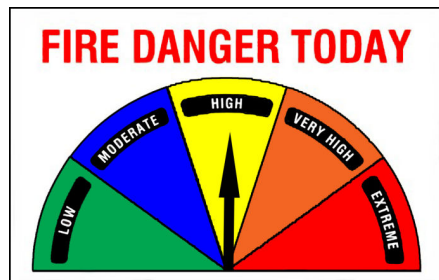


Assessment of the general public's perception of rural fire danger communications



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Background research (1)

The public survey finalises a 5 year research programme.
Previous work commenced with:

- Literature review of rural fire danger warnings (NZ)

Concerns questioned:

1. The value fire danger classes in influencing positive behaviour change amongst the public
2. The ability of the media campaign to identify and encourage the behaviour changes



Background research (2)

- Followed by interviews with Rural Fire Authority Managers

Concerns questioned:

- Adequacy of the fire danger sign - its location; perceived meaning, accuracy and relevance; and ease of understanding
- Consistency of knowledge of fire danger, and behaviour expected under different levels of fire danger
- Variability in knowledge and perception of publicity initiatives



Data collection methods

- Questionnaire survey in Northland and Canterbury
 - 10 questions exploring the concerns identified by RFA managers
 - pilot study at Whangarei A&P show (12 people)
 - varied locations, 10 – 15 minutes / person + ice-cream!
 - 106 interviews Northland & Canterbury (≥ 16 years)



Interviewee profile

- Mix of rural residents, NZ and overseas visitors

	Age group (years)												Gender			
	16-24		25-34		35-44		45-54		55-64		65+		F		M	
	N	C	N	C	N	C	N	C	N	C	N	C	N	C	N	C
	9	6	9	11	11	5	17	11	13	12	6	8	40	24	25	29
All	15		20		16		28		25		14		64		54	

- Experience of rural fire

Experience of rural fire	N	C	All
None at all	36	24	60
Awareness (family involved or involvement as a near neighbour, called services, training), but no personal experience of fire	7	13	20
Involved in controlled fire	8	4	12
Involved in out of control fire	14	12	26



Findings



The sign itself (1)

- Poor perception of sign currency
47 (40%) people do not know or do not think that the information is current
- Lack of behaviour change guidance
Many (n=78) acknowledged that the sign identified fire danger or risk level BUT only a third of participants (n=40) reported that this also alerted them to a need to change their behaviour .



The sign itself (2)

- Intrinsic difficulties in understanding the sign
Concerns about interpretation difficulties, such as visual ability, colour vision, English language skills or literacy
- Poor perception of relevance
24 felt that the signs were directed at specific groups (e.g. campers, smokers) or “deviants” (such as those throwing cigarette butts out of car windows), rather than to themselves



Knowledge and interpretation

- Key concerns about fire ratings (1)

- Poor perception of meaning attributable to each rating
 - 'see' arrow position at the ratings 'low' and 'extreme' (and to a lesser extent 'high') and / or
 - 'see' arrow movement across the scale, rather than its specific position

What do each of the different ratings mean?											
Danger / hazard / risk level											
Low	All	Moderate	All	High	All	Very High	All	Extreme	All	General	All
Low danger / risk	43	Could be a bit risky / be careful / potential danger	7	Chance of / bit risky / be aware	15	Bit too risky / great possibility	7	Hazardous / very dangerous / trouble / double risk of low	33	Low to high risk (depending on arrow)	36



- Varied perception of rating meaning
 - indicator of risk / hazard (most common), prevailing weather conditions, likelihood of out of control fire
 - some contradiction for the 3 central ratings

What do each of the different ratings mean?										
Uncertainty										
Low	All	Moderate	All	High	All	Very High	All	Extreme	All	All
No answer / unsure	42	No answer / unsure	94	No answer / unsure	83	No answer / unsure	92	No answer / unsure	48	



Knowledge and interpretation (2)

- Translating fire danger ratings into behaviour change

- Fire danger warning sign ratings infrequently perceived as means to guide behaviour change.
 - variation in responses between behaviour change by rating, or by increased fire danger
- Fire risk activities variably understood, but inconsistent knowledge among the public
 - Many described themselves as being risk aware
 - good ideas proposed for mitigating fire risk, but not necessarily linked with a fire rating
 - isolated statements about reducing use (sometimes in specific locations) of machinery or equipment that generate heat or sparks




Would you change your behaviour for each rating?							
High	All	Very High	All	Extreme	All	General	All
More aware	4					More aware	14
More care	5	More care	5	More care	9	More careful. Light fewer fires (esp. If camping)	23
		Tell others off	1	Tell others off	1	Tell others off	5
Fire ok (with rain)	3	No fire/ incinerator/coal (maybe gas?)	13	No fire	16	No fire	4
No fire	9					Depends on the season	6
		Get permit	1	Get permit	2	Get permit	3
Stop using equipment (chainsaw)	1	Stop using equipment (chainsaw) / drive 4wd on long grass / going into forest	3	Stop using equipment (chainsaw) / drive 4wd on long grass / going into forest	3	Stop certain activities (mowing lawn, travel, burning rubbish, throwing cig butts away, rotary slasher)	5
Total	22	Total	23	Total	31	No change as- no risk behaviour	35
No answer	98	No answer	96	No answer	88	No answer	N/A

- Low – no response except 9 who would still light a fire
- Moderate – no response except 5 who would still light a fire



Are there any activities that you would stop doing if fire danger went up?	N	C	All¹
1 Less a-d ²	2	4	6
2 Change behaviour (be more careful)	7	9	16
3 Avoid ...			
3a - fireworks	6	1	7
3b - camping/forest walk	2	1	3
3c - bush/camp/any fire lighting	23	9	32
3d - BBQ	6	9	15
3e - rubbish burning	7	2	9
3f - leaving house	-	1	1
3g - welding	-	2	2
3h - burning off	-	1	1
3i - indoor fire	-	1	1
3j - machinery use / driving over scrub	-	8	8
4 No change as no risky behaviour	14	21	35

¹ Some people gave multiple examples
² (a) Bonfire on the beach, (b) Campfire in the bush, (c) Fire on private rural property, (d) Use of fire works



Knowledge and interpretation (3) – fire season information

- Limited understanding of fire permit requirements
 - this system was rarely associated with fire danger warning sign communication
 - relatively few followed the publicity (radio / paper) alerting the public to the need to have a fire permit
 - responses for the understanding of ‘open’ fire season were good, but with mixed responses for ‘restricted’ and ‘prohibited’ fire seasons

What do the terms 'open', 'restricted' and 'prohibited' fire season mean?							
'Open'	All	'Restricted'	C	N	All ¹	'Prohibited'	All ¹
Don't know	6	Don't know	-	11	11	Don't know	14
Fire ok	84	No fire	-	4	4	No fire	81
Winter	3	Be careful	1	3	4	Summertime /certain times of year	2
Need a permit	3	Certain times only	4	5	9	Extreme	1
Low risk	2	Certain places only	12	8	20	Be careful	1
Low/mod	1	Permit required	15	18	33		
		Spring/autumn	-	1	1		
		Certain fires only	6	6	12		
		Certain conditions only	12	4	16		
		High / very high	1	-	1		
		With supervision of experienced person	-	2	2		



Publicity initiatives

- TV and radio were the most memorable and preferred media
 - no widespread knowledge of alternative modes
 - only ~ ½ respondents reported awareness of such publicity
- The message of the 'Bernie' campaign was known by only half the participants
 - message = alert to fire danger, risk level or 'keep it green', BUT fewer reported that the message directed a need to change behaviour



Recommendations (1)

1. Define and publicise the range of risk factors for fire
2. Provide guidance on expected behaviour and link this to the relative fire risk conveyed in fire danger signage and communication
3. Initiate efforts to clarify and simplify information relating to fire danger (and incorporate guidance for recommended behaviour change)



Recommendations (2)

4. The 'fire danger warning sign' and 'fire season' systems operate in parallel. Explore the possibility of developing and integrating the two separate methods into a single sign 'graphic'
5. Improve the sign technology, maintenance and placement locations
6. Develop the media campaign to target specific groups and provide guidance on behaviour change

