

POLICE SCOTLAND

Spatial and social profiling for missing person investigations

Penny Woolnough PhD CPsychol CSci AFBPsS FIA-IP

Senior Research Officer



Girl's body found as police search for beach children

A POST-MORTEM exam-ination was being carried out last night on a girl's body found on a beach about 30 miles from where Tom and Jodi Loughlin went missing.

Police have yet to identify the girl, but unconfirmed reports said she had long blonde hair and wore a purple swimsuit like Jodi's.

Norfolk Police said the body was found at Weybourne, a remote part of the coast about 30 miles from Holme beach, near Hunstanton, where T... 4, and Jodi, 6, went missi... ago.

The children var... after arriving at th... holiday.

Parents Kevir... Lynette Thornt... the discovery, ... been made ... 8.15am.

The coup... Norwood, ... earlier said ... their son ...

■ Jodi Loughlin . . . she wore a purple swimsuit

beach and taken for the post-mortem by a Home Office pathologist at an undisclosed location.

A police spokesman said: "It looks, from the position of the body, that it came from the sea."

Last weekend, the youngsters' parents recalled during a retur... visit to the beach t... actually been in a c... from the one they... police.

Detectives insisted ... made no difference ... inquiries because the s... was so big.

The couple had a... nsive qu... icers using ... cognitive q... ich the tw... ately, goin... the c...

Detectives still want to question two unknown couples seen approaching other youngsters near the spot where Jodi and Tom disappeared.

The discovery of the body coincides with some of the worst August weather in Norfolk in living mem...

...hed the coast ...y and con... ...t. At times, ...n to prom...

...Yarmouth ...vers most ...coastline, ...ddies and ...at sea, it ...l ashore ...

...bodies ...d then ...along ...

No trace of boy in river

STRATHCLYDE Police di... vers yesterday continued a s... river search for Glasgow boy Hugh Burns, 12, who is be... lieved to have been swept to his death.

The search concentr...ed on a stretch of the Clyde near his home in Estate Road, Carmyle, in the east end of the city.

Hugh fell into the river on Monday night as he was cross-ing a weir with two com-panions, aged 17 and 18.

A search using dogs, a heli-copter and divers was launched immediately but was called off as light faded.

Conditions in the fast-flowing river were also dan-gerous.

Police said yesterday they were investigating reports that the trio were being chased ... group of youths.

They ...

Missing

POLICE are concerned for the safety of a 64-year-old Perth woman, missing sin... last Saturday.

Joyce Lascelles has not... seen since around 9pm... April 6, when she le... home in Murray T... Perth.

She is 5ft 2in, o... build with sho... a pale compl... eyes.

Tayside P...

Body may be that of mum

A BODY washed up on a ... shore of the River Tay is ... may ha... believed to be that of missing ... brown... Perth mother ... ligh... Ferguson. Marion ... gre... Police mounted a major ... search operation last month ... when the 43-year-old mother-of-two vanished after setting out on a late night bike ride from her home.

Teams using a police launch combed stretches of the Tay near the family's North Muirton home after ... disappeared at 10 ... Friday, March 8.

She went out ... tain bike ... she wou...

Dad in plea for missing children

A DISTRAUGHT father yester-... pleaded for help in the ... ch for his two missing chil-... who vanished with their ... while he was out shop-...

Househusband Stephen Divers said he had not seen the children, five-year-old Charles Divers and his sister Debbie, three, since February 16 when he returned home, opened the door and found "an empty, cold house".

His partner, Regina Bough, 24, had taken the children, their passports, birth certificates and all their clothes and disap-peared.

Mr Divers, 33, of Brockley, south-east London, who had agreed with Ms Bough that he would bring up the children while she carried on working a nurse, appealed to her to bri... a... children back.

... had no idea w...

Open any newspaper in any country on any day of the week....

POLICE SCOTLAND

What do we mean by the term ‘missing person’?

- Someone who doesn’t come home or turn up?
- Are they avoiding something – runaways/thrownaways?
- Do they themselves know they are ‘missing’?
- In whose mind are they missing – informant’s?
- Lost vs. missing?

POLICE SCOTLAND

What do we mean by the term 'missing person'?

- Someone who doesn't come home or turn up?
- Are they avoiding something – runaway/thrownaway?
- Do they themselves know they are 'missing'?
- In whose mind are they missing – informant's?
- Lost vs. missing?

Intentional…….....|……..…..Unintentional

Decided (64%)	Drifted (19%)	Unintentional absence (16%)	Forced (1%)
Relationship breakdown Escape Mental health issues	Lost contact Transient lifestyle	Dementia Mental health Accident or harm Miscommunication	Victim of crime

Biehal et. al. (2003)

POLICE SCOTLAND

What is the extent of the problem?

How many people are reported missing to the police?

How many people go missing but are not reported to the police?

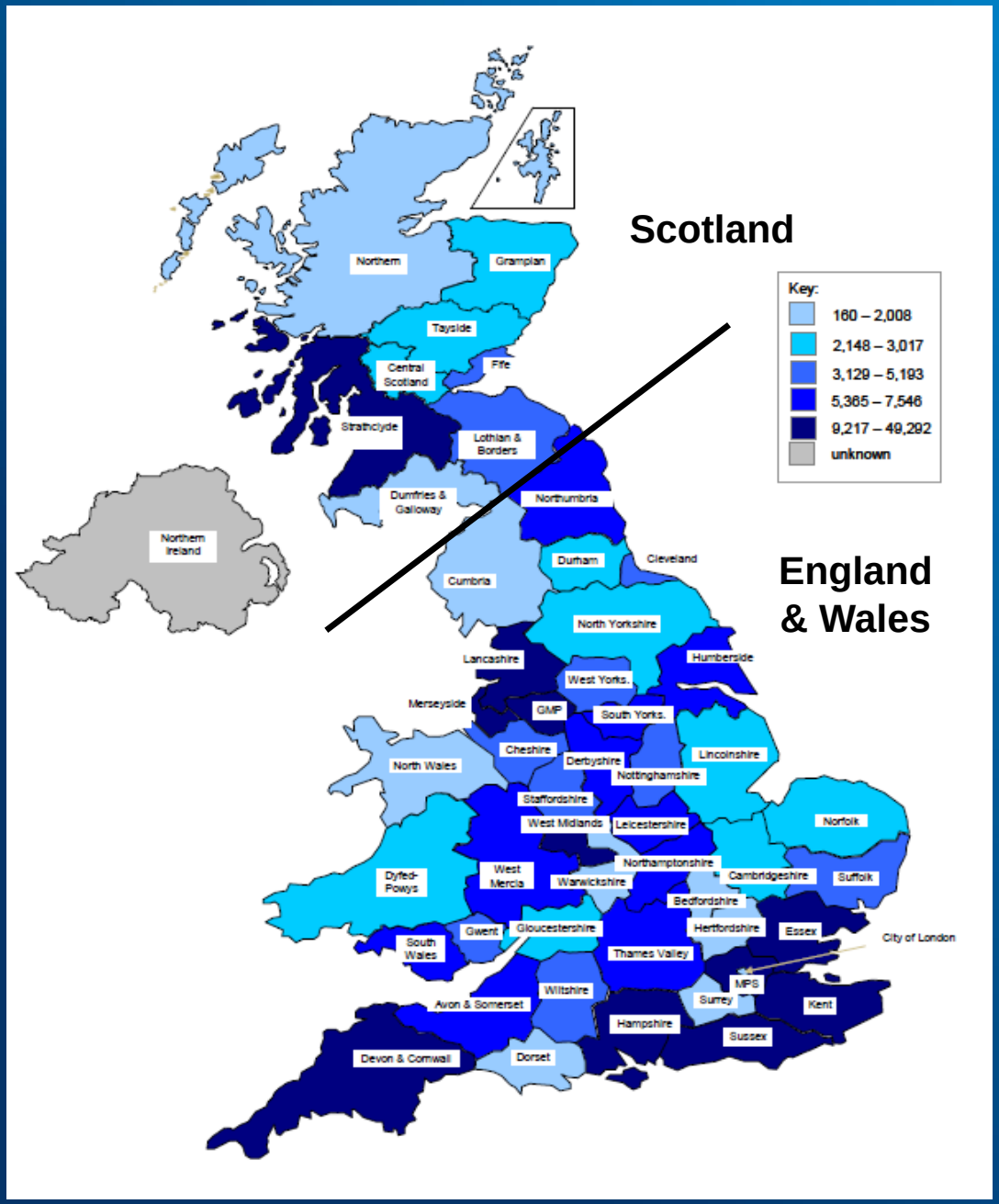
 327,000 (NPIA, 2011)

 39,000 (NPIA, 2011)

 800,000 children (NISMART, 2002)

 46,718 children / 19,068 adults (Canadian Gov. , 2011)

POLICE SCOTLAND



UK Map Missing Person incidents per force 2010-2011 (NPIA, 2011)

What happens to them - outcomes?

Majority - Located or turn up safe

Minority - Accident
Suicide
Abduction
Homicide
Unsolved

POLICE SCOTLAND

Fundamental challenge:

How can the police quickly identify the small number of potentially fatal cases amongst the huge number of overall cases?

Good risk assessment / decision making is vital, both initially and as an enquiry progresses

POLICE SCOTLAND





Missing person risk assessment & response – a new evidence base

Combination of experiential and actuarial approaches

→

Evidence based, but allows scope for the exercise of professional judgement

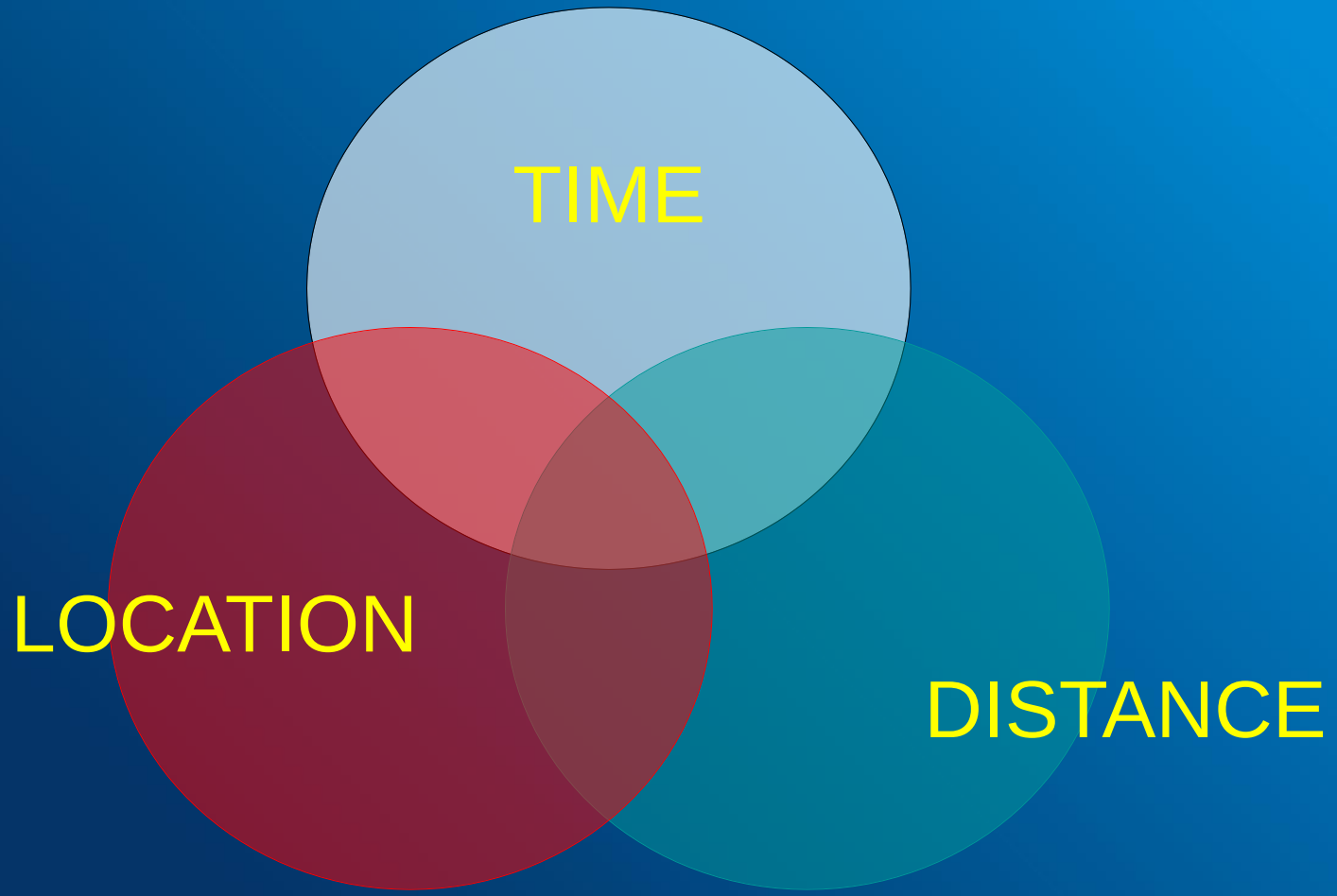
POLICE SCOTLAND

Developing an actuarial basis for missing person risk assessment & response

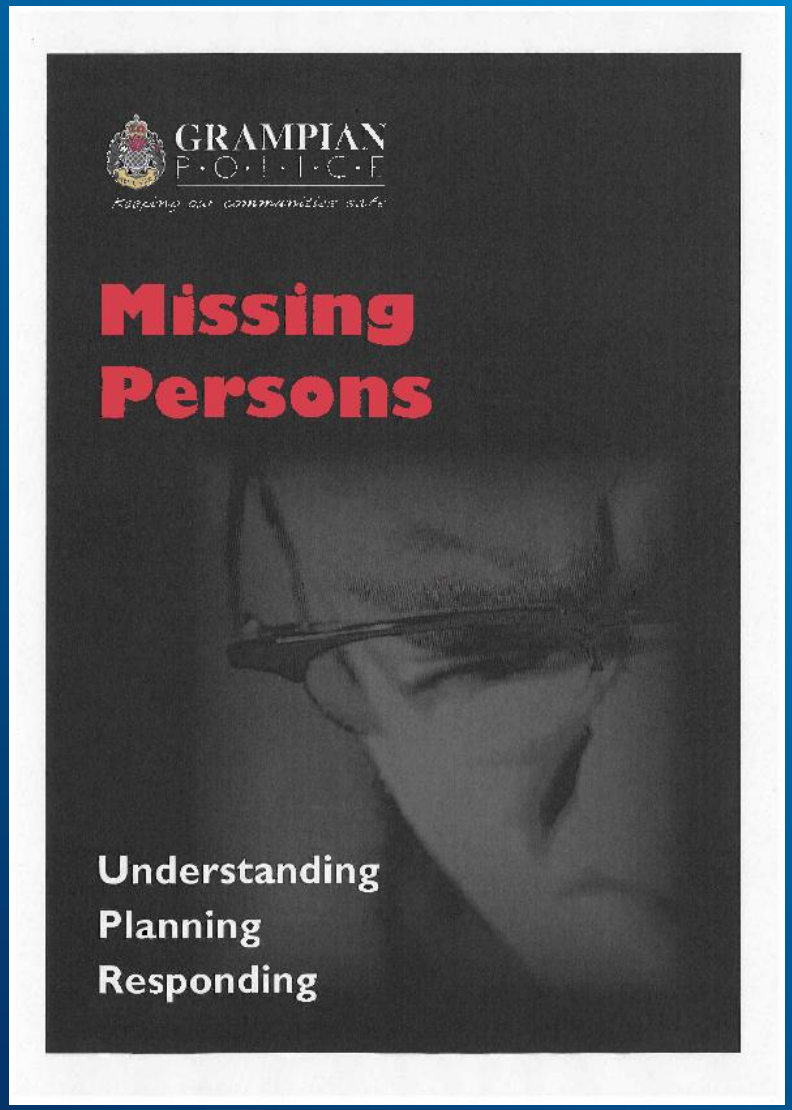
- Content analysis of 2200 Closed Missing Person cases and 400 suicide cases from across the UK over a seven year period
- Up to 70 pieces of information relating to each case

POLICE SCOTLAND

3 Key Factors

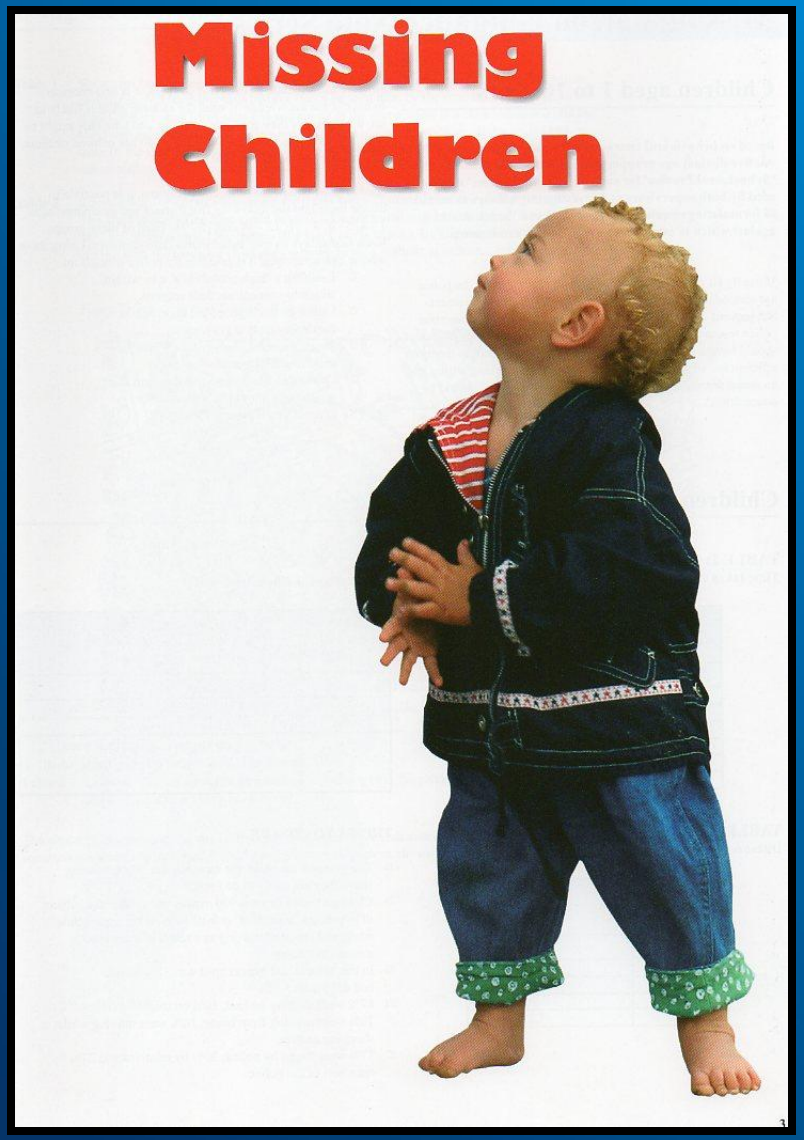


POLICE SCOTLAND



POLICE SCOTLAND

Missing Children



POLICE SCOTLAND

Children aged 1 to 4 years

TABLE 1:
Time taken to locate missing children

Cumulative percentage of cases	Time lapse between report and location (n=30)
20%	8 minutes
40%	11 minutes
50%	20 minutes
70%	26 minutes
80%	40 minutes
95%	65 minutes
99%	196 minutes

TABLE 2:
Distance between places missing & found

Cumulative percentage of cases	Distance between locations missing and found (n=30)
30%	160 metres
50%	400 metres
70%	750 metres
80%	900 metres
98%	1.2 kilometres

TABLE 3:
Likely places children are found

Cumulative percentage of cases	Likely places found (n=30)
58%	Playing in the street
18%	At a friend's/relative's/neighbour's address
15%	Within home address
9%	Traced playing in places where they were not immediately visible (playing fields, small wooded areas etc.)

THINGS TO CONSIDER:

- The younger the child, the closer to the 'place missing from' they are likely to be found.
- Children traced beyond 900 metres were either the subject of a 'parental abduction' or with some other appropriate adult, and reported missing as a result of a genuine misunderstanding.
- In this sample, the gender split was 37% female and 63% male.
- 87% went missing on foot, 10% on their bicycles.
- 73% went missing from home, 10% went missing whilst at shopping centres.
- 37% were found by police, 30% by relatives and 27% by members of the public.

Children aged 1 to 4 years

TABLE 1:
Time taken to locate missing children

Cumulative percentage of cases	Time lapse between report and location (n=30)
20%	8 minutes
40%	11 minutes
50%	20 minutes
70%	26 minutes
80%	40 minutes
95%	65 minutes
99%	196 minutes

TABLE 2:
Distance between places missing & found

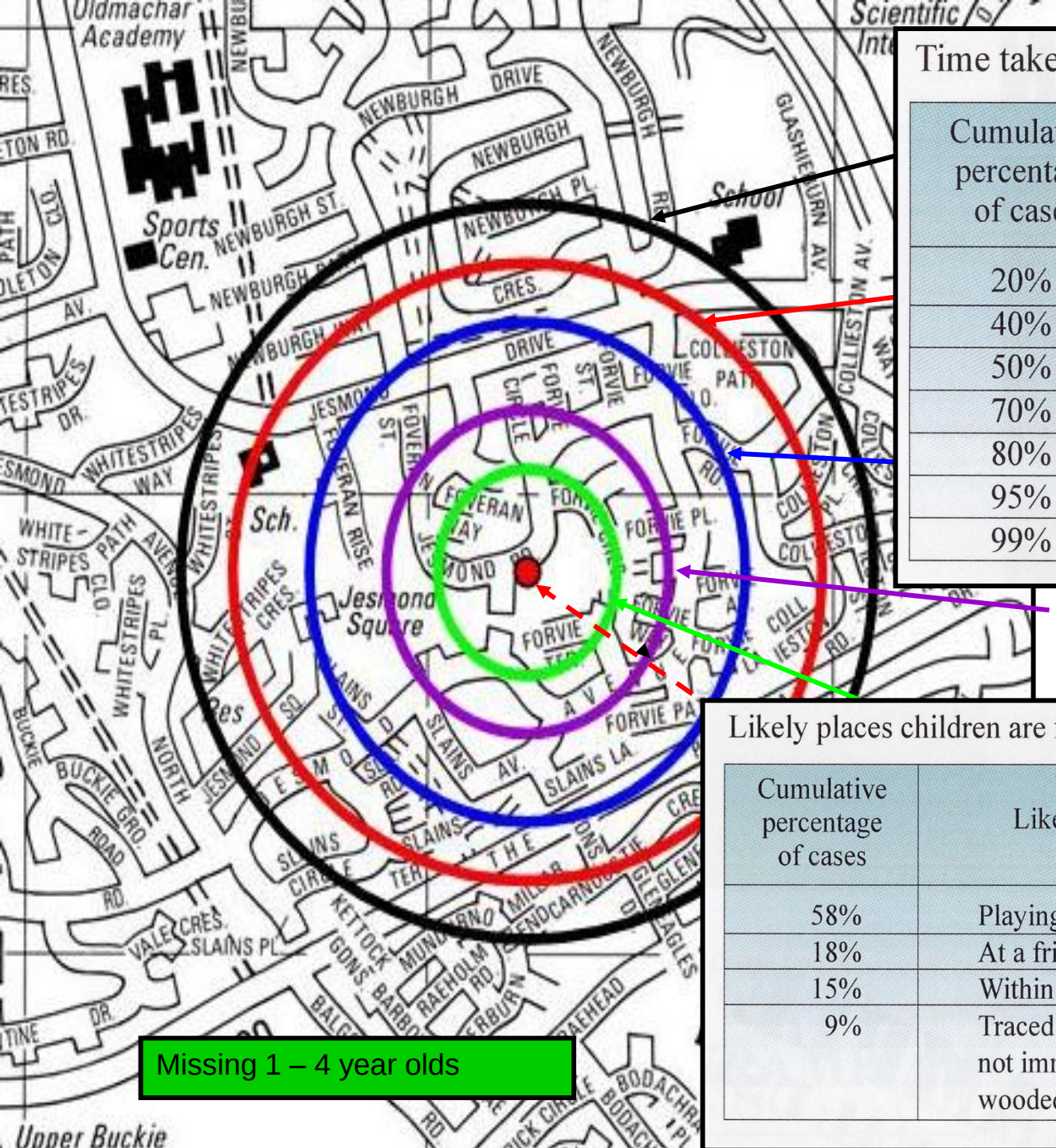
Cumulative percentage of cases	Distance between locations missing and found (n=30)
30%	160 metres
50%	400 metres
70%	750 metres
80%	900 metres
98%	1.2 kilometres

TABLE 3:
Likely places children are found

Cumulative percentage of cases	Likely places found (n=30)
58%	Playing in the street
18%	At a friend's/relative's/neighbour's address
15%	Within home address
9%	Traced playing in places where they were not immediately visible (playing fields, small wooded areas etc.)

THINGS TO CONSIDER:

- The younger the child, the closer to the 'place missing from' they are likely to be found.
- Children traced beyond 900 metres were either the subject of a 'parental abduction' or with some other appropriate adult, and reported missing as a result of a genuine misunderstanding.
- In this sample, the gender split was 37% female and 63% male.
- 87% went missing on foot, 10% on their bicycles.
- 73% went missing from home, 10% went missing whilst at shopping centres.
- 37% were found by police, 30% by relatives and 27% by members of the public.



Time taken to locate missing children

Cumulative percentage of cases	Time lapse between report and location (n=30)
20%	8 minutes
40%	11 minutes
50%	20 minutes
70%	26 minutes
80%	40 minutes
95%	65 minutes
99%	196 minutes

Likely places children are found

Cumulative percentage of cases	Likely places found (n=30)
58%	Playing in the street
18%	At a friend's/relative's/neighbour's address
15%	Within home address
9%	Traced playing in places where they were not immediately visible (playing fields, small wooded areas etc.)

Missing 1 – 4 year olds

Children aged 5 to 8 years

TABLE 1:
Time taken to locate missing children

Cumulative percentage of cases	Time lapse between report and location (n=90)
20%	0 hrs 45 mins
40%	1 hrs 30 mins
50%	2 hrs 00 mins
70%	3 hrs 00 mins
80%	4 hrs 00 mins
90%	5 hrs 30 mins
99%	30 hrs 00 mins

TABLE 2:
Distance between places missing & found

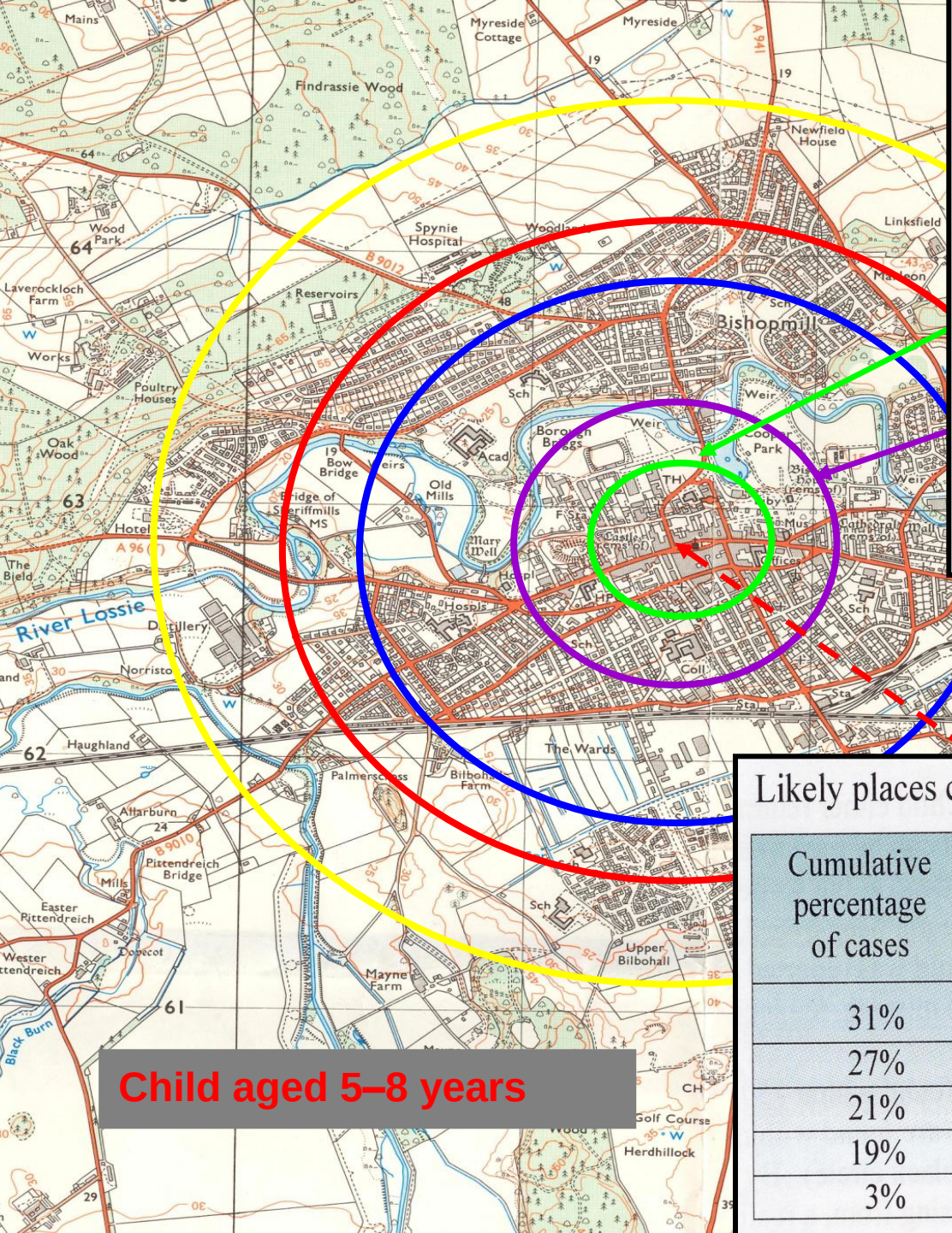
Cumulative percentage of cases	Distance between locations missing and found (n=90)
30%	350 metres
50%	550 metres
70%	1.1 kilometres
80%	1.3 kilometres
90%	1.8 kilometres
99%	6.8 kilometres

TABLE 3:
Likely places children are found

Cumulative percentage of cases	Likely places found (n=90)
31%	Traced walking in public street/park
27%	Returned to their place of residence
21%	Went to relative's address
19%	Went to friend's address
3%	Traced at shops or community/leisure centre

THINGS TO CONSIDER:

- Children of this age are now at school, they are learning about new areas and begin to travel further afield
- They make new friends, check with school for class list - parents are unlikely to know who they are associating with
- All of the children traced beyond the black circle were either 'parental abductions' or the result of misunderstandings between either parents or relatives as to who the child should be with
- Females of this age have a greater tendency to be traced at friend's home, males tend to be found hanging about the streets
- Within this sample, 79% were female and 21% male
- 69% went missing on foot, 11% on their bicycles
- 65% went missing from home, 20% from school
- 46% were found by police and 40% by relatives (includes those who return home)



Time taken to locate missing children

Cumulative percentage of cases	Time lapse between report and location (n=90)
20%	0 hrs 45 mins
40%	1 hrs 30 mins
50%	2 hrs 00 mins
70%	3 hrs 00 mins
80%	4 hrs 00 mins
90%	5 hrs 30 mins
99%	30 hrs 00 mins

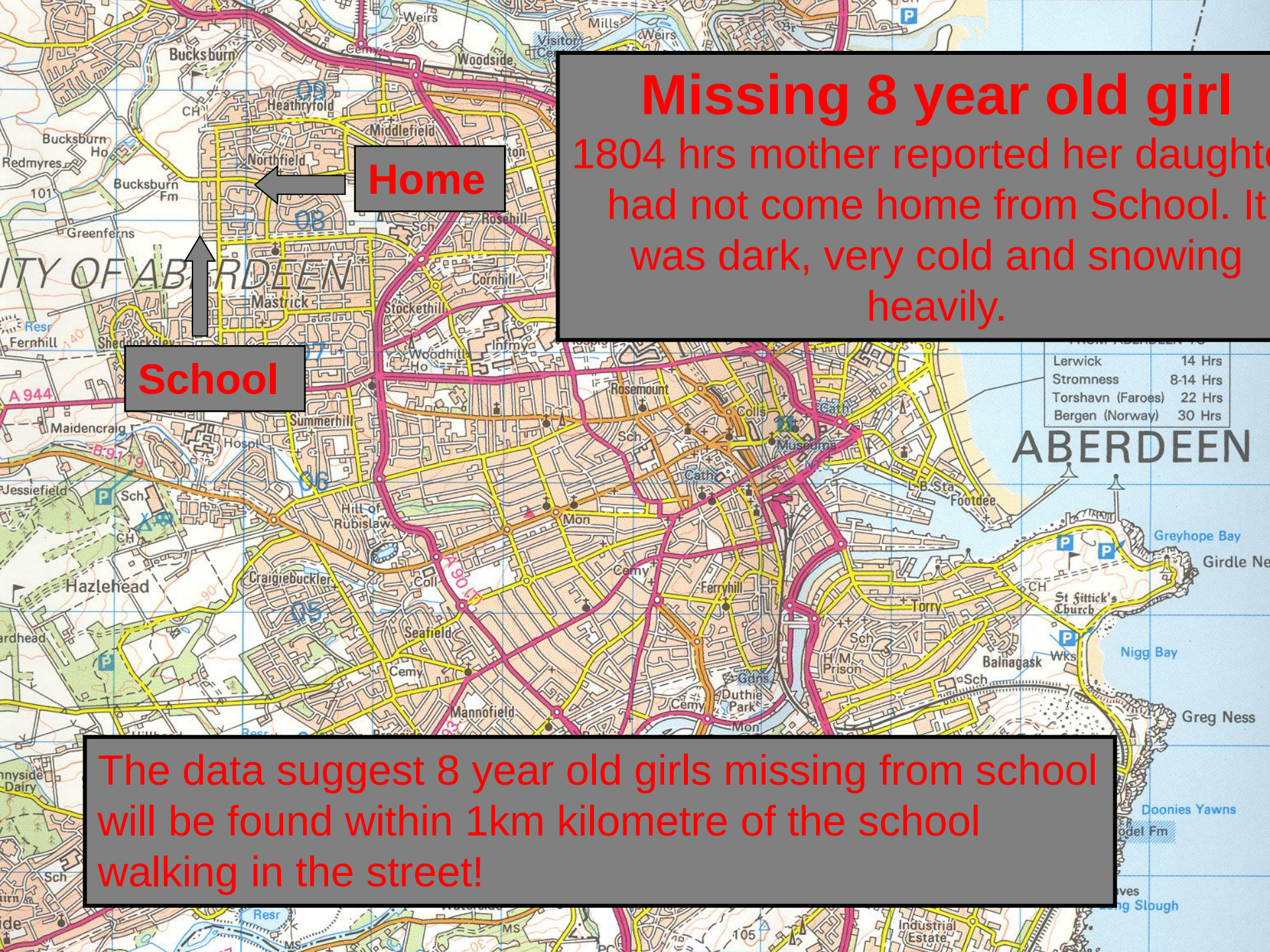
80% (1,300m)

Likely places children are found

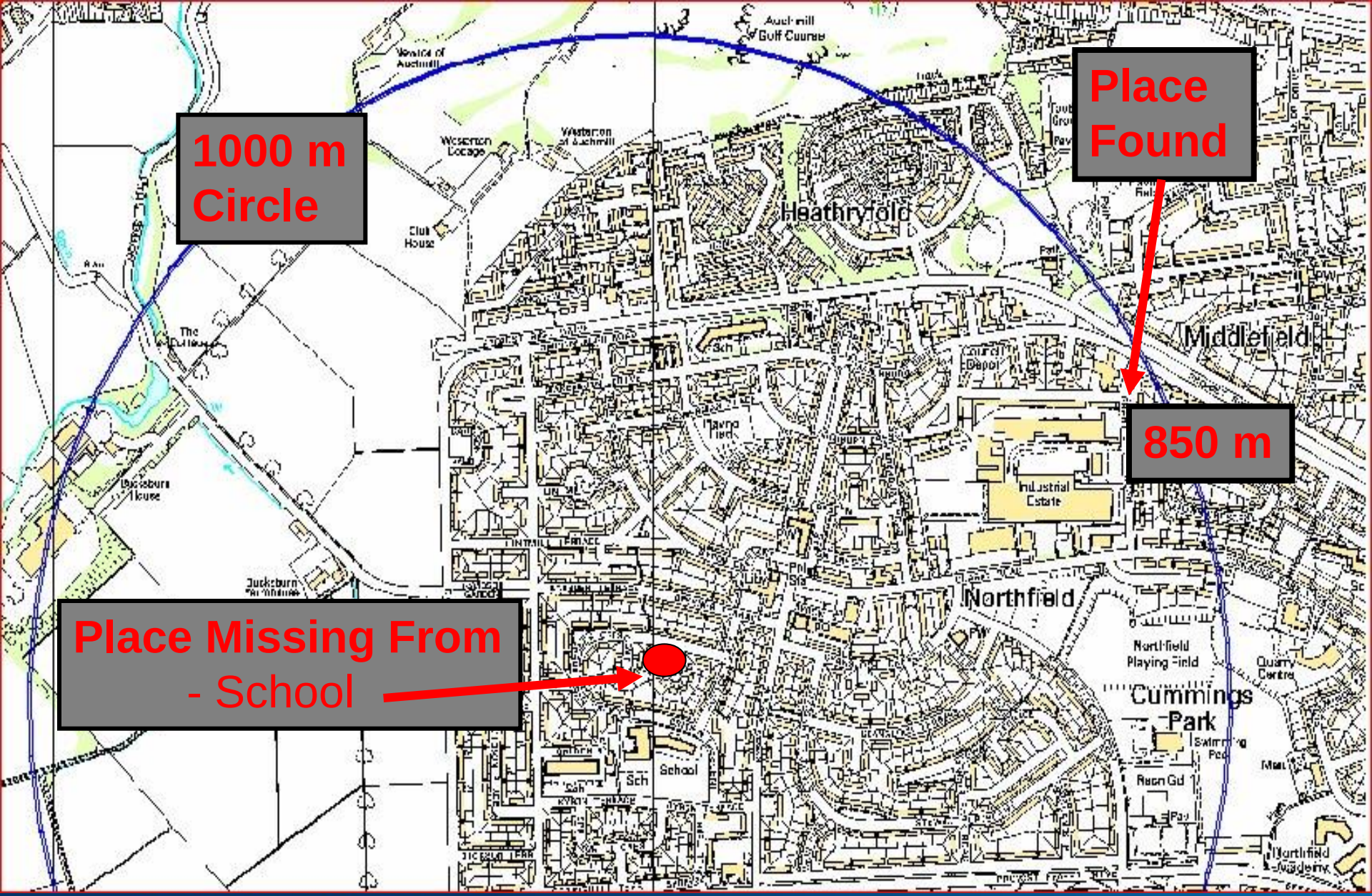
Cumulative percentage of cases	Likely places found (n=90)
31%	Traced walking in public street/park
27%	Returned to their place of residence
21%	Went to relative's address
19%	Went to friend's address
3%	Traced at shops or community/leisure centre

Missing 8 year old girl

1804 hrs mother reported her daughte
had not come home from School. It
was dark, very cold and snowing
heavily.



The data suggest 8 year old girls missing from school will be found within 1km kilometre of the school walking in the street!



POLICE SCOTLAND

If the missing person is not found at the ‘probable’ places it can quickly be concluded that the case is certainly out of the ordinary.....

……possible scenarios……..

- Accident?
- Suicide?
- Abduction?
- Murder?

POLICE SCOTLAND













POLICE SCOTLAND

Time as an indicator

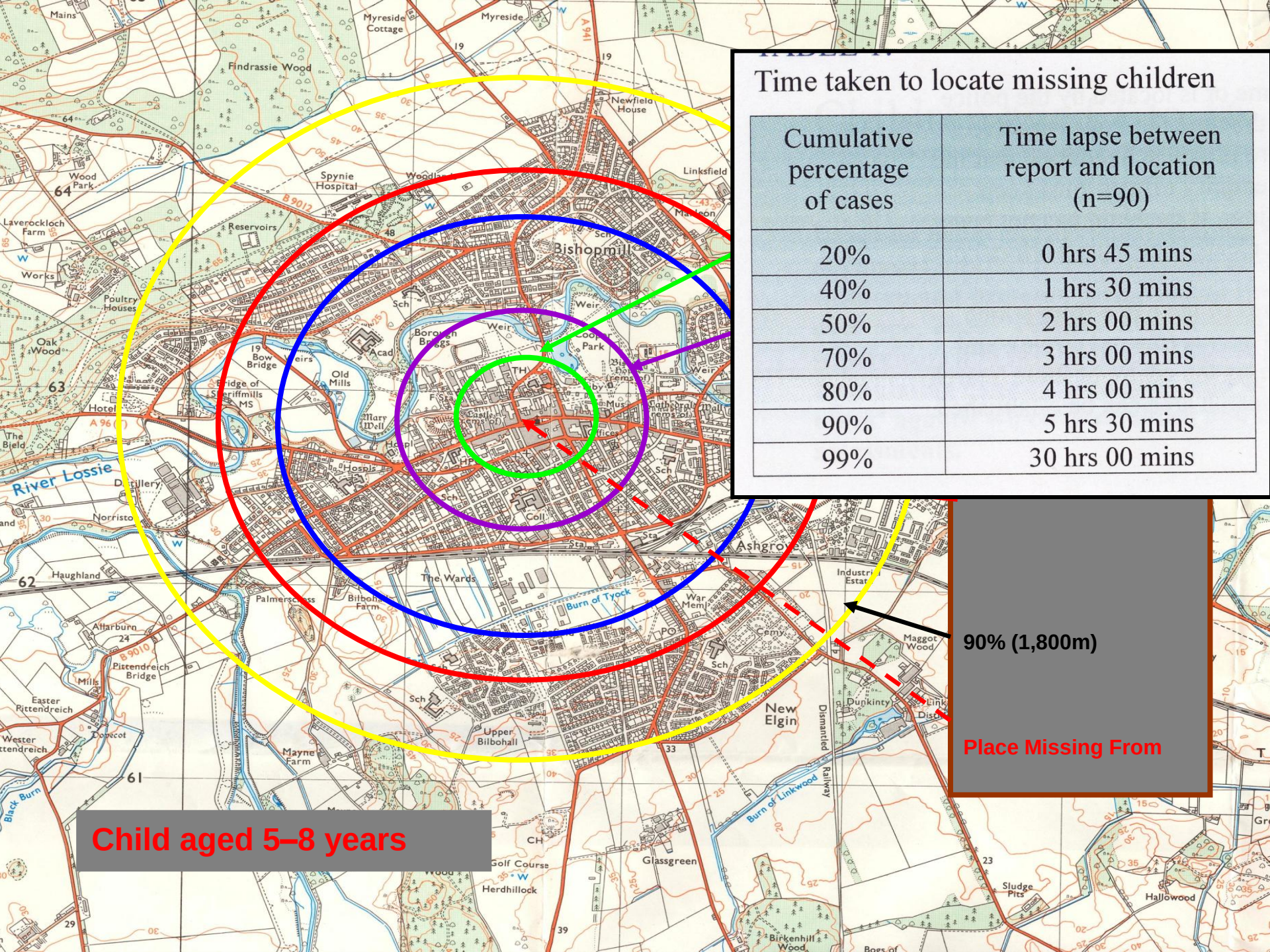
Missing child aged 5 – 8 years



Time

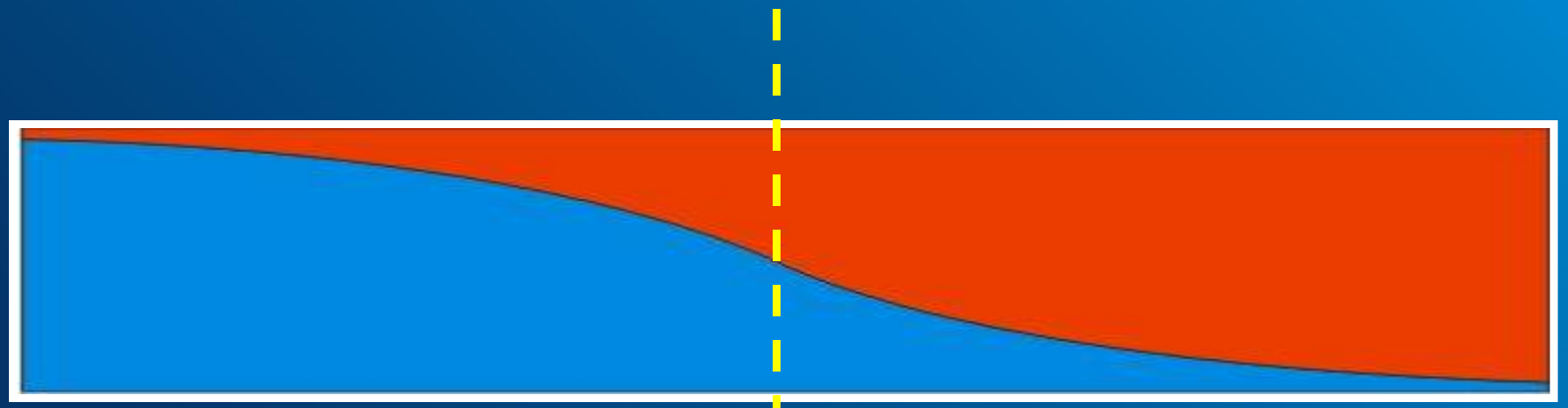
Child reported missing – 3pm

POLICE SCOTLAND


Time taken to locate missing children
Cumulative percentage of cases
Time lapse between report and location (n=90)
20% 0 hrs 45 mins
40% 1 hrs 30 mins
50% 2 hrs 00 mins
70% 3 hrs 00 mins
80% 4 hrs 00 mins
90% 5 hrs 30 mins
99% 30 hrs 00 mins
90% (1,800m)
Place Missing From
Child aged 5–8 years

Priority Curve

Missing child aged 5 – 8 years



2hrs (50% - 5pm)
into the missing episode

POLICE SCOTLAND

Priority Curve

Missing child aged 5 – 8 years

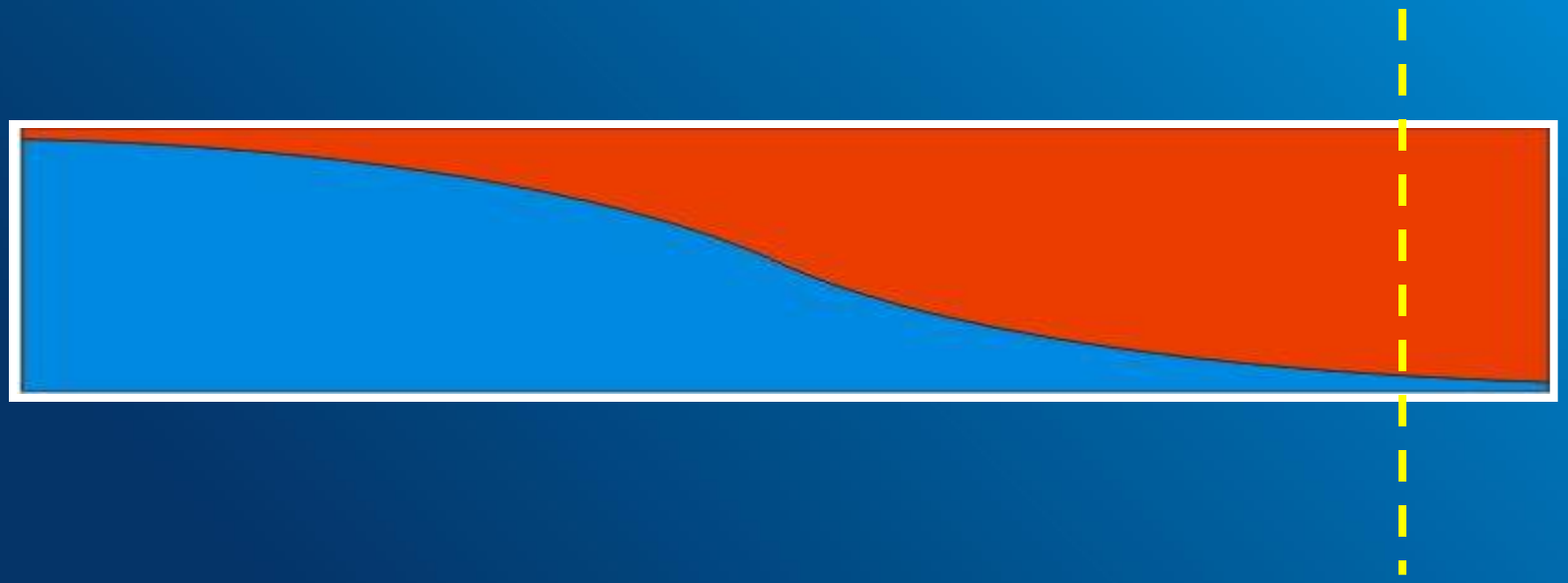


3hrs (70% - 6pm)
into the missing episode

POLICE SCOTLAND

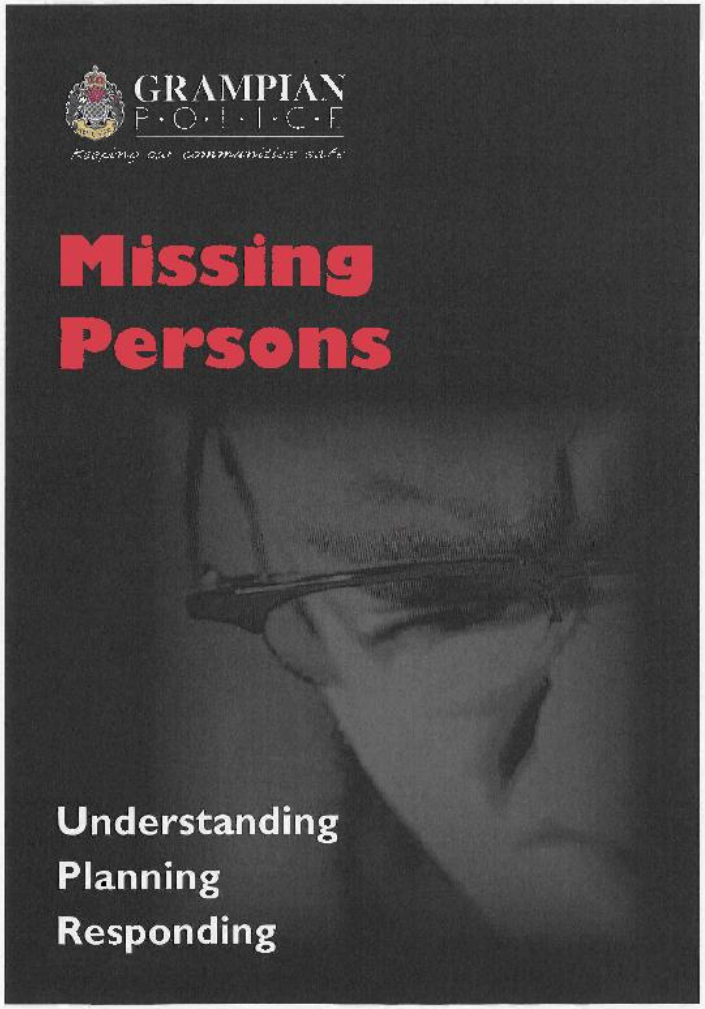
Priority Curve

Missing child aged 5 – 8 years



5 hrs 30 mins (90%) 8.30pm
into the missing episode

POLICE SCOTLAND



INDEX

Introduction ..... page 1

Missing Children ..... page 3

ADHD ..... page 11
(Attention Deficit Hyperactivity Disorder)

Depression ..... page 13

Suicide ..... page 17

Suicide Check List ..... page 25

Dementia ..... page 27

Psychosis/Schizophrenia ..... page 33

Bipolar Disorder ..... page 37

Bodies Missing in Water ..... page 41

POLICE SCOTLAND

Benefits - Operational

- Helps quickly identify cases out of the ordinary
- Facilitates early warning and involvement of Detective officers
- Allows us to use appropriate investigative techniques before issuing an Amber Alert
- Prevent saturation of Amber Alert

POLICE SCOTLAND

Benefits – Governance & Accountability

- Informs policy log
- Provides an evidence base
- More defensible actions / decisions

POLICE SCOTLAND

Very positive operational feedback….

"This work has been useful in a number of suspicious missing person cases across Scotland.....keep up the good work." National Policing Improvement Agency - Detective Sergeant Kevin Smith, Crime Investigation Support Officer / Regional Advisor – Scotland

".....I would like to thank you for your work on the missing person statistics.....which are excellent." Thames Valley Police – Sergeant Anthony Smith

".....my PolSAs use your booklet...and find the stats and information you have collated invaluable, and base their search strategies on the data you provide....." Cumbria Constabulary - Inspector Andy Hanson

"…. an excellent piece of research, that is presented in a readable format and easily transferred to the operational environment. On behalf of operational officers around the country, thank you." West Midlands Police – Inspector Mark Shaw

Concluding points

- Promising results so far
- Very successful operational application
- Lots of work to do – many questions / issues still to explore
- Complimentary experiential geographies needed

POLICE SCOTLAND

Penny S. Woolnough PhD CPsychol CSci AFBPsS FIA-IP

Senior Research Officer
Police Scotland
Woodhill House
Westburn Road
Aberdeen
AB16 5AB
United Kingdom

penny.woolnough@scotland.pnn.police.uk

POLICE SCOTLAND