

# KAURI DIEBACK SURVEY REPORT

## FEBRUARY 2016

# CONTENTS

|  |    |
|--|----|
| Introduction, objectives and methodology                                       | 3  |
| Summary and recommendations  | 7  |
| Visitation in the last 12 months   | 11 |
| Perceptions of the seriousness of Kauri Dieback                                | 25 |
| Beliefs about the prevention of Kauri Dieback                                  | 31 |
| Prevention behaviour (including behaviour surrounding the use of disinfectant) | 36 |
| Sources of pre-visit information and communications                            | 46 |
| Demographic profiles   | 55 |



# INTRODUCTION AND OBJECTIVES

**In a concerted effort to contain the spread of Kauri Dieback disease by reducing soil movement, the Ministry for Primary Industries (MPI) and partner agencies have undertaken various communication and engagement activities aimed at:**

1. enhancing the perceived value that communities place on keeping Kauri standing, and
2. getting users of forests in the upper North Island to follow specific hygiene/preventative measures.

**Quantitative research was undertaken in 2011 to:**

1. track awareness, perceptions and self-reported behaviours related to Kauri Dieback disease, and
2. to inform the development of communication and engagement activities.

**This research has been commissioned to:**

1. evaluate the effectiveness of the activities by providing up-to-date measures of awareness, perceptions and self-reported behaviours, against which comparisons can be made with the 2011 research, and
2. inform further development of the Programme's ongoing communication and engagement strategies and messaging – and provide up-to-date understanding of the barriers to people following the hygiene/preventative measures.



This report presents the results of a quantitative survey of upper North Island residents. An additional report will follow with findings from qualitative research. That report will provide a more in-depth qualitative exploration of concerns, barriers and motivation to compliance, and Forest users' perspectives on Kauri Dieback communications.

# HOW WE CARRIED OUT THE RESEARCH



1,200

ONLINE INTERVIEWS

10 minutes



UPPER  
NORTH  
ISLAND



FIELDWORK DATES:

10 DECEMBER 2015 AND 12 JANUARY 2016

## TARGET POPULATION

- Forest users (including visitors, walkers, trampers/campers, dog owners, horse riders, mountain bikers, hunters, conservation/community volunteers),
- Land owners, and
- Tangata whenua.

## SAMPLING

All respondents were recruited from Colmar Brunton's online panel. The sample was drawn in proportion to the 2013 Census population profile by age and gender within Northland, Auckland, Waikato, and Bay of Plenty regions. A booster sample of Māori was obtained in each of the four regions to ensure Māori sub-group analysis could be carried out.

## WEIGHTING

Following fieldwork the final sample profile was compared to the profile for the four regions. The survey data were then weighted to align it with this profile, and to adjust for over-sampling Māori and under-sampling Auckland residents. Population characteristics obtained from Census statistics (age, gender, and region) were used for this purpose. Demographic profiles are provided in the appendix.

## SAMPLING ERROR AND SIGNIFICANCE TESTING

Results for a random sample size of 1,200 are normally subject to a maximum margin of error of +/- 2.8 percentage points at the 95% confidence level. Results for sub-groups will be subject to wider margins of error. All subgroup analysis are carried out at the 95% significance level.





# SUMMARY AND RECOMMENDATIONS



# SUMMARY AND RECOMMENDATIONS

## AWARENESS AND KNOWLEDGE OF KAURI DIEBACK HAS INCREASED SUBSTANTIALLY

Awareness of Kauri Dieback has nearly doubled since 2011 in all four upper North Island regions, with two out of three residents now aware of the disease. This change coincides with a substantial increase in residents saying they know at least 'a little bit' about the disease. Without any prompting, eight out of ten residents aware of Kauri Dieback can correctly state at least one way Kauri Dieback can spread, and most can name an action required to prevent its spread.

Overall, trampers and walkers report the highest levels of knowledge of Kauri Dieback.



## THERE IS AN APPETITE FOR FURTHER KNOWLEDGE OF KAURI DIEBACK.

Similar to 2011, a minority of residents, and Forest users, say they know 'a lot' or 'quite a lot' about Kauri Dieback, and only a quarter think they could recognise an infected tree. Most residents say they would be interested in finding out more about the disease – particularly about where the disease is, how to identify it, what they can do to stop the spread, and how the disease spreads.

**Two out of three upper North Island residents would support wider communications to raise awareness of Kauri Dieback and how to prevent it spreading.**

## DOG OWNERS POSE A RISK TO THE SPREAD OF KAURI DIEBACK

Among Forest users, dog owners report significantly lower knowledge of the actions required to prevent the spread of Kauri Dieback. Without prompting, just 2% of dog owners mention that dogs should be kept away from Kauri tree roots. Even after prompting, just 45% are aware of this.

## RECOMMENDATION

**Consider ways to increase awareness and use of preventative measures among dog walkers. Is it possible to communicate through dog training businesses, kennels, the SPCA, or other dog clubs or associations?**



## SUMMARY AND RECOMMENDATIONS

PEOPLE ARE SUPPORTIVE OF ACTIONS TO PREVENT THE SPREAD OF KAURI DIEBACK, BUT THERE'S A FEELING AMONG SOME THAT THEIR PERSONAL ACTIONS CAN'T MAKE MUCH DIFFERENCE

Consistent with 2011, nearly three quarters of all of residents believe Kauri Dieback can have a serious impact on New Zealand, primarily because Kauri are iconic and support a unique eco-system. Nine out of ten residents believe it is very important to manage Kauri Dieback, even in the context of other pests and diseases affecting trees and plants in New Zealand.

However, as is quite common in behaviour change campaigns, there is some sense among residents that, as individuals, they can't really make a difference (low self-efficacy).

THE VERY ACT OF CLEANING FOOTWEAR AND EQUIPMENT LIKELY HELPS TO EDUCATE AND GARNER SUPPORT FOR FURTHER PREVENTATIVE ACTIONS

Although there is a sense, among some, that their actions can't really make a difference in preventing the spread of Kauri Dieback, findings show the vast majority of those who have **taken some action** during the last 12 months think it's important or very important to do so. This result helps to illustrate the reciprocal relationship that can exist between beliefs and behaviour. In this case, taking action when near Kauri trees likely helps to educate and garner further support for preventative actions.

### RECOMMENDATION

Try to increase the sense that individuals can make a real difference to preventing the spread of Kauri Dieback. Communicating that even unseen soil can spread the disease could help improve perceptions that individual actions are important.



### RECOMMENDATION

Consider if there are ways to further leverage cleaning station experiences to garner more support and advocacy for actions to prevent the spread of Kauri Dieback.

# SUMMARY AND RECOMMENDATIONS

## MOST FOREST USERS AND LAND OWNERS REPORT TAKING SOME ACTION OVER THE PAST 12 MONTHS

Most Forest users aware of Kauri Dieback report having taken some action over the last 12 months to help prevent its spread, most commonly staying on tracks and walkways, and removing soil from boots before and after visiting a forest. Trampers and Māori appear most diligent. Land owners are least likely to take action, although still a majority say they have.

Signs are the main triggers for people taking action to prevent the spread of Kauri Dieback. This is followed by general awareness of the disease, and a motivation to protect Kauri.



ACCORDING TO FOREST USERS, THE MAIN BARRIER TO ACTION IS LACK OF AWARENESS OF WHEN KAURI ARE NEAR. AMONG THE GENERAL PUBLIC, THE MAIN BARRIERS TO PERCEIVING KAURI DIEBACK AS SERIOUS ARE LACK OF AWARENESS OF THE DISEASE IN GENERAL, AND A VIEW THAT KAURI ARE JUST ONE OF THE MANY THREATENED ANIMALS AND PLANTS IN NEW ZEALAND

Those who do not perceive Kauri Dieback to be serious tend say this is because they were unaware of it until recently, or they view Kauri as just one of many threatened animals and plants in New Zealand.

## RECOMMENDATIONS

**To increase the perceived seriousness of Kauri Dieback, continue building further awareness of its impact, and counter barriers by strengthening messages that Kauri are iconic and support a unique ecosystem.**

**When it comes to increasing preventative actions, try to ensure Forest users know when they're near Kauri Trees.**

When it comes to actually taking action, the main barrier to doing so is lack of awareness of Kauri trees nearby. This emphasises the importance of signage. Ten percent of residents who think they have not visited a place with Kauri trees in the last 12 months have actually visited one of the forests, parks or reserves known to have them.

**Effective signage will help to ensure Forest users know when they're near Kauri Trees.**



# SUMMARY AND RECOMMENDATIONS

FOUR IN TEN PEOPLE WHO USED DISINFECTANT, USED IT INCORRECTLY



Overall, 40% of people who used disinfectant at a cleaning station, used it to help remove dirt from footwear. As we understand it, the Kauri Dieback team is already investigating ways to improve correct use of cleaning stations.

Twenty percent of Forest users and Land owners aware of the need to use disinfectant have encountered an empty or inoperative barrel.

ONE IN THREE PEOPLE AWARE OF KAURI DIEBACK HAVE ADVOCATED TO PREVENT ITS SPREAD



Among those aware of Kauri Dieback, one in five say they've heard of it through word-of-mouth, and one in three say they've spoken with family, friends, visitors or networks about Kauri Dieback and encouraged them to follow preventative/hygiene actions.

Advocacy is highest amongst Forest users (particularly trampers and those visiting forests for work purposes) and Land owners. There is no observable difference in demographic profiles between advocates and non-advocates, suggesting that advocacy is not isolated to specific age, gender or ethnic segments of the population.

## RECOMMENDATION

**Communicating through clubs would be a useful way to generate further advocacy – club members are much more likely than others to have advocated to prevent the spread of Kauri Dieback over the past year.**

Community engagement and events are considered very effective by those who've seen or attended them.

## RECOMMENDATION

**While signage and disinfectant containers are effective prompts to take action, community meetings and events can provide a deeper understanding of Kauri Dieback and help to build public support. Consider if there are ways to use these further and strategically - to educate, gain support, and promote advocacy among key influencers (eg, clubs, tourism industry associations, and local environmental groups).**

## SUMMARY AND RECOMMENDATIONS



A LARGE NUMBER OF FOREST VISITORS LOOK FOR INFORMATION BEFORE SPENDING TIME ON LAND THAT HAS KAURI TREES

Nearly half of all Forest users seek information before visiting land with Kauri trees on it. Among those who do, the main sources of information are Google maps and the DOC website. Local/regional council websites are also commonly used.



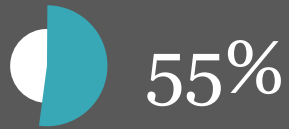




## VISITATION IN THE LAST 12 MONTHS



# VISITATION IN THE LAST 12 MONTHS – ALL UPPER NORTH ISLAND RESIDENTS (CALLED ‘RESIDENTS’ THROUGHOUT THIS REPORT)



OF RESIDENTS HAVE SPENT TIME IN A **FOREST, PARK OR RESERVE** THAT HAS KAURI TREES.

They’re more likely than others to be:

- Land owners (75%)
- Northland residents (66%)
- men (60%)
- a member of a club (76%).



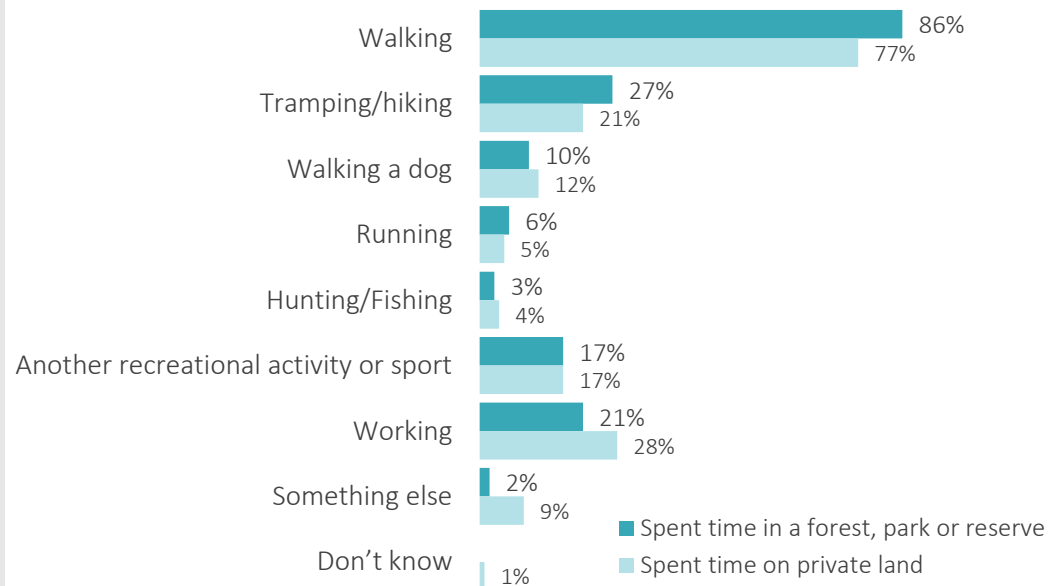
OF RESIDENTS HAVE SPENT TIME ON **PRIVATE LAND** THAT HAS KAURI TREES.

They’re more likely than others to be:

- Northland residents (48%)
- living outside a main city (38%)
- men (33%)
- over 30 years of age (32%)
- New Zealand European (34%)
- a member of a club (46%).



## ACTIVITIES IN AREAS WHERE THERE ARE KAURI TREES



Base: All respondents; n 2015=1,200  
Source: S5 and S6

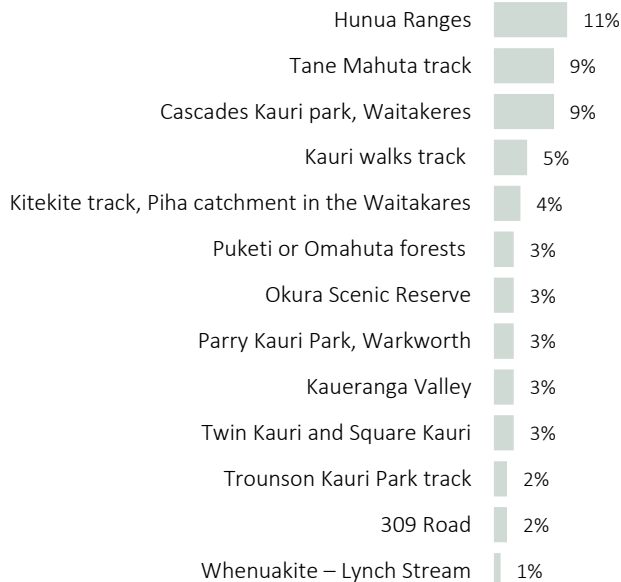
Base: Spent time in a forest, park, or reserve, n=686; spent time on private land, n=428  
Source: Q1a

# VISITATION – KAURI FORESTS, PARKS AND RESERVES

Sometimes forest visitors are not aware they're visiting a place with Kauri trees. Ten percent of residents who think they have not visited a place with Kauri in the last 12 months have actually visited one of the forests, parks or reserves known to have them.

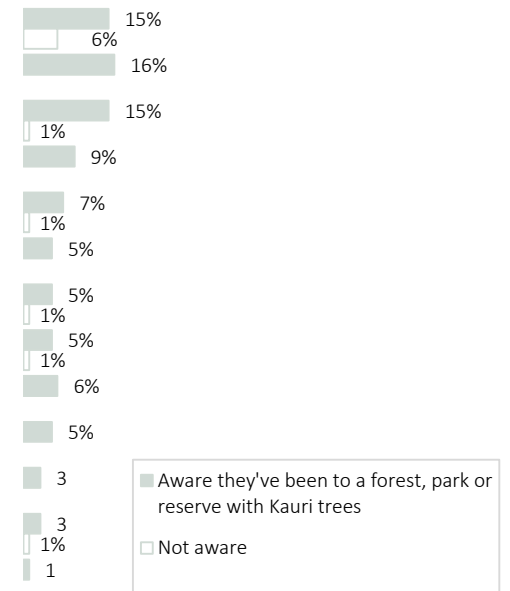
## VISITATION ALL RESIDENTS

Total 37%  
 (% BEEN TO ANY ONE OF THE PLACES LISTED BELOW)



## VISITATION BY AWARENESS

60%  
 10%

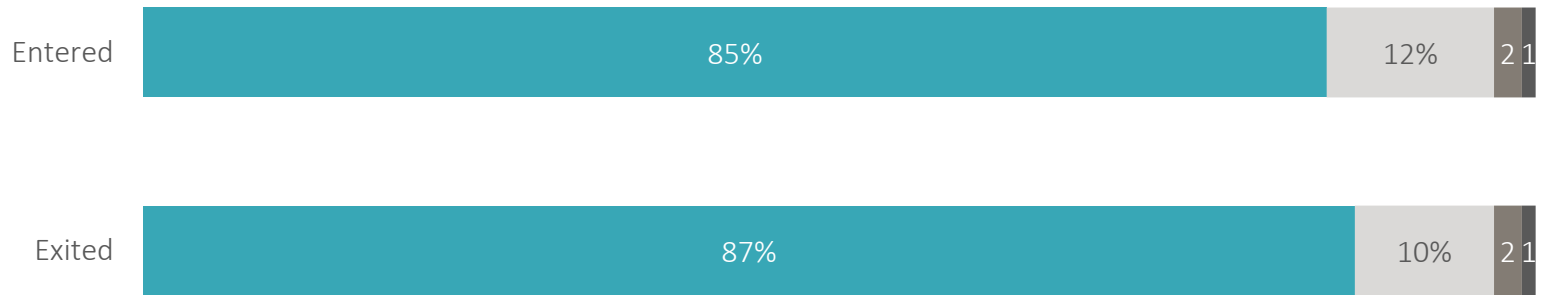


Base: All respondents; n 2015=1,200  
 Source: Q1e and Q1f

Base: Those aware, n=686; those unaware, n=541  
 Source: Q1e and Q1f

# USE OF ESTABLISHED PUBLIC TRACKS AND ALTERNATIVE TRACKS

Most Forest users enter and exit through established tracks. Land owners, club members, and younger people are most likely to use alternative entrances and exits.



- ALWAYS THROUGH ESTABLISHED PUBLIC TRACKS
- SOMETIMES THROUGH ESTABLISHED PUBLIC TRACKS AND SOMETIMES THROUGH ALTERNATIVE TRACKS (OR DID NOT USE TRACKS)
- ALWAYS THROUGH ALTERNATIVE TRACKS (OR DID NOT USE TRACKS)
- DON'T KNOW

## WHO IS MOST LIKELY TO USE ALTERNATIVE TRACKS?

- Land owners (6% always enter through alternative tracks)
- Northland residents (20% sometimes or always enter/exit through alternative tracks)
- Club members (28% sometimes or always enter through alternative tracks and 23% sometimes or always exit through alternative tracks)
- Younger people, aged under 40 (20% sometimes or always enter through alternative tracks)





# AWARENESS AND KNOWLEDGE OF KAURI DIEBACK



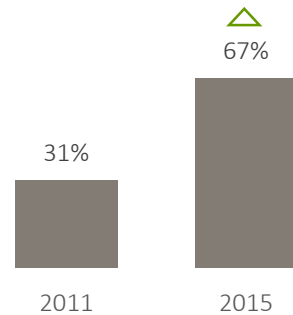
# AWARENESS OF KAURI DIEBACK

SINCE 2011 AWARENESS OF KAURI DIEBACK HAS INCREASED MARKEDLY. TWO THIRDS OF UPPER NORTH ISLAND RESIDENTS HAVE NOW HEARD OF IT.



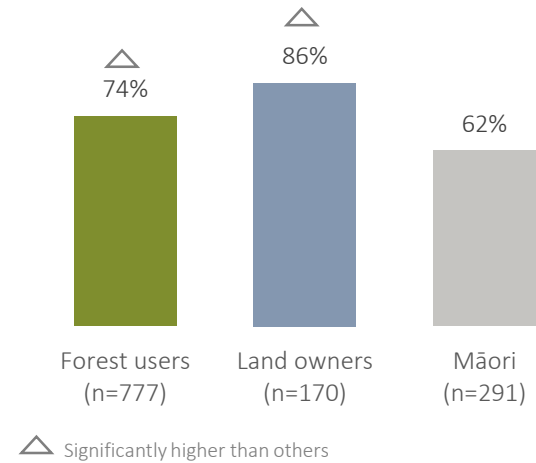
Trampers and dog walkers report the highest levels of awareness, although please note that results by activity type are sometimes based on small sample sizes.

ALL RESIDENTS



△ Significantly higher than 2011

2015 KEY SUBGROUPS



△ Significantly higher than others

|                     |     |         |
|---------------------|-----|---------|
| Trampers / Hikers   | 81% | (n=159) |
| Dog walkers         | 81% | (n=70)  |
| Hunters / Fishers*  | 82% | (n= 20) |
| Taking visitors out | 76% | (n=109) |
| Walkers             | 75% | (n=623) |
| Campers*            | 70% | (n=33)  |
| Mountain bikers*    | 68% | (n=19)  |
| Runners*            | 63% | (n=43)  |

Base: All respondents; n 2011=1,215, 2015 n=1,200.  
Source: Q2a

# AWARENESS OF KAURI DIEBACK BY LOCATION

Awareness is highest in Northland, but has increased in all regions.



△ Significantly higher than 2011

Base: Northland 2015 n=447, 2011 n=600; Auckland 2015 n=400, 2011 n=255; Waikato 2015 n=251, 2011 n=255; Bay of Plenty 2015 n=102, 2011 n=105.

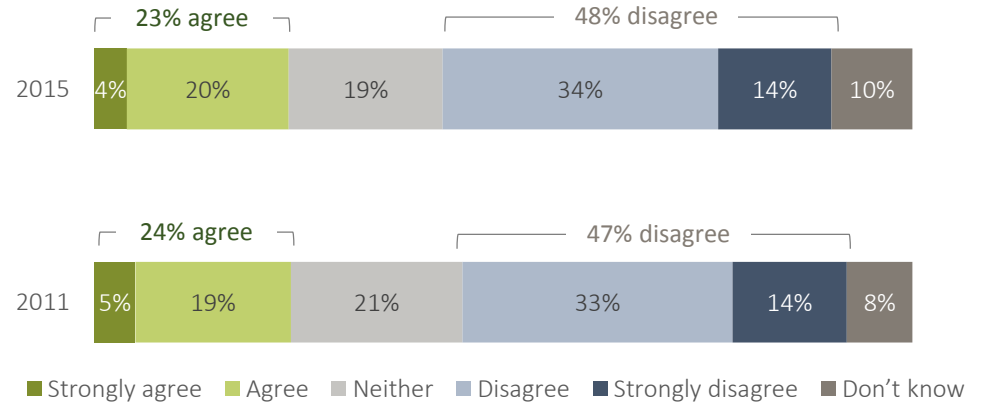
Source: Q2a



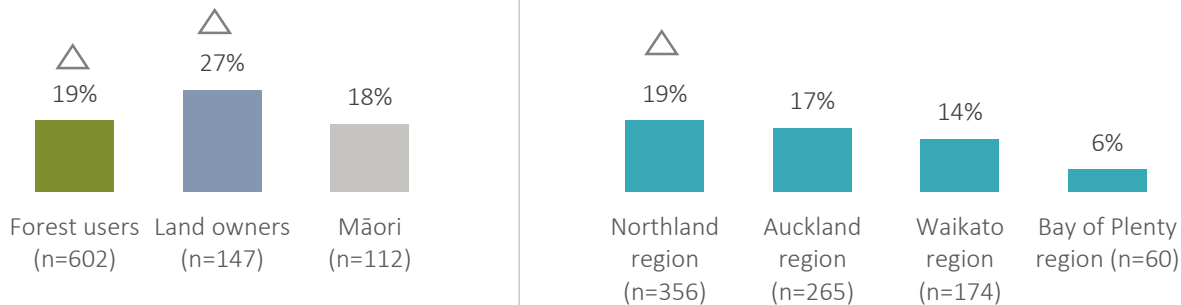
# ABILITY TO RECOGNISE KAURI DIEBACK

Although awareness of the disease has increased, ability to recognise Kauri Dieback remains fairly low. Similar to 2011, less than a quarter of those aware of Kauri Dieback think they could recognise it.

*"You know what a kauri tree infected with kauri dieback looks like."*



## RECOGNITION (% AGREE) BY KEY SUBGROUP



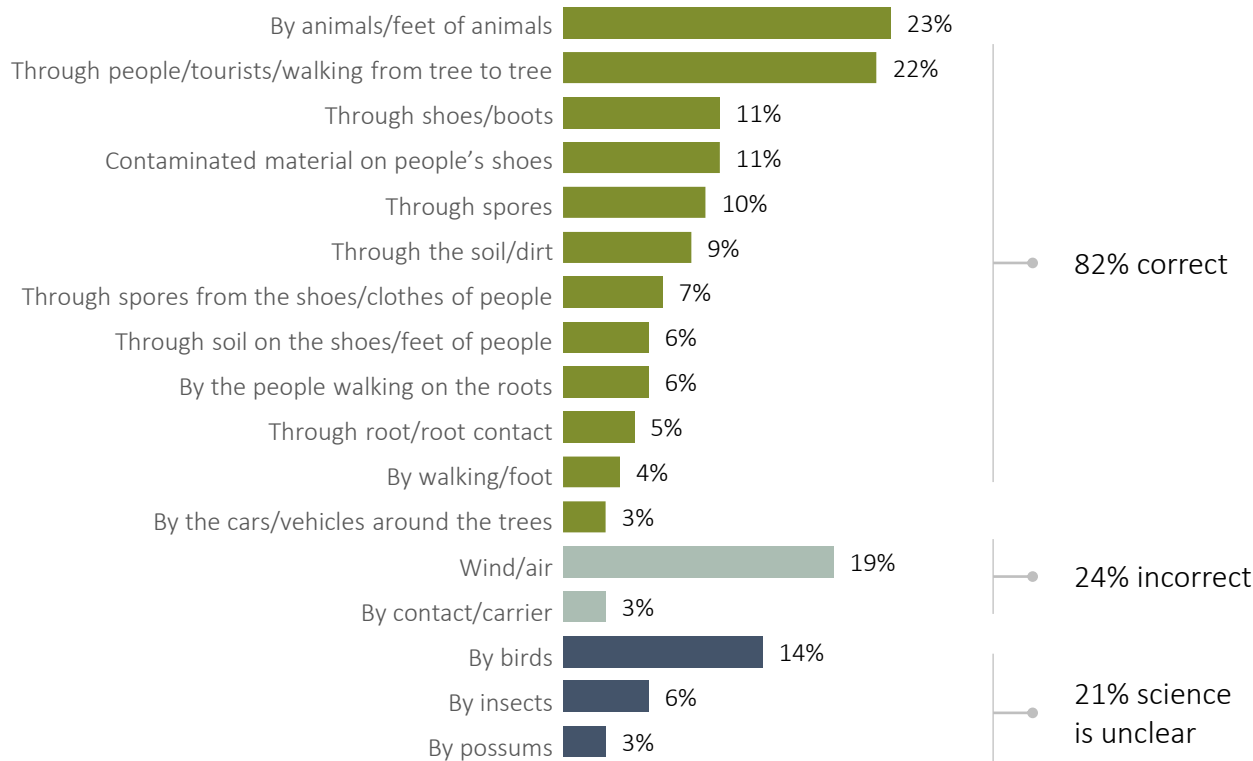
Ability to recognise it is highest among Northland residents, Land owners, and Forest users - particularly those who visit forests for work purposes (37%).

Base: Those aware of Kauri Dieback; 2015 n=855, 2011 n=446.

Source: Q4a

# UNPROMPTED AWARENESS OF HOW KAURI DIEBACK SPREADS

Without prompting with possible answers, most of those aware of Kauri Dieback can correctly state at least one way it can spread – people most commonly say it spreads via animals or people walking from tree to tree. One fifth of residents incorrectly state that Kauri Dieback can be transferred through the wind.



## THOSE MOST LIKELY TO ANSWER CORRECTLY ARE:

- Forest users (84%), particularly walkers (86%) and trampers (95%)
- Northland residents (88%)
- Those living in a main city (87%)

## THOSE MOST LIKELY TO ANSWER INCORRECTLY ARE:

- Non-Forest users (36%)
- Waikato residents (40%)
- Those who live outside main cities (31%)

Note: Percentages under 3% are not shown, but are included in the nett calculations.

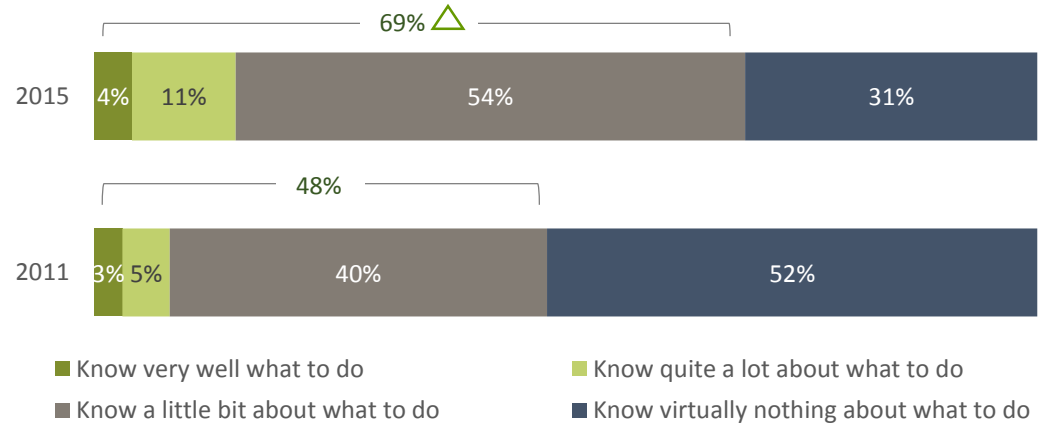
Base: Those aware of Kauri Dieback (n=855)

Source: Q4b

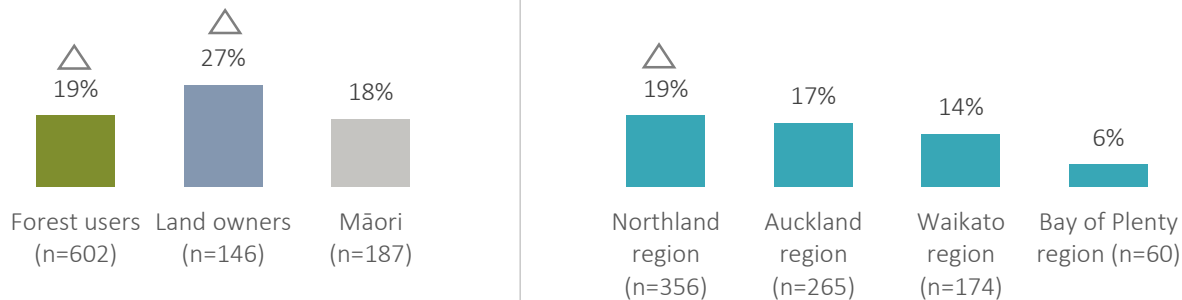
# SELF REPORTED KNOWLEDGE OF ACTIONS REQUIRED TO PREVENT THE SPREAD OF KAURI DIEBACK

There has been an increase in people saying they know at least 'a little' about what to do to stop the spread of Kauri Dieback – up from half to two thirds of those aware of the disease.

How familiar are you with the actions the general public are asked to take to stop the spread of Kauri Dieback?



## SELF-REPORTED KNOWLEDGE (% AT LEAST QUITE A LOT) BY KEY SUBGROUP



Compared to results for all residents aware of Kauri Dieback, self-reported knowledge is higher among Northland residents and the three key subgroups.

**Higher risk group:** Among Forest users, dog walkers (6%, cf. 19% of all Forest users) report significantly lower levels of knowledge than others.

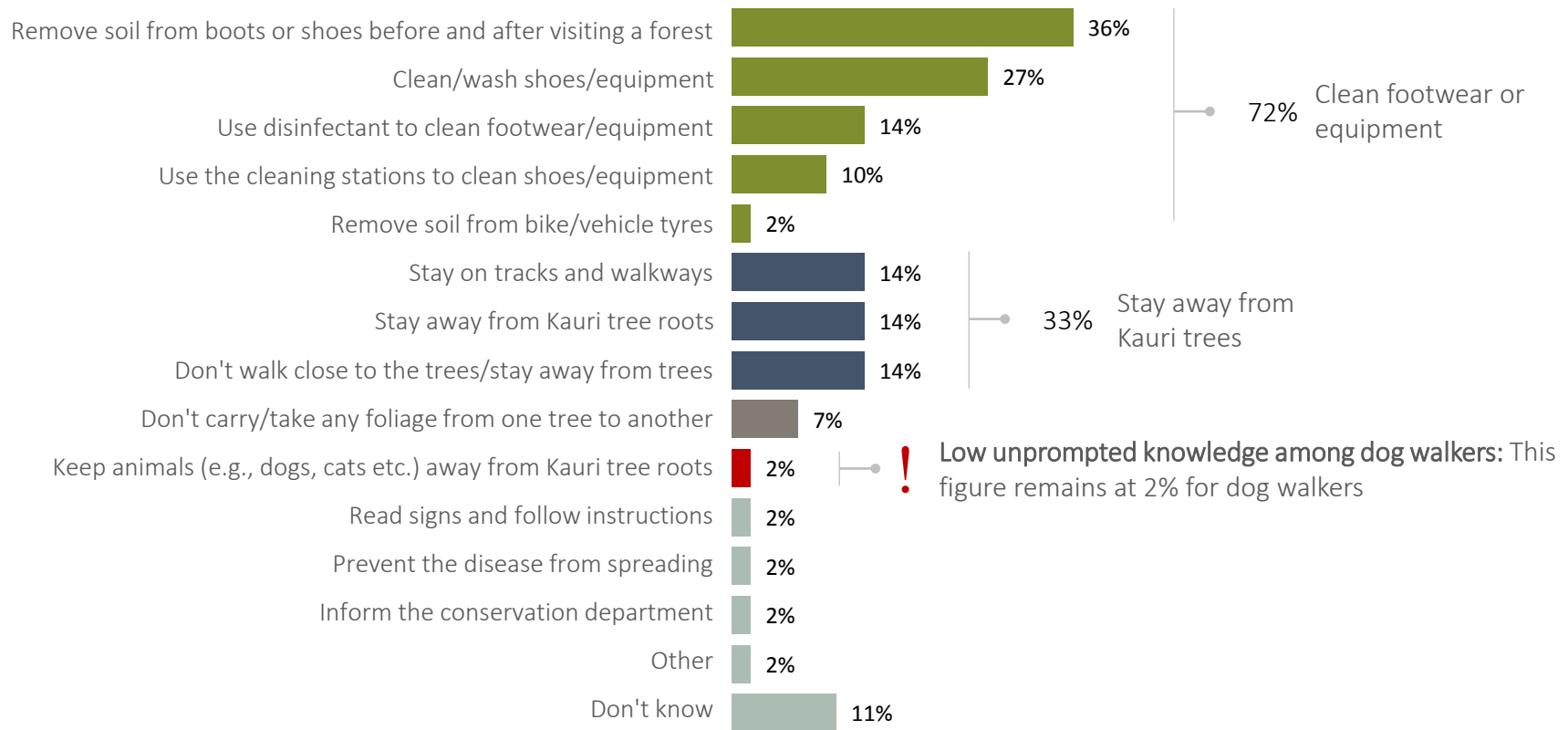
△ Significantly higher than 2011    △ Significantly higher than all those aware

Base: Those aware of Kauri Dieback; 2011 n=446, 2015 n=855.  
Source: Q4c



# UNPROMPTED KNOWLEDGE OF ACTIONS REQUIRED TO PREVENT THE SPREAD OF KAURI DIEBACK

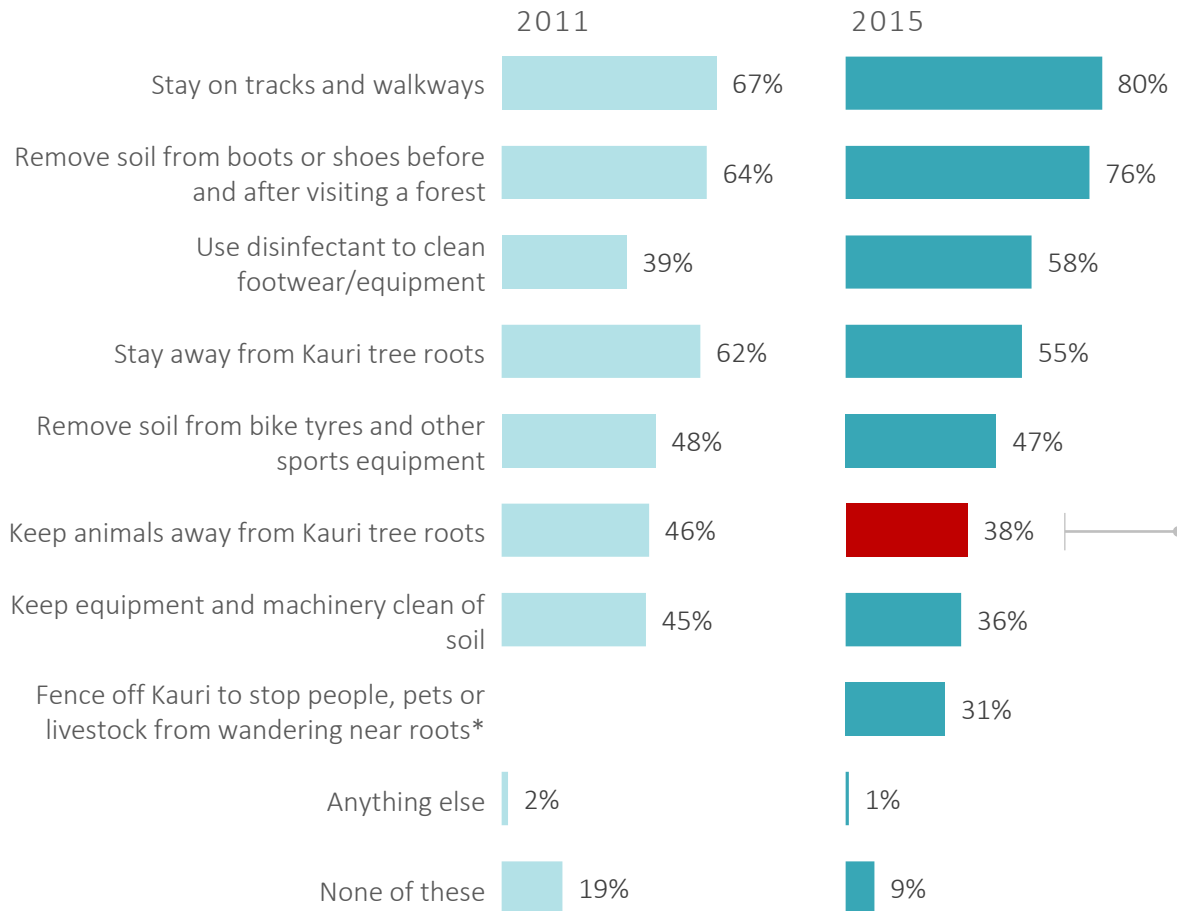
Top-of-mind knowledge is highest for cleaning footwear or equipment. Fewer people mention a need to stay away from Kauri trees, and only a small minority mention a need to keep animals away from them.



Base: Those who know at least a little bit about what to do to stop the spread of Kauri Dieback n=590.

Source: Q4d

# PROMPTED AWARENESS OF THE ACTIONS REQUIRED TO PREVENT THE SPREAD OF KAURI DIEBACK



There has been an increase in prompted awareness of the need to stay on tracks and to clean footwear. Prompted awareness of other actions remains similar to 2011.

Please note that in 2011 this question was asked only of Forest users aware of Kauri Dieback. In 2015 we asked all residents aware of Kauri Dieback. The 2015 results are all slightly higher if based only on Forest users.

**!** **Low prompted awareness among dog walkers** Even after prompting, 45% of dog walkers are aware. This is not significantly higher than the overall result.

**Higher awareness among Land owners** Land owners show higher prompted awareness than others of nearly all actions, including the need to fence off Kauri trees (44%).

 Significantly higher than 2011

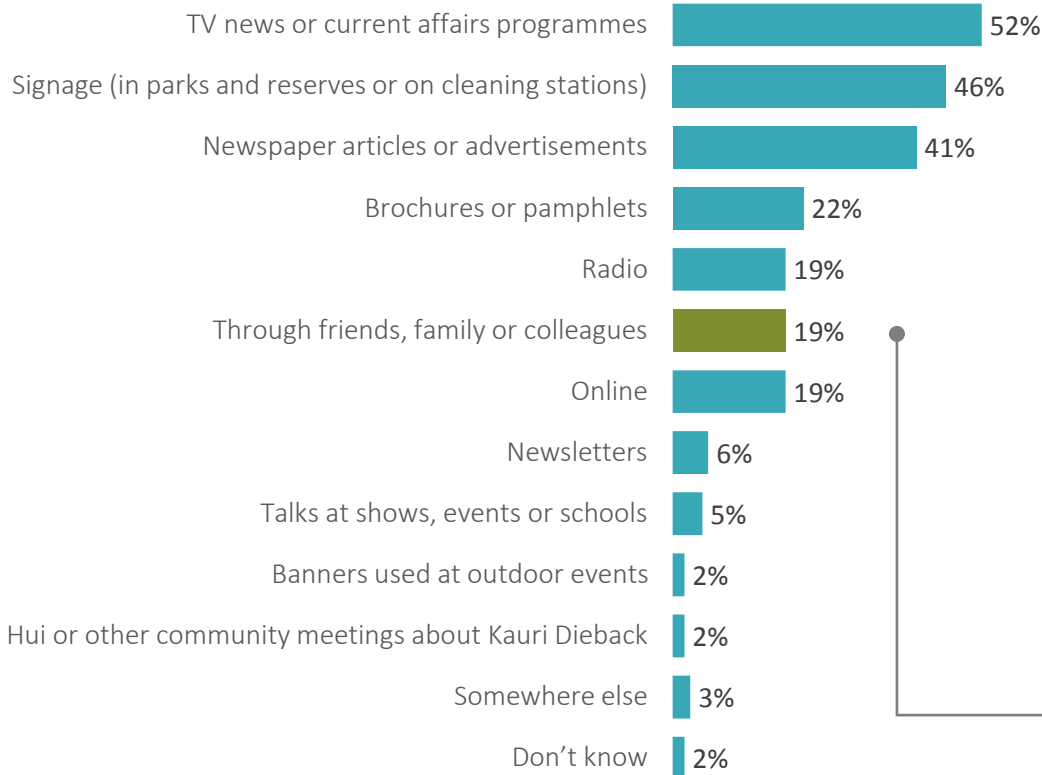
Note: \* denotes response not offered in 2011

Base: Aware of Kauri Dieback; 2015 n=855, 2011 (Forest users aware of Kauri Dieback) n=282.

Source: Q4e

# SOURCES OF AWARENESS OF KAURI DIEBACK

The main sources of awareness, across all groups, are TV news or current affairs programmes, signage, and news paper articles or advertising. One in five say they've heard of Kauri Dieback through word-of-mouth – this could be a useful channel to leverage in future.



## TOP SOURCES OF AWARENESS

### Forest users (n=602):

- Signage (57%)
- TV news or current affairs programmes (45%)
- Newspaper articles or ads (41%)

### Land owners (n=146):

- Newspaper articles or ads (60%)
- TV news or current affairs programmes (49%)
- Signage (45%)

### Māori (n=187):

- TV news or current affairs programmes (61%)
- Newspaper articles or ads (41%)
- Signage (40%)

Those more likely than others to hear about Kauri Dieback through word of mouth are club members (29%) and Forest users, Land owners and Māori (22%, 25%, and 23% respectively compared to just 14% among non-Forest users).

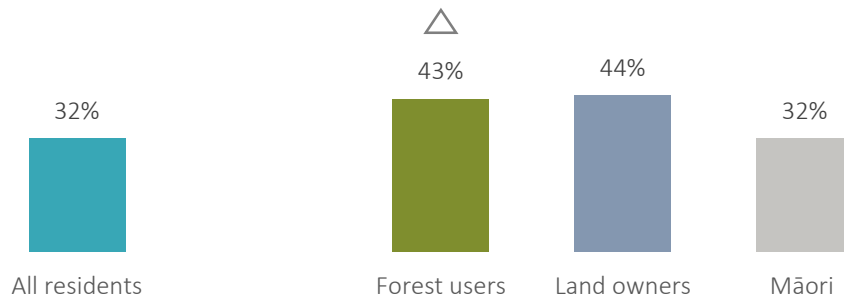
Base: Respondents aware of Kauri Dieback; 2015 n=855.  
Source: Q2b



# ADVOCACY FOR PREVENTING THE SPREAD OF KAURI DIEBACK

Advocacy for preventing the spread of Kauri Dieback is highest amongst Forest users, particularly trampers (54%) and those visiting for work purposes (59%), and Land owners (44%).

% spoken with family, friends, visitors or networks about Kauri Dieback and encouraged them to follow preventative/hygiene actions.



There is no observable difference in demographic profiles between advocates and non-advocates, suggesting that advocacy is not isolated to specific age, gender or ethnic segments of the population.

- ! **Generating further advocacy:**  
Communicating through clubs would be a useful way to generate further advocacy – club members are much more likely than others (54%) to have advocated to prevent the spread of Kauri Dieback over the past year.

△ Significantly higher than others

Base: Respondents aware of Kauri Dieback; All aware n=855, Forest users n=602, Land owners n=146, Māori n=187.  
Source: Q7e





# PERCEPTIONS OF THE SERIOUSNESS KAURI DIEBACK

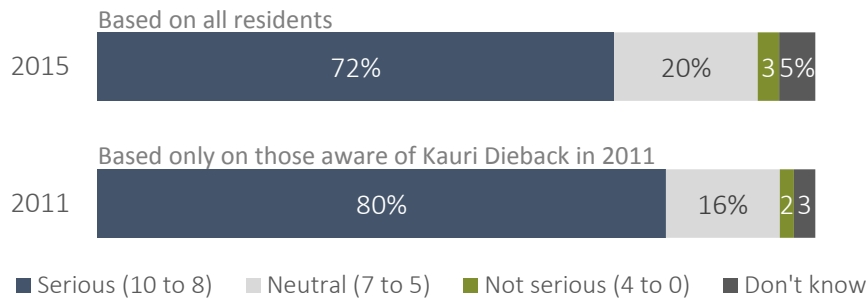


# PERCEIVED SERIOUSNESS OF KAURI DIEBACK

Most residents perceive Kauri Dieback to be serious for New Zealand. The impact locally is perceived to be less severe, although there has been a small increase in perceived seriousness for local communities since 2011.

Please note that in 2011 this question was asked of those aware of Kauri Dieback. This year we provided all residents with information about Kauri Dieback, and asked how serious they think it is. The mean scores show whether perceived seriousness has increased among those aware, and are directly comparable.

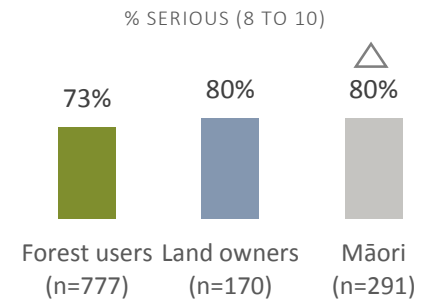
## FOR NEW ZEALAND



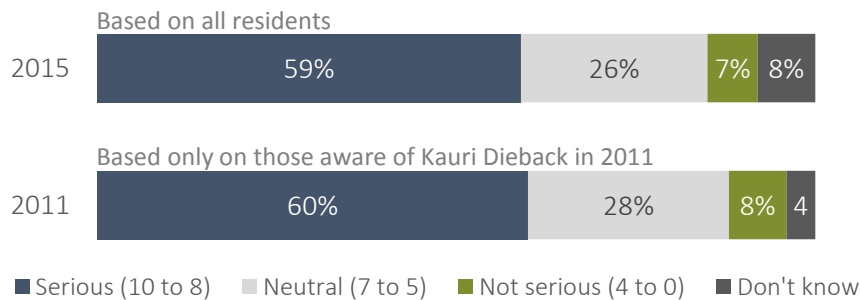
## Mean 'seriousness' score out of 10

| ALL RESIDENTS       | AWARE OF KAURI DIEBACK |
|---------------------|------------------------|
| 8.5                 | 8.7                    |
| Unable to calculate | 8.7                    |

## Sub-groups 2015



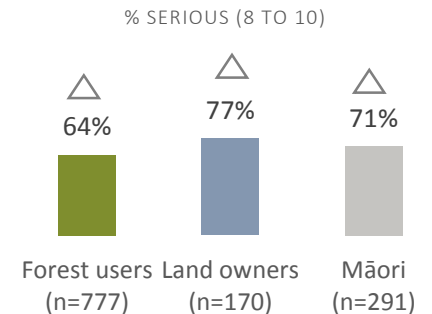
## FOR YOUR COMMUNITY



## Mean 'seriousness' score out of 10

| ALL RESIDENTS       | AWARE OF KAURI DIEBACK                   |
|---------------------|--|
| 7.9                 | 8.0 <span style="color: green;">△</span> |
| Unable to calculate | 7.8                                      |

## Sub-groups 2015



Base: All respondents; 2015 n=1,200. Those aware of Kauri Dieback; n 2011=446.

Source: Q3b

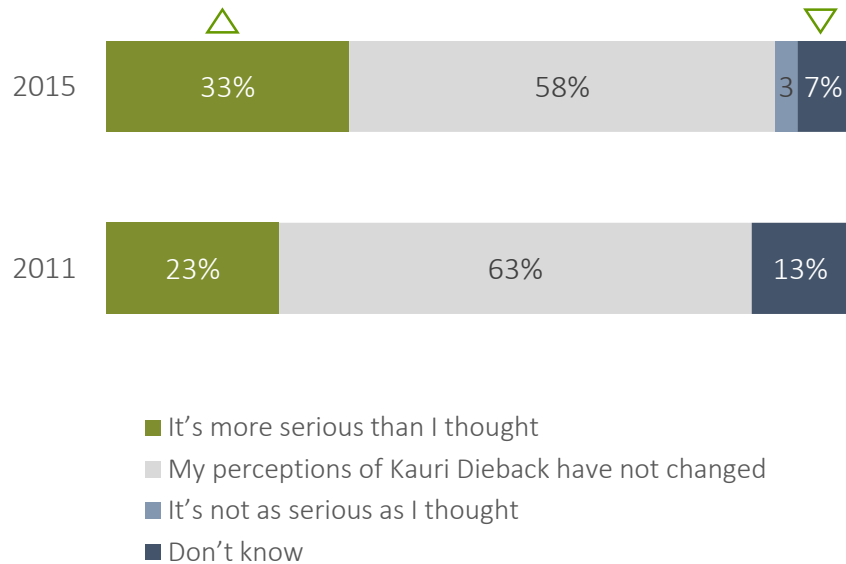
△ Significantly higher than 2011

△ Significantly higher than others



# CHANGE IN PERCEPTION OF SERIOUSNESS OVER THE PAST YEAR

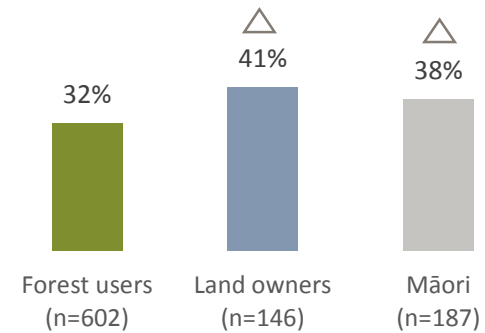
Compared to 2011, more people report that their view about the seriousness of Kauri Dieback has increased. This is consistent with the overall increase in awareness that has occurred over time, since 2011.



- It's more serious than I thought
- My perceptions of Kauri Dieback have not changed
- It's not as serious as I thought
- Don't know

## SUB-GROUPS 2015

% TAKE ACTION EVERY TIME



Land owners (41%), Māori (38%), club members (45%) and non-Forest users (35%) are particularly likely to report an increased perception of seriousness.

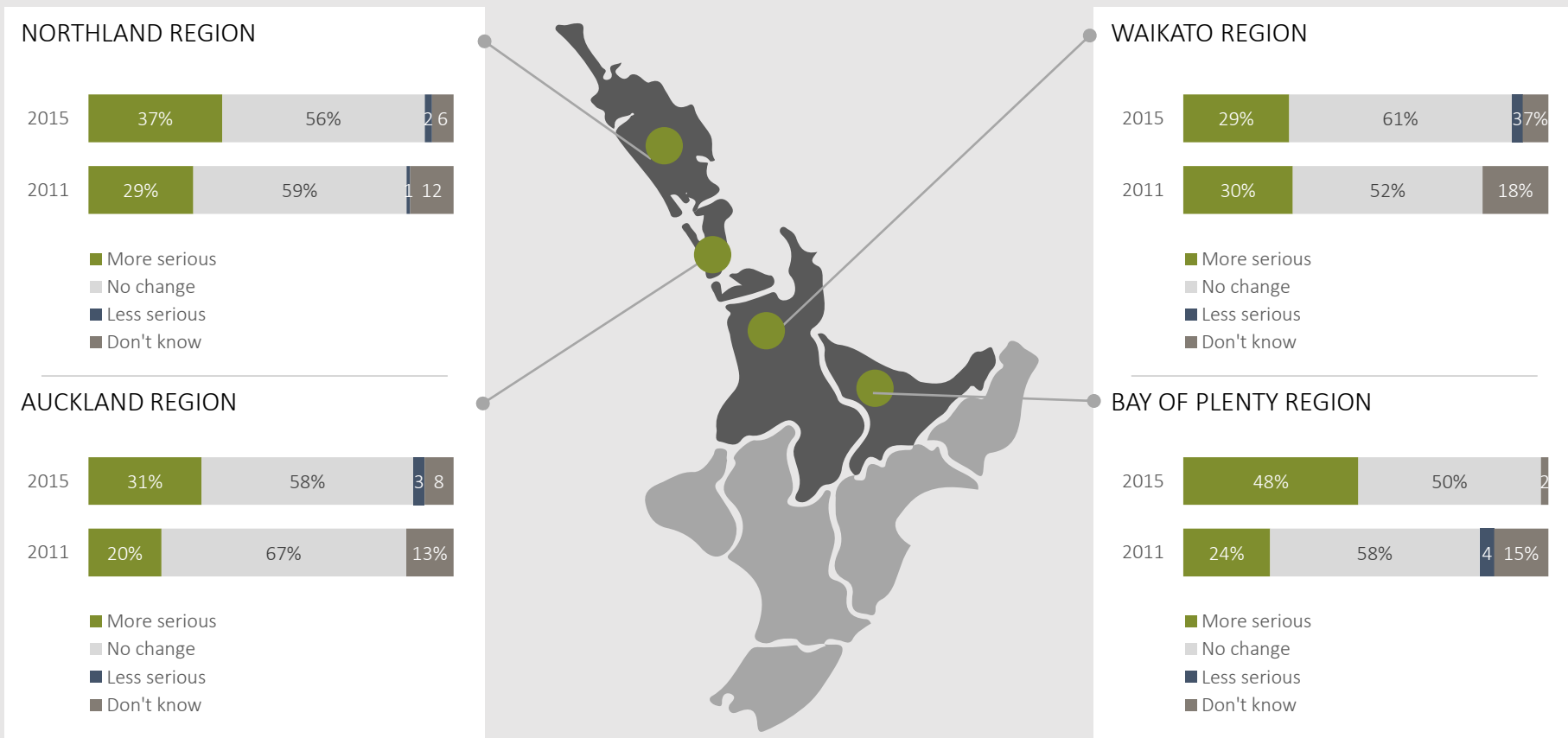
△△ Significantly higher or lower than 2011    △ Significantly higher than others

Base: Respondents aware of Kauri Dieback; 2015 n=855, 2011 n=466.

Source: Q3e

# CHANGE IN PERCEPTION OF SERIOUSNESS OVER THE PAST YEAR BY REGION

Northland and Bay of Plenty residents are most likely to say Kauri Dieback is more serious than they thought it was a year ago.



Note: \* denotes small base size

Base: Respondents aware of Kauri Dieback; Northland 2015 n=356, 2011 n= 279, Auckland 2015 n=265, 2011 n= 85, Waikato 2015 n=174, 2011 n= 57 Bay of Plenty 2015 n=60, 2011 n=25. Source: Q3e

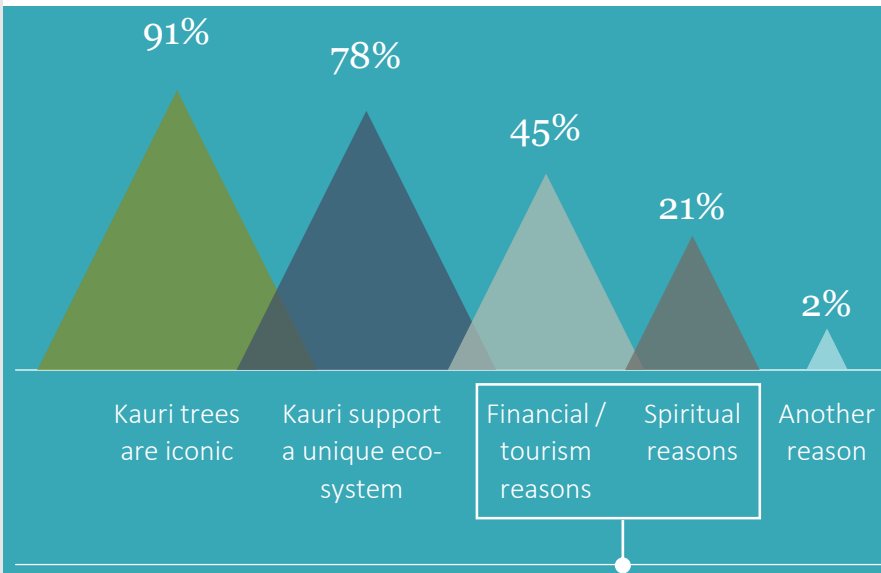
# REASONS FOR KAURI DIEBACK BEING SERIOUS/NOT SERIOUS

The main reasons for a perceived lack of seriousness are lack of awareness of Kauri Dieback, and a belief that Kauri trees are 'just one of many plants / animals at risk'.



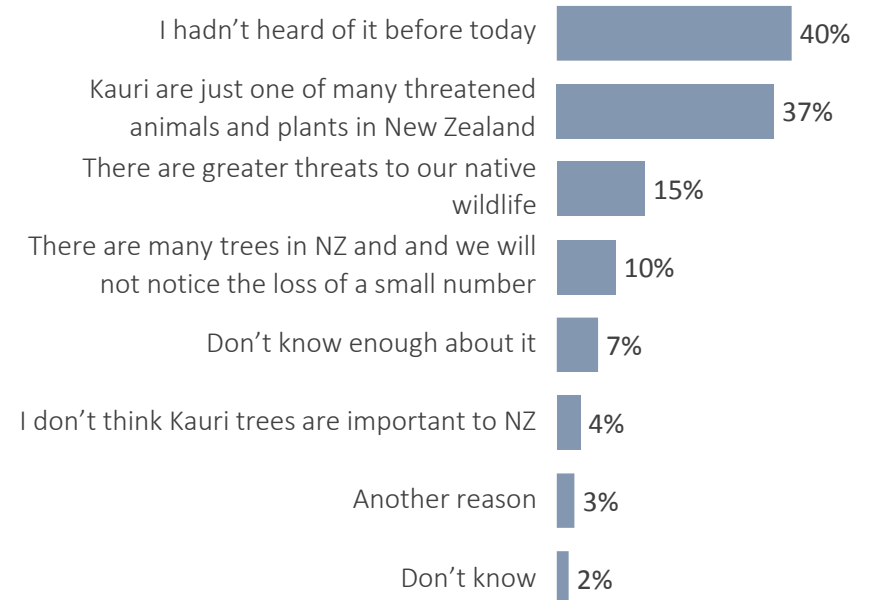
**Increasing perceived seriousness:** The main 'levers' for increasing perceived seriousness of Kauri Dieback are raising awareness of it's impact, and communicating that Kauri are iconic and support a unique eco-system.

## KAURI DIEBACK IS SERIOUS BECAUSE...



Northland residents and those visiting forests for work purposes are particularly likely to cite financial/tourism reasons (57%), and Māori are much more likely than others to cite spiritual reasons (62%). There were no other substantial differences by activity type.

## KAURI DIEBACK IS NOT SERIOUS BECAUSE...

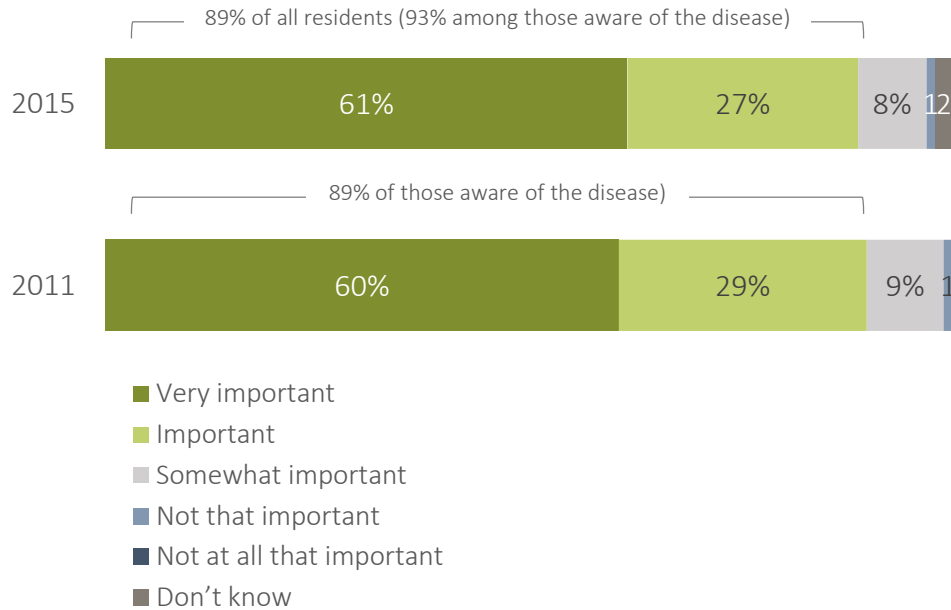


Base: Think Kauri Dieback is serious/not serious for either their community or New Zealand; serious n=1,074, not serious n=126.  
Source: Q3c and d



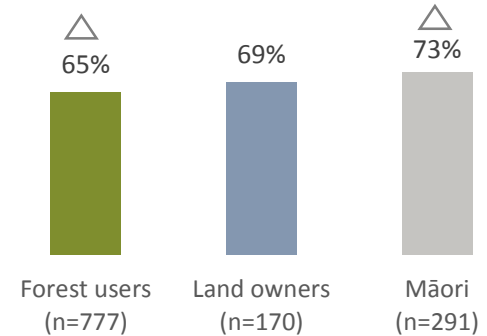
# IMPORTANCE OF MANAGING KAURI DIEBACK COMPARED TO OTHER PESTS

Nine in ten residents believe it is very important to manage Kauri Dieback, even in the context of other pests and diseases affecting trees and plants in New Zealand.



## SUB-GROUPS 2015

% BELIEVE IT IS VERY IMPORTANT



Please note that in 2011 this question was asked of those aware of Kauri Dieback. This year we provided all residents with information about Kauri Dieback, and asked for their views. Among those aware of Kauri Dieback, the importance of managing the disease has increased slightly, although the difference is not statistically significant.

△ Significantly higher than others

Base: All respondents; 2015 n=1,200. Those aware of Kauri Dieback; n 2011=446.  
Source: Q3a





## BELIEFS ABOUT THE PREVENTION OF KAURI DIEBACK



# BELIEFS ABOUT THE PREVENTION OF KAURI DIEBACK

As is quite common in behaviour change campaigns, there is some sense among residents that, as individuals, they can't really make a difference (low self-efficacy). Residents have mixed views about whether the best possible steps are being taken to stop Kauri Dieback spreading.

I strongly believe that if I take the recommended actions, it can make a difference to stopping Kauri Dieback spreading in NZ



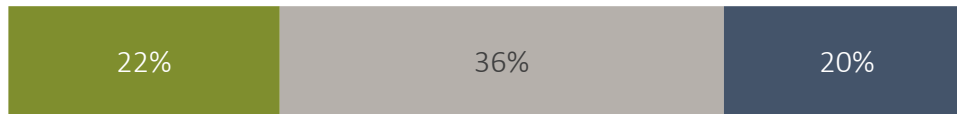
I strongly believe that if I take the recommended actions it will make no difference to stopping Kauri Dieback from spreading in NZ

I have a very important role in helping make sure Kauri Dieback does not spread



I don't believe that I have a role in helping make sure Kauri Dieback does not spread

I think that the best possible steps are being taken to stop Kauri Dieback spreading in NZ



I don't think that enough is being done to stop Kauri Dieback spreading in NZ

■ 10 to 8

■ 7 to 5

■ 4 to 0



**Try to increase the sense that individuals can personally make a difference.** Consider ways to further drive the message that even unseen soil and spores can easily spread the disease.

Base: All respondents; n=1,200.  
Source: Q6a



# BELIEFS ABOUT WHETHER PERSONAL ACTIONS CAN MAKE A DIFFERENCE

Beliefs that personal actions can make a real difference are fairly consistent across all key sub-groups, although they're stronger among Forest users, Māori and Waikato residents.

I strongly believe that if I take the recommended actions, it can make a difference to stopping Kauri Dieback spreading in NZ



I strongly believe that if I take the recommended actions it will make no difference to stopping Kauri Dieback from spreading in NZ

■ 10 to 8

■ 7 to 5

■ 4 to 0

## % AGREE IF THEY TAKE THE RECOMMENDED ACTION, IT CAN MAKE A DIFFERENCE TO STOPPING SPREAD

### ALL RESIDENTS

57%

All residents  
(n=1,200)

### 2015 KEY SUBGROUPS

△  
60%

Forest users  
(n=777)

64%

Land owners  
(n=170)

△  
66%

Māori  
(n=291)

### REGIONS

△  
57%

Northland region  
(n=447)

55%

Auckland region  
(n=400)

63%

Waikato region  
(n=251)

55%

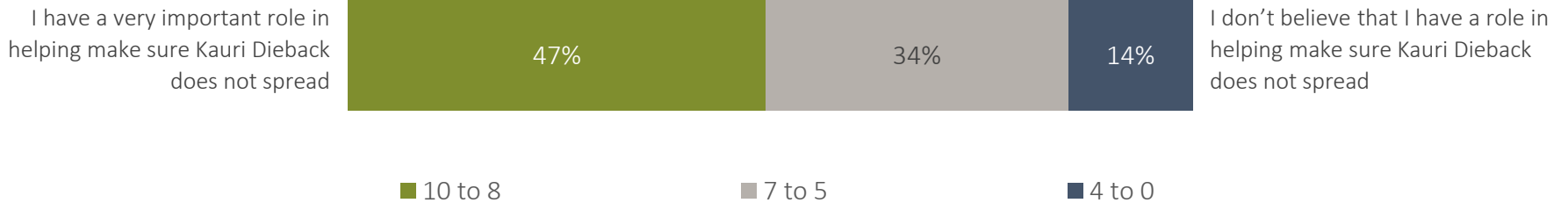
Bay of Plenty region  
(n=102)

△ Significantly higher than others

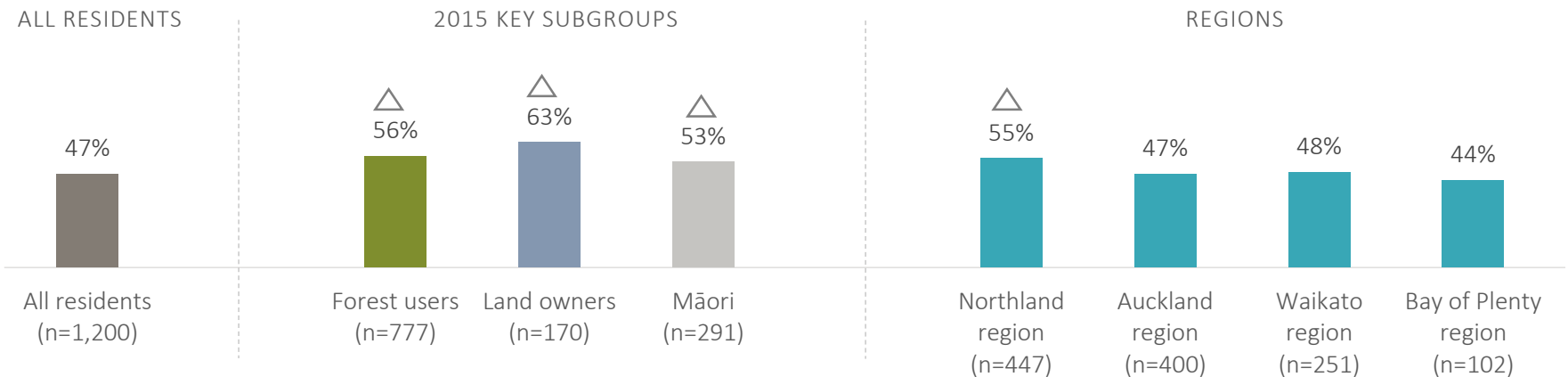
Base: All respondents; n=1,200.  
Source: Q6a

# BELIEFS ABOUT PERSONAL ROLES IN HELPING TO MAKE SURE KAURI DIEBACK DOES NOT SPREAD

The three key subgroups and Northland residents are much more likely than others to believe they have an important role in helping prevent the spread of Kauri Dieback.



## % AGREE THEY HAVE A VERY IMPORTANT ROLE IN HELPING MAKE SURE KAURI DIEBACK DOES NOT SPREAD



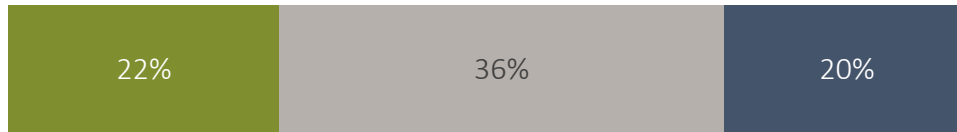
△ Significantly higher than others

Base: All respondents; n=1,200.  
Source: Q6a

# BELIEFS ABOUT WHETHER ENOUGH IS BEING DONE TO MAKE SURE KAURI DIEBACK DOES NOT SPREAD.

Māori, Northland residents, and Waikato residents are more likely than others to say they don't believe enough is being done to prevent the spread of Kauri Dieback (32%, 26%, and 27% respectively compared to 20% in total).

I think that the best possible steps are being taken to stop Kauri Dieback spreading in NZ



I don't think that enough is being done to stop Kauri Dieback spreading in NZ

■ 10 to 8

■ 7 to 5

■ 4 to 0

## % AGREE THE BEST POSSIBLE STEPS ARE BEING TAKEN TO PREVENT SPREAD

### ALL RESIDENTS

22%



All residents  
(n=1,200)

### 2015 KEY SUBGROUPS



25%



Forest users  
(n=777)

29%



Land owners  
(n=170)

20%



Māori  
(n=291)

### REGIONS

23%



Northland region  
(n=447)

22%



Auckland region  
(n=400)

24%



Waikato region  
(n=251)

23%



Bay of Plenty region  
(n=102)

△ Significantly higher than others

Base: All respondents; n=1,200.

Source: Q6a





# PREVENTION BEHAVIOUR



# ACTIONS TAKEN OVER THE LAST 12 MONTHS TO PREVENT THE SPREAD OF KAURI DIEBACK

Upper North Island residents appear to have become more proactive at taking action to prevent the spread of Kauri Dieback – particularly with regard to staying on tracks and using disinfectant.

Please note we had difficulty replicating the previous research agency's results for 2011, so changes over time should be treated with some caution.



## WHO IS THE LEAST DILIGENT AT TAKING ACTION?

### Land owners

- More likely than others to have not taken any action (17%)
- Although they are more likely to fence off Kauri (10%) and keep animals away (22%)

## THOSE MOST DILIGENT ARE:

### Hikers / Trampers

- Remove soil from footwear (80%)
- Use disinfectant (64%)
- Remove soil from sporting equipment (12%)

### Māori

- Keep animals away from Kauri tree roots (25%)
- Remove soil from sporting equipment (13%)
- Keep equipment and machinery clean of soil (9%)
- Fence off Kauri (8%)

Note: \* denotes response not offered in 2011 ■ ■ Significantly higher or lower than 2011  
 Base: Forest users and Land owners aware of Kauri Dieback 2011 n=282, 2015 n=650.  
 Source: Q4f

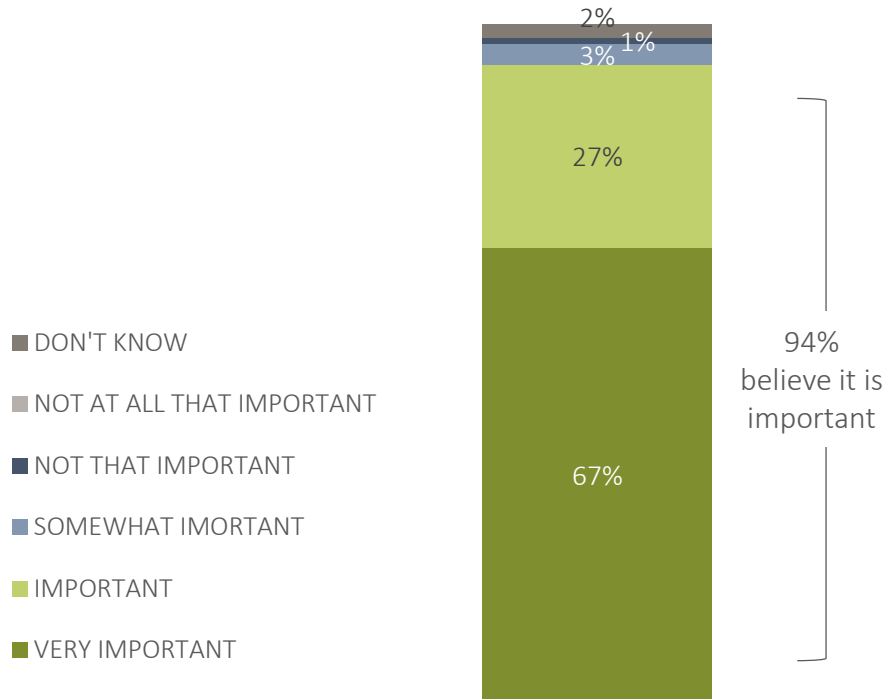
# IMPORTANCE OF CLEANING FOOTWEAR AND EQUIPMENT

There is strong public support among Forest users and Land owners for cleaning footwear and equipment – the vast majority of those who have taken action during the last 12 months think its important or very important to do so. Support is particularly strong among Māori and older people.



## Behaviour change can produce attitude change

This result helps to illustrate the reciprocal relationships that can exist between knowledge, beliefs, attitudes and behaviours. In this case, being required to take action when near Kauri trees may have helped help to educate and garner support for further actions. Can these experiences be further leveraged to help generate advocacy?



WHO IS MOST LIKELY TO BELIEVE IT IS VERY IMPORTANT TO CLEAN YOUR SHOES AND OUTDOOR EQUIPMENT BEFORE AND AFTER GOING NEAR KAURI?

- Māori (85%)
- Older people, aged 40 or more (73%)



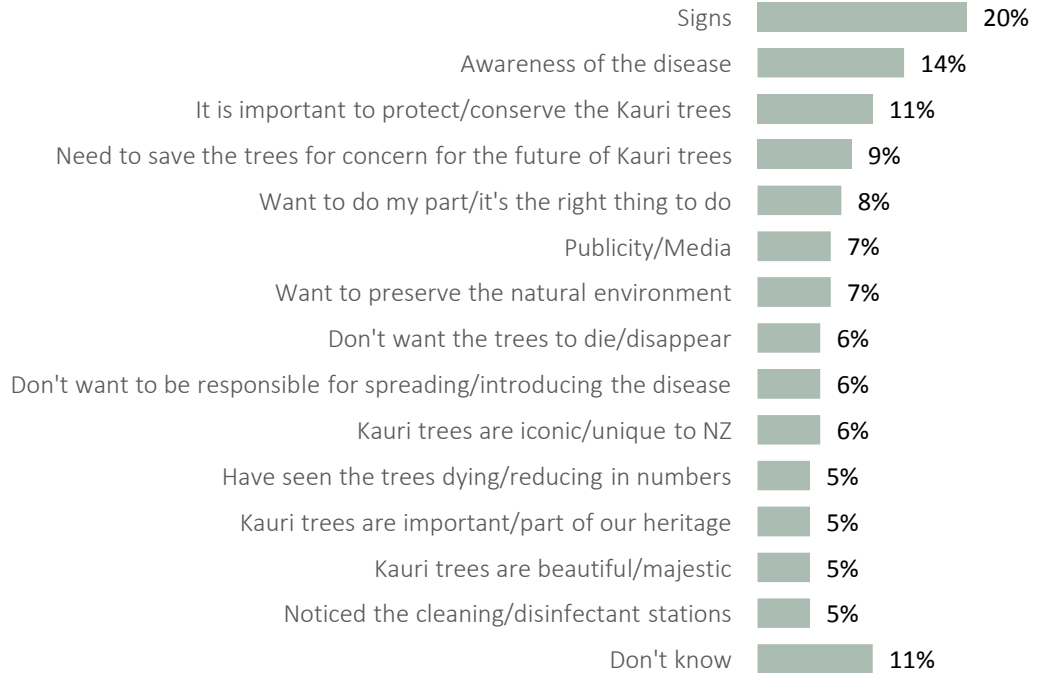
# TRIGGERS FOR CONSISTENTLY TAKING ACTION TO PREVENT THE SPREAD OF KAURI DIEBACK.



77%

OF THOSE WHO TAKE ACTION SAY THEY DO SO EVERY TIME

## PROMPTS FOR TAKING ACTION



Signs are the main triggers for people taking action to prevent the spread of Kauri Dieback. This is followed by general awareness of the disease and a motivation to protect Kauri trees.

Note: Percentages under 5% are not shown.

Base: Forest users and Land owners who always take action to prevent the spread of Kauri Dieback n=430.  
Source: Q5c

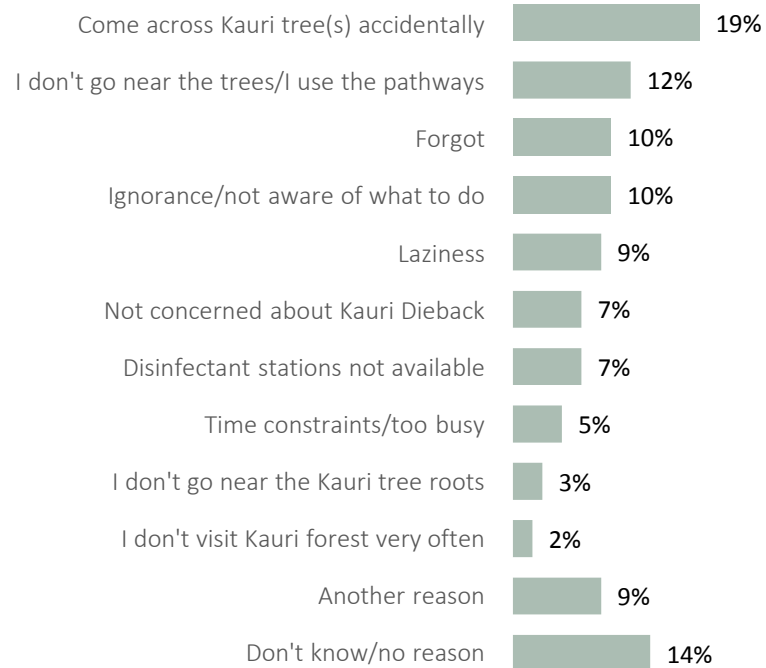
# BARRIERS TO NOT ALWAYS TAKING ACTION TO PREVENT THE SPREAD OF KAURI DIEBACK



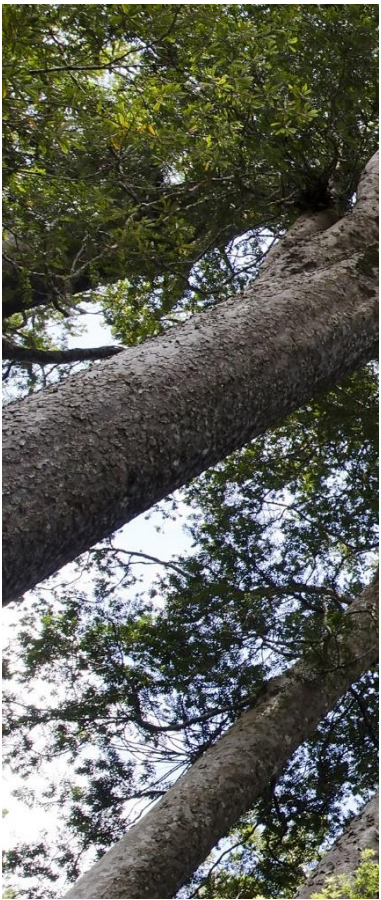
22%

OF THOSE WHO TAKE ACTION SAY THEY DO SO ONLY SOMETIMES OR RARELY

## REASONS FOR NOT ALWAYS TAKING ACTION



Not knowing a Kauri tree is near is the main barrier to taking action. This emphasises the importance of signage in areas where there are Kauri trees.



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BEHAVIOUR  
SURROUNDING  
DISINFECTANT

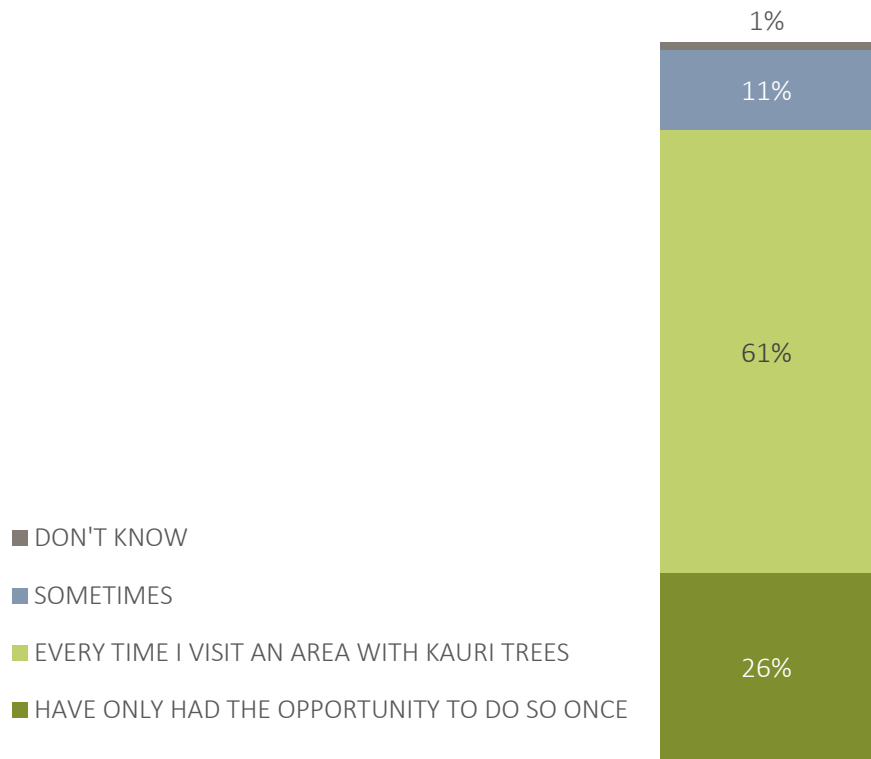
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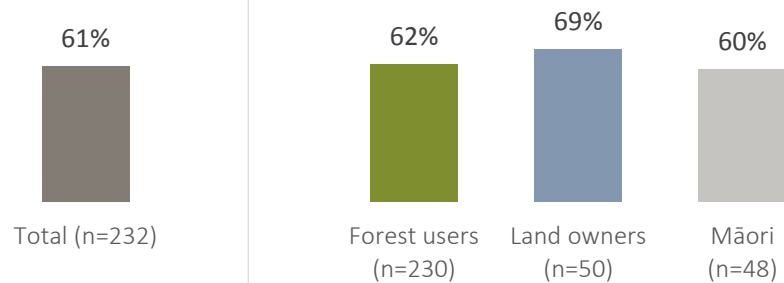
# USE OF DISINFECTANT

Most of those who have used disinfectant say they always use it – only a small minority say they use it only sometimes.



## % TAKE ACTION EVERY TIME

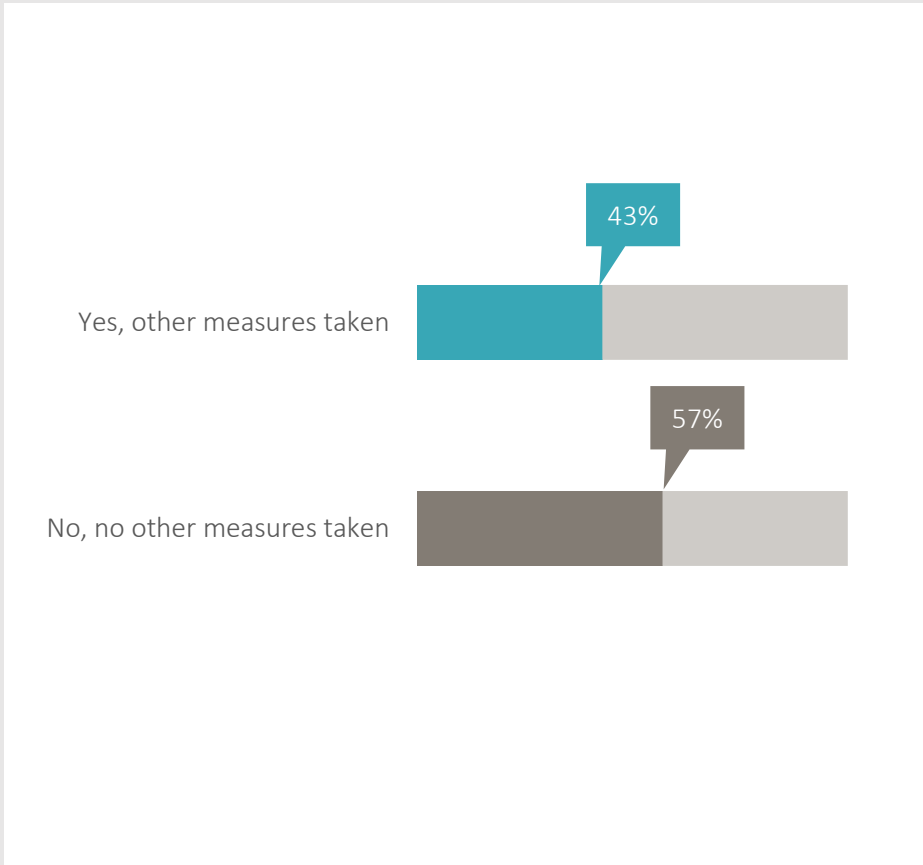
### 2015 KEY SUBGROUPS



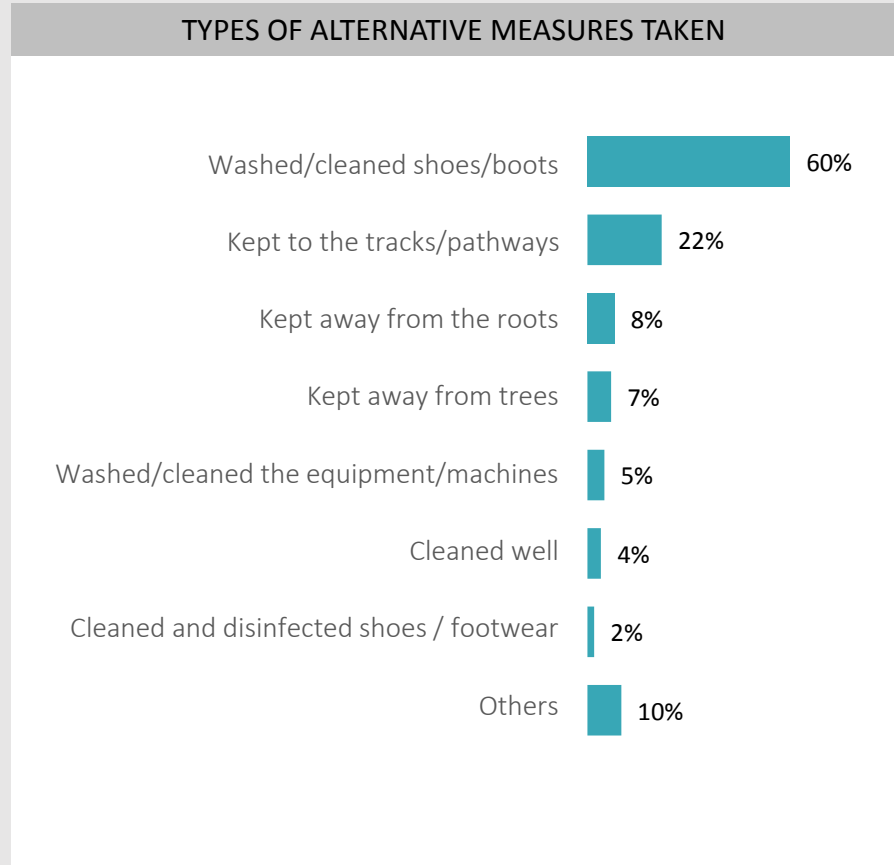
Base: Forest users and Land owners who have used disinfectant; n=232.  
Source: Q5h

# MEASURES TAKEN AS AN ALTERNATIVE TO USING DISINFECTANT.

Nearly half of those who don't always use disinfectant take alternative precautions to prevent the spread of Kauri Dieback. These measures mostly include cleaning footwear and keeping to tracks.



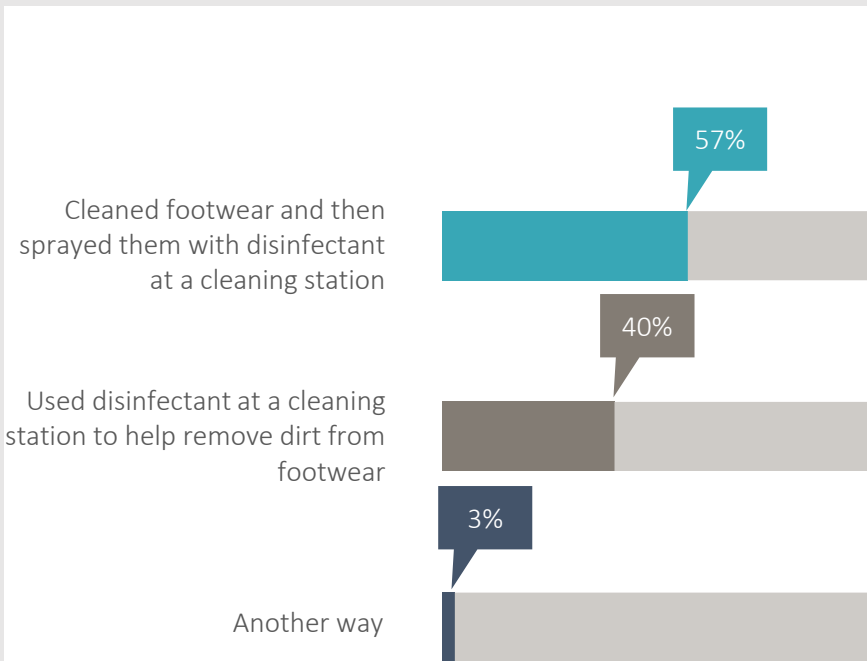
Base: Forest users and Land owners who do not always use disinfectant; n=174  
Source: Q1g



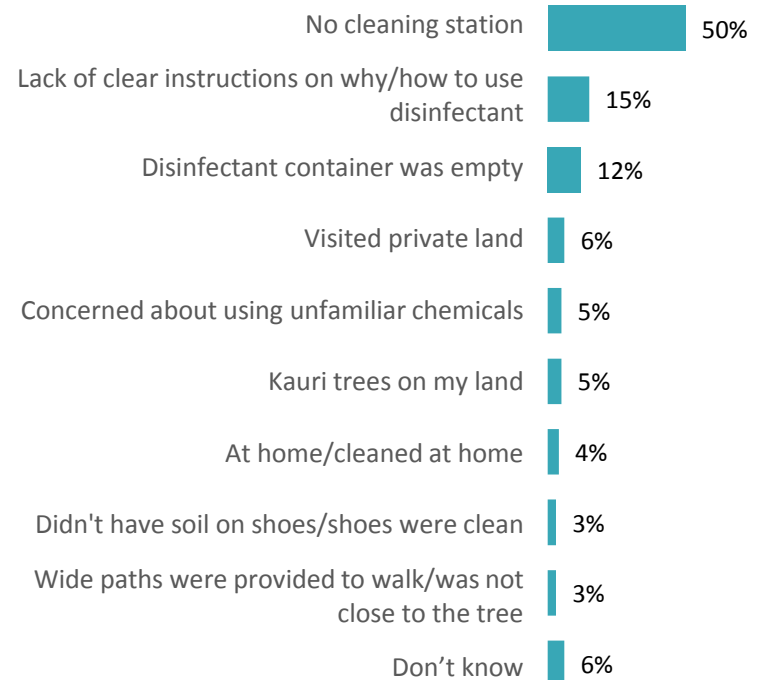
Base: Forest users and Land owners who have taken other measures; n=100.  
Source: Q5k

# HOW PEOPLE USE DISINFECTANT

Correct use of disinfectant is adhered to by more than half of those who have used it – but 40% say they used it to help remove dirt from footwear. The main barrier to using disinfectant is lack of a cleaning station; only 12% say they didn't use it because a disinfectant container was empty.



## BARRIERS TO USING DISINFECTANT



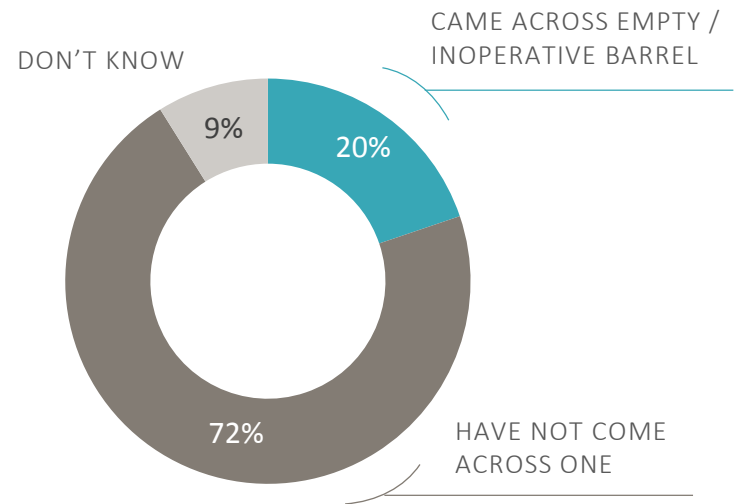
Base: Forest users and Land owners who have used disinfectant when visiting a place near Kauri; n=232.  
Source: Q5i

Note: Percentages under 3% are not shown.  
Base: Forest users and Land owners who do not always use disinfectant; n=174.  
Source: Q5j



# ENCOUNTERS WITH EMPTY, OR OTHERWISE INOPERATIVE, DISINFECTANT BARRELS

One in five Forest users and Land owners, aware of the need to use disinfectant, have come across an empty or otherwise inoperative barrel





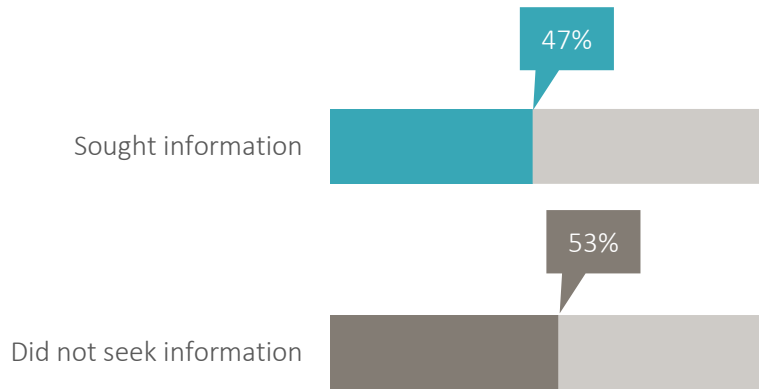


## SOURCES OF PRE-VISIT INFORMATION AND COMMUNICATIONS



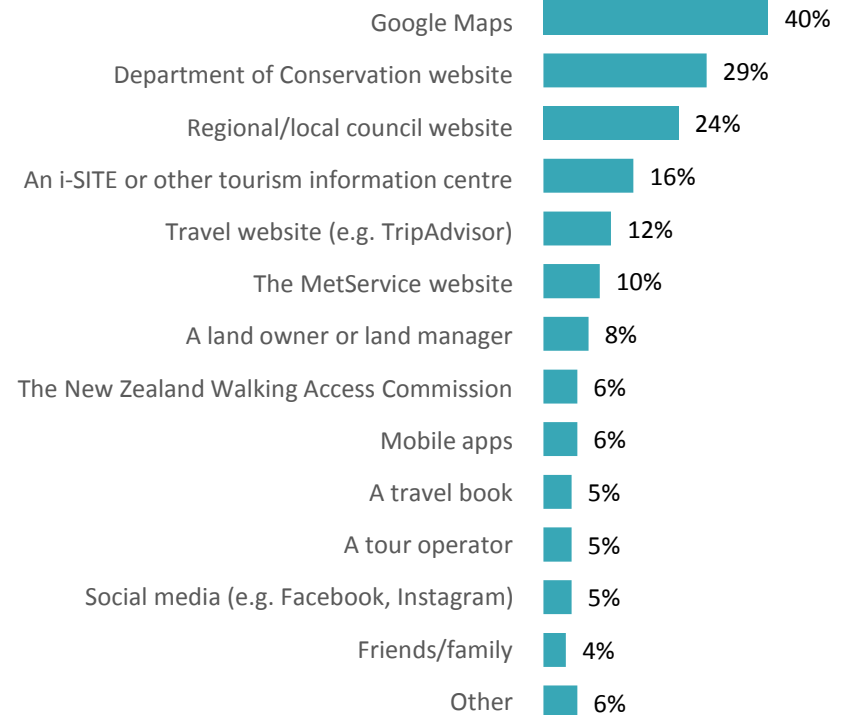
# SOURCES OF PRE-FOREST VISIT INFORMATION.

Nearly half of all Forest users seek information before visiting land with Kauri trees on it. Of those who do, four in ten use Google maps and three in ten visit the DOC website. Local/regional council websites are also a common information source.



Base: Forest users; n=777  
Source: Q1g

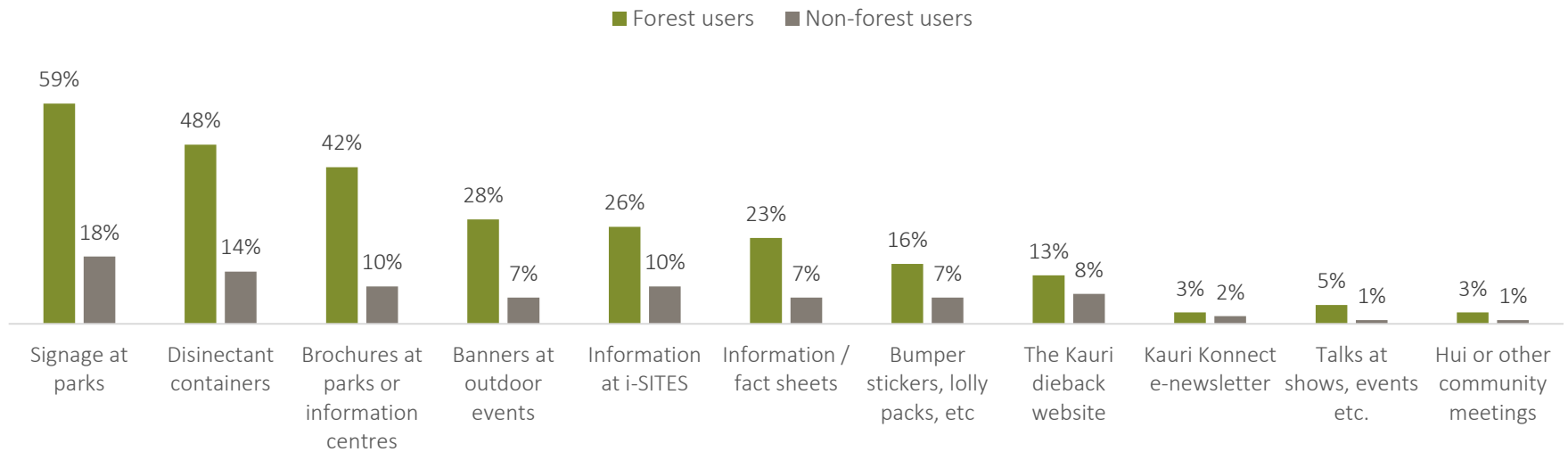
## PRE-VISIT INFORMATION SOURCES



Base: Forest users who sought information; n=328.  
Source: Q1g

# PROMPTED AWARENESS OF CAMPAIGN MATERIALS AND PROMPTS OVER THE PREVIOUS 12 MONTHS.

Signage, disinfectant containers, and brochures are the most widely seen sources of information for both Forest users and non-Forest users.



## Top three sources of information for Land owners and Māori:

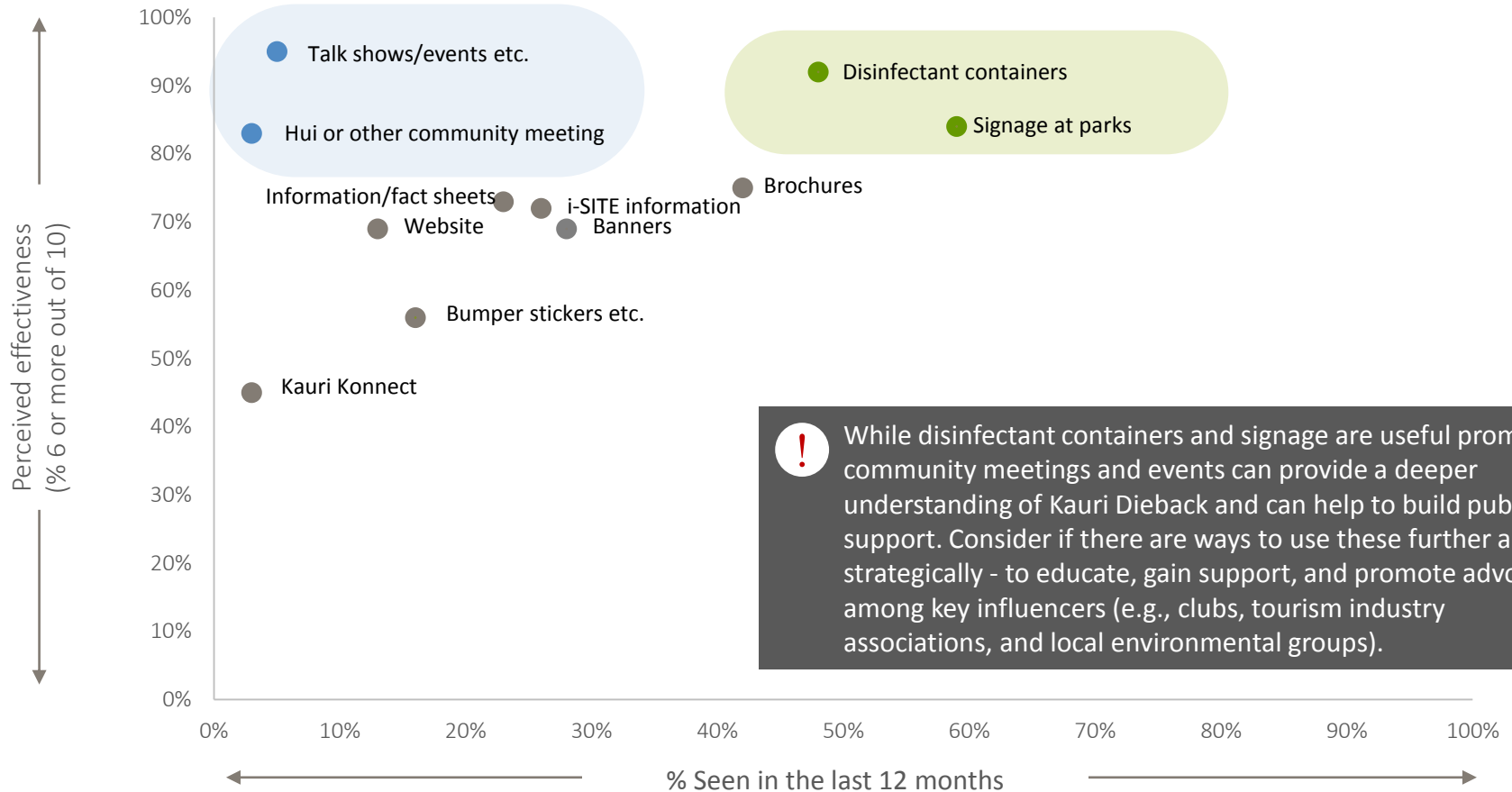
- Land owners – Signage 51%, Brochures 44%, and Disinfectant containers 39%.
- Māori - Signage 40%, Disinfectant containers 35%, and Brochures 27%.

Base: All respondents; Forest users n=777, Non-Forest users n=423.  
Source: Q7a, b, and d



# PERCEIVED EFFECTIVENESS OF COMMUNICATIONS AND PROMPTS

Community engagement and events are considered very effective by those who've seen them. Disinfectant containers and park signage are the most widely seen sources of information and are also considered to be very effective prompts.



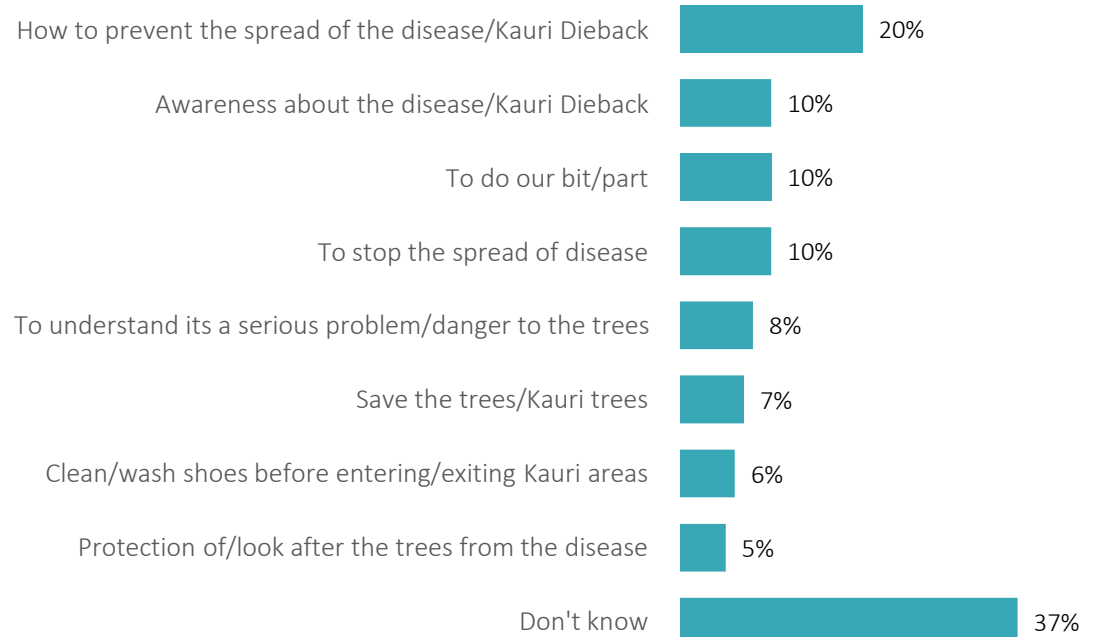
While disinfectant containers and signage are useful prompts, community meetings and events can provide a deeper understanding of Kauri Dieback and can help to build public support. Consider if there are ways to use these further and strategically - to educate, gain support, and promote advocacy among key influencers (e.g., clubs, tourism industry associations, and local environmental groups).

Base: Q7a and b: All respondents; n=1,200. Q7d: All respondents having seen each method of communication; n=24 to 416.  
Source: Q7a, b, and d

# MAIN MESSAGE RECALLED FROM PROMPTS AND CAMPAIGN MATERIALS

The main message recalled relates to how to prevent the spread of Kauri Dieback.

Thirty seven percent say they can't recall the main message. This suggests that while people might recognise prompts and communications, they may not always read them.



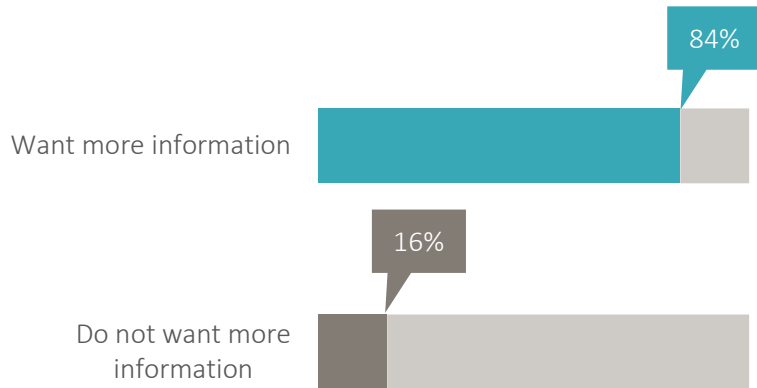
Note: Percentages under 5% are not shown.

Base: Those who have seen communications about Kauri Dieback; n=772.

Source: Q7c

# INTEREST IN MORE INFORMATION ABOUT KAURI DIEBACK

The majority of residents want more information about Kauri Dieback – particularly where the disease is, how to identify it, what they can do to stop the spread, and how the disease spreads.



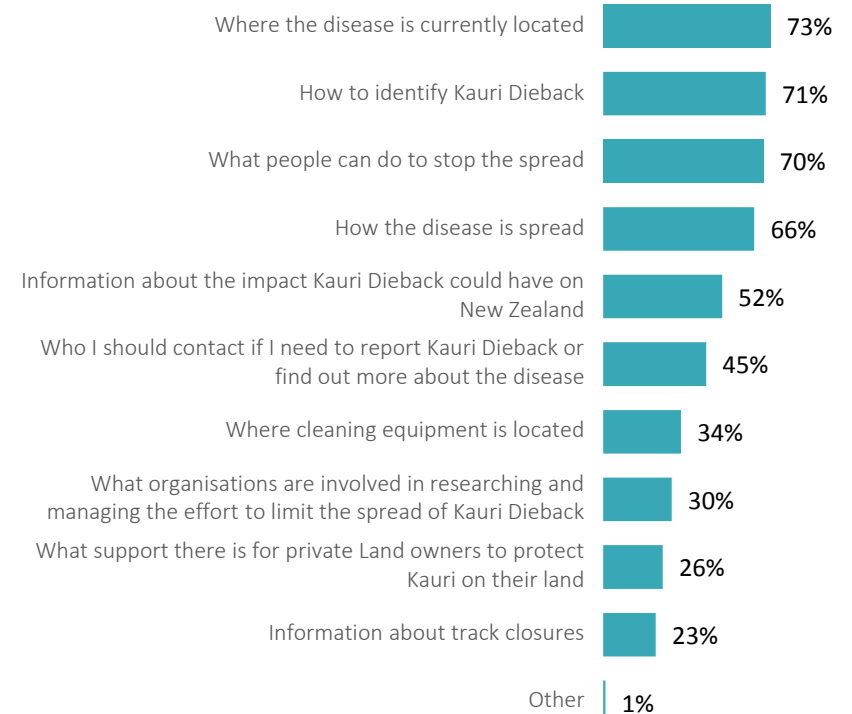
## WHO DOES NOT WANT MORE INFORMATION?

Those more likely than others to say they do not want more information are:

- Non-Forest users (20%)
- Waikato residents (22%)
- Non-Club members (18%)

Base: All respondents; n=1,200.  
Source: Q7f

## INFORMATION PEOPLE ARE INTERESTED IN RECEIVING



Base: All respondents who want more information about Kauri Dieback; n=1,002.  
Source: Q7f

# PUBLIC SUPPORT FOR INCREASING COMMUNICATION AND ADVERTISING TO RAISE AWARENESS OF KAURI DIEBACK

There is public support for wider communications to raise awareness of Kauri Dieback and how to prevent it spreading.

There should be much more communication and advertising to raise awareness of Kauri Dieback and how to prevent it spreading



There should be much less communication and advertising to raise awareness of Kauri Dieback and how to prevent it spreading

■ 10 to 8

■ 7 to 5

■ 4 to 0

## % AGREE THERE SHOULD BE MORE COMMUNICATION AND ADVERTISING

### ALL RESIDENTS

67%



All residents  
(n=1,200)

### 2015 KEY SUBGROUPS

69%



Forest users  
(n=777)

76%



Land owners  
(n=170)

73%  
△



Māori  
(n=291)

### REGIONS

67%



Northland region  
(n=447)

65%



Auckland region  
(n=400)

67%



Waikato region  
(n=251)

74%



Bay of Plenty region  
(n=102)

△ Significantly higher than others

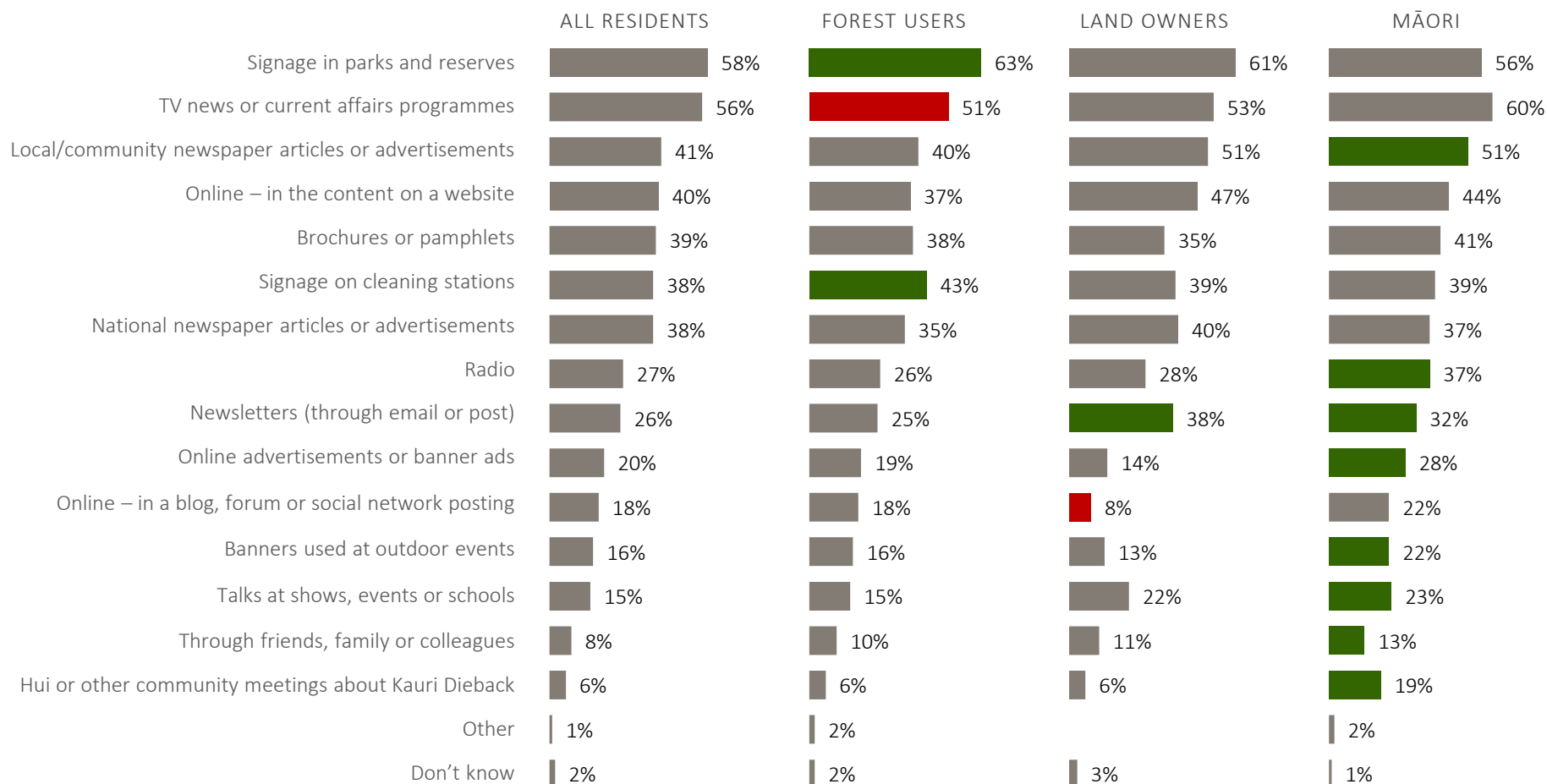
Base: All respondents; n=1,200.

Source: Q6a



## PREFERRED SOURCES OF INFORMATION

Signage and TV are the preferred methods of obtaining further information. The strong preference for TV is probably indicative of a desire to generally have a better or deeper understanding of Kauri Dieback in general.



■ Significantly higher or lower than others

Base: All respondents who were interested in knowing more about Kauri Dieback; All residents n=1,200, Forest users n=663, Land owners n=155, Māori n=253.

Source: Q7g





## DEMOGRAPHIC PROFILES



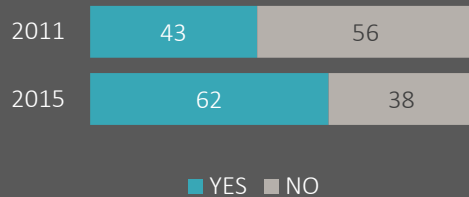
# DEMOGRAPHIC PROFILES

## REGION

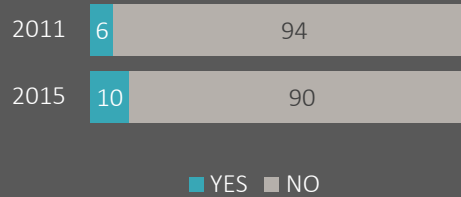
|               | 2011<br>(n=1,215) | 2015<br>(n=1,200) |
|---------------|-------------------|-------------------|
| Northland     | 7% (n=600)        | 7% (n=447)        |
| Auckland      | 63% (n=255)       | 63% (n=400)       |
| Waikato       | 18% (n=255)       | 18% (n=251)       |
| Bay of Plenty | 12% (n=105)       | 12% (n=102)       |



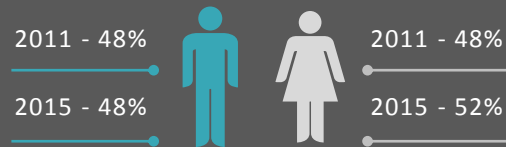
## FOREST USERS



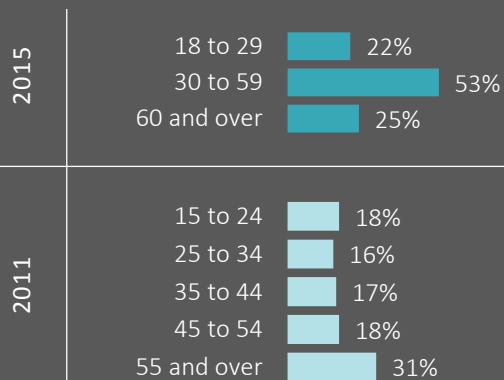
## LAND USERS



## GENDER



## AGE



## ETHNICITY

|                        | 2011<br>(n=1,215) | 2015<br>(n=1,200) |
|------------------------|-------------------|-------------------|
| New Zealand European   | 67%               | 71%               |
| New Zealand Māori      | 10%               | 12%               |
| Pacific                | 3%                | 3%                |
| Chinese                | 5%                | 4%                |
| Indian                 | 6%                | 6%                |
| Another Asian group    | 4%                | 3%                |
| Another European group | 12%               | 6%                |
| Another ethnic group   | 2%                | 2%                |
| Don't know             | -                 | 1%                |