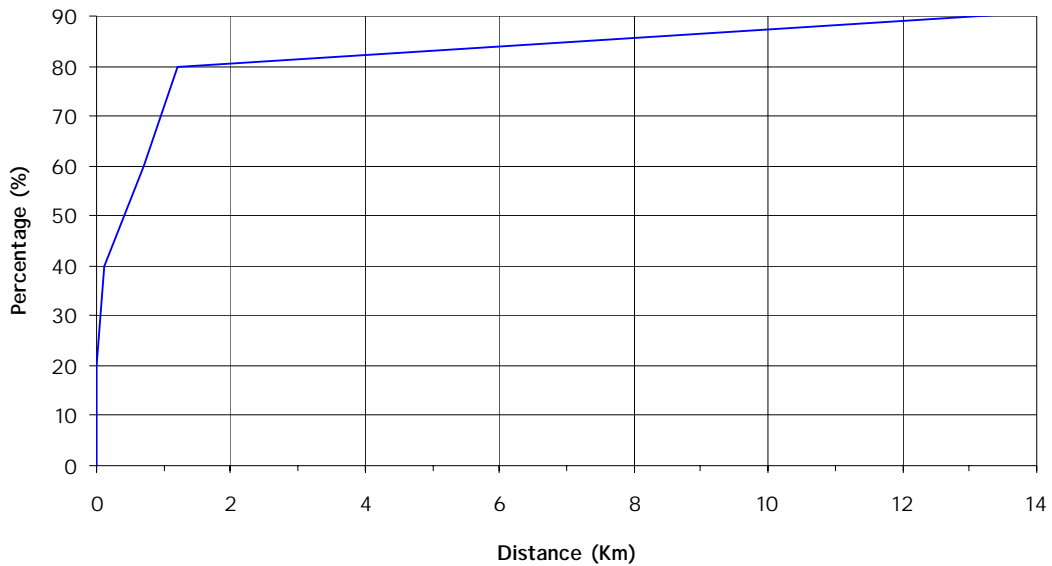


d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
20	0.00	0.00
40	0.10	0.06
60	0.70	0.44
80	1.20	0.75
100	25.00	15.63

Table 11 : Distance travelled from IPP : Despondents urban searches

Diagram 9 Distance from IPP : Despondents urban searches



There is no statistically significant difference between the data available for despondents in farmland and despondents in urban areas with respect to condition when found and location of find. Any differences between these two could have occurred by chance. However, the distances found from the IPP are significantly different and it is extremely unlikely that differences such as these could have occurred by chance. You should be aware of the fact that a far greater proportion of despondents in urban areas is found close to the IPP than is the case in farmland.

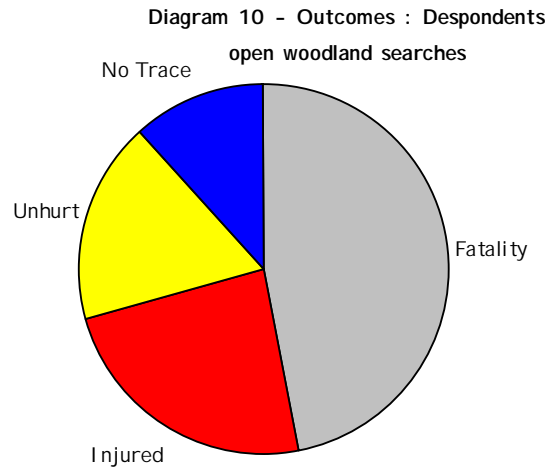
6. **DESPONDENTS – searches in open woodland areas** ($n = 17$)

a. Description of Category – where the subject was categorised as despondent and the main focus of the search effort was conducted in parkland or wooded area where passage is relatively easy.

b. Outcome – condition if found

Condition	Number
Fatality	8
Injured	4
Unhurt	3
No Trace	2

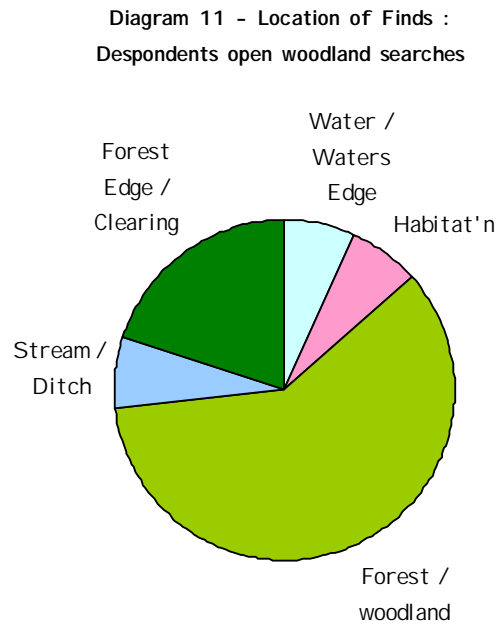
Table 12 – Outcomes : Despondents open woodland searches



c. Where to search – Location found

Location	No
Forest / Woodland	9
Forest Edge / Clearing	3
No Trace	2
Habitation	1
Stream / Ditch	1
Water / Waters Edge	1
Building / Shelter	0
Open Ground	0
Path / Track	0
Road	0
Wall / Fence Line	0

Table 13 – Location of Find : Despondents open woodland searches



d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
25	0.70	0.44
50	1.00	0.63
75	1.00	0.63
100	7.50	4.69

Table 14 : Distance travelled from IPP : Despondents open woodland searches

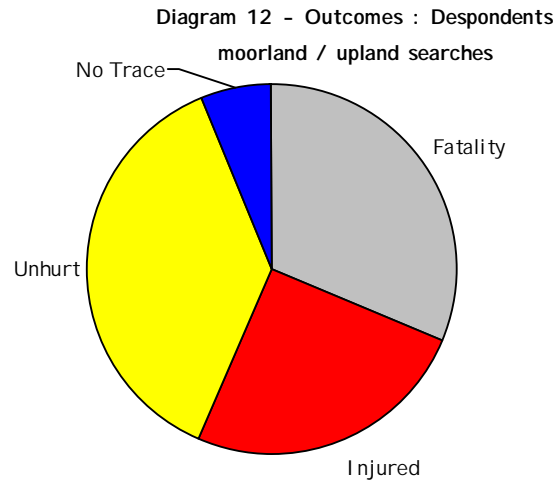
7. **DESPONDENTS – searches in moorland / upland areas (n = 16)**

a. Description of Category – where the subject was categorised as despondent and the main focus of the search effort was conducted in remote areas of upland or wilderness where rocky outcrops are in the minority.

b. Outcome – condition if found

Condition	Number
Fatality	5
Injured	4
Unhurt	6
No Trace	1

Table 15 – Outcomes : Despondents moorland / upland searches

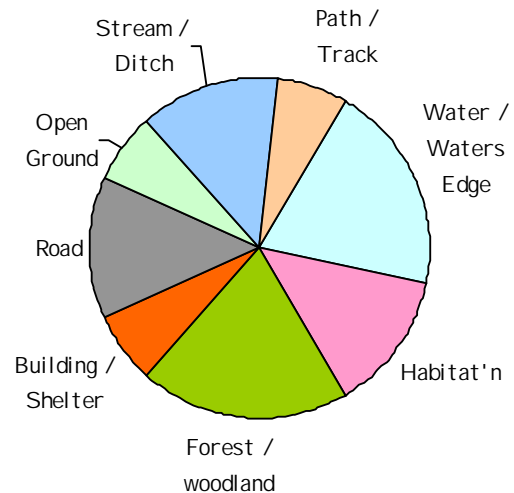


c. Where to search – Location found

Location	No
Forest / Woodland	3
Water / Waters Edge	3
Habitation	2
Road	2
Stream / Ditch	2
Building / Shelter	1
No Trace	1
Open Ground	1
Path / Track	1
Forest Edge / Clearing	0
Wall / Fence Line	0

Table 16 – Location of Find : Despondents moorland / upland searches

Diagram 13 - Location of Finds : Despondents moorland / upland searches



d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
25	0.90	0.56
50	1.50	0.94
75	6.50	4.06
100	120.00	75.00

Table 17 : Distance travelled from IPP : Despondents moorland / upland searches

8. **DESPONDENT** – searches in water margins ($n = 13$)

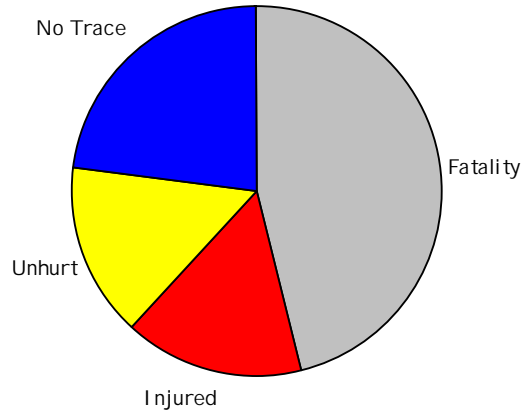
a. Description of Category – where the subject was categorised as despondent and the main focus of the search effort was conducted on a coastline or shoreline of large bodies of water, rivers as well as the water itself.

b. Outcome – condition if found

Condition	Number
Fatality	6
Injured	2
Unhurt	2
No Trace	3

Table 18 – Outcomes : Despondents water margin searches

Diagram 14 – Outcomes : Despondents water margin searches

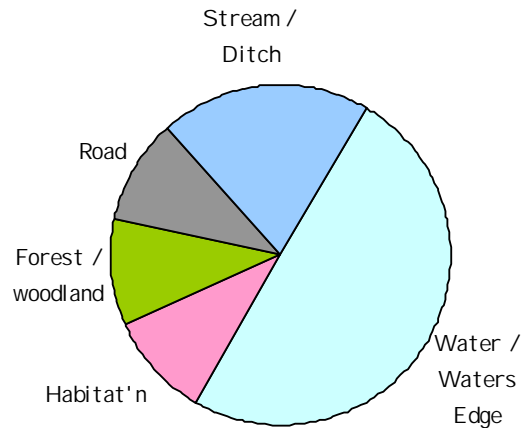


c. Where to search – Location found

Location	No
Water / Waters Edge	5
No Trace	3
Stream / Ditch	2
Forest / Woodland	1
Habitation	1
Road	1
Building / Shelter	0
Forest Edge / Clearing	0
Open Ground	0
Path / Track	0
Wall / Fence Line	0

Table 19 – Location of Find : Despondents water margin searches

Diagram 15 – Location of Finds : Despondents water margin searches



d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
25	0.70	0.44
50	2.00	1.25
75	10.00	6.25
100	30.00	18.75

Table 20 : Distance travelled from IPP : Despondents water margin searches

- e. Future developments - as the data set grows, further analysis can be conducted to see if these sub-categories behave in a distinct way one from the other. This will have an effect on the strategies and tactics of the searchers and their managers.

9. **VULNERABLES - all searches** ($n = 117$)

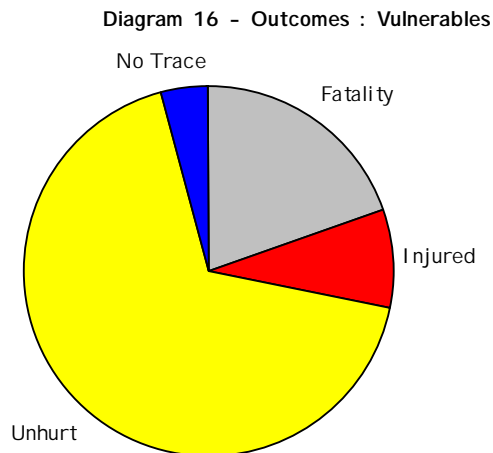
a. Description of Category - the category has been used where the subject can be described as having significant mental impairment e.g. mentally handicapped, dementia sufferers (senile or Alzheimer's), sufferers of psychoses.

b. Outcome - condition if found

Condition	Number	%
Fatality	23	20
Injured	10	9
Unhurt	79	68
No Trace	5	4

Table 3 - Outcomes : Vulnerables

These proportions could possibly have occurred by chance - they are not significantly different from reported incidents involving other categories.

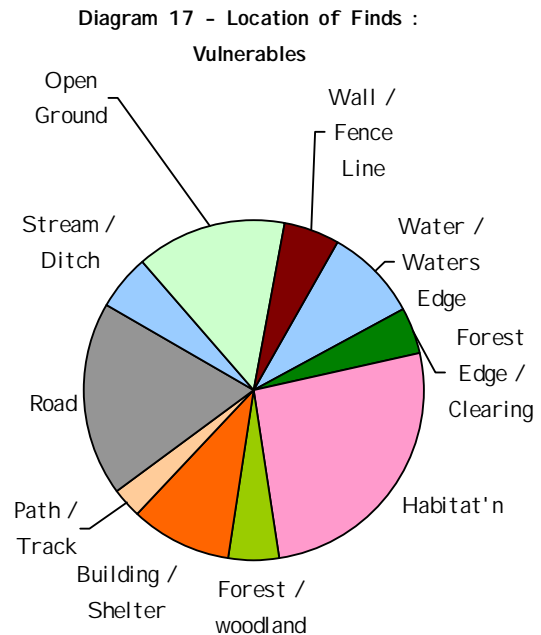


c. Where to search - Location found

Location	No	%
Habitation	29	25
Road	21	18
Open Ground	16	14
Building / Shelter	11	9
Water / Waters Edge	10	9
Stream / Ditch	6	5
Wall / Fence Line	6	5
Forest / Woodland	5	4
Forest Edge / Clearing	5	4
No Trace	5	4
Path / Track	3	3

Table 22 - Location of Find : Vulnerables

These proportions are extremely unlikely to have occurred by chance. In other words, you should be aware of the relatively high numbers found in locations described by the terms habitation, road and open ground.

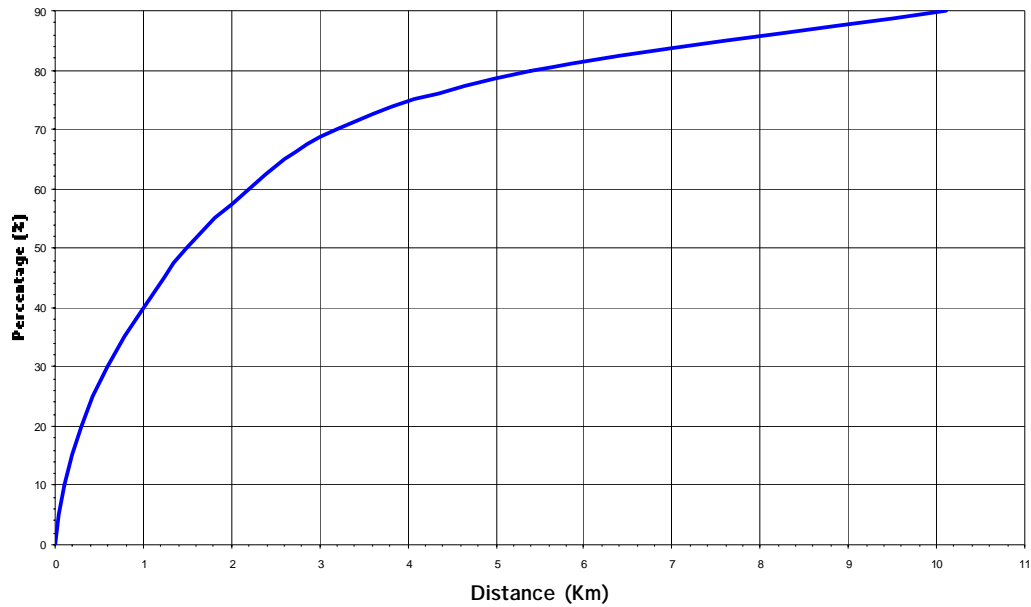


d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
10	0.10	0.06
20	0.30	0.19
30	0.60	0.38
40	1.00	0.63
50	1.50	0.94
60	2.20	1.38
70	3.20	2.00
80	5.40	3.38
90	10.10	6.31
100	50.00	31.25

Table 23 : Distance travelled from IPP : Vulnerables

Diagram 18 - Distance from IPP (km) : Vulnerables



- e. Developments - there are sufficient reported incidents relating to searches for vulnerables in two distinct terrain types for them to be reported separately. These reports will be consistent with the format adopted for categories with that sample size.

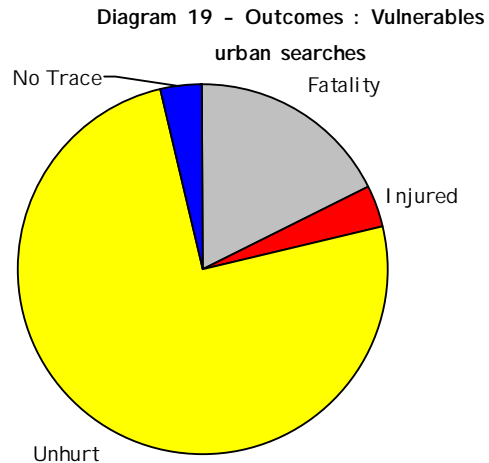
8. **VULNERABLES - urban searches** ($n = 56$)

a. Description of Category - the category where the subject was categorised as vulnerable and the main focus of the search effort was conducted in urban areas.

b. Outcome - condition if found

Condition	Number	%
Fatality	10	18
Injured	2	4
Unhurt	42	75
No Trace	2	4

Table 24 - Outcomes : Vulnerables urban searches



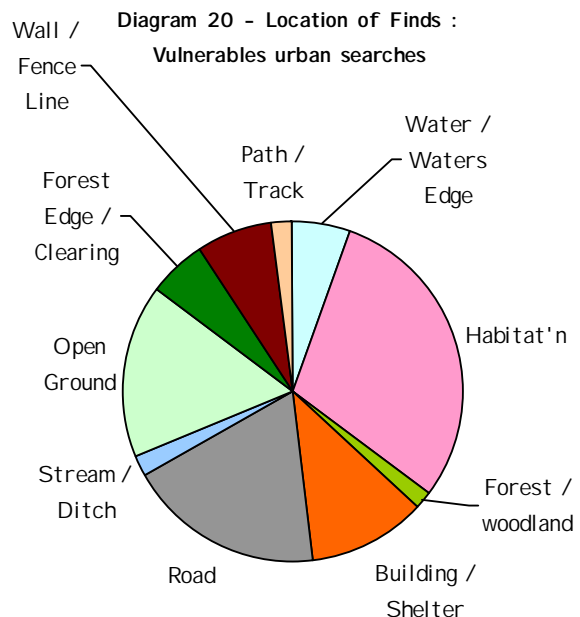
The condition of vulnerables searched for in urban areas is sufficiently different from the rest of the population of vulnerables reported so far that it is unlikely to have occurred by chance.

You should be aware of the relatively high number of times the person is found unhurt in urban areas and the relatively high number of times the person is found injured in non-urban areas.

c. Where to search - Location found

Location	No	%
Habitation	16	29
Road	10	18
Open Ground	9	16
Building / Shelter	6	11
Wall / Fence Line	4	7
Forest Edge / Clearing	3	5
Water / Waters Edge	3	5
No Trace	2	4
Forest / Woodland	1	2
Path / Track	1	2
Stream / Ditch	1	2

Table 25 - Location of Find : Vulnerables urban searches



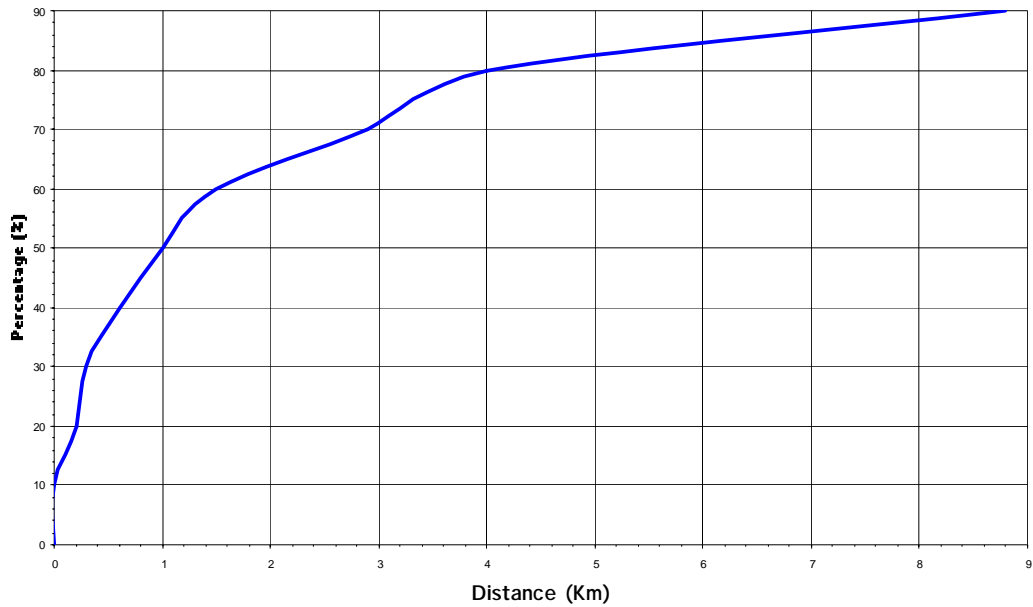
With regard to location of find, the difference between vulnerable persons searched for in urban areas and all other reported vulnerables is not significant and could have occurred by chance.

d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
10	0.00	0.00
20	0.20	0.13
30	0.30	0.19
40	0.60	0.38
50	1.00	0.63
60	1.50	0.94
70	2.90	1.81
80	4.00	2.50
90	8.80	5.50
100	19.50	12.19

Table 26 : Distance travelled from IPP : Vulnerables urban searches

Diagram 21 - Distance from IPP (km) : Vulnerables urban searches



The difference between the distances travelled by vulnerable persons searched for in an urban environment and all other reported vulnerables is extremely unlikely to have occurred by chance. You should be aware of the relatively high proportion in an urban environment found relatively close to the IPP.

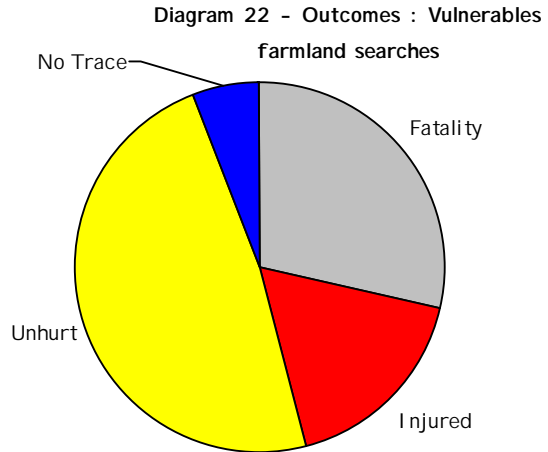
9. **VULNERABLES - searches in farmland areas** ($n = 35$)

a. Description of Category - where the subject was categorised as vulnerable and the main focus of the search effort was conducted in lowland arable or pasture land.

b. Outcome - condition if found

Condition	Number	%
Fatality	10	29
Injured	6	17
Unhurt	17	49
No Trace	2	6

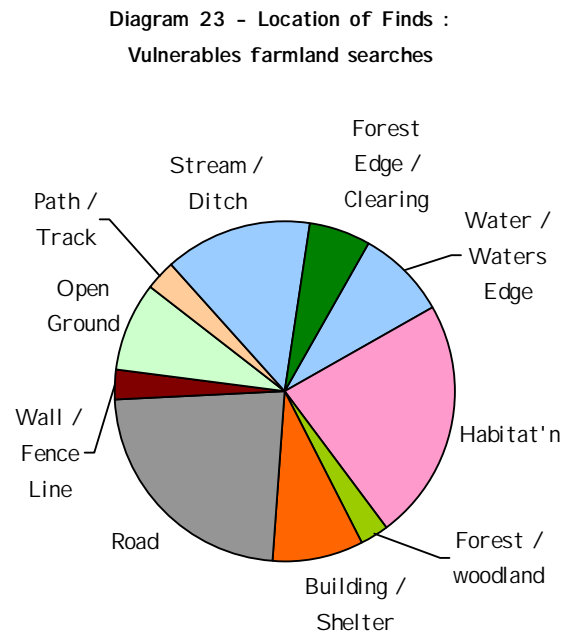
Table 27 - Outcomes : Vulnerables farmland searches



c. Where to search - Location found

Location	No	%
Habitation	8	23
Road	8	23
Stream / Ditch	5	14
Building / Shelter	3	9
Open Ground	3	9
Water / Waters Edge	3	9
No Trace	2	6
Forest / Woodland	1	3
Path / Track	1	3
Wall / Fence Line	1	3
Forest Edge / Clearing	0	0

Table 28 - Location of Find : Vulnerables farmland searches

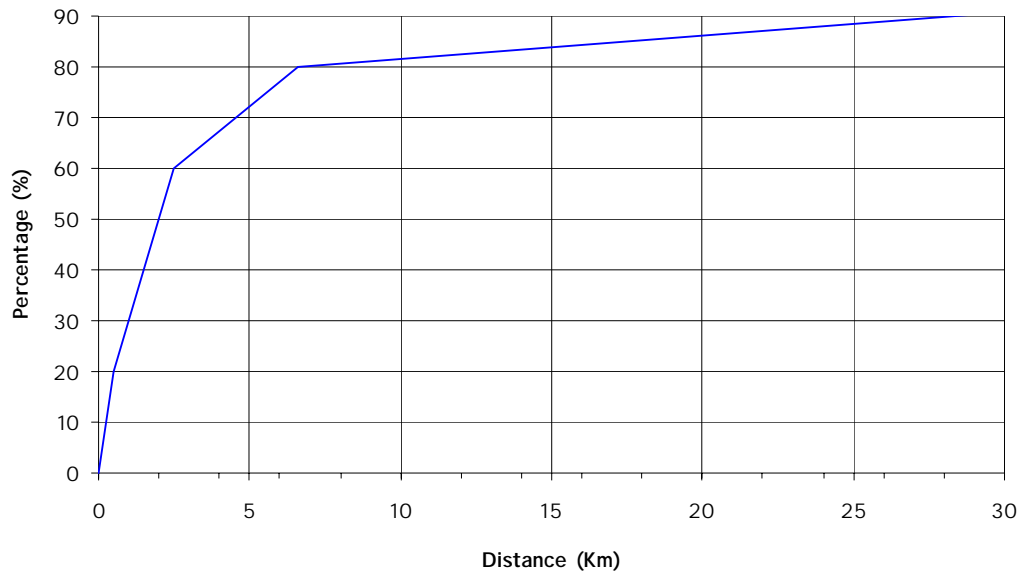


d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
20	0.50	0.31
40	1.50	0.94
60	2.50	1.56
80	6.60	3.75
100	50.00	31.25

Table 29 : Distance travelled from IPP : Vulnerables farmland searches

Diagram 24 Distance from IPP : Vulnerables farmland searches



A comparison of searches for vulnerables in farmland with searches for vulnerables in all other types of location shows that:

- a. the condition (when found) of vulnerables searched for in farmland is sufficiently different from the rest of the population of vulnerables reported so far that it is extremely unlikely to have occurred by chance. You should be aware of the relatively high proportion of fatalities and injuries, and the relatively low number of occasions on which an uninjured vulnerable is found in the farmland environment compared with vulnerables searched for elsewhere.
- b. With regard to location of find, vulnerable persons searched for in farmland and all other reported vulnerables are so different that the difference is extremely unlikely to have occurred by chance. In particular you need to be aware of the relatively large number found by streams and ditches in farmland.
- c. With regard to distance found from IPP, the difference between the distances travelled by vulnerable persons searched for in a farmland environment and all other reported vulnerables is not significant, and is sufficiently small to have occurred by chance.

10. HIKERS / WALKERS – all searches ($n = 47$)

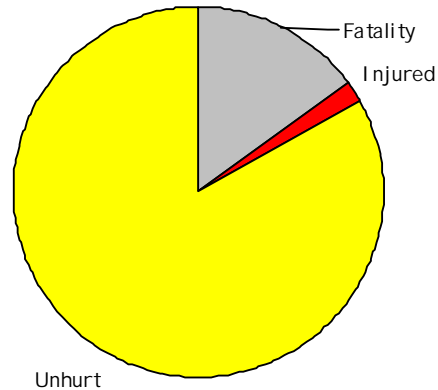
a. Description of Category – this category covers any form of recreational walker, of whatever length, involving persons 17 yr. or older.

b. Outcome – condition if found

Condition	Number	%
Fatality	7	15
Injured	1	2
Unhurt	39	83
No Trace	0	0

Table 30 – Outcomes : Hikers / Walkers

Diagram 25 – Outcomes : Hikers / Walkers

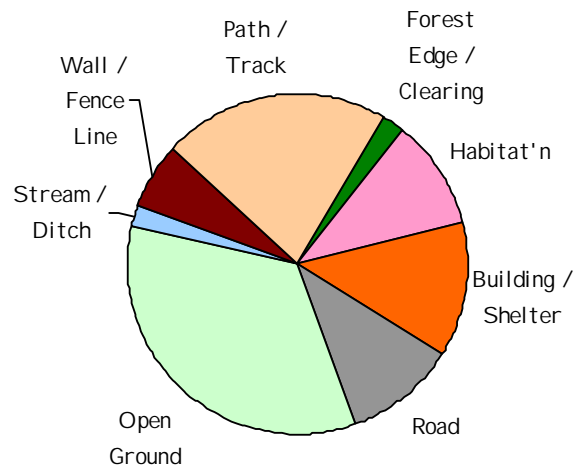


c. Where to search – Location found

Location	No	%
Open Ground	16	34
Path / Track	10	21
Building / Shelter	6	13
Habitation	5	11
Road	5	11
Wall / Fence Line	3	6
Forest Edge / Clearing	1	2
Stream / Ditch	1	2
Forest / Woodland	0	0
No Trace	0	0
Water / Waters Edge	0	0

Table 31 – Location of Find : Hikers / Walkers

Diagram 26 – Location of Finds : Hikers / Walkers

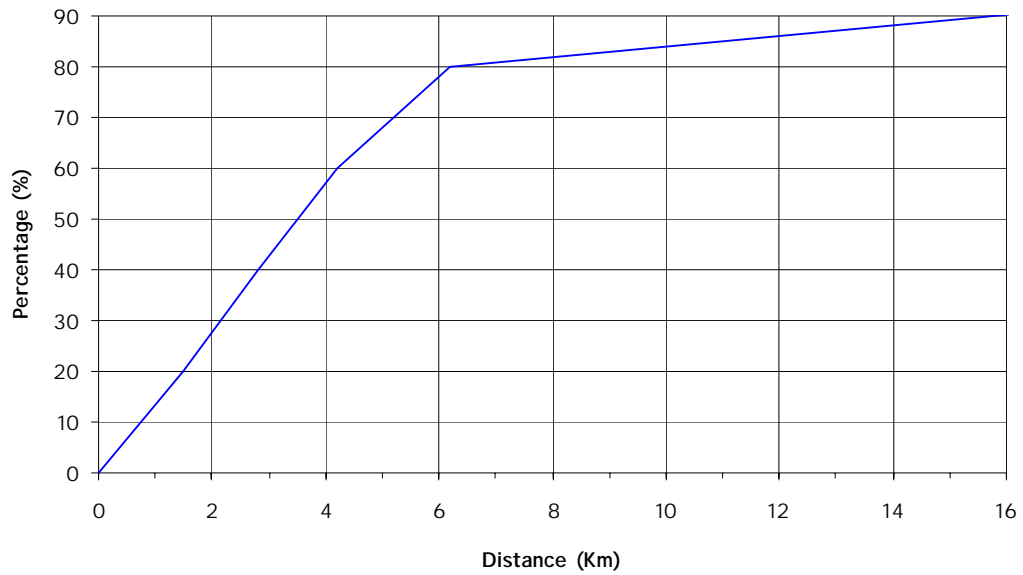


d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
20	1.50	0.94
40	2.80	1.75
60	4.20	2.63
80	6.20	3.88
100	25.30	15.81

Table 32 : Distance travelled from IPP : Hikers / Walkers

Diagram 27 Distance from IPP : Hikers / Walkers



11. MISCELLANEOUS – all searches ($n = 24$)

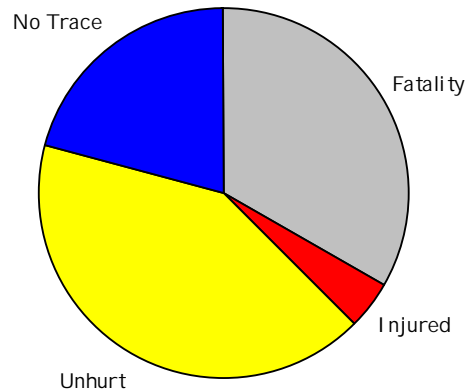
a. Description of Category – this category covers any other use of the outdoors not included in the other categories – photographers, mushroom pickers, bird-watchers etc.

b. Outcome – condition if found

Condition	Number	%
Fatality	8	33
Injured	1	4
Unhurt	10	42
No Trace	5	21

Table 33 – Outcomes : Miscellaneous

Diagram 28 – Outcomes : Miscellaneous

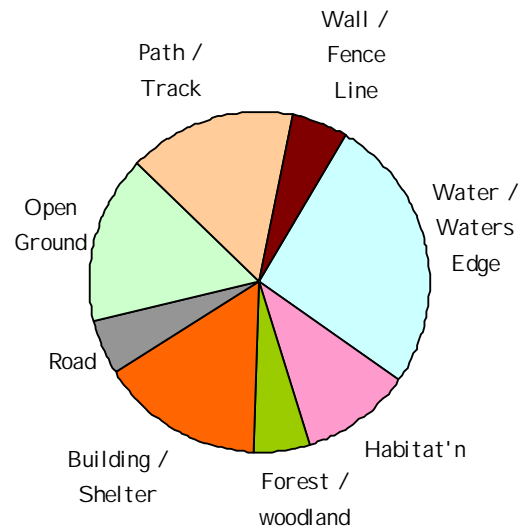


c. Where to search – Location found

Location	No	%
No Trace	5	21
Water / Waters Edge	5	21
Building / Shelter	3	13
Open Ground	3	13
Path / Track	3	13
Habitation	2	8
Forest / Woodland	1	4
Road	1	4
Wall / Fence Line	1	4
Forest Edge / Clearing	0	0
Stream / Ditch	0	0

Table 34 – Location of Find : Miscellaneous

Diagram 29 – Location of Finds : Miscellaneous

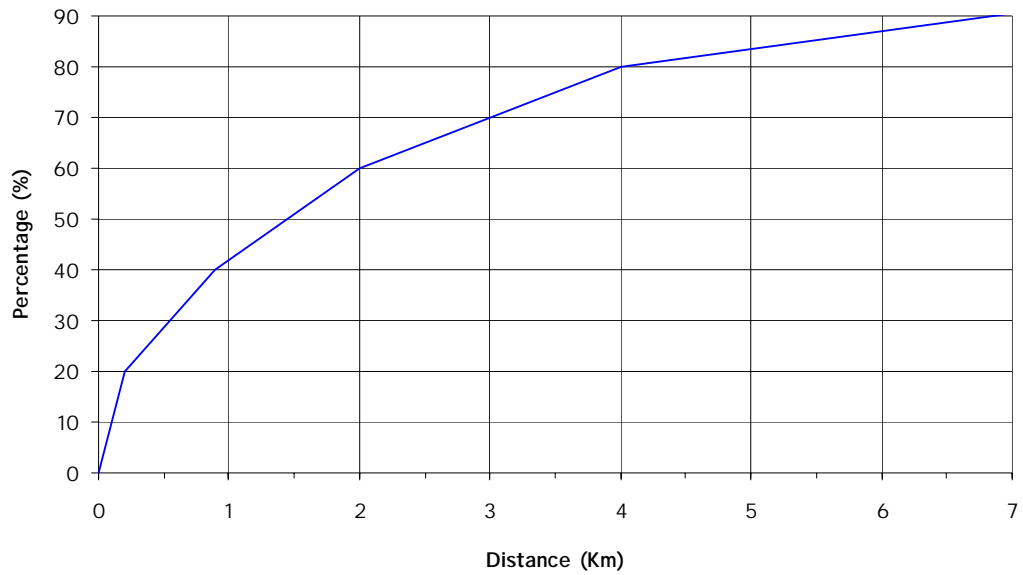


d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
20	0.20	0.13
40	0.90	0.56
60	2.00	1.25
80	4.00	2.50
100	9.70	6.06

Table 35 : Distance travelled from IPP : Miscellaneous

Diagram 30 Distance from IPP : Miscellaneous



12. CHILD (7 to 12) - all searches (n = 19)

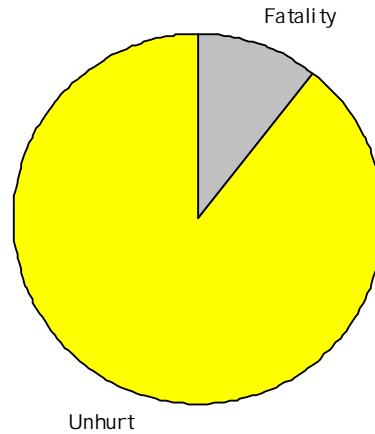
a. Description of Category - this category covers children whose chronological age is at least 7 years but not greater than 12 years.

b. Outcome - condition if found

Condition	Number
Fatality	2
Injured	0
Unhurt	17
No Trace	0

Table 36 - Outcomes : Child (7 to 12)

Diagram 31 - Outcomes : Child (7 to 12)

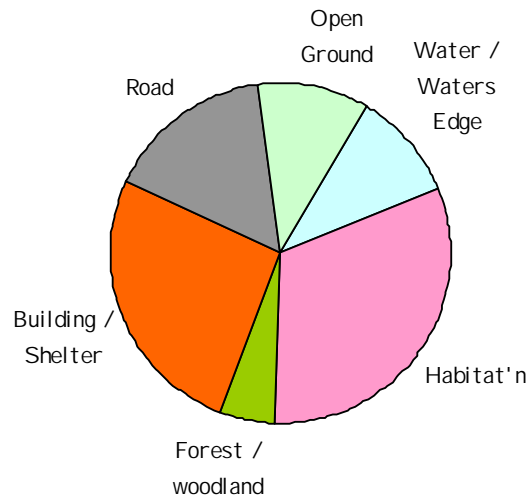


c. Where to search - Location found

Location	No
Habitation	6
Building / Shelter	5
Road	3
Open Ground	2
Water / Waters Edge	2
Forest / Woodland	1
Forest Edge / Clearing	0
No Trace	0
Path / Track	0
Stream / Ditch	0
Wall / Fence Line	0

Table 37 - Location of Find : Child (7 to 12)

Diagram 32 - Location of Finds : Child (7 to 12)



d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
25	0.30	0.19
50	0.80	0.50
75	2.00	1.25
100	64.40	40.25

Table 38 : Distance travelled from IPP : Child (7 to 12)

13. YOUTH (13 to 16) - all searches ($n = 13$)

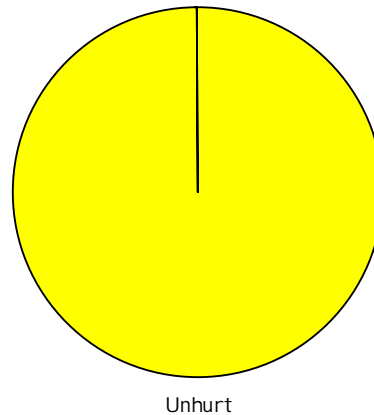
a. Description of Category - this category covers children whose chronological age is at least 13 years but not greater than 16 years.

b. Outcome - condition if found

Condition	Number
Fatality	0
Injured	0
Unhurt	13
No Trace	0

Table 39 - Outcomes :
Youth (13 to 16)

Diagram 33 - Outcomes : Despondents
farmland searches

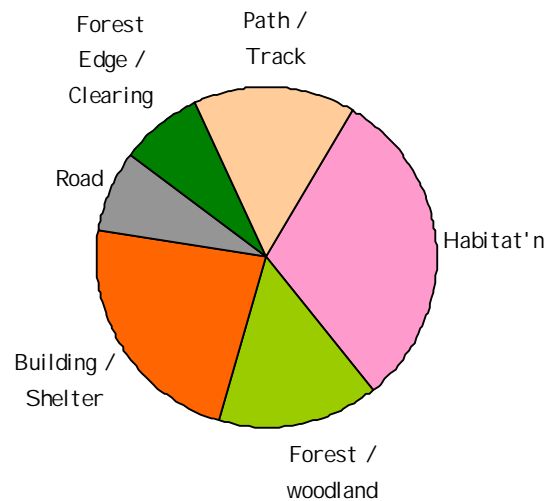


c. Where to search - Location found

Location	No	%
Habitation	4	
Building / Shelter	3	
Forest / Woodland	2	
Path / Track	2	
Forest Edge / Clearing	1	
Road	1	
No Trace	0	
Open Ground	0	
Stream / Ditch	0	
Wall / Fence Line	0	
Water / Waters Edge	0	

Table 40 - Location of Find :
Youth (13 to 16)

Diagram 34 - Location of Finds :
Youth (13 to 16)



d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
25	0.70	0.44
50	1.40	0.88
75	2.00	1.25
100	8.10	5.06

Table 41 : Distance travelled from IPP : Youth (13 to 16)

14. **ORGANISED PARTY - all searches** ($n = 12$)

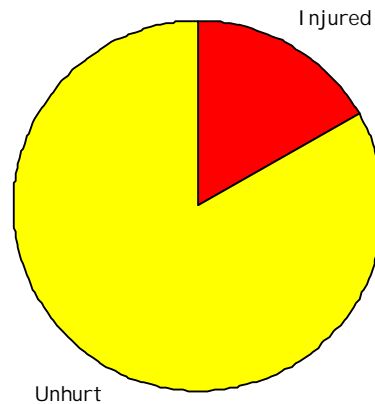
a. Description of Category - this category covers the situation where there is a party or group with a recognised leader or purpose.

b. Outcome - condition if found

Condition	Number
Fatality	0
Injured	2
Unhurt	10
No Trace	0

Table 42 - Outcomes : Organised Groups

Diagram 35 - Outcomes : Organised Party



c. Where to search - Location found

Location	No
Open Ground	3
Building / Shelter	2
Path / Track	2
Stream / Ditch	2
Forest / Woodland	1
Forest Edge / Clearing	1
Road	1
Habitation	0
No Trace	0
Wall / Fence Line	0
Water / Waters Edge	0

Table 43 - Location of Find : Organised Party

Diagram 36 - Location of Finds : Organised Party



d. Distance from Initial Planning Point

Percentile (%)	Distance	
	Km	Miles
25	1.60	1.00
50	3.10	1.94
75	4.20	2.63
100	6.50	4.06

Table 44 : Distance travelled from IPP : Organised Party

CATEGORIES NOT REPORTED

Five of the twelve categories did not contain sufficient data to warrant any kind of analysis. Of these, it would seem likely that the category 'Child (1 to 6)' will contain sufficient data for some degree of analysis by mid-2003. The remaining categories contain very little data.

CONCLUDING COMMENTS

1. An overall sample size of 372 compares favourably with and in some cases exceeds Missing Person Behaviour statistics already published. At the current rate the MRC Missing Person Behaviour database will soon be the largest in existence available for general use.
2. This is not a static situation. Not only is the database growing all the time but also its users will become more experienced at using the information. The situation may arise therefore whereby the end user could suggest ways in which the statistics may be presented in the future.
3. The authors have been particularly interested in attaching some measure of significance to the analysis, and have tried to make this aspect available to as many users as possible. Comments and suggestions would be welcome.
4. The report has avoided comparing "our results" with those from other databases. That was not the point of the exercise.
5. To restate the obvious: the level of confidence that the end user should have in any result arising from this study is directly related to the sample size. The greater the volume of data then the greater should be our confidence in the scenarios created from the derived statistics. Your incident reports plus the Missing Person Behaviour report are the only way we can achieve this.

Dave Perkins, Pete Roberts and Ged Feeney
September 2002

Appendix 1 Missing Person Behaviour Study - Definitions

1. **Terrain Type** - the area through which the major part of the journey took place
 - Crag/Broken Ground - rugged upland
 - Farmland - lowland arable or pasture
 - Moorland/Upland - remote areas of upland or wilderness where rocky outcrops are in the minority
 - Plantation (dense) - developed forest or plantation, the going may well be difficult.
 - Urban - within the confines of a group of habitations, city, town or village.
 - Water Margin - coastline, shoreline of large bodies of water, rivers as well as the water itself.
 - Woodland (open) - parkland or wooded area where passage is relatively easy.

2. **Subject Category** - of the missing person(s).
 - Child (1 to 6 yr.) - refers to child's chronological age only
 - Child (7 to 12 yr.) - refers to child's chronological age only
 - Climber - 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, involving persons 17 yr. or older.
 - Miscellaneous - any other use of the outdoors not included in the earlier 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 - anyone who can be described as having significant mental impairment e.g. mentally handicapped, dementia sufferers (senile or Alzheimer's), sufferers of psychoses.
 - Youth (13 to 16 yr.) - refers to child's chronological age only

3. **Subject Condition** - state of subject when found, or, if still missing when the search was suspended
 - Fatality - dead when found
 - Injured - required significant medical treatment when found
 - Unhurt - did not require significant medical treatment when found
 - No Trace - not located, outcome not known

4. **Distance from IPP** - Initial Planning Point - the geographical point at which the search planning starts. This could be the Point Last Seen (PLS) or the Last Known Position (LKP). It could be
- either (a) distance measured directly (straight line) on a map in Kilometres correct to 1 dec. pl.
- or (b) using the full OS Grid Reference (of 2 letters + 6 digits) for both the Grid Ref. of IPP and the location where subject found
5. **Location of Find** - the feature that best describes the location of the find
- 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 natural 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 - 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.

Appendix 2 - Statistical Significance and Reliability of Information

There are difficulties in presenting statistical information in a way that satisfies both the specialist and non-specialist reader. Statisticians use the same terminology (for example significance and confidence) as the rest of us, but while statisticians use these terms in a precise and particular way, the rest of us generally do not. But if results are reported using proper statistical conventions, then many people are excluded from sharing the information.

As a compromise the authors have tried to express in words how likely it is that a particular result could have occurred by chance - in fact, this is exactly what statisticians do but they do it using numbers. In each case, where the level of reporting demands it, the data for a particular category has been compared with the rest of the data in the database. For example, the proportion of vulnerables found in each type of location was compared with the proportions for all the other people in the database. The question then asked was 'how likely is it that the difference between the two sets of figures came about purely by chance?' Generally speaking, the greater the difference then the less likely it is to have happened by chance. This is called the level of significance, and determines the wording used in the report by inserting the appropriate phrase into the sentence "these proportions have occurred by chance".

significance level	likelihood that the two populations are the same	phrase to insert
$p > 0.10$	greater than 10%	could possibly
$0.05 < p < 0.10$	between 5% and 10%	are unlikely to
$0.01 < p < 0.05$	between 1% and 5%	are very unlikely to
$0.001 < p < 0.01$	between 0.1% and 1%	are highly unlikely to
$p < 0.001$	less than 0.1% chance	are extremely unlikely to

The greater the degree of 'unlikelihood' the more significant is the result. If this proves to be unsatisfactory then the authors will look for another way of reporting significance.