

The logo for NZSAR features the letters 'NZSAR' in a bold, blue, sans-serif font. To the right of the text is a stylized graphic consisting of two overlapping, curved lines that form a shape resembling a searchlight or a signal. The lines are colored in a gradient from light orange to dark red, with a white highlight on the inner curve.

**NZSAR**

**New Zealand Search and Rescue**

**Workshop for People who  
Wander**

**21 & 22 March 2010  
Auckland**



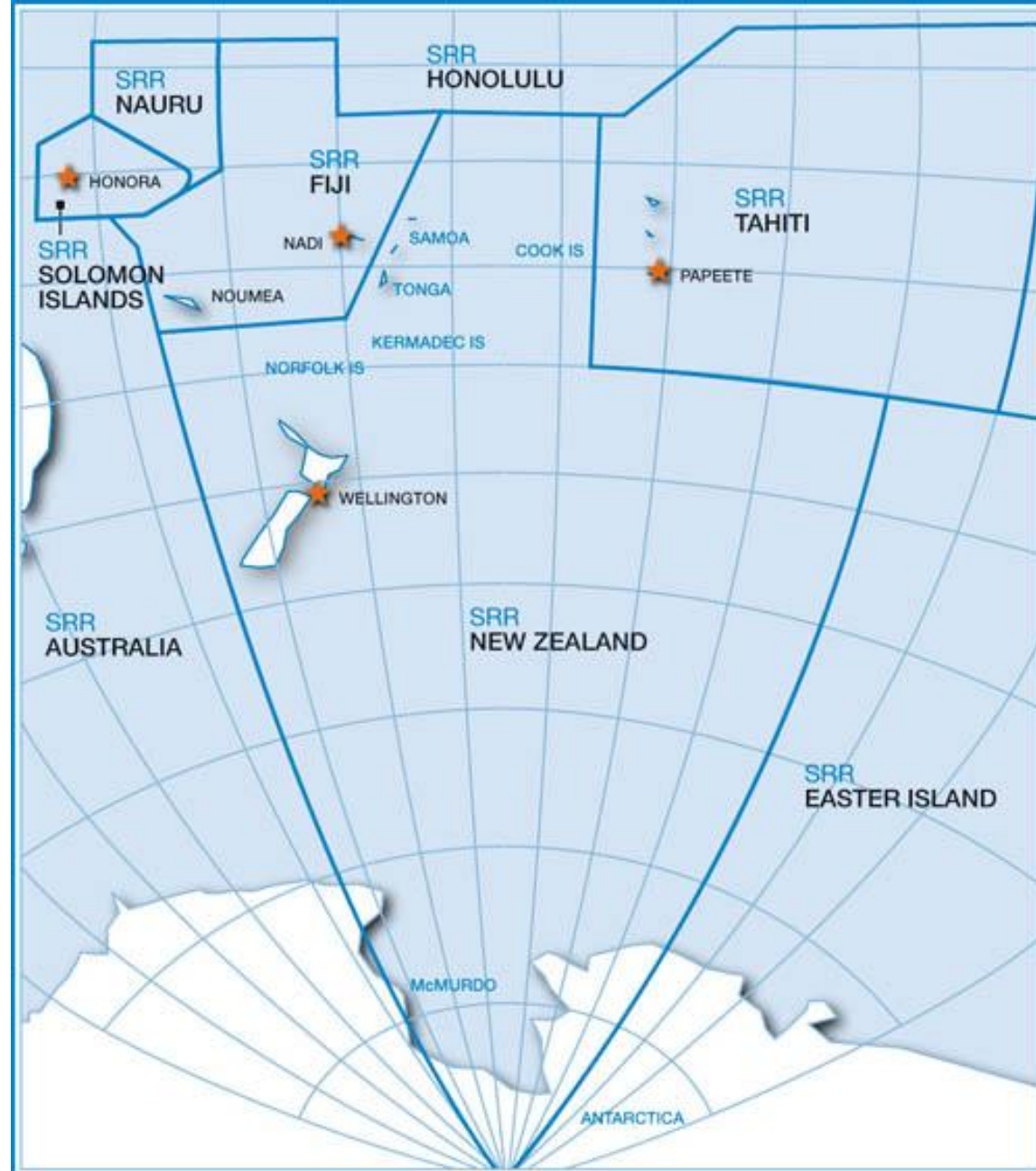
# New Zealand's Search and Rescue Region

Approx 30 million km<sup>2</sup>

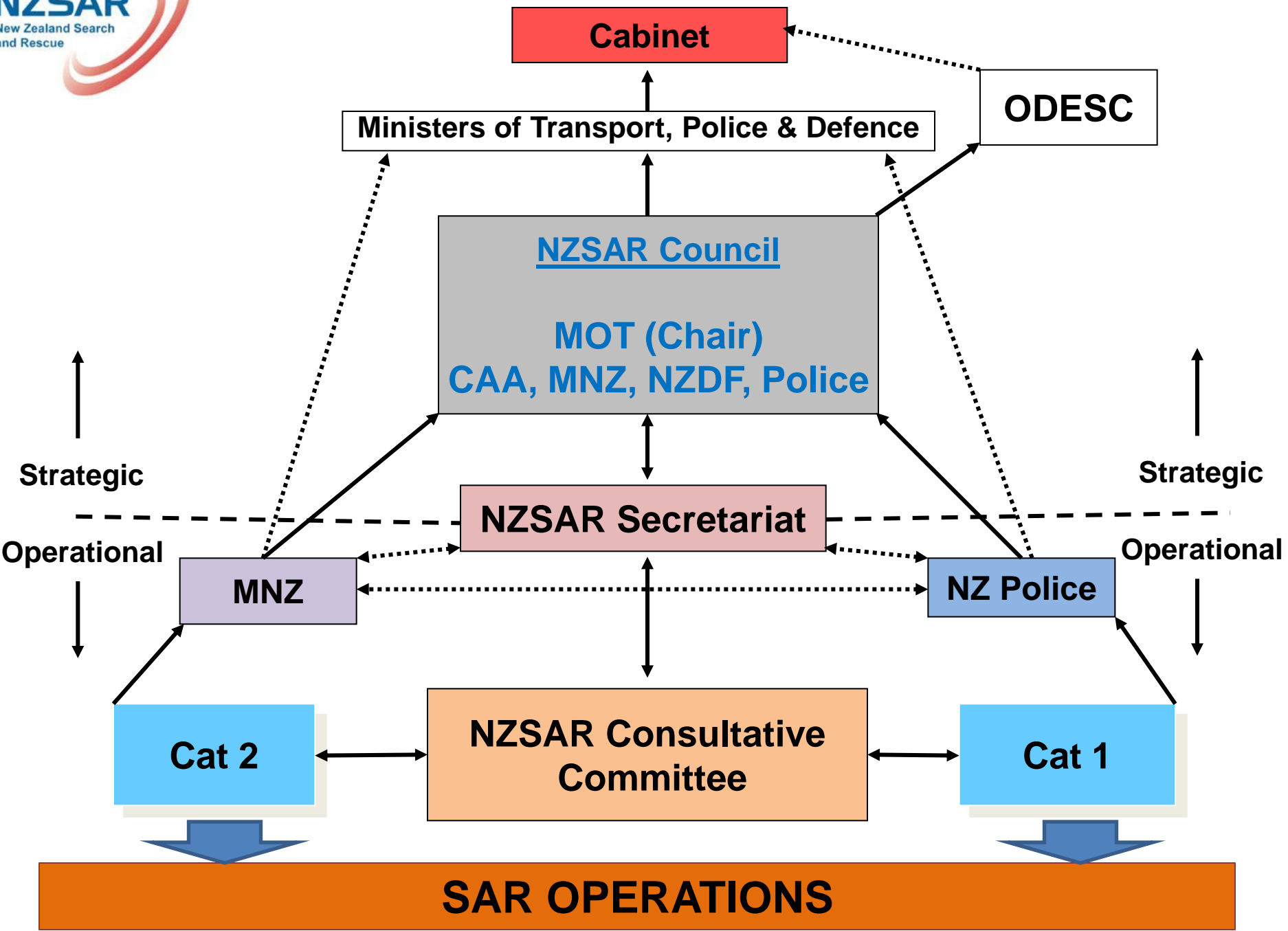
Approx 2,200 SAR incidents per year

2924 people assisted (08/09)

645 distress beacon alerts (08/09)



★ Rescue Coordination Centre  
— Search and Rescue Region boundary of SSR



# Coordination Responsibilities

## Category 1



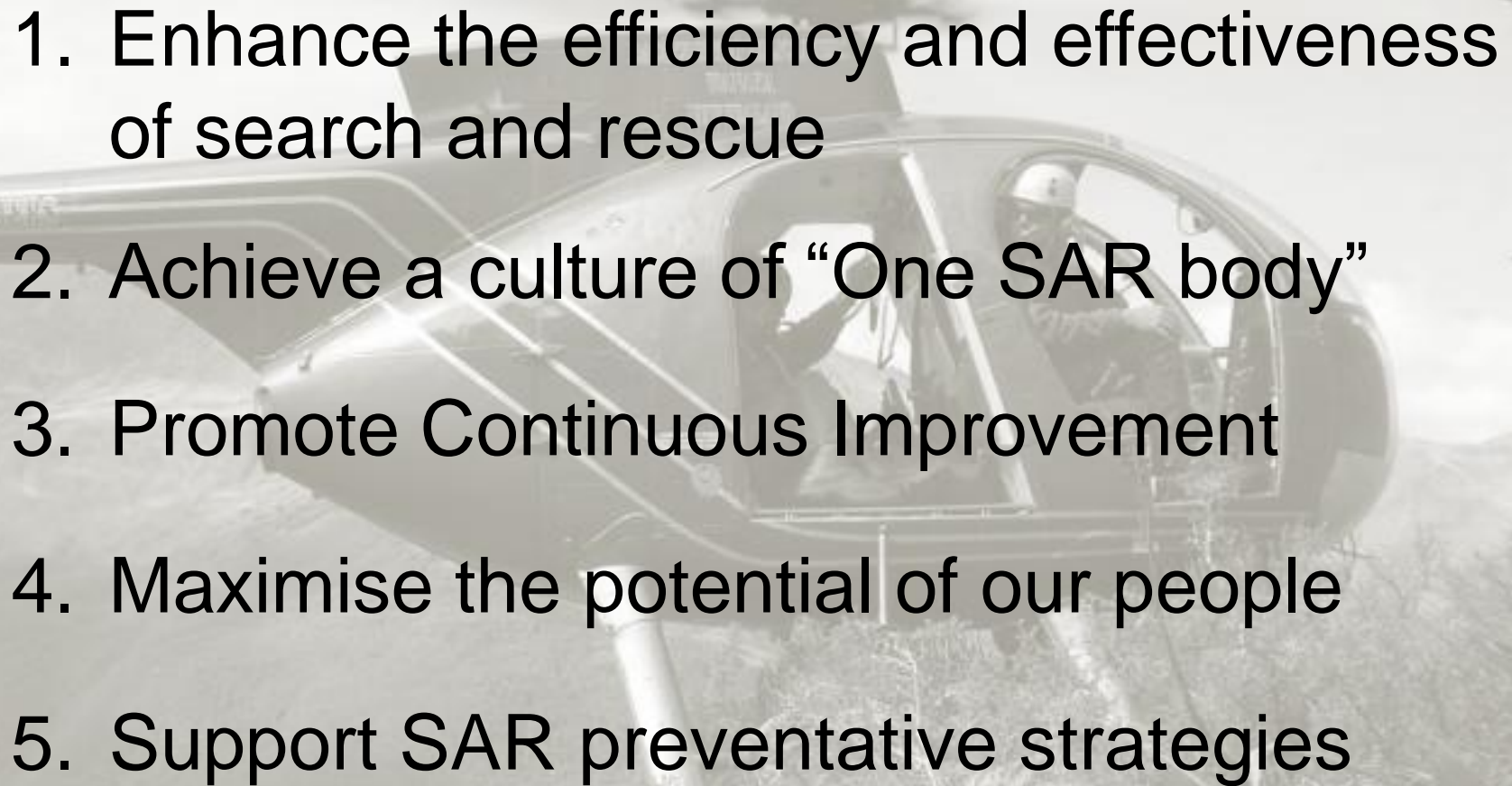
A SAROP coordinated at the local level; including land operations, subterranean operations, river, lake and inland waterway operations and close-to-shore marine operations.

## Category 2

**RESCUE**coordinationcentre

A SAROP coordinated at the national level; including, operations associated with missing aircraft or aircraft in distress and off-shore marine operations within the New Zealand Search and Rescue Region. Category 2 SAROPs typically require the use of national or international resources and may involve coordination with other States.

# Nzsar Strategic Goals

- 
- The background of the slide is a faded, grayscale image of a helicopter on a grassy field. The helicopter is the central focus, with its rotor blades and landing gear visible. The overall tone is professional and operational.
1. Enhance the efficiency and effectiveness of search and rescue
  2. Achieve a culture of “One SAR body”
  3. Promote Continuous Improvement
  4. Maximise the potential of our people
  5. Support SAR preventative strategies

## Values

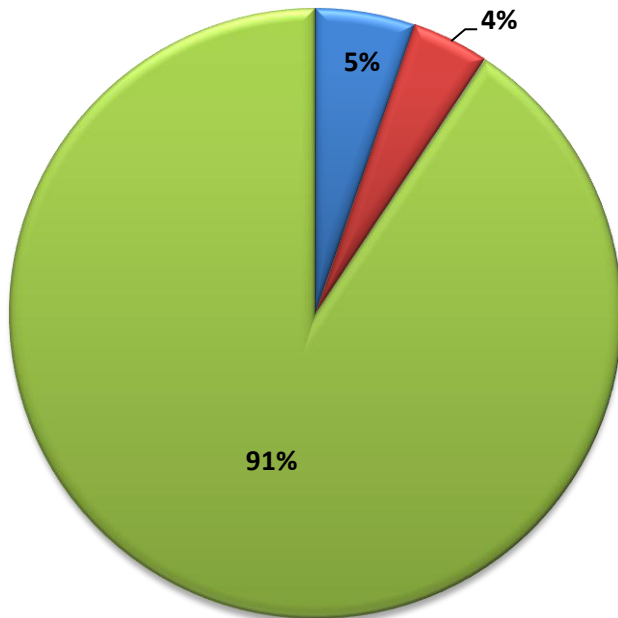
The New Zealand Search and Rescue community will:

- be ***proficient*** at search and rescue;
- encourage open and effective ***communication***;
- ***collaborate and co-operate*** between individuals, teams and organisations;
- ***learn*** from our individual and collective experiences;
- be ***efficient*** in the use of scarce resources;
- recognise the ***dedication, courage*** and ***commitment*** of the people who make up our sector.

# The SAR Sector

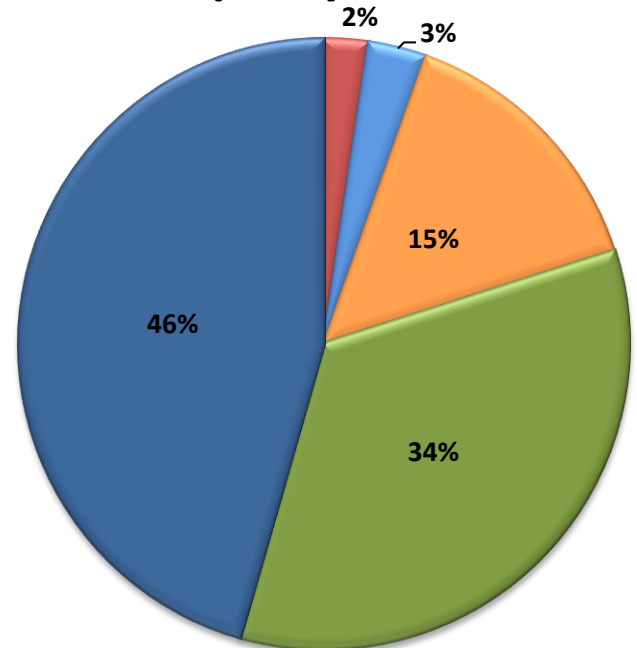
- Over 12,800 people are involved in the New Zealand Search and Rescue Sector
- 91% of them are volunteers

**Trained SAR People**



■ Paid Full Time ■ Paid Part Time ■ Not Paid

**NZSAR People by Mode/Activity**



■ Coordination ■ Aviation ■ Training/Prevention ■ Land ■ Marine



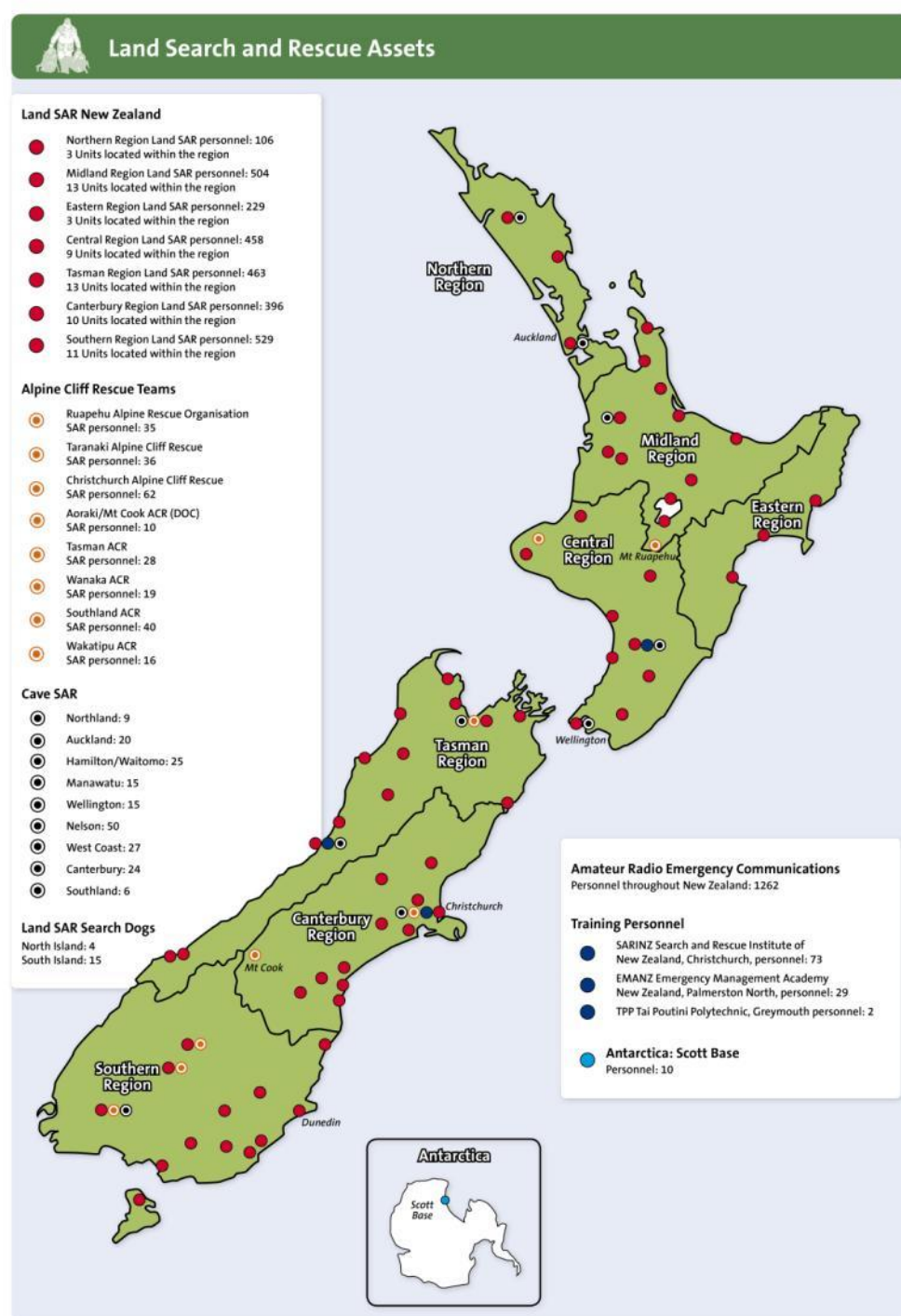
# Land Assets

- 8 x Alpine Rescue Teams
- Dog SAR - National coverage
- Cave SAR - National coverage
- 1 x Antarctic team
- 62 x LandSAR Units
- 257 Police SAR coordinators

## Equipment:

- 255 vehicles
- Radios
- Alpine rescue equipment
- Subterranean rescue equipment

People = 4419

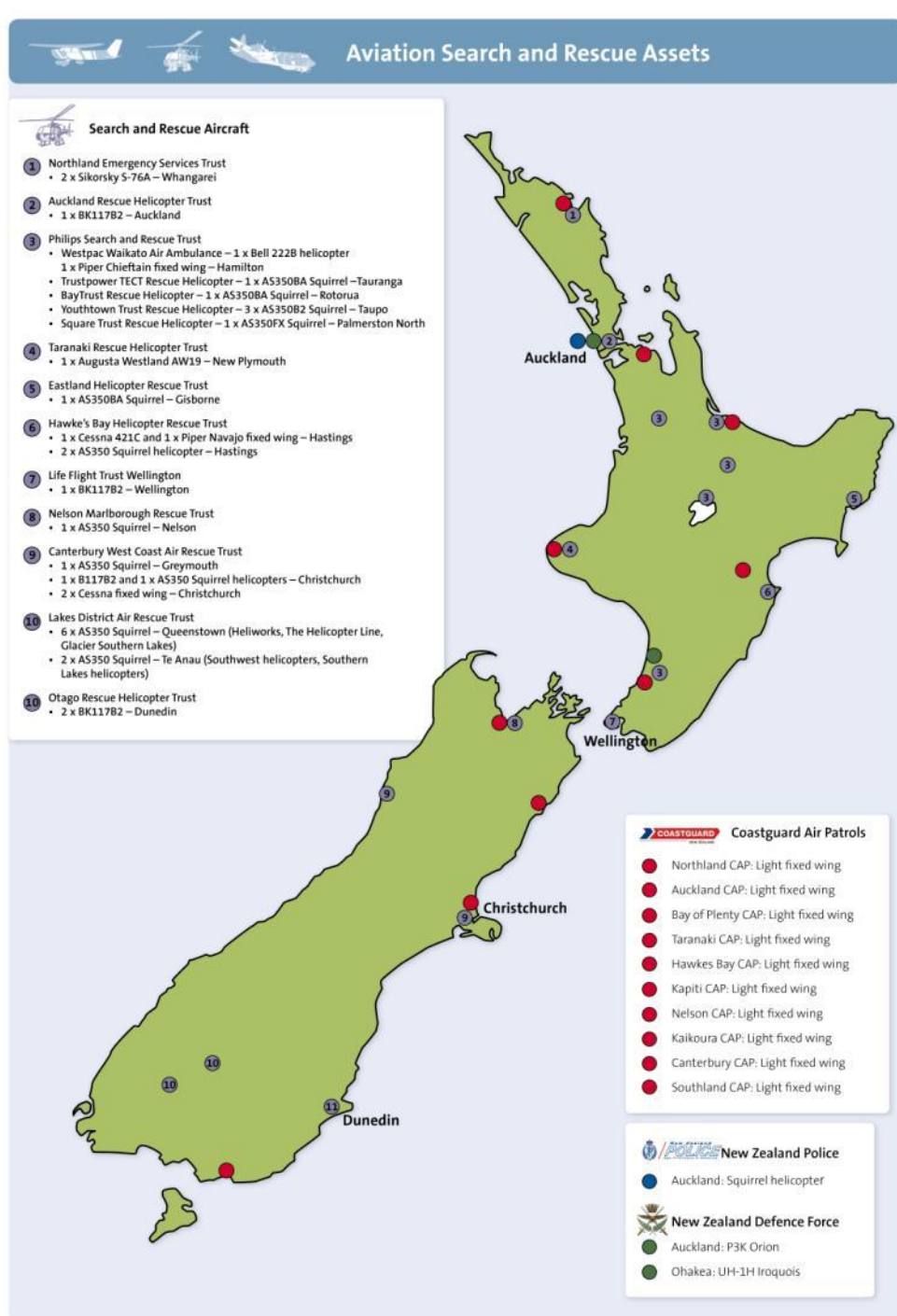


# Aviation Assets

29 Helicopter  
39 x Light aircraft

1 x P3K Orion on standby  
1 x UH1H on standby

People = 398



# Maritime Assets

IRB x 211  
Boats x 157  
Hovercraft x 1

People = 5863

**COASTGUARD** Coastguard New Zealand  
CRV – Coastguard Rescue Vessel

- Northern Region CRV: 79
- Eastern Region CRV: 25
- Central Region CRV: 13
- Southern Region CRV: 26

**Surf Lifesaving New Zealand**  
IRB – Inflatable Rescue Boat

- Northern Region IRB: 59
- Bay of Plenty IRB: 35
- Gisborne IRB: 8
- Hawkes Bay IRB: 10
- Taranaki IRB: 21
- Western Districts IRB: 11
- Wellington IRB: 15
- Canterbury IRB: 26
- Otago IRB: 15

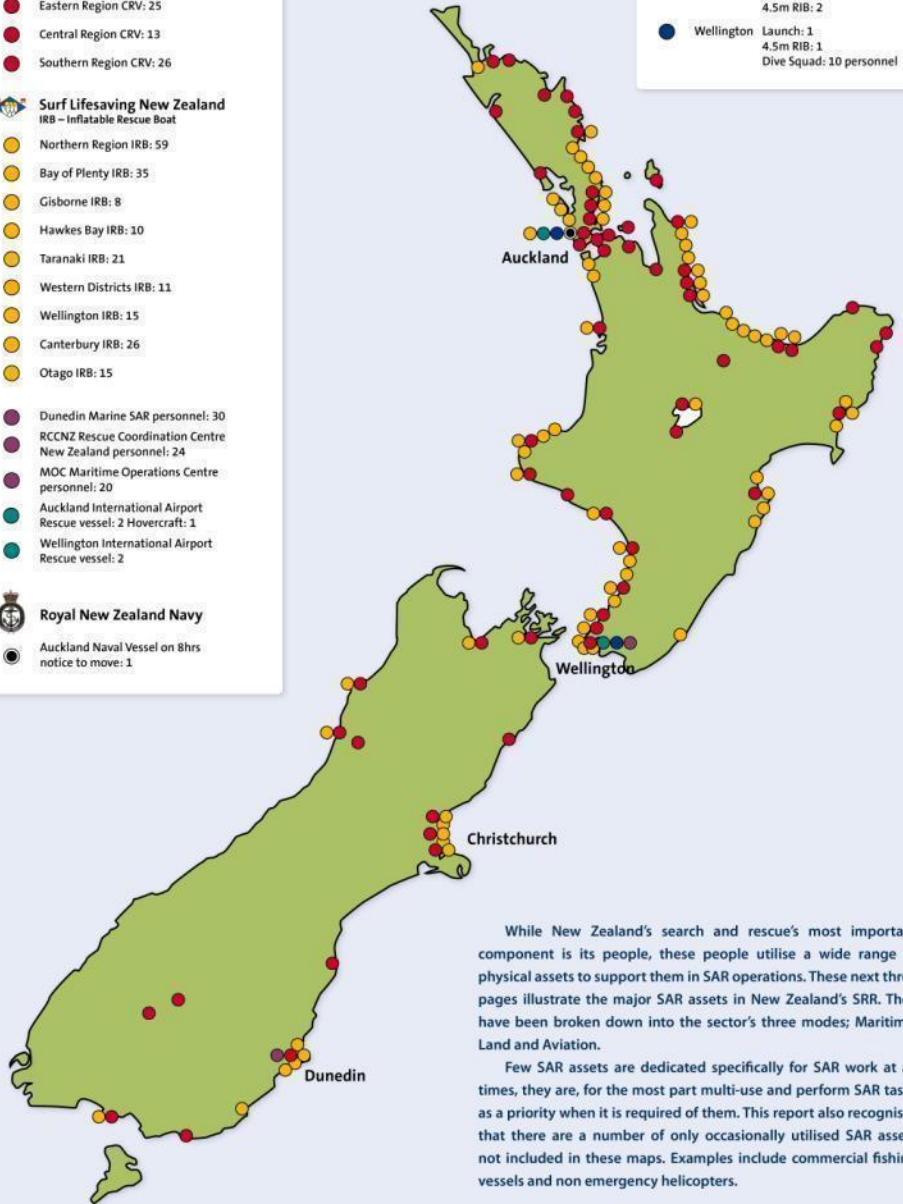
- Dunedin Marine SAR personnel: 30
- RCCNZ Rescue Coordination Centre New Zealand personnel: 24
- MOC Maritime Operations Centre personnel: 20
- Auckland International Airport Rescue vessel: 2 Hovercraft: 1
- Wellington International Airport Rescue vessel: 2

**Royal New Zealand Navy**

- Auckland Naval Vessel on 8hrs notice to move: 1

**New Zealand Police**  
RIB – Rigid Inflatable Boat

- Auckland Launch: 1  
12m RIB: 2  
4.5m RIB: 2
- Wellington Launch: 1  
4.5m RIB: 1  
Dive Squad: 10 personnel



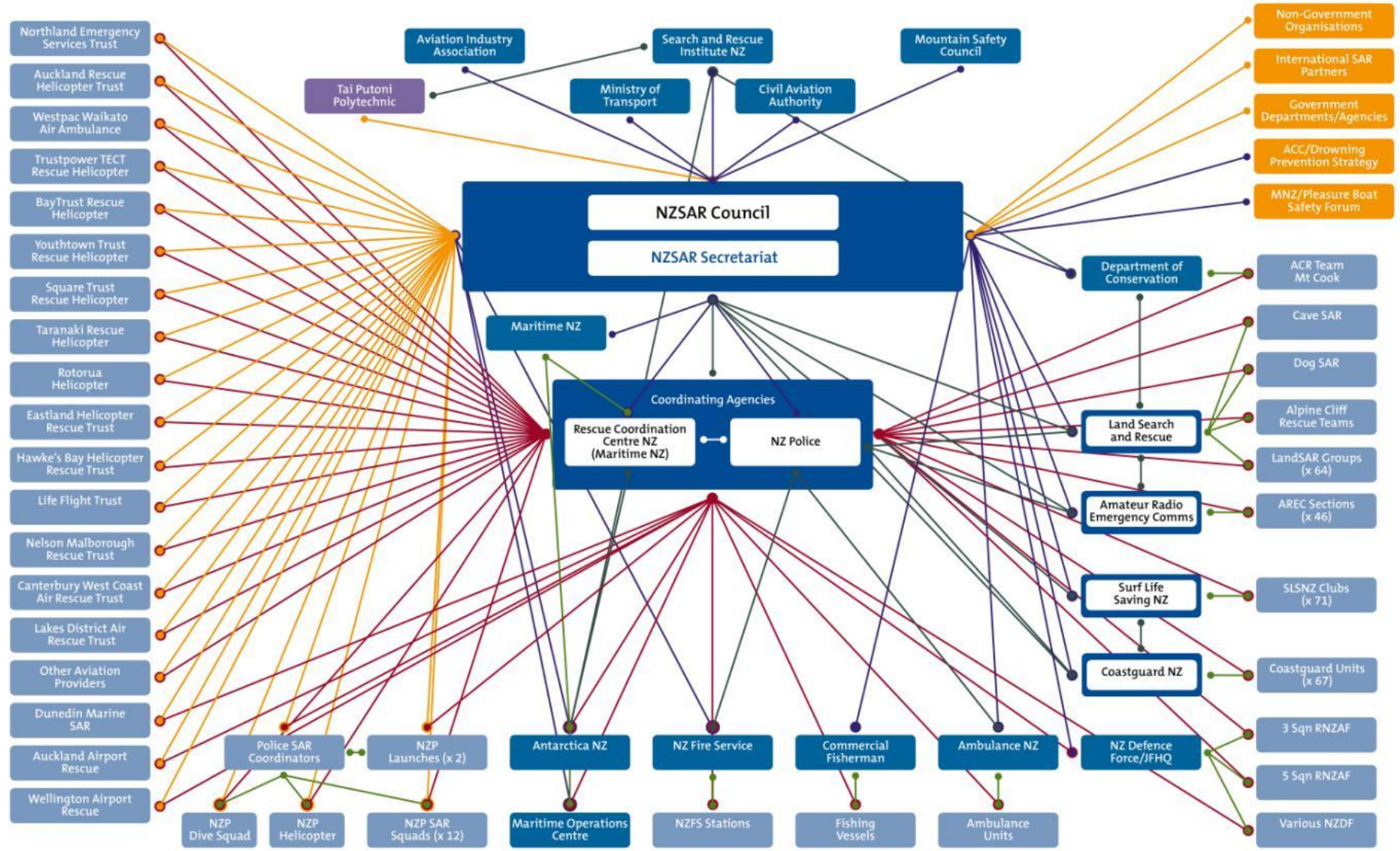
While New Zealand's search and rescue's most important component is its people, these people utilise a wide range of physical assets to support them in SAR operations. These next three pages illustrate the major SAR assets in New Zealand's SRR. They have been broken down into the sector's three modes; Maritime, Land and Aviation.

Few SAR assets are dedicated specifically for SAR work at all times, they are, for the most part multi-use and perform SAR tasks as a priority when it is required of them. This report also recognises that there are a number of only occasionally utilised SAR assets not included in these maps. Examples include commercial fishing vessels and non emergency helicopters.

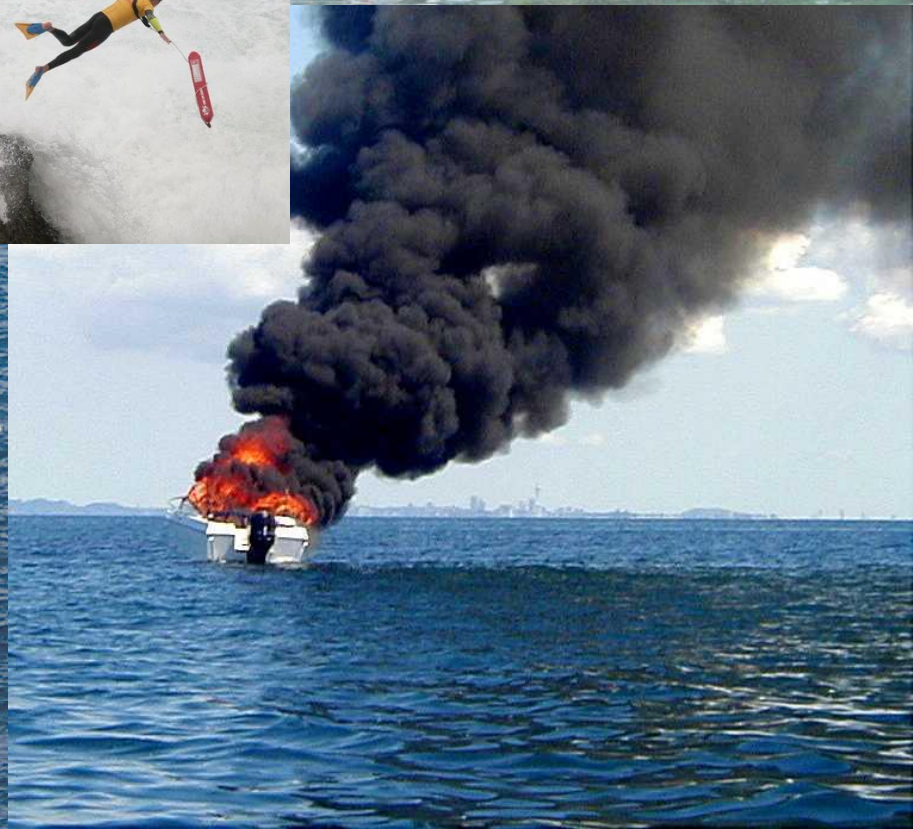
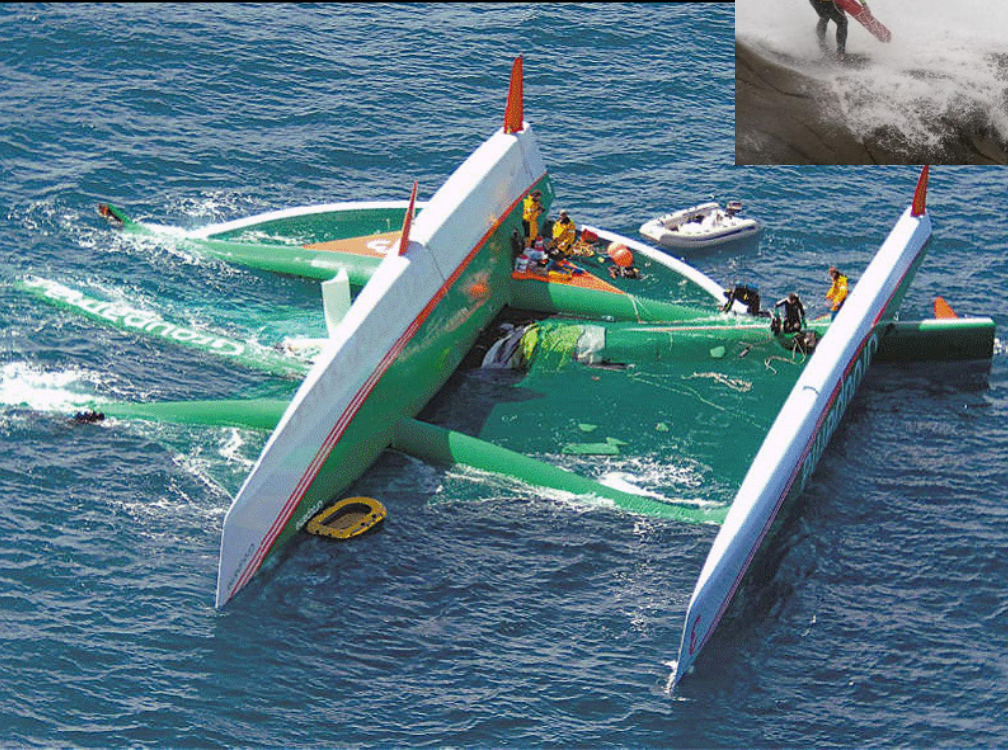


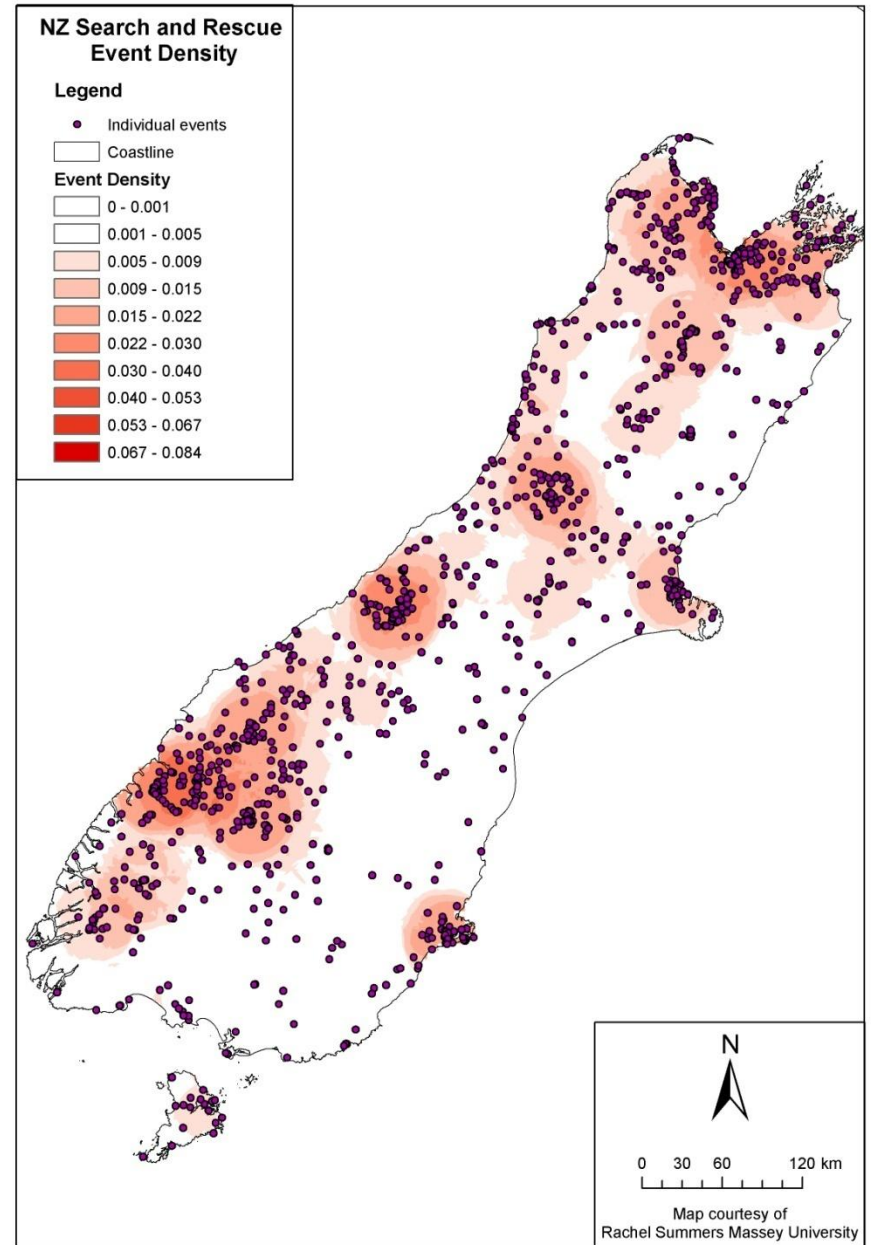
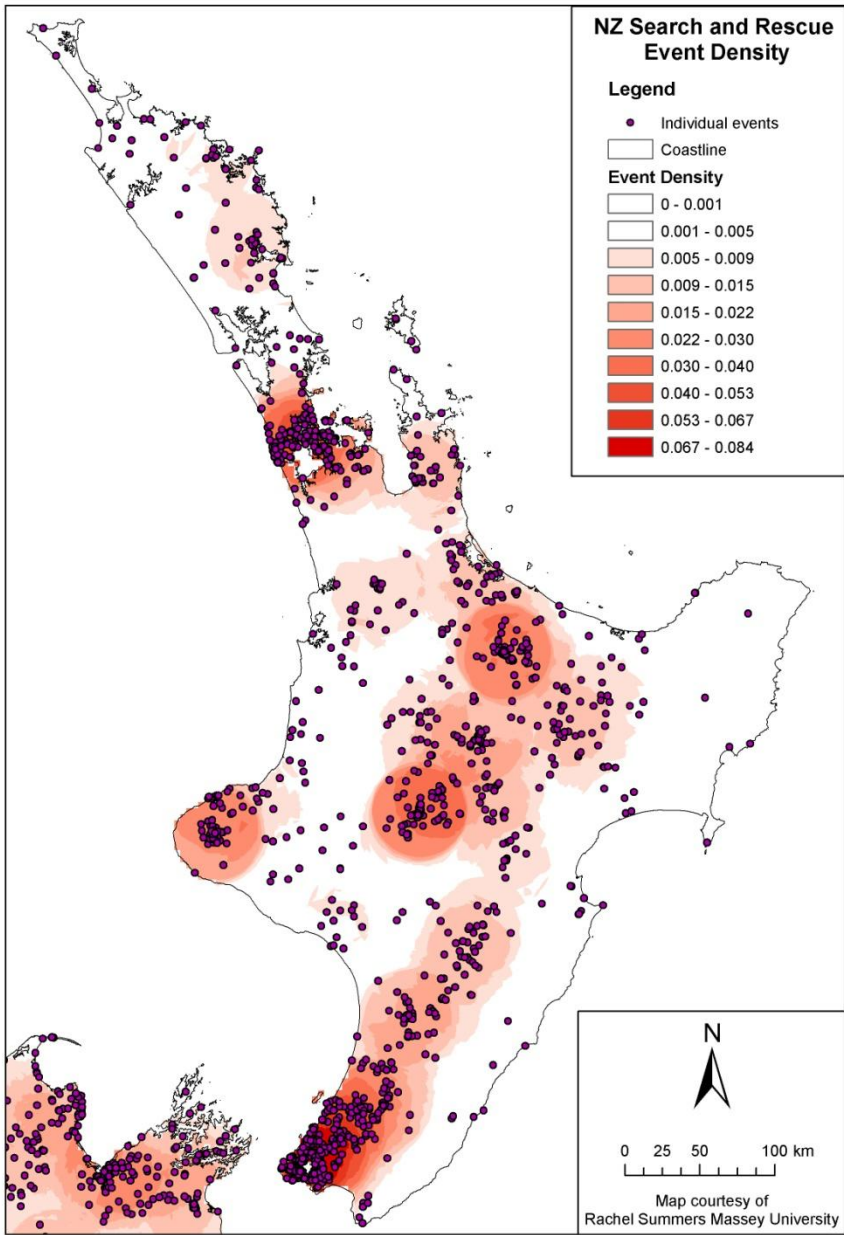
# New Zealand Search and Rescue Linkages

- MOU/SLA
- Information
- Integral
- SAR Asset(s)
- SLA Partner
- NZSAR Consultative Committee
- Operational
- Collegial

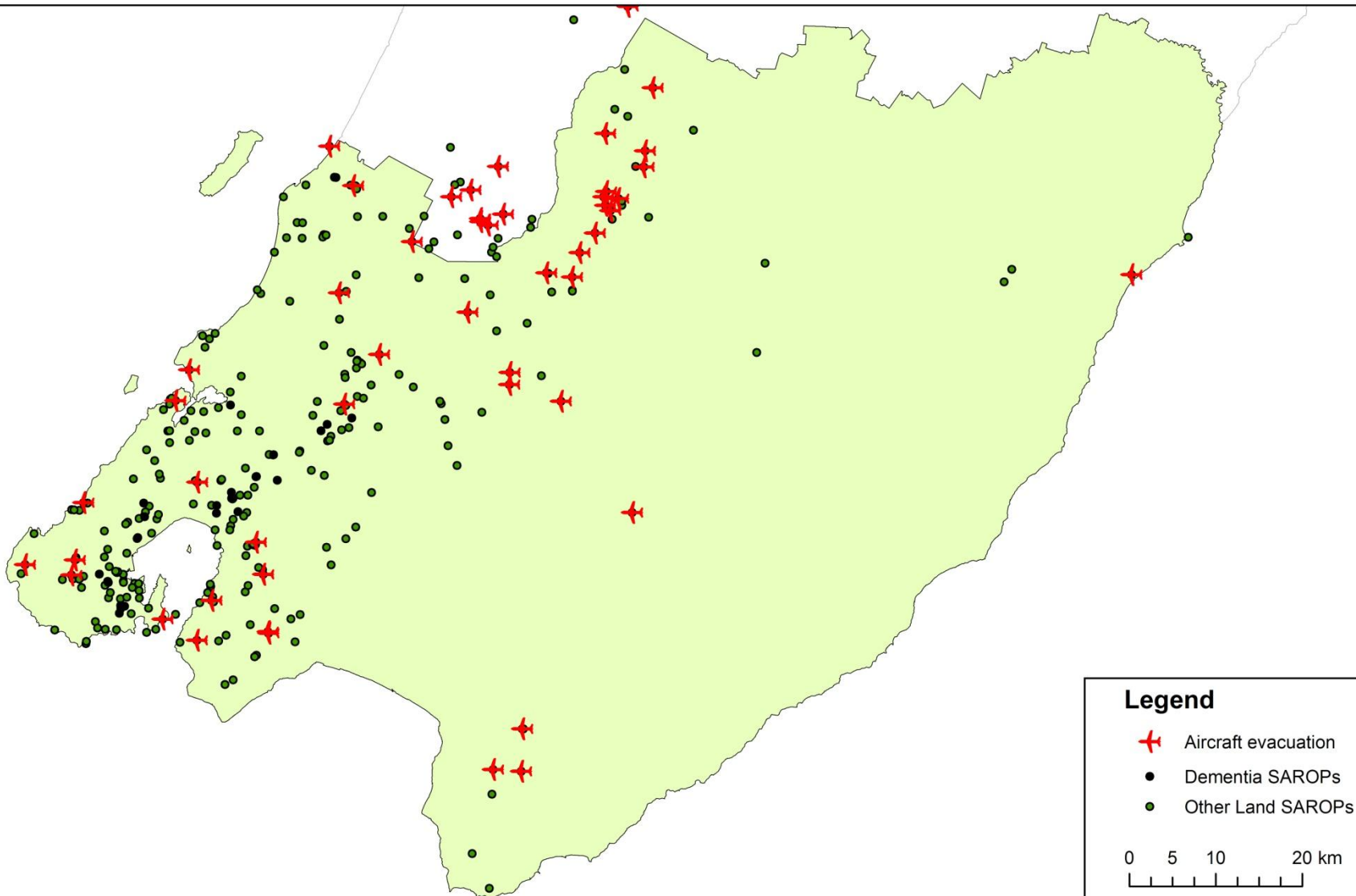


The New Zealand search and rescue sector is diverse, with a complex web of linkages to enable effective and efficient responses.





# Police Coordinated Land SAROPs - Wellington District 2005 -2009



# Help us – to help you

- P130s
  - Fill ‘em out
  - Give out event numbers to voluntary agencies
- Need to monitor SAR effectively
  - We report to the Council quarterly
- Aim is for evidence based decision making by understanding:
  - what we are doing
  - where we are doing it
  - to what effect
  - at what cost...
  - and think about what might have prevented it.





# NZSAR Workshops

## People who Wander

- Provide a forum to share ideas and improve the conduct, management, and coordination of SAR incidents for people who wander in New Zealand due to some form of incapacity.

# Outputs & Deliverables

- Be informed about relevant international research and practice
- Build a common understanding around the capture and use of statistics to inform evidence based decision making
- Identification of lessons learnt from the case studies presented
- Identification of behavioural aspects of people who wander, and medical care for them once found
- Development of operational guidelines for searches in city and provincial environments
- Development of training guidelines for searches in city and provincial environments
- Development of guidelines for use of various technological aids and tracking systems, including training, using, and supporting them
- Discuss the limitations and opportunities of using various technological aids, including operational issues and funding
- Identifying strategic issues around people who wander, including prevention strategies, and developing a framework for addressing these issues, and **for informing the follow up strategic meeting**



- Calendar function
- Lessons
- Templates (SAREX/Debrief etc etc)

Home

site search...

Go



Home

For SAR People

For the Public

NZSAR Structure

Lessons learned

Publications

Training and Workshops

Beacons

Awards

NZSAR Calendar

About Us

Contact Us

Useful Links

## New Zealand Search and Rescue

### What's New

A new [Link newsletter](#) is now available online. Read about learning SAR lessons, the NZSAR strategic plan, SAR in Action, a traing update, more statistics and much, much more.....

Login to the  
NZSAR Resource  
Database

coming soon...

[NZSAR Calendar](#)

« October 2009 »						
S	M	T	W	T	F	S
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



For SAR People



For the Public

Need to report  
someone lost  
or missing?  
**Call 111**

Username

Password

Remember Me

Security Check 14 - 13

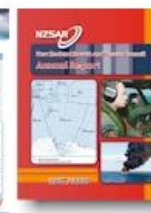
Log in

[Forgot your password?](#)

[Forgot your username?](#)

The New Zealand Search and Rescue (NZSAR) Council has a mandate from the NZ government to provide strategic leadership to the New Zealand Search and Rescue Sector.

We help improve the overall co-ordination, cohesion, capability and leadership of search and rescue by working alongside the key organisations and individuals providing search and rescue services throughout New Zealand.

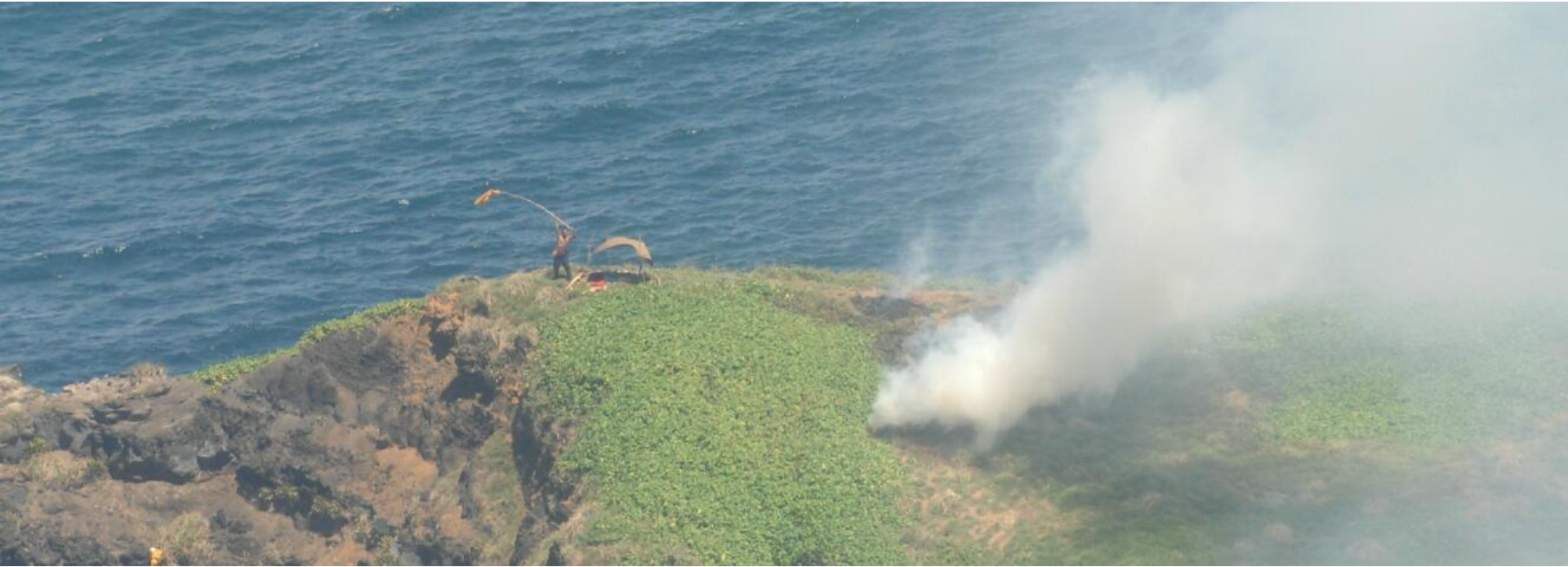


## Contact

[d.ferner@transport.govt.nz](mailto:d.ferner@transport.govt.nz)

[c.vandermeulen@transport.govt.nz](mailto:c.vandermeulen@transport.govt.nz)

End



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# NZSAR Workshops

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# Outputs & Deliverables

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## Some Statistics (Statistics NZ)

- New Zealand's population projected to eclipse 5 million by mid 2020s
- The population aged 65+ will increase from 550,000 in 2009 to 1,000,000 in the late 2020s
- One in five New Zealanders will be aged 65+ by 2031 (1 in 8 in 2009)

- The largest growth will be between 2011 and 2037 as baby boomers move into the 65+ age group
- Baby boomers will be more resistant to moving into residential care facilities – you want independence
- Most people who wander do so from private homes
- Auckland will include over 40% of the population by 2031

# What does it mean?

- We have risk in this area
- Growth area
- A lot of Police time is spent on this
- Technology is developing rapidly
- Variable standards/processes around NZ
- Perhaps we are not as prepared as we could be
- Big differences in types of wanderers
- Cultural issues to consider

## Responsibilities to address the issues?

- Prevention
- Searching
- Education
  
- LandSAR
- NZ Police
- Other agencies (Societies etc)
- Commercial options
- GPs/ Medical/DHBs etc
- Resthomes

# This workshop

- Worthwhile?
- Topics OK?
- Location
- Do it again?
- Who should run?
- Who should attend?

## Contact

[d.ferner@transport.govt.nz](mailto:d.ferner@transport.govt.nz)

[c.vandermeulen@transport.govt.nz](mailto:c.vandermeulen@transport.govt.nz)



End



# International and National SAR Research and Practice

**Where is SAR at?**



# Key Statistics

## Alzheimer's NZ Economic Impact Report 2008\*\*

- In 2008 there were 40,000+ dementia cases, increasing at 12,000+ each year
- This equates to approximately 240 new cases each week – or 35 new cases each day
- By 2026 there will be almost 75,000 people with dementia increasing by 25,500/yr or 70 each day
- By 2050 this will be 150,000 cases increasing by nearly 45,000 each year



# International and National SAR Research

- Greek physician Hippocrates first to note dementia – thought to be normal part of ageing
- 1907 Alois Alzheimer first to note changes in the brain
- Pre 1970 the diagnosis of Alzheimer's disease was restricted to patients less than 65 years-old



# International and National SAR Research

- 1973 Dennis Kelly collates the first stats of missing persons – does not include Alzheimer's
- 1977 William Syrotuck was the first to include elderly as an LPB subject category, but combined healthy elderly with Alzheimer's
- 1986 Ken Hill introduced the term 'walkaway'
- 1992 Stooksbury and Koester conduct studies into specific Alzheimer's Wandering in Virginia



# International and National SAR Research

- 1992 Robert Koester adds the Alzheimer's, Autistic, Despondent, Psychotic, and Retardation search profiles to LPB data
- 1996 the first 'comprehensive' search data for missing/lost Alzheimer's subjects published
- This data was included by Ross Gordon on SAR training courses in NZ - MLSO and S/Methods
- 2003 SARINZ hosted Robert Koester in NZ to deliver a series of one-day "Searching for Alzheimer's subjects" workshops

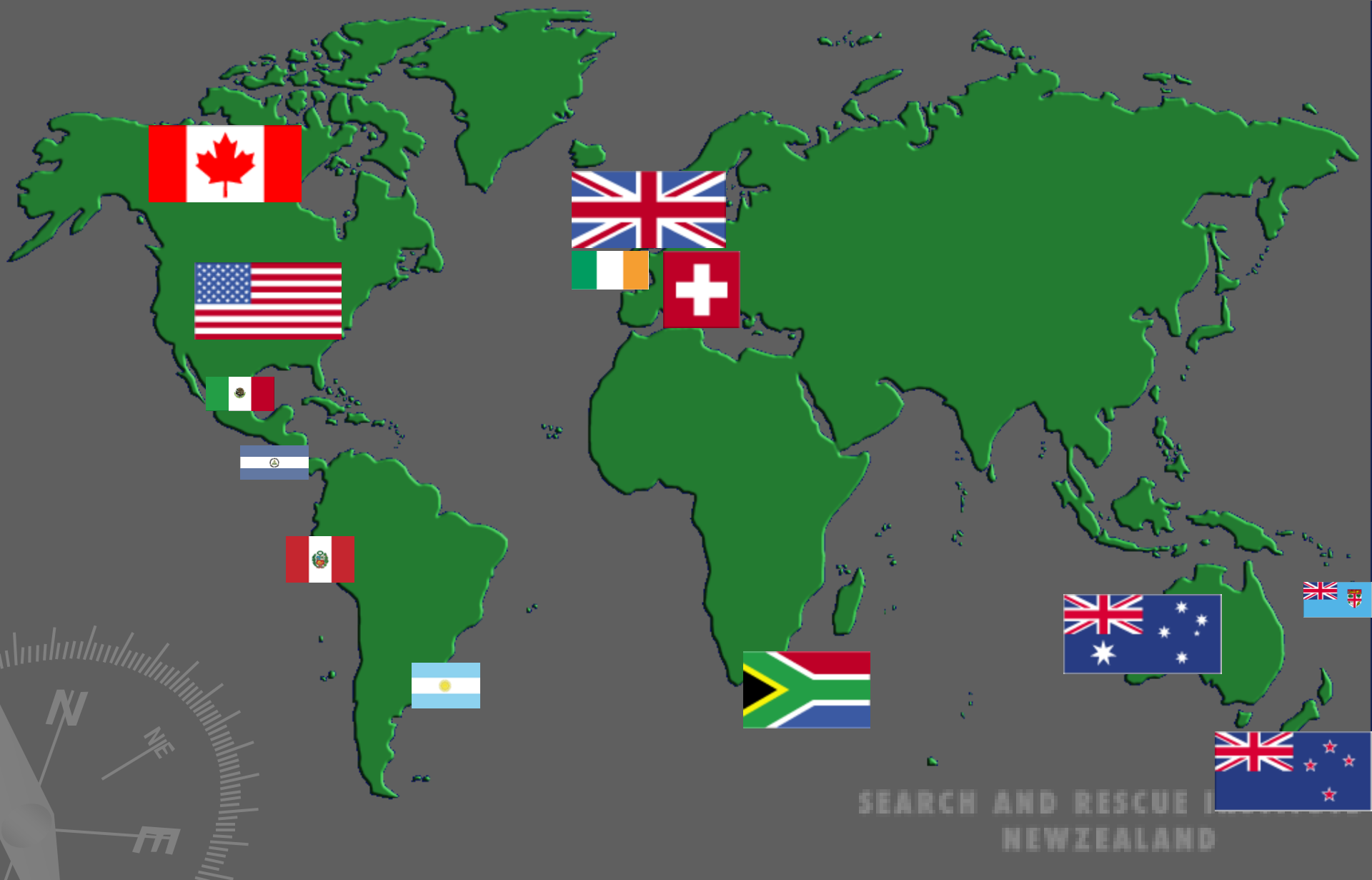


# International and National SAR Research

- 2008 Alzheimer's NZ publish the economic impact report
- 2010 SARINZ with funding from NZOG commission a study to predict the SAR response and operational requirements through to 2030
- Development of the International Search and Rescue Incident Database (ISRID) leads the way in providing search data for dementia (Alzheimer's) subjects
- SARINZ continue to run a one-day training course on Searching for Alzheimer's subjects



# Country Contributors to ISRID

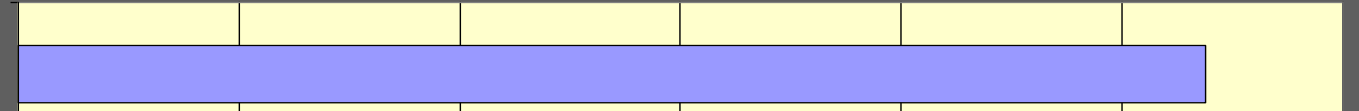




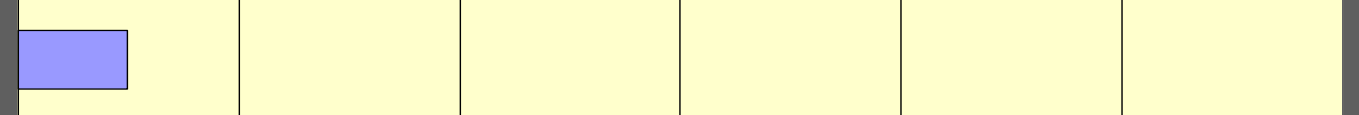
# Country Contribution



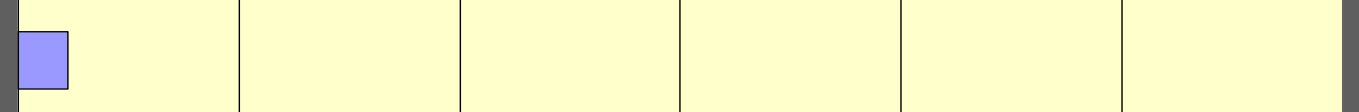
United States



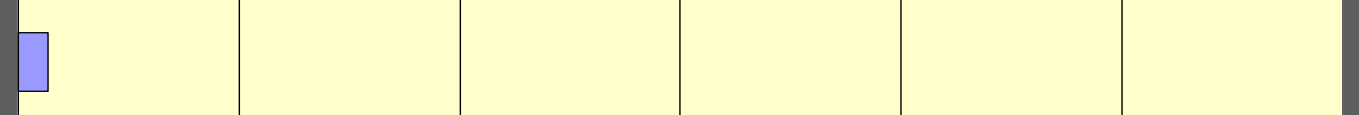
New Zealand



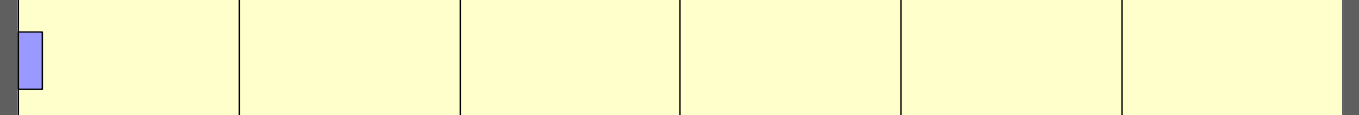
Canada



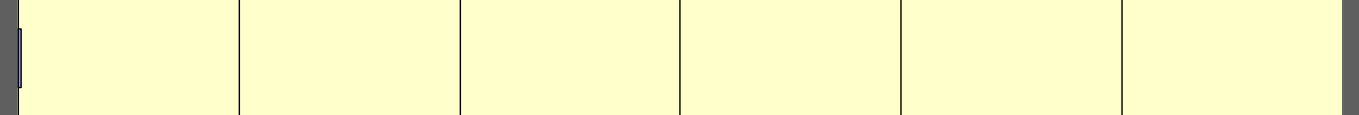
United Kingdom



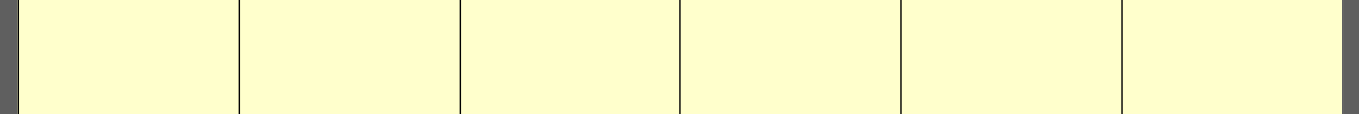
Australia



Switzerland



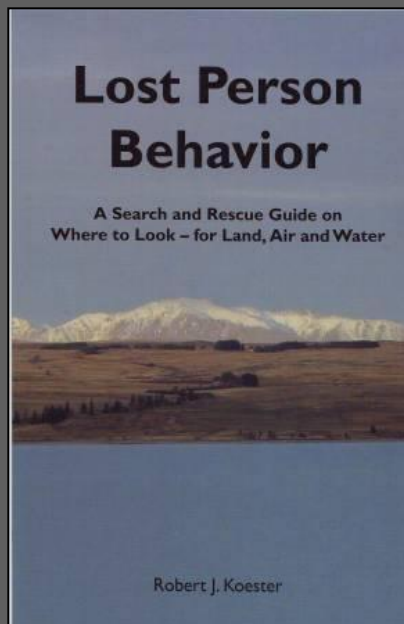
South Africa



0 5000 10000 15000 20000 25000 30000

# ISRID Current Categories

- Abduction (735)
- Aircraft (426+107)
- Angler (328)
- ATV (228)
- Autistic (62)
- Camper (196)
- Caver (254)
- Child (1179)\*
- Climber (336)
- **Dementia (1051)**
- Despondent (962)
- Gatherer (63)
- Hiker (3837)
- Horseback (105)
- Hunter (2230)
- Mental Retardation (263)
- Mountain Biker (343)
- Mushroom Picker (150)
- Other (BASE, Extreme, Motorcycle)
- Psychotic (180)
- Runner (30)
- Skier – Alpine (225)
- Skier – Nordic (125)
- Snowboarder (81)
- Snowmobiler (548)
- Snowshoer (22)
- Substance Abuser (68)
- Urban Entrapment
- Vehicle (Vehicle, 4wd, Left) 757
- Water (Boats, non powered, PIW) 777
- Worker (191)
- Youth (415)



# ISRID - Which Category?

- A 10-year old and his 6-year old brother are last seen departing their house on their mountain bikes carrying fishing poles to fish their favorite spot across a shallow river
- A 64-year old with mild Alzheimer's is dropped off to go scout out fly-fishing spots. He plans on hiking 3 miles to reach the spot



# ISRID Subject Category Hierarchy

## 1. Subject's Mental Status

Autistic, Dementia, Despondent, Mental Retardation,  
Psychotic, Substance Abuse

## 2. Subject's Age

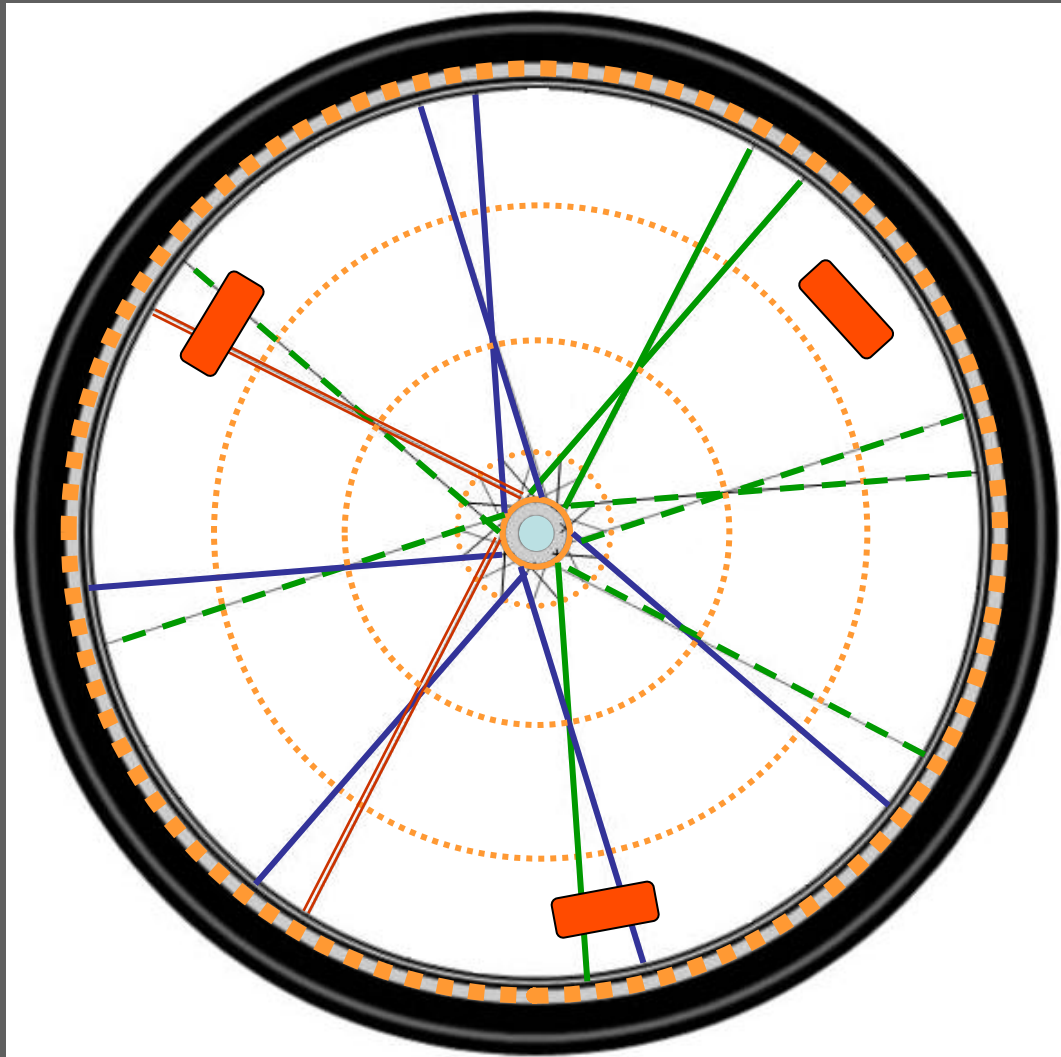
- 0-12
- Youth?
- Elderly

## 3. Activity



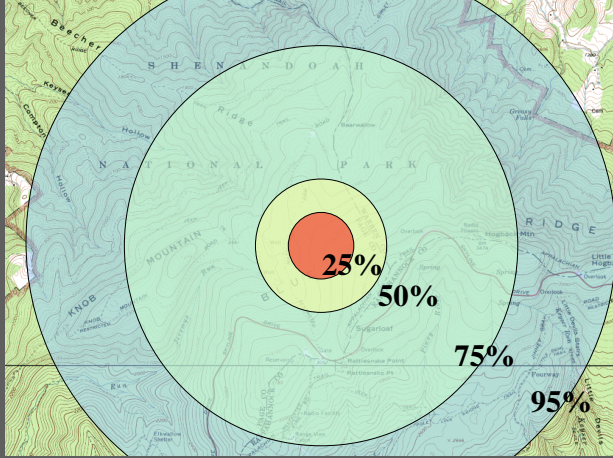
# Search Theory - The “Wheel”

2003 Koester, Gordon

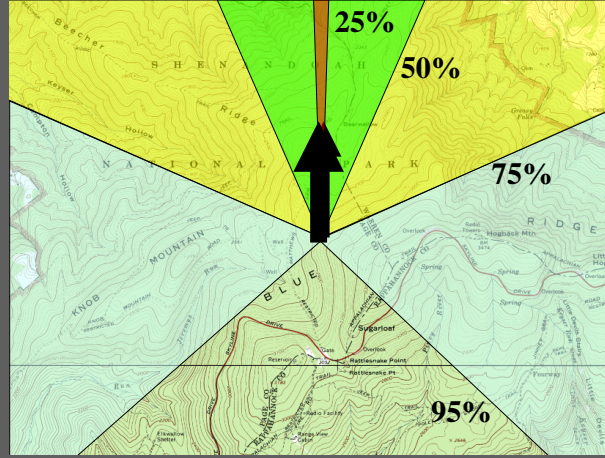


# ISRID - Different Models for POA

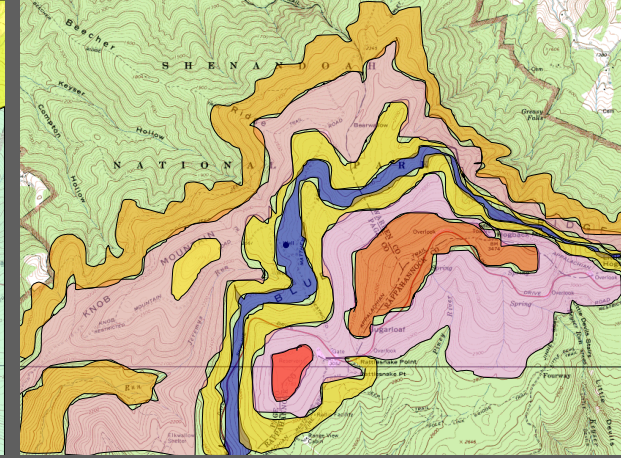
### Distance from IPP



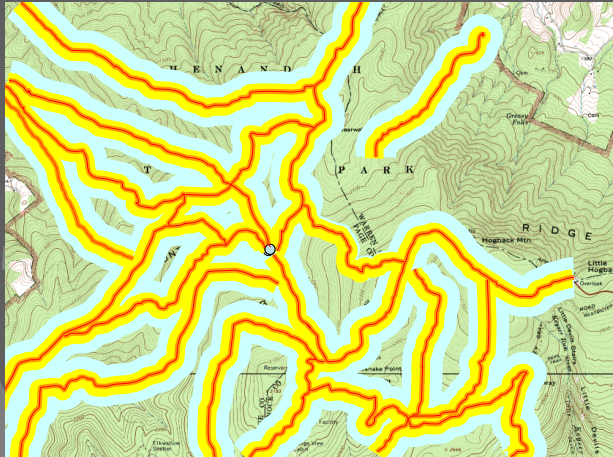
### Dispersion Angle



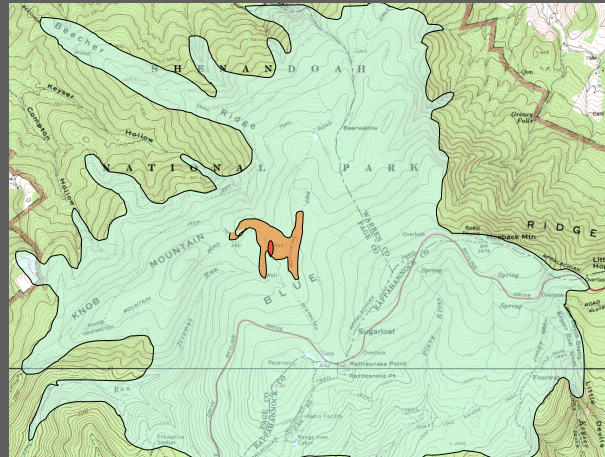
### Elevation Change



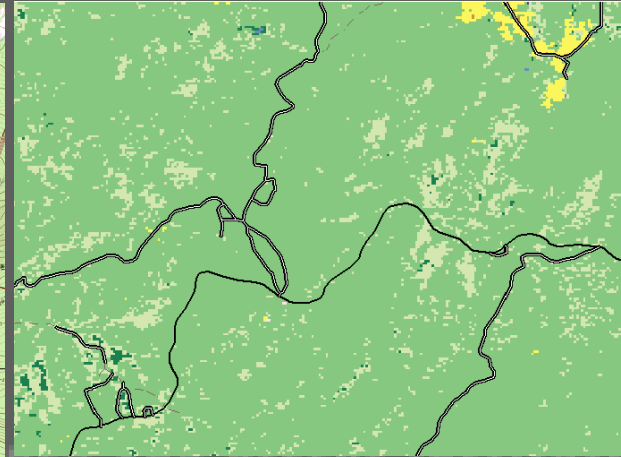
### Linear Feature Offset



### Mobility Model



### Terrain Feature



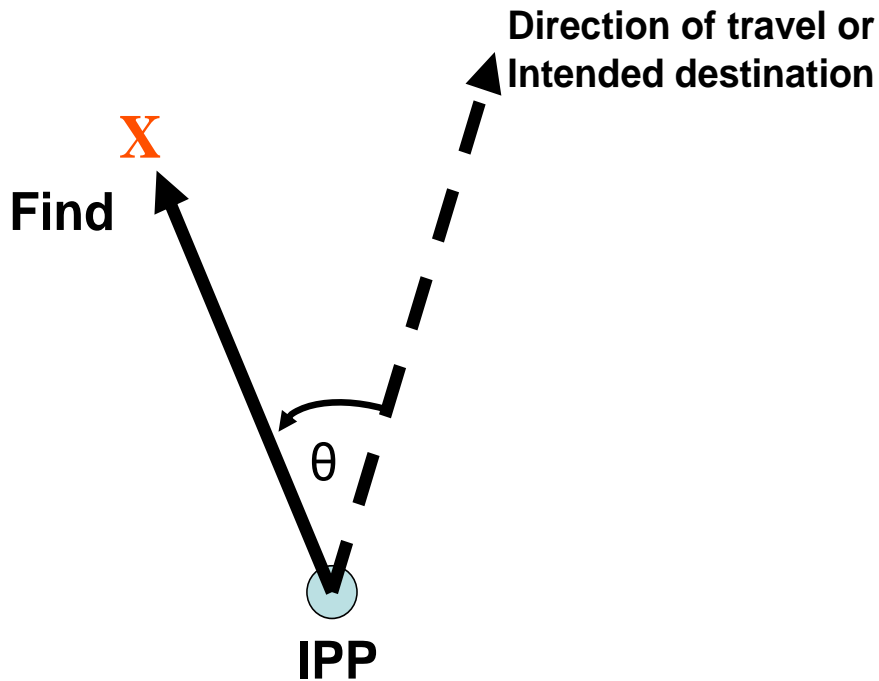
# ISRID Statistical Tables

Distance (horizontal) from the IPP (kilometers)					
	Temperate		Dry		Urban
	Mtn.	Flat	Mtn.	Flat	
<b>n</b>	<b>95</b>	<b>175</b>	<b>14</b>	<b>15</b>	<b>336</b>
25%	0.3	0.3	1.0	0.5	0.3
50%	0.8	1.0	1.9	1.6	1.1
75%	1.9	2.4	3.1	3.6	3.2
95%	8.3	12.8	6.1	11.8	12.6



# ISRID Statistical Tables

## Dispersion Angle ( $\theta$ )<sup>o</sup>



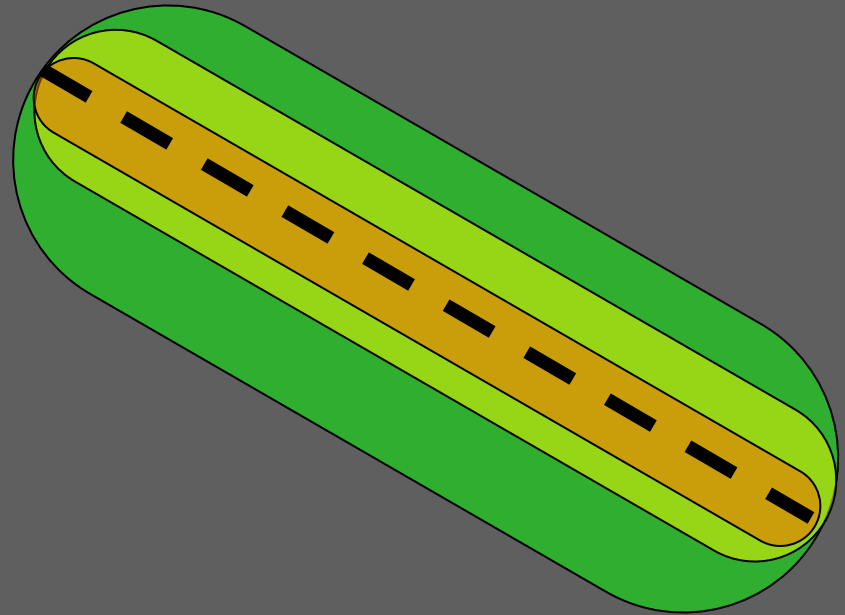
	Dispersion Angle (degrees)	
	Temperate	
<b>n</b>		<b>519</b>
25%		<b>2</b>
50%		<b>30</b>
75%		<b>76</b>
95%		<b>140</b>



# ISRID Statistical Tables

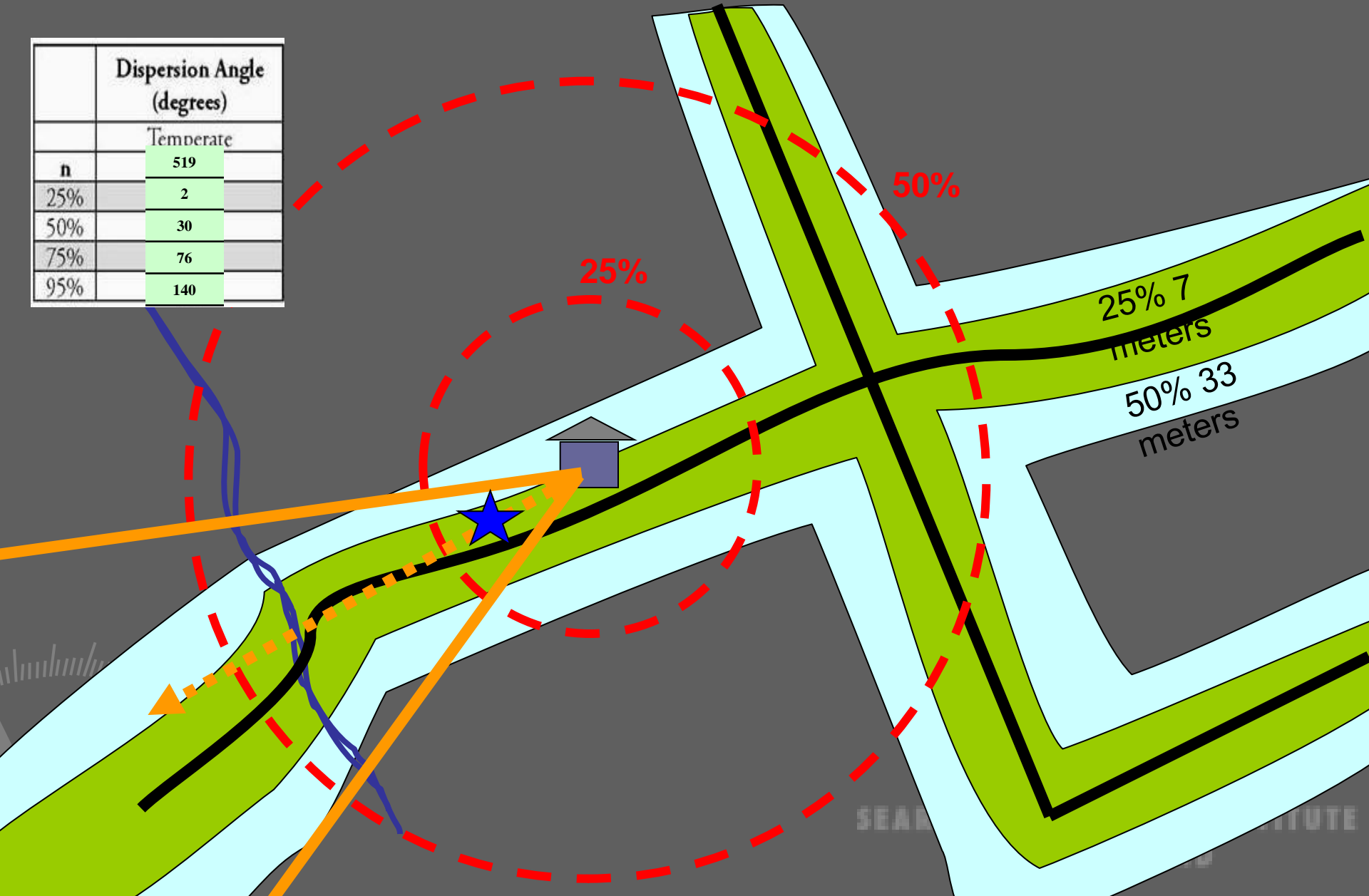
## Track Offset Model

- Dementia
  - 25% 7 meters
  - 50% 33 meters
  - 75% 150 meters



# Exercise - using the Stats

Dispersion Angle (degrees)	
	Temperate
<b>n</b>	519
25%	2
50%	30
75%	76
95%	140



# SAR now and into the future...

- Detection rates are good and getting better
- Pendants are doing a good job on diagnosed subjects – knowledge and skill is increasing but a need for national register and guidelines
- Research into slowing the onset and/or managing the effects continues worldwide
- Danger area for SAR are the first time wanderers and undiagnosed subjects yet to receive help
- Key area is going to be preventative wandering and education for at home caregivers



# SAR now and into the future...

## Key areas:

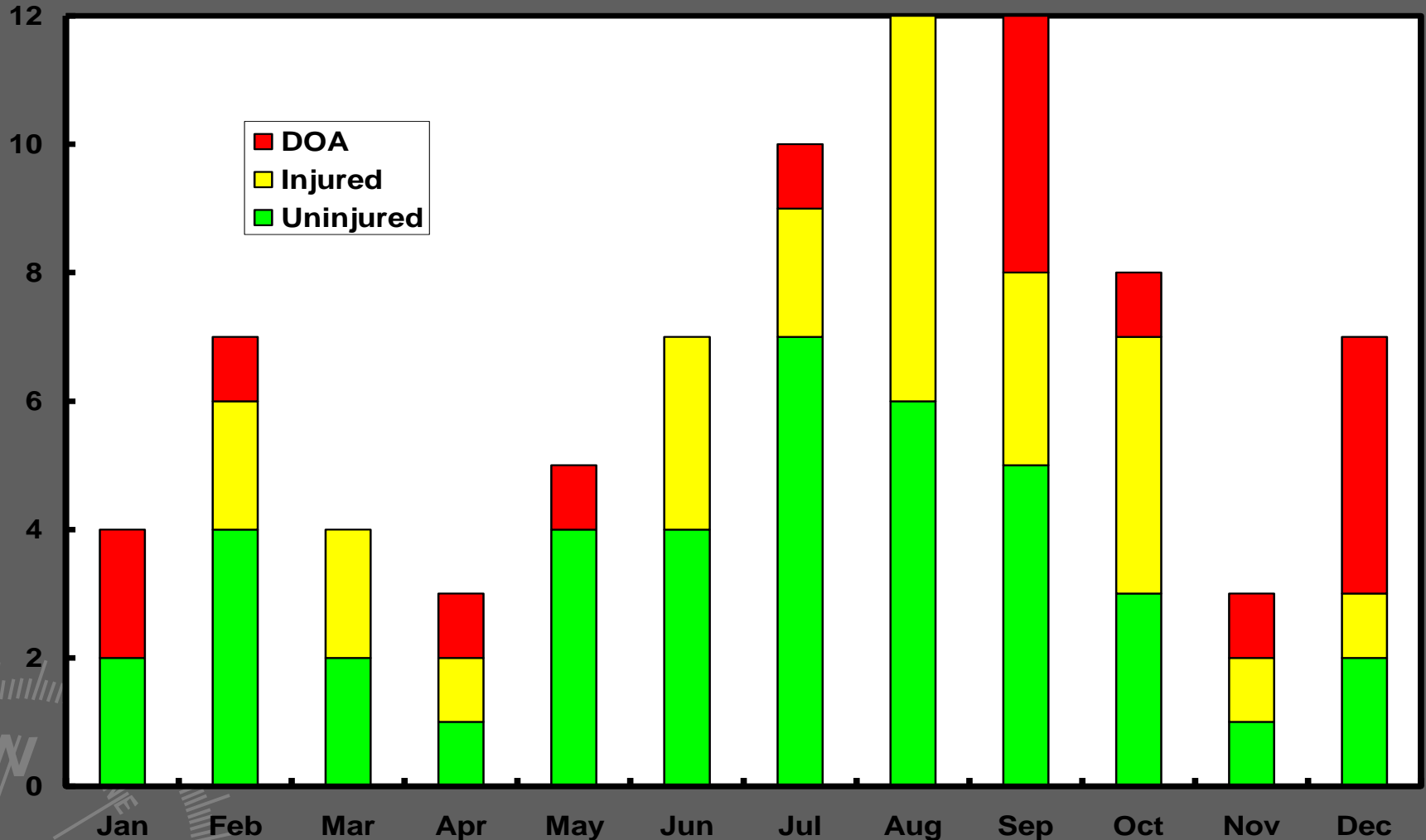
- preventative wandering techniques
- education for at home caregivers
- training of response personnel for actual on-the-ground searching and investigation/intel gathering
- availability of future volunteers – ageing population
- improvements in technology/tracking
- scientific research into specific indicators
- research into delaying the onset



# Questions?



# ISRID - Month Last Seen



## Dementia and 'wandering' Presentation to 'people who wander' workshop 21 March 2010

Introduce self: Vivienne Boyd, Education Co-ordinator, Alzheimers Canterbury which is a Member Organisation of Alzheimers New Zealand

Outline session – why adults walk, impact of dementia, appropriate responses

Why adults walk - in groups list at least 6 reasons in general:

e.g. get places – supermarket, bank, toilet, exercise, find things, reduce discomfort or pain, complete tasks, reduce stress. Body was made to move.

- People with dementia are adults too. They will want to walk for these reasons. What to us may seem to be wandering will for them have a purpose when they set out.

Impact of dementia

A. Figures and facts re dementia – (source Alzheimers New Zealand 'Dementia Economic Impact Report' 2008 available on

<http://www.alzheimers.org.nz/assets/Reports/AnnualReports/exec-summary-EIDiNZ-report.pdf>

Current estimate over 40,000 NZers have dementia, by 2026 estimate is over 74,000 and by 2050 over 146,000 (p11). Risk of dementia increases with age but not all elderly people will have dementia. Estimate that of over 90 year olds 1 in every 3 (p9). And people under the age of 65 can have dementia. Current estimate in NZ over 2,000 (p43)

B. What is dementia?

Refer to leaflet – definition, types, and symptoms that relate to 'wandering

- gradual memory loss – set off for shops or house of live or deceased family member/friend then forgets where going
- impaired judgement – brain not recognising when weather is hot or cold and on a cold day in light clothes follow others out of a secure unit, falling/tripping on uneven surfaces e.g. woman found down a river bank
- disorientation of time and place – looking for home and not recognising their own home, not recognising hitherto familiar landmarks (though may be able to describe them)
- personality changes – becoming more withdrawn and a crowd can be noisy and a lot of movement so person walks away
- changes in mood or behaviour – feels trapped with a group and wants to be 'free' so walks away, feeling stressed and sees an open door so goes through it
- problems with language- unable to express needs e.g. get to toilet and goes outside to find it
- misplacing things e.g. keys, money so go looking for them

Appropriate responses, my suggestions (SAR):

**Slow** – if you are on foot speak as you approach them from the front not behind, walk with them or if you are in a car, pull up slowly not fast, and quietly rather than noisily acknowledge - attract their attention calmly, identify yourself, use their name and offer them a ride, tell them and **show** them what you want them to do e.g. get in the car, follow you

**Avoid** – **arguing**, reminding them they are lost, taking personally any comments or other behaviours at this point

**Reassure** – that you have come to assist them; then **redirect** them towards home  
(Discuss these suggested in small groups)

Acknowledge:

- other Alzheimers organisations' representatives here and assure participants happy to answer questions about dementia/talk further about it with you here and in our areas
- availability of Alzheimers New Zealand information sheet leaflet 'Wandering'



**Autism New Zealand Inc.**  
Including Asperger Syndrome and Related Disorders

# Introduction to Autism Spectrum Disorder





**Autism New Zealand Inc.**  
Including Asperger Syndrome and Related Disorders

- Autism – Current facts
- What is ASD, Autistic Spectrum Disorder?
- What will make your job easier!



**Autism New Zealand Inc.**  
Including Asperger Syndrome and Related Disorders

## Current Facts:

- Current estimates – 1:100 children diagnosed with ASD. 10 years ago 1:2000
- It is possible to identify some children as having ASD at 12-18 months. Autism can be reliably diagnosed as young as two.
- There are up to 40,000 people who have ASD in NZ



**Autism New Zealand Inc.**  
Including Asperger Syndrome and Related Disorders

## Triad of Impairments (Lorna Wing):

- Social Behaviour
- Communication
- Imagination
- Sensory issues



**Autism New Zealand Inc.**  
Including Asperger Syndrome and Related Disorders

# What is Autism Spectrum Disorder?

Diagnostic Criteria for Autism Spectrum Disorder DSM-IV 1994

## Social interaction

- Failure to develop peer relationships
- Impairment in use of non-verbal behaviours (e.g. Gestures, eye contact)
- Lack of sharing enjoyment

## Communication

- Delay or lack of spoken language
- If have language, deficient conversational skills
- Repetitive use of language
- Impaired make-believe play

## Restrictive/Repetitive & Stereotypic Behaviour Patterns

- Routines/Rituals
- Repetitive motor mannerisms



## What do I need to know and ask:

- *What way does your child/young person communicate?*
- *How does he or she react to touch ?*
- *What are the ways or what items does he/she uses to calm themselves?*
- *Key thought to remember is this population can react in different ways while stressed ie fight or flight or fright.*



**Autism New Zealand Inc.**  
Including Asperger Syndrome and Related Disorders

## Autism NZ INC.

[www.autismnznz.org.nz](http://www.autismnznz.org.nz)

0800AUTISM

Local Branches in most communities

Auckland Branch : Gretchen Deans Davis Mob 021 473 824

65 Morningside Drive ,St Lukes

09 846 0913

[Gretchen.deans-davis@autismnznz.org.nz](mailto:Gretchen.deans-davis@autismnznz.org.nz)

# People with Intellectual Disabilities

... who sometimes “wander”

# Who are we talking about?

- Children and adults with enduring learning disabilities
- More like us than different from us
- Enormous individual variation
- May have additional disabilities
- Some wander, some flee - or both

Remember - of the total population of intellectually disabled people in NZ very few get lost



# Our services strive to....

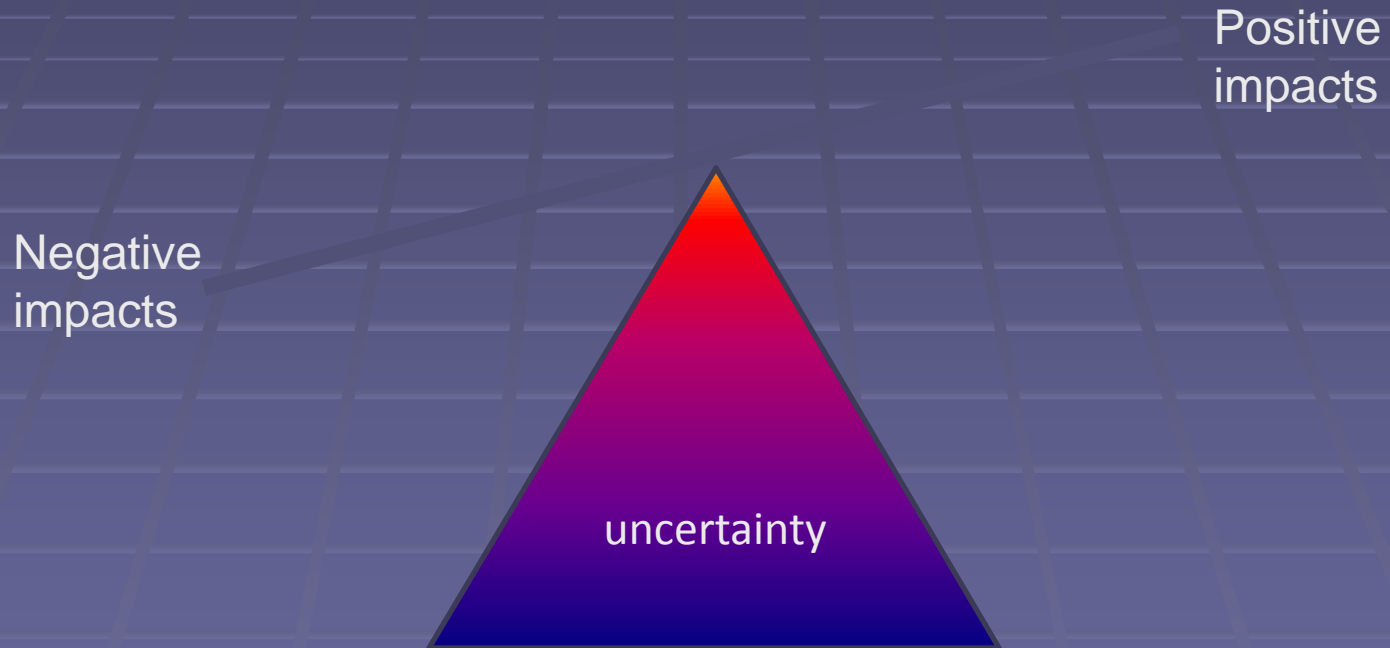
- enable people to have an ordinary life
- recognise that people with disabilities with support can and do participate in our communities
- promote the legal rights of people with disabilities in NZ, recognising international law and Code of Rights
- offer safe and responsible support to enable people to achieve their potential

# Services are therefore about...

- support and enrichment, not care and control
- promoting opportunities and maximising active participation in all elements of society
- everyday homes staffed by everyday people - not nurses, not wardens, not house-mothers

*Effective support includes occasionally supporting people to take risks*

# Balanced decision-making



# Unhelpful assumptions that may hinder a search

- the person will answer if called
- the person will want to be found / be grateful
- preconceptions about disability leading to flawed use of profiling tools
- viewing adult with disability as 'childlike'

# What might help you

Ask us for :

- Historical and current information
- What the person is wearing
- known destinations or 'fascinations'
- Likely response to searches by strangers
- Familiar faces and things which would allay fears and distress

# In memory of Lewis...

- Organisational overhaul of planning and management of supported activities
- Revision of Incident Reporting system
- Development of tools for managers to manage known risks safely
- Development of ongoing Risk Management professional development programme for all staff
- Creation of 'Sentinel Events' framework
- Missing persons policy

## Questions remaining

- How soon to alert emergency services?
- How to balance use of qualified rescue staff, with possible benefits of using people familiar to the missing person?
- How to empower natural supports (friends, staff) to take a meaningful role?
- Could we improve in other ways?

# 5 Golden Rules

- Risk is a feature of everyday life
- People need support not protection
- Think before you act
- Act when worries are still little
- You are not on your own







# NEW ZEALAND POLICE NATIONAL STATISTICS WANDERERS LIVING WITH DEMENTIA



Presented by  
Delanie HALTON  
Auckland LSAR  
Administration Officer  
NZ Police

# What was collected

- It was initially decided to collect stats only for persons living with dementia.
- Basic information was obtained so as to give an overall impression rather than in depth analysis
- Information included:
  - Times and date
  - Details of missing person
  - Location missing from
  - Who found the missing person

# Why Collect these stats ?

- It was decided to collect these statistics to give a bigger police perspective of the problem.
- The information will help each district to assess their problem and act on it if necessarily.
- To determine if any additional SAR response was necessary for individual areas.

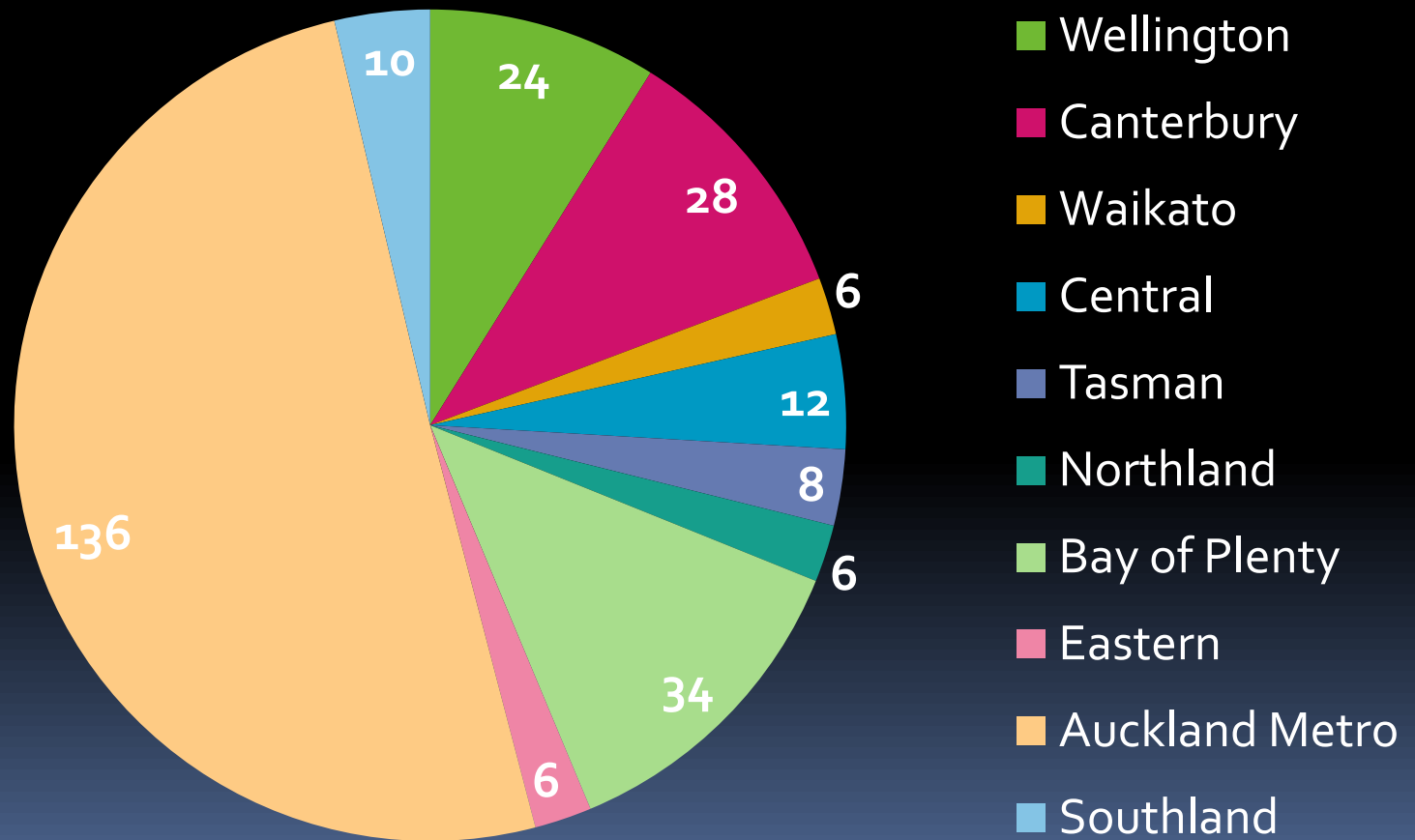
# Where do the national stats come from


- Police CARD system creates an event for each job.
- 4 months were surveyed .
- Jobs looked at for information were missing persons (2M) and land searches (1L).
- Each job was analysed and basic information was obtained
- Although Auckland is made up of 3 districts the information was recorded as 1 identity as the 3 districts are serviced by 1 SAR group

# Total number of missing persons per district each month


District	Nov-07	Mar-08	Jun-08	Aug-09	Total
Wellington	5	5	5	9	24
Canterbury	4	6	8	10	28
Waikato	1	2	1	2	6
Central	5	2	3	2	12
Tasman	2	2	4	0	8
Northland	1	1	3	1	6
Bay of Plenty	10	4	6	14	34
Eastern	1	1	1	3	6
Auckland					
Metro	29	31	27	49	136
Southland	4	3	1	2	10
	62	57	59	92	270

# Total number of missing persons per district





# Making the information equitable

- Due to the varying sizes of the police districts it was decided to represent the data as a per capita figure for the next table and graph.
  - This gives a fairer representation for all districts
- 

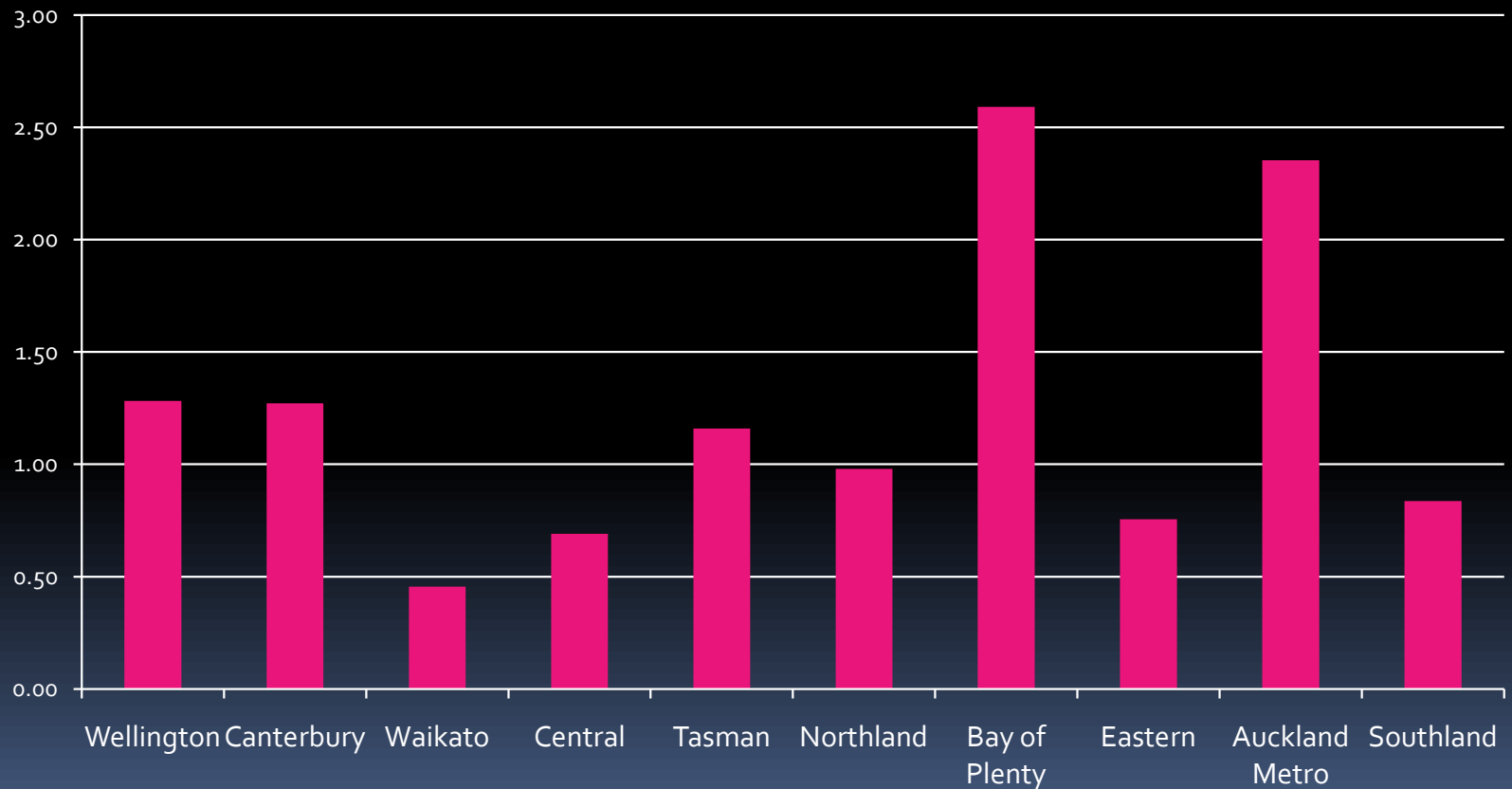
# Making the information equitable cont.

	total	per month	population	per 100000
Wellington	24	6	467920	1.28
Canterbury	28	7	550385	1.27
Waikato	6	1.5	329060	0.46
Central	12	3	434395	0.69
Tasman	8	2	172535	1.16
Northland	6	1.5	153045	0.98
Bay of Plenty	34	8.5	328005	2.59
Eastern	6	1.5	198520	0.76
Auckland Metro	136	34	1444840	2.35
Southland	10	2.5	299035	0.84




# Missing Persons per population

Missing persons per 100,000 people in population

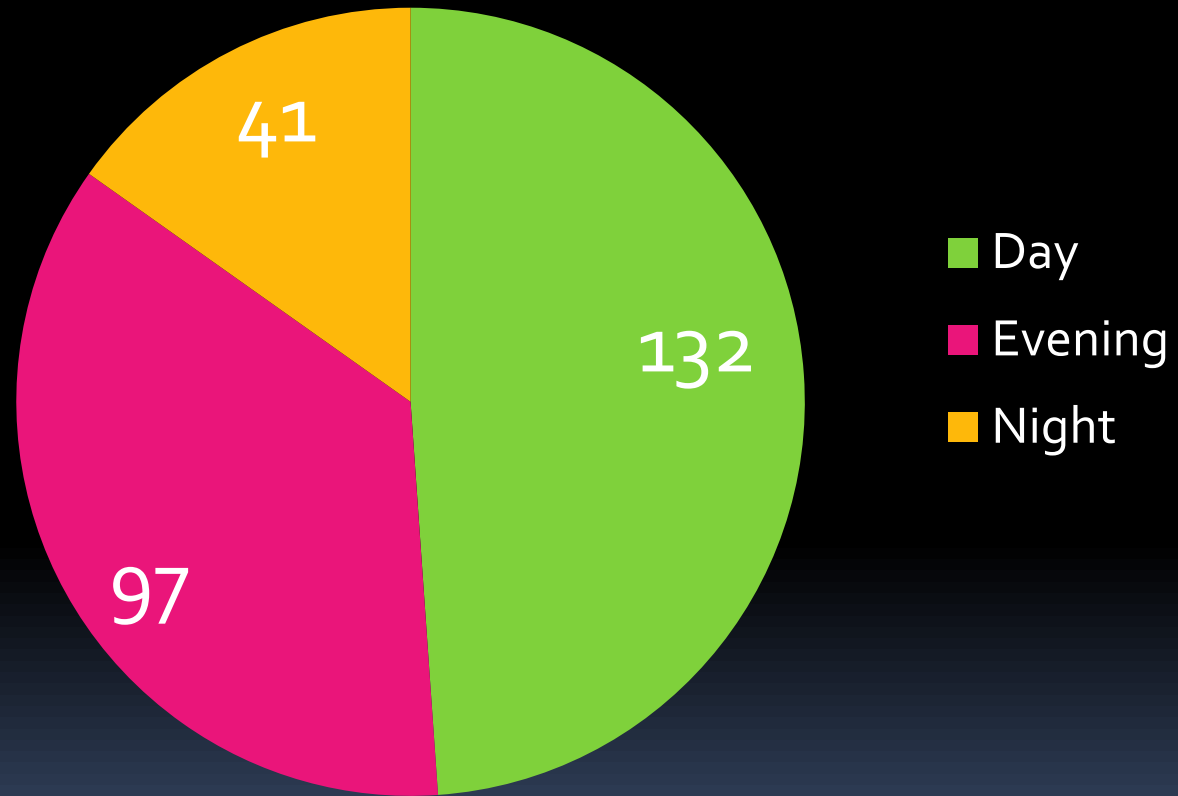




# Time of day Person Reported missing

- The time when the missing person was reported missing was split into 3 time groups
    - Day 07:00 – 16:59
    - Evening 17:00 – 20:59
    - Night 21:00- 06:59
- 

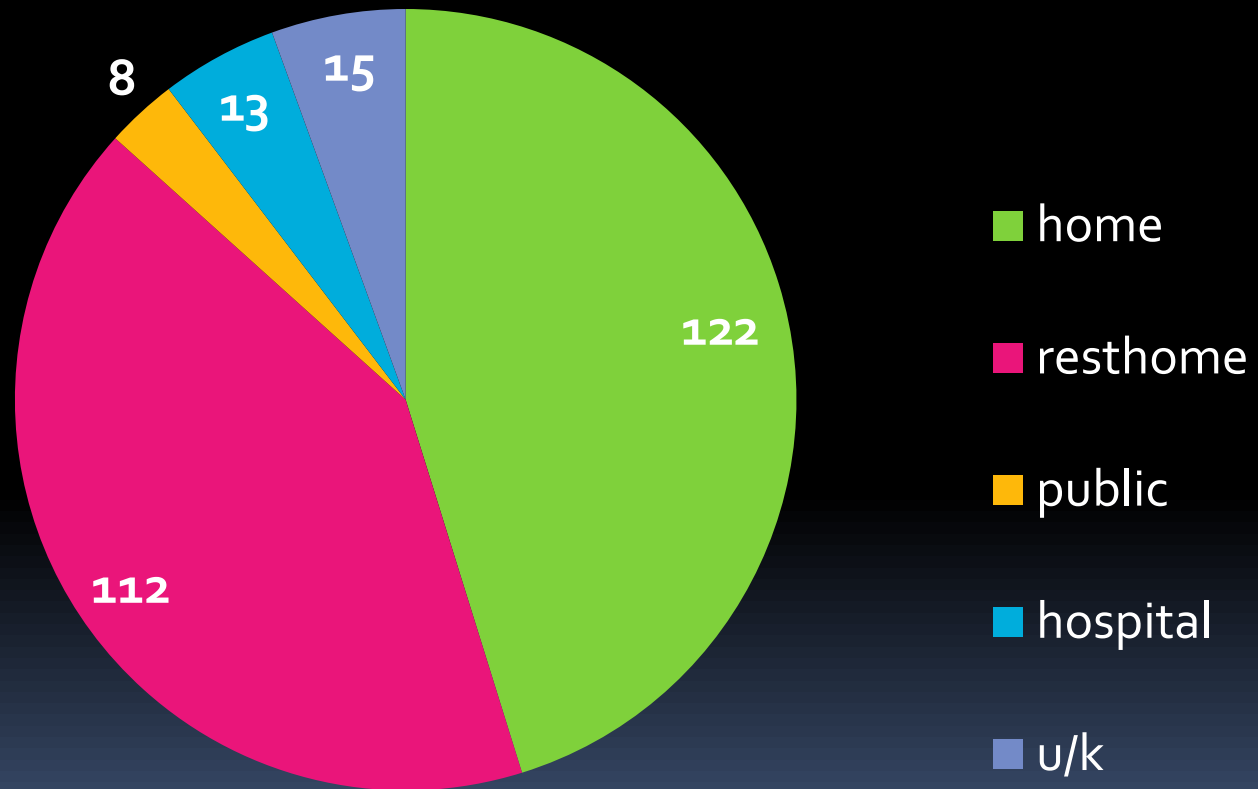
# Time when person reported missing



# Where the person went missing from

home	resthme	public	hospital	u/k
122	112	8	13	15

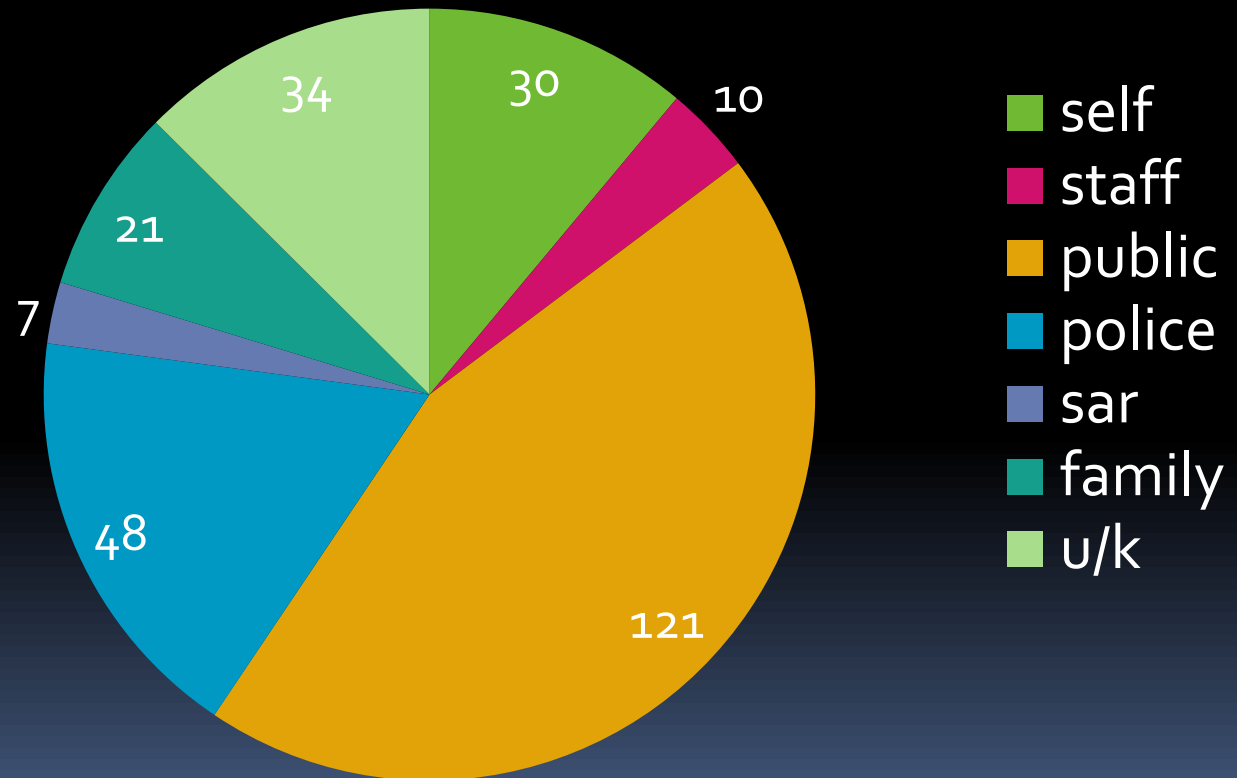
# Where the person went missing from



# Who located the missing person

self	staff	public	police	sar	family	u/k
30	10	121	48	7	21	34

# Who located the missing person

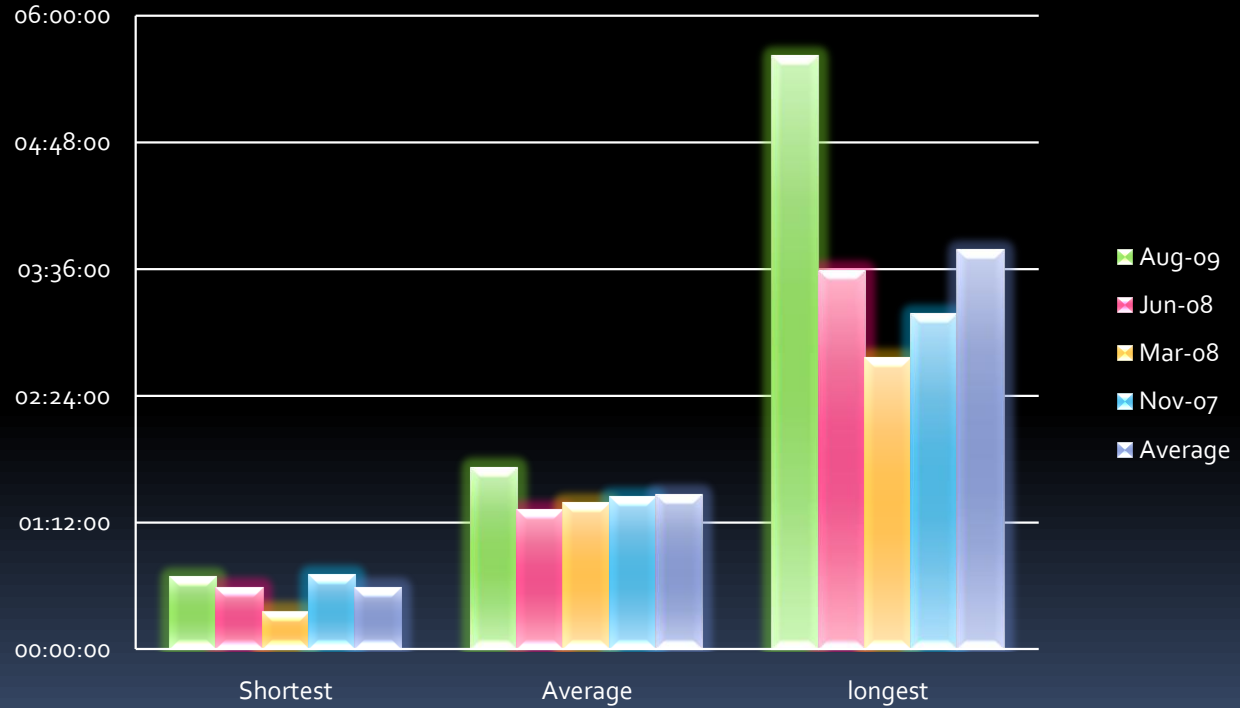


# Average length of police job

	Shortest	Average	longest
Aug-09	00:41:00	1:43:00	05:37:00
Jun-08	00:35:00	1:19:00	03:35:00
Mar-08	00:21:00	1:23:00	02:45:00
Nov-07	00:42:00	1:26:00	03:10:00
<b>Average</b>	00:34:45	1:27:45	03:46:45



# Length of police job

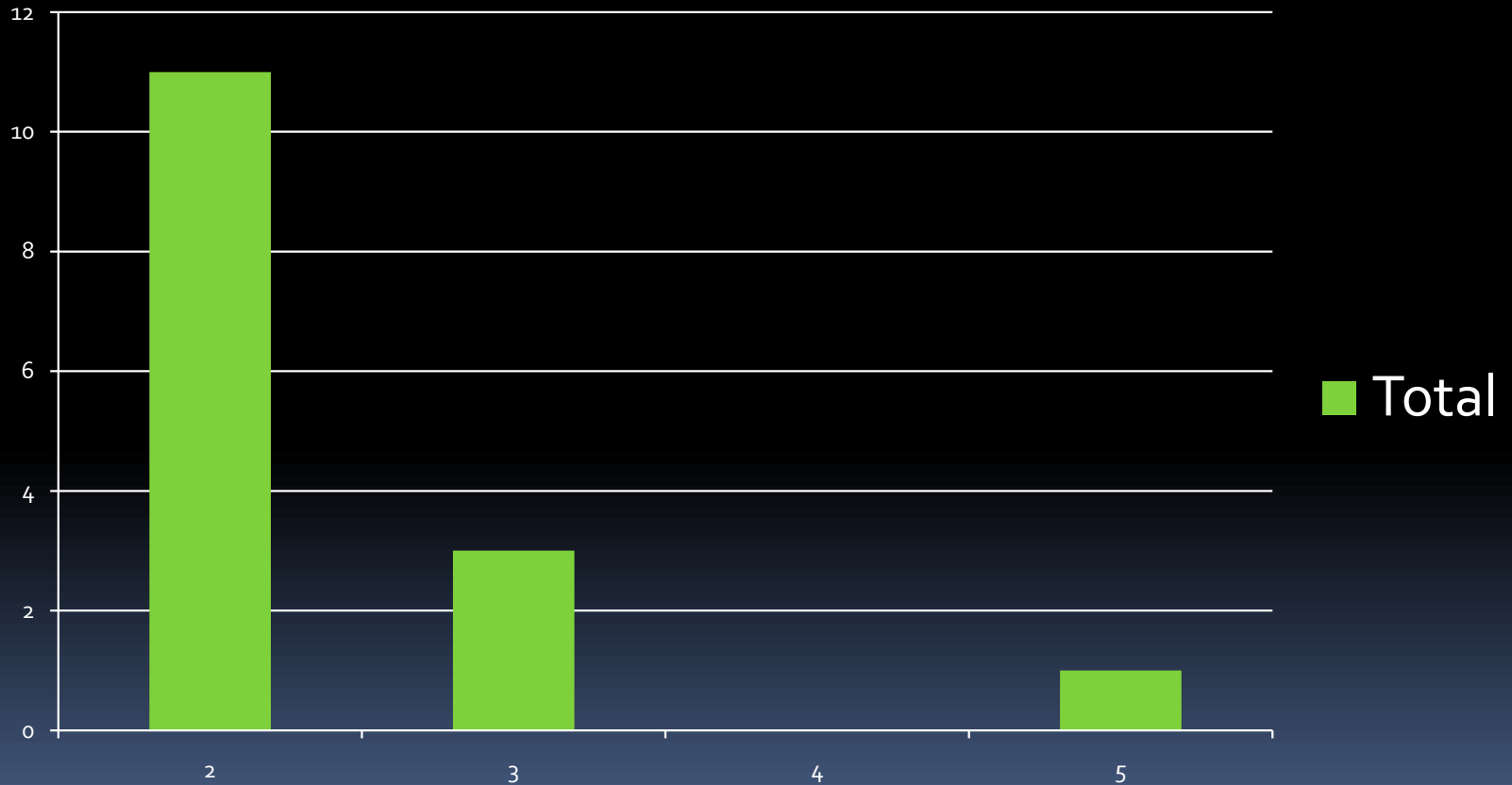


# Person wandering regularly

No. of times wandered	2	3	4	5
Nov-07	5			
Mar-08				
Jun-08	2	2		
Aug-09	4	1		1
<b>Total</b>	<b>11</b>	<b>3</b>	<b>0</b>	<b>1</b>

# Persons wandering reg

Persons wandering multiple times per Month





# How does this relate to search and rescue

- Everyone of these missing persons is a potential search involving SAR
- Private homes and rest homes are identified as a high risk for people to wander from.
- Some prevention measures in these areas may significantly reduce missing person police jobs.



# Conclusion

- This study has given an insight as to how big the problem is and resources needed to deal with this issue.
- It also identified the limited role SAR has with these missing people at this time.
- It has identified that different districts have varying levels of numbers of missing people

# New South Wales Land Search & Rescue

Response Procedures



# Coordinating Authorities

- Australian Maritime Safety Authority
  - Maritime
  - Aircraft
- New South Wales Police Force
  - Land
  - Aircraft
  - marine



## Appendix B: Search and Rescue Functions and Responsibilities

Overall Coordinator (See Note 1)		Function to be performed by or on behalf of the overall coordinating authority					
For land, sea and air Search and rescue	Responsible Authority	Provision and coordination of air SAR Units	Provision and coordination of land SAR Units	Provision and coordination of marine SAR Units	Communications (other than air/surface)	Air/ground communications for land search and rescue	Aircraft/ship communications where direct communications not available
In respect of aircraft on the International Civil, National Civil (VH) and Recreational Aviation Australia (RAA) registers; and manned space vehicles.	RCC	RCC	Police	RCC	RCC	RCC	RCC
In respect of ADF aircraft and foreign military aircraft in the Australian SRR (Other than ADF ship borne aircraft)	RAAF	RAAF	As arranged by RAAF/Army authorities	RAN	RAAF	RAAF	RAAF
In respect of ADF and foreign military ships and submarines and ship borne aircraft	RAN	RAN	As arranged by RAN/Army authorities	RAN	RAN	RAN	RAN
In respect of ADF and foreign military personnel in a land environment	Army	Army	As arranged by Army authorities	RAN	Army	Army	Army
In respect of pleasure craft and fishing vessels at sea and commercial/charter vessels that come under the jurisdiction of the State or Territory, unregistered aircraft (See Note 1), persons missing in a land or coastal environment, land vehicles, persons and vessels on inland waters, and all non-military vessels in port	Police	(a) Police (b) RCC (c) ADF when service aircraft are involved. (see note 2)	Police	Police	Police	Police/ RCC	Police
In respect of vessels other than those for which the police and defence force are responsible	RCC	RCC	Police	(a) RCC (b) Police See note 3	RCC	RCC	RCC
In respect of unidentified distress beacon alerts	RCC	RCC	Police	(a) RCC (b) Police See note 3	RCC	RCC	RCC

Notes:

1: Overall coordination responsibility may, if necessary, be transferred to or from Commonwealth and State/Territory, by agreement, during the conduct of a search and rescue mission

2: RCC involvement shall apply when Police have requested RCC to 1, Accept coordination of the air search; and/or 2, arrange for the provision of aircraft.

3: Police involvement shall apply when RCC have requested Police to 1, Accept coordination of surface air search; and/or 2, arrange for the provision of marine SRU Units



# Policies/Procedures/Authority

- National Search & Rescue Manual
- National Land Search Operations Manual
- Intergovernmental Agreement between states and territories (Police in charge)
- NSW Police Incident & Emergency Standing Operating Procedures



# Response Agencies

- New South Wales Police Force
  - Police Rescue Squad
  - Operational Support Group
  - Aviation Support
  - Communications etc
- Rural Fire service (v)
- National parks & Wildlife service
- State Emergency Service (v)
- Volunteer Rescue Association (v)
- Other volunteer & government agencies



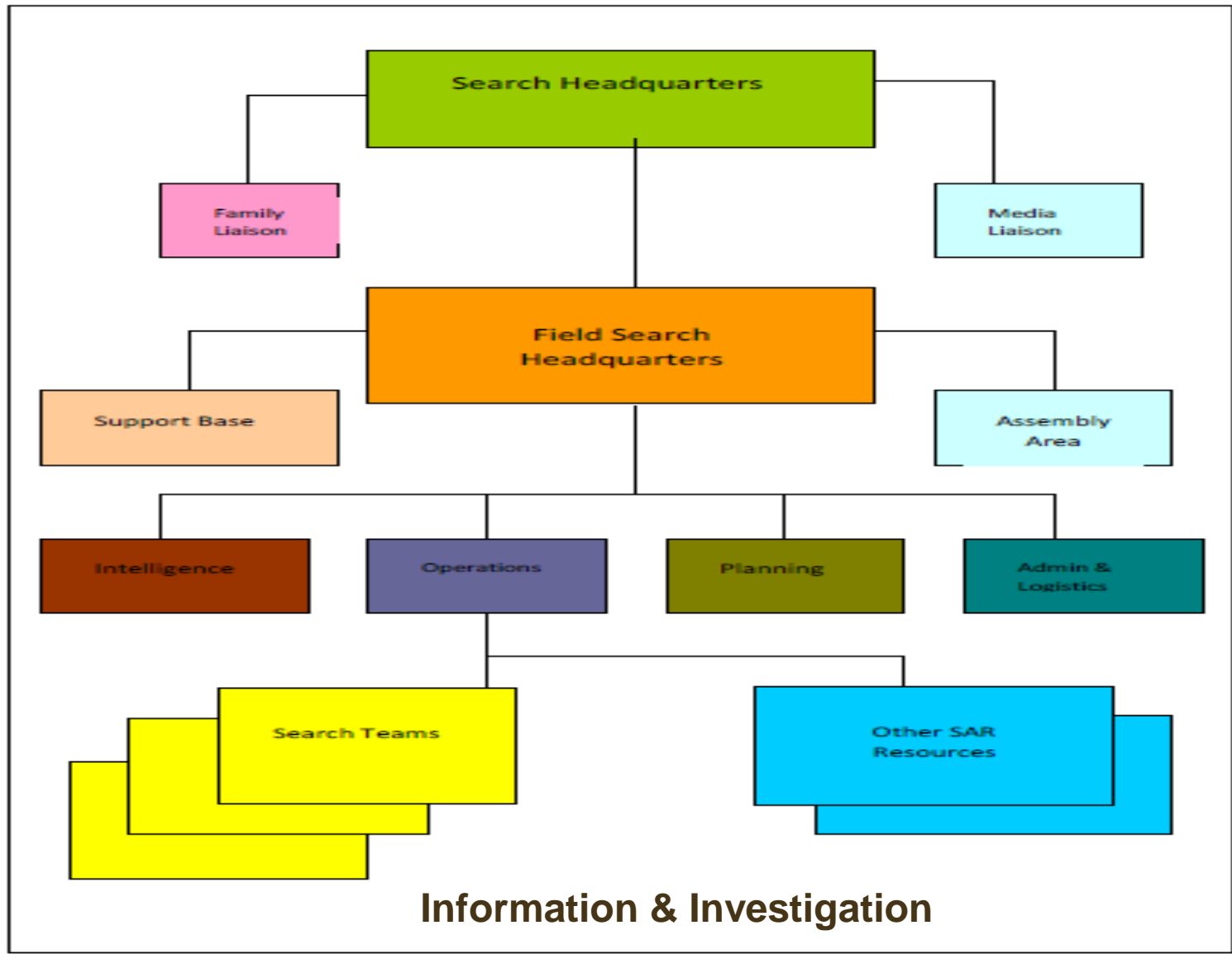
# Management

- Police Control & Coordinate all land based searches through *Search Controller* and *Search Coordinator* roles
- Volunteer & other support agencies may perform roles within the ICS structure
- Police & other support agencies perform team leader roles



# Appendix N

## Land Search Organisation Chart



# Training Requirements

- *Police Search Controller*
  - No formal SAR qualifications required, normally the senior police officer from the area where the SAR operation is being conducted
- *Police Search Coordinator*
  - Must have completed the State Land Search Coordinators Course or
  - The National Police Search Managers Course
- *Police Rescue Operators*
  - NSW Police Rescue Operators Course
- *Volunteer & other support agencies*
  - *Internal training courses*



# Response

- Initial action on report of Lost person/s
  - Hikers Questionnaire
  - Missing Person questionnaire
  - Police Event Report
- Senior Officer/Supervisor reviews
- Advise Rescue & Bomb Disposal Unit
- Appoint Search Coordinator once decision to launch search operation
- Search Urgency Assessment completed



# Response Continued

- PLB activation
  - Police from local area advised by AMSA of location of beacon, ongoing coordination between Police & AMSA until resolved
  - Initial actions resources responded to location (aircraft/medical/ground party)



# Ongoing Operations

- Normally two Search Coordinators appointed to ongoing operation (>12 hours)
- Search Controller appointed by local Commander
- ICS implemented
- Records/logs maintained





# Prevention

- Think before you TREK
  - Information
  - Trip Intention
  - Beacon loan



# Statistics

- In 2008/2009 Police recorded 96 reported land searches\*
- Of these approximately 30% fell into the category of “wanderer”
- Blue Mountains Police Rescue Squad attends an average of 55 searches per year
- The number of people diagnosed with dementia (in Australia) is projected to increase, with the number of cases increasing from 245,400 in 2009 to 1.13 million cases by 2050. (Alzheimers Australia/Access Economics)
- By 2016, the older population (people aged 65 years and over) is expected to outnumber the younger population (people aged 0-14 years) for the first time in the history of NSW. (Older People, NSW, 2004-ABS & others)



## Panel: The Future

- Identifying strategic issues around people who wander, including prevention strategies, and developing a framework for addressing these issues, and for informing the follow up strategic meeting.
- Consider commercial options.
- Consider prevention issues.

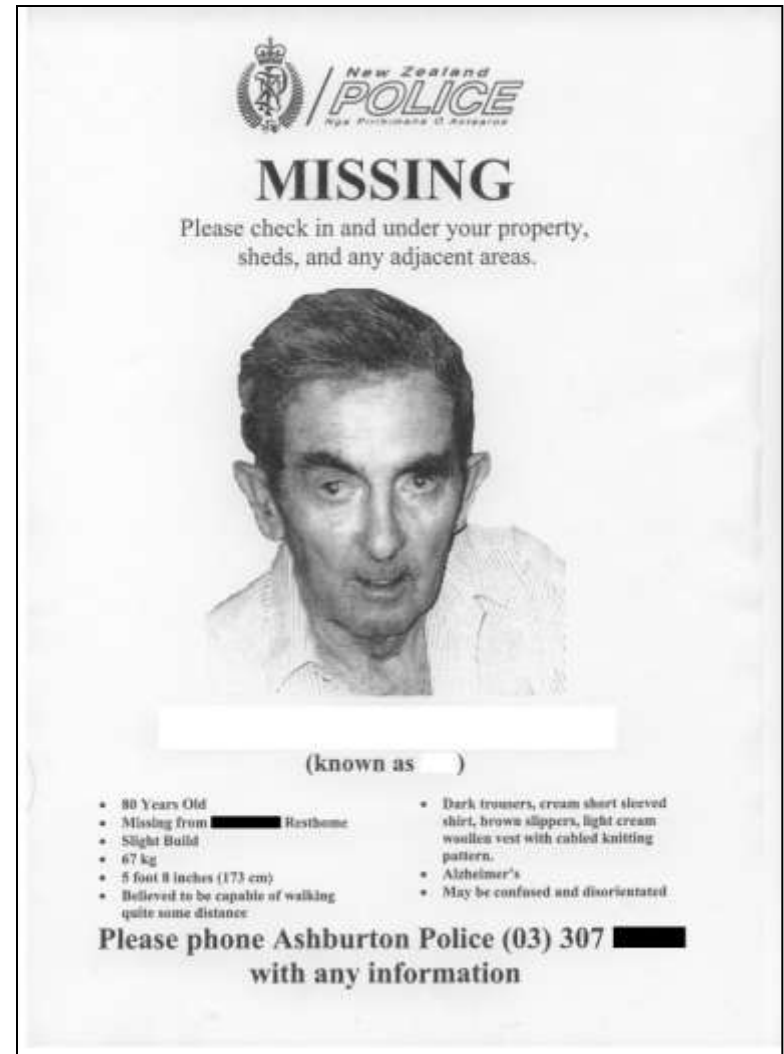
## Some Statistics (Statistics NZ)

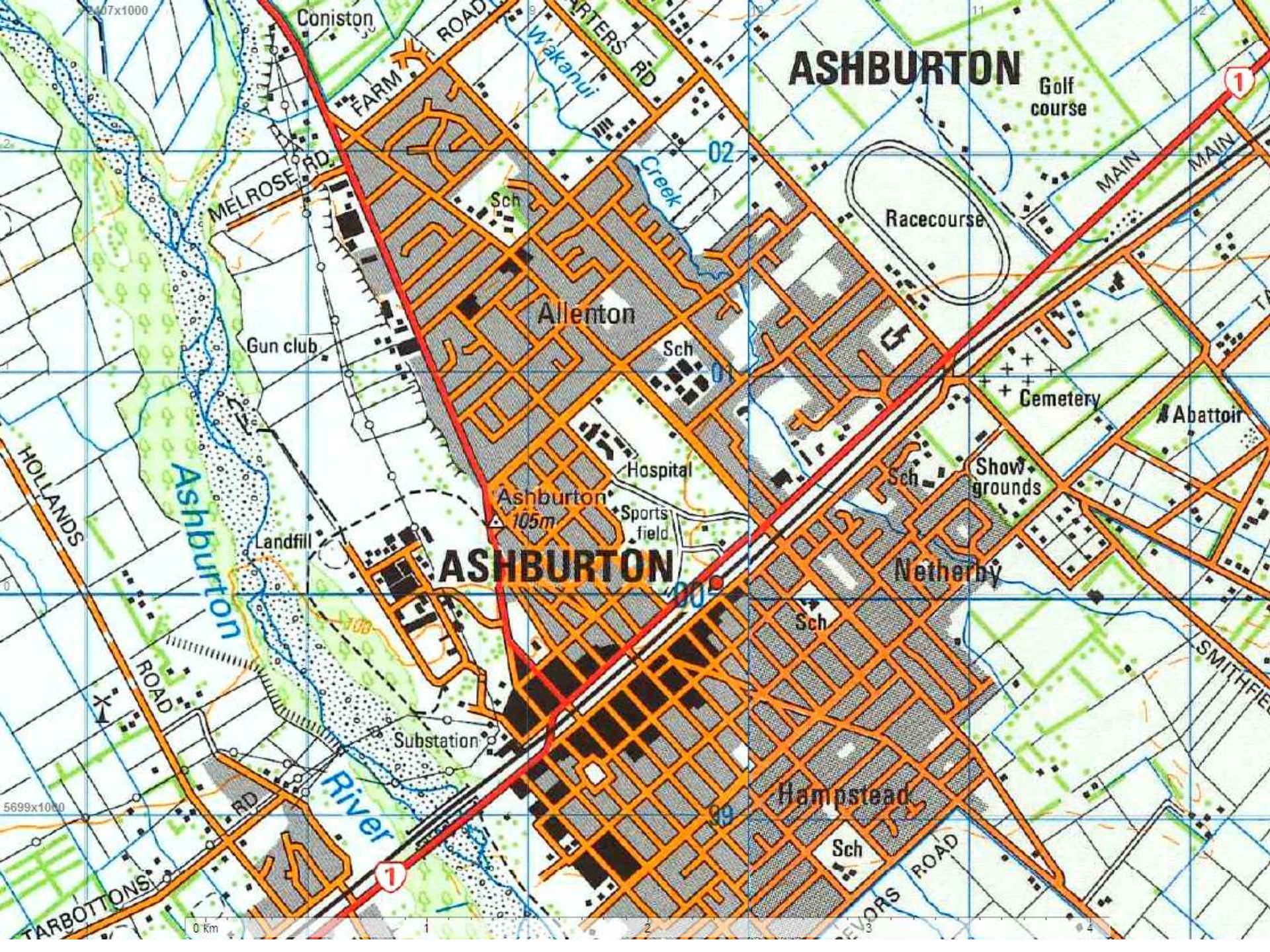
- New Zealand's population projected to eclipse 5 million by mid 2020s
- The population aged 65+ will increase from 550,000 in 2009 to 1,000,000 in the late 2020s
- One in five New Zealanders will be aged 65+ by 2031 (1 in 8 in 2009)
- The largest growth will be between 2011 and 2037 as baby boomers move into the 65+ age group
- Baby boomers will be more resistant to moving into residential care facilities – you want independence
- Most people who wander do so from private homes
- Auckland will include over 40% of the population by 2031

# Profiling of first time wanderers

# Case Study: Op Hannan

- Last seen in his room 2130
- Noticed missing during room check at 2205pm Sat night
- Rest home staff check buildings – notice an external door ajar
- 2030 – Police notified
- 2300 – LandSAR notified
- 2330 – First teams onsite





# ASHBURTON

Golf course

Racecourse

Allenton

Ashburton  
105m

# ASHBURTON

Netherby

Hampstead

Ashburton  
River

0 km



Allenton

Ashburton

Netherby

Hampstead

0 km

1

2

106



6698x100



# Initial Response

It is now 11:30pm Saturday night

- Identify **3 tasks** you are going to do right now?
- Identify **3 questions** you want answers to right now?



LINZ Parcel ID 3327209  
Town of Ashburton  
Section 1277  
0.376km<sup>2</sup>

LINZ Parcel ID 3316711  
Survey Office Plan 20157  
Section 3  
0.079km<sup>2</sup>

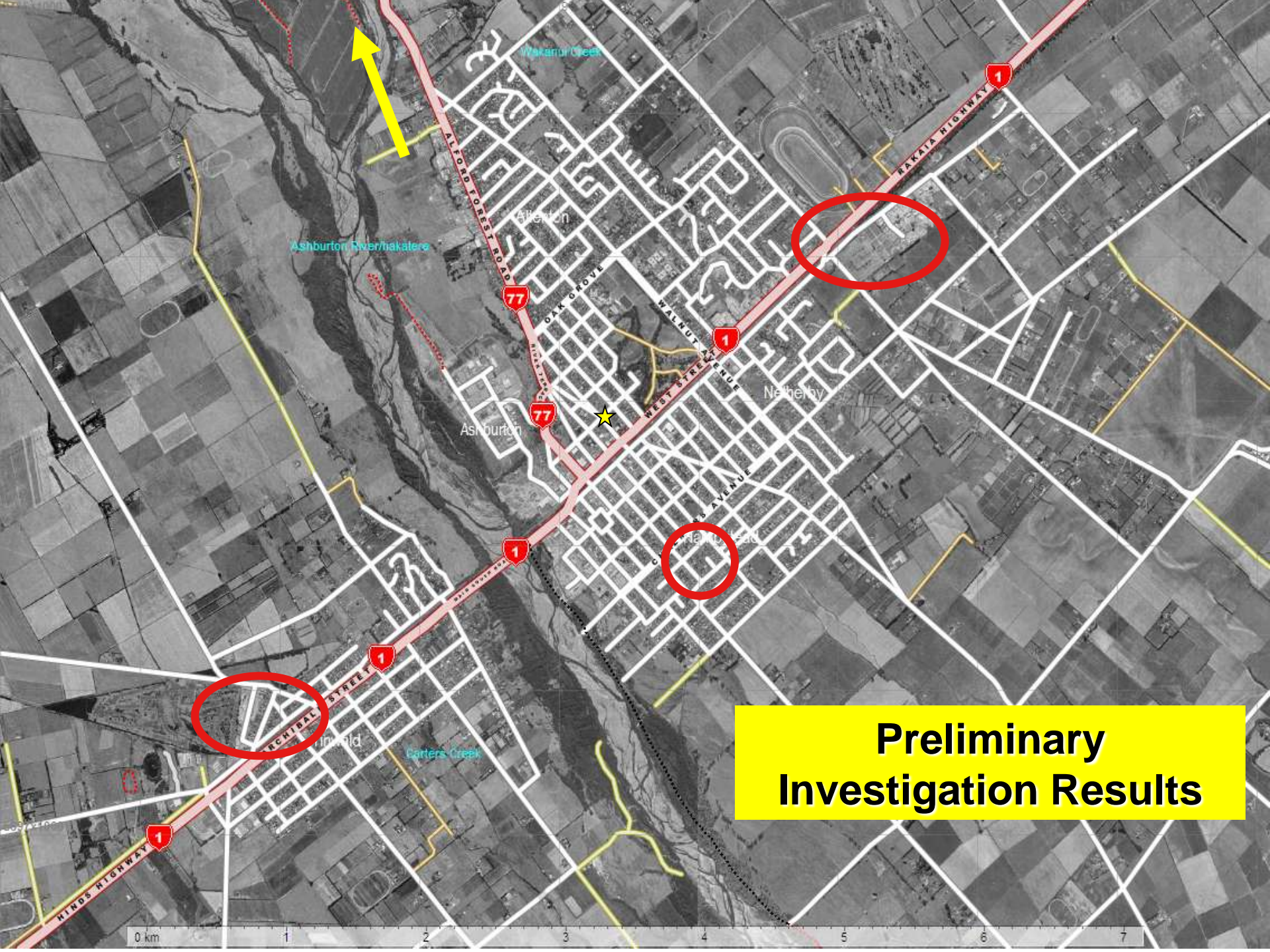
LINZ Parcel ID 3431527  
Rural Section 40632  
0.031km<sup>2</sup>

LINZ Parcel ID 3372252  
Reserve 1833  
0.014km<sup>2</sup>

0.016km<sup>2</sup>

0 100 200 300 400 500 600 700 800 900 m

Of Search and Rescue Excellence



**Preliminary  
Investigation Results**

# Day 2 - Sunday

It is now 9am Sunday morning

- What are **3 more questions** you want answered now?



Allenton

Ashburton

Netherby

Hampstead

0 km

1

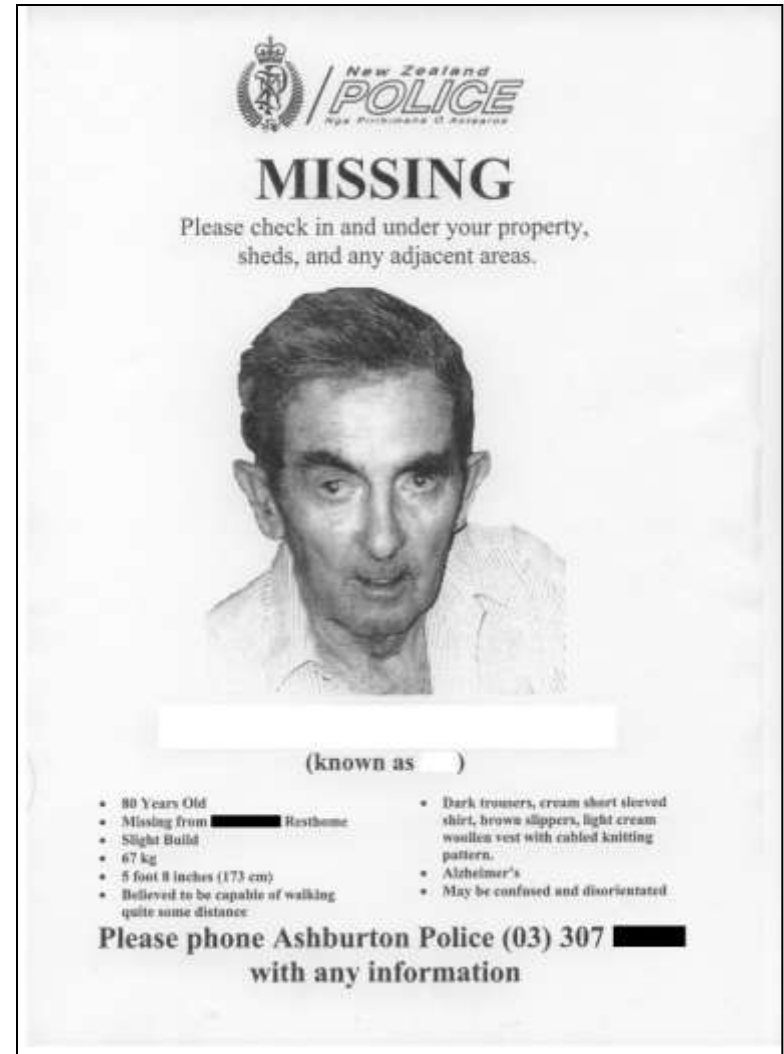
2

# Case Study – April 2007

Flyers are delivered to every home and business in Ashburton and Tinwald urging residents to search their own properties, approximately 6000 flyers in total

Most residential flyers are delivered by the local Scout group as part of the search operation


Approximately 3000 residential properties and most business also receive a visit from a Search team



New Zealand **POLICE**  
*Kōwhiri Pōhoro*

## MISSING

Please check in and under your property, sheds, and any adjacent areas.



(known as [redacted])

- 80 Years Old
- Missing from [redacted] Resthome
- Slight Build
- 67 kg
- 5 foot 8 inches (173 cm)
- Believed to be capable of walking quite some distance
- Dark trousers, cream short sleeved shirt, brown slippers, light cream woolen vest with cabled knitting pattern.
- Alzheimer's
- May be confused and disorientated

Please phone Ashburton Police (03) 307 [redacted] with any information

# Reported Sightings



Allerton

Ashburton

Netherby

Hampstead

0 km

2

# Day 3 - Monday

It is now 9am Monday morning

- What are some key tasks now?





0 km

2

# Location Pictures



**Wandered from Care Facility approx 9:45pm**  
**Found 3 days later in a residential backyard**



**Fell over the fence in the dark and could not  
get back up**





**Approximate straight line distance from home to find location  
= 200 metres**

# Profiling – key points

You have decided that you need to take action:

- You can't search everywhere
- Search should be an Intel led process

# Profiling – key points

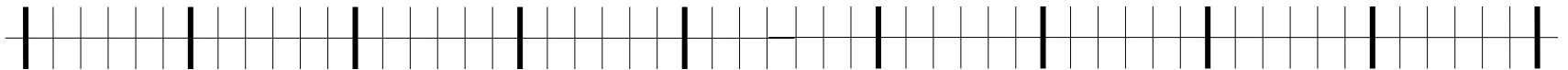
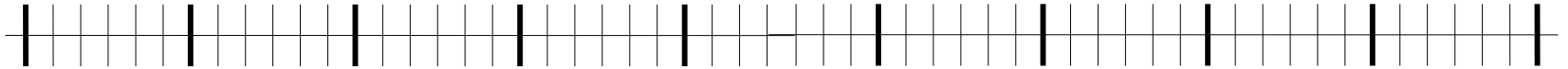
- Every subject has some specific traits. Consult
  - subject specialists (alz, autism etc)
  - family
  - caregivers
- Start digging and keep digging – don't stop asking questions
- *“Run me through a day in the life of...”*



# Profiling – key points

- Needs a quality Planning/Intel section early
- Needs to be a joint effort – subject spec/SAR/Police
- Start digging and keep digging – don't stop asking questions

# Profiling - Timelines




Major events in subject's life



# Profiling of first time wanderers


# Case Study: Op Hannan

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 **New Zealand**  
**POLICE**  
*Nga Pirihimana O Aotearoa*

**MISSING**

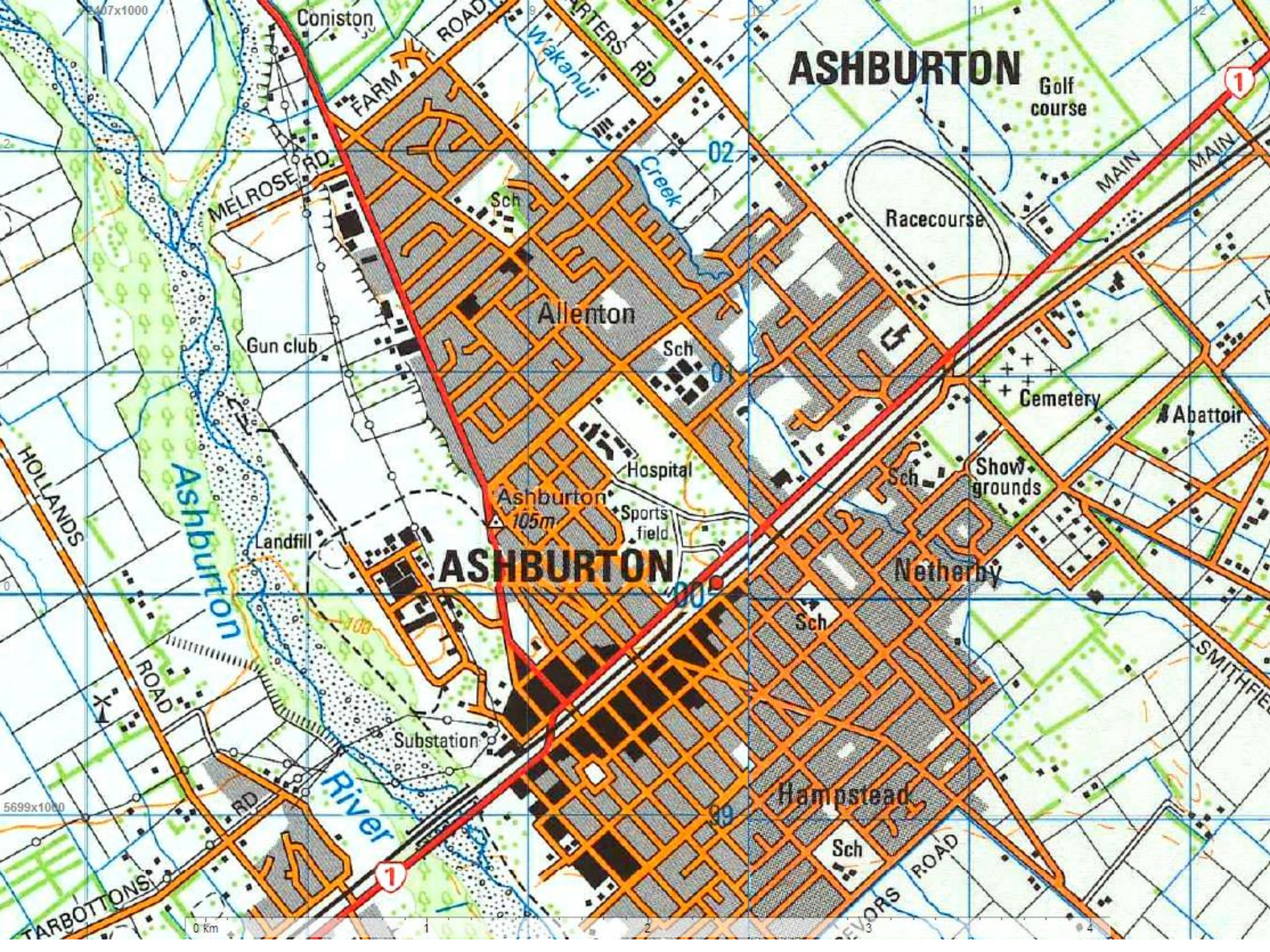
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Golf course

Racecourse

Allenton

Ashburton  
105m

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Netherby

Hampstead

Ashburton  
River



Allenton

106

Ashburton



Netherby

Hampstead



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Town of Ashburton  
Section 1277  
0.376km<sup>2</sup>

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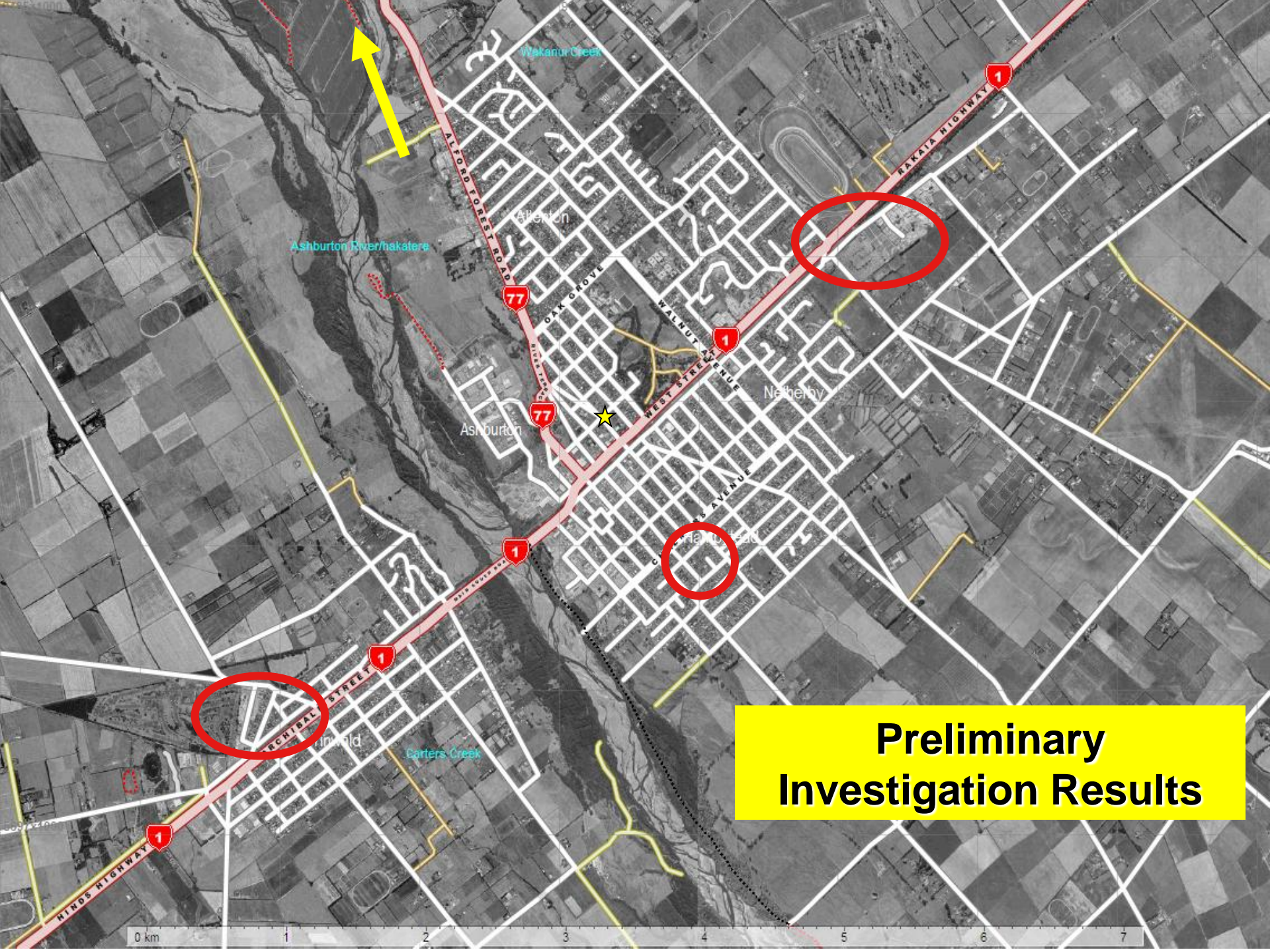
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Reserve 1833  
0.014km<sup>2</sup>

0.016km<sup>2</sup>

0 50 m 100 200 300 400 500 600 700 800 900





**Preliminary  
Investigation Results**

# Day 2 - Sunday

It is now 9am Sunday morning

- What are **3 more questions** you want answered now?



Allenton

106

Ashburton



Netherby

Hampstead

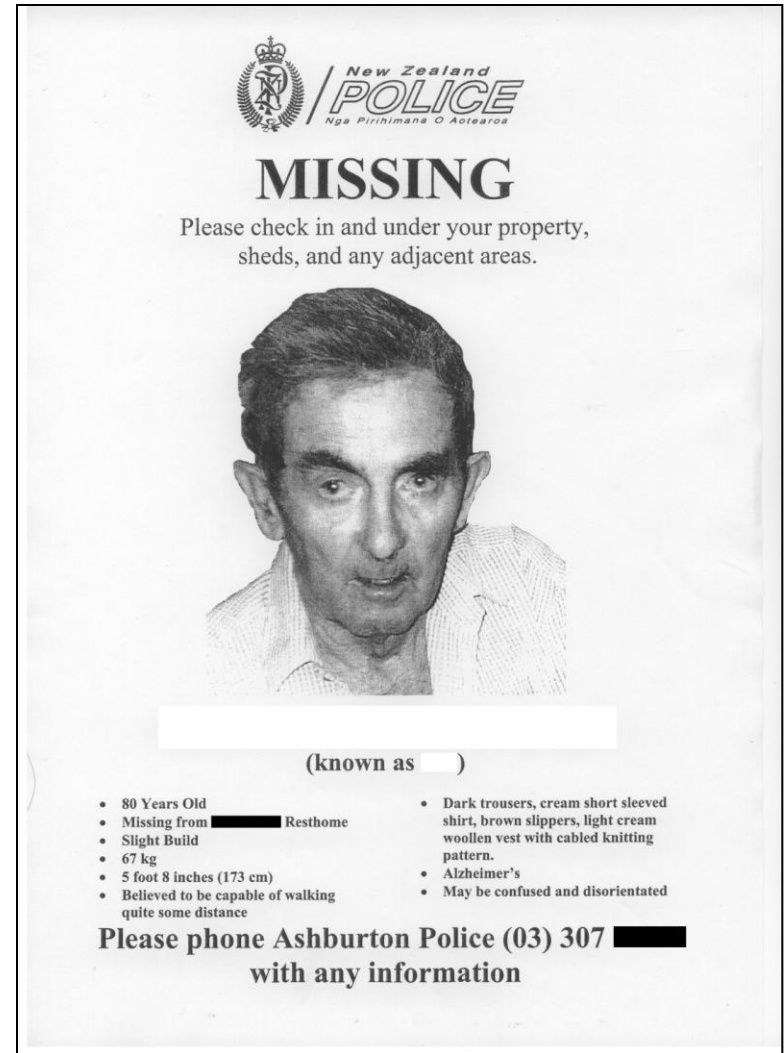


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Most residential flyers are delivered by the local Scout group as part of the search operation

Approximately 3000 residential properties and most business also receive a visit from a Search team




The flyer features the New Zealand Police logo at the top, followed by the word "MISSING" in large, bold letters. Below this is a black and white portrait of a man with short, dark hair, wearing a light-colored, short-sleeved shirt. The name of the man is obscured by a white rectangular box. Below the portrait, there are two columns of bullet points listing physical characteristics and medical conditions. At the bottom, there is a call to action to contact Ashburton Police.

 **New Zealand**  
**POLICE**  
*Hga Pirihimana O Aotearoa*

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Allenton

106

Ashburton

Netherby

Hamstead

0 km

1

2

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It is now 9am Monday morning

- What are some key tasks now?



0 km

1

2

# Location Pictures





**Wandered from Care Facility approx 9:45pm**  
**Found 3 days later in a residential backyard**



**Fell over the fence in the dark and could not get back up**



**Approximate straight line distance from home to find location  
= 200 metres**



# Profiling – key points

You have decided that you need to take action:

- You can't search everywhere
- Search should be an Intel led process

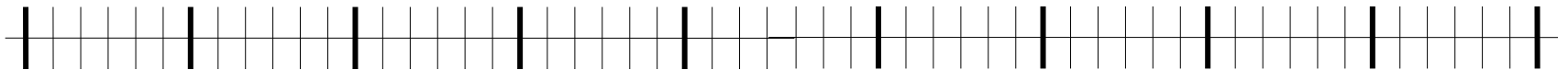
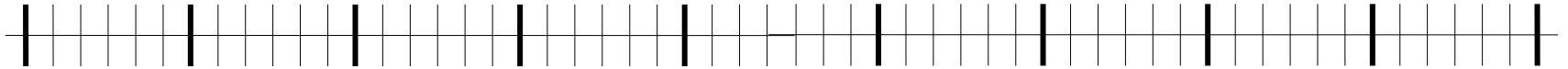
# Profiling – key points

- Every subject has some specific traits. Consult
  - subject specialists (alz, autism etc)
  - family
  - caregivers
- Start digging and keep digging – don't stop asking questions
- *“Run me through a day in the life of...”*

# Profiling – key points

- Needs a quality Planning/Intel section early
- Needs to be a joint effort – subject spec/SAR/Police
- Start digging and keep digging – don't stop asking questions

# Profiling - Timelines



Major events in subject's life







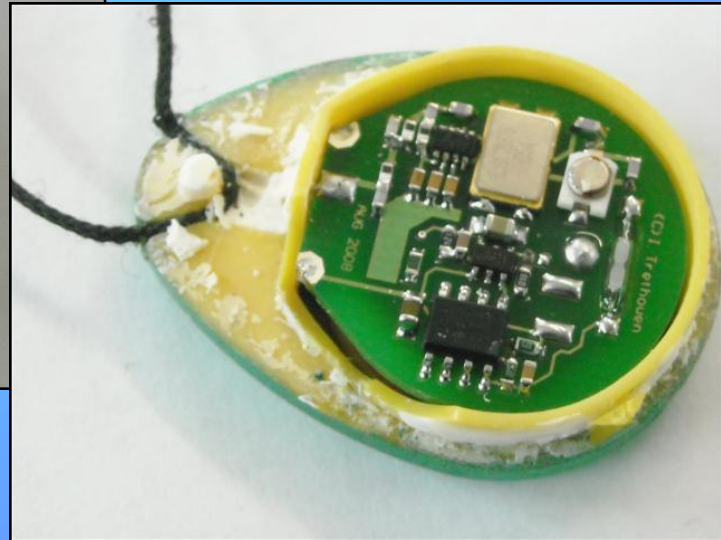
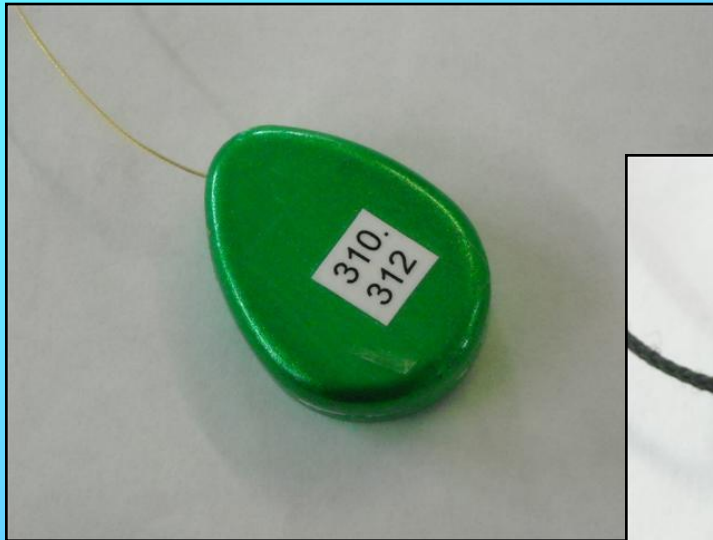
# Wandatrack

# Wandatrack

- Two main components
  - Transmitter
  - Tracking Receiver Kit

# Transmitter

- Pendant, Watch or Anklet



# Tracking Receiver Kit

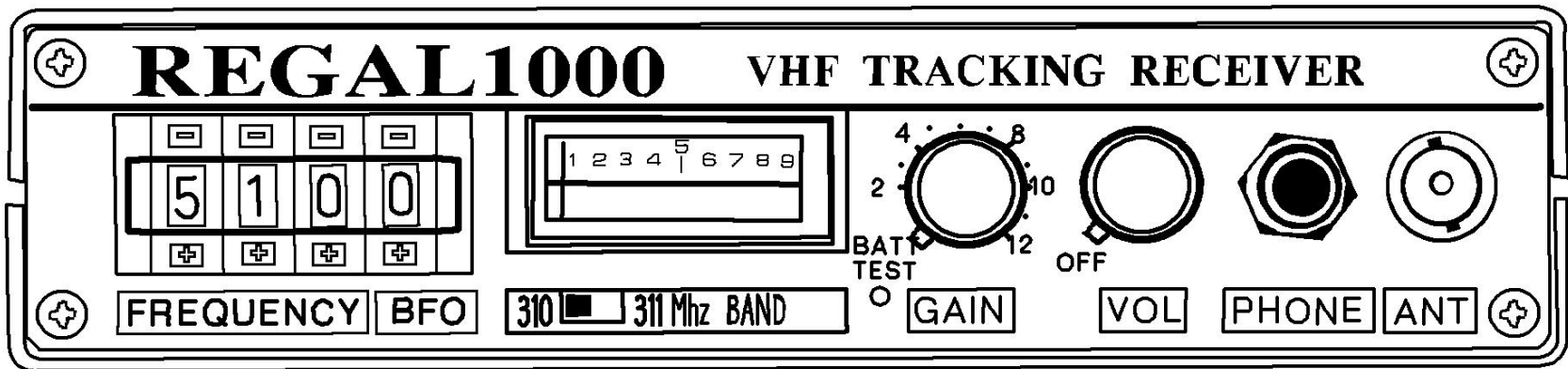
- Regal 1000 Receiver
- Magmount Vehicle Antenna
- Directional (Yagi) Antenna

# Regal 1000 Receiver

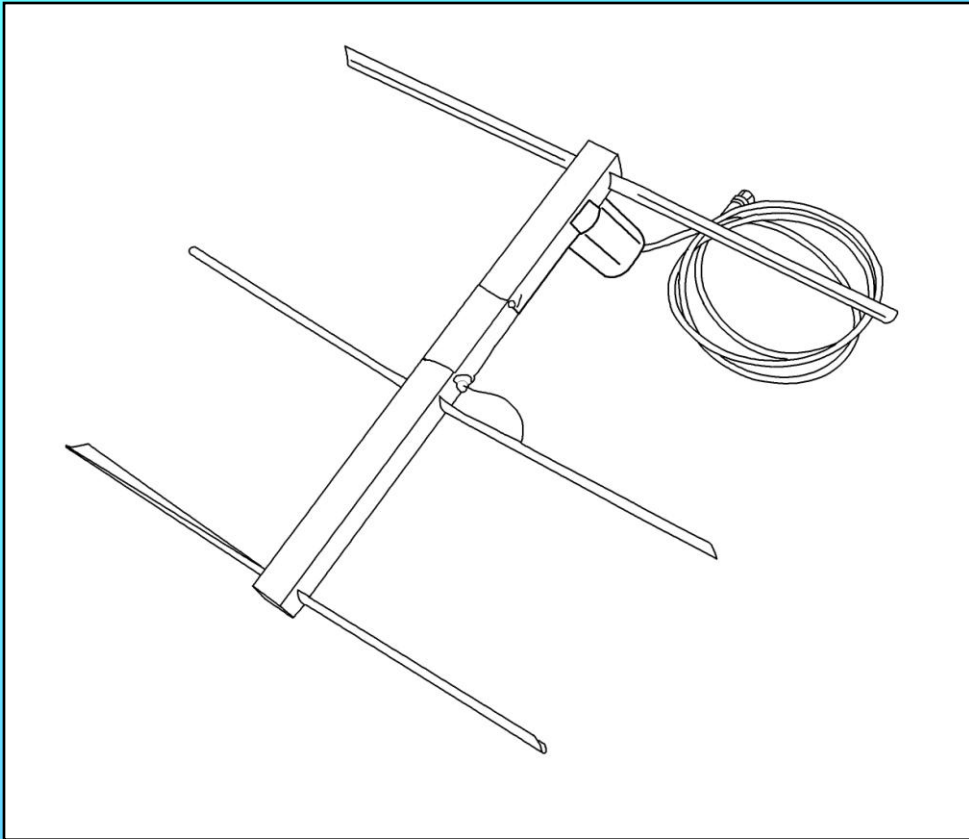
- Weight: 900g
- Power: NiMh Battery Pack (20 h capacity)



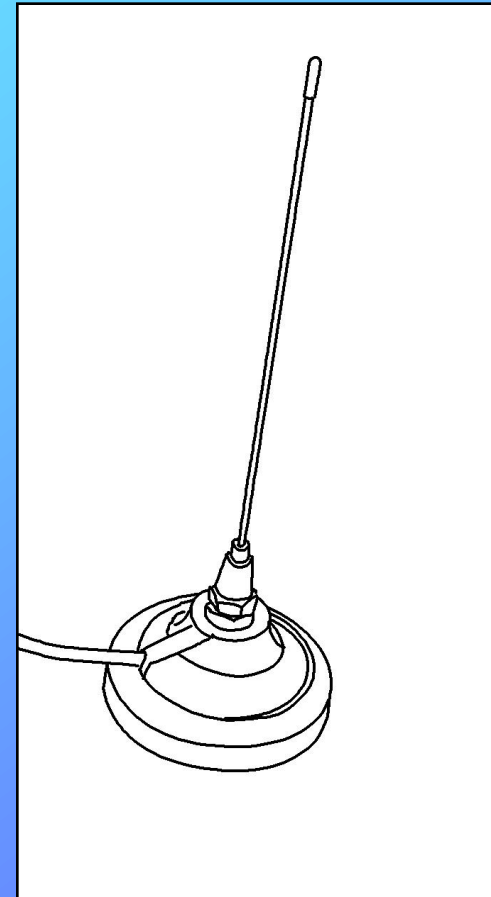
# Regal 1000 Receiver



# Antennas



Directional (Yagi) Antenna



Magmount Vehicle Antenna

# Operating Frequencies

- Receiver capable of 310 – 315Mhz
- Currently using 310 & 311Mhz bands
- Transmitter Frequencies set at 3kHz spacing
- 310.002, 310.007, 310.012, 310.017, etc
- 200 channels per band



# Transmitter Output

- Pulsed output
- 30 or 40 pulses per second
- Power Output: 7 mW
- Range: up to 5 kilometres (depending on terrain)

# Questions

Organisation	Name	Role
New Zealand Search & Rescue	Duncan Ferner	Secretariat Manager
New Zealand Search & Rescue	Carl van der Meulen	Senior Advisor
New Zealand Search & Rescue	Viv Bracefield	Registrar
Rescue Coordination Centre NZ	KevinBanaghan	Search & Rescue Officer
LandSAR	John Humphris	Gisborne LandSAR
LandSAR	Teressa May	Training officer
LandSAR	Blair Pryce	Community Constable & SAR
LandSAR	Peter Rawlins	Advisor
LandSAR	Hadyn Smith	CEO
LandSAR	Dave Erson	LandSAR Board Member
LandSAR	Debbie Robertson	Search Manager
LandSAR	Al Pritchard	Chairperson
LandSAR	Andrea Jupp	Secretary
LandSAR	Jennie Chisnall	Volunteer
LandSAR	Jenny Calder	Team Leader
LandSAR	Delanie Halton	WandaTrak Program Coordinator
LandSAR	Mike Sampson	LandSAR
LandSAR	Liz Sampson	Note taker
LandSAR	Ross Browne	National Training Coordinator
LandSAR	Tric Moller	Dunedin LandSAR
LandSAR	Robert Aikman	Auckland LandSAR
SARINZ	Tony Wells	Programme Manager - Search
SARINZ	Terry Blumhardt	Instructor
New Zealand Police	Bruce Johnston	National SAR/DVI Coordinator
New Zealand Police	Gerry Prins	Manager, Emergency Management
New Zealand Police	Brian Benn	OIC SAR Dunedin
New Zealand Police	Jude Clifton	SAR - Alzheimers Portfolio
New Zealand Police	Ants Harmer	2 I/C Wellington SAR
New Zealand Police	Jo Holden	SAR Coordinantor Wellington
New Zealand Police	Dene Duthie	SAR Coordinator Auckland
New Zealand Police	Warren Shaw	SAR Sergeant
New Zealand Police	Sue Grocott	SAR Squad Member
New Zealand Police	Sherp Tucker	Asst SAR Coordinator Tasman
New Zealand Police	Linda Simpson	PNHQ
New Zealand Police	Ryan O'Rourke	SAR Coordinator Canterbury
New South Wales Police	Ian Colless	Coordinator - Blue Mountains Rescue Squad
IDEA services (IHC)	David Huxtable	Community Services Manager
IDEA services (IHC)	Dwayne Henshilwood	Community Services Manager
IDEA services (IHC)	Vonny Davis	Area Manager
Alzheimers New Zealand	Sue Cochrane	Field Worker
Alzheimers New Zealand	Heather Hind	Office Manager
Alzheimers New Zealand	Vivienne Boyd	Education Coordinator
Autism New Zealand	Gretchen Deans-Davis	Auckland Branch Manager
Autism New Zealand	Wendy Duff	President of National Board