



# Environment Southland Murihiku Southland Climate Change Perceptions Community Survey 2023

REPORT | NOVEMBER 2023





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# 1 Key Findings

## Key Challenges and Concerns

The cost of living is the foremost concern for Southlanders over the next decade, in line with national trends. Access to healthcare, particularly among older demographics, closely follows. Climate change is the third significant challenge, being more pronounced among younger age groups.

The Quality of Rivers and Lakes is considered the most critical environmental issue for Murihiku Southland, again, aligning with national trends where 82% of New Zealanders believe we need to improve the quality of our water (Ipsos New Zealand, 2023).

Southland communities rate their understanding of climate change impacts at 6.8/10 on average, with only 62% of respondents expressing concern about the impact of climate change on Murihiku Southland.

## Community Preparedness and Actions

A notable 36% of respondents express concern about their local community's lack of preparedness for the impacts of climate change, however 66% of participants demonstrate a willingness to modify their personal behaviours to mitigate the effects of climate change.

These communities are already engaging in environmentally conscious practices, with recycling, personal food cultivation, and waste reduction ranking as the top actions taken in the previous 30 days. However, the community faces substantial challenges, primarily related to costs, and gaps in knowledge.

General expenses such as the overall cost of living, as well as the financial implications associated with adopting alternatives stand out as the principal barriers hindering collective action on climate change.

## Community Expectations and Collaborative Approaches

A significant 54% of respondents express the opinion that Environment Southland and councils should intensify their efforts in addressing climate change-related issues.

Additionally, respondents emphasize the importance of collaborative initiatives among councils, underscoring the need for a unified and collective approach to tackle climate challenges.

## Priorities and Perspectives on Actions

The community strongly advocates for a strategic focus on prioritising adaptation measures and proactively addressing potential risks before they escalate in cost.

Furthermore, there is substantial support for emphasising small changes that, when implemented collectively, can result in a significant and positive impact.

## Recommendations for Encouraging Action

More information regarding best practices, necessary actions, and the local impact of climate change is identified as a key factor that would significantly encourage community action.

Additionally, the provision of incentives and improved access to funding emerges as a key motivator for respondents to actively participate in addressing climate change challenges.

## 2 Survey Context

### 2.1 Purpose

Environment Southland works collaboratively with mana whenua and the three other Southland councils (Southland District Council, Gore District Council, and Invercargill City Council) to develop a regional response to climate change.

As part of this activity, Environment Southland conducted a community perceptions survey to gain insights on how climate change is affecting individuals and their community in Murihiku Southland, how aware people are of the issues, and how the community can become better informed.

### 2.2 Method

The 2023 Murihiku Southland Climate Change Community Perceptions Survey was conducted using a mixed methods online approach and ran from the 15<sup>th</sup> of September 2023 until the 23<sup>rd</sup> of October 2023.

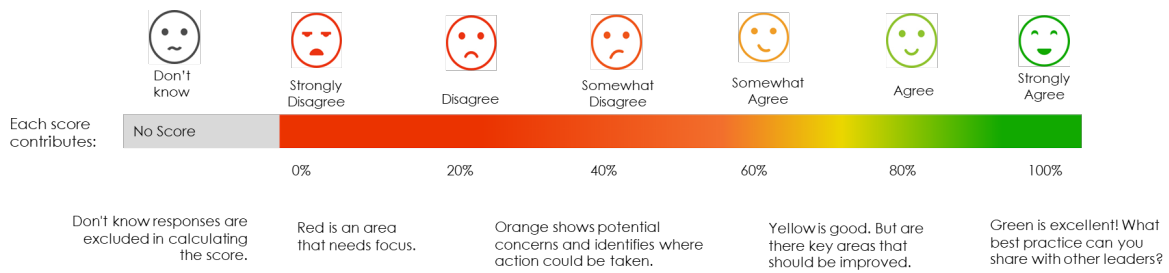
A total of 505 responses were received.

The estimated eligible voting population of the Southland Region, according to the New Zealand Electoral Office, was 76,974 as of the 30<sup>th</sup> of June 2022.

Based on this data and the number of survey responses, the overall data can be considered accurate to +/- 5.0% margin of error at the 95% confidence level.

Please note that:

- In certain cases, the sum of individual responses will not add up to totalled figures; this is due to rounding conventions.
- For the rating scale 'strongly disagree to strongly agree', agreement ratings were made on a 7-point Likert scale. Responses are reported as an average score and are scored as shown below.
- In some instances, small demographic groups were not covered in the demographic analysis of the data.
- Where small demographic groups were used to make observations about the results, these should be seen as observations and not conclusions, as the sample sizes could be too small to give any level of certainty or confidence.



Each response on this scale contributes a score as outlined below. The responses are then averaged to give your overall question score as a %. For example, if 5 people selected 'Strongly Agree' and 5 people selected 'Strongly Disagree' the score would be 50.  
 $5 \times \text{Strongly Agree responses at } 100\% = 500\% \mid 5 \times \text{Strongly Disagree responses} \times 0\% = 0\%; \text{ Score} = 500\% / 10 \text{ responses} = 50\%$

## 2.3 Participation by Demographics

The following tables show the responses achieved and the demographic information obtained.

### By Age

Total Achieved				
	Number of respondents	%		2018 Census %
Less than 18	3	0.6%	Less than 20	26%
18-25	7	1.4%	20-24	5.5%
26-35	69	13.7%	25-34	12.7%
36-45	118	23.4%	35-44	12.3%
46-55	107	21.2%	45-54	13.4%
56-66	104	20.6%	55-64	13.3%
66+	86	17.0%	65+	16.8%
Prefer not to say	11	2.2%		
Total	505	100%		

## By Gender

Total Achieved			
	Number of respondents	%	2018 Census %
Female	255	50.5%	49.97%
Male	226	44.8%	50.03%
Prefer not to say	17	3.4%	
Gender Diverse	7	1.4%	
Total	505	100%	

## By Location

Total Achieved		
	Number of respondents	Percentage
Invercargill	212	42.0%
Gore	83	16.4%
Te Anau	34	6.7%
Winton	30	5.9%
Riverton	24	4.8%
Bluff	14	2.8%
Lumsden	12	2.4%
Wyndham	10	2.0%
Tuatapere	10	2.0%
Woodlands	9	1.8%
Wallacetown	9	1.8%
Riversdale	8	1.6%
Nightcaps	8	1.6%
Otautau	7	1.4%

Mataura	6	1.2%
Waikaia	5	1.0%
I prefer not to say	5	1.0%
Manapōuri	5	1.0%
Mossburn	4	0.8%
Edendale	4	0.8%
Kennington	3	0.6%
Ōhai	2	0.4%
Balfour	1	0.2%
Total	505	100%

#### By Ethnicity\*

	Total Achieved		
	Number of respondents	%	2018 Census %
New Zealand European	403	79.8%	86.5%
Māori	58	11.5%	14.9%
Other European	38	7.5%	
Other	33	6.5%	1.5%
I prefer not to say	28	5.5%	
Asian	10	2%	5.5%
Pasifika	6	1.2%	2.6%
Latin American	5	1%	
African	4	0.8%	
Middle Eastern	2	0.4%	
Middle Eastern/Latin American/African			0.6%
Total respondents	505		

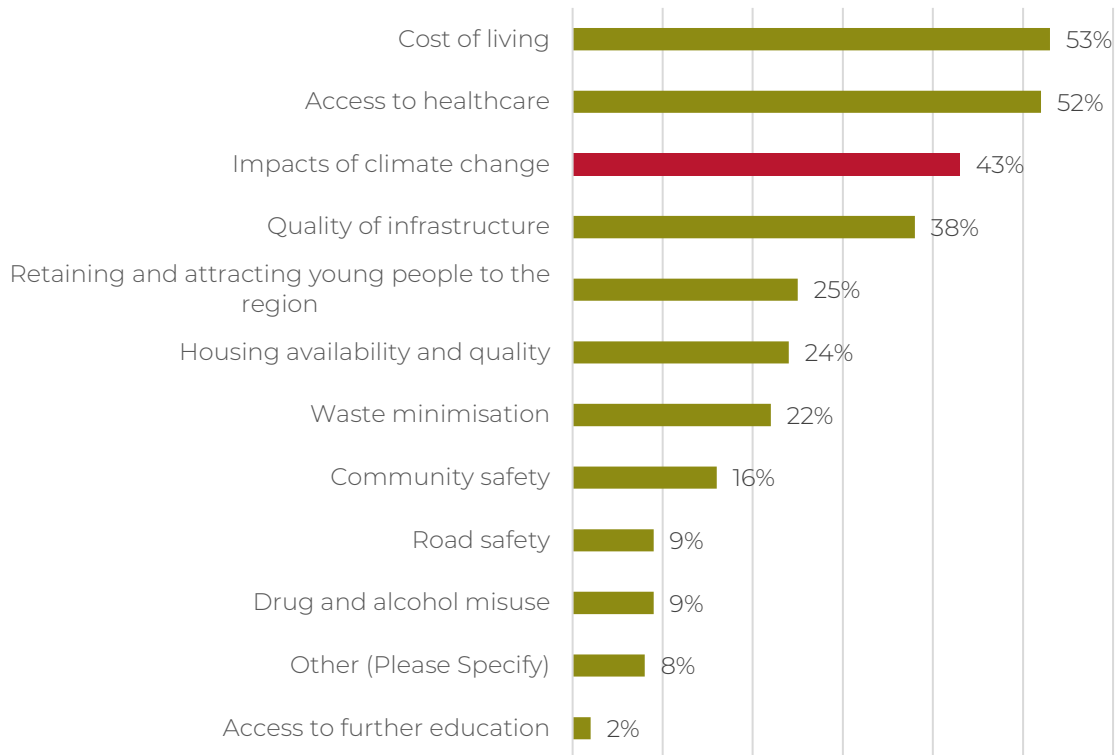
\*Respondents were able to identify as multiple ethnicities.



### 3 Community Awareness

The following questions were asked of the community to establish an understanding of their level of awareness of the issue of climate change across the Southland Region.

#### 3.1 What do you consider as the three biggest challenges you will face as a Southland resident over the next 10 years?



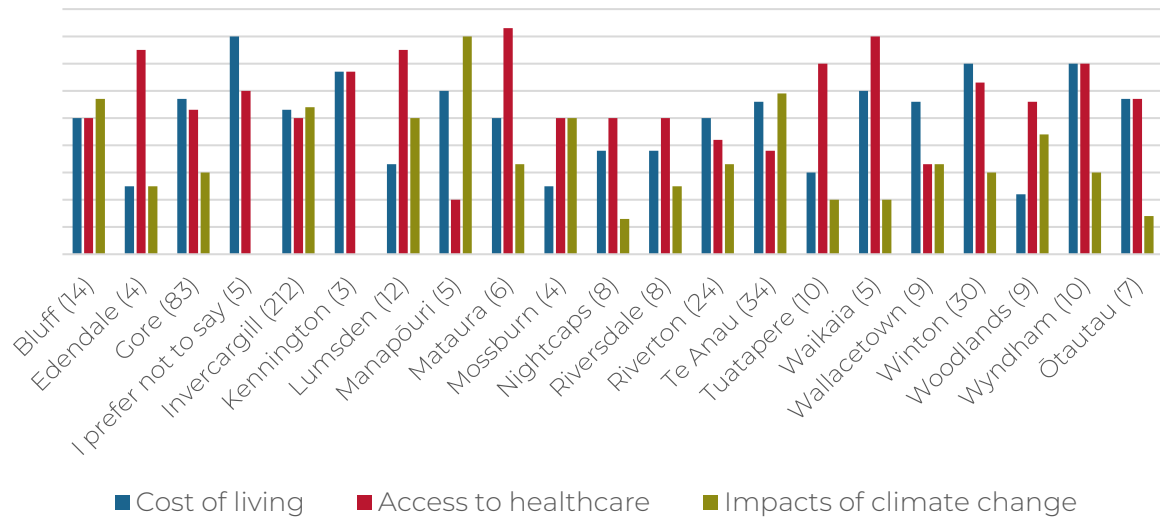
Not surprisingly, cost of living was rated as the biggest challenge facing Southlanders over the next 10 years, closely followed by access to healthcare. The impacts of climate change scored as the 3<sup>rd</sup> biggest challenge perceived by respondents. This is in line with national results of 62% ranking the cost of living as the number 1 issue they are facing. (Ipsos New Zealand, 2023)

## Demographic Variations

Taking the 3 biggest challenges identified by respondents, there were several variations across demographic groups. These are detailed below.

### Location

What do you consider as the three biggest challenges you will face as a Southland resident over the next 10 years?

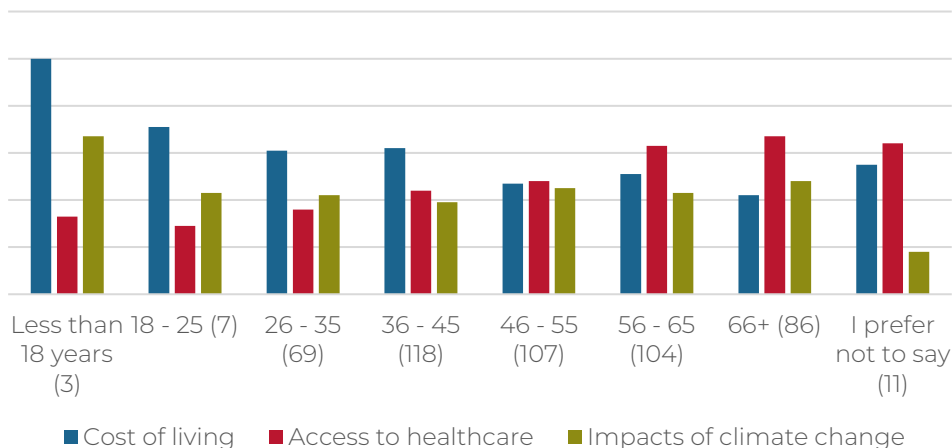


### Age

Concerns about the cost of living are greater amongst young people, and similarly, concerns about access to health care are greater amongst older members of the community.

The impact of climate change is reasonably consistent across all age groups, although much higher for the small sample of respondents aged 18 or less. It should be noted that

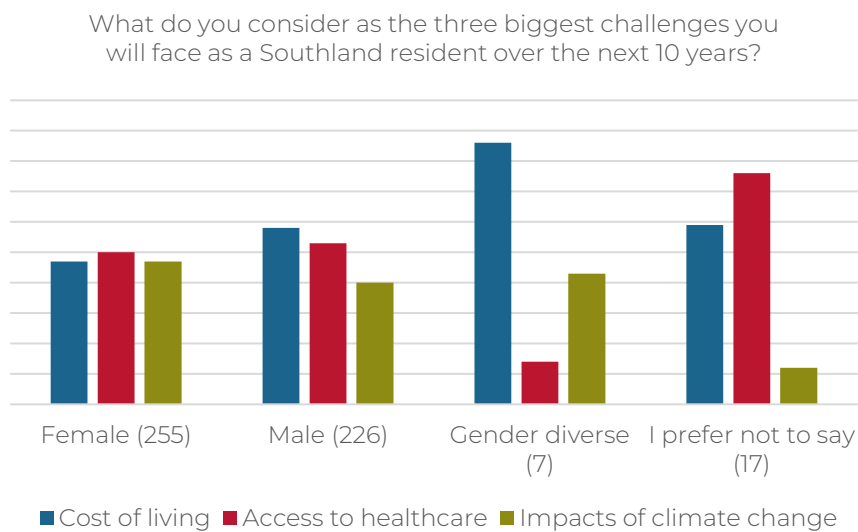
What do you consider as the three biggest challenges you will face as a Southland resident over the next 10 years?



this observation is made from a small sample size and, therefore, cannot be taken as conclusive or with a high degree of confidence.

### Gender

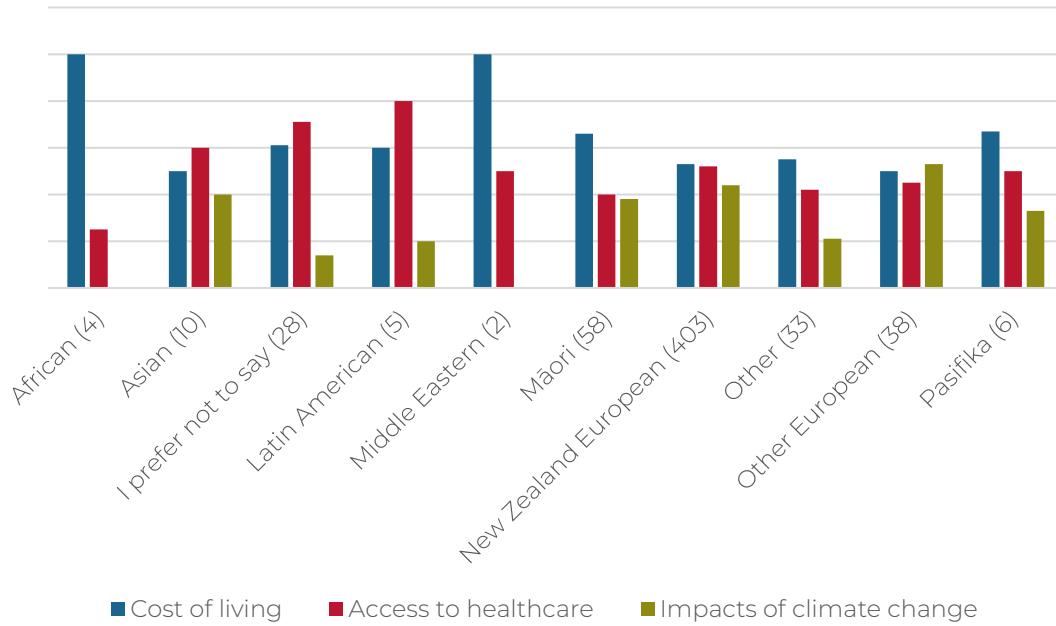
Males had slightly more concerns about the cost of living than females and slightly less concern about the impact of climate change. Amongst the small sample of those who identify as gender diverse, concerns about the cost of living are significantly greater than concerns about the impacts of climate change. It should be noted that this observation is made from a small sample size and, therefore, cannot be taken as conclusive or with a high degree of confidence.



### Ethnicity

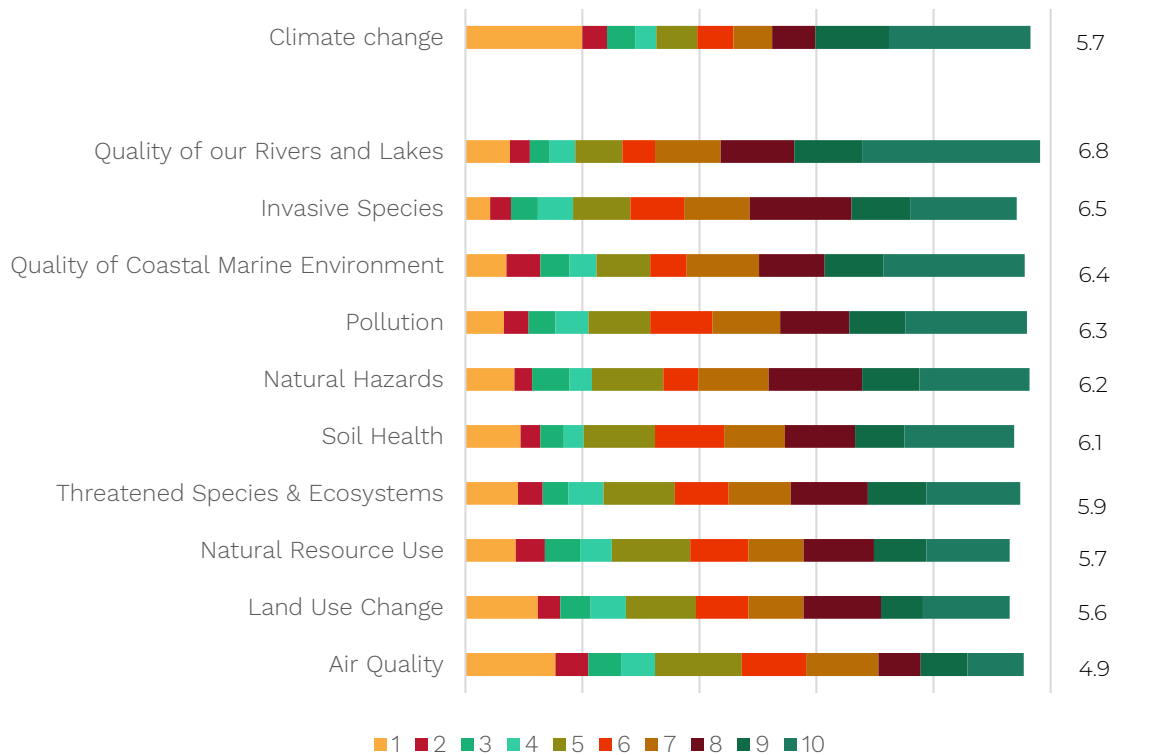
For the majority of ethnicities, the cost of living and access to healthcare ranked above the impacts of climate change as their biggest challenge in the next 10 years. 'Other Europeans' were the only group that considered the impacts of climate change to be the biggest challenge they will face in the next 10 years.

What do you consider as the three biggest challenges you will face as a Southland resident over the next 10 years?



### 3.2 How would you rate the following environmental issues facing Murihiku Southland over the next 10 years? (With 1 – being least critical, and 10 – being most critical to address)

The Quality of Rivers and Lakes (6.8 on average) was considered the most critical environmental issue facing Murihiku Southland. Climate Change rated, on average, 5.7.



Whilst Climate Change has a high portion of respondents who rated it as the most critical issue facing Murihiku Southland (121), the same as the Quality of the Coastal Marine environment, and slightly less than the Quality of Rivers and Lakes (152), it also had the highest number of respondents who consider it as being least critical (100).

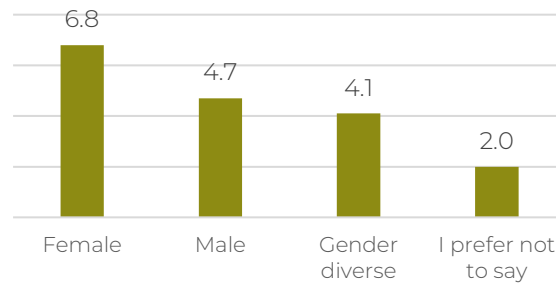
From other research, we know water quality ranks highly as an environmental concern for many New Zealanders, with 82% agreeing it is very or extremely important that we improve the quality of our water (Colmar Brunton, 2018), and that the perceived state of our water as ‘bad’ to ‘adequate’ (Booth et.al, 2022).

#### Demographic Variations

There were several variations across demographic groups for this question. These are detailed below.

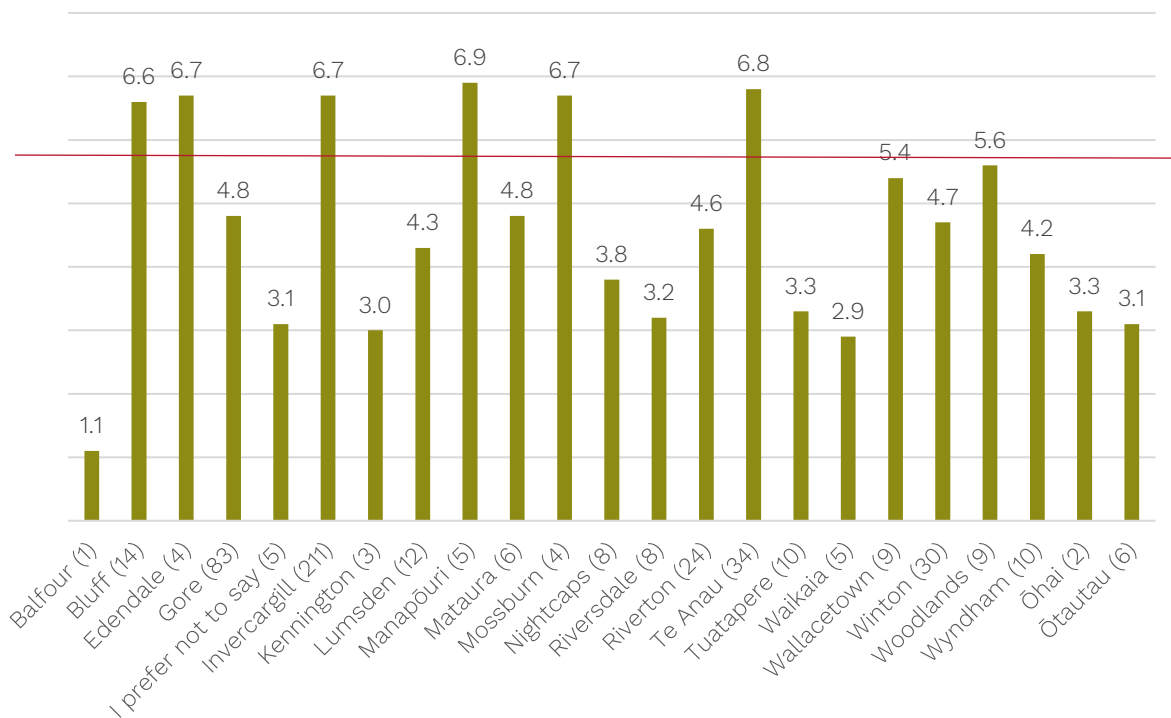
## Gender

Female members of the community see climate change as significantly more critical than other gender groups.



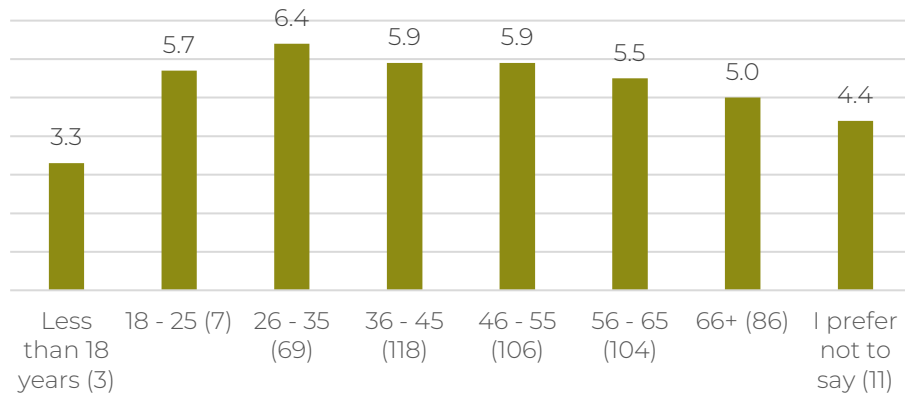
## Location

The criticality of Climate Change as an environmental issue facing Murihiku Southland varies considerably between locations. But not surprisingly this level of criticality reflects the same locations that have the greatest levels of concern about the impact it will have (refer 3.4).



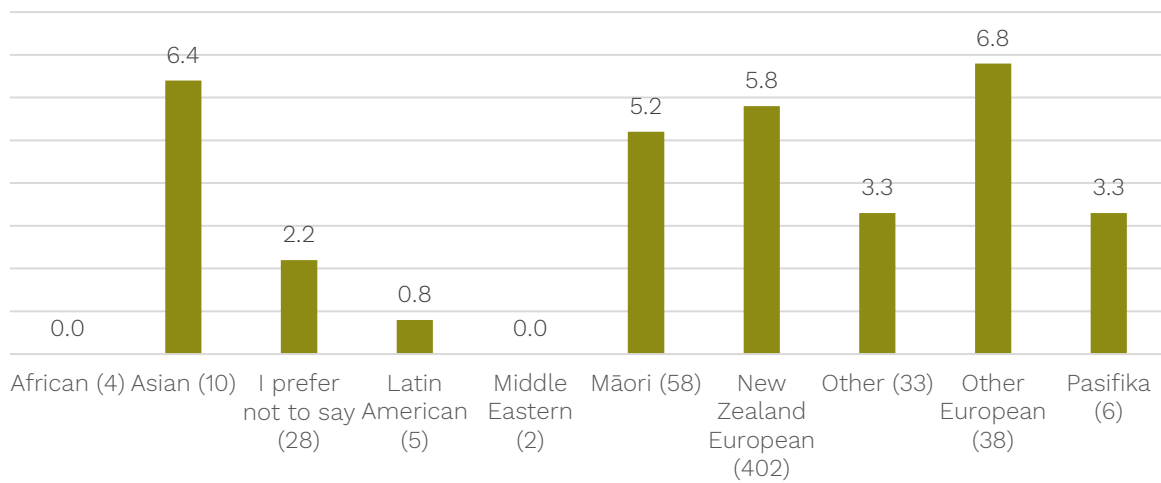
### Age

Those aged less than 18 see climate change as significantly less critical than older age groups. It should be noted that this observation is made from a small sample size (3) and, therefore, cannot be taken as conclusive or with a high degree of confidence.



### Ethnicity

Māori, NZ European, Other European and Asian ethnicities ranked Climate Change as a more critical issue than Pasifika and all other ethnicities. This is likely due to the cost of living and health care being of much greater importance (refer 3.1).



### 3.3 How would you rate your level of understanding of the impact of climate change on Murihiku Southland? (With 1 - being very little understanding, and 10 - being very well informed)?

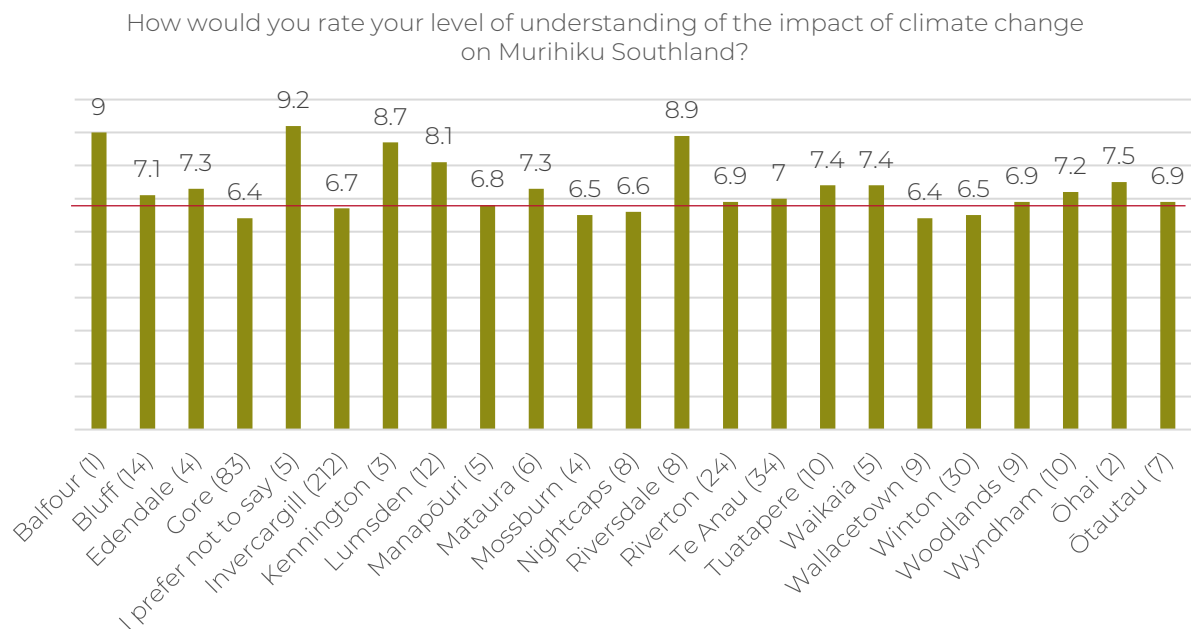
Overall, Murihiku Southland communities rate their level of understanding of the impacts of climate change on the region at 6.8.

#### Demographic Variations

There were several variations across demographic groups for this question. These are detailed below.

#### Location

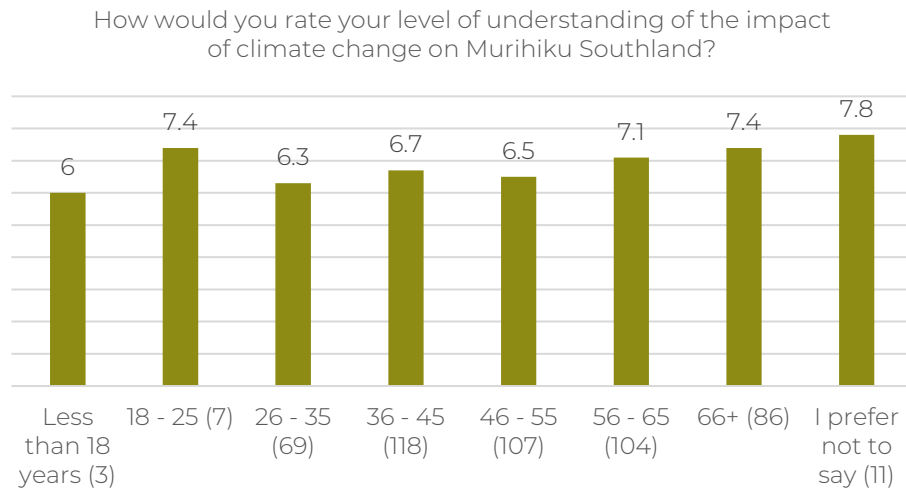
Whilst there was relative consistency across most locations in the region, there were several outliers, notably Balfour, Lumsden and Riversdale. It should be noted that this observation is made from a small sample size and, therefore, cannot be taken as conclusive or with a high degree of confidence.





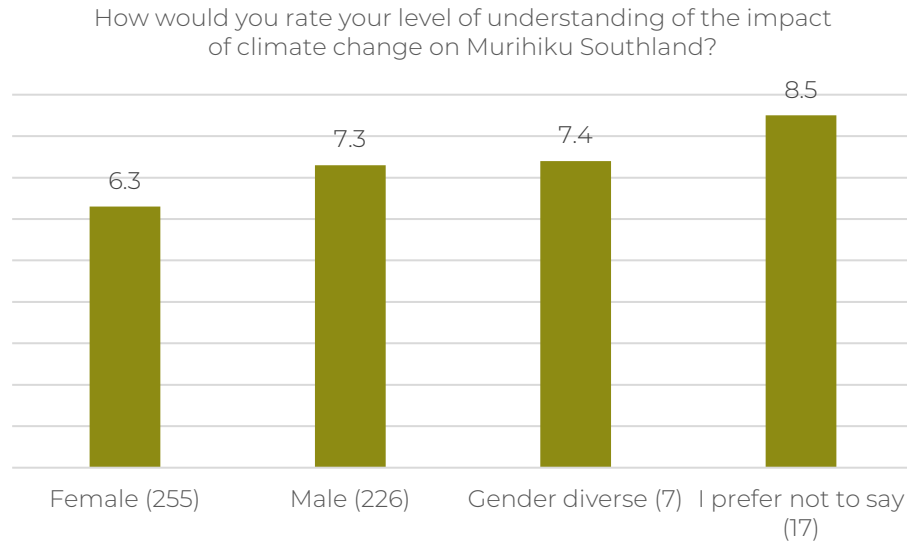
## Age

Those aged 18-25 and 56+ claimed to have a greater understanding of the impact of climate change on Murihiku Southland than those 26-55, and under 18 (though this is a small sample size of 3). This reflects that those who perceive themselves to be knowledgeable on climate change also didn't believe it will have great impact on the region (refer 3.4).



### Gender

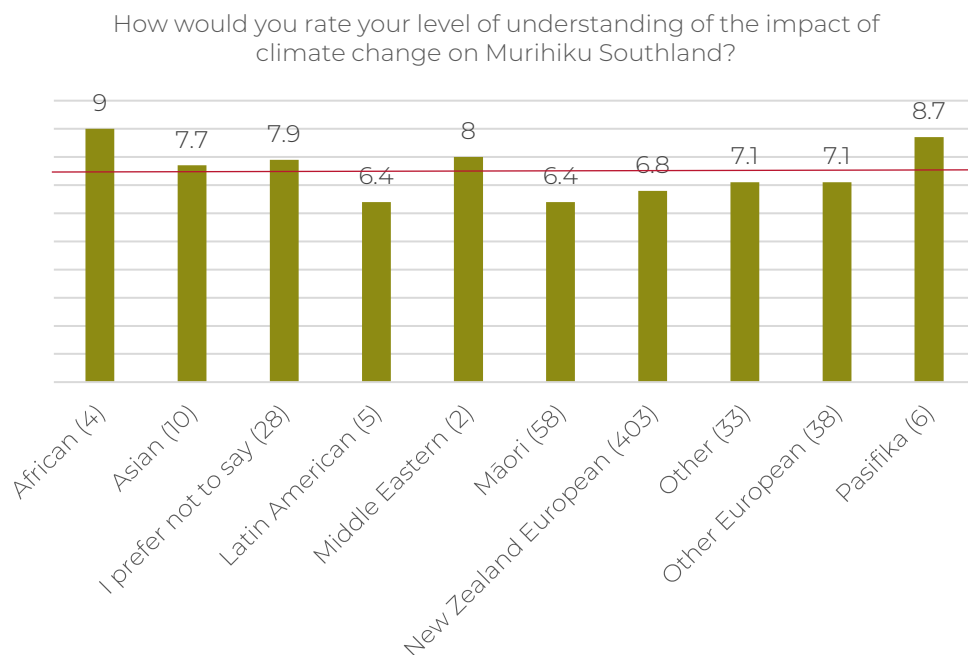
The level of understanding about the impact of climate change is significantly higher among males (7.3) and those who identify as gender diverse (7.4) compared to females



(6.3).

### Ethnicity

The level of understanding about the impact of climate change was lower for Māori (6.4) and Latin American (6.4) respondents than the average of 6.8. There are higher levels of understanding amongst minority ethnicities including Pasifika, however these ethnicities still reported the cost of living and access to healthcare as more critical issues for the region.



### 3.4 I am concerned about the impact of climate change on Murihiku Southland

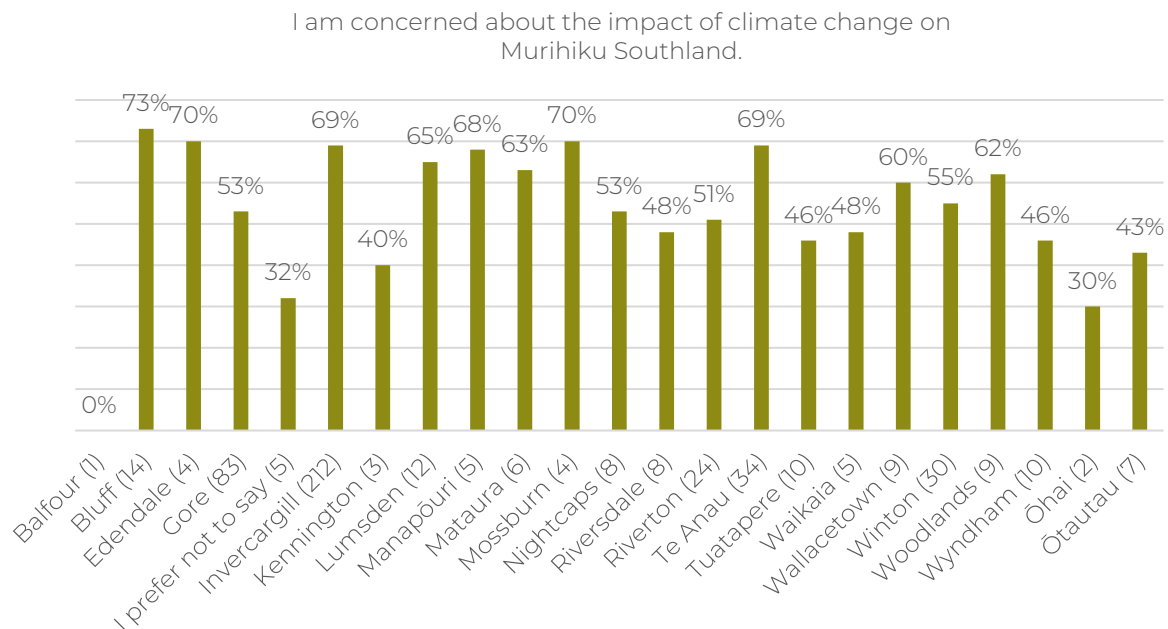
This question achieved a result of 62% on the AskYourTeam scale (strongly disagree to strongly agree).

#### Demographic Variations

There were several variations across demographic groups for this question. These are detailed below.

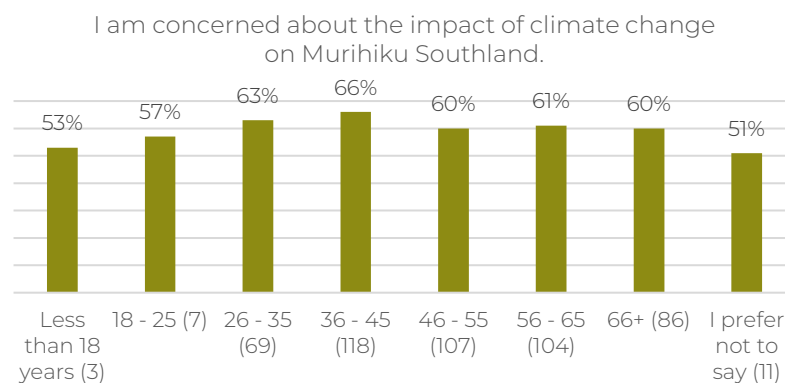
#### Location

Results vary significantly across the region, with no obvious trend between urban or rural locations. The residents of Invercargill City, which represents approximately 50% of the population of the Southland Region, had a result of 69%, which is slightly ahead of the overall regional result (62%). This aligns with other regions around the country such as Hawkes Bay with 62% concerned about the impact of Climate Change on their region (SIL Research, 2020).



#### Age

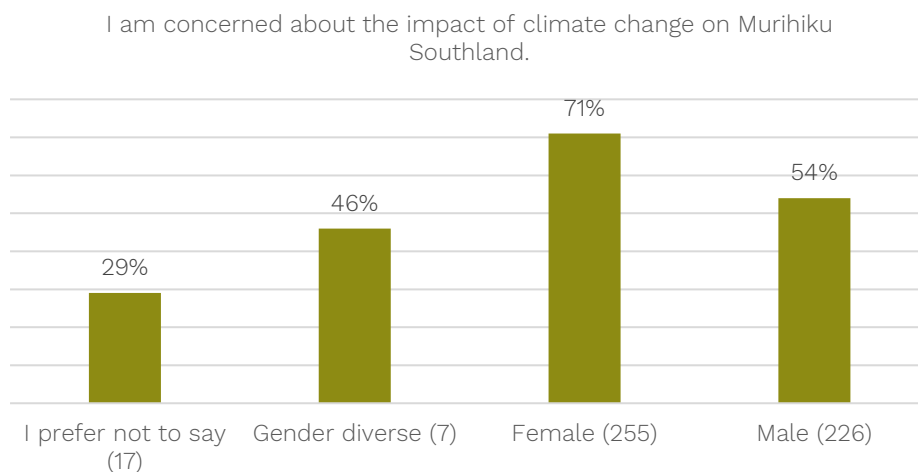
Although a small sample size, with only 10 respondents, it is interesting to observe that those aged 25 years or younger were less concerned about the impacts of climate change



on the region than older members of the community, especially those aged 36 – 45. This is even more interesting when compared to their understanding of the impact of climate change (7.4 for the 25 years or younger age group, and 6.7 for the 36-45 age group).

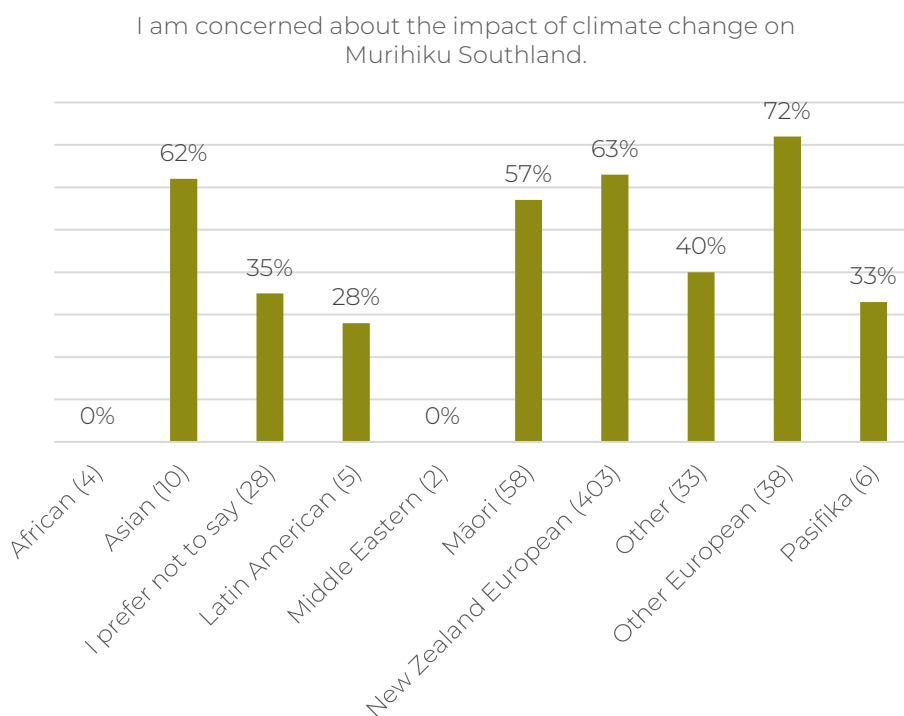
### Gender

Concern about the impact of climate change is significantly higher among females than males and those who identify as gender diverse. However, as shown in the response to question 2.3 above, their level of understanding about the impacts of climate change is also significantly lower (6.3) than that of males (7.3).



### Ethnicity

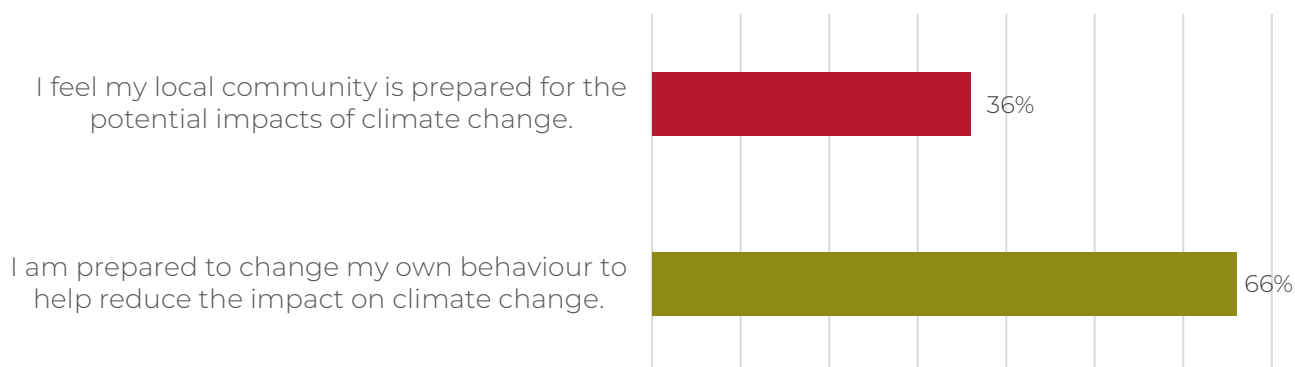
Asian, Māori, NZ European, and other European demographics express higher concern about the impacts of climate change on Murihiku Southland compared to other ethnicities, although sample sizes for the latter are smaller, making conclusive comparisons challenging. Consistency is observed with ethnicities knowledge levels (refer



to 3.3) and the perceived criticality of climate change impacts on Murihiku Southland (refer to 3.2). Individuals with higher knowledge who perceive the impacts as less critical also exhibit lower concern about climate change. Notably, these audiences prioritize the cost of living, healthcare, and the quality of rivers and lakes as more important factors.

## 4 Community Preparedness and Action

Across the Southland Region, people are concerned that their local community is not prepared for the impact of climate change. However, they are quite prepared to change their own behaviours to help reduce that impact.

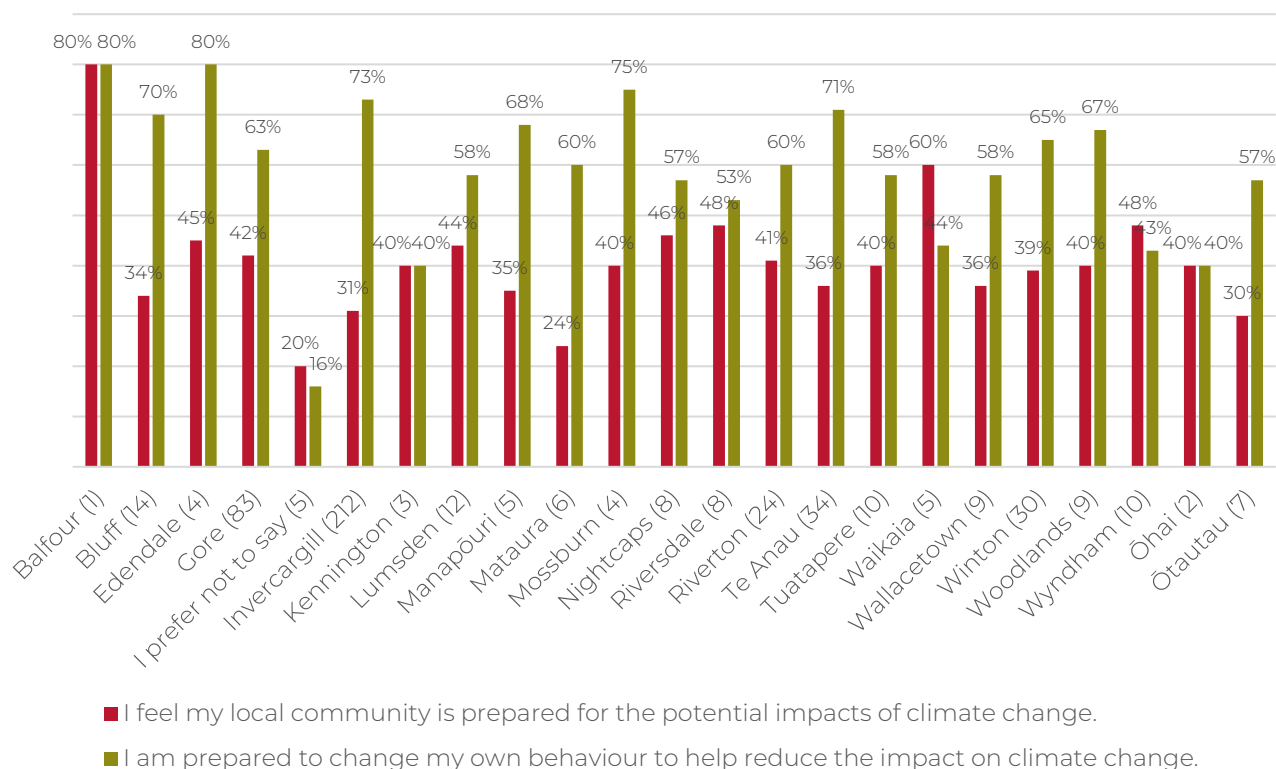


### Demographic Variations

There were variations across demographic groups for this question. These are detailed below.

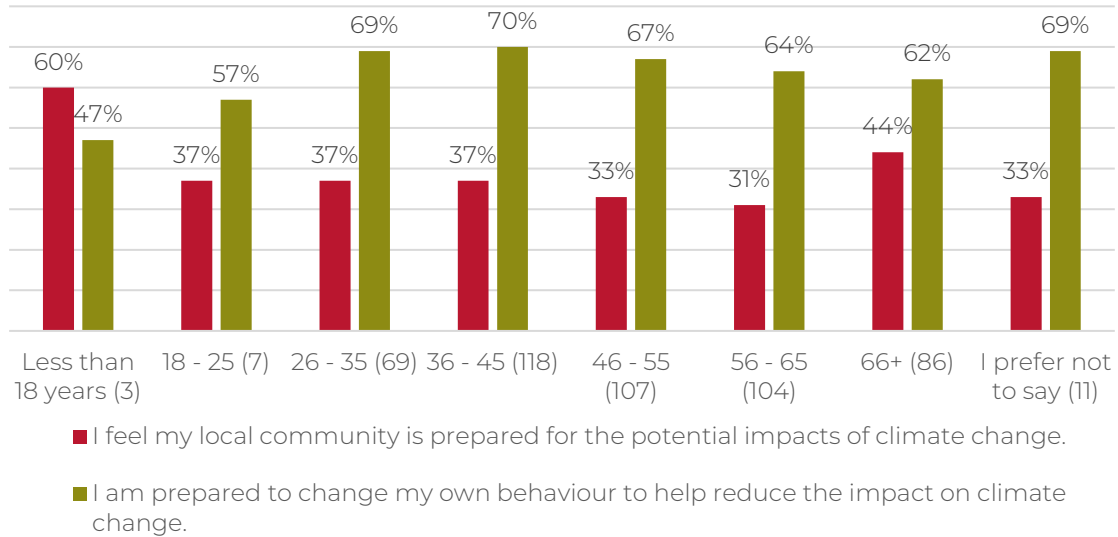
### Location

The trend of feeling their community was not well prepared for the impacts of climate change but being prepared to make the changes needed to help reduce that impact, was reflected reasonably consistently across the region.



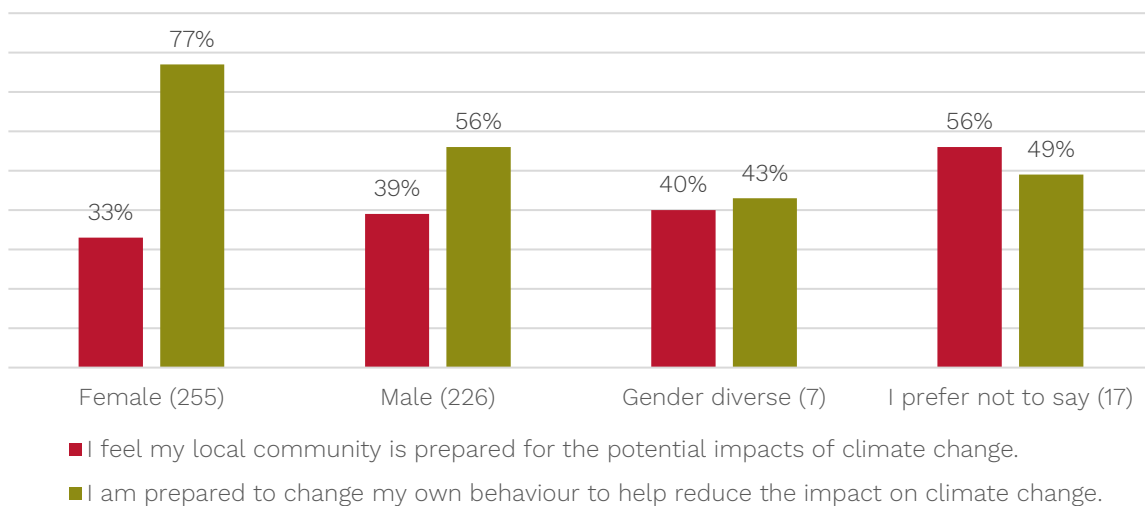
## Age

This trend is also reflected across age groups, with the noted exception of those aged less than 18, who feel their community is well prepared for the potential impacts of climate change but are not as prepared to change their own behaviours to reduce that impact. It should be noted that this observation is made from a small sample size and, therefore, cannot be taken as conclusive or with a high degree of confidence.



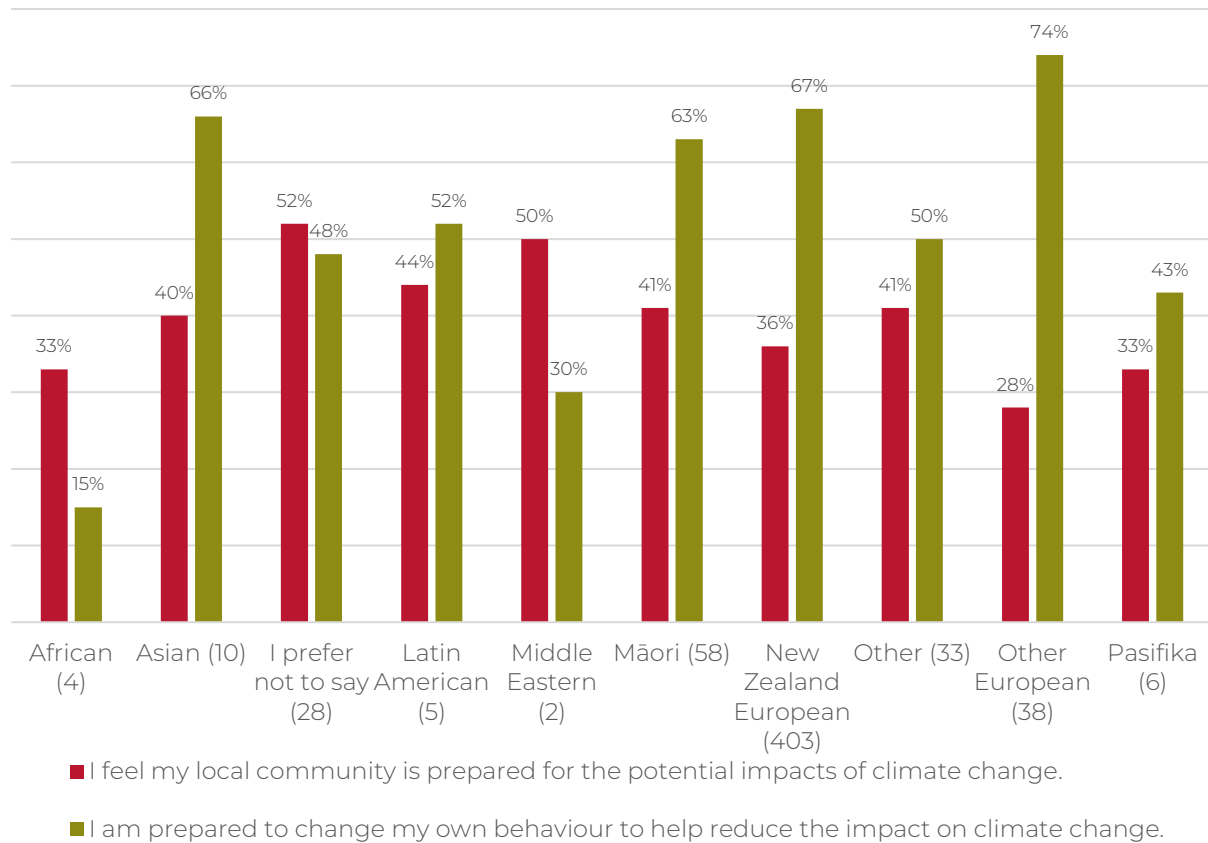
## Gender

Female members of the community are significantly more prepared to make changes to their behaviours to help reduce the impact of climate change than males.



## Ethnicity

Most ethnicities do not appear confident that their community is prepared for the impacts of climate change. Māori, NZ European and Other European particularly are however less confident but have greater willingness to make changes in their own behaviour in order to prepare themselves and their communities for the impacts of climate change.

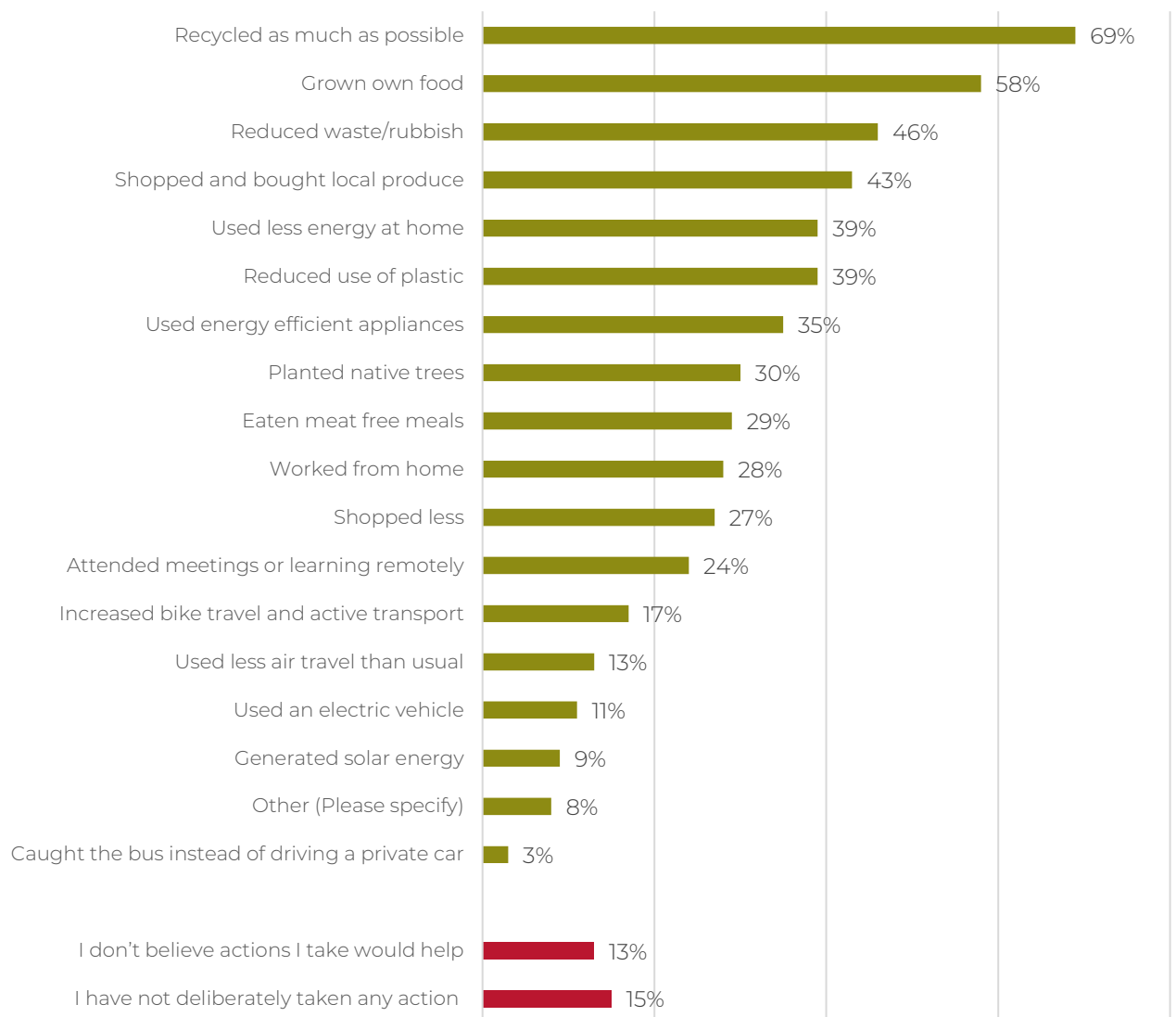




#### 4.1 Which of the following actions have you taken over the last 30 days, deliberately to reduce your impact on climate change?

People who responded to the survey have taken a wide range of actions over the last 30 days to reduce their impact on climate change. However, there were 74 respondents that have deliberately not taken any action and 66 respondents who did not believe any actions that they could take would help reduce the impact of climate change.

Those that have deliberately not taken any action are significantly higher amongst respondents aged 25 years and younger and amongst males rather than females.



For respondents who selected "Other", their comments expressed proactive steps taken toward eco-friendly practices such as composting, transitioning to renewable energy, and minimising personal waste. Some questioned the broader impact of human activities on climate change. There were also critiques regarding the environmental implications of electric vehicles and the perceived inadequacy of the listed actions in addressing industrial

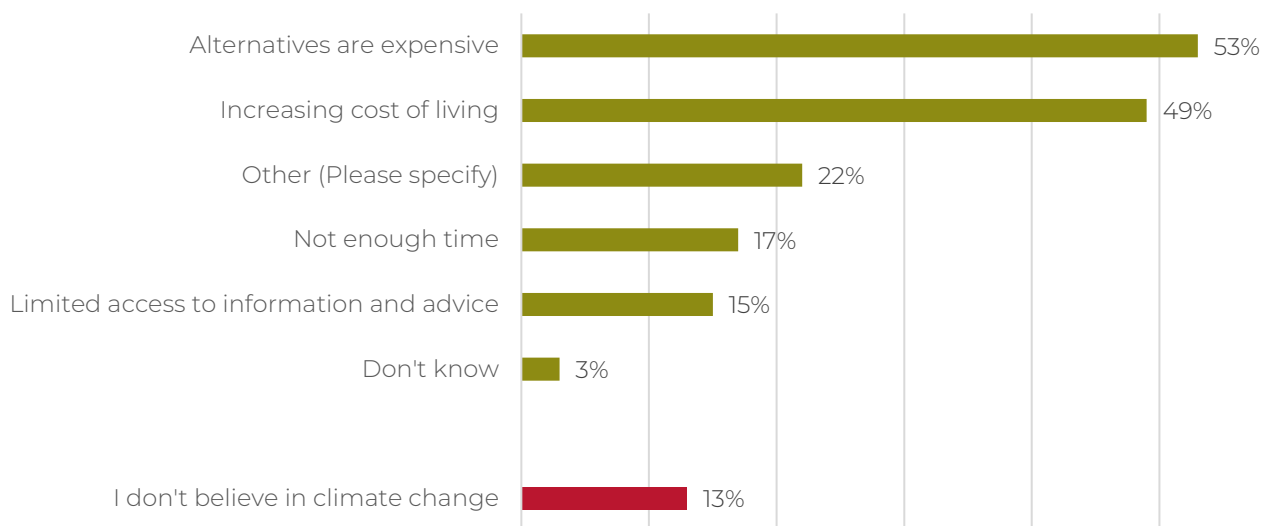
pollution. Some comments underscore a belief in historical climate cycles and question the urgency of current environmental concerns.

Of those that responded, "I don't believe actions I take would help", there was a diverse range of opinions on climate change, as evident in their comments. Some individuals express scepticism, viewing climate change as a scam or doubting the impact of their actions due to New Zealand's relatively small contribution to global emissions. Others, however, emphasise personal responsibility, detailing efforts to lead environmentally conscious lifestyles such as recycling and reducing energy consumption. There is a common sentiment that meaningful change requires governmental and corporate involvement, with some attributing climate initiatives to broader agendas like the UN's Agenda 2030.

Of those that responded, "I have not deliberately taken any action", scepticism is evident in assertions that climate change is a lie or a global scam. Doubts were raised about the impact of personal efforts when larger nations like India and China are seen as major contributors to the issue. Local impacts and concerns were mentioned, particularly in the removal of trees from flood banks and the prioritisation of issues such as nitrate use on dairy farms over climate change.

#### 4.2 What are your biggest barriers to taking action that may reduce the impact on climate change?

The general cost of living and the expense of alternatives are by far the biggest barriers to the community taking action to reduce the impact of climate change. This is in line with



research from other regions including Christchurch (Christchurch City Council, 2022)

There were 166 comments provided. These can be grouped into the following common themes and topics:

Infrastructure and Accessibility:	<ul style="list-style-type: none"> <li>Lack of public transportation in rural areas.</li> <li>Limited recycling options and accessibility.</li> <li>Lack of local recycling facilities.</li> <li>Limited availability and accessibility of electric cars.</li> <li>Need for local food options and accessibility.</li> </ul>
Public Awareness and Understanding:	<ul style="list-style-type: none"> <li>General unawareness among the public.</li> <li>Lack of information on climate change impacts in Southland.</li> <li>Lack of public will/understanding/support.</li> <li>Misguided perceptions about climate change.</li> <li>Conflicting opinions on climate change science.</li> </ul>
Financial Barriers:	<ul style="list-style-type: none"> <li>Cost of solar power/panels.</li> <li>Expense of electric cars.</li> <li>Financial barriers to improving housing quality.</li> <li>Economic concerns about the impact of climate actions.</li> <li>Financial constraints on adopting green technologies.</li> </ul>
Time Constraints and Lifestyle:	<ul style="list-style-type: none"> <li>Busy lives and convenience are barriers to change.</li> <li>Lack of time for activities like growing own food.</li> <li>Reluctance to change a convenient lifestyle.</li> <li>Weather affecting the willingness to walk or bike to work.</li> <li>Inconvenience as a barrier to sustainable alternatives.</li> </ul>
Global Perspective and Impact:	<ul style="list-style-type: none"> <li>Scepticism about the effectiveness of individual actions.</li> <li>Belief that New Zealand's actions won't make a global impact.</li> <li>Perception of being a small country compared to larger polluters.</li> <li>Reluctance to act until larger countries like China and India take action.</li> </ul>
Political and Policy Issues:	<ul style="list-style-type: none"> <li>Lack of local government support.</li> <li>Ineffective political action.</li> <li>Perception of bureaucratic obstacles.</li> <li>Policy decisions affecting costs and standards.</li> <li>Scepticism about the impact of government-led solutions.</li> </ul>
Technological Concerns:	<ul style="list-style-type: none"> <li>Scepticism about the effectiveness of certain technologies.</li> <li>Concerns about the environmental impact of alternative technologies.</li> <li>Perceived high costs and uncertainties around technology.</li> </ul>
Cultural and Lifestyle Factors:	<ul style="list-style-type: none"> <li>Resistance to change due to cultural and societal expectations.</li> <li>Desire for a certain standard of living.</li> <li>Apathy and lack of community spirit.</li> <li>Reluctance to adopt alternatives due to lifestyle preferences.</li> </ul>

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Need for Information and Education:	Lack of information on individual, business, and industry actions. Desire for more articles and information on reducing impacts. Need for basic information that is easily disseminated.
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Waste Management and Recycling:	Concerns about recycling processes and facilities. Frustration with limited recycling options. Issues with waste disposal and recycling accessibility.
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### Demographic Variations

There are no significant variations across locations, with cost issues consistently the biggest barrier to acting across the entire region.

Although a small sample size, with only 10 respondents, it is interesting to observe that of those aged 25 years or younger a much higher portion of them responded, "I don't believe in Climate change", than any other age group.

It should also be noted that a higher portion of males (45) than females (17) responded "I don't believe in Climate change".

### 4.3 What would encourage you to take more action to reduce the impact of climate change?

More information (on best practices and the types of action needed, as well as about the impact of climate change on Murihiku Southland), along with incentives and access to funding, would significantly encourage respondents to take action to help reduce the impact of climate change.



## Demographic Variations

There are no significant variations across locations.

Of the eighty-six (86) respondents that indicated that nothing would encourage them to take more action, there was a much higher portion of males (58) compared to females (17).

Although a small sample size, with only 10 respondents, there was also a higher portion of those aged 25 years or younger that responded that there was nothing that would encourage them to take more action.

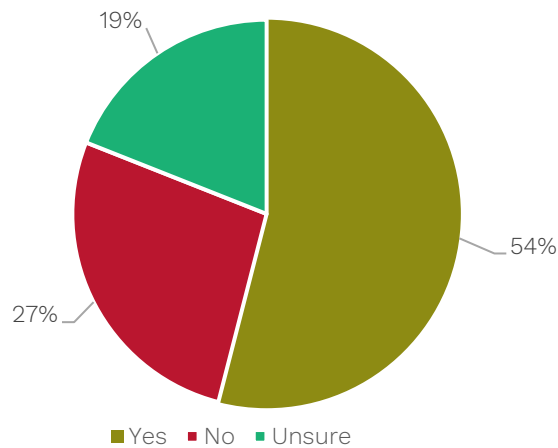
There were 106 comments provided. These can be grouped into the following common themes and topics:

Climate change Awareness and Education:	Public drop-in sessions for information. More education and awareness programs in the community. Better understanding of the serious risks of climate change.
Adaptation and Resilience:	Making adaptation part of everyday life. Being adaptable and prepared for weather events. Building infrastructure better to withstand climate-related challenges. Reducing the impact of climate change through practical solutions.
Support and Engagement:	Support from local and regional government. Access to reliable public transport, including trains. Access to funding and resources. Leadership and paid specialists to work with schools and businesses.
Transportation and Infrastructure:	Better public transport inter-regionally (passenger rail). Improved bike lanes. More EV chargers. Infrastructure supporting walking, biking, and sustainable transport.
Environmental Conservation:	Distributed energy. Home gardening. Sustainable practices in schools and buildings. Conservation efforts like making Lumsden a poster child for climate friendliness.
Scepticism and Communication:	Addressing scepticism and misinformation. Need for more honesty from governments. Better communication and less scaremongering.
Financial and Economic Concerns:	Economic impacts of climate change. Affordability of renewable energy solutions. Financial support or subsidies for sustainable practices.
Regulation and Policies:	Concerns about regulations on farmers. Calls for reduction in harmful practices and policies. Simplifying regulations and compliance.

Waste Management and Plastic Use:	<p>More options for recycling and rubbish disposal.</p> <p>Businesses shifting from single-use plastic to sustainable alternatives.</p> <p>Companies reducing plastic use.</p>
International Perspective:	<p>Understanding and addressing global factors affecting climate change.</p> <p>Concerns about pollution from other countries.</p> <p>Addressing global issues like war and environmental impacts.</p> <p>Balancing local actions with global responsibilities.</p>
Science and Data:	<p>More actual proven data, less forecasting and opinion.</p> <p>Need for real science and reliable information.</p> <p>Proof of human influence on climate change.</p>
Community Engagement and Participation:	<p>More community involvement and organised protests.</p> <p>Changing attitudes and beliefs through targeted work.</p> <p>Encouraging local initiatives and involvement.</p>
Cost of Living and Economic Impact:	<p>Economic challenges and the cost of living.</p> <p>Lowering the true cost of alternatives.</p>
Government Accountability:	<p>Holding governments and authorities accountable.</p> <p>Addressing issues like water safety and monitoring infrastructure.</p>
Individual Action and Responsibility:	<p>Balancing individual and collective responsibility.</p> <p>Concerns about individuals being solely responsible.</p> <p>Encouraging small actions that collectively make a difference.</p>
Alternative Energy Sources:	<p>Incentives for renewable energy sources like wind and solar.</p> <p>Subsidies for infrastructure rather than just EV vehicles.</p> <p>Reducing reliance on traditional power generation.</p>
Public Infrastructure:	<p>Better public transport across regions.</p> <p>Improving roads and infrastructure for active transport.</p> <p>Addressing issues like gravel build-up in rivers.</p>
Societal and Lifestyle Changes:	<p>Balancing lifestyle changes with economic realities.</p> <p>Lowering emissions without compromising quality of life.</p> <p>Resistance to major changes without a clear impact.</p>
Incentives and Support for Change:	<p>Incentives for green building.</p> <p>Financial support for transitioning to renewable energy.</p> <p>Access to services and support for sustainable practices.</p>

#### 4.4 Do you think that Environment Southland and other Murihiku Southland councils should be doing more to address climate change-related issues?

Fifty-four percent (54%) of respondents felt that Environment Southland and other councils should be doing more to address climate change-related issues.

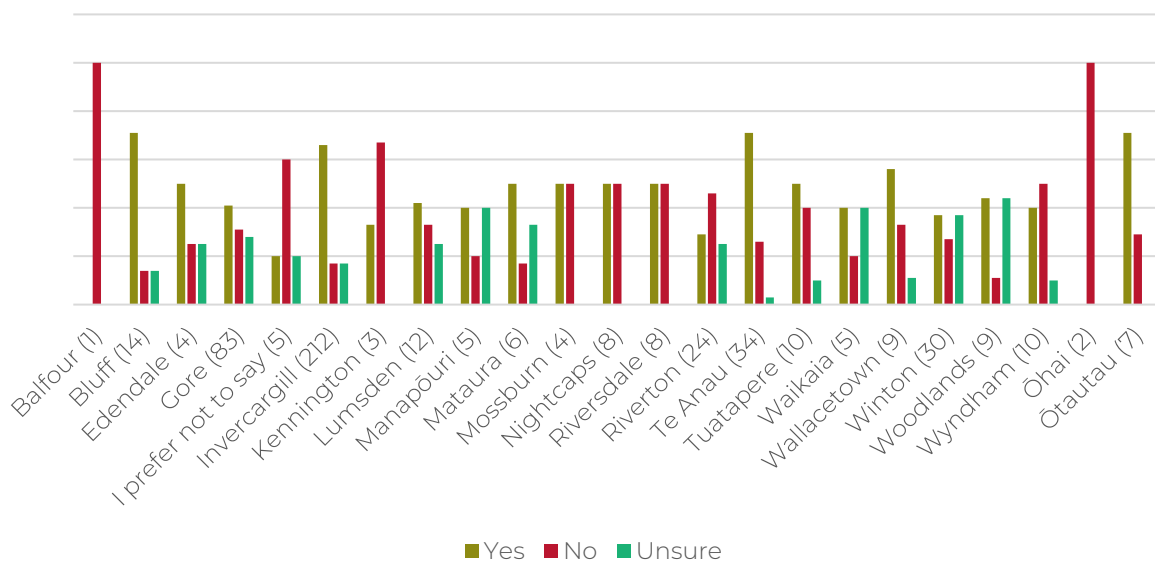


#### Demographic Variations

There were several variations across demographic groups for this question. These are detailed below.

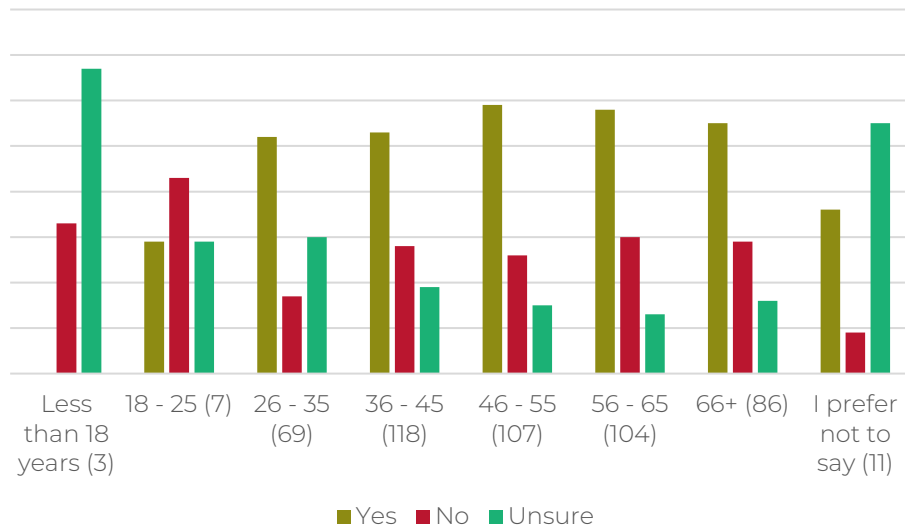
#### Location

Whilst there is reasonable consistency across the Region, there are some outliers amongst smaller communities and response groups. The sample sizes for these groups are too small to draw any meaningful conclusions from.



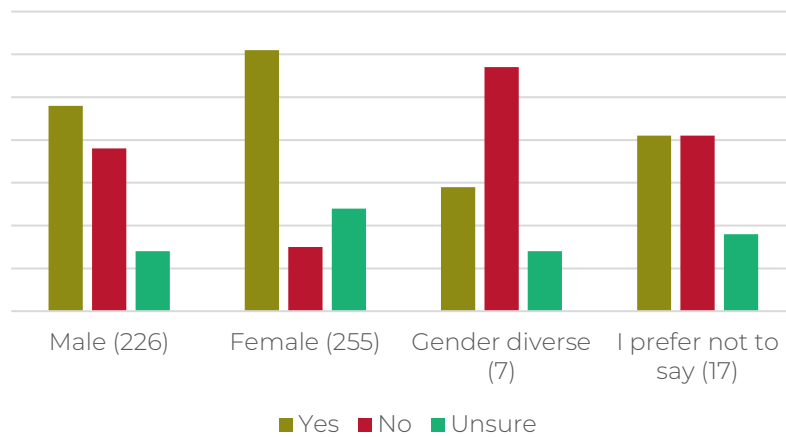
### Age

Although a small sample size, respondents aged 25 and younger were more unsure than other age groups, as to whether Environment Southland and other councils should be doing more to address climate change related issues.



### Gender

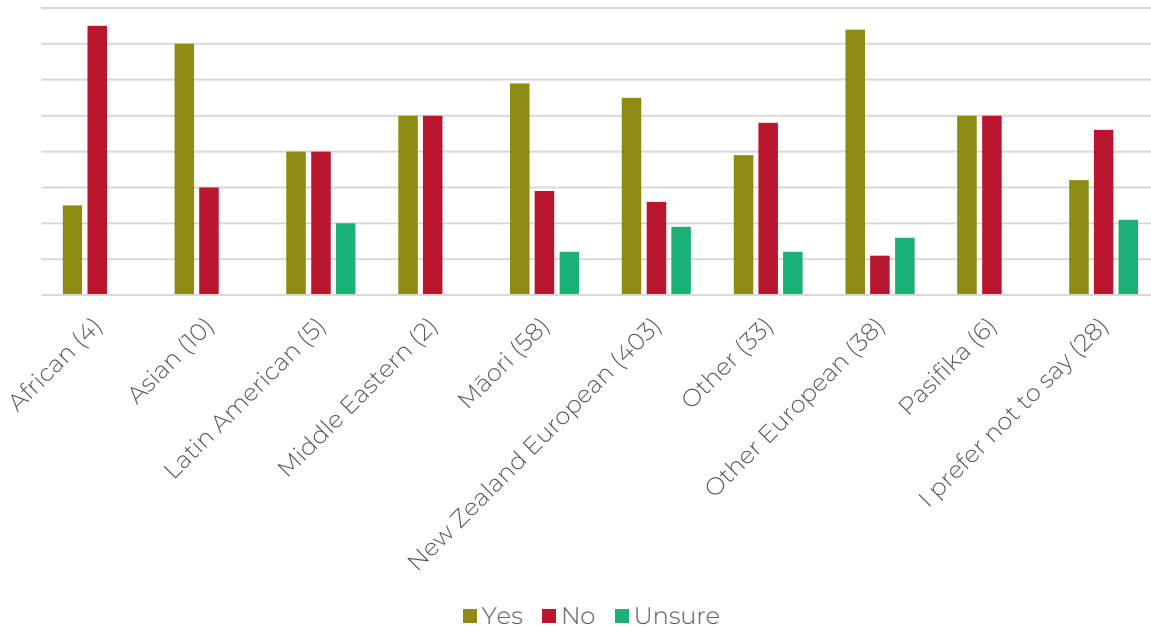
Female members of the community feel more can be done by Environment Southland and other councils, compared to other gender groups, whereas those that identify as gender diverse feel councils are doing enough.





## Ethnicity

Asian, NZ European, Other European, and Māori respondents share a consistent view that Environment Southland and other councils should increase efforts to address climate change-related issues. Other ethnicities exhibit a more balanced response, with a mix of yes and no answers, although caution is warranted due to the small sample sizes.



There were 292 comments provided. These have been grouped into the following common themes and topics:

Drivers of Climate Change:	<p>Green growth challenges, externalities, and the limited impact of green energy transition.</p> <p>Capitalism, consumerism, overpopulation, and their role as drivers of the crisis.</p>
Local Governance and Planning:	<p>Councils' role in socialising the reality of the near future.</p> <p>Regional-scale food security and reducing material and energy consumption.</p> <p>Potential for authoritarian politics and the importance of countering it.</p>
Environmental Issues and Management:	<p>Flooding issues, lack of transparency, and mismanagement in the past.</p> <p>Concerns about river management, gravel extraction, and erosion.</p> <p>Need for effective waste management, recycling, and public transport.</p>
Climate change Impacts:	<p>Unpreparedness for climate change impacts on the region.</p> <p>Escalating severity of weather events and the social-economic impacts.</p>

	<p>Specific concerns about flooding, gravel build-up, and riverbank erosion.</p>
Community Awareness and Engagement:	<p>Need for councils to proactively engage and educate the community.</p> <p>Lack of information and knowledge about climate change and its effects.</p> <p>Emphasis on public involvement in climate change solutions.</p> <p>Encouraging community initiatives, incentives, and leading by example.</p> <p>Recommendations for councils to work closely with communities, engage in public events, and support local initiatives.</p> <p>Calls for a collaborative approach among councils to avoid duplication of efforts.</p> <p>Calls for collaboration among councils and communities to collectively address climate change.</p> <p>Emphasis on working together to share strengths and resources.</p>
Infrastructure and Preparedness:	<p>Calls for updating infrastructure and modern ideas to deal with flooding.</p> <p>Importance of maintaining shingle levels in rivers and preventing flood risks.</p> <p>Concerns about rural roads/bridges and the need for climate-ready infrastructure.</p>
Alternative Energy and Sustainable Practices:	<p>Transition to alternative energy sources and reduction of CO2 emissions.</p> <p>Calls for solar panels on every roof, hybrid vehicles, and discontinuation of coal use.</p> <p>Encouraging businesses and farms to adopt environmentally friendly practices.</p>
Responsibility and Accountability:	<p>Criticism of councils for ineffective measures and misallocation of funds.</p> <p>Calls for better decision-making, leadership, and collaboration.</p> <p>Advocacy for councils to lead by example in reducing their own environmental footprint.</p>
Economic Considerations:	<p>Concerns about the economic impact of climate initiatives on ratepayers.</p> <p>Balancing economic considerations with environmental actions.</p> <p>The importance of cost-effective solutions and collaboration between councils.</p>
Biodiversity and Conservation:	<p>Calls for councils to focus on protecting natural ecosystems.</p> <p>Encouragement for native tree planting and initiatives against introduced vermin.</p> <p>Balancing environmental protection with economic considerations.</p>

Global Perspective and Collaboration:	<p>Acknowledgment of Southland's global impact on climate change.</p> <p>Emphasis on collaborative efforts, commercial pressure, and global initiatives.</p> <p>Recognition that New Zealand's contribution may be small but still important.</p>
Information and Education:	<p>Need for more accurate data, science-backed information, and less scare tactics.</p> <p>Calls for increased adult education on climate change, its impacts, and mitigation/adaptation.</p> <p>Councils seen as key disseminators of information and leaders in addressing climate change.</p>
Adaptation vs. Mitigation:	<p>Prioritisation of adaptation measures over mitigation.</p> <p>Mitigating risks before they become too expensive to address.</p> <p>Calls for a review of flood banks and increased focus on resilience.</p>
Climate change Scepticism:	<p>Expressions of doubt about the effectiveness of local changes in the context of global impact.</p> <p>Belief that climate change is a natural cycle and not entirely caused by human activities.</p> <p>Resistance to the idea that individual actions can make a significant difference.</p>
Council Responsibilities:	<p>Emphasis on councils' responsibility to protect the environment and the community.</p> <p>Calls for councils to take a stronger stance on climate change.</p> <p>Concerns about councils not doing enough, lacking leadership, or passing responsibilities to others.</p>
Financial Concerns:	<p>Worries about the financial burden on ratepayers due to climate change initiatives.</p> <p>Calls for efficient use of resources and collaboration among councils to save costs.</p> <p>Incentives for renewable electricity generation and solar panel installations.</p>
Public Awareness and Education:	<p>Advocacy for increased education and awareness about climate change.</p> <p>Suggestions for more public information, brochures, and engagement events.</p> <p>Views on people being uninformed or unaware of the impacts of climate change.</p>
Infrastructure and Environmental Protection:	<p>Focus on infrastructure improvements, such as public transport and stormwater systems.</p> <p>Calls for flood risk management, riverbank protection, and gravel extraction.</p>

	Emphasis on protecting waterways, reducing pollution, and addressing waste management.
Agricultural Impact and Regulation:	<p>Suggestions for stricter regulations on agriculture, particularly related to emissions.</p> <p>Calls to support smaller farmers and concerns about the environmental impact of farming practices.</p>
Government and Industry Influence:	<p>Balancing economic development with sustainable and resilient practices.</p> <p>Criticism of government agencies and industry lobby groups.</p> <p>Calls for a more assertive approach against major emitters like agriculture, waste, and transport.</p>
Waste Reduction and Recycling:	<p>Advocacy for reducing packaging, minimising waste, and regulating producers.</p> <p>Calls for greater emphasis on recycling and sustainable practices.</p> <p>Regional specific insights:</p> <ul style="list-style-type: none"> <li>• Concerns about specific regional issues like flood plains, housing stock, and stormwater systems.</li> <li>• Emphasis on regional strengths and unique characteristics, such as landscapes and catchment groups.</li> </ul>
Need for Government Action:	<p>Calls for stronger government-led initiatives and policies.</p> <p>Concerns about the lack of planning for climate change at a national level.</p> <p>Economic impact:</p> <ul style="list-style-type: none"> <li>• Fears of economic hardship due to climate change initiatives.</li> <li>• Calls for a balanced approach that considers economic consequences.</li> </ul>
Communication and Messaging:	<p>Concerns about fear-based messaging and calls for positive communication.</p> <p>Suggestions for clear information and guidance on climate change issues.</p>
Local Action and Adaptation:	<p>Calls for councils to adapt to climate change, considering local conditions and vulnerabilities.</p> <p>Suggestions for policies that focus on adaptation and resilience.</p>
Nature of Climate Change:	<p>Varied opinions on the causes and inevitability of climate change.</p> <p>Debate on whether climate change is primarily natural or exacerbated by human activities.</p>
Public Responsibility:	<p>Views on personal responsibility and the need for individuals to adapt and prepare for climate change.</p> <p>Suggestions for a shift in individual behaviour and lifestyle.</p>

## 4.5 If taking climate change action in Murihiku Southland was in your hands, what is the one thing you think needs to happen?

There were 456 comments provided. These can be grouped into the following common themes and topics.

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Recycling and Waste Management:	<p>Collaborative Approach: Emphasise collaboration between schools, councils, clubs, and the general community to establish a common focus on recycling. Consensus and dedication are crucial for effective change.</p> <p>Individual Participation: Stress the importance of everyone's participation in reversing climate change through actions like recycling.</p> <p>Government-Level Regulation: Advocate for government-level regulation of material use by corporations, shifting responsibility from individuals to larger entities.</p> <p>Recycling Education: Promote extensive education on recycling practices and waste minimisation, drawing inspiration from successful models in other countries.</p> <p>Innovative Recycling Methods: Encourage the exploration of innovative ways to recycle, reducing dependence on chemicals in farming.</p>
Energy Efficiency and Renewable Sources:	<p>Solar Panels and Home Energy Efficiency: Propose government grants/funds to install solar panels on every house, making homes energy-efficient and contributing to the grid.</p> <p>Hybrid Vehicles: Suggest the use of hybrid vehicles over electric ones, considering the region's size and the lack of EV charging infrastructure.</p> <p>Sustainable Energy Sources: Advocate for a shift towards sustainable energy sources to reduce reliance on coal and prevent power shortages.</p>
Infrastructure and Flood Protection:	<p>Flood Prevention: Emphasise the importance of infrastructure improvements, such as sheet piling, rock walls along coasts and riverbeds, and retreat from floodable areas.</p> <p>Water Conservation: Propose collecting and preserving rainwater and river catchments to address water scarcity concerns.</p>
Community Resilience and Wellbeing:	<p>Education and Awareness: Ramp up education on climate change, ensuring a wider understanding and empowering communities to be self-sufficient and resilient.</p> <p>Community Engagement: Encourage community-based initiatives like neighbourhood clean-up days, recycling events, and maintenance activities.</p> <p>Local Food Initiatives: Support regional food policies, local food initiatives, and community gardens to enhance self-sufficiency and build community resilience.</p>

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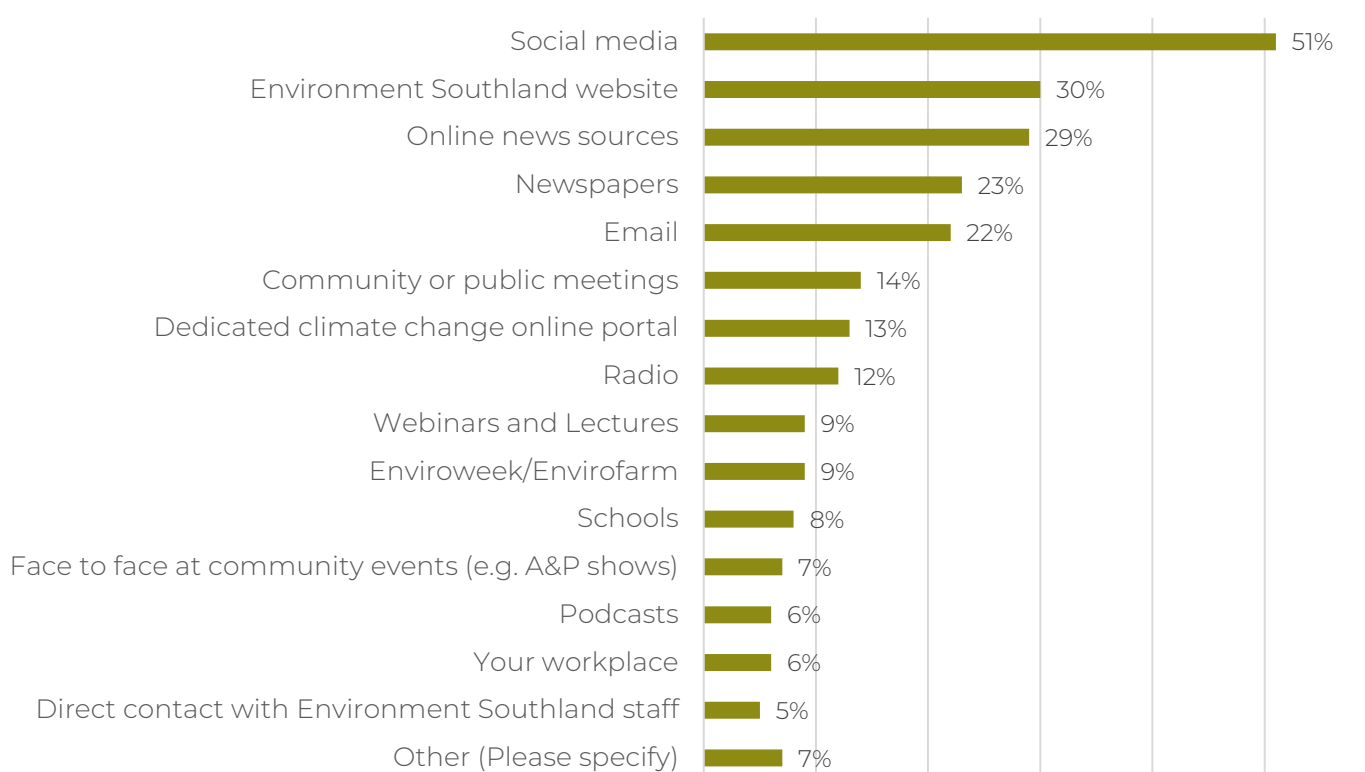
Regulation and Accountability:	<p>Regulatory Plans: Advocate for strong regulatory plans to restrict development in hazard-prone areas and enforce compliance, acknowledging efforts already made by the rural sector.</p> <p>Accountability and Collaboration: Promote collaboration between urban and rural areas, emphasising shared responsibility and avoiding a divisive "them vs. us" mentality.</p>
Public Awareness and Behavioural Change:	<p>Climate Change Education: Focus on public awareness and understanding of climate change implications, highlighting small changes that collectively make a significant impact.</p> <p>Behavioural Change: Encourage responsible consumer behaviour, reduced waste, and personal accountability for environmental impact.</p>
Global Cooperation:	<p>International Action: Urge global cooperation to address climate change, including initiatives to force other countries with large populations to reduce emissions.</p>
Government Incentives and Support:	<p>Financial Support: Call for government incentives, low-interest loans, and subsidies to support eco-friendly initiatives, such as solar panels and sustainable building practices.</p>
Policy Changes and Bans:	<p>Policy Changes: Advocate for policy changes like banning single-use plastics, promoting eco-friendly practices, and addressing the environmental impact of supermarket packaging.</p>
Holistic Nature-Based Solutions:	<p>Nature-Based Solutions: Stress the importance of concentrating on nature-based solutions, such as riparian planting and sustainable agriculture, for dual benefits in climate change, water quality, and biodiversity.</p>
Agriculture and Dairy Farming:	<p>Dairy Numbers Reduction: Suggest reducing dairy numbers to address various issues, including environmental impact.</p> <p>Lower Energy Use Incentives: Propose easier and cheaper consenting costs tied to lower energy use per unit of output for exportable goods.</p>
Affordability and Community Involvement:	<p>Affordability and 10-Year Plan: Emphasise the importance of ratepayer affordability and prioritise key actions in a 10-year plan with community input.</p> <p>Easy Wins: Focus on easy win items that are both impactful and achievable, considering rising costs across various sectors</p>
Waterways Clean-up and Riparian Planting:	<p>Intensive Riparian Planting: Advocate for intensive riparian planting and support for fencing waterways to clean up all rivers, streams, and creeks.</p> <p>Compliance Measures: Stress compliance issues and penalties for non-compliance to ensure the success of waterway clean-up efforts.</p>
Air Pollution and Natural Products:	<p>Reduce Air Pollution: Address air pollution by encouraging the use of natural products like wool and reducing reliance on synthetic materials.</p>

Incentives and Mitigation Actions:	<p>Incentivise Carbon Reduction: Suggest providing funding incentives for carbon reduction projects and initiatives to increase food resilience.</p> <p>Community and Personal Action: Call for policies that incentivise community and personal action to help mitigate climate change.</p>
Infrastructure and Environmental Risks:	<p>Infrastructure Adaptation: Encourage infrastructure adaptation, particularly in areas prone to erosion, flooding, and other climate-related risks.</p> <p>Pest Control: Encourage pest trapping and planting along waterways to enhance biodiversity and ecosystem resilience</p>
Public Engagement and Education:	<p>Affordable Engagement: Find affordable ways to engage the public, with councils leading by example in adopting technology and reducing waste.</p> <p>Digital Literacy: Promote digital literacy to reduce the need for physical forms, making technology accessible to a broader demographic.</p>
Emissions Reduction:	<p>Broad Emissions Reduction: Call for reductions and controls on emissions from all sources, including agriculture, while incentivising carbon reduction.</p>
Nationalisation and Renewable Energy:	<p>Nationalise Power Companies: Propose nationalising power companies to ensure a focus on sustainability and affordable, excess power production.</p> <p>Mass-Scale Renewable Implementation: Collaborate with the government, technology, and finance sectors to encourage mass-scale renewable energy implementation.</p>

## 5 Service Delivery and Community Information

### 5.1 What are the best channels for Environment Southland to use to get information to you about the impact of climate change on Murihiku Southland?

Online digital channels are by far the most preferred channel among respondents, with social media significantly higher than any other source.



#### Demographic Variations

There were several variations across demographic groups for this question. These are detailed below.

#### Age

The preference for social media decreases with age, while a preference for newspapers or email increases.

#### Gender

Females have a significantly stronger preference for social media (60%) versus other gender groups.

#### Ethnicity

Non-digital channels, such as public meetings and face-to-face events, were not preferred at all by smaller ethnic groups that potentially represent the migrant communities within Murihiku Southland, e.g. African and Middle Eastern. The exception to this was the strong



preference within the Pasifika community for direct contact with Environment Southland staff.

Of the comments made in support of this question, there were several alternative channels suggested, including:

- Newsletters sent directly to ratepayers
- The Antenno app
- Rates notices
- YouTube

There were also concerns raised about current information sources and the level of trust in them. There were suggestions that information should be independent, not directly from government departments, and that using international sources as well as local sources would be beneficial.

## 5.2 I have accessed information about the impact of climate change on Murihiku Southland.

Forty-nine percent (49%) of respondents had accessed information about the impact of climate change on Murihiku Southland.

The sources used to find and access this information can be summarised as follows:

News Media and Online Sources:	Newspapers, online articles, news outlets, media reports, and general internet sources are frequently mentioned.
Government agencies:	NIWA Ministry for the Environment Climate Change Commission
Educational Institutions and Research:	University studies, scientific research, academic reports, and SIT are mentioned.
Environment Southland:	The Environment Southland website, newsletters, and reports from the organisation are mentioned as information sources. Maps and hazard information provided by Environment Southland are acknowledged.
Personal Experience and Observations:	Personal experiences, historical weather data, and observations of changes over the years are cited. Conversations with local residents and older generations who have witnessed climate change are mentioned.
Social Media and Community Engagement:	Social media platforms, group chats. Community meetings and discussions in hāpori hui (community meetings) are referred to. Catchment groups, community feedback groups, and engagement with local councils are mentioned.

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Cultural and Indigenous Perspectives:

Reference to Māori information, engagement with Ngāi Tahu, and consideration of local knowledge are noted.

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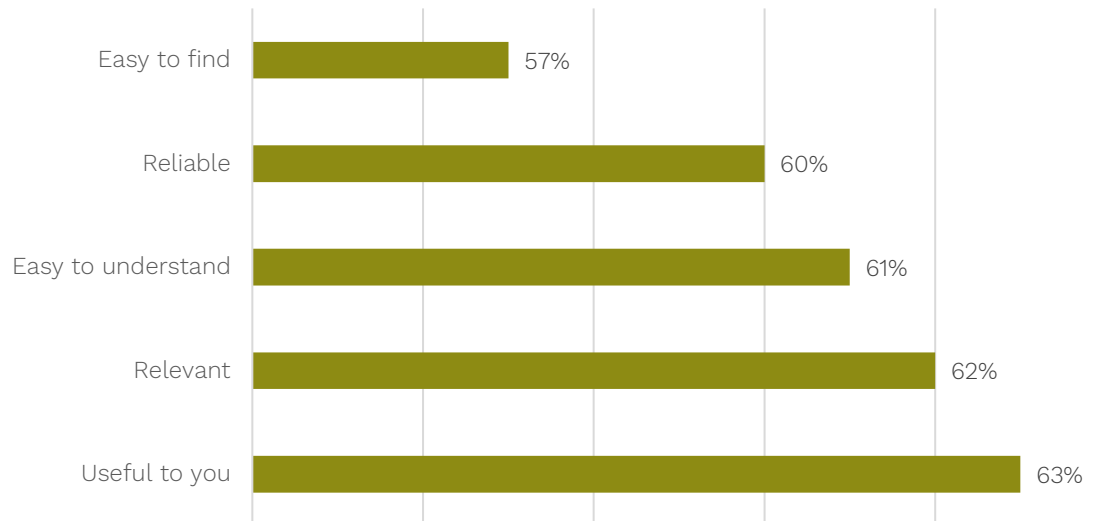
International and Global Perspectives:

Global sources, including the World Economic Forum (WEF).

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### 5.3 How would you rate the information you have accessed about the impact of climate change on Murihiku Southland?

Overall, respondents thought the information was reasonably reliable, relevant and easy to understand but less easy to find.

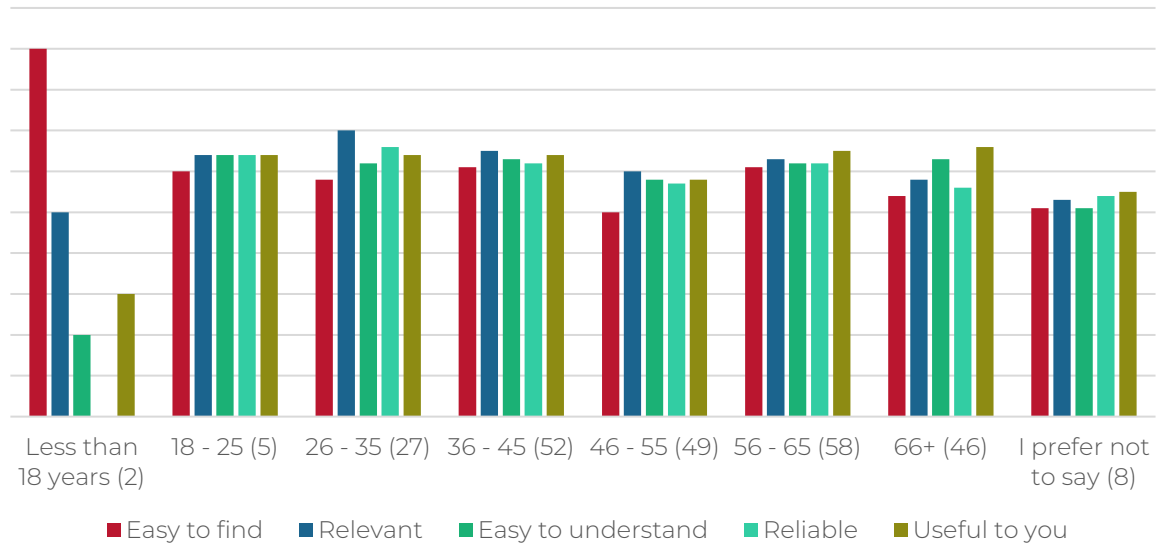


#### Demographic Variations

There were variations across some of the demographic groups for this question. These are detailed below.

## Age

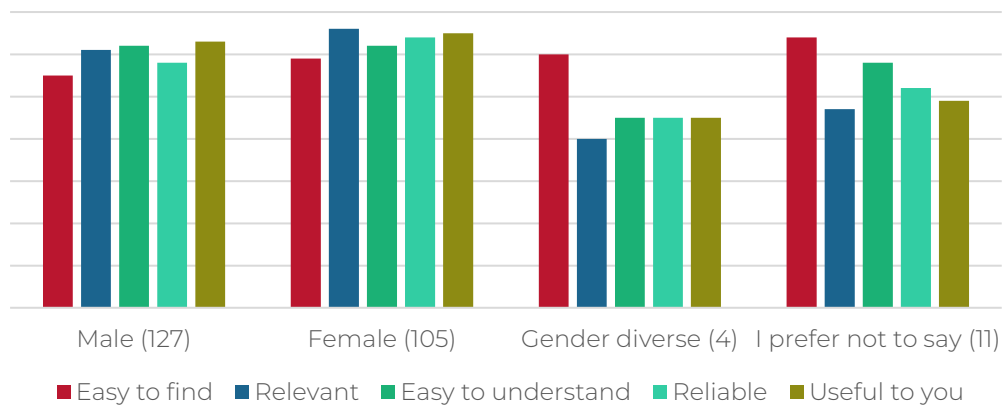
There is reasonable consistency across the age groups, with the exception of those aged less than 18, who thought the information was significantly easier to find than any other



group. It should be noted that this observation is made from a small sample size and, therefore, cannot be taken as conclusive or with a high degree of confidence.

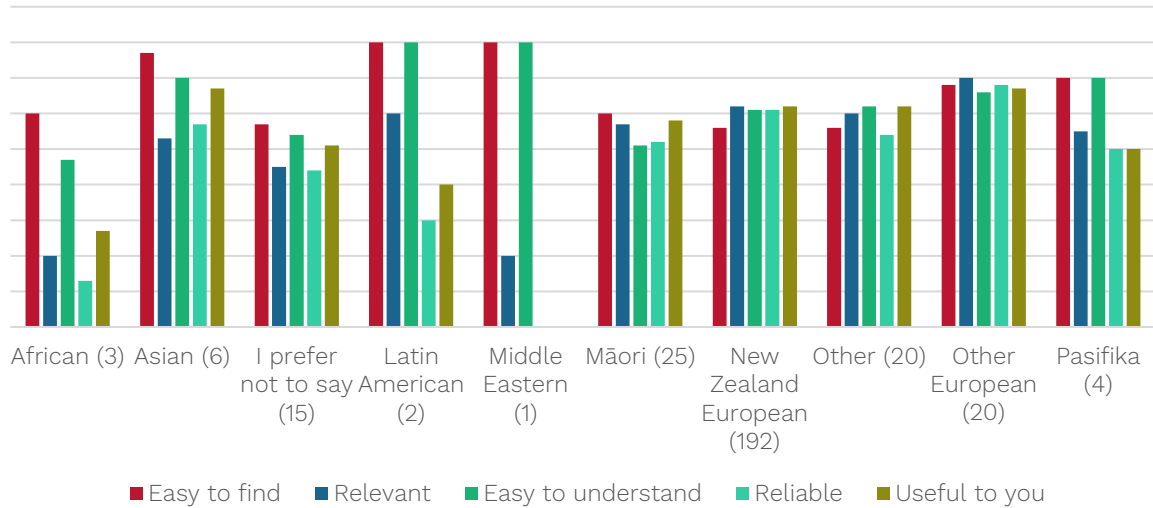
## Gender

There was minimal variation between males and females, although, for those who identify as gender diverse, the information was less relevant or useful. It should be noted that this observation is made from a small sample size and, therefore, cannot be taken as conclusive or with a high degree of confidence.



## Ethnicity

There is little variation across the majority of ethnicities, and when there was a large variation (e.g. Middle Eastern & African) the sample sizes were very small, therefore deeming the results inconclusive.



## 6 General Feedback

### 6.1 Do you have any other comments or feedback for Environment Southland to improve its climate change work programme?

There were 263 comments provided for this question. These have been grouped into the following common themes and topics:

Urgency and Time Sensitivity:	Concerns about delayed action and the need for quicker response. Urgency emphasised due to the imminent threats, such as storm surges affecting coastal areas.
Responsibility and Collaboration:	Calls for collaboration among councils, communities, and other organisations. Emphasis on Environment Southland's responsibility to lead by example and coordinate efforts.
Community Engagement and Education:	Requests for better information dissemination, especially to schools and young people. Suggestions for community engagement, workshops, and education programs to raise awareness.
Recycling and Waste Management:	Strong demand for the reintroduction of recycling programs. Calls for practical waste reduction strategies and local solutions.
Agricultural Practices and Farmer Engagement:	Concerns about the impact of climate change on agriculture. Encouragement to work with farmers, support adaptation plans, and provide incentives for sustainable practices.
Infrastructure and Resource Allocation:	Calls to prioritise essential infrastructure needs, like roads and sewage systems. Suggestions to allocate resources effectively and focus on critical issues, such as waterways and pollution.
Political and Organisational Alignment:	Concerns about political influences and alignment with global agendas. Suggestions to align climate change efforts with the broader organisational objectives of Environment Southland.
Flood Risk Management and Coastal Planning:	Recommendations for better flood risk management, including gravel removal from rivers. Suggestions for realistic planning for sea-level rise and managed retreat.
Financial Concerns and Ratepayer Issues:	Concerns about high rates and expenses. Calls for responsible spending, avoidance of unnecessary costs, and reducing rates.

Technology and Transportation:	<p>Calls for the incorporation of technology, such as electric vehicles and cleaner infrastructure.</p> <p>Suggestions for improving public transport and reducing emissions.</p>
Communication and Transparency:	<p>Requests for clear communication, transparency, and open dialogue.</p> <p>Suggestions for incorporating traditional knowledge (mātauranga Māori) and building trust with the community.</p>
Adaptive Management and Long-Term Planning:	<p>Emphasis on adaptive management, longer timeframes in planning, and learning from history.</p> <p>Suggestions to plan for future changes, incorporating climate change considerations into all aspects of work.</p>
Global Context and Emissions Comparison:	<p>Requests for context on Southland's pollution compared to other nations.</p> <p>Concerns about focusing on climate change while larger contributors are not making significant changes.</p>
Biochar and Sustainable Practices:	<p>Suggestions to embrace biochar as a sustainable tool in agriculture and environmental conservation.</p>
Positive Reinforcement and Recognition:	<p>Requests for recognising and applauding positive initiatives and achievements.</p> <p>Encouragement to celebrate successes and communicate them widely.</p>
Avoiding Overregulation:	<p>Calls to avoid overregulation and instead focus on incentivising positive behaviours.</p> <p>Recommendations to award success and encourage voluntary actions rather than imposing strict regulations.</p>
Public Engagement and Participation:	<p>Encouragement for ES staff to engage more with the public.</p> <p>Calls for more public visibility of the work being done by Environment Southland.</p>
Historical Knowledge and Observations:	<p>Emphasis on observing and learning from historical information.</p> <p>Suggestions to rely on empirical evidence and consider historical patterns when addressing climate-related issues.</p>
Cultural and Local Context:	<p>Suggestions to consider local cultural practices and integrate them into environmental initiatives.</p> <p>Emphasis on understanding and respecting the local context.</p>

## 7 References

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