

## Appendix B: Planning Process and Public Engagement

**Code of Federal Regulations (CFR) Title 44, Part 201.6 (44 CFR §201.6) Requirements**

**§201.6(b):** An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

- **§201.6(b)(1):** An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
- **§201.6(b)(2):** An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
- **§201.6(b)(3):** Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

- **§201.6(c)(1):** [The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.
- **§201.6(c)(5):** [The plan shall include...] documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan. For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

### 1.1. Collaborative Process

During the planning process, participants were encouraged to work with neighboring jurisdictions and special districts, local and regional agencies, and other mitigation partners to develop a unified approach to mitigation and to address hazards that could affect one another.

The 2023 Washington County Natural Hazard Mitigation Plan (NHMP) development process was led by the Washington County Project Manager and driven by the Steering Committee. This plan update was facilitated, written, and completed in collaboration with the contracting firm IEM. Each participating jurisdiction or special district had a representative on the Steering Committee who contributed data and maps and reviewed and updated the community profile, risk assessment, action items, and implementation and maintenance plan.

**Table 1: NHMP Steering Committee Members**

Jurisdiction or Special District	Job Title
City of Beaverton	Emergency Management Officer
City of Beaverton	Emergency Manager
Cities of Cornelius and Forest Grove*	Forest Grove Fire Chief/Emergency Management Coordinator
Cities of Cornelius and Forest Grove*	Forest Grove Fire Division Chief–Fire and Life Safety
City of Hillsboro	Emergency Manager
City of Hillsboro	Emergency Management Officer
City of North Plains	City Manager
City of Sherwood	Emergency Management Coordinator

Jurisdiction or Special District	Job Title
City of Tigard	Emergency Services Coordinator
Clean Water Services	Senior Water Resources Program Manager
Tualatin Hills Park and Recreation District	Safety Services Manager
Tualatin Valley Water District	Emergency Management and Security Manager
Washington County	Emergency Management Coordinator (and 2023 Washington County NHMP Project Manager)
Washington County	Emergency Management Supervisor

\*Note: The cities of Cornelius and Forest Grove shared Steering Committee members.

Each participating entity had a Technical Committee made up of subject matter experts and leaders within the jurisdiction or special district. These committee members were actively engaged in the planning process and provided local hazard information, created mitigation action items, and identified local ordinances, plans, and policies that may be used to implement mitigation actions. Members of each participant’s committee are detailed in the participant annexes.

## 1.2. Stakeholder Engagement

Internal and external stakeholders are an integral part of the mitigation planning process. These stakeholders were identified by NHMP participants for their knowledge, skills, abilities, and insights. Internal stakeholders were invited by Steering Committee members to participate in the plan update. External stakeholders were invited to participate in the process via email. Both sets of stakeholders were encouraged to review the plan and provide relevant information and feedback.

### 1.2.1. Internal Stakeholders

Internal stakeholders were identified and engaged by participants to enhance the planning process and the update of the NHMP. These stakeholders are subject matter experts within the participating jurisdictions or special districts who impact or may be impacted by a mitigation action or policy. This included people in positions who had the authority to regulate development of the plan. These stakeholders informed the Technical Committees and Steering Committee about specific topics and offered different points of view while providing data, reviewing the NHMP draft, attending planning workshops, and advocating for mitigation measures.

**Table 2: Internal Stakeholders**

Jurisdiction or Special District	Title
City of Beaverton	Planning Division Manager, Community Development Division
City of Beaverton	City Engineer, Public Works Department–Engineering Management Services
City of Beaverton	Utility Manager, Public Works Department, Storm–Sewer–Street Division
City of Beaverton	Sustainability Analyst, City Services and Engagement
City of Beaverton	Project Engineer, Community Development Department, Site Development Division
City of Beaverton	City Building Official, Community Development Department, Building Administration



Jurisdiction or Special District	Title
City of Beaverton	Emergency Manager
City of Beaverton	Geographic Information System (GIS) Manager, Information Services Division
City of Beaverton	Economic Development Manager, Community Development Department
City of Beaverton	Emergency Management Officer
City of Hillsboro	Management Analyst, City Manager's Office
City of Hillsboro	Parks Director, Parks and Recreation Department
City of Hillsboro	Information Services Director, Information Services Department
City of Hillsboro	Police Chief
City of Hillsboro	Library Manager
City of Hillsboro	Finance Director
City of Sherwood	Public Works Director
City of Tigard	Assistant City Manager–Infrastructure
City of Tigard	City Councilor
Clean Water Services	Natural Systems Enhancement and Stewardship Director
Clean Water Services	Chief Executive Officer
Clean Water Services	Chief Strategy Officer
Clean Water Services	Enterprise Assets Technology Services Director
Clean Water Services	Chief Utility Relations Officer
Clean Water Services	Public Affairs Manager
Clean Water Services	Water Resources Recovery Services Manager
Clean Water Services	Building and Facilities Services Manager
Clean Water Services	Chief of Staff
Clean Water Services	Chief Operating Officer
Clean Water Services	Operations Manager, Durham Plant
Clean Water Services	Strategic Risk Manager
Clean Water Services	Board Members
Tualatin Hills Park and Recreation District	Park Services Director
Tualatin Hills Park and Recreation District	General Manager
Tualatin Hills Park and Recreation District	Communications Director
Tualatin Valley Water District	Willamette Water Supply Program Design and Construction Manager
Washington County	Fleet Services Manager
Washington County	Board of County Commissioners
Washington County	Director, Emergency Management

Jurisdiction or Special District	Title
Washington County	Facilities Superintendent
Washington County	Economic Development Manager
Washington County	Building Official
Washington County	Senior Planner, Land Use & Transportation Planning Long Range Planning
Washington County	Principal Planner–Supervisor, Land Use & Transportation Planning and Development Services
Washington County	Office of Equity, Inclusion, and Community Involvement
Washington County	Parks Superintendent

### 1.2.2. External Stakeholders

NHMP participants identified external stakeholders outside their jurisdiction or special district who impact or can be impacted by a mitigation action or policy. These stakeholders were not necessarily involved in all stages of the planning process, but as subject matter experts, they informed the Technical and Steering Committees on specific topics and offered different points of view while providing data, reviewing the NHMP draft, and advocating for mitigation measures.

**Table 3: External Stakeholders**

Jurisdiction or Special District	Title
Banks Fire District	Fire Chief
Beaverton School District	Executive Administrator for Long Range Planning
U.S. Bureau of Reclamation	Bend Field Office Manager
Bureau of Reclamation	Native American Affairs Program Manager, Columbia–Pacific Northwest Region
Bureau of Reclamation	Safety of Dams Project Manager
Tualatin Watershed Enhancement Collaborative and Cedar Mill Creek Flood Remediation Collaborative	Watershed Navigator
City of Lake Oswego	City Engineer
City of Rivergrove	City Manager
City of Tualatin	Community Development Director
City of Tualatin	Emergency Management Coordinator
City of Wilsonville	Director of Public Works
Clackamas County	Clackamas County Resilience Coordinator
Clackamas County	Interim Director (Emergency Management), Program Manager
Clatsop County	Emergency Manager
Columbia County	Director of Emergency Management
Oregon Department of State Lands	Aquatic Resource Planner

Jurisdiction or Special District	Title
U.S. Environmental Protection Agency	Wetland Ecologist
Joint Water Commission	General Manager
Metro Parks and Nature	Natural Areas Land Manager
Metro Parks and Nature	Deputy Director
Metro Parks and Nature	Deputy Director's Assistant
Multnomah County	Senior Emergency Management Planner
Multnomah County	Director, Office of Emergency Management
National Marine Fisheries Services	Willamette Branch Chief
National Weather Service	Meteorologist in Charge
Oregon Department of Emergency Management	Plan Reviewer
Oregon Department of Emergency Management	Regional Liaison
Oregon Department of Emergency Management	Finance/Grant Management
Oregon Department of Emergency Management	Regional Mitigation & Recovery Coordinator, Portland Metro Office
Oregon Department of Environmental Quality	Tualatin Basin Total Maximum Daily Load Program Coordinator
Oregon Department of Forestry	Forester
Oregon Department of Geology and Mineral Industries	Geologist
Oregon Department of Land Conservation and Development	Manager
Oregon Department of State Lands	Aquatic Resources Coordinator and Washington County Permitting Liaison
Oregon Department of State Lands	Wetland Ecologist, Washington, Multnomah, Clackamas, and Hood River Counties
Oregon Health Authority	Drinking Water Technical Services and Emergency Preparedness Coordinator
Oregon Office of the State Fire Marshal	Fire Risk Reduction Specialist, Serving Washington County
Oregon Water Resources Department	State Engineer for Water Resources, Dam Safety Lead
Oregon Water Resources Department	Watermaster, District 18
Oregon Water Resources Department	GIS Coordinator, Dams
Oregon Water Resources Department	GIS Developer
Regional Water Providers	Managing Director, Regional Water Providers Consortium, and Intergovernmental Coordination Group Manager, Portland Water Bureau
The Wetlands Conservancy	Executive Director
Tigard–Tualatin School District	Operations Administrator
Tillamook County	Emergency Management Director
TriMet	Manager, Emergency Management & Training

Jurisdiction or Special District	Title
Tualatin River Watershed Council	Executive Director
Tualatin Riverkeepers	Executive Director
Tualatin Riverkeepers	Staff Attorney
Tualatin Riverkeepers	Watershed Resilience Coordinator
Tualatin Soil and Water Conservation District	Executive Director
Tualatin Soil and Water Conservation District	Forest Conservation Specialist
Tualatin Valley Fire & Rescue	Fire Captain and Emergency Coordinator
Tualatin Valley Irrigation District	District Manager
Tualatin Valley Water District	Emergency Management and Security Manager
U.S. Army Corps of Engineers	Regulatory Project Manager, and Washington County Permitting Liaison, Portland District Regulatory Branch
U.S. Fish and Wildlife Service	Project Leader, Tualatin National Wildfire Refuge
Washington County	Environmental Health Program Manager, Public Health Department
Willamette Partnership	Executive Director
Yamhill County	Manager, Emergency Management Department
The Wetlands Conservancy	Development & Communications Manager

### 1.2.3. Summary of Stakeholder Feedback

A virtual Stakeholder Engagement and Education Workshop was held July 26, 2022, and was attended by internal and external stakeholders. During this workshop, stakeholders were asked to contribute ideas and information relating to mitigation action items, hazard data sources, and mitigation collaboration opportunities. These stakeholders were also asked to review the draft NHMP and provide feedback before it was submitted to the Oregon Department of Emergency Management (OEM) and Federal Emergency Management Agency (FEMA) for review and approval.

The following comments were received during the virtual Stakeholder Engagement and Education Workshop on July 26, 2022.

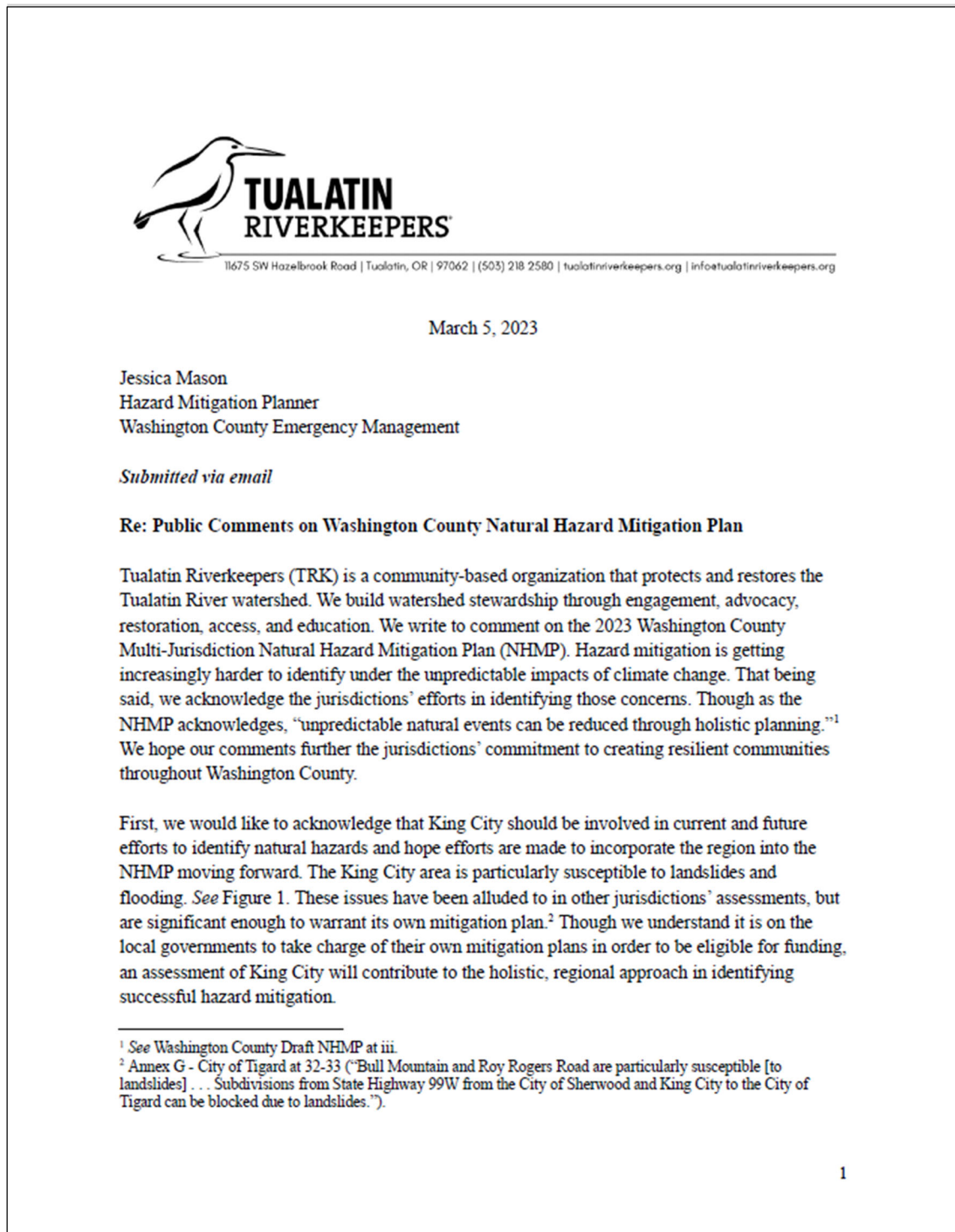
- The proposed “Watershed Navigator” project involving Clean Water Services and Tualatin Soil and Water Conservation District could be an action item.
- Forest sensitivity is a topic that could be explored.
- Consider the potential impact of the emerald ash borer beetle on wildfire risk. The invasive species can infest trees, killing them, and increasing wildland fire fuel load. The discovery of the beetle in Oregon is the first discovery of the insect on the west coast.
- Oregon Occupational Safety and Health recently passed rules protecting workers in high heat and poor air quality conditions due to wildland fire smoke.

The draft of the NHMP was made available to internal and external stakeholders for review and comment via a digital, online open house hosted by Washington County and direct email notification requesting feedback from February 10, 2023, to March 5, 2023.

The following comments were received by stakeholders in response to the draft plan review request:

- Seismic assessments completed for the Beaverton School District in 2019 were recommended as a source for additional information about seismic structural deficiencies identified in school buildings and on school property. Information from these assessments was incorporated into the Beaverton annex.
- The damage estimates from a Cascadia Subduction Zone magnitude 9.0 earthquake in “dry” soil conditions in the Beaverton annex had a misprint. This amount was corrected to the accurate amount of \$1,230,000,000.
- The Emergency Coordinator for the Beaverton School District commented that the Portland Hills Fault is classified as an “inactive fault” and does not warrant the level of consideration it received in the NHMP. The level of detail about this fault was kept as it was, as it was the Steering Committee’s choice to include this information.
- In-depth feedback was received from Tualatin Riverkeepers, and Washington County is developing a direct response to the organization. The Riverkeepers will be invited to participate as mitigation actions from the NHMP are implemented. See the letter in Figure 1 for additional information about the comments from Tualatin Riverkeepers.

Figure 1: Letter from Tualatin Riverkeepers





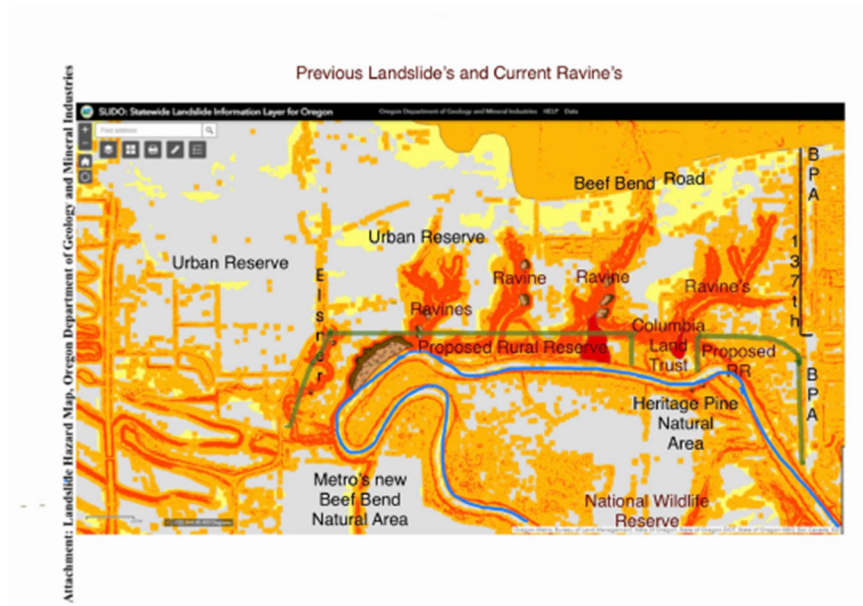


FIGURE 1. King City landslide hazard areas south of Beef Bend Road.

Next, the NHMP should include two additional goals: (1) enhancing the ability of *communities* to rebound from natural hazard events, and (2) enhancing the ability of the *natural environment* to rebound from natural hazard events. An environmental justice lens must be applied in identifying how natural hazards impact different communities. Some jurisdictions and communities may have the resources readily available to mitigate, and adapt to, a natural hazard event. Therefore, the impacts and costs must be adjusted to account for those varying capacities to recover. Goal 7 of the NHMP does recognize fund allocation to support communities disproportionately impacted by natural hazards,<sup>3</sup> but a separate goal standard would address impacts to communities beyond financial stability and is therefore worthy of its own goal.

The second goal suggestion should be expanded further to directly address mitigating impacts to the Tualatin River and its tributaries. Water is a vital resource. The Tualatin watershed makes up all of Washington County (and then some) and provides drinking water to over half a million residents. Without access to clean water, all other mitigation priorities fall short. As the NHMP notes, all Washington County jurisdictions are at high risk of drought. This further shows the

<sup>3</sup> NHMP at 4.



need to prioritize a sustainable watershed system, by encouraging pollution filtration, water reuse, and green infrastructure that retains water. Furthermore, the NHMP recognizes resiliency needs in other parts of its mitigation goals.<sup>4</sup> It only follows that emphasizing community and environmental resilience will alleviate some of the known stressors following a natural hazard event. The NHMP includes environmental impacts as part of its vulnerability assessments and has identified the Tualatin watershed within its natural environment characteristics, but we would like to see environmental mitigation explicitly stated in its mitigation goals.

Additionally, since dam failure is included as a natural hazard event that needs to be mitigated, it only makes sense that bridge failure should also be included in the NHMP. Bridge failure can occur at any point, and many of what threatens structural stability of dams, such as earthquakes and engineering failures, are also applicable to bridges. Several major roadways cross over the Tualatin River, such as I-5, I-205, and 99W, and the Oregon Department of Transportation has identified the need for seismic upgrades for some of these crossings.<sup>5</sup> If any of these were to fail, it would pose devastating results to the human and natural environment. As the area develops further, even more bridges are proposed to meet demand. Therefore, including these crossings as possible hazard events would require a mitigation plan in the event of a collapse.

Finally, we have several comments and clarifying questions we would like to direct at specific jurisdictions regarding their supporting mitigation plans:

*Appendix A: Planning Area Profile*

- Conservation easements should be included as important environmental and natural resource assets.<sup>6</sup> Additionally, the Beef Bend Natural Area should also be included on the asset list.<sup>7</sup>

*Washington County Appendix*

- When discussing critical infrastructure assessment and protection from flooding, “hardening” is mentioned as an option.<sup>8</sup> Is this used as a method to create more

<sup>4</sup> See NHMP at 4 (“Enhance the ability of the economies of Washington County and its jurisdiction to rebound quickly from natural hazard events . . .”).

<sup>5</sup> ODOT has just released their environmental assessment for the I-205 tolling project. A significant portion of this project is to include seismic upgrades. While the I-205 bridge resides outside Washington County, similar heavy trafficked bridges are well within the County and could need the same much-needed seismic upgrades. See <https://www.oregon.gov/odot/tolling/Pages/I-205-Toll-Project-Environmental-Assessment.aspx>.

<sup>6</sup> NHMP Appendix A at 5-8.

<sup>7</sup> The Beef Bend Natural Area and the Bankston Conservation Easement both reside in the Tualatin floodplain that stretches into King City.

<sup>8</sup> See Annex K - Washington County at 68, Table 15.

impermeable surfaces to deter high water flows? Or is this used more in the sense of “strengthening resistance to disturbance?”

- Is the County considering impacts of steep slope harvesting on private and public lands when assessing high risk landslide areas via DOGAMI and lidar maps?<sup>9</sup> Steep slope timber activities greatly exacerbate slide impacts in already high risk areas.
- Action Item #16 requires identification of rural and wildland water sources to be used in wildfire situations via aircraft and apparatus.<sup>10</sup> Are their strategic plans developed for these types of uses where they would not devastate water accessibility, quality, and habitat?

*Tigard Appendix*

- Action Item # 11 (Study areas where riparian landslides may occur...) and Action Item #12 (Regulate development in landslide hazard areas) should be a higher priority listing given the extensive urban growth Tigard will be seeing within the next decade.<sup>11</sup> By making these Action Items higher priorities, the completion timeline will be shortened and thereby fall in step as the City develops components of their Master Plan.

*Clean Water Services Appendix*

- CWS mentioned using “real-time controls” for flooding/erosion concerns as more impervious surfaces are created and storm intensity increases.<sup>12</sup> What are some examples of real-time controls?

Thank you for your time and consideration. Please feel free to contact me if you have any questions regarding these comments.

Sincerely,



Victoria Frankeny [she/her]  
Riverkeeper & Staff Attorney

<sup>9</sup> See Annex K - Washington County at 98, Table 25.

<sup>10</sup> *Id.* at 57.

<sup>11</sup> Annex G - City of Tigard at 55.

<sup>12</sup> Annex H - Clean Water Services at 48.

Tualatin Riverkeepers  
victoria@tualatinriverkeepers.org

## 1.3. Public Engagement

Public participation is an important component of this NHMP. Public participation offers community members the chance to voice their ideas, interests, and opinions. A survey regarding community perceptions of natural hazards and priorities was administered and used to help the Steering and Technical Committees update their risk assessments and mitigation strategies. Community members were also provided an opportunity to comment on a draft of the NHMP.

Each public engagement strategy was designed and implemented with guidance from public outreach subject matter experts identified by participants. These subject matter experts ensured engagement aligned with diversity, equity, and inclusion best practices by using inclusive and equity-centered designs, data sovereignty and equity, and strategy co-creation. The public engagement strategies were designed to provide greater opportunities for all residents and communities in the planning area to have a voice in creating mitigation policies and solutions that impact them.

Two public engagement strategy workshops were held during the NHMP planning process on May 18, 2022, and June 3, 2022. These workshops were attended by Steering Committee members and public outreach experts from participating jurisdictions and special districts. Questions for the public survey were determined, as was a unified outreach strategy among participants.

The public survey was available in English and Spanish and was posted on the Washington County Emergency Management Cooperative website and on participants' social media accounts and websites. The survey was promoted at the Washington County fair at the county booth, the City of Cornelius Farmers Market, and during National Preparedness Month with postcards and bookmarks that were distributed to residents by participants. The survey was also promoted in special district newsletters and mailers. The survey was open for completion and hosted by IEM via SurveyMonkey from July 25, 2022, to October 6, 2022. Public comments were incorporated into the NHMP as appropriate and applicable.


It is the intention of the Steering Committee to take over hosting the survey and continue to utilize it on a regular basis as a tool to gauge public sentiment toward mitigation throughout the five-year NHMP implementation process.

A draft of the NHMP was available for public comment on the Washington County Emergency Management Cooperative website from February 3, 2023 to March 5, 2023. Participants posted the feedback opportunity on their social media accounts and websites. Public feedback about the draft plan were incorporated into the NHMP as appropriate and applicable.

### *1.3.1. Promotion of Public Survey and Draft Plan Comment Opportunities*

Each planning participant publicized the NHMP public survey and draft plan. Publicity methods utilized included posting on the Washington County Emergency Management Cooperative website, engagements on participant social media channels, email campaigns, special district mailers and newsletters, and in-person outreach efforts. The public comment opportunities provided by each participant are below.

The Washington County Emergency Management Cooperative website, hosted by the County, acted as a central location to which each participant could direct people to take the survey. This allowed for a streamlined and collaborative public survey promotional effort. The County also hosted the draft plan for public feedback via a digital, online open house. Plan participants directed the public to this single website, creating a unified promotional effort. Washington County's Local Planning Team executed a public outreach campaign that reached residents in all jurisdictions and special districts participating in the NHMP. Some plan participants did additional outreach about the draft plan in addition to the County's efforts. Promotional materials were in English and Spanish.



EMC Home Page
Contacts
Current Conditions
Prepare for Disaster
Plans and Training

**We want your feedback to make our community safer!**

Disasters can happen any time, any place. The Washington County Natural Hazard Mitigation Plan is being updated. The information you provide will help shape the plan.

Click the link to take the survey: <https://www.surveymonkey.com/r/NaturalHazardMitigationAwarenessSurvey>


The plan covers all areas of:

- Unincorporated Washington County
- City of Beaverton
- City of Cornelius
- City of Forest Grove
- City of Hillsboro
- City of North Plains
- City of Sherwood
- City of Tigard
- Service area of Clean Water Services
- Service area of Tualatin Hills Park and Recreation District
- Service area of Tualatin Valley Water District

Hazards covered:

- Dam failure
- Drought
- Earthquake
- Extreme heat
- Flood
- Landslide
- Volcanic ash
- Wildland fire
- Windstorm, including tornados
- Winter storm

This survey is voluntary and will take about 15 minutes.



**Figure 2: Washington County Emergency Management Cooperative Website NHMP Public Survey Posting in English**



**¡Queremos tu opinión para hacer nuestra comunidad más segura!**

Los desastres pueden ocurrir en cualquier tiempo y en cualquier lugar. El plan de mitigación de riesgos para el Condado de Washington está siendo actualizado. La información que provea ayudará a dar forma al plan.

Haga clic para realizar la encuesta: <https://www.surveymonkey.com/r/LaMitigaciondePeligrosNaturales>

El plan cubre todas las áreas de:

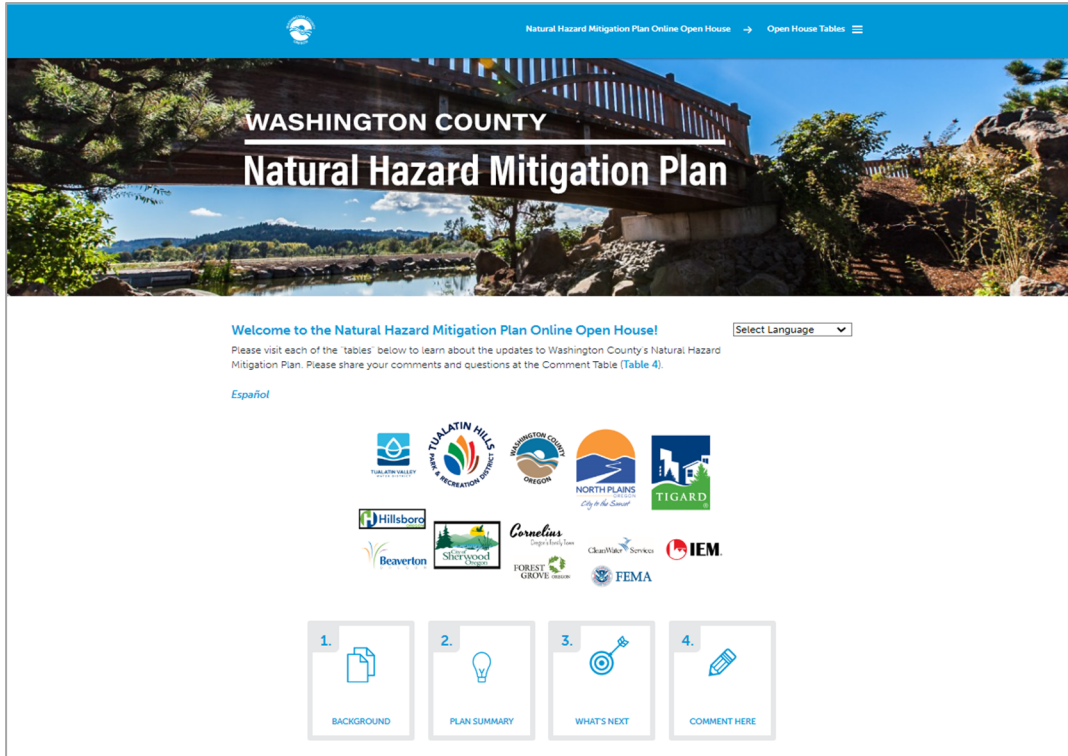
- Condado de Washington no incorporado
- Ciudad de Beaverton
- Ciudad de Cornelius
- Ciudad de Forest Grove
- Ciudad de Hillsboro
- Ciudad de North Plains
- Ciudad de Sherwood
- Ciudad de Tigard
- Áreas servidas por Clean Water Services
- Áreas servida por el Distrito de Parque y Recreación de Tualatin Hills
- Áreas servidas por el Distrito de Aguas del Valle de Tualatin

Riesgos cubiertos:

- Fallas en represas
- Sequía
- Terremotos
- Calor extremo
- Inundaciones
- Deslizamiento de tierra
- Ceniza volcánica
- Incendios forestales
- Tormentas de viento, incluyendo tornados
- Tormentas invierno

Esta encuesta es voluntaria y durará unos 15 minutos.

**Figure 3: Washington County Emergency Management Cooperative Website NHMP Public Survey Posting in Spanish**



**Figure 4: Online Open House for Public and Stakeholder Review of NHMP Draft Hosted by Washington County**



### 1.3.1.1. City of Beaverton

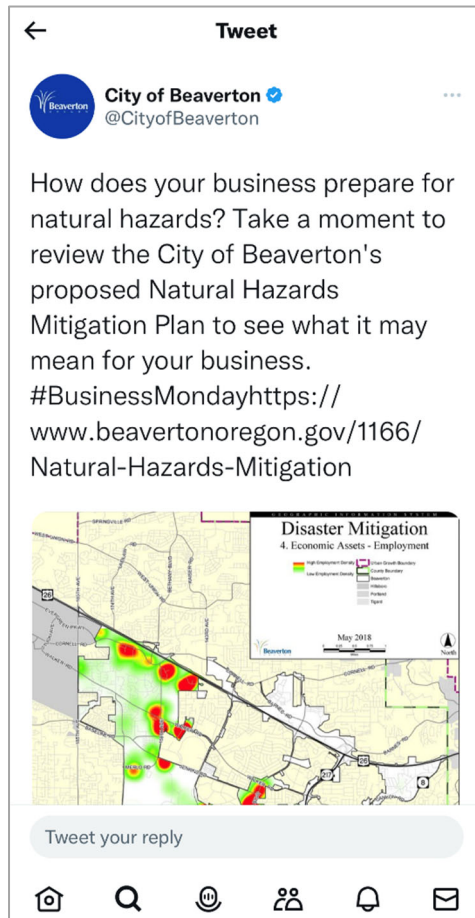


Figure 5: NHMP Public Survey Promotional Post on the City of Beaverton’s Twitter Page



Figure 6: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on the City of Beaverton’s Facebook Page in English and Spanish



**Figure 7: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on the City of Beaverton's Twitter Page**



**Figure 8: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on the City of Beaverton's Twitter Page**



**Figure 9: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on the City of Beaverton’s Twitter Page in Spanish**

**City Update**  
February | 2023

Beaverton  
OREGON

*A monthly digest of news, highlights and upcoming events for city employees and sharing in the community.*

**Beaverton Hot Topics...**

**Partner Agency News:**

**Natural Hazard Mitigation Plan is being updated.** Review the ways many public agencies and cities within Washington County plan to reduce the impacts of natural disasters by participating in an online open house happening now through Mar. 5. Hazard mitigation is work we do before disaster strikes to help lessen impacts to life, property and the environment. Visit the [Natural Hazard Mitigation Plan](#) online open house to learn more.

Online Open House

WASHINGTON COUNTY  
**Natural Hazard Mitigation Plan**

The graphic includes icons for various hazards: sun/thermometer, trees/water, house, clouds, volcano, house, trees, sun, dam, and snow/thermometer.

**Figure 10: Promotional Information for Online Open House for Public and Stakeholder Review of NHMP Draft in the City of Beaverton’s City Update Newsletter**

**1.3.1.2. Cities of Cornelius and Forest Grove**

Washington County Emergency Management completed public survey publicity on behalf of the cities of Cornelius and Forest Grove in person at the City of Cornelius Farmers Market.





Figure 11: Washington County Emergency Management Table, Including NHMP Public Survey Promotion, at City of Cornelius Farmers Market

### 1.3.1.3. City of Hillsboro

Printed promotional material was placed at Brookwood Public Library, Shute Park Aquatic & Recreation Center, and the City's Parks & Recreation building.



Figure 12: NHMP Public Survey Promotional Materials Posted in Brookwood Public Library





Figure 13: NHMP Public Survey Promotional Materials Posted in Brookwood Public Library

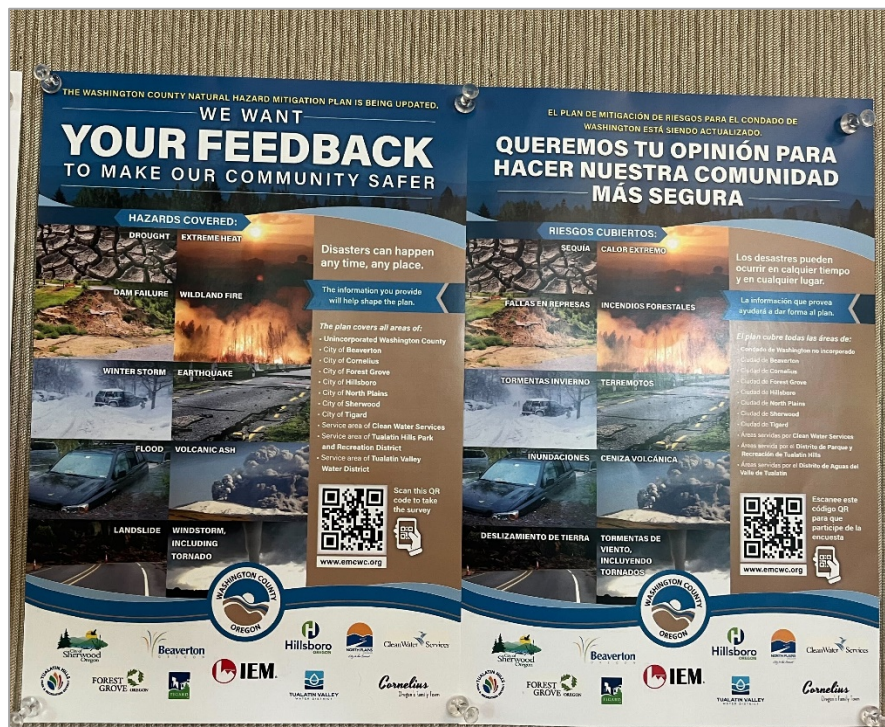


Figure 14: NHMP Public Survey Promotional Materials Posted in Brookwood Public Library



**Figure 15: NHMP Public Survey Promotional Materials Posted in the Shute Park Aquatic & Recreation Center**





**Figure 16: NHMP Public Survey Promotional Materials Posted in the City's Parks & Recreation Building**

Digital outreach was performed by the City's public information officer using the City website, the Hillsboro Fire & Rescue main website carousel, Facebook, Twitter, Instagram, Nextdoor, and the Engage Hillsboro platform. An email blast was also sent to subscribers of the Hillsboro Community Emergency Response Team newsletter.

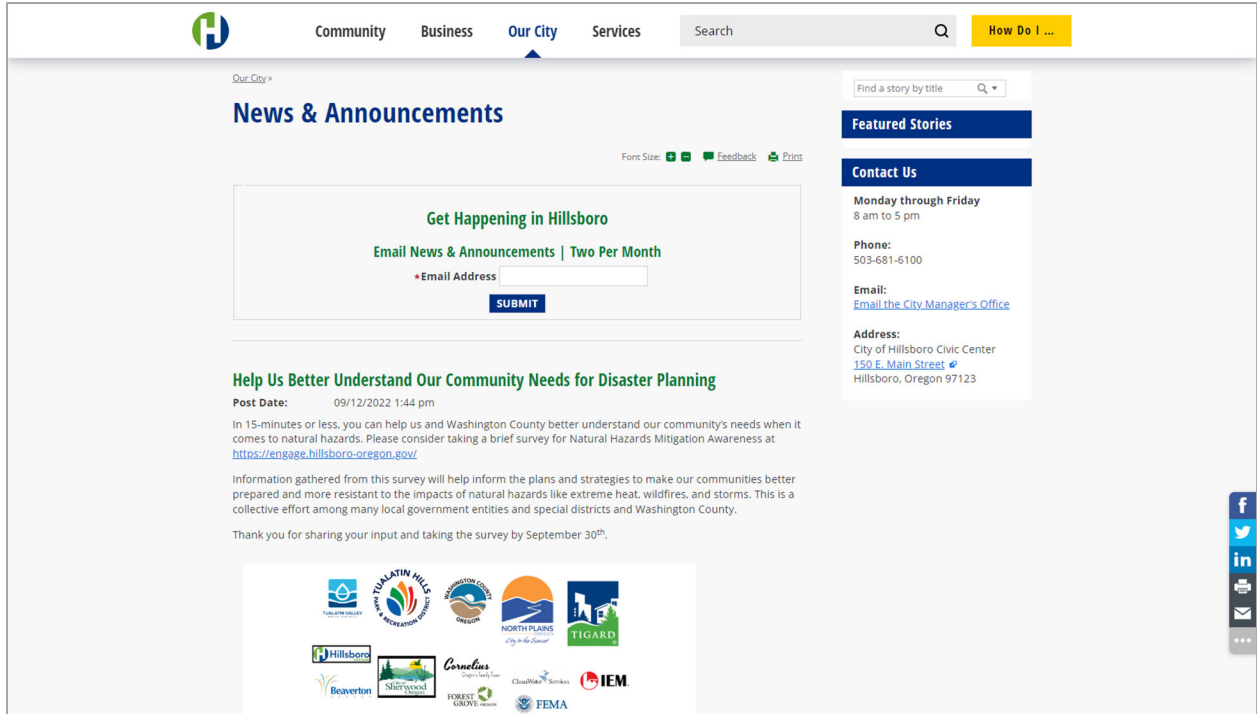


Figure 17: NHMP Public Survey Promotional Post on the City’s Website

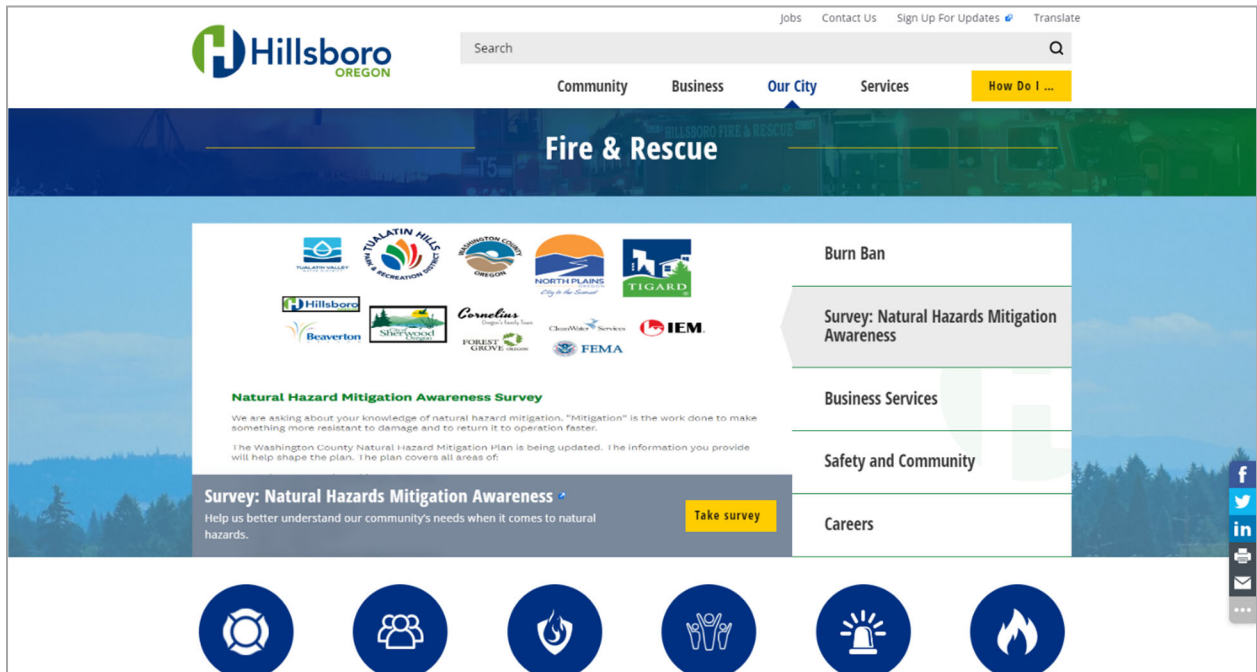


Figure 18: NHMP Public Survey Promotional Post on Hillsboro Fire & Rescue’s Website





Figure 19: NHMP Public Survey Promotional Post on Hillsboro Fire & Rescue’s Facebook Page

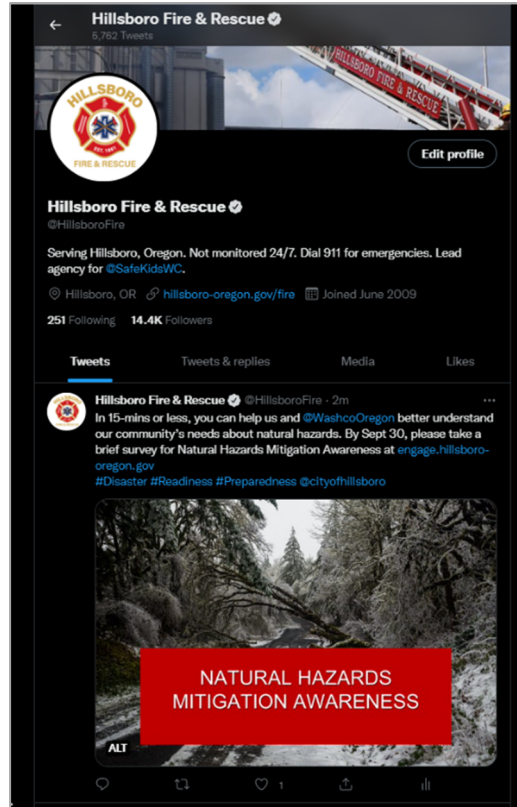


Figure 20: NHMP Public Survey Promotional Post on Hillsboro Fire & Rescue’s Twitter Page

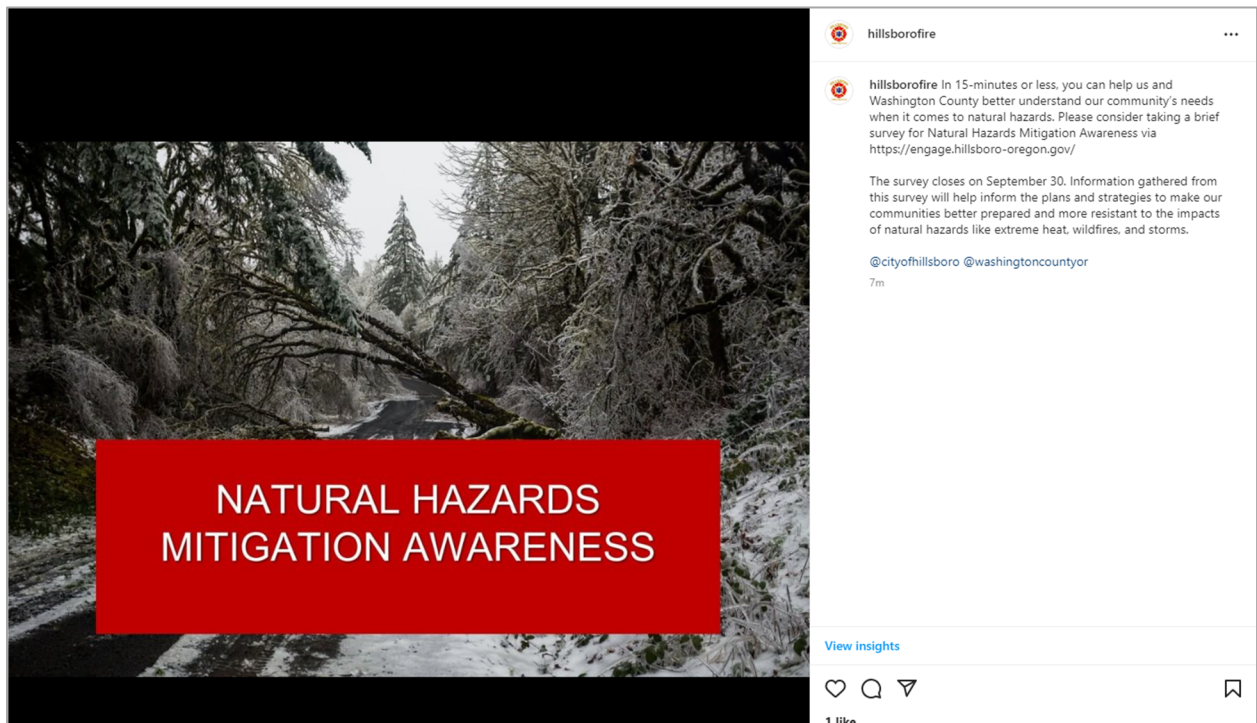


Figure 21: NHMP Public Survey Promotional Post on Hillsboro Fire & Rescue’s Instagram Page

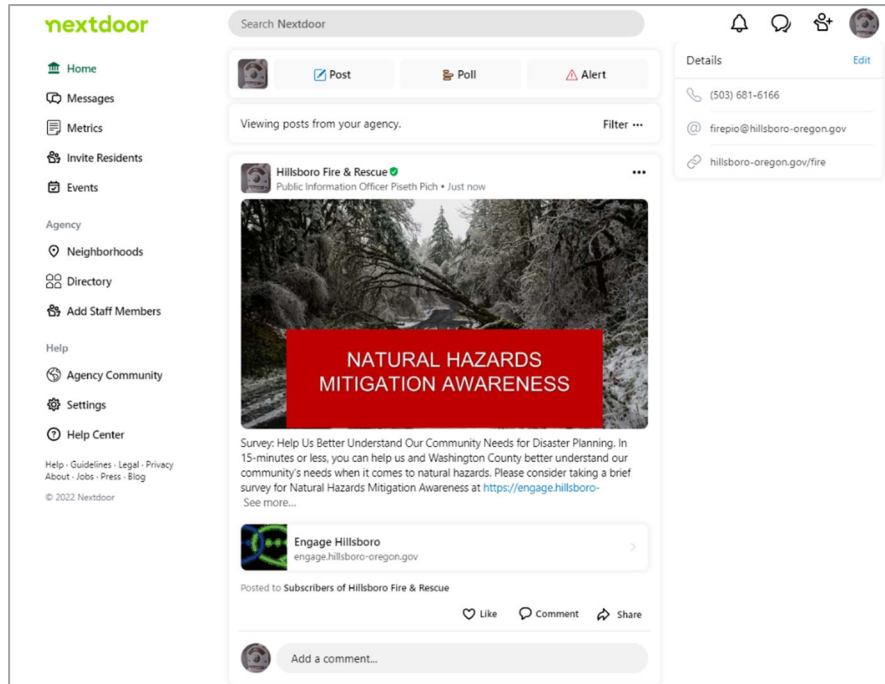




Figure 22: NHMP Public Survey Promotional Post on Hillsboro Fire & Rescue’s Nextdoor Page

### Other Engagement Opportunities




**New Art Coming to Shute Park**  
What do you want to see?  
[Share Your Feedback](#)




**Hazard Mitigation Survey**  
Help make our community safer with a short survey about natural hazards in our area.  
[Share Your Feedback](#)

### Who's Listening




**Patrick Preston**  
Communications Division Manager  
City of Hillsboro  
[Patrick.Preston@Hillsboro-oregon...](mailto:Patrick.Preston@Hillsboro-oregon.gov)



**Beatriz Medel**  
Bilingual Communications Specialist  
City of Hillsboro  
[Beatriz.Medel@Hillsboro-oregon.gov](mailto:Beatriz.Medel@Hillsboro-oregon.gov)

Figure 23: NHMP Public Survey Promotional Post on the Engage Hillsboro Platform





Hillsboro Emergency Management  
**Summer 2022**

240 S First Avenue  
Hillsboro, OR 97122  
Phone: 502-461-4144  
CERT@hillsboro-oregon.gov

September 1, 2022  
Summer Issue #5

**New "988" number for the National Suicide Prevention Lifeline:**

In 2020, Congress designated the new 988 dialing code to operate through the existing National Suicide Prevention Lifeline. This new 3-digit code to access crisis support went into effect July 16<sup>th</sup>, 2022 in order to better serve and aide those experiencing mental health related distress – whether that is thoughts of suicide, mental health or substance use crisis, or any other kind of emotional distress. This is a great step toward providing direct crisis care to those in need. Attached are info sheets in English and Spanish on the new 988 number for the Suicide and Crisis Lifeline.

**FEEDBACK WANTED**

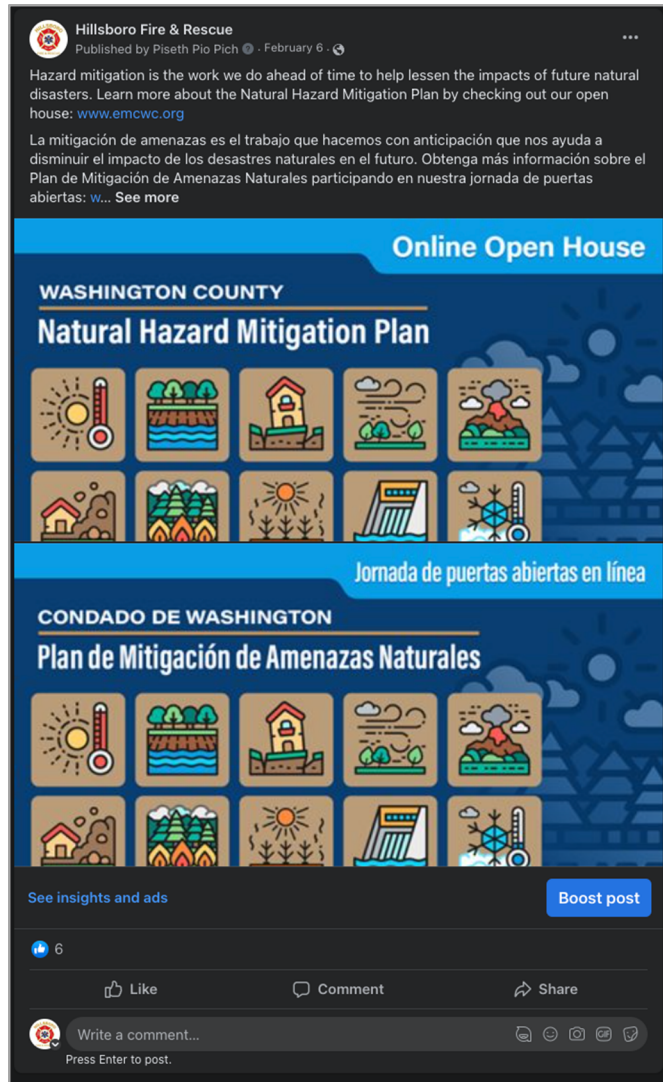
Jurisdictions throughout Washington County have been working to update their Natural Hazard Mitigation Plans and are seeking your feedback. This plan covers disasters like:

- Drought
- Extreme Heat
- Dam Failure
- Wildland Fire
- Winter Storm
- Earthquake
- Flood
- Volcanic Ash
- Landslide
- Windstorm

Your response helps to shape the plan and plan for future actions

<https://www.surveymonkey.com/r/NaturalHazardMitigationAwarenessSurvey>

Figure 24: NHMP Public Survey Promotion in the Hillsboro CERT Newsletter



**Figure 25: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on Hillsboro Fire & Rescue’s Facebook Page**



Figure 26: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on Hillsboro Fire & Rescue’s Twitter Page

1.3.1.4. City of North Plains

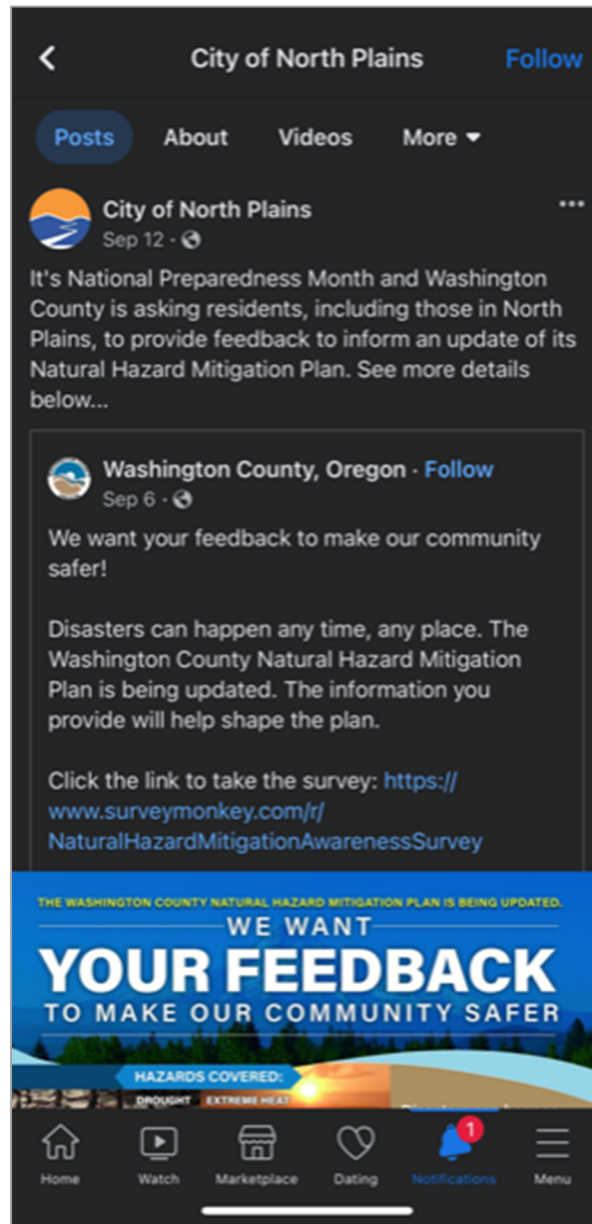


Figure 27: NHMP Public Survey Promotion on the City of North Plains Facebook Page

### 1.3.1.5. City of Sherwood



Figure 28: NHMP Public Survey Promotion on the City of Sherwood’s Facebook Page

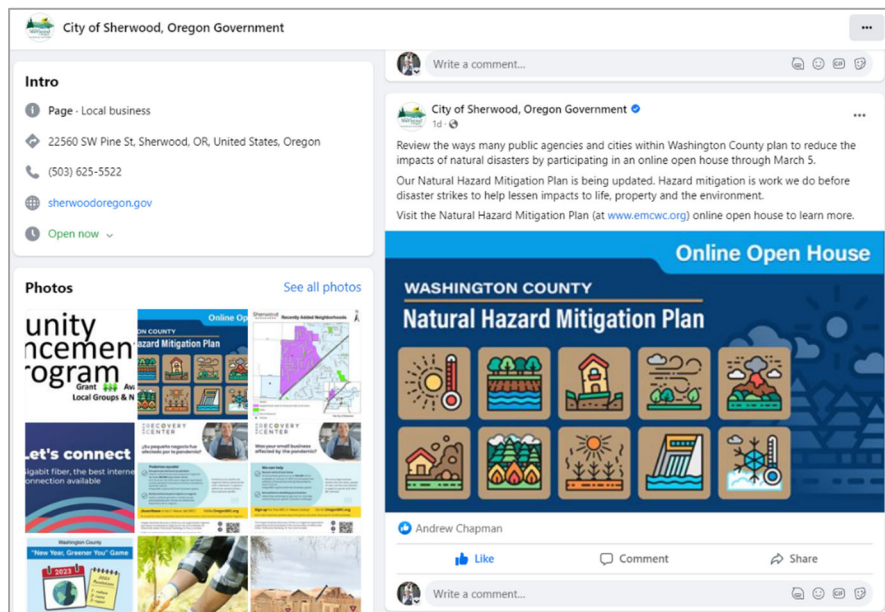


Figure 29: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on the City of Sherwood’s Facebook Page

1.3.1.6. City of Tigard

The City executed a digital campaign to publicize the NHMP public survey, which included posting it to the City’s website and its Facebook, Instagram, Twitter, and LinkedIn pages. The result was a total of 1,838 views and impressions.

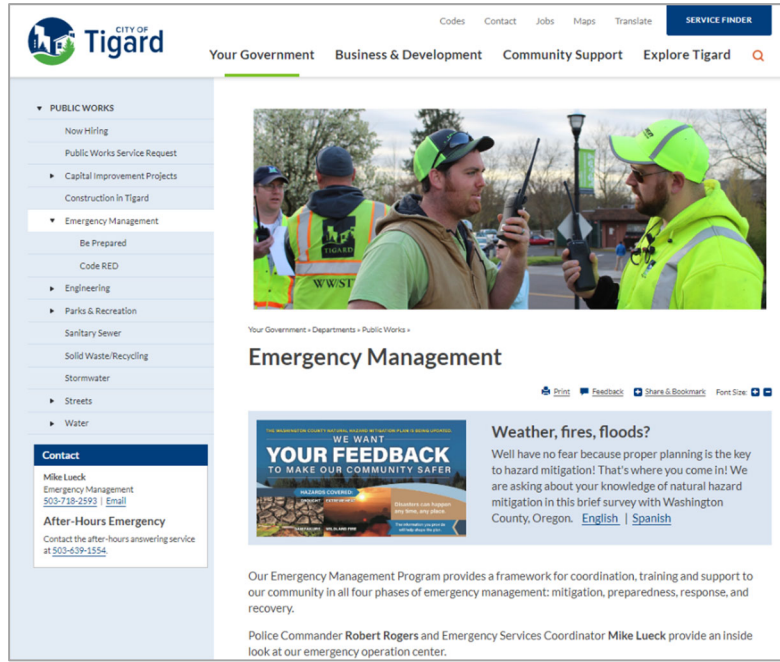


Figure 30: NHMP Public Survey Promotional Post on the City of Tigard Website





Figure 31: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on the City of Tigard’s Emergency Management Website

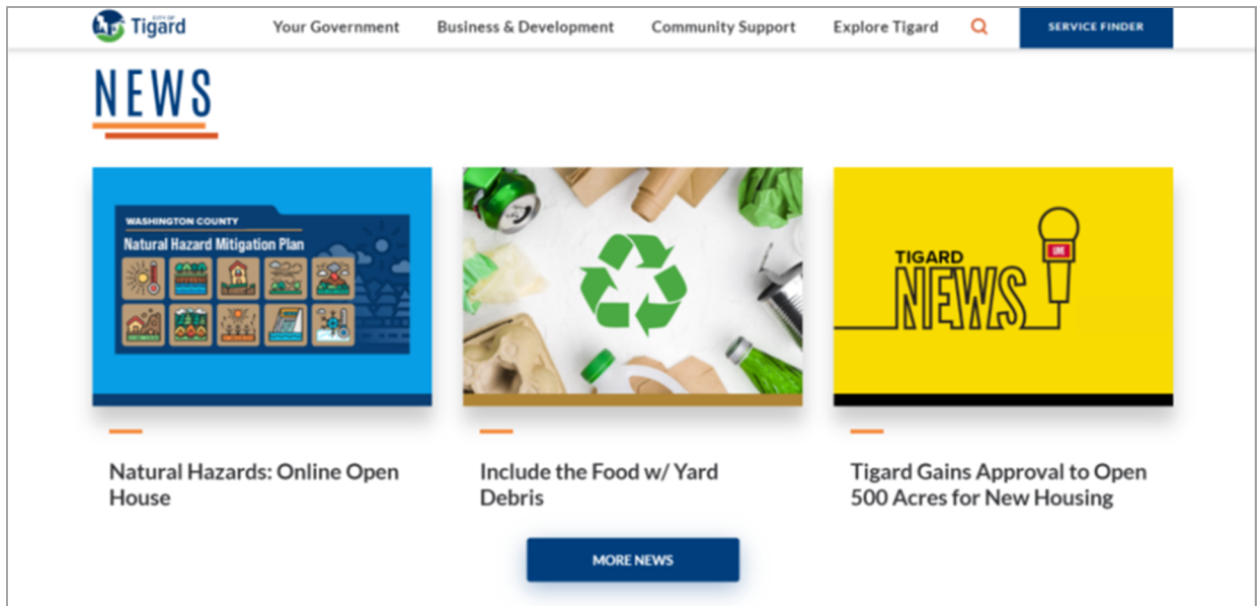


Figure 32: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on the City of Tigard’s Website Main Page

### 1.3.1.7. Clean Water Services

Posts on LinkedIn, Twitter, Nextdoor, Instagram, Facebook, Linktree, and in the Clean Water Connection Newsletter were used to reach Clean Water Service’s customers and inform them about the public survey and draft plan review opportunity. All NHMP participants are in the CWS service area. Therefore, CWS customers throughout the planning area received information about the NHMP public survey and the draft plan via these outreach channels in addition to the information they received from their local jurisdiction.

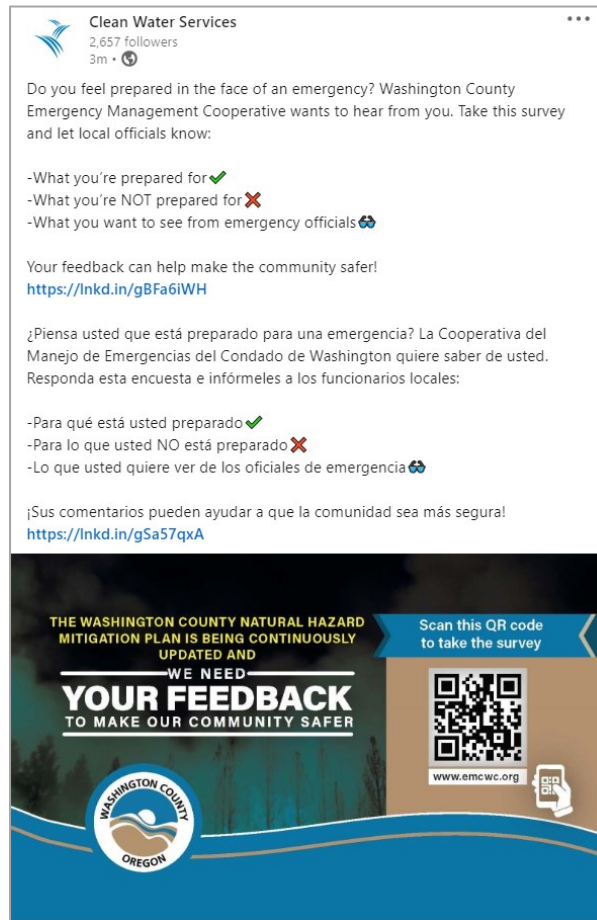



Figure 33: NHMP Public Survey Promotional Post on the Clean Water Services LinkedIn Page




Figure 34: NHMP Public Survey Promotional Post on the Clean Water Services Twitter Page


Clean Water Services   
Public Affairs Specialist Julie Cortez • 2 min ago

THE WASHINGTON COUNTY NATURAL HAZARD MITIGATION PLAN IS BEING CONTINUOUSLY UPDATED AND WE NEED **YOUR FEEDBACK** TO MAKE OUR COMMUNITY SAFER

Scan this QR code to take the survey



www.emcwc.org



Your feedback can help make the community safer! ¡Sus comentarios pueden ayudar a que la comunidad sea más segura! Do you feel prepared in the face of an emergency? Washington County Emergency Management Cooperative wants to hear from you. Take this survey and let local officials know:


- What you're prepared for ✓
- What you're NOT prepared for ✗
- What you want to see from emergency officials 🗣️

<https://www.surveymonkey.com/r/NaturalHazardMitigationAwarenessSurvey>

¿Piensa usted que está preparado para una emergencia? La Cooperativa del Manejo de Emergencias del Condado de Washington quiere saber de usted. Responda esta encuesta e infórmeles a los funcionarios locales:

- Para qué está usted preparado ✓
- Para lo que usted NO está preparado ✗
- Lo que usted quiere ver de los oficiales de emergencia 🗣️

<https://www.surveymonkey.com/r/LaMitigaciondePeligrosNaturales>

 Natural Hazard Mitigation Awareness Survey  
surveymonkey.com

Posted to Subscribers of Clean Water Services

Figure 35: NHMP Public Survey Promotional Post on the Clean Water Services Nextdoor Page



Figure 36: NHMP Public Survey Promotional Post on the Clean Water Services Instagram Page



**Clean Water Services**  
Published by Julie Cortez · Just now ·

Do you feel prepared in the face of an emergency? Washington County Emergency Management Cooperative wants to hear from you. Take this survey and let local officials know:

- What you're prepared for ✓
- What you're NOT prepared for ✗
- What you want to see from emergency officials

Your feedback can help make the community safer!  
<https://www.surveymonkey.com/.../NaturalHazardMitigationA...>

¿Piensa usted que está preparado para una emergencia? La Cooperativa del Manejo de Emergencias del Condado de Washington quiere saber de usted. Responda esta encuesta e infórmeles a los funcionarios locales:

- Para qué está usted preparado ✓
- Para lo que usted NO está preparado ✗
- Lo que usted quiere ver de los oficiales de emergencia

¡Sus comentarios pueden ayudar a que la comunidad sea más segura!  
<https://www.surveymonkey.com/.../LaMitigaciondePeligrosNa...>

**THE WASHINGTON COUNTY NATURAL HAZARD MITIGATION PLAN IS BEING CONTINUOUSLY UPDATED AND WE NEED YOUR FEEDBACK TO MAKE OUR COMMUNITY SAFER**

Scan this QR code to take the survey

[www.emcwc.org](http://www.emcwc.org)

**EL PLAN DE MITIGACIÓN DE RIESGOS DEL CONDADO DE WASHINGTON ESTÁ CONTINUAMENTE ACTUALIZÁNDOSE NECESITAMOS TU OPINIÓN PARA HACER NUESTRA COMUNIDAD MÁS SEGURA**

Escanee este código QR para participar en la encuesta

[www.emcwc.org](http://www.emcwc.org)

Figure 37: NHMP Public Survey Promotional Post on the Clean Water Services Facebook Page



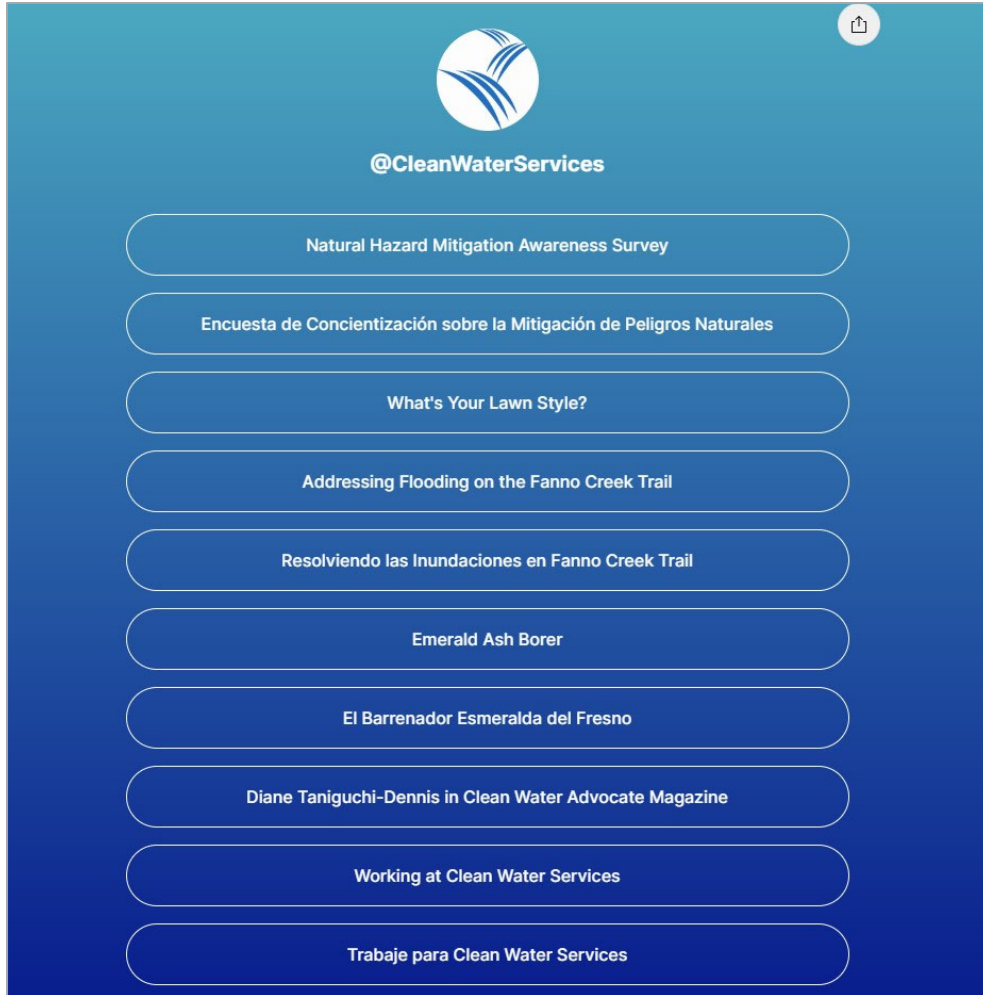


Figure 38: NHMP Public Survey Promotional Post on the Clean Water Services Linktree Page

SHARE:

[Join Our Email List](#)

[Read in Browser](#)

CleanWater Services



# Clean Water Connection

## Do You Feel Prepared in the Face of An Emergency?

Natural disasters like wildfires, heatwaves, ice storms, and earthquakes can have an impact on the community and your household. Whether you have a plan in place, or don't know where to start, Washington County Emergency Management wants to hear from you.



Take [this survey](#), and let local officials know what you're prepared for and what you're not ready for. Your feedback can help make the community safer.

---

**Figure 39: NHMP Public Survey Promotion in the Clean Water Services Clean Water Connection Newsletter**



Figure 40: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on the Clean Water Services Facebook Page in English and Spanish



**Figure 41: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on the Clean Water Services Nextdoor Page in English and Spanish**



**Figure 42: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on the Clean Water Services Twitter Page**






Figure 43: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on the Clean Water Services Twitter Page in Spanish



[Read in Browser](#)



CleanWater Services



## Clean Water Connection

### From Your Roof to the River

Our education team loves supporting the ["Fish Eggs to Fry"](#) program, through which students raise salmon in their classrooms and release them into the Tualatin River. At the release, students participate in a nature walk, water quality investigation, water chemistry assessment, and a salmon migration game to get a deeper understanding of the interrelated parts of our environment.




During the winter salmon season, more than 550 students participated in field activities and classroom programming with CWS and partners from [Tualatin Soil and Water Conservation District](#), [Northwest Steelheaders](#), and the [National Wildlife Federation](#).

To protect these newly released salmon, and all wildlife in the Tualatin River Watershed, it's important to consider actions you take in and outside your home. Storm drains do not typically lead to Clean Water Services treatment facilities, but instead flow directly into the river and its tributaries. This means what goes on the ground or your roof can end up in the one water we all share.

[LEARN MORE](#)

---

### Participate in Planning for Natural Disasters



Clean Water Services is working with local jurisdictions and agencies on a regional [Natural Hazard Mitigation Plan](#). We're preparing to protect life, property, and the environment from natural disasters before they strike. You can review the ways many public agencies and cities within Washington County plan to reduce the impacts of natural disasters by participating in an online open house through March 5.

Visit the [Natural Hazard Mitigation Plan online open house](#) to learn more.

**Figure 44: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft in the Clean Water Services Clean Water Connection Newsletter**

**1.3.1.8. Tualatin Hills Park & Recreation District**

The Tualatin Hills Park & Recreation District utilized Twitter and Facebook posts, an email blast to 53,000 subscribers, and a post on the organization’s website to spread the word about the public survey.



**Figure 45: NHMP Public Survey Promotional Post on Tualatin Hills Park & Recreation District’s Twitter Page**



**Figure 46: NHMP Public Survey Promotional Post on Tualatin Hills Park & Recreation District’s Facebook Page**



**TUALATIN HILLS TODAY**  
NEWS FROM TUALATIN HILLS PARK & RECREATION DISTRICT

---

### Natural Hazard Mitigation Awareness Survey

The Washington Country Natural Hazard Mitigation Plan is being updated. Now is a great time to share your knowledge of natural hazard mitigation through the following survey:

**Natural Hazard Mitigation Awareness Survey**

This survey is voluntary and will take about 15 minutes.

---

For more information or frequently asked questions, visit our website at [thprd.org](http://thprd.org)

**Figure 47: NHMP Public Survey Promotional Post in a Tualatin Hills Park & Recreation District Email Blast**

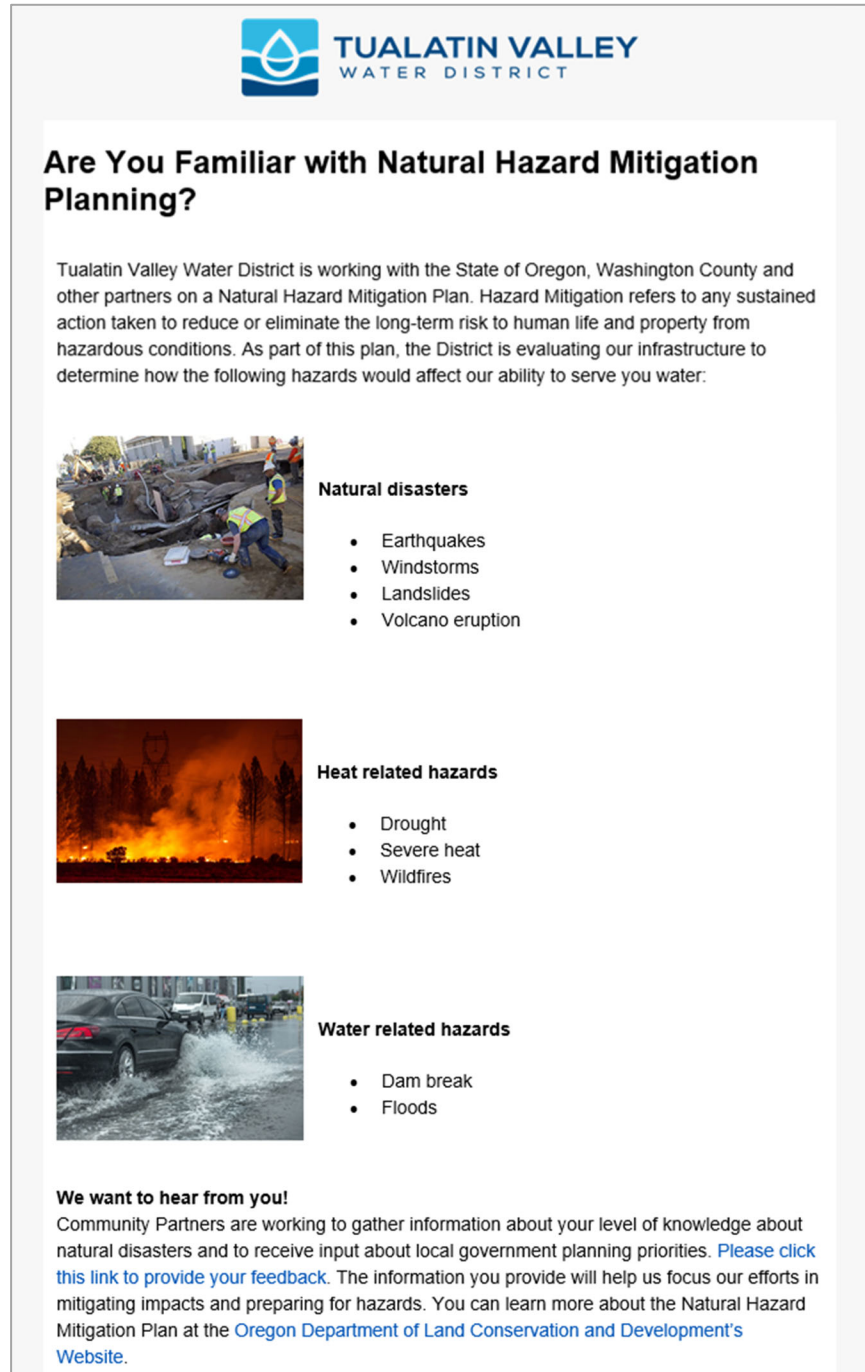
The screenshot shows a website page for the Tualatin Hills Park & Recreation District. At the top, there is a navigation bar with tabs for Facilities, Parks & Trails, Activities, Events, Connect, and En Español. Below this is a green banner with an alert: "ALERT: Burn Ban In Effect: Due to weather conditions, there is an elevated risk of fire danger this week. To support community safety, THPRD is issuing a burn ban at all THPRD properties on Friday, Sept. 9 through Saturday, Sept. 10." The main content area is titled "Natural Hazard Mitigation Awareness Survey" with a date of July 26, 2022. It includes a short introductory paragraph and a list of survey topics. The central focus is a large promotional graphic for the survey. The graphic has a blue header that says "WE WANT YOUR FEEDBACK TO MAKE OUR COMMUNITY SAFER". Below this, it lists "HAZARDS COVERED:" with images for DROUGHT, EXTREME HEAT, WILDLAND FIRE, DAM FAILURE, WINTER STORM, EARTHQUAKE, FLOOD, VOLCANIC ASH, LANDSLIDE, and WINDSTORM INCLUDING TORNADO. To the right of these images, it states "Disasters can happen any time, any place." and "The information you provide will help shape the plan." It also lists the areas covered by the plan: Unincorporated Washington County, City of Beaverton, City of Cornelius, City of Forest Grove, City of Hillsboro, City of North Plains, City of Sherwood, City of Tigard, Service area of Clean Water Services, Service area of Tualatin Hills Park and Recreation District, and Service area of Tualatin Valley Water District. A QR code is provided with the instruction "Scan this QR code to take the survey" and the website URL www.thprdc.org. At the bottom of the graphic are logos for various partner organizations including Forest Grove, Beaverton, Hillsboro, CleanWater Services, IEM, Tualatin Valley, and Cornelius.

Figure 48: NHMP Public Survey Promotional Post on Tualatin Hills Park & Recreation District’s Website




**1.3.1.9. Tualatin Valley Water District**

Tualatin Valley Water District Communications used an email blast to promote the public survey and the survey was also promoted in TVWD’s newsletters and mailers. All NHMP participants are in the Tualatin Valley Water District service area. Therefore, Tualatin Valley Water District customers throughout the planning area received information about the NHMP public survey via this outreach channel in addition to the information they received from their local jurisdiction.



**Figure 49: NHMP Public Survey Promotional Post in a Tualatin Valley Water District Email Blast**



**WATERWORDS**  
A newsletter from the Tualatin Valley Water District and Clean Water Services September - October 2022



**IT'S TIME TO GET YOUR KIT TOGETHER!**

Putting together an emergency kit can feel like a big task. Fortunately, it's easy to start! You're probably already more prepared than you think!

Having an emergency supply of water is one of the most important things that you can do to prepare for an emergency. People can survive for weeks without food, but

only a few days without water. To be prepared, you need one gallon of water per person per day to last 14 days, with more for pets and special needs, such as healthcare. You can store your emergency water supply in your own containers or buy commercially bottled water. Water is heavy and bulky, so be creative! Emergency water can be stored in the backs of closets, under beds, next to appliances, or behind books on bookshelves.

For the rest of the kit, take stock of what you have around the house. Place the items you already have in an easy-to-carry bag or container and pick up the remaining items each time you go to the store. It's less stressful and more budget-friendly to build your kit over time.

An emergency kit is not the only way for you to prepare for the unexpected. We encourage you to:

- Know how to turn off your water in case a pipe breaks and you need to shut off your water in a hurry.
- Clear storm drains and gutters to direct water where it needs to go and help prevent flooding.
- Once the weather cools, prepare your home for winter.
- Update your contact information and sign up to be notified about emergencies.

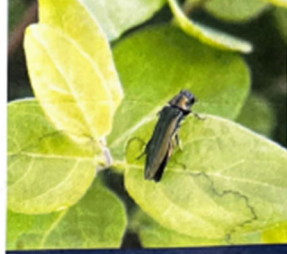
Visit [linktr.ee/WaterWords](http://linktr.ee/WaterWords) for additional resources.



**NATURAL HAZARDS MITIGATION PLAN**

As part of our preparedness efforts, Tualatin Valley Water District and Clean Water Services are working with the State of Oregon, Washington County and other partners on a Natural Hazard Mitigation Plan. Hazard mitigation refers to any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazardous conditions.

The agencies are evaluating infrastructure to determine how earthquakes, wildfires, drought, floods, and other natural disasters would affect our ability to provide services. Planning includes a risk assessment that characterizes each risk and assesses vulnerabilities. It also includes a mitigation strategy to reduce the impacts of the natural disaster. Learn more at [linktr.ee/WaterWords](http://linktr.ee/WaterWords)



**DESTRUCTIVE BEETLE THREATENS WATERWAY SHADE TREES**

Help slow the spread of the Emerald Ash Borer. On June 30, the Oregon Department of Agriculture (ODA) and Oregon Department of Forestry (ODF) determined that the invasive Emerald Ash Borer (EAB) has infested an Oregon ash tree at Joseph Gale Elementary School in Forest Grove. This was the first confirmed infestation of the EAB in Oregon and the entire West Coast.

The EAB has the potential to cause the local extinction of Oregon's native ash species, which makes up about 70% of the Willamette Valley forests that surround rivers and streams. The EAB may be even more impactful here than in other parts of the U.S. such as the Midwest, where ash was part of a more diverse forest canopy.

Everyone in Oregon is encouraged to learn how to identify ash trees, emerald ash borers, and the signs and symptoms of infestation. Report any EAB sightings and infestations to the Oregon Invasive Species Hotline ([oregoninvasiveshotline.org](http://oregoninvasiveshotline.org), 1-866-INVADER). If you have a confirmed EAB infestation on your property, work with a professional arborist. Learn more at [cleanwaterservices.org/News](http://cleanwaterservices.org/News).

**Figure 50: NHMP Public Survey Promotional Information in Tualatin Valley Water District's WaterWords Print Newsletter Included in Monthly Water Bills**



**1.3.1.10. Washington County**

Washington County emergency management staff attended the Washington County Fair and the Cornelius Farmers Market to do in-person public outreach about the NHMP survey and distribute printed promotional material. Staff were able to talk to approximately 40 people about the survey at the farmers market.



**Figure 51: Washington County Emergency Management Table, Including NHMP Public Survey Promotion, at Washington County Fair**



**Figure 52: Washington County Emergency Management Table, Including NHMP Public Survey Promotion, at Washington County Fair**

Digital outreach was performed by including survey information in the County’s LUTNews email update twice and Community Engagement Connections weekly e-update two different times. The County also hosted the survey on the Washington County Emergency Management Cooperative website instead of its own sites so each participant could link to it. Social media outreach included 14 posts on the County’s Facebook page, seven in English and seven in Spanish, and 14 posts on the County’s Twitter page, with seven in English and seven in Spanish.

The image shows a screenshot of an email promotion from LUTNews, Washington County Department of Land Use & Transportation, dated July 29, 2022. The email is divided into several sections:

- TRANSIT DEVELOPMENT PLAN SURVEY:** Promotes a survey for public transportation improvements. It lists projects such as maintaining connector services, vanpool programs, and better bus stop coordination. A link is provided for the online open house and survey, which is open through July 31.
- Comment Opportunities:** This section contains three sub-promotions:
  - TUALATIN-SHERWOOD ROAD CONSTRUCTION KICK-OFF:** Announces construction starting in Tualatin, Oregon, with a link to an online construction kickoff open house through July 31.
  - MSTIP '23-'28:** Promotes the Major Streets Transportation Improvement Program, asking the public to help select street projects to improve travel throughout Washington County. The online open house is open through August 12.
  - WE WANT YOUR FEEDBACK TO MAKE OUR COMMUNITY SAFER:** Promotes a survey to help local government understand community need for the Natural Hazard Mitigation Plan, with a link to the survey open through September 30.

Figure 53: Washington County Public Survey Promotion in LUTNews, July 29, 2022

# LUTNews

WASHINGTON COUNTY  
DEPARTMENT OF LAND USE & TRANSPORTATION

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Sept. 2, 2022 | [View as webpage](#)

NOTE: Building Services and Current Planning have  
**NEW LOBBY/IN-PERSON SERVICE HOURS** effective 9/7:  
8 a.m.-4 p.m. Monday, Tuesday, Thursday  
Closed to in-person services: Wednesday (temporary), Friday  
[See Media Release](#)

---

## Share the road this back-to-school season

As the school bell rings and class comes back into session, get ready for the return of school busses, young pedestrians and bicyclists.

Remember to allow a larger following distance if you are driving behind a school bus. That will give you enough time to slow down if the bus is making frequent stops. Never pass a bus from either side if it is stopped with its lights flashing and stop sign extended.



Flashing school zone signs are your signal to slow down and look closely for pedestrians. Stop and yield to pedestrians or crossing guards crossing the road. Never block a crosswalk when stopped at an intersection, as it can force pedestrians to go around you and into the path of traffic. Remember that children can make unpredictable choices and take risks when crossing the road.

Students on bikes are also a common sight in school zones. As always, pass bicyclists slowly and leave three feet between your vehicle and the cyclist. Be aware that young bicyclists may turn into your path without signaling or looking. Drivers turning left in front of cyclists is a common cause of crashes.

Parents or guardians can remind their students to walk on sidewalks when possible, look both ways before crossing the street, and avoid playing, pushing, shoving and using phones around traffic. If biking, make sure they have a properly fitted helmet. Remind them to follow traffic signs and signals and use bike lanes where possible.

---

## Comment Opportunities



Take the [Public Transportation Plan](#) survey to help TriMet develop a plan for spending about \$180 million in statewide transportation improvement funding to improve public transportation. Learn how TriMet is making transit more affordable, accessible, cleaner and safer. [Take the survey](#) through Sept. 5.

---



Help our local government better understand community need by completing the [Natural Hazard Mitigation Awareness Survey](#).

Your local governments are working together to update our Natural Hazard Mitigation Plan to help better prepare for possible natural hazards. Complete the [survey](#) by Sept. 30.

Figure 54: Washington County Public Survey Promotion in LUTNews, September 2, 2022



**Help our local governments better understand community need by completing a survey**

The information gathered in this community survey will help shape the updates to the Washington County Natural Hazard Mitigation Plan. The Emergency Management Cooperative (EMC) of Washington County is committed to the development and maintenance of a countywide, integrated system to prepare for, respond to, recover from, and mitigate against disasters. Members include Washington County, the cities of Beaverton, Cornelius, Forest Grove, Hillsboro, North Plains, Sherwood, Tigard, and Tualatin, Clean Water Services, and Tualatin Valley Fire & Rescue.

*The survey is active through September 30.*

**TAKE THE SURVEY**

**Figure 55: Washington County Public Survey Promotion in Community Engagement Connections Weekly e-Update, September 1, 2022**

**Help our local governments better understand  
EMERGENCY needs by completing a survey**

The information gathered in this community survey will help shape the updates to the Washington County Natural Hazard Mitigation Plan. The Emergency Management Cooperative (EMC) of Washington County is committed to the development and maintenance of a countywide, integrated system to prepare for, respond to, recover from, and mitigate against disasters. Members include Washington County, the cities of Beaverton, Cornelius, Forest Grove, Hillsboro, North Plains, Sherwood, Tigard, and Tualatin, Clean Water Services, Tualatin Valley Water District, Tualatin Hills Park and Recreation District.

*The survey is active through September 30.*

**TAKE THE SURVEY**

**Figure 56: Washington County Public Survey Promotion in Community Engagement Connections Weekly e-Update, September 29, 2022**



Figure 57: NHMP Public Survey Promotional Post on Washington County’s Facebook Page in English



Figure 58: NHMP Public Survey Promotional Post on Washington County’s Facebook Page in Spanish

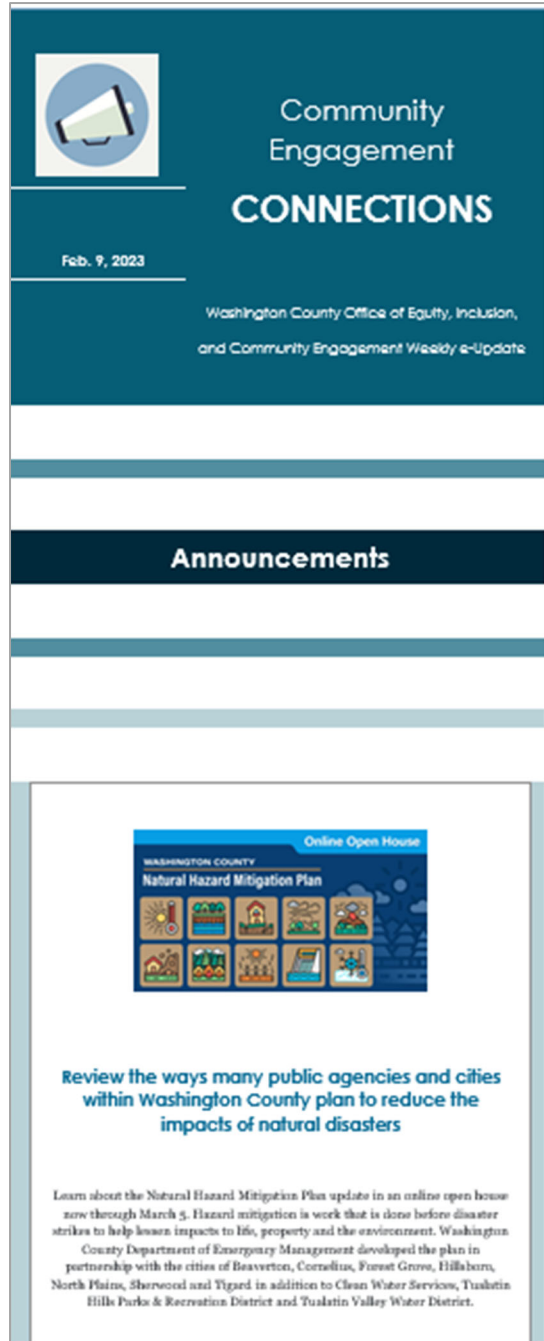


Figure 59: NHMP Public Survey Promotional Post on Washington County’s Twitter Page in English





Figure 60: NHMP Public Survey Promotional Post on Washington County’s Twitter Page in Spanish



**Figure 61: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft in Washington County's Community Engagement Connections Weekly e-Update, February 9, 2023**

The image is a promotional post with a dark teal header. On the left, there is a circular icon of a megaphone. To its right, the text reads "Community Engagement CONNECTIONS" in white. Below this, it says "Feb. 16, 2023" and "Washington County Office of Equity, Inclusion, and Community Engagement Weekly e-Update". A dark teal bar with the word "Announcements" in white is positioned below the header. The main content area has a white background with a light teal border. It features a blue heading: "Learn how public agencies and cities plan to reduce the impacts of natural disasters". Below this is another blue heading: "Natural Hazard Mitigation Plan open house through March 5". A paragraph of text follows, explaining that hazard mitigation is work done before a disaster to help lessen impacts. It mentions that the Washington County Department of Emergency Management developed the plan in partnership with several cities and water districts. At the bottom, there is a blue button with the text "VISIT ONLINE OPEN HOUSE".

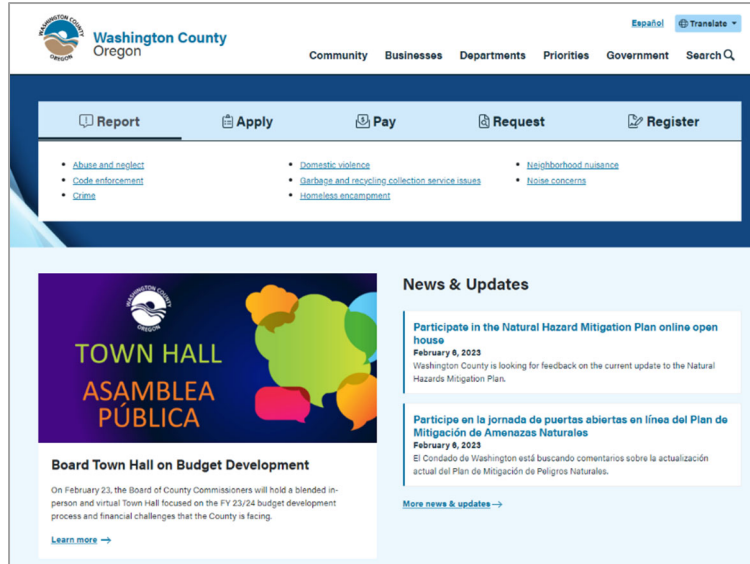
**Figure 62: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft in Washington County’s Community Engagement Connections Weekly e-Update, February 16, 2023**



Figure 63: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on Washington County’s Emergency Management Website in English



Figure 64: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on Washington County’s Emergency Management Website in Spanish



**Figure 65: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft on Washington County’s Website Main Page in English and Spanish**



**LUTNews**  
WASHINGTON COUNTY  
DEPARTMENT OF LAND USE & TRANSPORTATION

Feb. 3, 2023 | [View as webpage](#)

## Participate in the Natural Hazard Mitigation Plan online open house

See the ways many public agencies and cities within Washington County plan to reduce the impacts of natural disasters by participating in an [online open house](#) through March 5.

The Natural Hazard Mitigation Plan is being updated. Hazard mitigation is work that is done before disaster strikes to help lessen impacts to life, property and the environment.

Washington County Department of Emergency Management developed the plan in partnership with the cities of Beaverton, Cornelius, Forest Grove, Hillsboro, North Plains, Sherwood and Tigard in addition to Clean Water Services, Tualatin Hills Parks & Recreation District and Tualatin Valley Water District.

Visit the [Natural Hazard Mitigation Plan online open house](#) to learn more.

**Figure 66: Promotional Post for Online Open House for Public and Stakeholder Review of NHMP Draft in Washington County’s LUTNews**

### 1.3.2. Public Survey

A total of 243 responses to the public survey were received from July 25, 2022, to October 6, 2022. The English version of the survey received 240 responses and the Spanish version received three responses. The English version of the survey is below in its complete form with questions and answer choices.<sup>1</sup> The Spanish version of the survey contained the same questions and answer choices.

<sup>1</sup> The survey replicated in this plan includes minor edits to language and format.

## Natural Hazard Mitigation Awareness Survey

We are asking about your knowledge of natural hazard mitigation. “Mitigation” is the work done to make something more resistant to damage and to return it to operation faster.

The Washington County Natural Hazard Mitigation Plan is being updated. The information you provide will help shape the plan. The plan covers all areas of:

- Unincorporated Washington County
- City of Beaverton
- City of Cornelius
- City of Forest Grove
- City of Hillsboro
- City of North Plains
- City of Sherwood
- City of Tigard
- Service area of Clean Water Services
- Service area of Tualatin Hills Park and Recreation District
- Service area of Tualatin Valley Water District

Collectively, this group will be referred to as “local government.”

This survey is voluntary and will take about 15 minutes.

\* Indicates it is a required question.

**\* 1. Which hazards have you experienced in your lifetime, not just in Washington County?  
(Select all that apply.)**

- Dam failure
- Drought
- Earthquake
- Extreme heat
- Flood
- Landslide
- Volcanic ash
- Wildland fire
- Windstorm, including tornado
- Winter storm
- Avalanche
- Extreme cold event
- Hail
- Hurricane
- Ice storm
- Lightning
- Tsunami

- None of the above
- Prefer not to answer

**2. List any additional natural hazards not listed above that you think could be a threat to your community.**

**\*3. For each hazard below, choose how you think it would affect your home. Next to each hazard, please indicate not likely, somewhat likely, very likely, none of the above, prefer not to answer, or not applicable.**

Dam failure:  
 Drought:  
 Earthquake:  
 Extreme heat:  
 Flood:  
 Landslide:  
 Volcanic ash:  
 Wildland fire:  
 Windstorm, including tornado:  
 Winter storm:

**4. For each hazard below, choose how you think it would affect your business. Next to each hazard, please indicate not likely, somewhat likely, very likely, none of the above, prefer not to answer, or not applicable.**

Dam failure:  
 Drought:  
 Earthquake:  
 Extreme heat:  
 Flood:  
 Landslide:  
 Volcanic ash:  
 Wildland fire:  
 Windstorm, including tornado:  
 Winter storm:

**\* 5. Which of the following are the most important for local government to protect from hazards? (Select up to three.)**

- Communications (cell towers, radio/TV towers, emergency communications systems, etc.)
- First response facilities (fire and police stations, ambulance officers, public works facilities, etc.)
- Parks and sensitive habitats
- Hospitals, urgent care, and critical medical treatment facilities
- Transportation systems (roads and bridges, light rail)
- Utilities providers (electricity, gas, water, sewer)
- Schools
- Businesses (grocery stores, building supply stores, all other private businesses)
- Homes (all residential buildings)
- None of the above
- Prefer not to answer

**\* 6. What insurance coverage for natural hazards do you have? This may be found in your home or renter’s insurance policy.**

- Flood insurance (through the National Flood Insurance Program (NFIP))
- Earthquake insurance
- Landslide insurance
- I do not have natural hazard insurance coverage
- I do not know if I have natural hazard insurance coverage
- Prefer not to answer

**\* 7. What is most important for local government to do to reduce the impacts of hazards? (Select up to three.)**

- Identify sources for low-income loans or other financial options to allow people to conduct natural hazard impact reduction activities on their property
- Provide public education no natural hazard risks and mitigation strategies
- Implement earthquake structural retrofit projects for critical public facilities
- Develop and adopt hazard-specific ordinances to address future development in hazard areas
- Enhance the function of natural features (e.g., erosion prevention in stream channels)
- Protect historical resources
- Reduce damages to utilities
- Relocate homes out of the floodplain, including raising them above the floodplain
- None of the above
- Prefer not to answer

**\* 8. Read the statements below and use one of the following bulleted choices to indicate whether you or someone in your household has done this, or if you do not feel this activity is necessary:**

- **I/we have done this.**
- **I/we plan to do this in the future.**
- **I/we have not done this.**
- **I am/we are unable to do this.**
- **I/we do not feel it necessary to do this.**
- **None of the above.**
- **Prefer not to answer.**

Attended meetings or received written information on natural disasters or emergency preparedness

Talked with members in your household about what to do in a case of a natural disaster or emergency

Developed a household/family emergency plan in order to decide what everyone would do in the event of a disaster

Prepared a disaster supply kit (stored extra food, water, batteries, or other emergency supplies)

In the last year, has anyone in your household been trained in first aid or cardiopulmonary resuscitation (CPR)?

**\* 9. Ideally, how much time would you spend preparing yourself and/or your household for a natural disaster or emergency event? (Select only one.)**

- 0–1 hour/month
- 2–3 hours/month
- 1–2 hours/week (equates to 52–104 hours a year)
- 3–4 hours/week (equates to 156–208 hours a year)
- None of the above

**\* 10. What steps have you taken to prepare for a natural disaster? (Select all that apply.)**

- Developed a reconnection plan: where to go and who to call
- Learned how to shut off utilities to your home
- Installed a smoke detector on each level of the home
- Stored a battery-powered radio
- Stored a fire extinguisher
- Stored batteries
- Stored flashlight(s)
- Stored food, enough for at least 3 days
- Stored medical supplies (first aid kit)
- Stored water, enough for at least 3 days
- Made a fire escape plan
- Prepared a disaster supply kit
- Received first aid/CPR training
- None of the above
- Prefer not to answer
- Other (please specify)

**\* 11. What nonstructural modifications for earthquakes have you made to your home? (Select all that apply.)**

- Anchored bookcases or cabinets to walls
- Secured water heater to wall
- Installed latches on drawers or cabinets
- Fitted gas appliances with flexible connections
- None of the above
- Prefer not to answer
- Does not apply
- Other (please specify)



**\* 12. What structural modifications for earthquakes have you made to your home? (Select all that apply.)**

- Secured home to foundation
- Braced inside of cripple wall with sheathing
- Braced unreinforced chimney
- Braced unreinforced masonry and concrete walls and foundations
- None of the above
- Prefer not to answer
- Does not apply
- Other (please specify)

**\* 13. Did the possible occurrence of natural hazards affect your decision on where you currently live?**

- Yes
- No
- None of the above
- Prefer not to answer

**\* 14. If you could, would you be willing to spend more money on a home (including rental housing) that had features that made it more disaster resistant?**

- Yes
- No
- I do not know
- None of the above
- Prefer not to answer

**\* 15. If you own property, which of the following incentives, if any, would motivate you to take additional steps to better protect the property from a natural disaster?**

- Insurance discount
- Low interest rate loan
- Lower new home construction costs
- Mortgage discount
- Tax break or incentive
- Does not apply
- None of the above
- Prefer not to answer
- Other (please specify)

**\* 16. Please tell us how much you trust each source to provide you with information about how to make your household and home safer from natural disasters. (Next to each source, place an “X” in the applicable box.)**

	Not at All	Somewhat	Neutral	Mostly	Very Much
News Media					
Government agency					
Insurance agent or company					
Utility company					
University or research institution					
American Red Cross					
Other non-profit organization					
Commercial resource (building supply store, builders/contractors, private resource)					
Trusted community member (friend/family, community group, religious leader)					
Social media influencer					
Other (please specify)					

**17. What is the most effective way for you to receive information about how to make your household and home safer from natural disasters? Choose up to five answers.**

- Newspaper stories or advertisements (print, e-paper)
- Television (news, advertisements)
- Radio (news, advertisements)
- Schools (information sent home with children)
- Outdoor advertisements (billboards, etc.)
- Community group, community member, or word of mouth
- Books
- Direct mail
- Local government
- Internet
- Factsheet or brochure
- Public workshops/meetings
- Magazines
- University or research institution
- Social media (news, advertising, etc.)
- Digital advertising (pop-up ads)
- None of the above
- Prefer not to answer
- Other (please specify)

**\* 18. The following statements will help determine community priorities for planning for natural hazards. Please tell us how important each one is to you. (Next to each statement, place an “X” in the applicable box.)**

	Very Important	Somewhat Important	Neutral	Low Importance	Not Important
Protecting private property					
Protecting critical facilities (e.g., transportation networks, hospitals, fire stations)					
Preventing development in hazard areas (e.g., not allowing construction in a floodplain)					
Enhancing the function of natural features (e.g., streams, wetlands)					
Protecting historical and cultural landmarks					
Promoting cooperation among public agencies, citizens, nonprofit organizations, and businesses					
Protecting and reducing damage to utilities					
Strengthening emergency services (e.g., police, fire, ambulance)					
Other (please specify)					

**\* 19. The following statements strive to understand your thoughts regarding the ability of the public to participate in this process. Please tell us if you agree with each statement. (Next to each statement, place an “X” in the applicable box.)**

	Agree	No Opinion	Disagree	Prefer Not to Answer
I have ample opportunity to provide input to the natural hazard mitigation planning process about my concerns about natural hazards in a language I can comfortably communicate in.				
My input, suggestions, and concerns are heard and understood by my local government officials.				
I receive timely and useful responses from my input, suggestions, and concerns regarding natural hazard mitigation planning.				

	Agree	No Opinion	Disagree	Prefer Not to Answer
The needs and concerns of my local community (cultural group, neighborhood, etc.) are adequately addressed in the natural hazard mitigation planning process.				

**20. That concludes the questions on natural hazards. The next few questions ask about different types of people in the community. We want to know if different groups in our community are being heard. We encourage you to answer these questions, but if you prefer not to, please select “prefer not to answer.”**

**\* 21. Where do you live?**

- Unincorporated Washington County (such as areas like Cherry Grove, Garden Home, Bethany, Durham, etc., and rural areas)
- City of Beaverton
- City of Cornelius
- City of Forest Grove
- City of Hillsboro
- City of North Plains
- City of Sherwood
- City of Tigard
- Prefer not to answer
- Other (please specify)

**\* 22. What zip code do you live in? If you prefer not to answer, please type N/A.**

**\* 23. Which of the following includes your age?**

- Under 18
- 18–24
- 25–34
- 35–44
- 45–54
- 55–64
- 65–74
- 75 or older
- Prefer not to answer

**\* 24. Within these categories, where do you place your racial or ethnic identity? (Select all that apply.)**

- Native American, American Indian, or Alaska Native
- Asian or Asian American
- Black or African American

- Hispanic or Latino/a/x
- Native Hawaiian or other Pacific Islander
- White
- Prefer not to answer
- Other (please specify)

**\* 25. How do you identify your gender? (Select all that apply.)**

- Man
- Woman
- Transgender
- Non-binary, genderqueer, or third gender
- Prefer not to answer
- A gender not listed above (please describe)

**\* 26. If you live within Washington County, what is your housing status?**

- Own
- Rent
- Currently houseless
- Prefer not to answer
- Other (please specify)

**\* 27. Do you or someone living in the household have one or more of the following disabilities that should be considered in mitigation planning projects, such as for mobility access or evacuation alerts? (Select all that apply.)**

- Hearing difficulty (deaf or having serious difficulty hearing).
- Vision difficulty (blind or having serious difficulty seeing, even when wearing glasses).
- Cognitive difficulty (due to a physical, mental, or emotional problem; having difficulty remembering, concentrating, or making decisions).
- Ambulatory difficulty (unable to walk or having serious difficulty walking or climbing stairs).
- Self-care difficulty (unable to bathe or dress or having difficulty bathing or dressing).
- Independent living difficulty (because of a physical, mental, or emotional problem; unable to do errands alone or having difficulty doing errands alone).
- No disability.
- Prefer not to answer.
- A disability not listed above (please describe)

**\* 28. What language or dialect is used most in your home?**

- American Sign Language
- Arabic
- Cantonese
- Chuukese



- English
- Japanese
- Karen
- Korean
- Mandarin
- Mon-Khmer
- Nepali
- Persian
- Romanian
- Russian
- Somali
- Spanish
- Tagalog
- Ukrainian
- Vietnamese
- Prefer not to answer
- A language or dialect not listed above (please describe)

**\* 29. What is your education experience?**

- Less than high school
- Some high school
- High school diploma
- Some college or an associate's or two-year technical degree
- Bachelor's
- Post-graduate
- Prefer not to answer
- Other (please describe)

**\* 30. Which of the following best describes your current employment status?**

- Employed full-time
- Employed part-time
- Work from home (part-time or full-time)
- Homemaker
- Student and not employed
- Student and employed
- Retired
- Not employed, not actively looking to work
- Not employed, actively looking for work
- Disabled and unable to work
- Prefer not to answer
- Other (please describe)

**\* 31. To which zip code do you travel to for school? If this is not applicable, please type N/A.**

**\* 32. To which zip code do you travel to for work? If this is not applicable, please type N/A.**

**\* 33. Including yourself, how many people live in your household?**

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8 or more
- Prefer not to answer

**\* 34. How many children under the age of 18 live in your household?**

- No children
- 1
- 2
- 3
- 4
- 5
- 6 or more
- Prefer not to answer

**35. Would you like to receive updates on mitigation projects and information? If so, please provide your email address.**

**End of Survey**

### ***1.3.3. Summary of Public Comments***

#### **1.3.3.1. Summary of Public Survey Responses**

A total of 243 responses to the public survey were received from July 25, 2022, to October 6, 2022. The English version of the survey received 240 responses and the Spanish version received three responses. The natural hazard experienced most by survey respondents was extreme heat, followed by winter storm, ice storm, lightning, and earthquake. Respondents believe their homes are very likely to be affected by earthquake, extreme heat, winter storm, drought, and wildland fire, in that order. Business owners believe their businesses would be very likely to be affected by earthquake, winter storm, extreme heat, windstorm, including tornado, and wildland fire, in that order.

Medical facilities, communications infrastructure, first responder facilities, utilities providers, and transportation systems are the top five most important facilities and/or systems for local governments to protect from natural hazards. Respondents believe the most important actions local governments should take to reduce the impacts of hazards include implementing earthquake structural retrofit projects for critical public facilities; providing public education on natural hazard risks and mitigation strategies; reducing damages to utilities; developing and adopting hazard-specific ordinances to address future development in hazard areas; and enhancing the function of natural features (e.g., erosion prevention in stream channels).

Almost 41% of those who replied to the survey reported they have earthquake insurance for their homes; approximately 11% reported they have flood insurance through the National Flood Insurance Program; and a little over 2% reported they have landslide insurance. Almost 30% reported they did not know if they have natural hazard insurance coverage, and 24% reported they do not have natural hazard insurance coverage.

The preparedness activity completed by the majority of respondents or someone in their household is attending meetings or receiving written information on natural disasters or emergency preparedness, followed by talking with members in their household about what to do in case of a natural disaster or emergency, and preparing a disaster supply kit (stored extra food, water, batteries, or other emergency supplies). Respondents reported ideally they would spend up to one hour a month preparing for a natural disaster or emergency event. Most survey takers reported they have installed a smoke detector on each level of their home; stored flashlight(s), batteries, medical supplies, and enough food and water for at least three days; and have a fire extinguisher.

Popular nonstructural modifications for earthquakes reportedly completed by respondents were securing water heaters to the wall and anchoring bookcases or cabinets to the walls. Almost 66% of people surveyed reported they have not made any structural modifications for earthquakes to their homes. The majority of survey respondents indicated the possible occurrence of natural hazards did not affect where they chose to live; however, almost 66% of respondents reported they would be willing to spend more money purchasing or renting a home with features that made it more disaster resistant. Of those respondents who reported they own property, financial incentives, including tax breaks or incentives and insurance discounts, would motivate them to take additional steps to better protect their property from a natural disaster.

The most trusted source for survey respondents to get information about how to make their household and home safer from natural disasters was universities or research institutions, and the least trusted source was social media influencers. The top five effective ways for respondents to receive information about how to make their household and home safer from natural disasters include local governments, factsheets or brochures, the Internet, public workshops or meetings, and direct mail.

Protecting critical facilities, protecting and reducing damage to utilities, strengthening emergency services, and preventing development in hazard areas are very important priorities for respondents when they think about planning for natural hazards. Close to 37% of survey takers believe they have had ample opportunity to provide input during the natural hazard mitigation planning process about their natural hazard-related concerns in a language they could comfortably communicate in; however, the majority of respondents did not have an opinion about this question.

All survey responses were reviewed by the NHMP Steering Committee. Responses not applicable to natural hazards, mitigation, or the planning process are not published in this report, but are available for review by contacting Washington County Emergency Management.

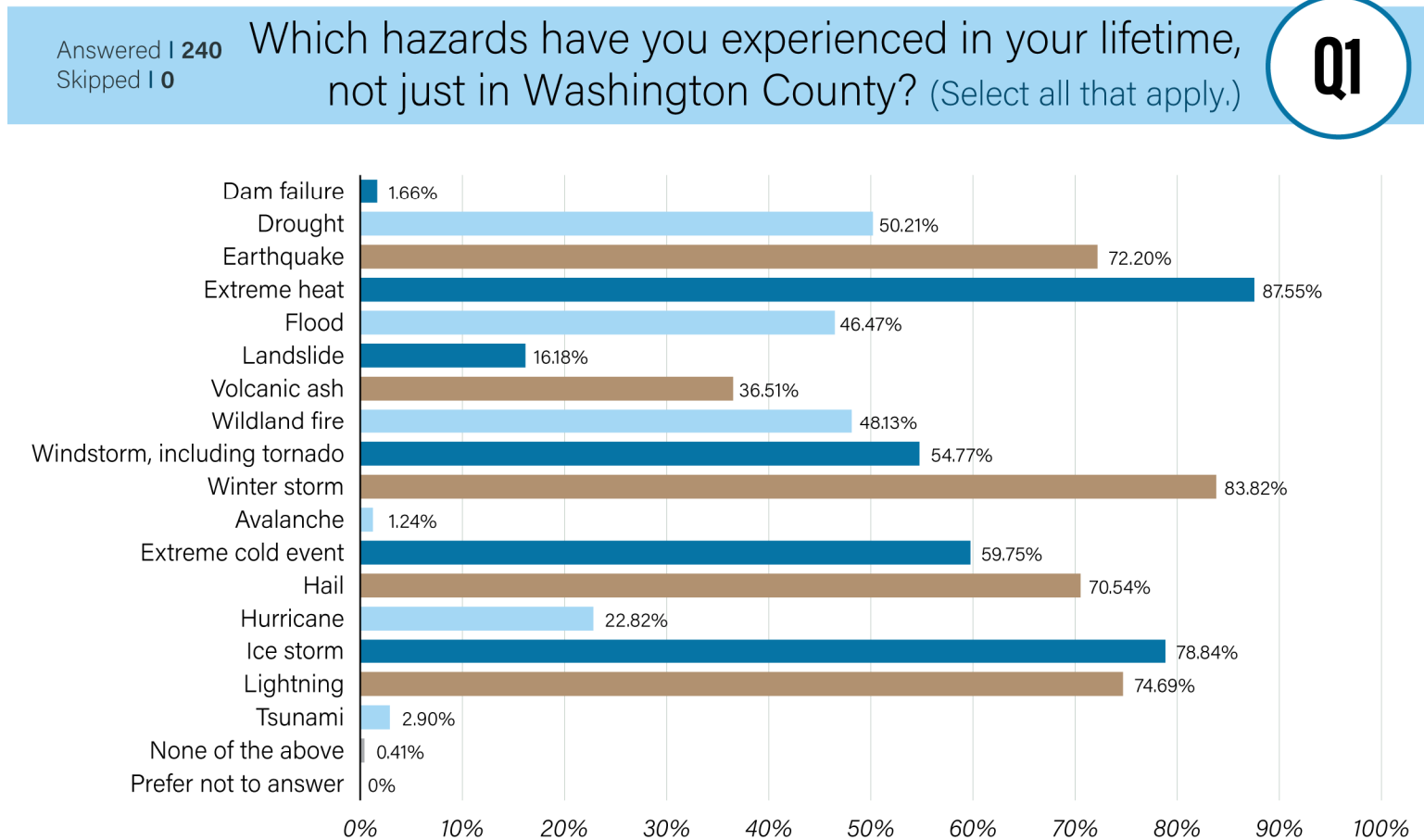
### **1.3.3.2. Summary of Public Comments About Draft NHMP**

A total of 16 responses to the comment form posted with the draft NHMP were received from February 3, 2023, to March 5, 2023. All comments were reviewed by the NHMP Steering Committee. Responses not

applicable to natural hazards, mitigation, or the planning process are not published in this report, but are available for review by contacting Washington County Emergency Management.

Approximately 82% of those who left comments did not participate in the natural hazard mitigation awareness survey that was posted from July 25, 2022, to October 6, 2022. This indicates this public outreach opportunity reached a different audience than the survey did, widening the reach of engagement with Washington County residents. Respondents indicated they may use the information in the NHMP in their daily lives to become better prepared, including increasing their awareness of high hazard areas and taking steps to be sufficient for two weeks in case of an event. Those who left comments also mentioned keeping the NHMP as a resource and sharing it with family and friends.

### 1.3.4. Public Survey Results

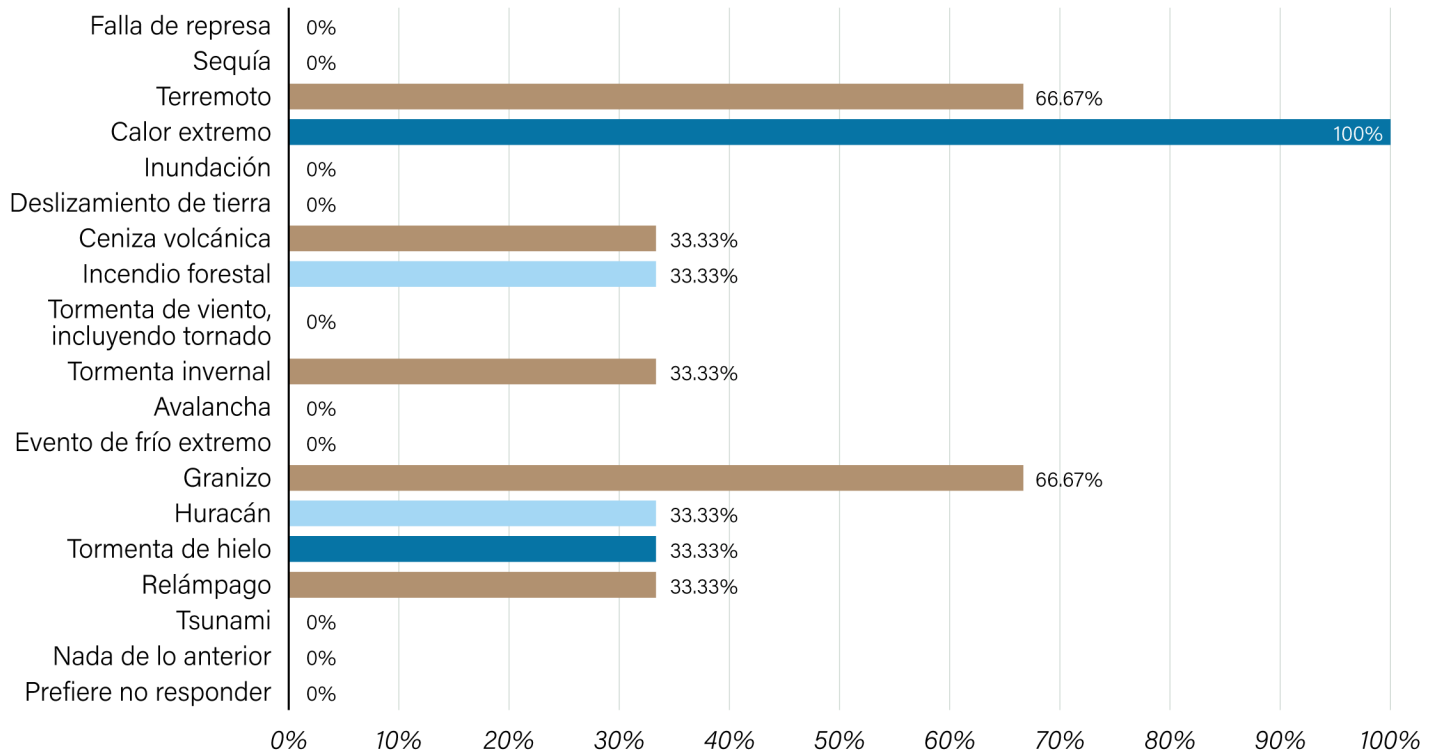




Answered | 3  
Skipped | 0

¿Qué peligros ha experimentado en su vida, no solo en el condado de Washington? (Seleccione todo lo que corresponda.)

**Q1**



**Q2. List any additional natural hazards not listed above that you think could be a threat to your community.**

**Answered: 55 Skipped: 185**

#	RESPONSES
1	Smoke
2	Snowstorms
3	Wildfires in the Wildland Urban Interface (WUI)
4	Bird flu
5	Climate dome and uncertain other extreme heat/drought conditions we have not experienced before
6	Poor air quality, soil erosion, and other effects related to climate change
7	Drought, extreme heat, earthquake, and wildfire
8	Global warming
9	Torrential rains, wildfire smoke, solar storms, which affect electronics, ashfall from fires, black ice
10	Smoke from wildfires
11	Smoke from forest fires. I'm not in a place that is likely to burn, but living with weeks of smoke is not healthy for anyone, especially the elderly, sick, infants, etc.
12	I wonder if wildland fire includes fires that start in towns (i.e., I experienced the Almeda fire in Southern Oregon)
13	Storm water hazards from Bull Mountain runoff
14	Water pollution, natural pollutants or man-made
15	Sinkhole
16	Sinkhole
17	Tornados
18	Solar electromagnetic pulse (EMP), pandemic
19	Record rainfall in short order, as occurred in Centralia/ Chehalis, WA last year, is much more likely with climate change
20	Tree falling on houses
21	Sequela of winter storms: power outages, loss of home heating ability, etc.; solar flare. Should we not also list non-natural hazards such as terrorist takedown of power systems?

#	RESPONSES
22	Smoke
23	Pests and invasive species
24	Invasive species (particularly disease-bearing insects)
25	Poor air quality, potentially due to wildfire
26	Air pollution is horrible. My health. 17th and 18th of August avoiding the outdoors
27	Natural food chain collapse
28	Plague, food scarcity, water scarcity
29	Dead tree and unmoved weeds in neighborhoods
30	Putting a Chevron Station in/near a floodplain, wildlife area, poses a HUGE potential disaster to everyone in the surrounding neighborhood. Any of the above natural disasters will affect this and our precious water. What the heck is WACO thinking in approving this!! IF you really care? I foresee a civil lawsuit in the future—totally avoidable
31	Rats, pandemic
32	Sinkholes
33	Smoke from wildfires
34	Radon exposure
35	Air quality, widespread disease
36	Water contamination/pollution, zoonotic disease, invasive species

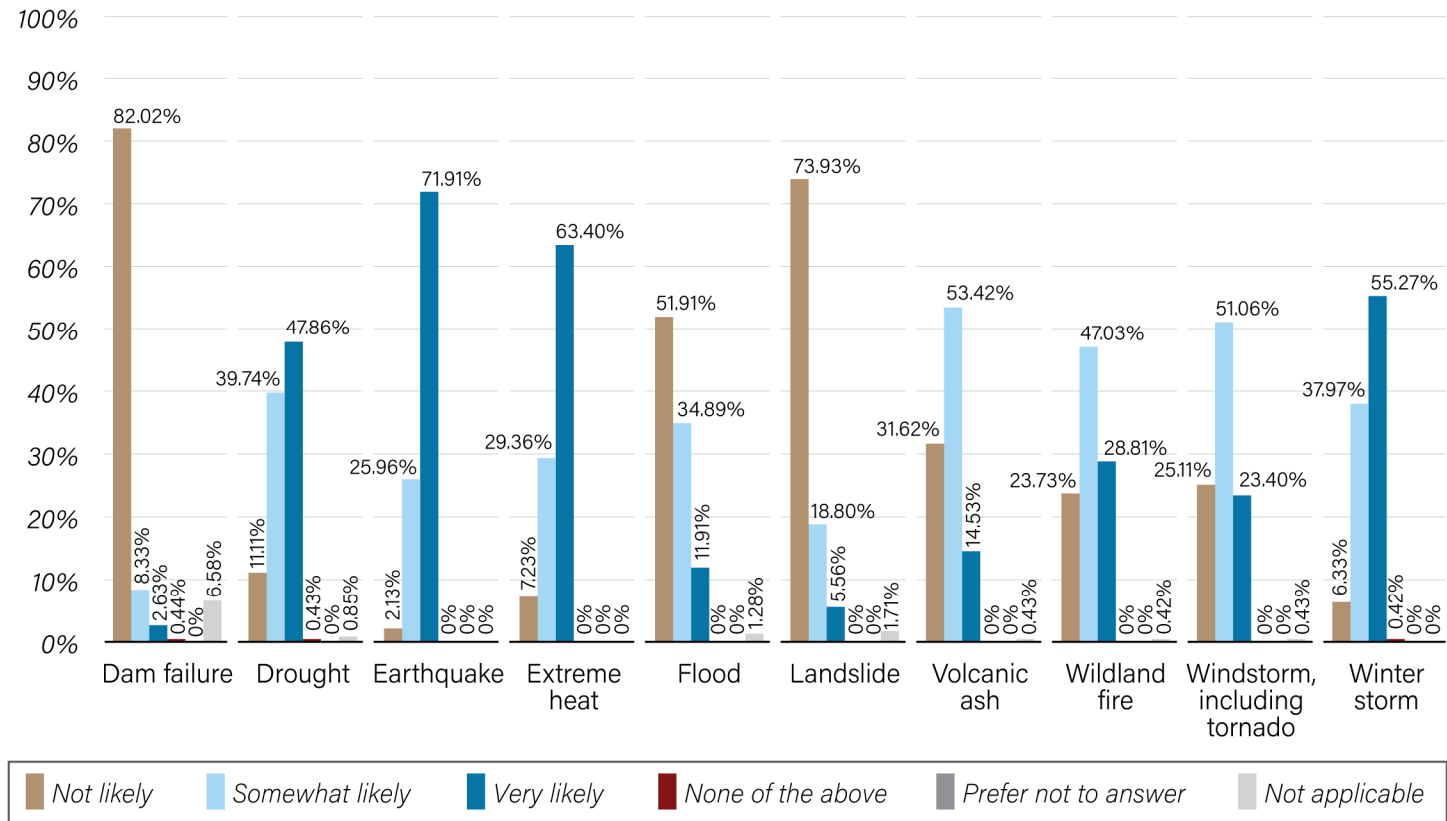
**Q2. Enumere cualquier peligro natural adicional no mencionado anteriormente que crea que podría ser una amenaza para su comunidad.**

**Answered: 3 Skipped: 0**

#	RESPUESTAS
1	Pandemias (Pandemics)
2	No hay otro (No others)

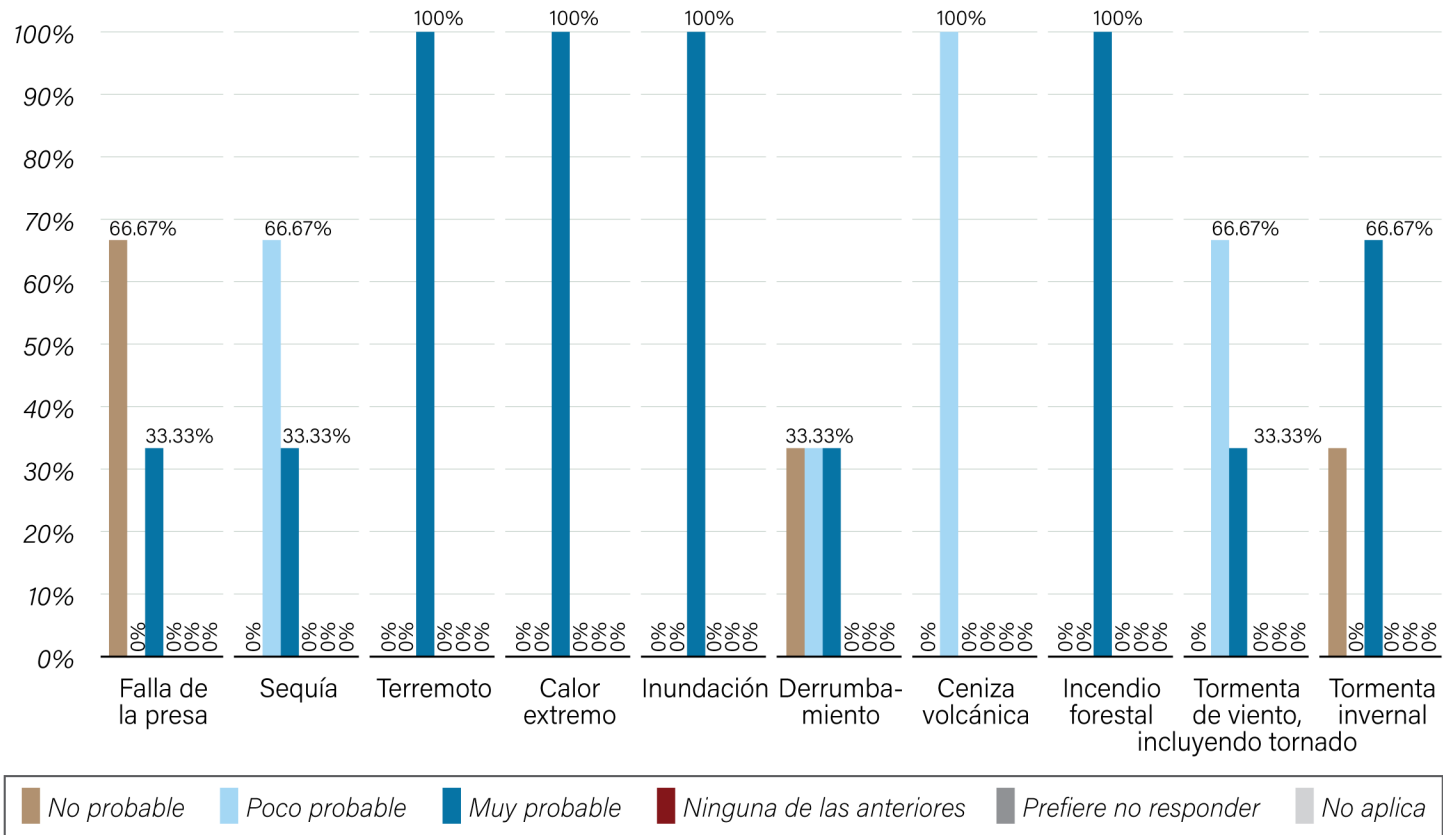
Answered | 240  
Skipped | 0

For each hazard below, choose how you think it would affect your home.



Answered | 3  
Skipped | 0

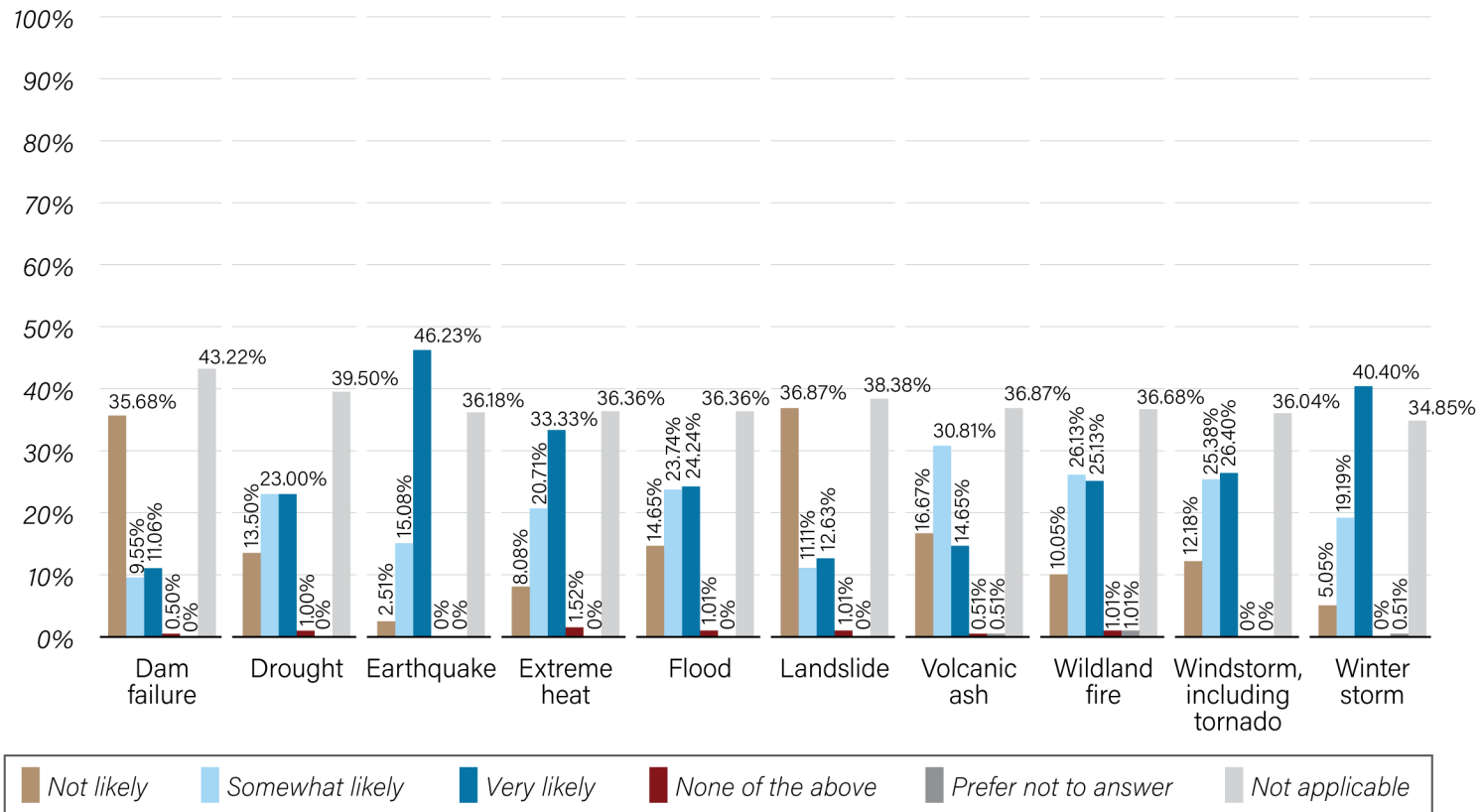
Para cada peligro a continuación, elija cómo cree que afectaría a su hogar.





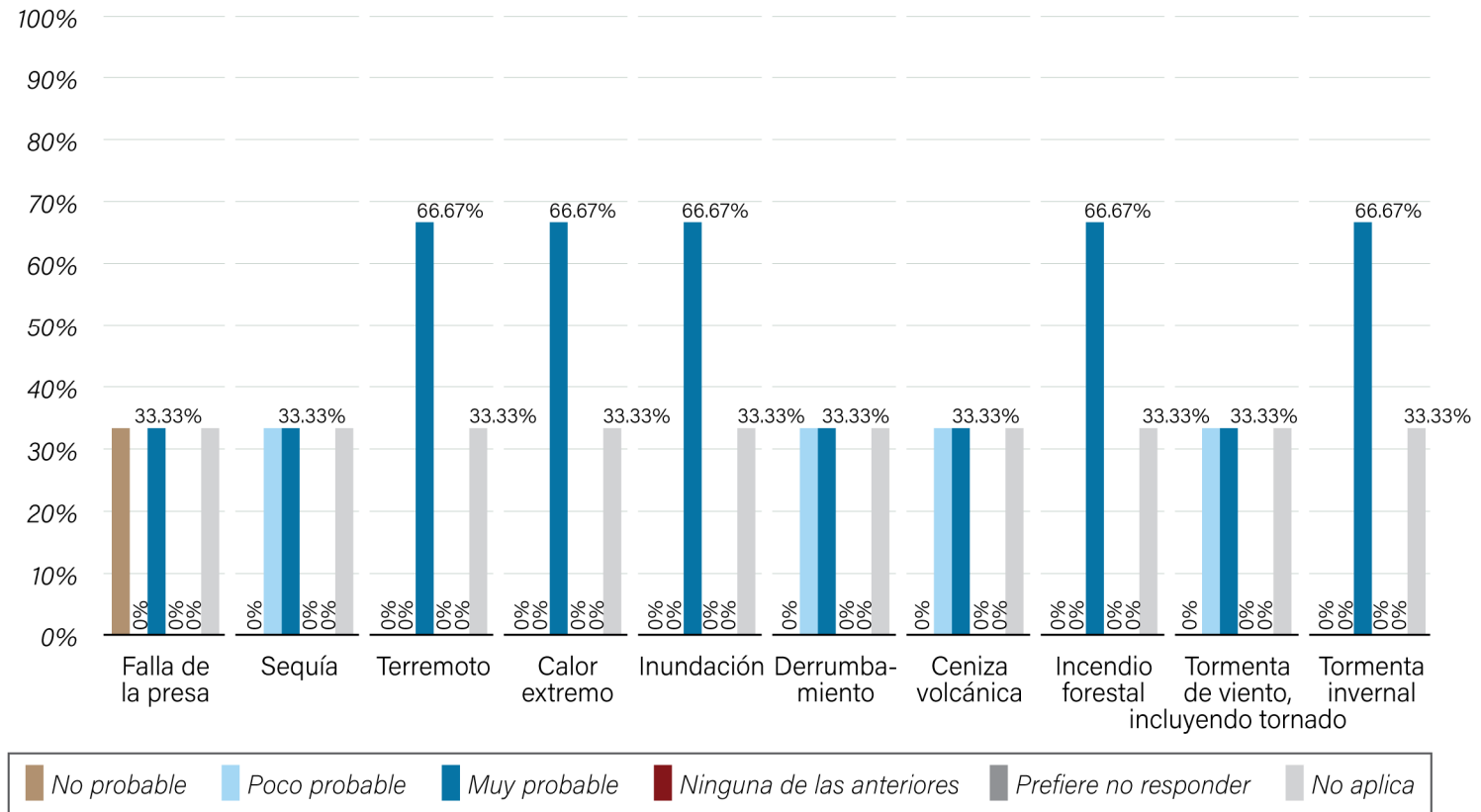
Answered | 203  
Skipped | 37

For each hazard below, choose how you think it would affect your business.



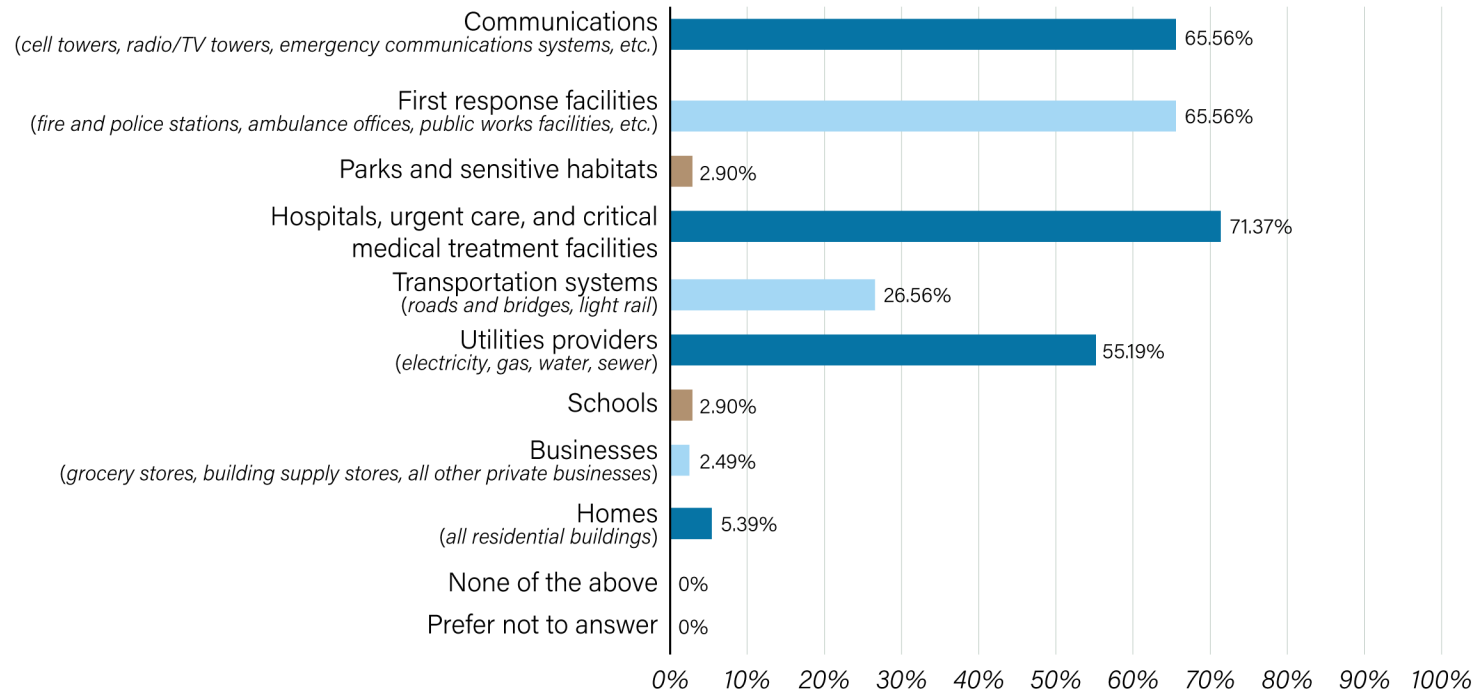
Answered | 3  
Skipped | 0

Para cada peligro a continuación, elija cómo cree que afectaría a su negocio.

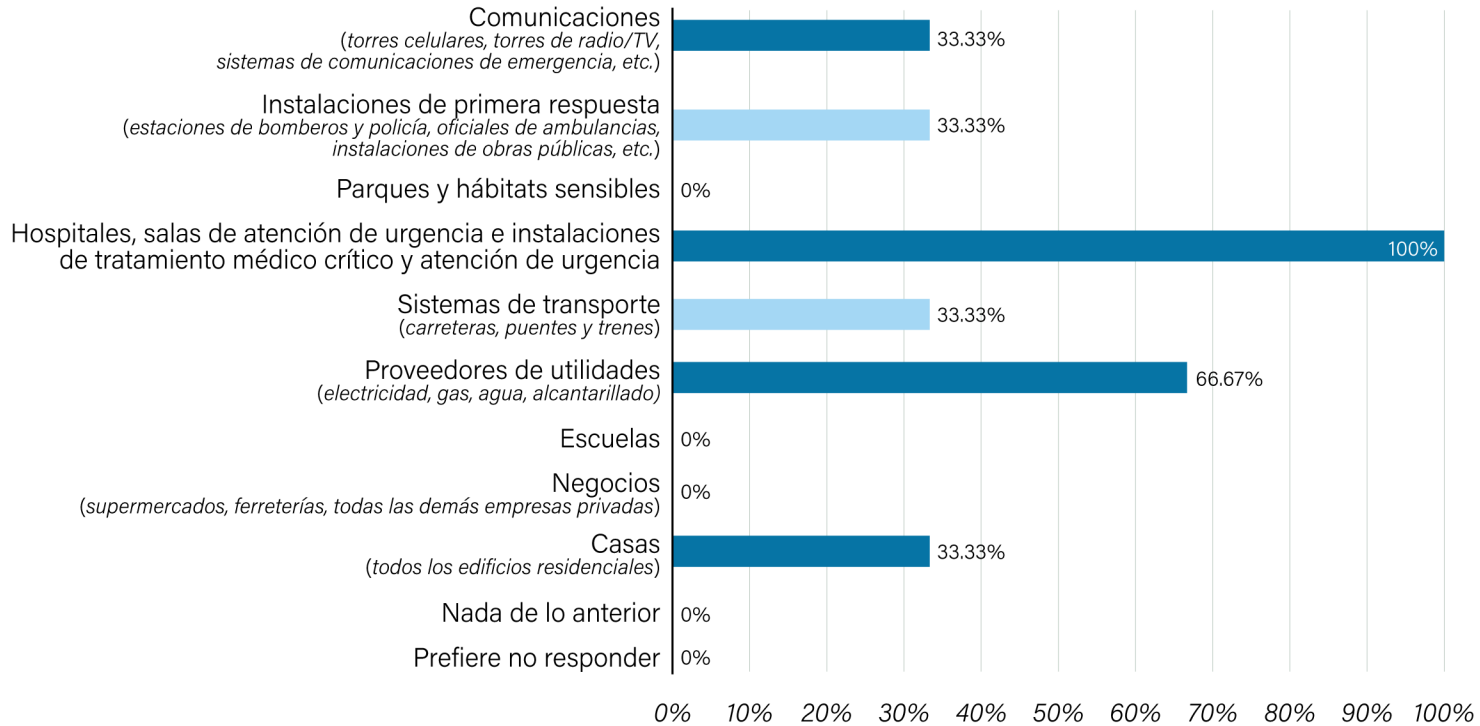


Answered | 240  
Skipped | 0

Which of the following are the most important for local government to protect from hazards? (Select up to three.)



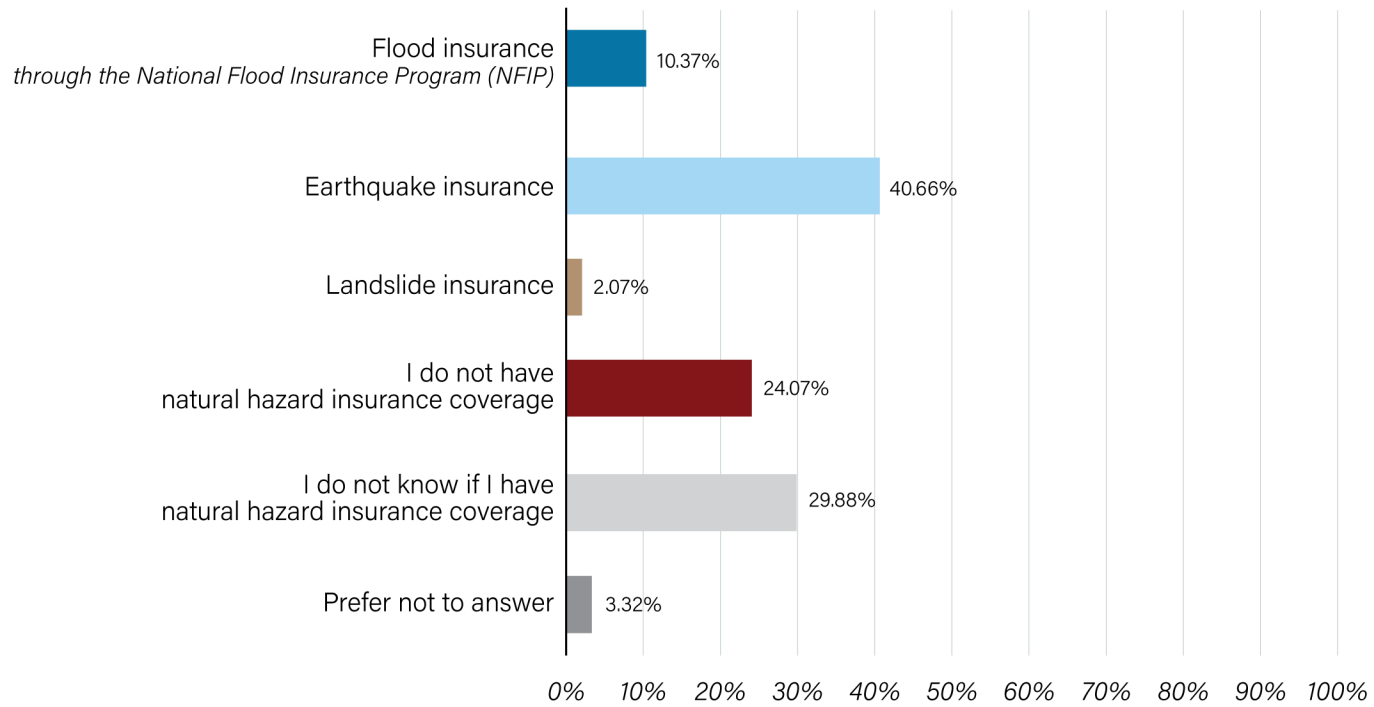
Answered | 3 ¿Cuáles de los siguientes son los más importantes para que el gobierno local los proteja de los peligros? (Seleccione hasta tres.)  
 Skipped | 0



Answered | 240  
Skipped | 0

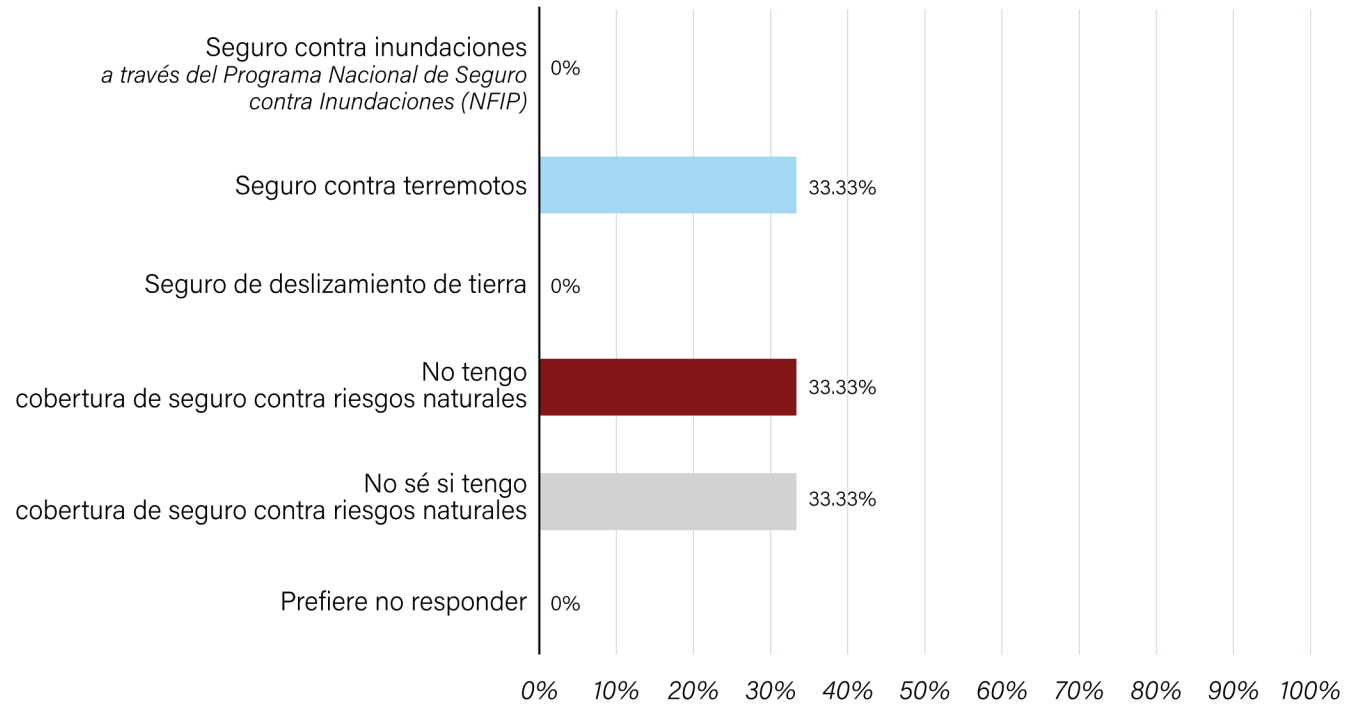
What insurance coverage for natural hazards do you have?  
This may be found in your home or renter's insurance policy.

**Q6**



Answered | 3  
Skipped | 0

¿Qué cobertura de seguro para riesgos naturales tiene? Esto se puede encontrar en la póliza de seguro de su casa o inquilino.

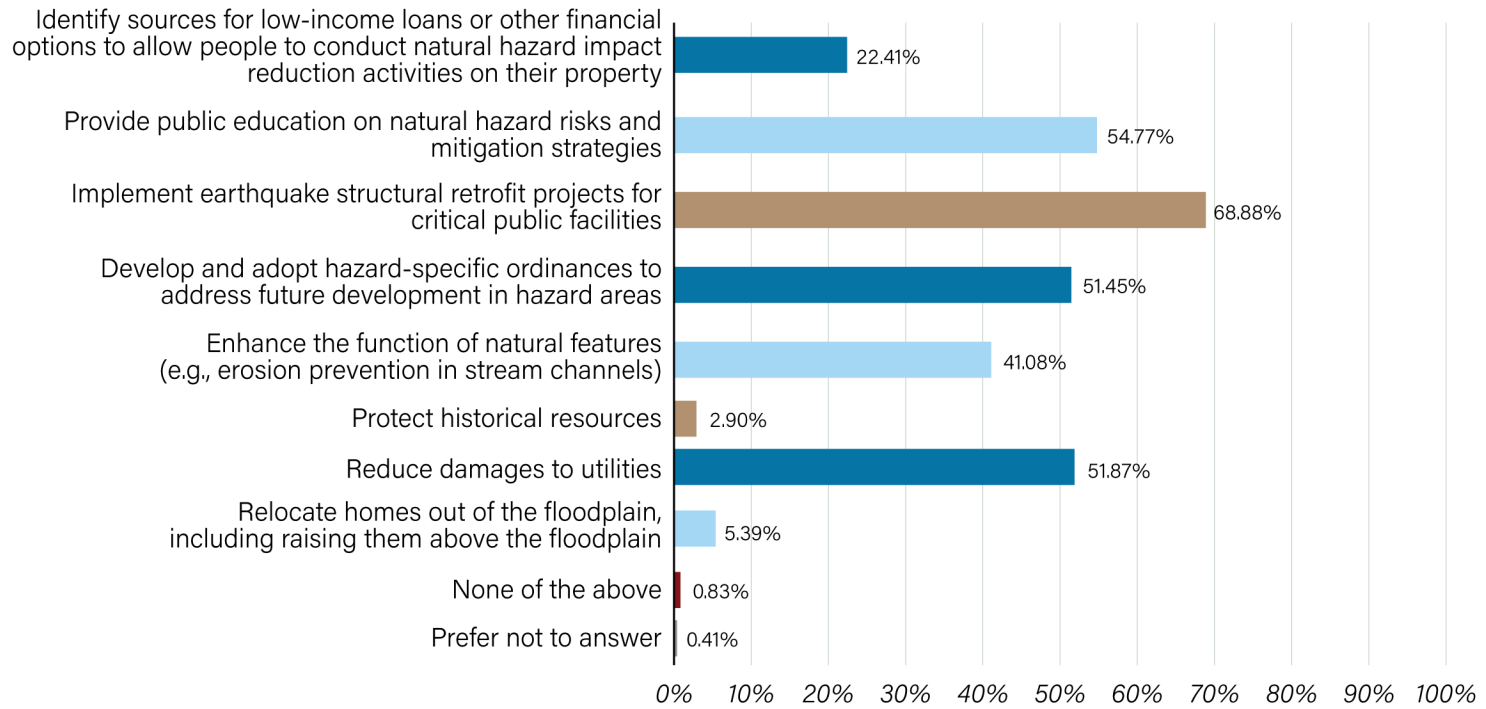




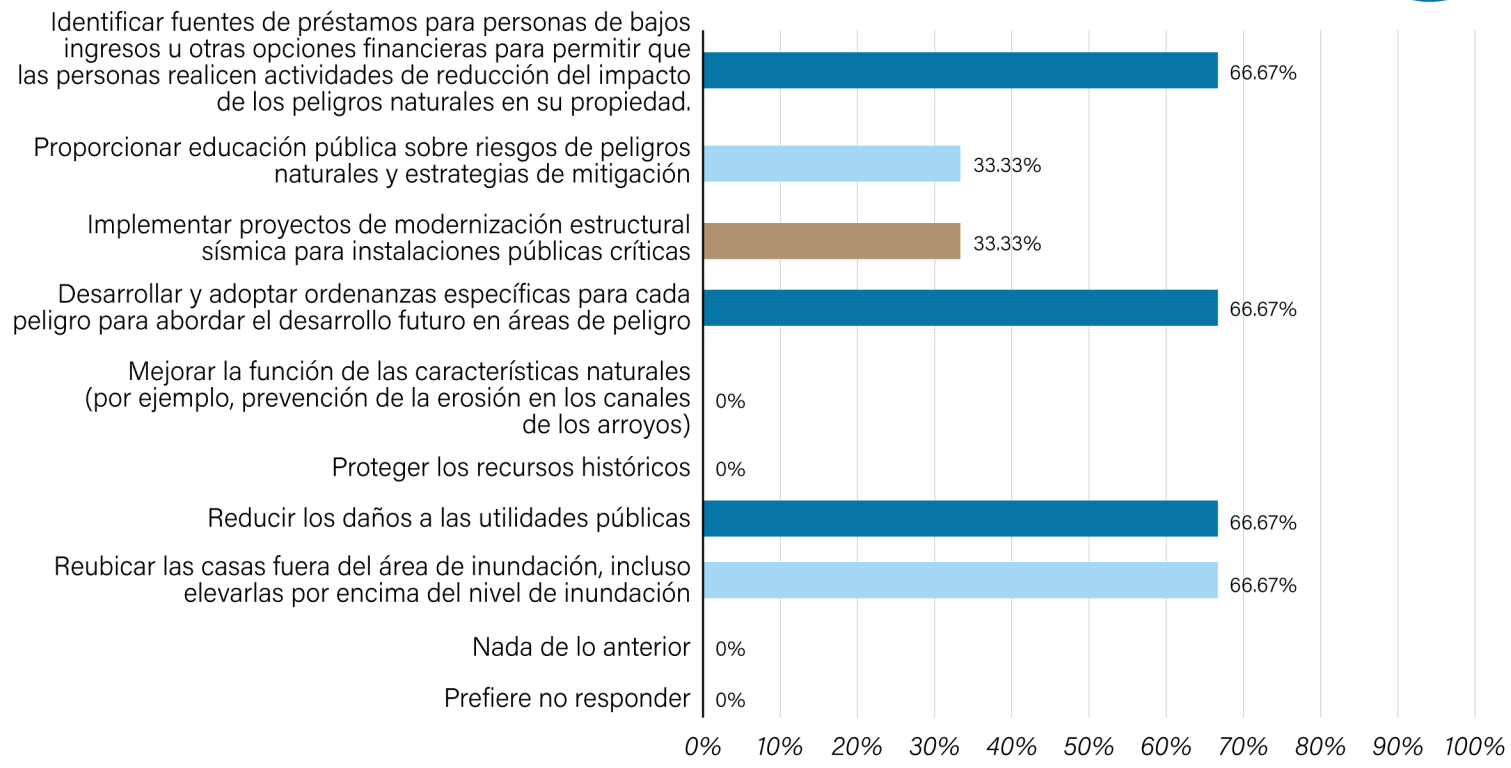
Answered | 240  
Skipped | 0

# What is most important for local government to do to reduce the impacts of hazards? (Select up to three.)

**Q7**

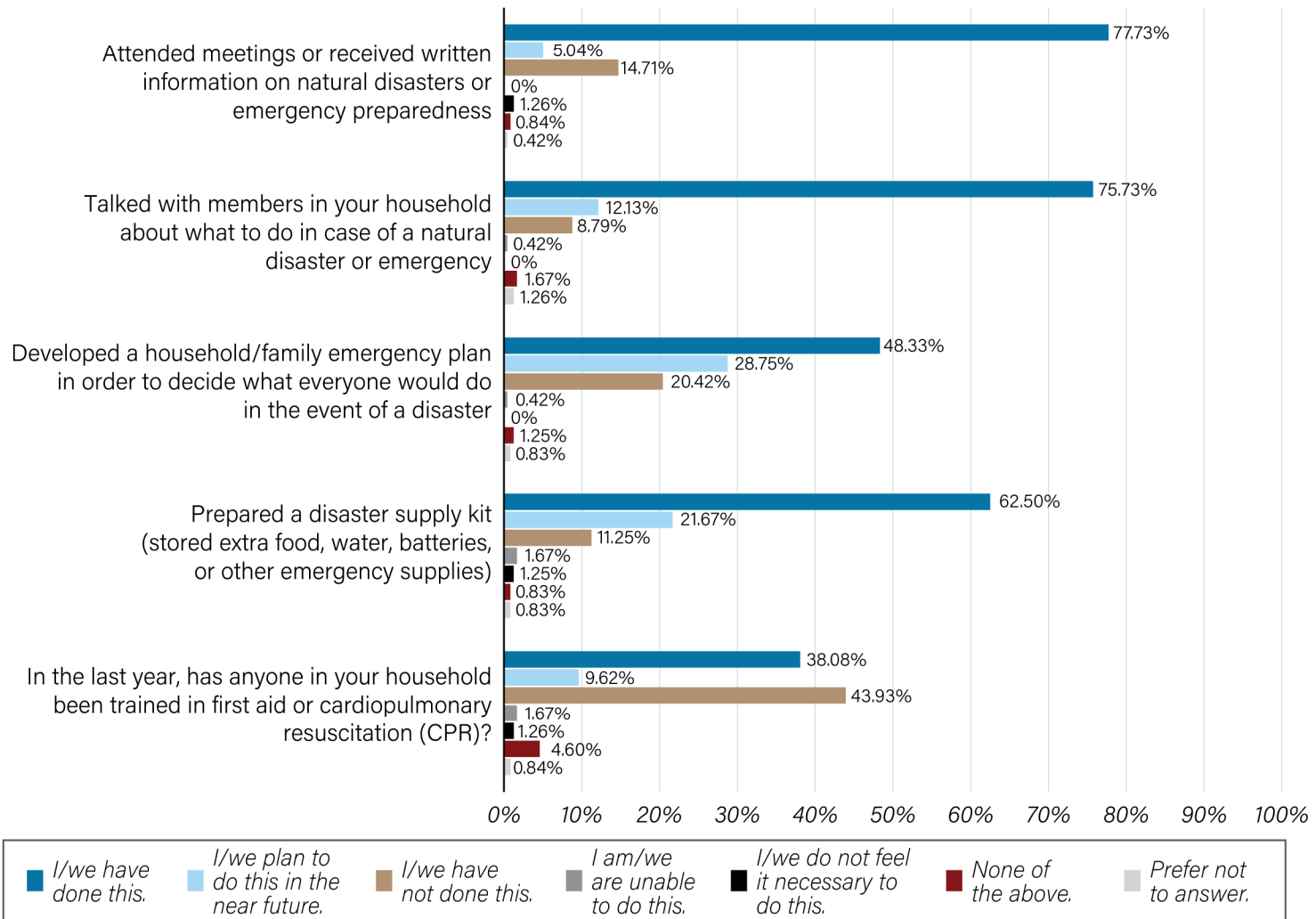


Answered | 3      ¿Qué es lo más importante que debe hacer el gobierno local  
 Skipped | 0      para reducir los impactos de los peligros? (Seleccione hasta tres.) **Q7**



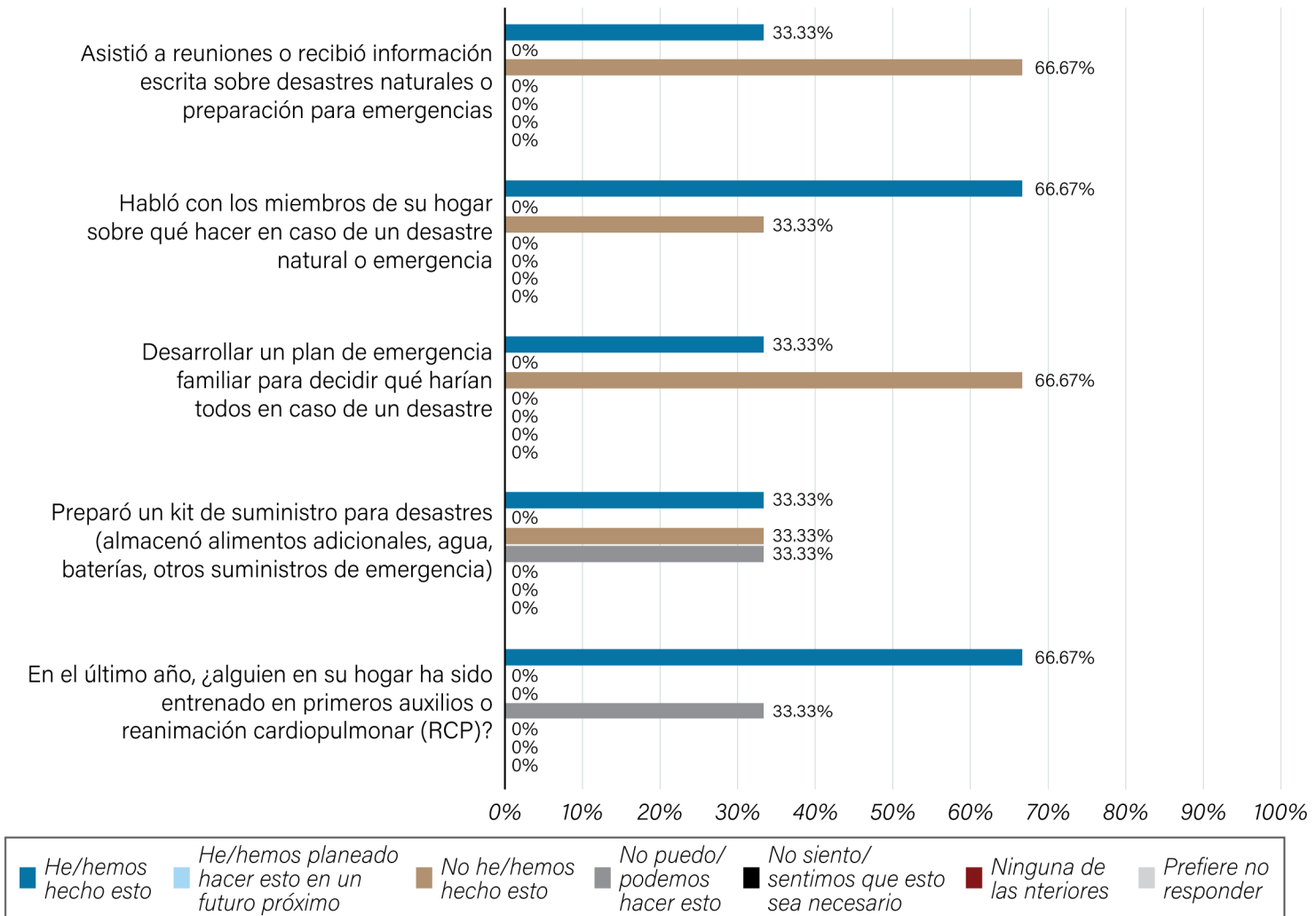
Answered | 240  
Skipped | 0

Read the statements below. For each activity, select whether you or someone in your household has done this, or if you do not feel this activity is necessary.



Answered | 3  
Skipped | 0

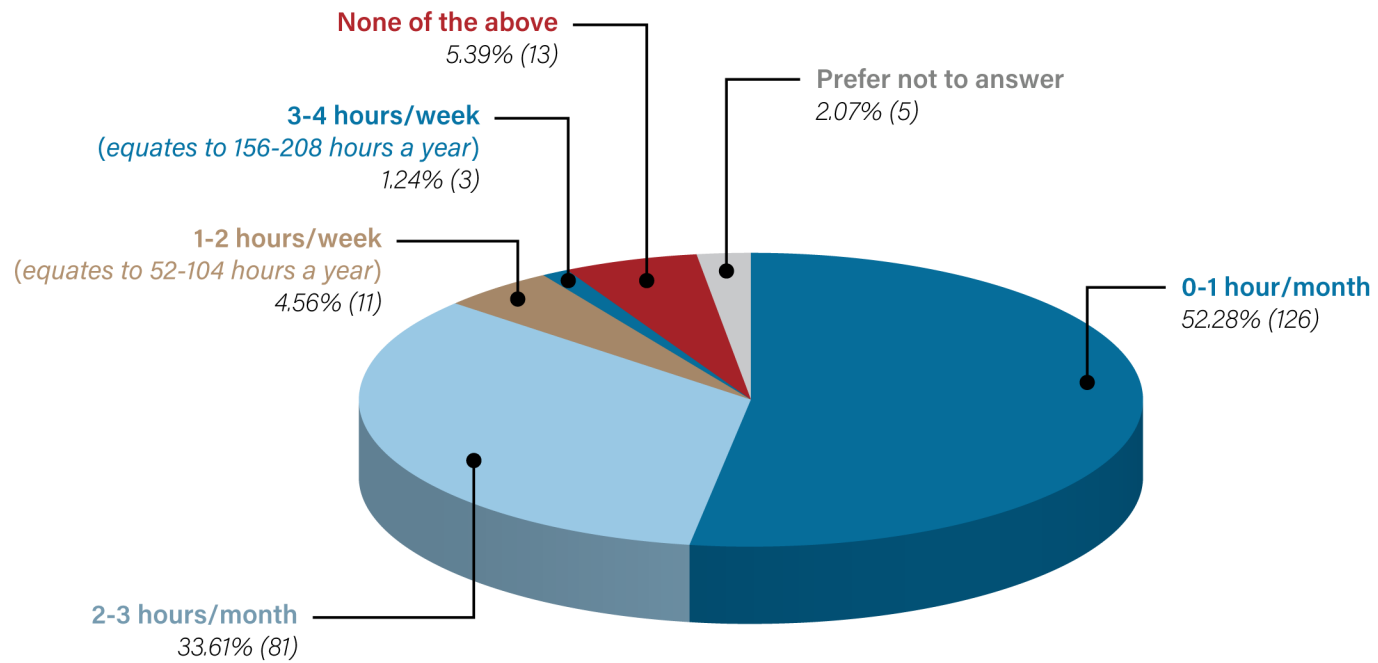
Lea las declaraciones a continuación. Para cada actividad, seleccione si usted o alguien en su hogar ha hecho esto, o si no cree que esta actividad sea necesaria.



Answered | 240  
Skipped | 0

Ideally, how much time would you spend preparing yourself and/or your household for a natural disaster or emergency event?

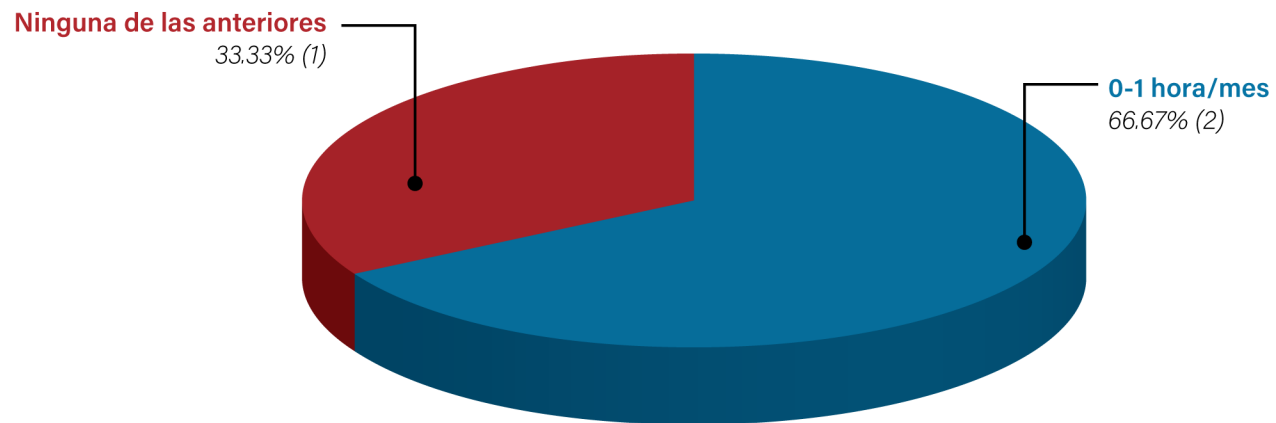
Q9



Answered | 3  
Skipped | 0

Idealmente, ¿cuánto tiempo pasa preparándose a sí mismo y/o a su hogar para un evento de desastre natural o emergencia?

Q9

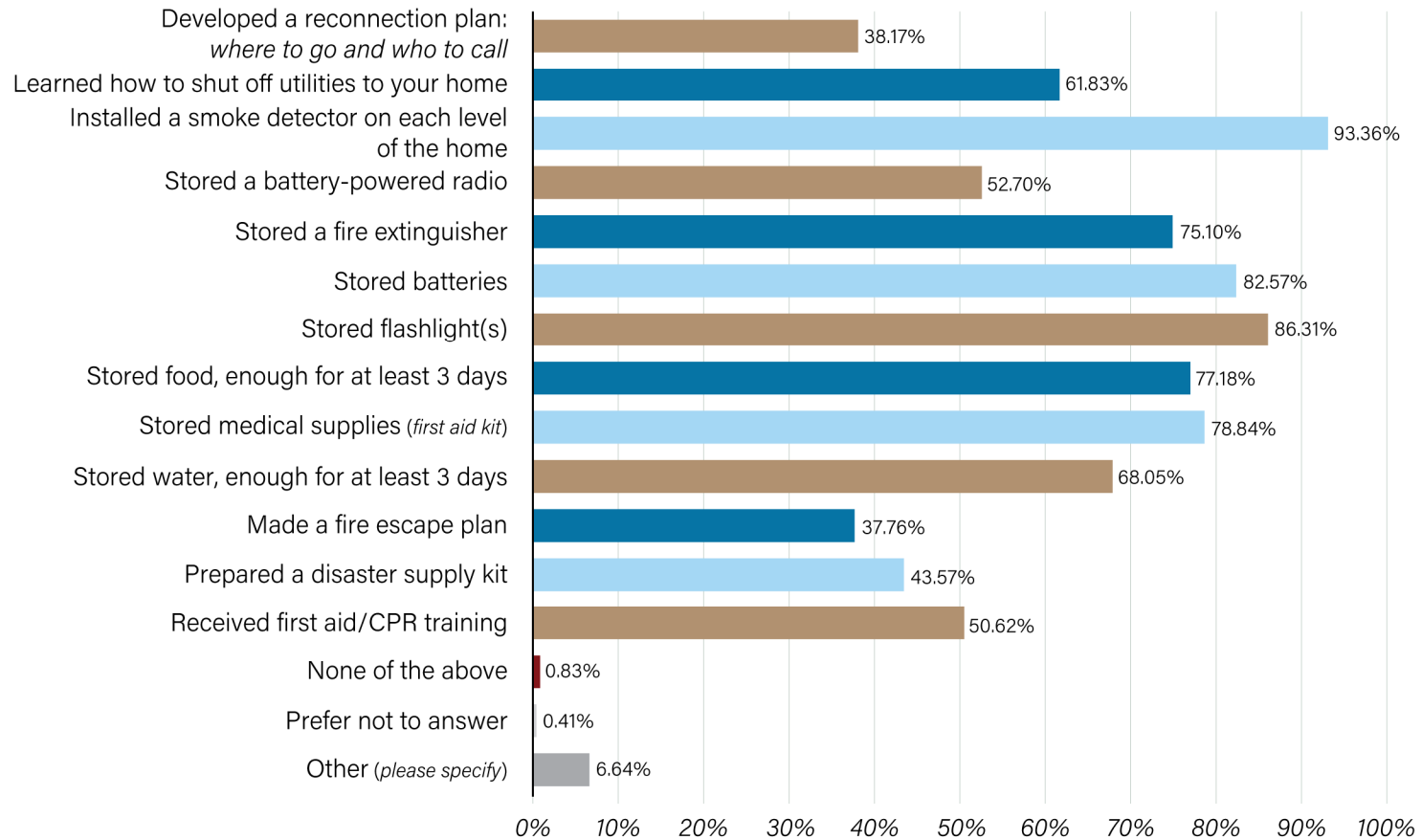




Answered | 240  
Skipped | 0

## What steps have you taken to prepare for a natural disaster? (Select all that apply.)

**Q10**

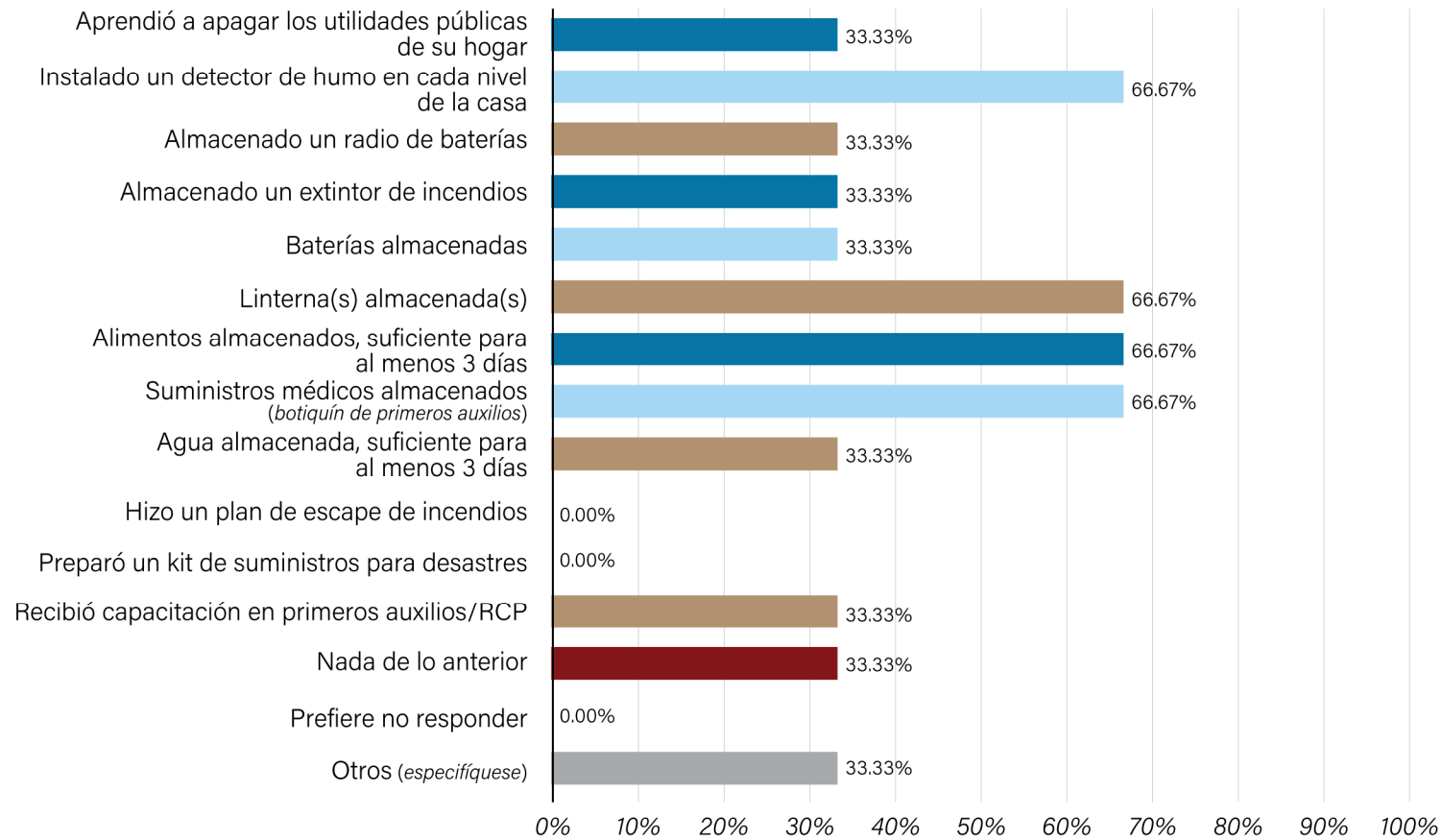


#	OTHER (PLEASE SPECIFY)
1	FEMA Emergency Response training.
2	Bought solar lights we can string, bought extra small propane tanks for the BBS, bought cases of water and rice, extra bags of dog food, keep our gas vehicle tanks full if they get below 3/4 tank. Bought nuke pills just in case.
3	We have taken CPR courses, just out of date by a year or two.
4	Taught Map Your Neighborhood to many local folks.
5	My disaster kit hasn't been updated in years. Don't know what's in it.
6	Ample basic survival training.
7	Have water purification chemicals and equipment.
8	Posted current list of medical prescriptions for first responders.
9	Participated in community awareness program.
10	Need constant readiness classes, want to keep on top of this and practice, practice, practice.
11	Talk to my neighbors about getting prepared for an earthquake.
12	Include pets in our plan, keep copies of important documents and phone numbers.
13	Battery powered radio we do not have.
14	Prioritized evacuation list.
15	Rather than store water, we have a filtration system and access to a creek.
16	We did more of these things before the pandemic (have not done CPR training since). I became unemployed and had immediate needs not being met. Emergency planning and access to materials needs to be free for all. Businesses should pay more in taxes for preparedness and development should be banned in sensitive areas. Much more can be accomplished through regulation than education for households. Not everyone can afford the things on this list!

Answered | 3  
Skipped | 0

¿Qué pasos ha tomado para prepararse para un desastre natural? (Seleccione todo lo que aplique.)

**Q10**

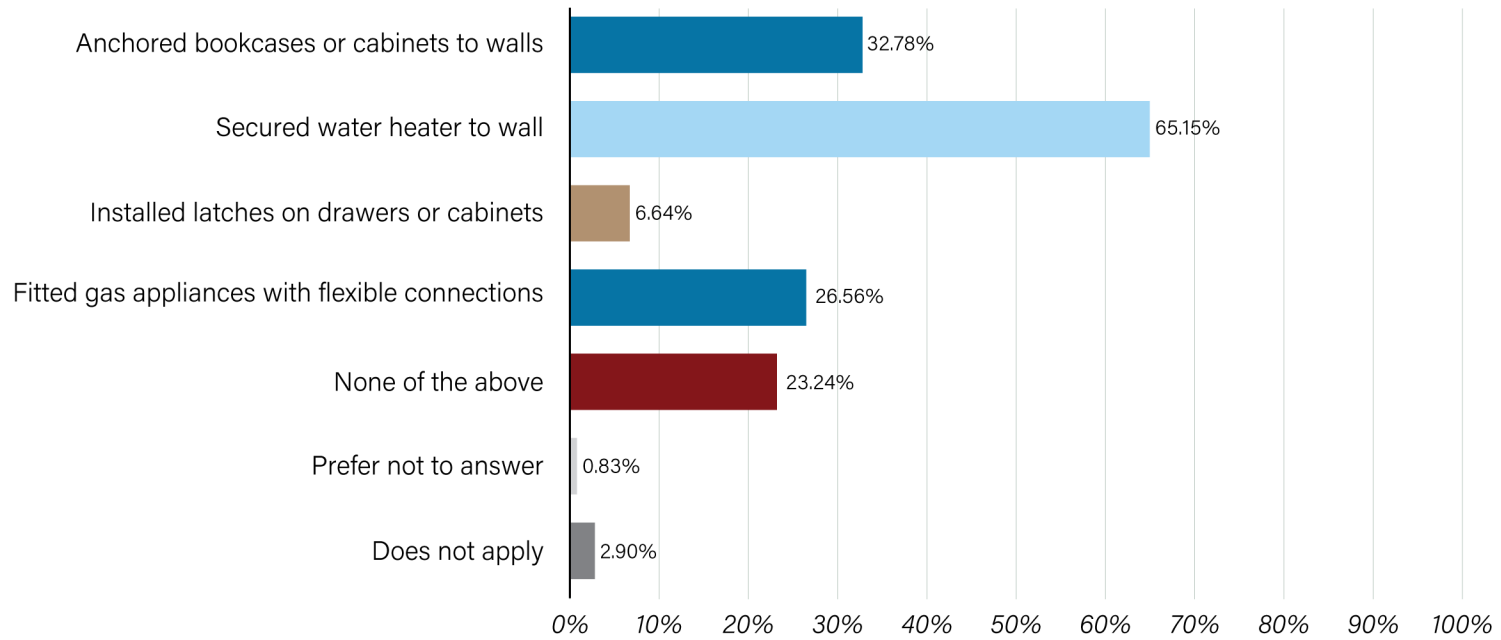


#	OTROS (ESPECIFIQUE)
1	No tengo dinero para esto. (I do not have money for this.)

Answered | 240  
Skipped | 0

# What nonstructural modifications for earthquakes have you made to your home? (Select all that apply.)

**Q11**

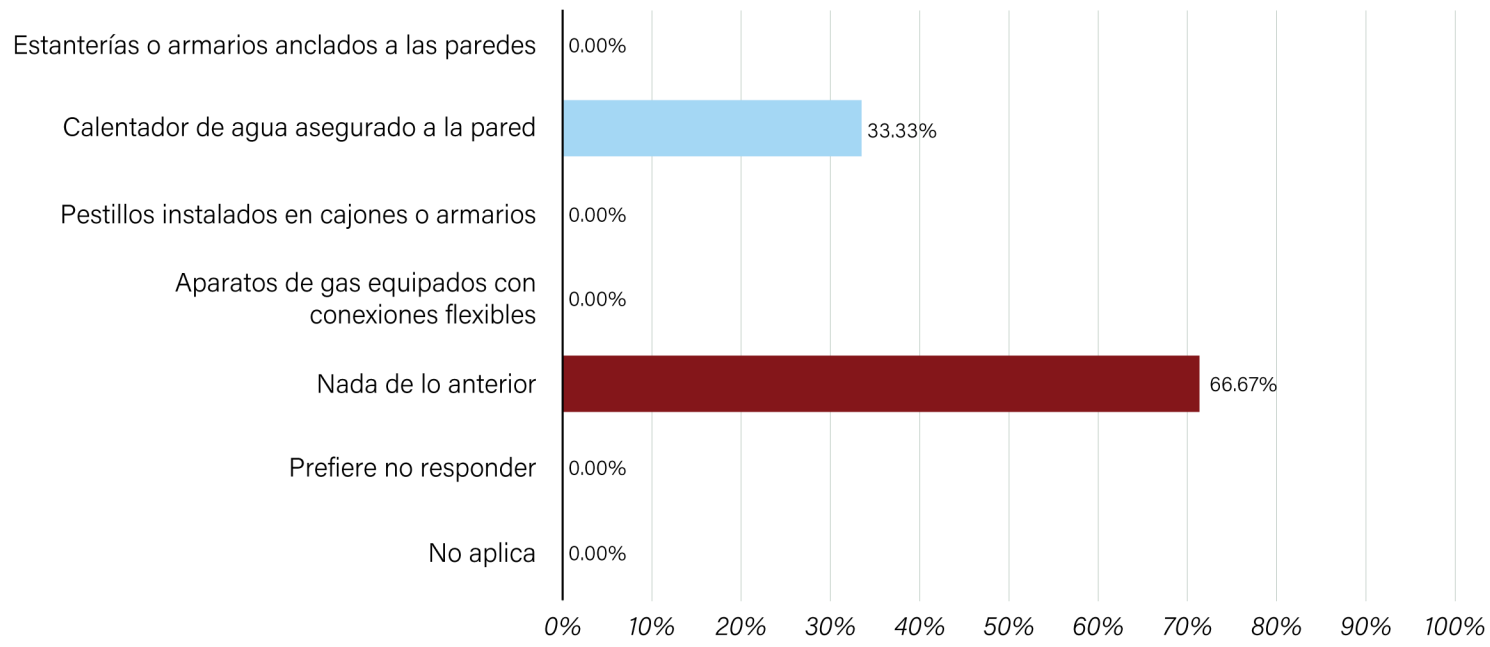


#	OTHER (PLEASE SPECIFY)
1	Used museum putty to secure items on shelves.
2	Planning to install kitchen latches! Just need to find best for us.
3	I keep a space under my bed specifically for earthquake protection. I also have all of my possessions hooked or otherwise secured to walls.
4	We are working on getting rid of all gas appliances.
5	Working on this.
6	Anchored shelves in garage to studs.
7	No gas appliances by choice.
8	The water heater was already secured.
9	I have looked at state maps to see how at risk my house is.
10	I feel that the gas company should come check what houses need to change the fittings (as they did installation in the first place and are the only qualified ones to help?).
11	We don't have gas appliances.

Answered | 3  
Skipped | 0

¿Qué modificaciones no estructurales para terremotos ha hecho en su hogar? (Seleccione todo lo que corresponda.)

**Q11**

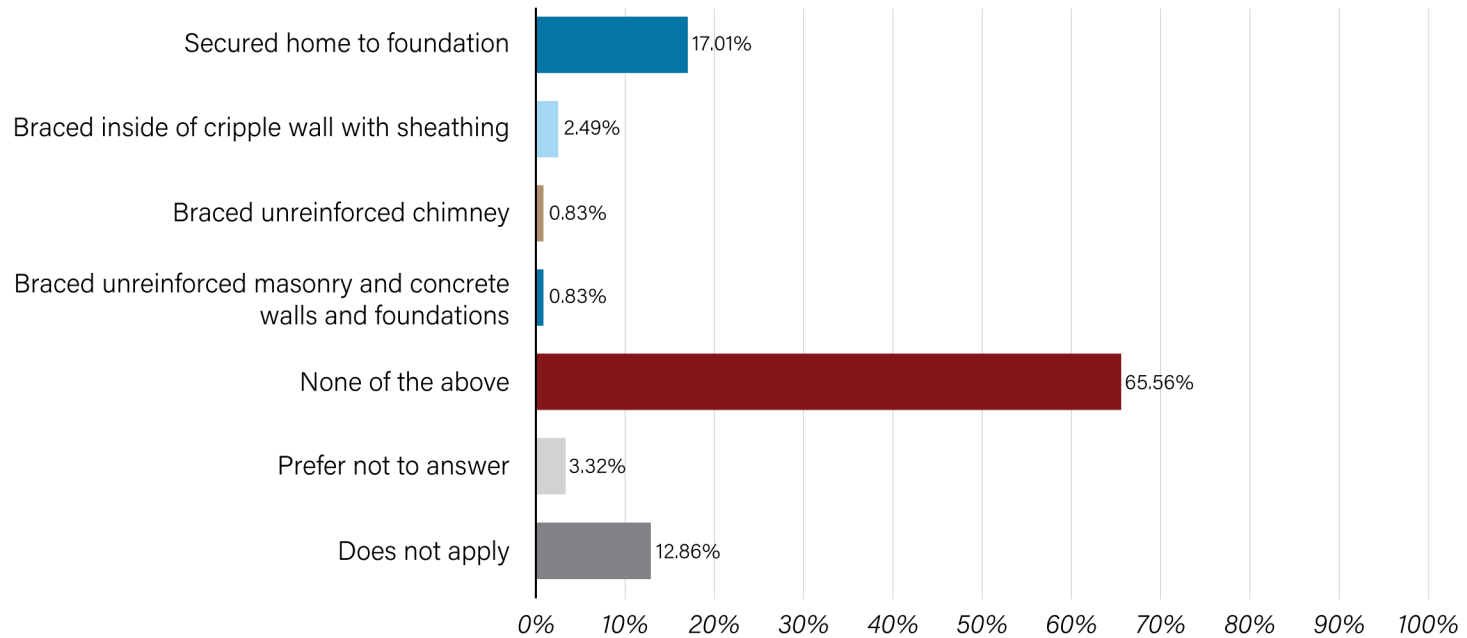


#	OTROS (ESPECIFIQUE)
1	Rento y no tengo dinero. (I rent and I do not have money.)



Answered | 240  
Skipped | 0

### What structural modifications for earthquakes have you made to your home? (Select all that apply.)

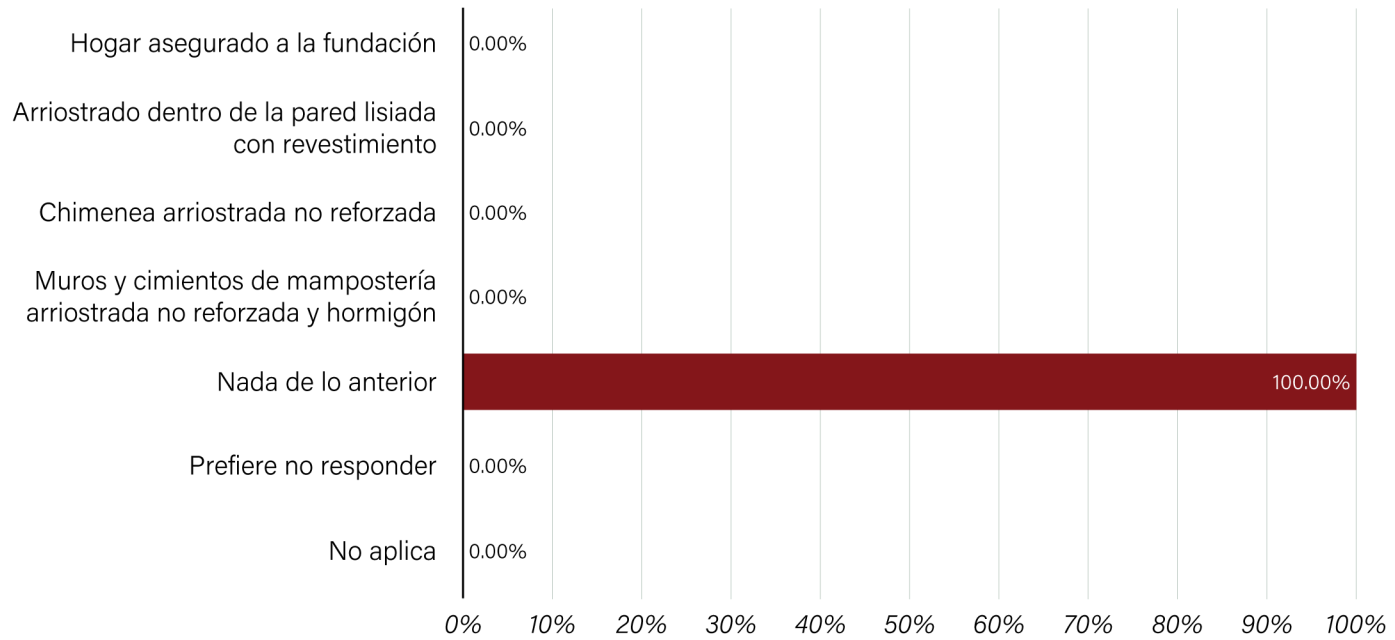


#	OTHER (PLEASE SPECIFY)
1	We have an ICF home - concrete and rebar.
2	Had seismic engineer determine no retrofit needed.
3	Not sure. :(
4	Not sure if my masonry chimney is reinforced or not, house built in 1992.
5	The home doesn't belong to me.
6	Not sure, house was built in 2000.
7	Working on this.
8	We were told that our foundation is secured, but I don't know if I believe it.
9	Made our support beams up to earthquake code (built in 2000 and was not built to code).
10	We rent.
11	New construction.
12	We are unable to do anything structural to this home as we do not own it but rent it. It is up to housing but they have not done anything like this.
13	Live in a condo; do not know which of these have been done.
14	Apartment renter; not allowed to.
15	Removed unreinforced chimney.
16	I live in an exceptionally old home that already had a secured foundation.
17	Not sure.
18	Cleared overgrown brush from lot and we get our trees pruned every 2 to 3 years to maintain their health and prevent damage from falling branches.
19	Like many, I rent.
20	Stop your government overreach. Stop raising taxes for nonsense. Believe people can take responsibility. Leave them alone.

Answered | 3  
Skipped | 0

¿Qué modificaciones estructurales para terremotos has hecho en tu casa? (Seleccione todo lo que corresponda.)

**Q12**

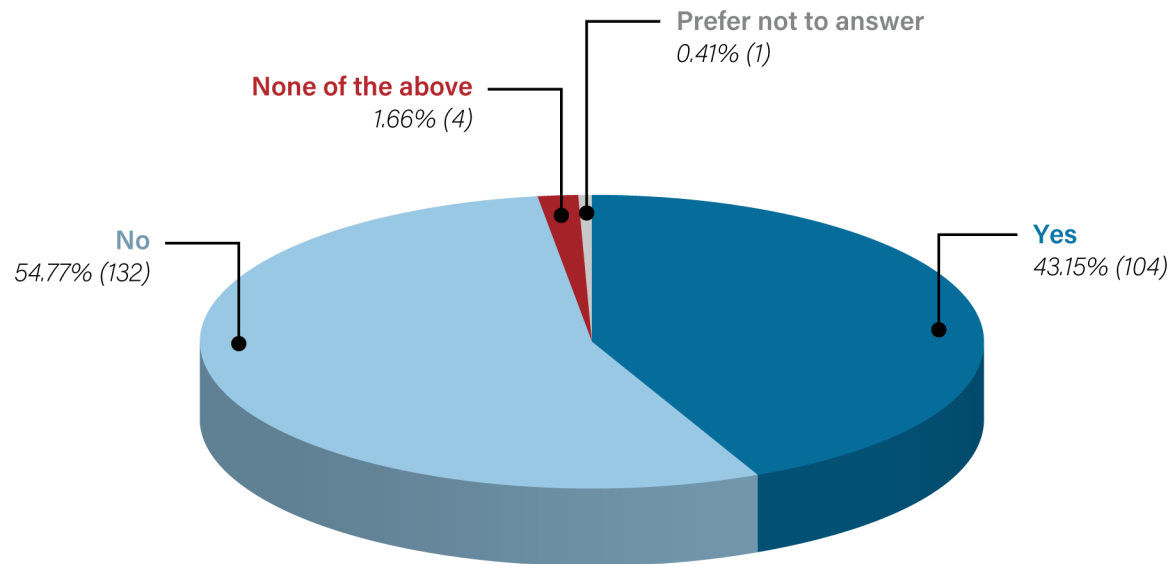


#	RESPUESTAS
1	Rento y no tengo dinero. (I rent and I do not have money.)

Answered | 240  
Skipped | 0

Did the possible occurrence of natural hazards affect your decision on where you currently live?

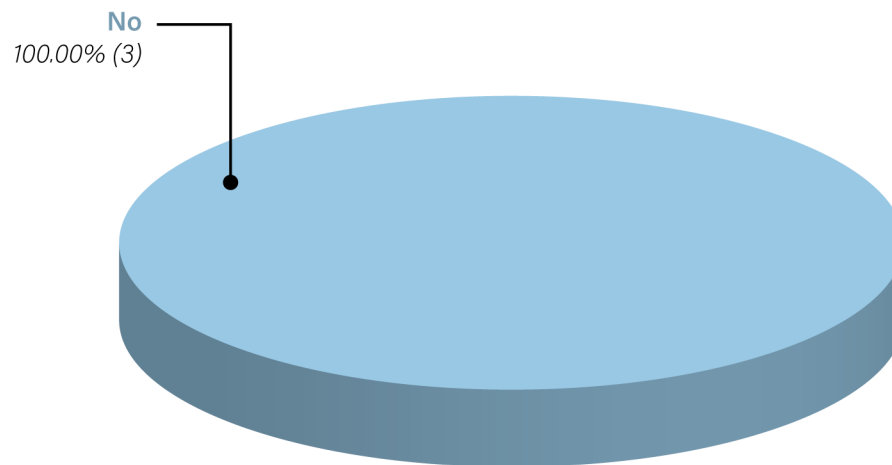
Q13



Answered | 3  
Skipped | 0

¿La posible ocurrencia de peligros naturales ha afectado su decisión sobre dónde vive actualmente?

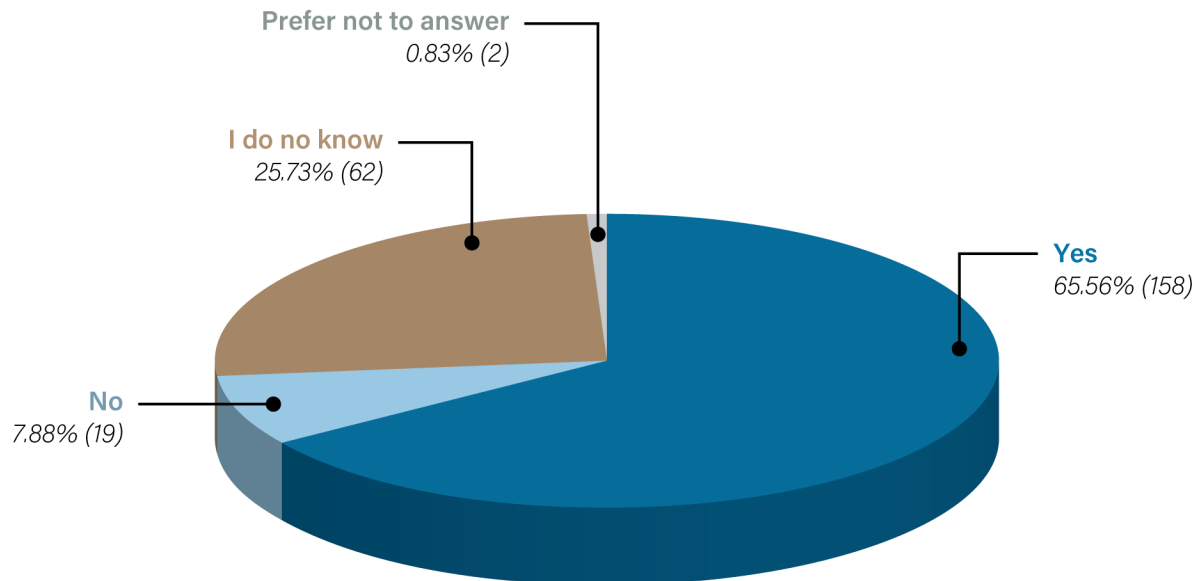
Q13



Answered | 240  
Skipped | 0

If you could, would you be willing to spend more money on a home (including rental housing) that had features that made it more disaster resistant?

Q14

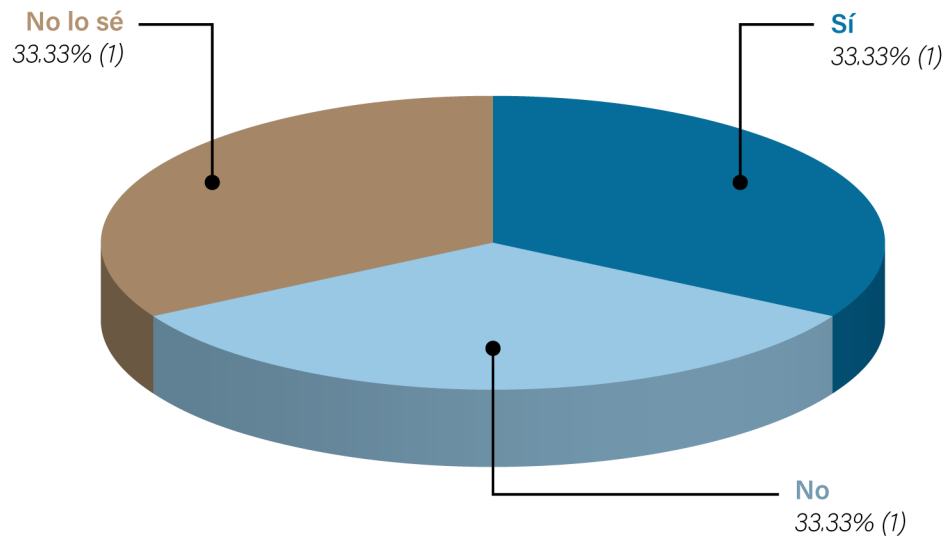




Answered | 3  
Skipped | 0

Si pudiera, ¿estaría dispuesto a gastar más dinero en una casa (incluida la vivienda de alquiler) que tuviera características que la hicieran más resistente a los desastres?

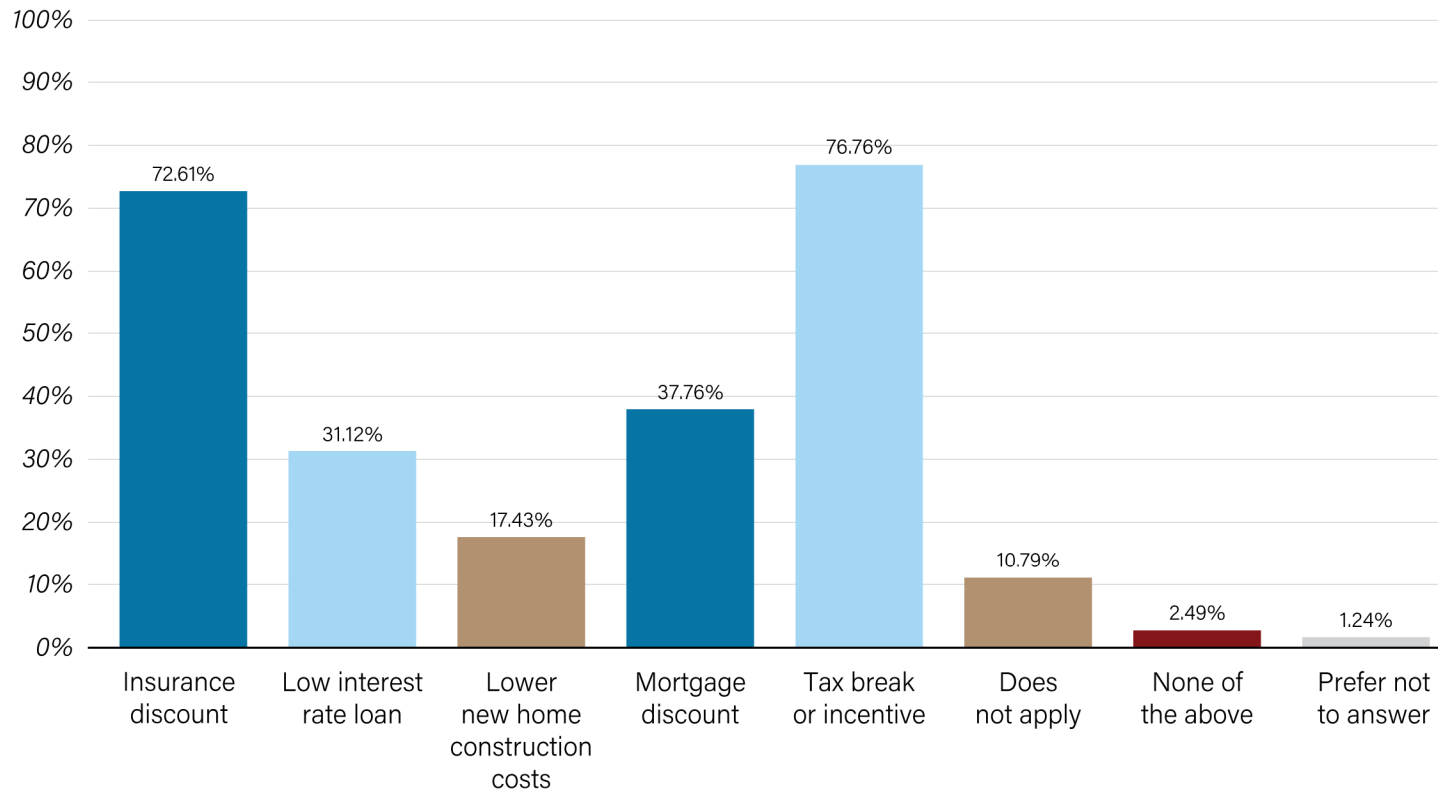
Q14



Answered | 240  
Skipped | 0

If you own property, which of the following incentives, if any, would motivate you to take additional steps to better protect the property from a natural disaster?

**Q15**

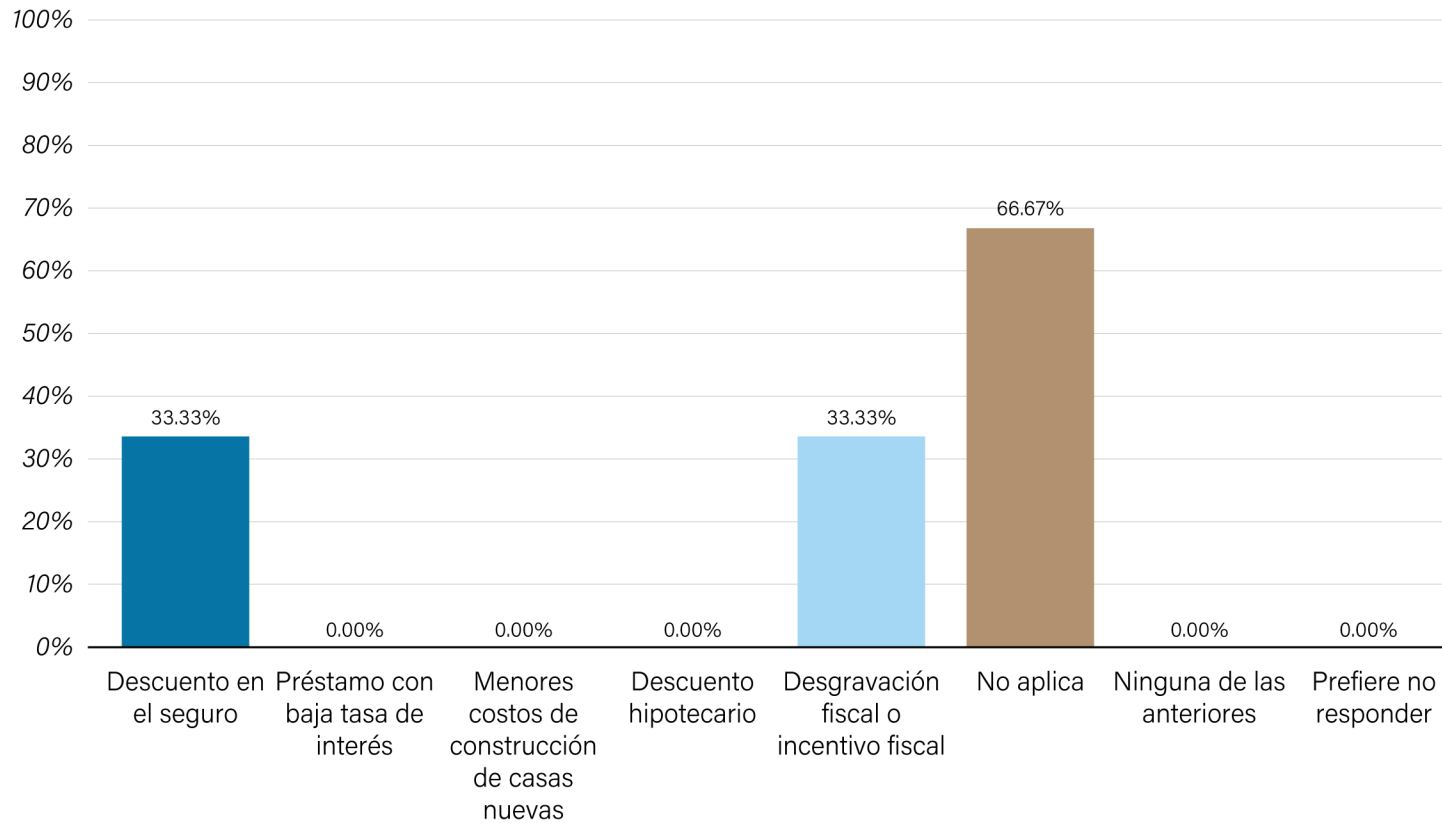


#	OTHER (PLEASE SPECIFY)
1	Government-operated program that connects homeowners with qualified contractors to do inspections, make recommendations, and do this work.
2	Condo.
3	Please improve building codes and inspections so that contractors are more liable for doing the right thing that actually benefit and protect homes.
4	Help doing the upgrades.
5	I chose insurance discount and tax break, but that usually ends up in the seller's pocket, not the homeowner's. How to avoid that?
6	People CANNOT afford to pay more rent or more for their mortgage. It is disrespectful to think renters could or would pay more. LANDLORDS and rental agencies should be better regulated. Having renters pay is an absurd idea.
7	The biggest key would be being assured that the people performing the work were qualified and not taking advantage of homeowners.

Answered | 3  
Skipped | 0

Si usted es dueño de una propiedad, ¿cuál de los siguientes incentivos, si los hay, le motivaría a tomar medidas adicionales para proteger mejor la propiedad de un desastre natural?

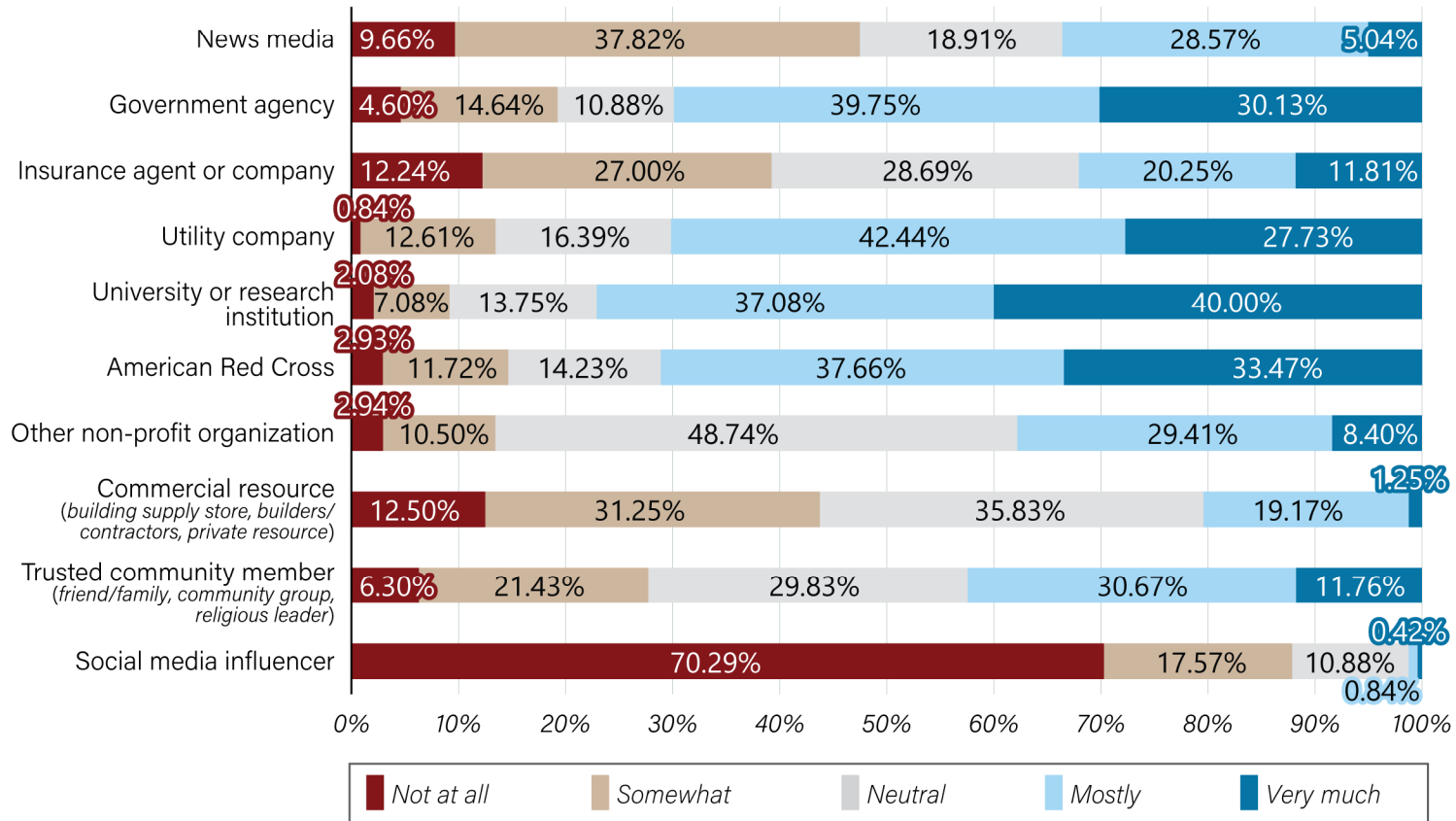
**Q15**



Answered | 240  
Skipped | 0

Please tell us how much you trust each source to provide you with information about how to make your household and home safer from natural disasters.

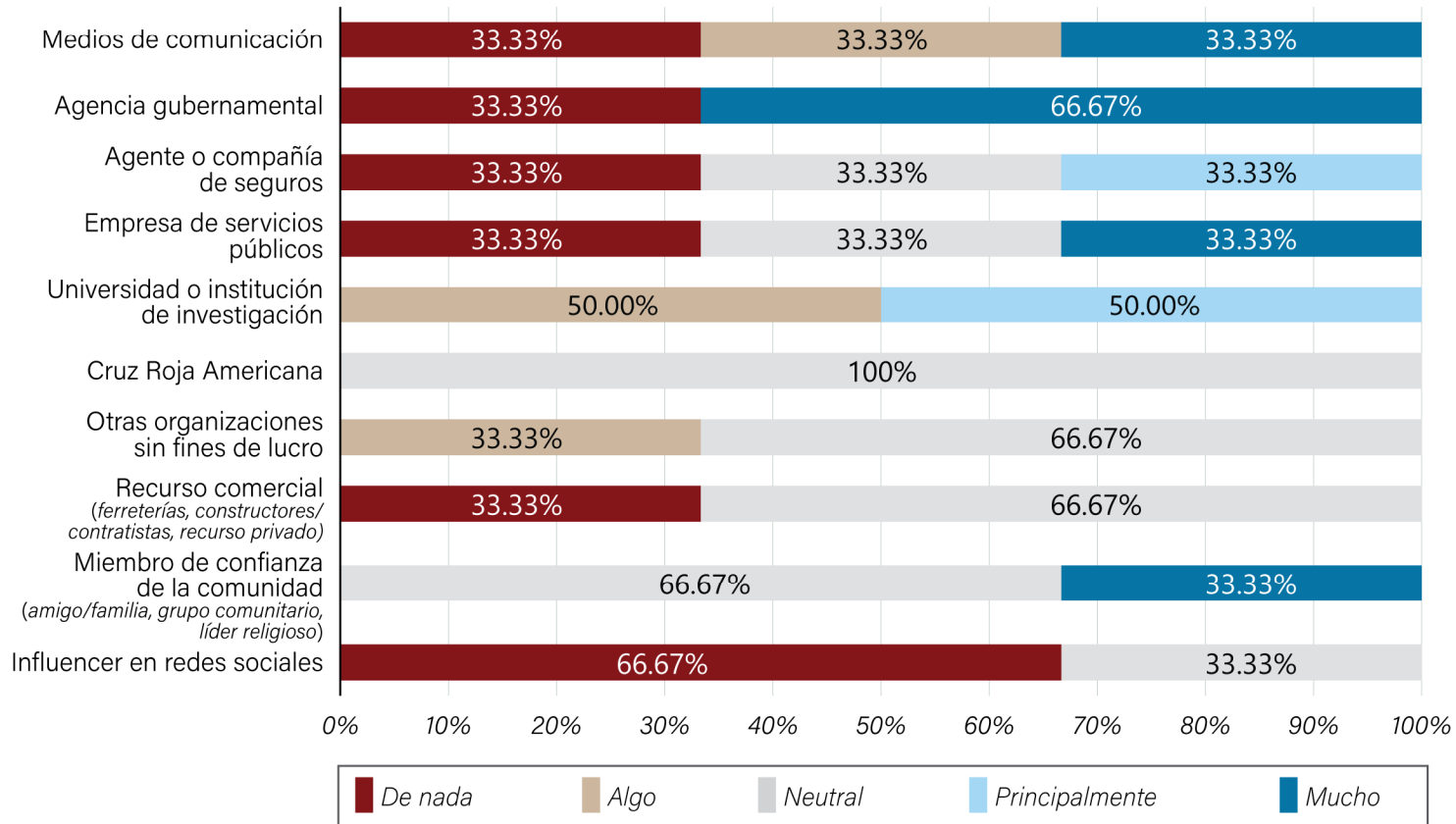
**Q16**



#	OTHER (PLEASE SPECIFY)
1	Subject matter experts
2	Fire department
3	The library: get educated
4	We do our own research
5	Experts in their field
6	Various emergency management instructors Very Much
7	Fire Department
8	News media, to me means or public broadcasting
9	CERT, Tualatin Valley Fire and Rescue, Oregon Office of Emergency Management
10	Mutual Aid groups
11	Depends on the news media (are we talking PBS or Fox talk shows?). And depends on the government agency (are we talking an environmental agency or the police?)
12	It would be key to have contractors vetted with no financial ties

Answered | 3  
Skipped | 0

Por favor, díganos cuánto confía en cada fuente para proporcionarle información sobre cómo hacer que su hogar y su familia estén más seguros de los desastres naturales.

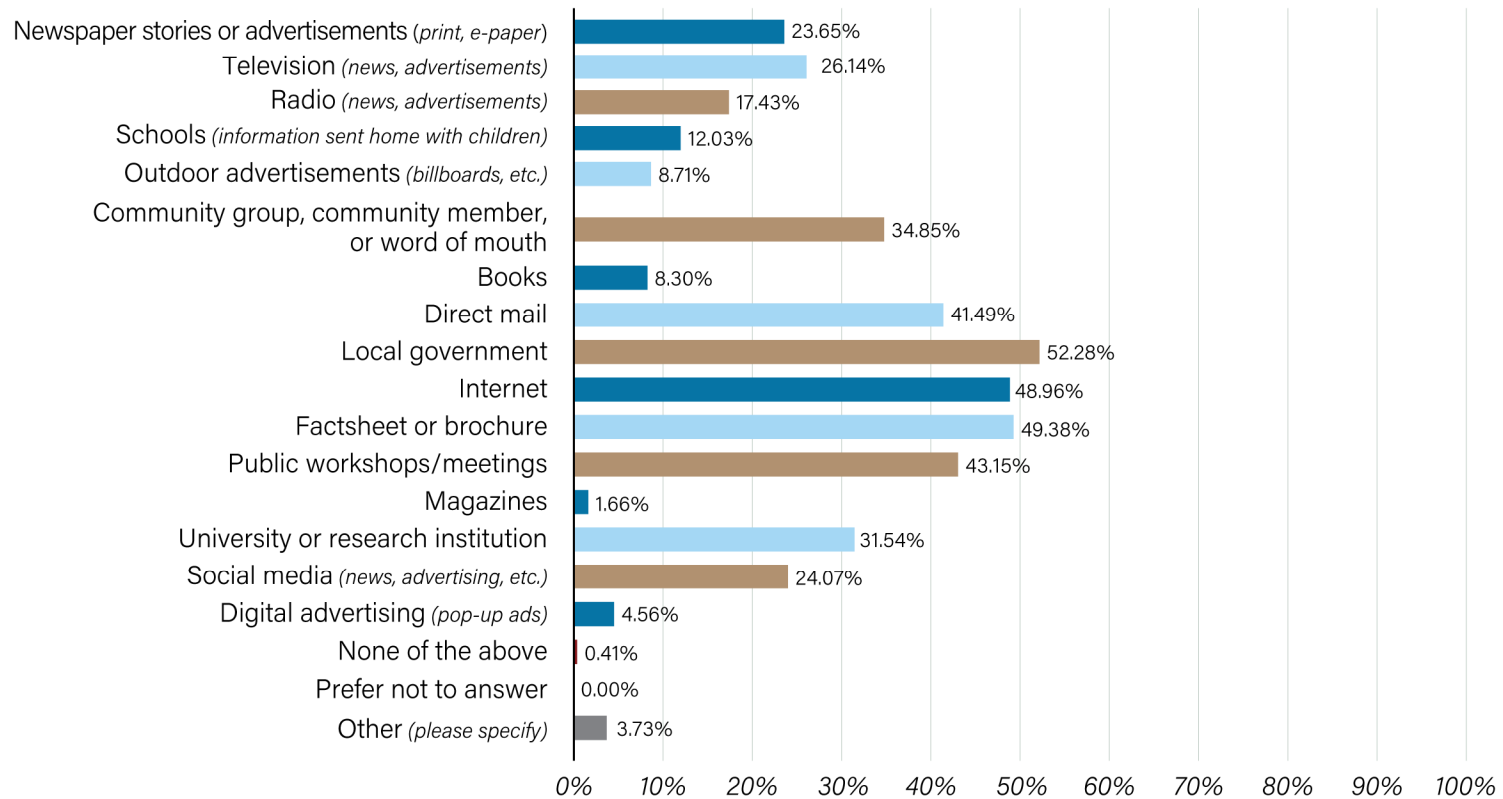




Answered | **240**  
 Skipped | **0**

What is the most effective way for you to receive information about how to make your household and home safer from natural disasters? Choose up to five answers.

**Q17**

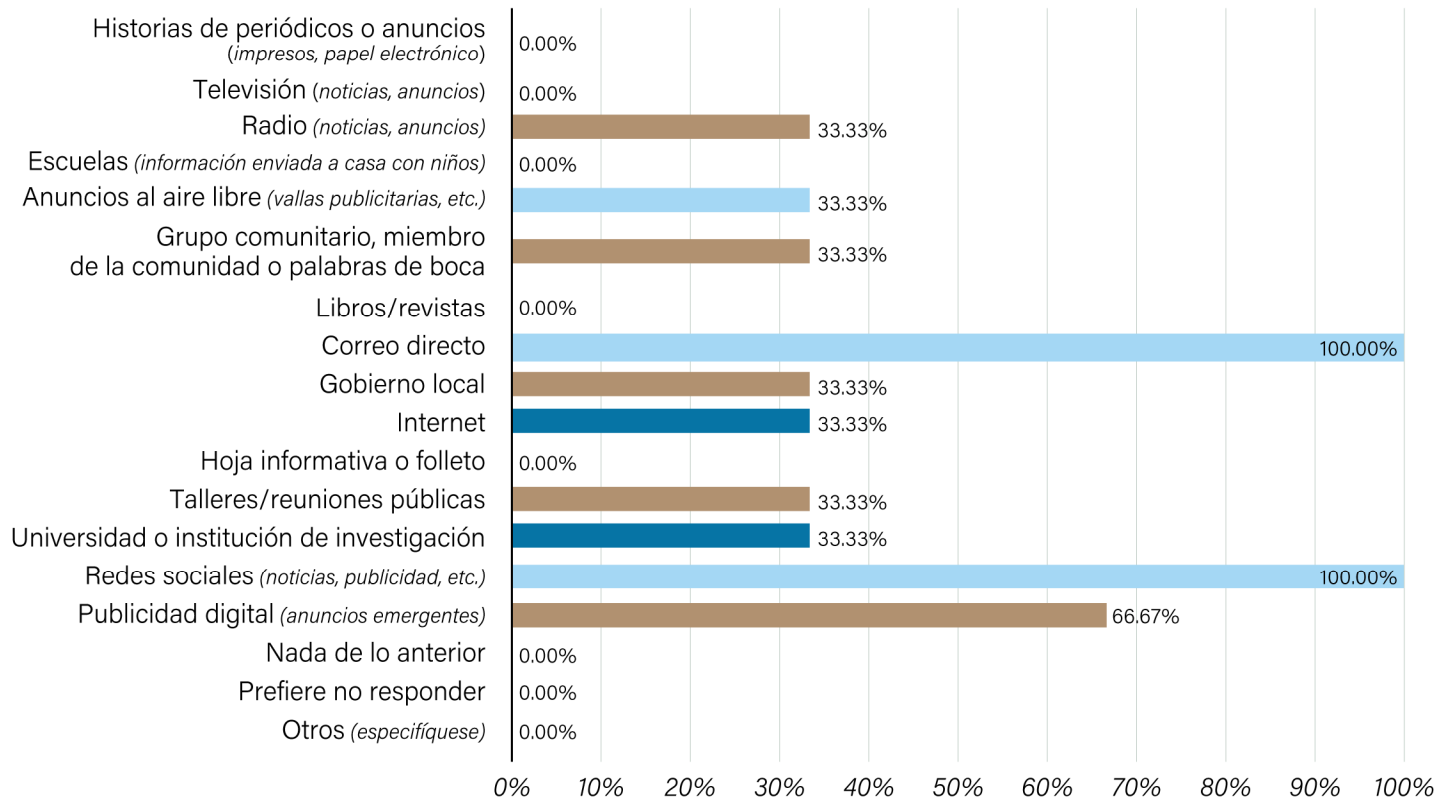


#	OTHER (PLEASE SPECIFY)
1	Text messages
2	Library signage and direct mail
3	Cedar Hills Ready has a host of expert info that I follow
4	Emails and mailings from the Beaverton CERT program
5	Local library
6	I am a middle-aged person with elders to care for living in a senior 55+ community. We need more community outreach at our location.
7	MA 'zines
8	My dad was the head building code inspector for the state of Oregon; I learned a lot from his daily rants.
9	Utilities and county people should come around to neighborhoods and address houses and their differing situations according to the years their houses were built/quality etc.

Answered | 3  
Skipped | 0

¿Cuál es la forma más efectiva de recibir información sobre cómo hacer que su hogar y su familia estén más seguros frente a los desastres naturales? *Elige hasta cinco respuestas.*

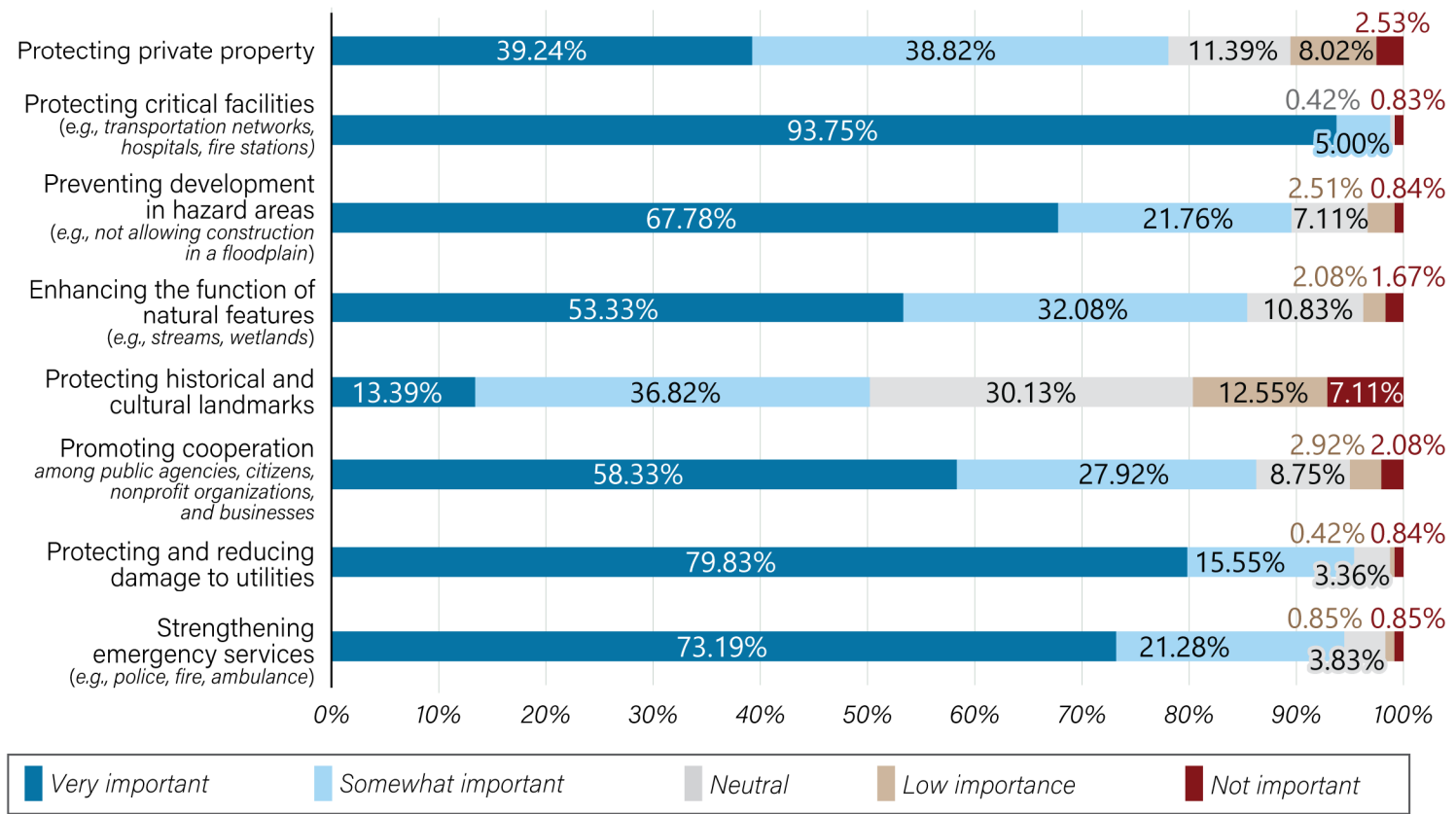
**Q17**



Answered | **240**  
 Skipped | **0**

The following statements will help determine community priorities for planning for natural hazards. Please tell us how important each one is to you.

**Q18**

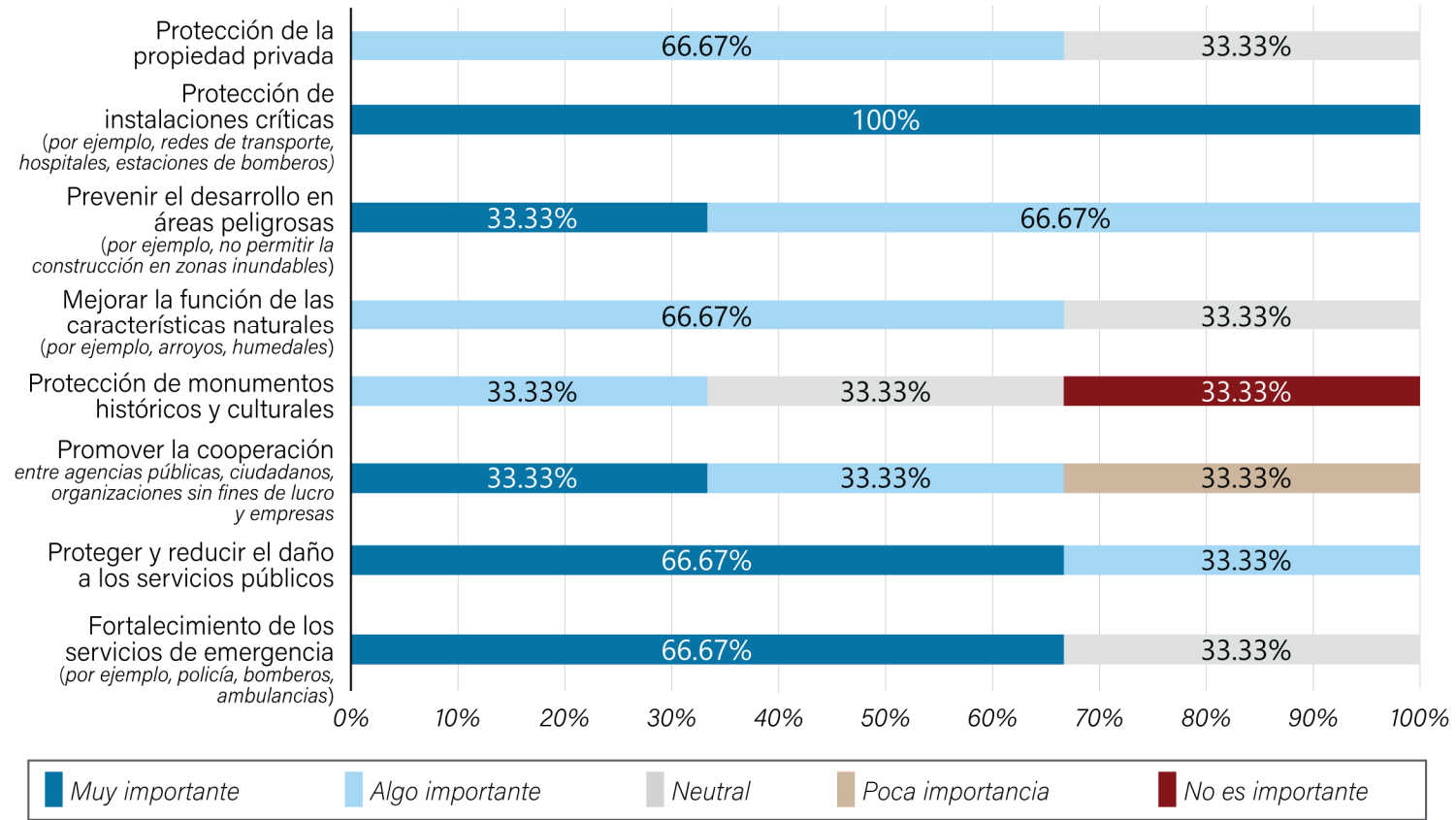


#	OTHER (PLEASE SPECIFY)
1	We need more police officers. Lots more. They cannot handle current emergencies as it is.
2	Police are not important. Helping neighbors plan together for emergency preparedness.
3	Yes. All of them!
4	Important to reach non-English speaking and low-income communities.
5	Implement better standard requirements for rentable housing in terms of preventative measures and safety features. Maybe require ALL buildings to have suggested evacuation plans in plain view (including apartments) so that anyone in a new space can escape quickly if need be. Also make quick escape routes possible for people with disabilities a requirement for all new buildings.
6	More National Guard emergency training and funding.
7	Fire and ambulance, but with police—it depends on what strengthening means. The first two will be the most important.
8	Rebuilding or relocating after a disaster to prevent the facility from being damaged in any future disaster.
9	Money to do this. Maybe local government can make sure they are keeping lines in good shape.
10	Public outreach to train citizens to get organized in their households and work with the neighbors on their streets or in their community homes to develop an emergency communication plan and coordinated disaster response plan.
11	Develop a plan to assist elderly and handicapped people.
12	Protecting schools—making them earthquake safe.
13	Police and ambulance services are not the same and should not be lumped. Medical services are very important. Paramilitary forces are not.
14	Educate community in preparation and recovery; make training available to more people at a lower cost.

Las siguientes declaraciones ayudarán a determinar las prioridades de la comunidad para la planificación de los peligros naturales. Por favor, díganos lo importante que es cada uno para usted.

**Q18**

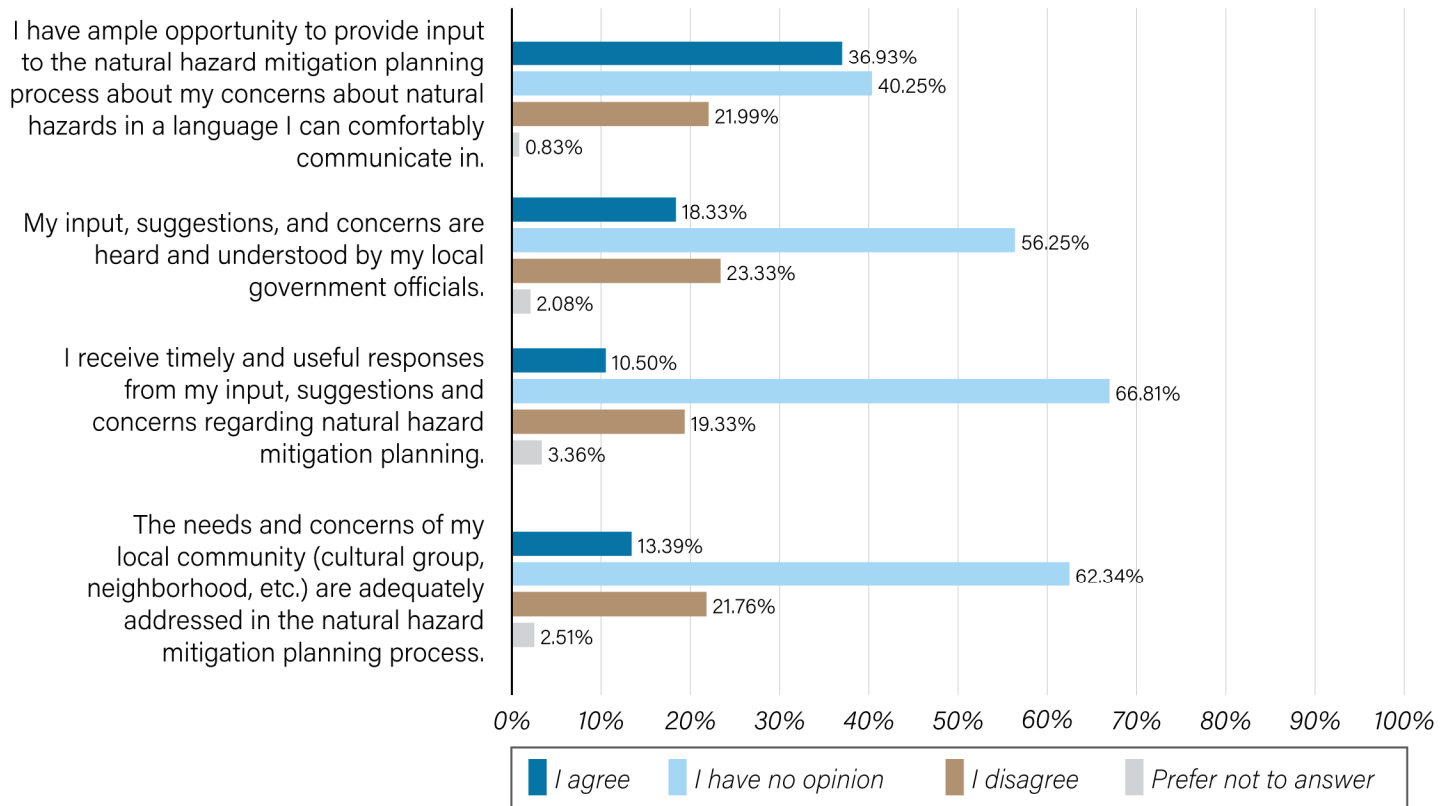
Answered | 3  
Skipped | 0



Answered | 240  
Skipped | 0

The following statements strive to understand your thoughts regarding the ability of the public to participate in this process. Please tell us if you agree with each statement.

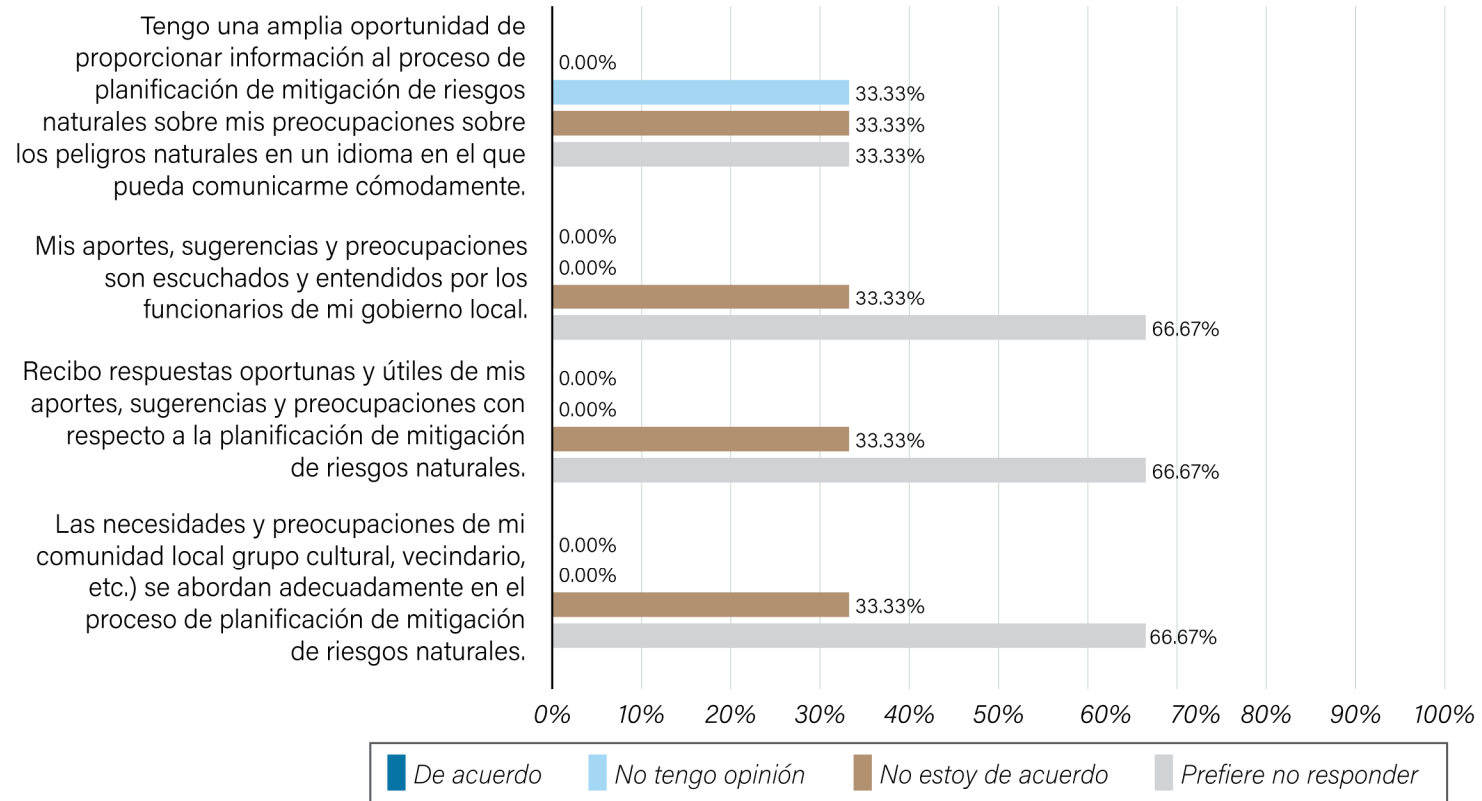
**Q19**





Answered | 3  
Skipped | 0

Las siguientes declaraciones se esfuerzan por comprender sus pensamientos con respecto a la capacidad del público para participar en este proceso. Por favor, díganos si está de acuerdo con cada declaración.



**Q20. That concludes the questions on natural hazards. The next few questions ask about different types of people in the community. We want to know if different groups in our community are being heard. We encourage you to answer these questions, but if you prefer not to, please select "prefer not to answer."**

**Answered: 10 Skipped: 230**

#	RESPONSES
1	Community groups are trying to get Washington County to pursue a Climate Action Plan, to add climate disaster to the EMS program. We need greater support to make this happen.
2	Question #19 makes no sense because this is the first time I've ever been reached out to for input on this type of plan and I've lived in Beaverton for over 40 years! Also need a comment/question section in your survey. Plus, why ask the same questions over, just rewording; seems trying to guide an outcome.
3	Okay.
4	I don't know if community understands or knows about emergency preparedness.
5	FYI, disasters are not "natural" in that it is human poor planning that makes it a disaster.
6	Are these plans being made accessible? For those who are low income, have a disability or health condition, speak a different language, unable to drive, etc. and may be impacted more during a natural disaster?
7	Okay.
8	General citizen, BIPOC, faith base, volunteer groups, elderly communities, disabilities access and/or functional needs population, and houseless.
9	I live in the Summerfield 55+ civic association. They have no plans in place for an emergency management plan for seniors living here.
10	So "where do you place your racial or ethnic identity" "requires an answer" even though I responded by filling in the "other" box.

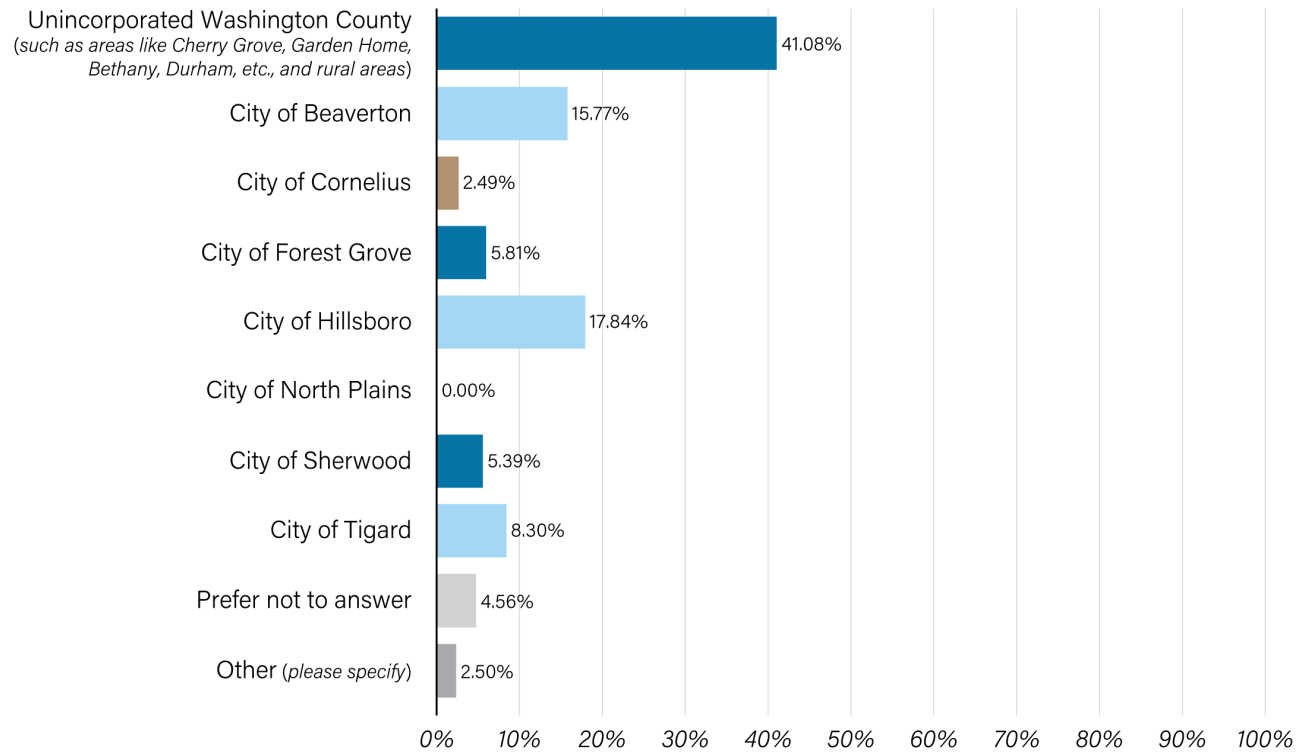
**Q20. Con esto concluyen las preguntas relacionadas a los peligros naturales. Las siguientes preguntas tratan sobre los diferentes tipos de personas en la comunidad. Queremos saber si los diferentes grupos de nuestra comunidad están siendo escuchados. Le recomendamos que responda a estas preguntas, pero si prefiere no hacerlo, por favor "seleccione preferir no responder".**

**Answered: 1 Skipped: 2**

#	RESPUESTAS
1	OK

Where do you live?

Answered | 240 Skipped | 0

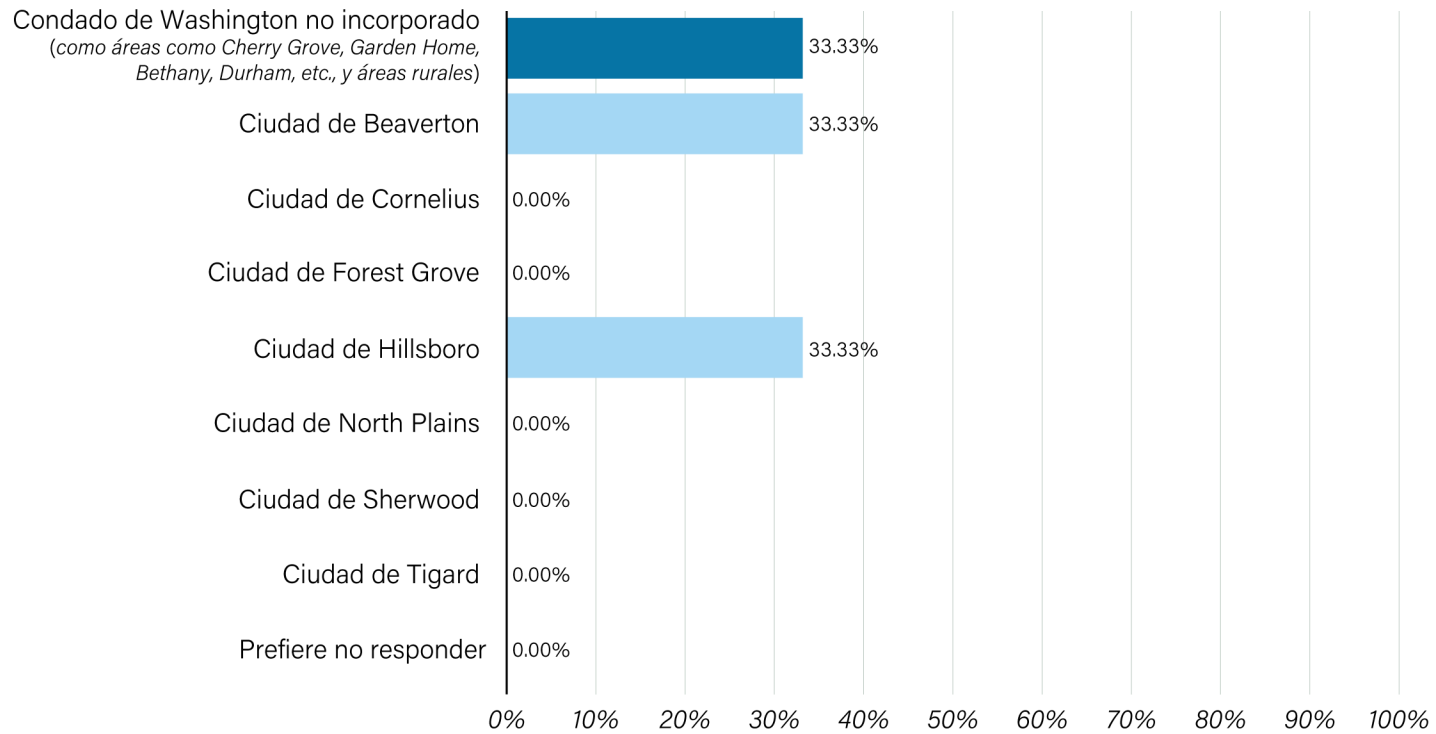


#	OTHER (PLEASE SPECIFY)
1	Near Gales Creek, Oregon
2	City of Portland
3	Portland
4	Tualatin
5	I have a Portland address in Washington County.
6	Tualatin. Why isn't Tualatin listed? Tualatin's logo appears at the bottom of the page I clicked for the survey.

### ¿En dónde vives?

Answered | 3 Skipped | 0

Q21



**Q22. What zip code do you live in? If you prefer not to answer, please type N/A.**

**Answered: 240 Skipped: 0**

ZIP CODE	NUMBER OF RESPONSES
97003	7
97005	7
97006	12
97007	11
97008	14
97062	2
97078	5
97106	3
97113	6
97116	18
97117	3
97123	24
97124	22
97133	2
97140	13
97217	1
97223	13
97224	12
97225	7
97229	32
97266	1
97299	1
97006	1



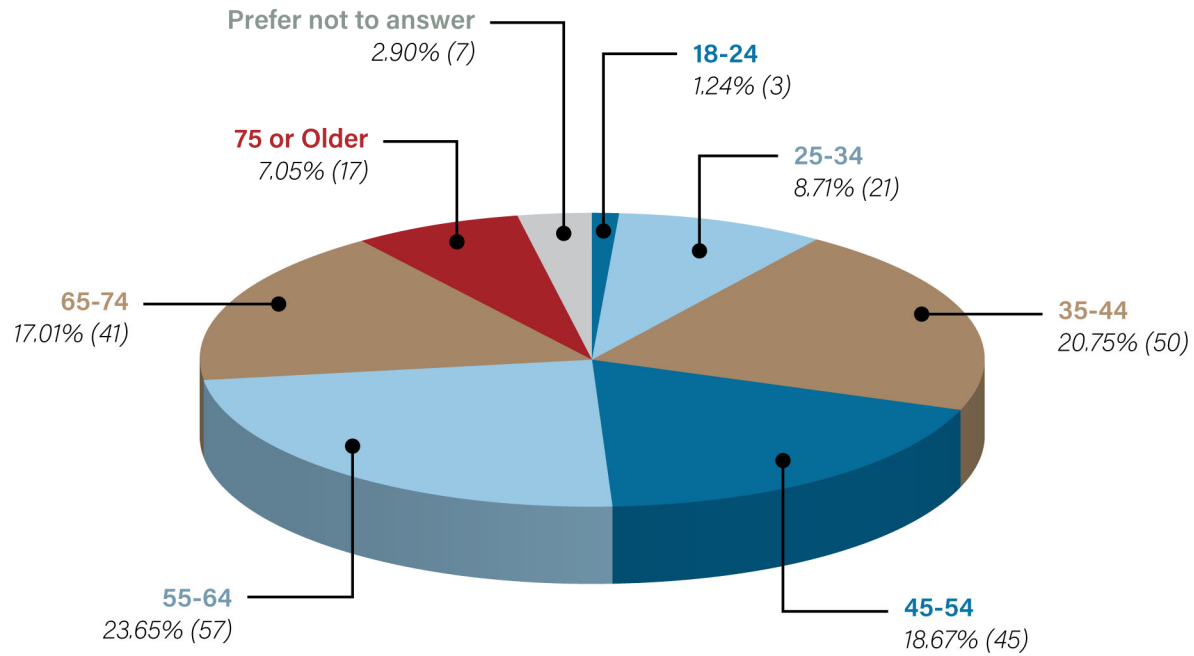
ZIP CODE	NUMBER OF RESPONSES
97124, 97003	1
N/A	22

**Q22 ¿En qué código postal vives? Si prefiere no responder, escriba N/A.**

**Answered: 3 Skipped: 0**

EL CÓDIGO POSTAL	NÚMERO DE RESPUESTAS
97229	1
97006	1
97123	1

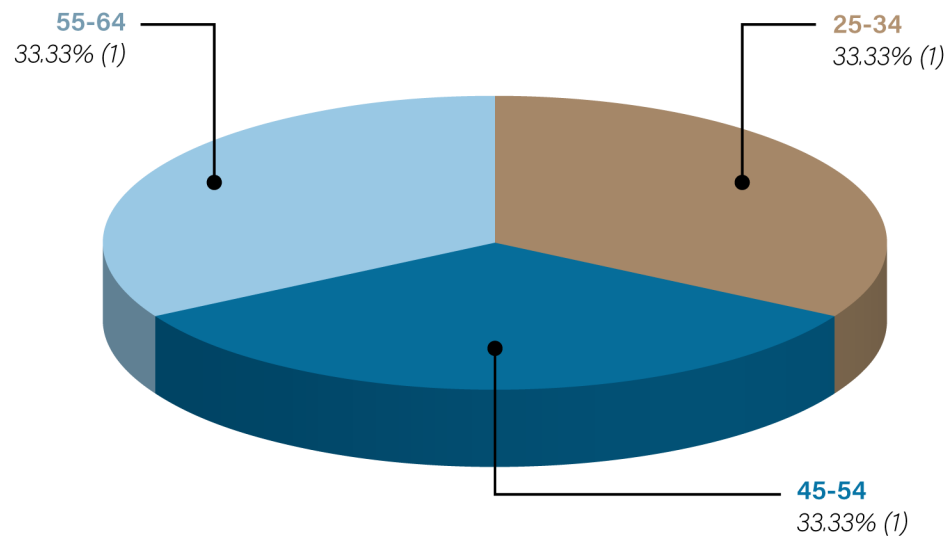
Which of the following includes your age? **Q23**  
Answered | 240 Skipped | 0



¿Cuál de las siguientes incluye su edad?

Answered | 3 Skipped | 0

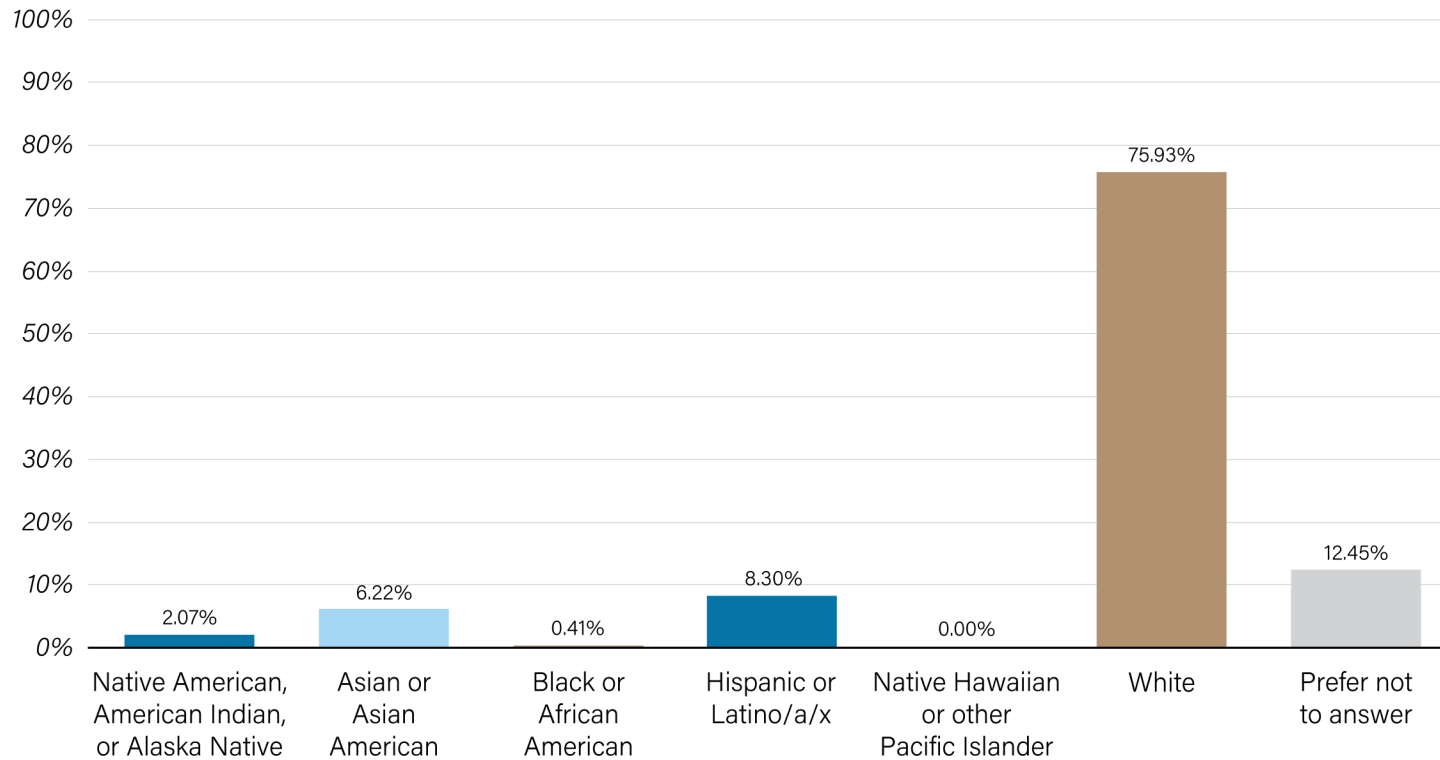
Q23



Answered | 240  
Skipped | 0

Within these categories, where do you place your racial or ethnic identity? (Select all that apply.)

Q24

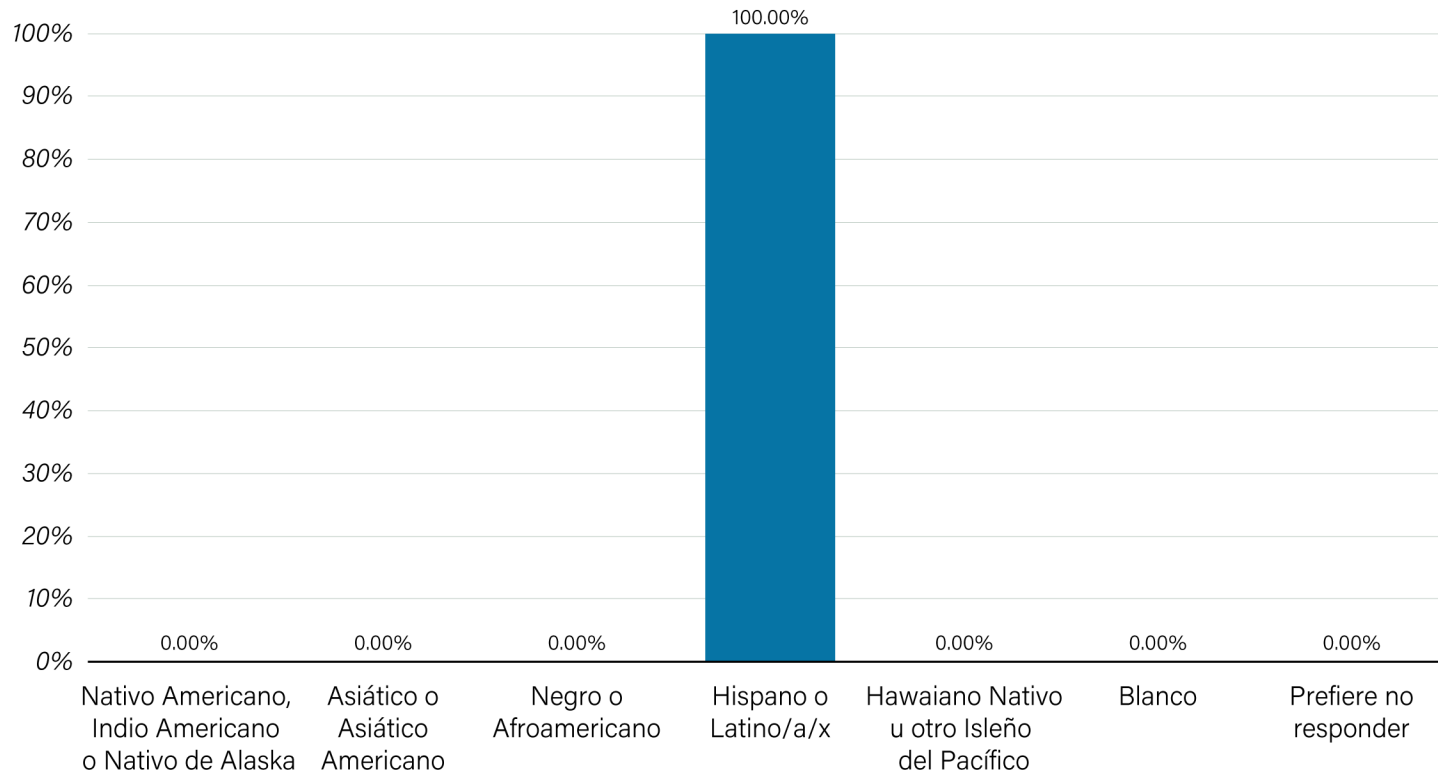


#	OTHER (PLEASE SPECIFY)
1	Middle Eastern
2	Mixed American melting pot
3	European Mutt
4	Slavic / Middle Eastern
5	My category is not listed :(
6	Human

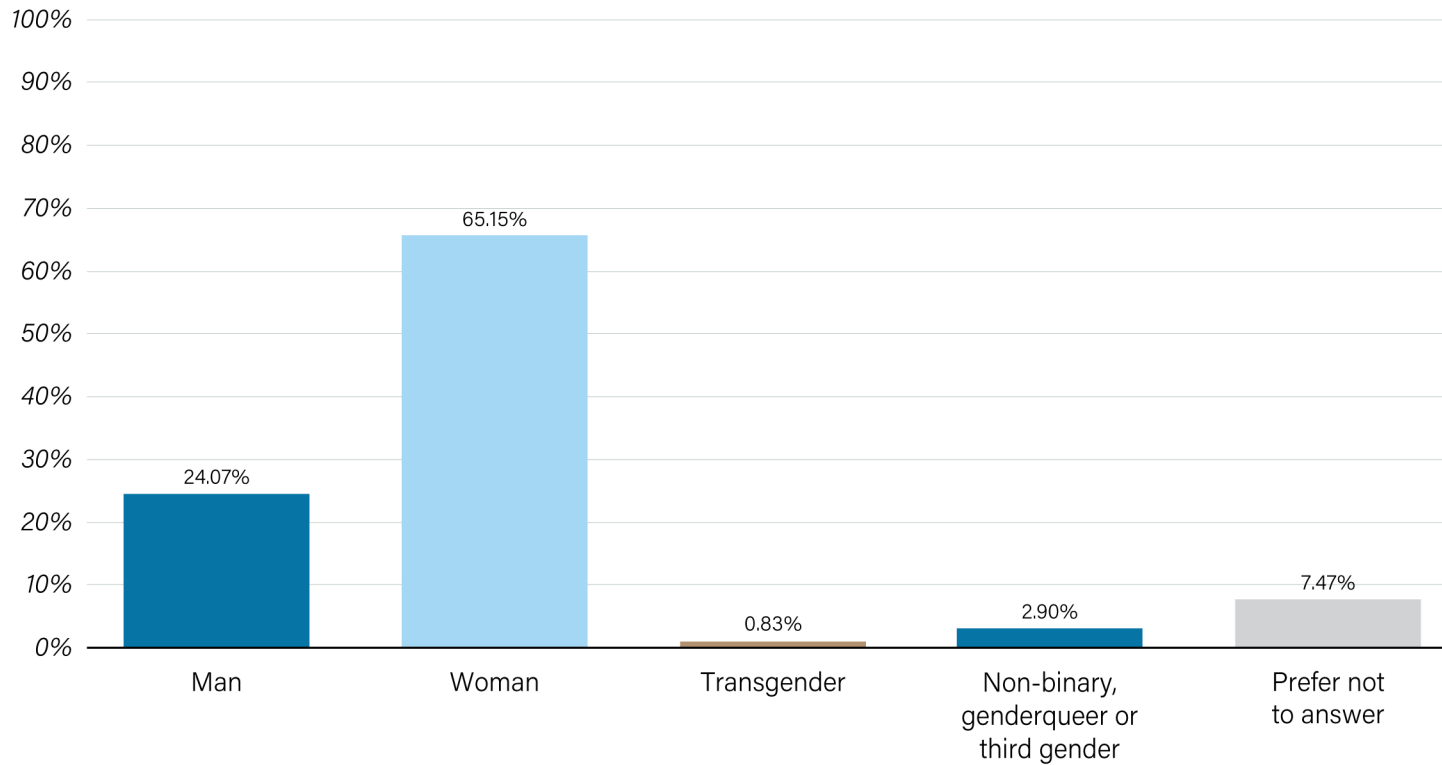
Answered | 3  
Skipped | 0

Dentro de estas categorías, ¿dónde colocas tu identidad racial o étnica? (Seleccione todo lo que corresponda.)

Q24



How do you identify your gender? (Select all that apply.) **Q25**  
 Answered | 240 Skipped | 0

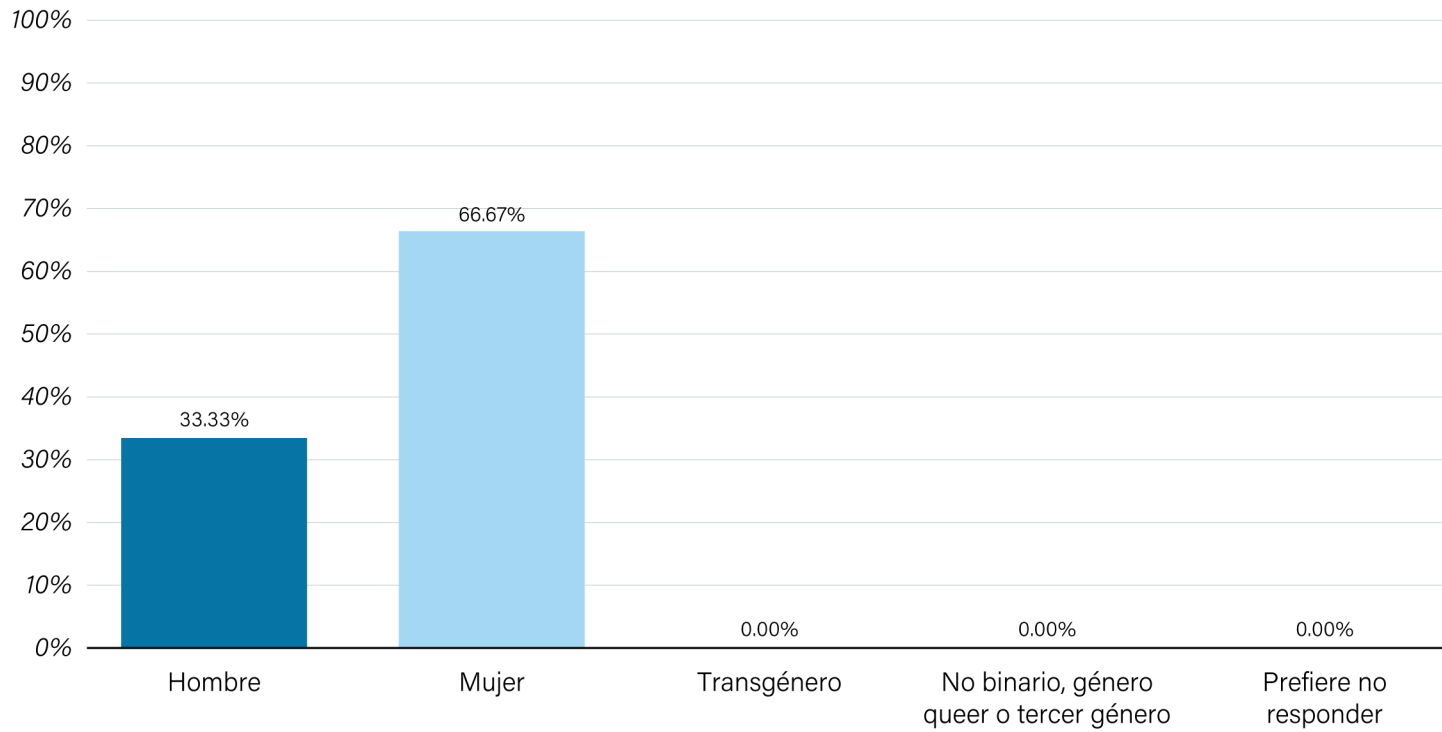


#	A GENDER NOT LISTED ABOVE (PLEASE DESCRIBE)
1	Man or woman
2	Do not lump transgender. Trans men and trans women have VERY different experiences and genders. And, are you not going to ask about sexuality/LGB+ identity?



¿Cómo identificas tu género? (Seleccione todo lo que corresponda.)

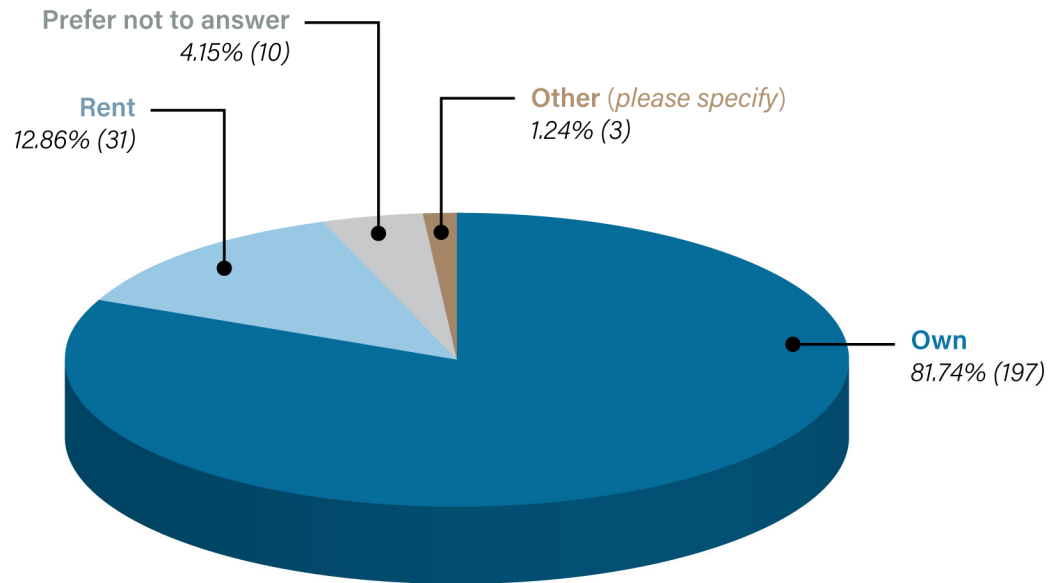
Answered | 3 Skipped | 0



Answered | 240  
 Skipped | 0

If you live within Washington County, what is your housing status?

**Q26**

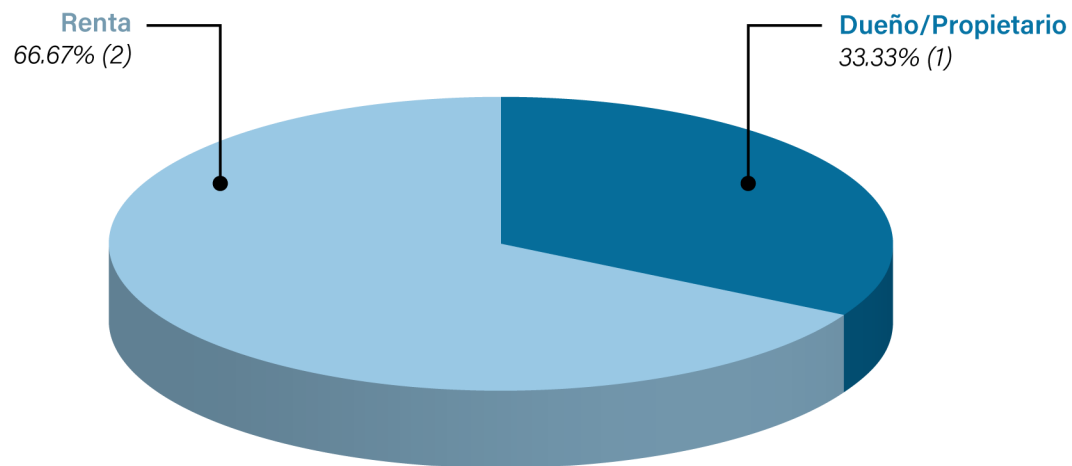


#	OTHER (PLEASE SPECIFY)
1	Disabled. Living with parents, otherwise I'd be homeless.
2	Occupy home owned by family member, but no rent paid.
3	Own in Condo Community.

Answered | 3  
Skipped | 0

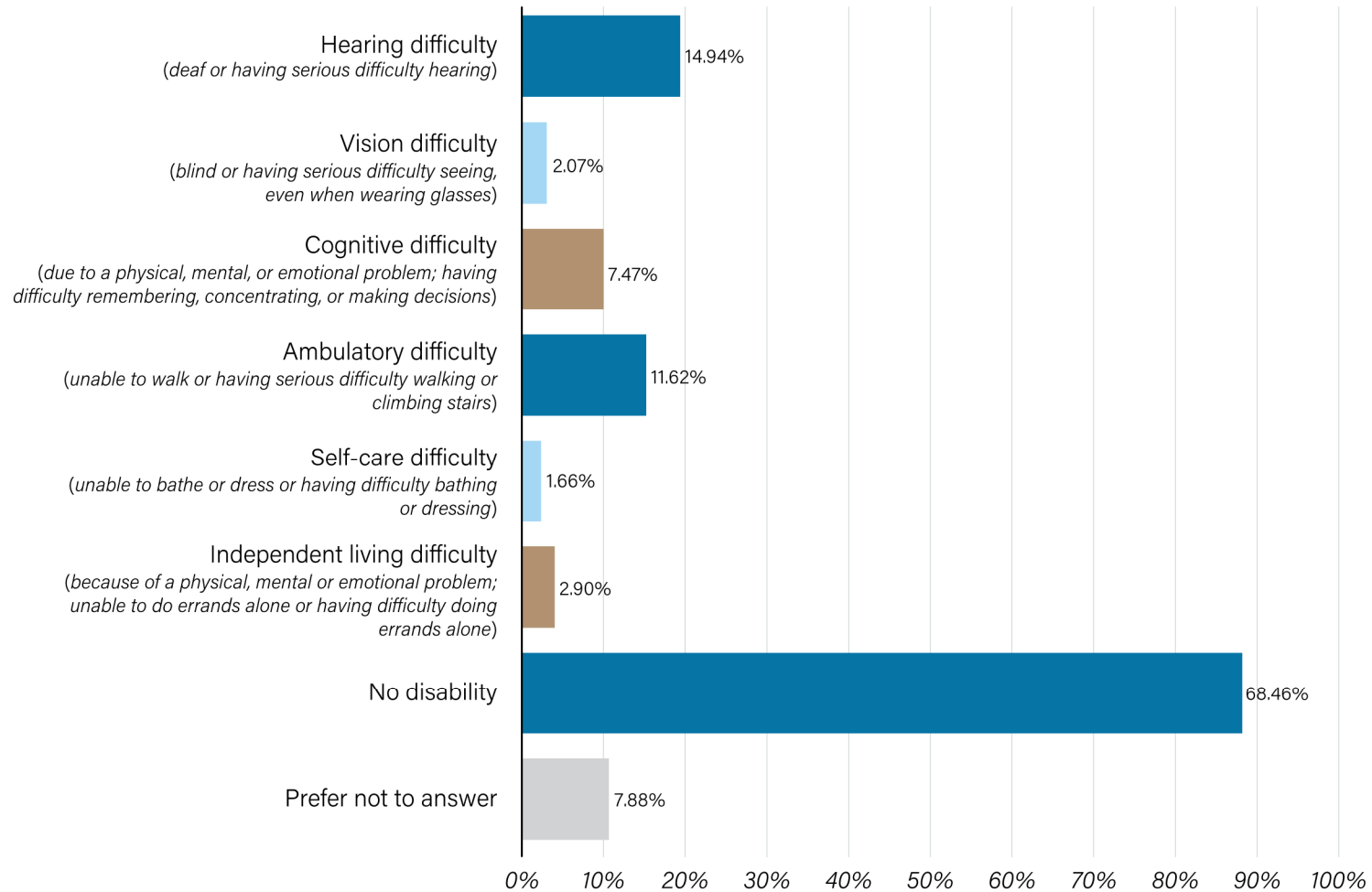
Si vive dentro del condado de Washington,  
¿cuál es su estado de vivienda?

Q26



Answered | 240  
Skipped | 0

Do you or someone living in the household have one or more of the following disabilities that should be considered in mitigation planning projects, such as for mobility access or evacuation alerts?  
(Select all that apply.)

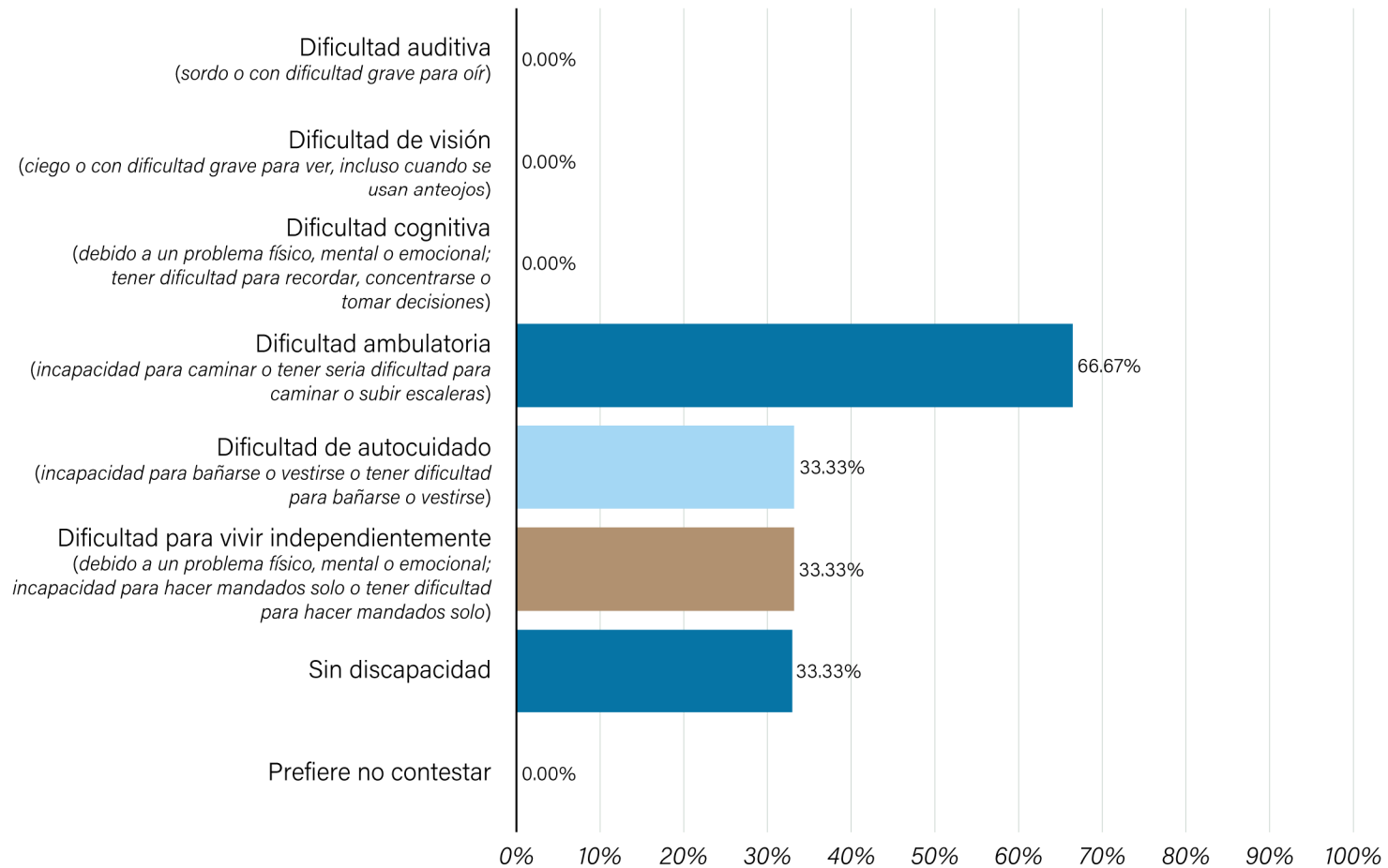


#	A DISABILITY NOT LISTED ABOVE (PLEASE DESCRIBE)
1	PTSD (post-traumatic stress disorder)
2	Some hearing loss
3	Epilepsy; scheduled drugs—cannot get more than one month at a time. I know that pharmacies don't fall under disaster mitigation, but is there a plan for getting meds out to people?
4	Asthma from poor air quality
5	Complex post-traumatic stress disorder
6	Physical disability, difficulty walking
7	Difficult to walk or climb stairs without cane, but not impossible
8	Permanent loss of sense of smell

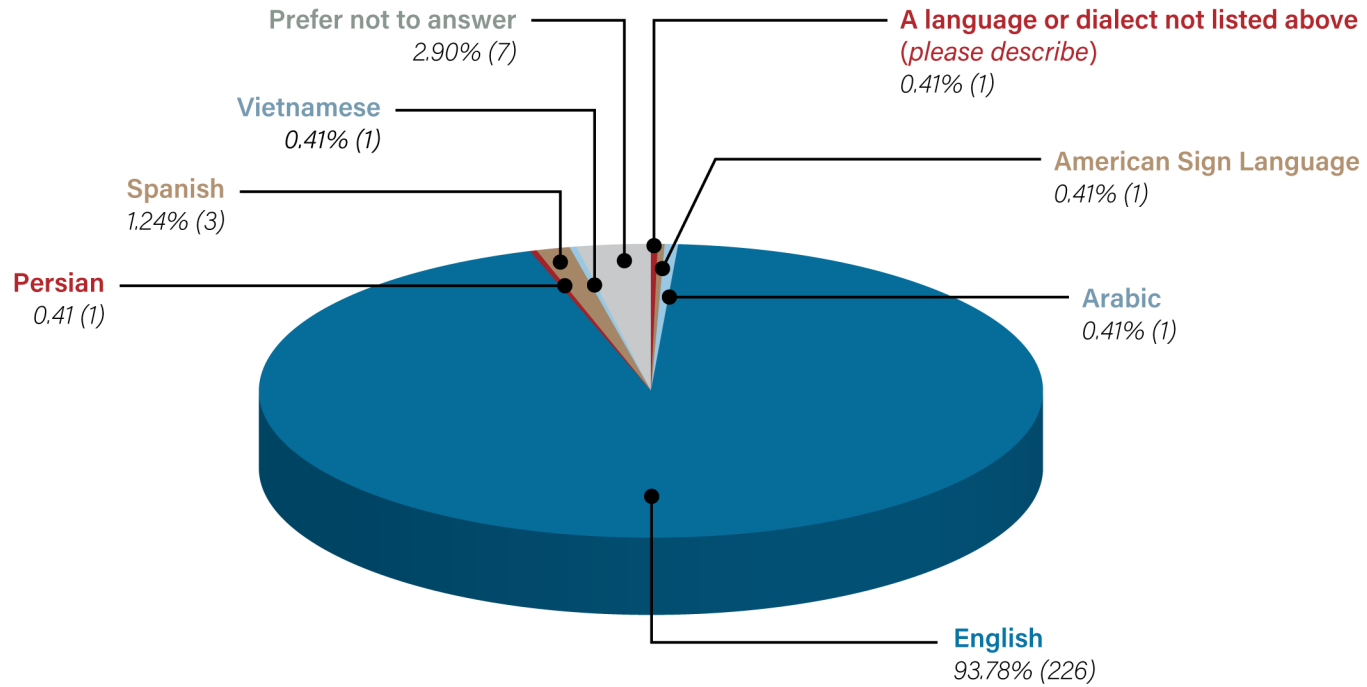
Answered | 3  
 Skipped | 0

**Q27**

¿Usted o alguien que vive en el hogar tiene una o más de las siguientes discapacidades que deben considerarse en los proyectos de planificación de mitigación, como para el acceso a la movilidad o las alertas de evacuación?  
 (Seleccione todo lo que corresponda.)



What language or dialect is used most in your home? **Q28**  
 Answered | 240 Skipped | 0

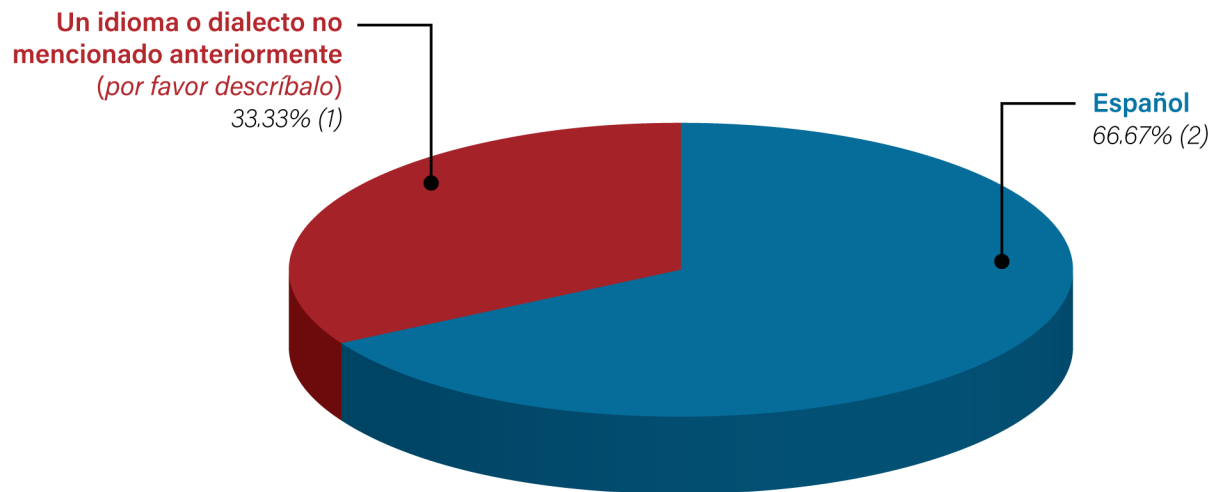


#	A LANGUAGE OR DIALECT NOT LISTED ABOVE (PLEASE DESCRIBE)
1	German

¿Qué idioma o dialecto se usa más en su hogar?

Answered | 3 Skipped | 0

Q28



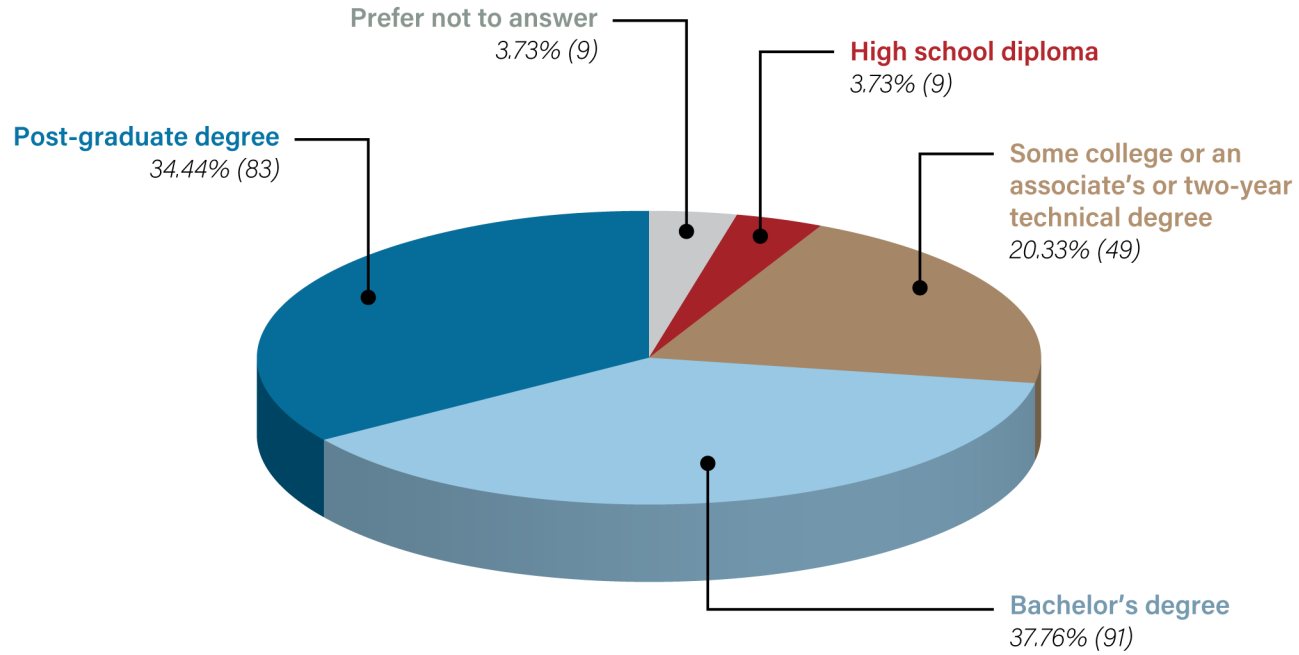
#	RESPUESTAS
1	Mixteco y Español (Mixtec and Spanish)



# What is your education experience?

Answered | 240 Skipped | 0

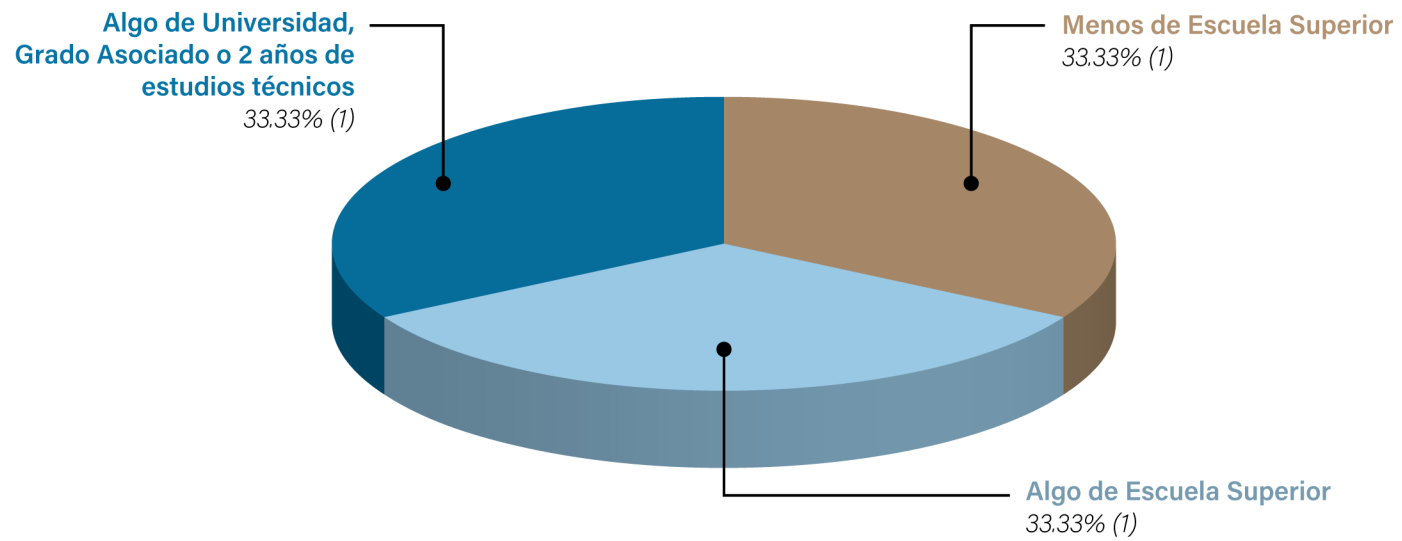
Q29



# ¿Cuál es su experiencia educativa?

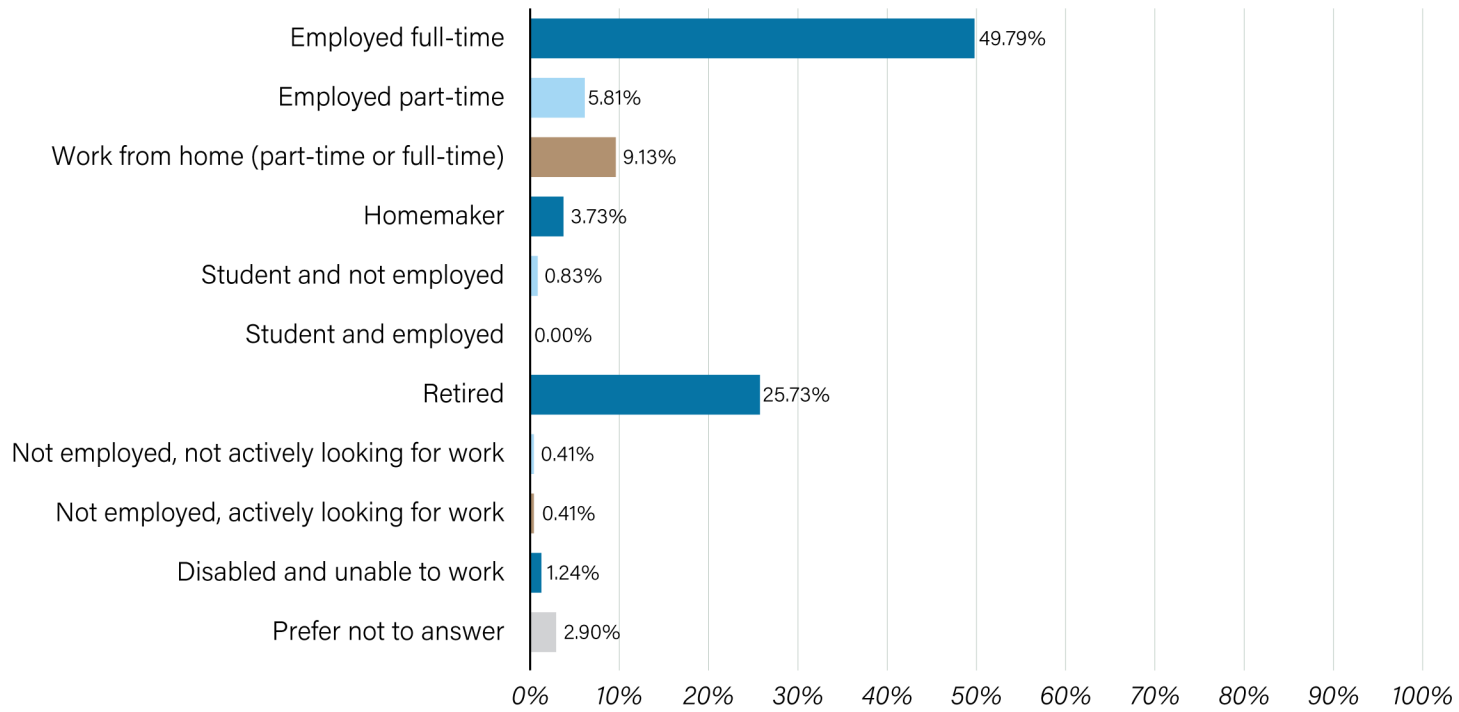
Answered | 3 Skipped | 0

Q29



Answered | 240  
Skipped | 0

Which of the following best describes your current employment status?

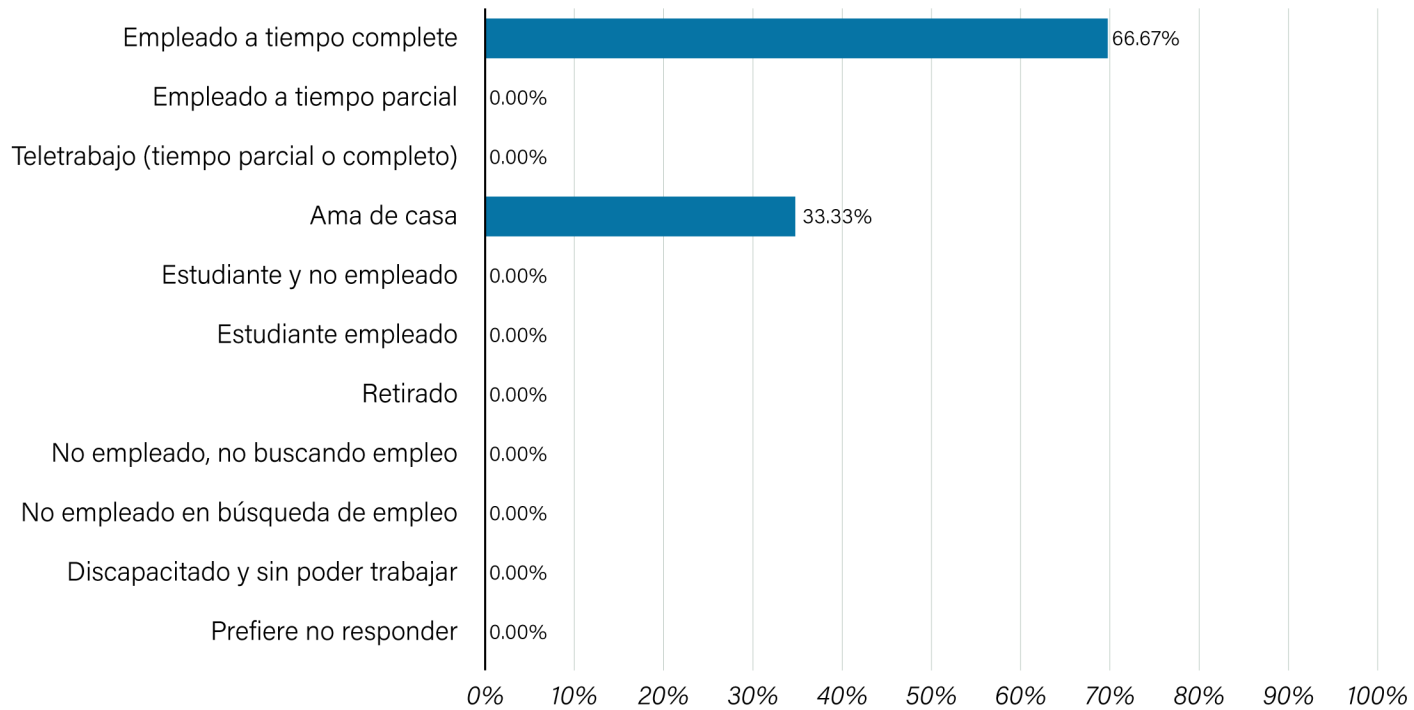


#	OTHER (PLEASE DESCRIBE)
1	Question 30 didn't have an "other option button" so I guess I have to click a button which will not be true. Also, add "Self-Employed." (How is that not on your list??!!!)
2	Self-employed
3	Semi-retired
4	Hybrid work environment. Half week in office, half at home
5	Filbert orchard owner
6	Self-employed

Answered | 3  
Skipped | 0

¿Cuál de las siguientes opciones describe mejor su situación laboral actual?

Q30



**Q31. To which zip code do you travel to for school? If this is not applicable, please type N/A.**

**Answered: 240 Skipped: 0**

ZIP CODE	NUMBER OF RESPONSES
97005	2
97006	2
97078	1
97116	2
97123	1
97124	2
97140	1
97207	1
97229	1
97330	1
97123, 97124	1
N/A	223
Pcc	1
Uncertain	1

**Q31. ¿A qué código postal viajas para la escuela? Si esto no es aplicable, escriba N/A.**

**Answered: 3 Skipped: 0**

EL CÓDIGO POSTAL	NÚMERO DE RESPUESTAS
N/A	3

**Q32. To which zip code do you travel to for work? If this is not applicable, please type N/A.**

**Answered: 240 Skipped: 0**

ZIP CODE	NUMBER OF RESPONSES
97003	2
97005	9
97006	4
97007	1
97008	6
97032	1
97035	2
97040	1
97062	4
97068	1
97070	2
97076	2
97113	1
97116	3
97123	14
97124	30
97140	3
97202	1
97204	2
97205	2
97207	1
97208	1
97209	3
97223	3

ZIP CODE	NUMBER OF RESPONSES
97224	5
97225	1
97230	1
97232	2
97266	2
97305	1
98683	1
Business is at home	1
Hillsboro?	1
N/A	129

**Q32 ¿A qué código postal viajas por trabajo? Si esto no es aplicable, escriba N/A.**

**Answered: 3 Skipped: 0**

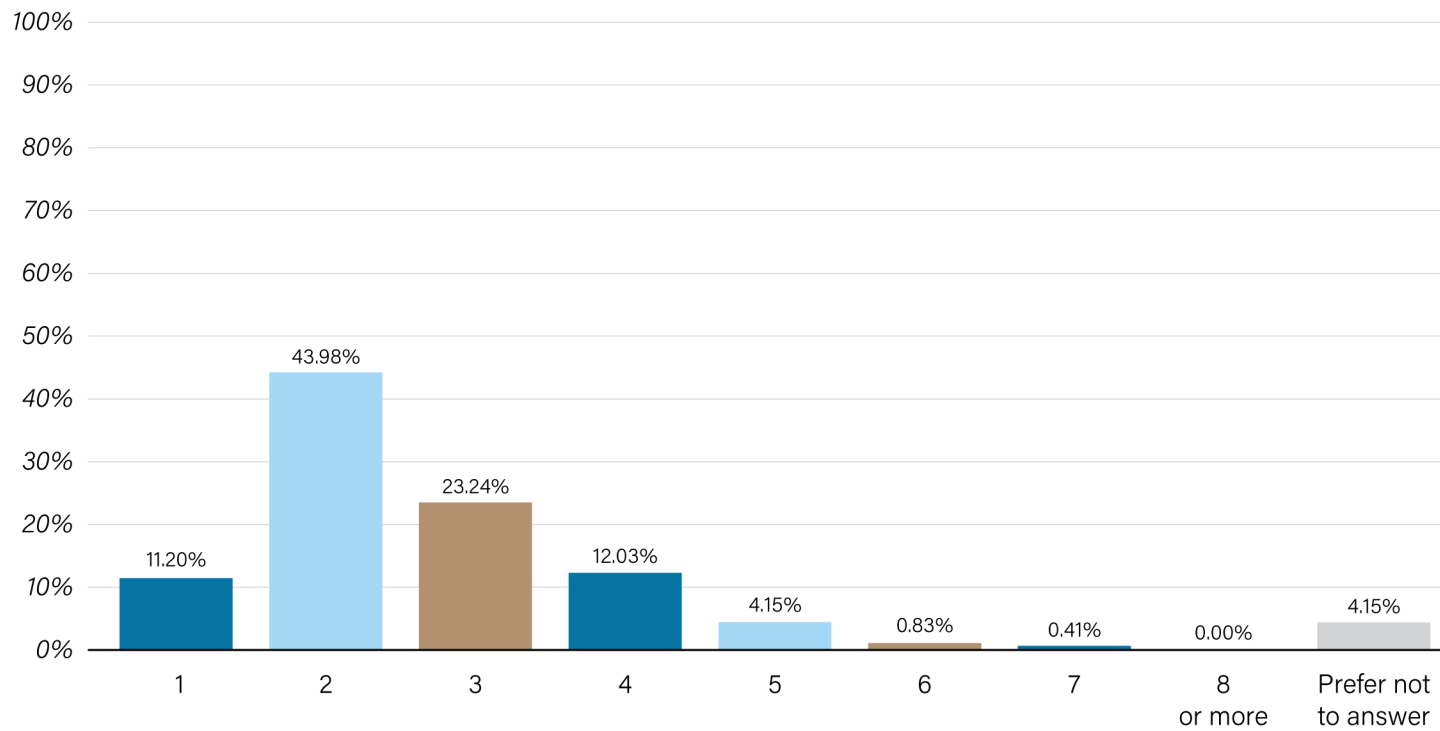
CÓDIGO POSTAL	NÚMERO DE RESPUESTAS
97113	1
N/A	2



### Including yourself, how many people live in your household?

Answered | 240 Skipped | 0

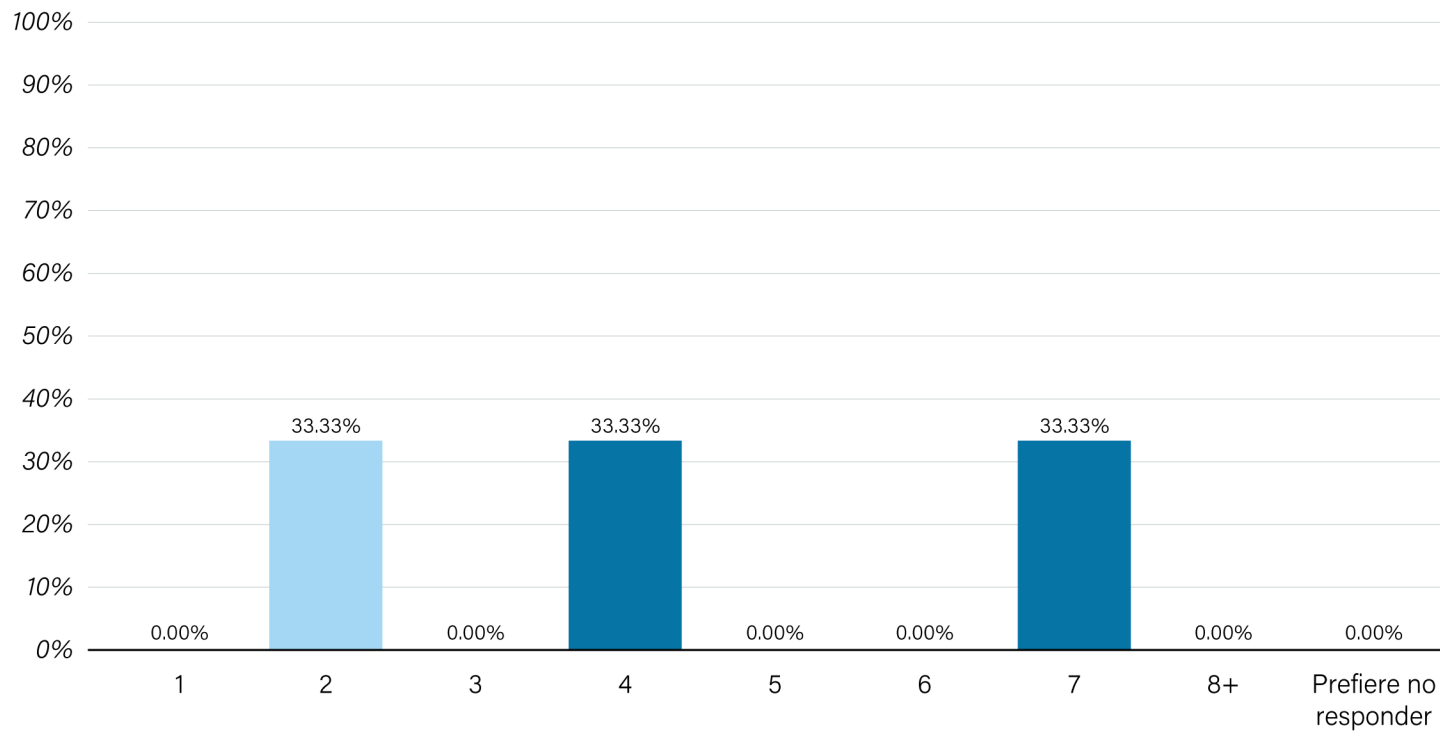
Q33



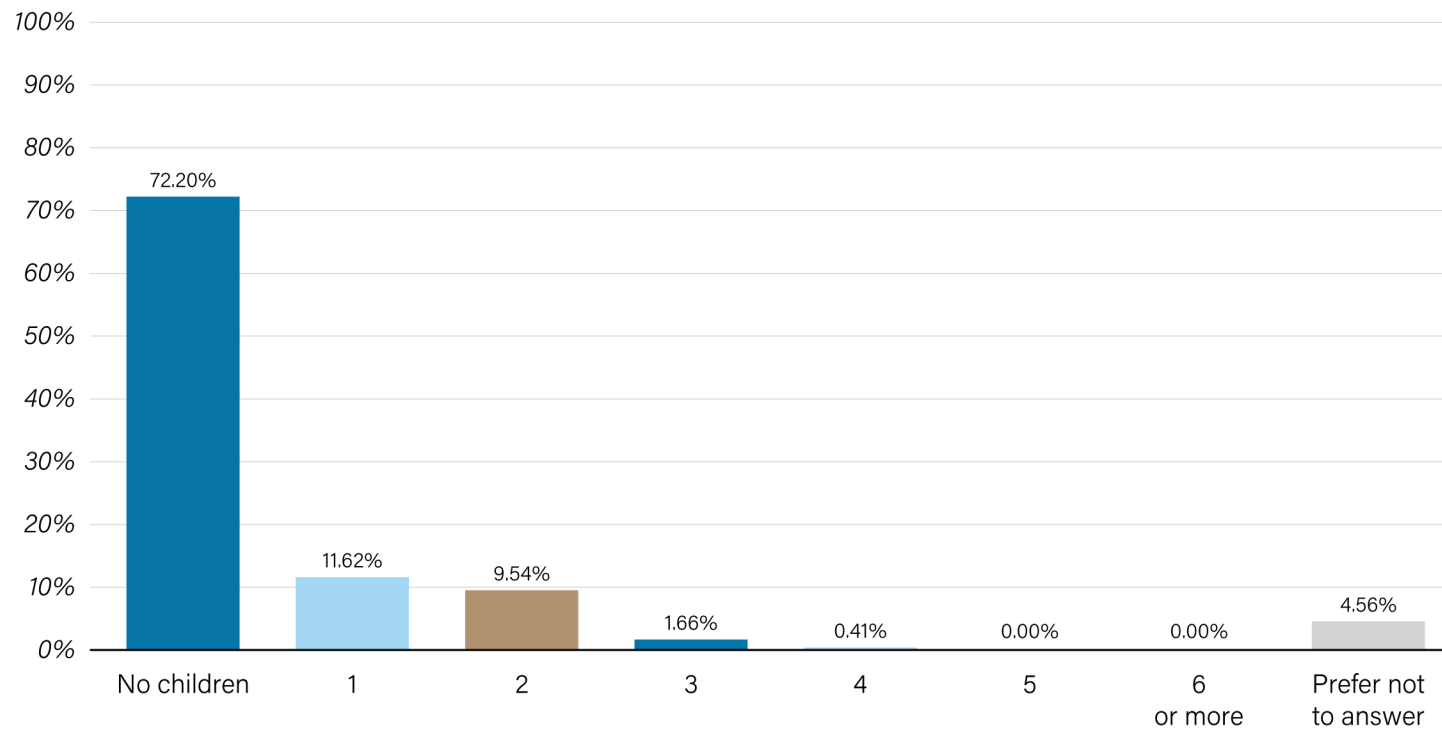
### Incluyéndote a ti mismo, ¿cuántas personas viven en tu hogar?

Answered | 3 Skipped | 0

Q33



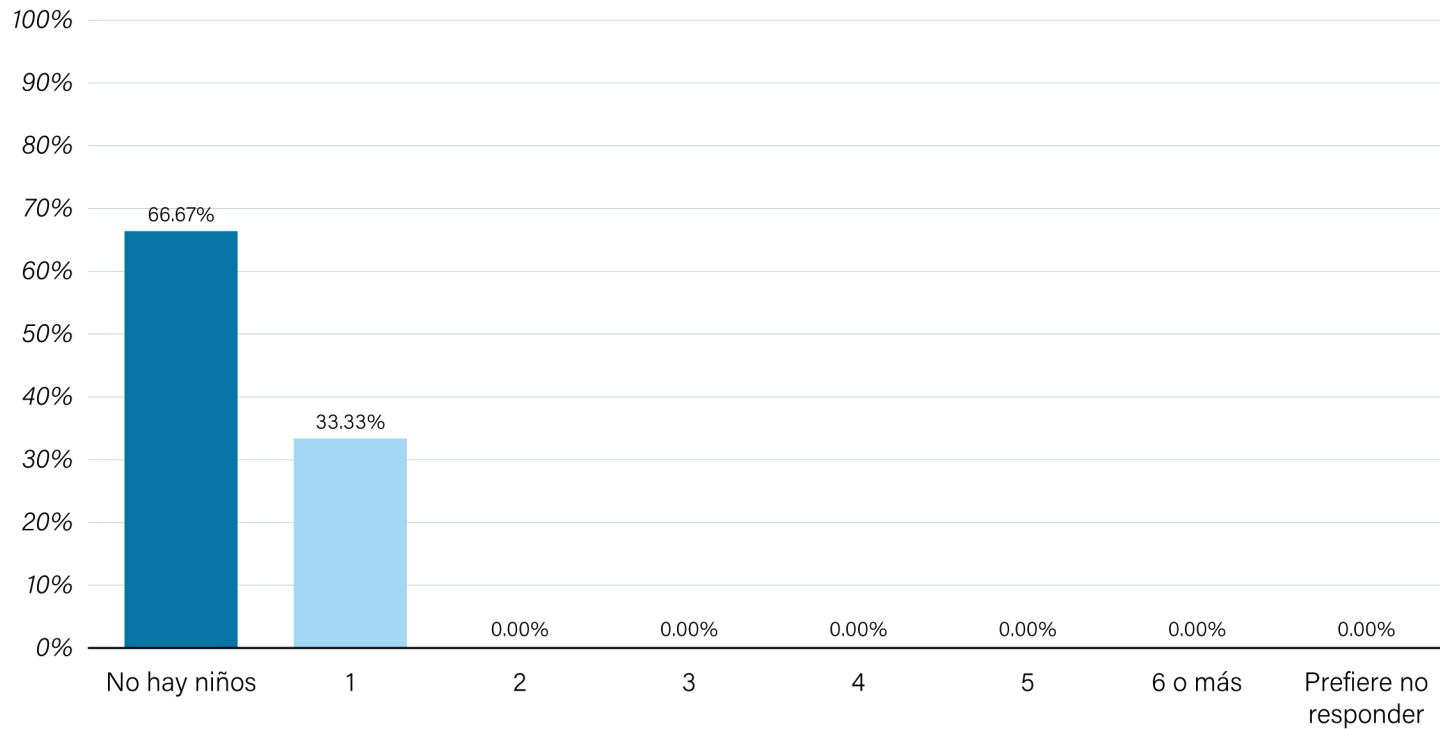
How many children under the age of 18 live in your household? **Q34**  
Answered | 240 Skipped | 0



### ¿Cuántos niños menores de 18 años viven en su hogar?

Answered 13 Skipped 0

**Q34**



**Q35. Would you like to receive updates on mitigation projects and information? If so, please provide your email address.**

**Answered: 108 Skipped: 132**

**Q35. ¿Le gustaría recibir actualizaciones sobre proyectos de mitigación e información? Si es así, proporcione su dirección de correo electrónico.**

**Answered: 3 Skipped: 0**

Answers are being kept on file but will not be published.

### 1.3.5. Draft NHMP Comment Form

A total of 16 responses to the comment form posted with the draft NHMP were received from February 3, 2023, to March 5, 2023. The comment form is below in its entirety with questions and answer choices.<sup>2</sup>

#### Natural Hazard Mitigation Plan Comment Form

1. Based on the summary, do you agree that the County and other jurisdictions are taking reasonable steps to identify natural hazards and for lessening how they may impact the community? (The answer option was an open text field.)
2. Does the summary address the natural hazards in the County you are concerned with? (The answer option was an open text field.)
3. Are you aware of any natural hazard events that have happened in the County that are not listed? (The answer option was an open text field.)
4. Do you know where to find and read the hazard mitigation plan? ((The answer option was an open text field.)
5. How might you use the information in this plan in your daily life(The answer option was an open text field.)

**The next few questions ask about different types of people in the community. We want to know if different groups in our community are being heard. We encourage you to answer these questions, but if you prefer not to, please select “prefer not to answer.”**

6. Did you participate earlier this year in completing a survey about this project (the NHMP Public Survey)?
  - a. Yes
  - b. No
  - c. Not sure/don't remember
  - d. Prefer not to answer
7. Where do you live?
  - a. Unincorporated Washington County (such as areas like Cherry Grove, Garden Home, Bethany, etc., and rural areas)
  - b. City of Beaverton
  - c. City of Cornelius
  - d. City of Forest Grove
  - e. City of Hillsboro
  - f. City of North Plains
  - g. City of Sherwood
  - h. City of Tigard
  - i. Other (please specify)
  - j. Prefer not to answer
8. Do you live within any of these Special Districts? (Mark all that apply.)
  - a. Clean Water Services
  - b. Tualatin Valley Water District
  - c. Tualatin Hills Parks and Recreation District
  - d. No, I do not live within any of the above Special Districts
  - e. Prefer not to answer
9. What zip code do you live in? If you prefer not to answer, please type N/A. (The answer option was an open text field.)

---

<sup>2</sup> The comment form replicated in this plan includes minor edits to language and format.  
Appendix B: Planning Process and Public Engagement

10. Which of the following includes your age?
  - a. Under 18
  - b. 18–24
  - c. 25–34
  - d. 35–44
  - e. 45–54
  - f. 55–64
  - g. 65–74
  - h. 75 or older
  - i. Prefer not to answer
  
11. Within these categories, where do you place your racial or ethnic identity? (Select all that apply.)
  - a. Native American, American Indian, or Alaska Native
  - b. Asian or Asian American
  - c. Black or African American
  - d. Hispanic or Latino/a/x
  - e. Native Hawaiian or other Pacific Islander
  - f. Caucasian
  - g. Prefer not to answer
  - h. Other (please specify)
  
12. How do you identify your gender? (Select all that apply.)
  - a. Man
  - b. Woman
  - c. Transgender
  - d. Non-binary, genderqueer, or third gender
  - e. Prefer not to answer
  - f. A gender not listed above (please describe)
  
13. If you live within Washington County, what is your housing status?
  - a. Own
  - b. Rent
  - c. Currently houseless
  - d. Prefer not to answer
  - e. Other (please specify)
  
14. Do you or someone living in the household have one or more of the following disabilities that should be considered in mitigation planning projects, such as for mobility access or evacuation alerts? (Select all that apply.)
  - a. Hearing difficulty (deaf or having serious difficulty hearing).
  - b. Vision difficulty (blind or having serious difficulty seeing, even when wearing glasses).
  - c. Cognitive difficulty (due to a physical, mental, or emotional problem; having difficulty remembering, concentrating, or making decisions).
  - d. Ambulatory difficulty (unable to walk or having serious difficulty walking or climbing stairs).
  - e. Self-care difficulty (unable to bathe or dress or having difficulty bathing or dressing).
  - f. Independent living difficulty (because of a physical, mental, or emotional problem; unable to do errands alone or having difficulty doing errands alone).
  - g. No disability.
  - h. Prefer not to answer.
  - i. A disability not listed above (please describe)
  
15. What language or dialect is used most in your home?
  - a. American Sign Language
  - b. Arabic
  - c. Cantonese
  - d. Chuukese
  - e. English
  - f. Japanese

- g. Karen
  - h. Korean
  - i. Mandarin
  - j. Mon-Khmer
  - k. Nepali
  - l. Persian
  - m. Romanian
  - n. Russian
  - o. Somali
  - p. Spanish
  - q. Tagalog
  - r. Ukrainian
  - s. Vietnamese
  - t. Prefer not to answer
  - u. A language or dialect not listed above (please describe)
16. What is your education experience?
- a. Less than high school
  - b. Some high school
  - c. High school diploma
  - d. Some college or an associate's or two-year technical degree
  - e. Bachelor's
  - f. Post-graduate
  - g. Prefer not to answer
  - h. Other (please describe)
17. Which of the following best describes your current employment status?
- a. Employed full-time
  - b. Employed part-time
  - c. Work from home (part-time or full-time)
  - d. Homemaker
  - e. Self-employed
  - f. Student and not employed
  - g. Student and employed
  - h. Retired
  - i. Not employed, not actively looking to work
  - j. Not employed, actively looking for work
  - k. Disabled and unable to work
  - l. Prefer not to answer
  - m. Other (please describe)
18. To which zip code do you travel to for school? If this is not applicable, please type N/A. (Answer option was an open text field).
19. To which zip code do you travel to for work? If this is not applicable, please type N/A. (Answer option was an open text field).
20. Including yourself, how many people live in your household?
- a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. 6
  - g. 7
  - h. 8 or more
  - i. Prefer not to answer



21. How many children under the age of 18 live in your household?
  - a. No children
  - b. 1
  - c. 2
  - d. 3
  - e. 4
  - f. 5
  - g. 6 or more
  - h. Prefer not to answer
  
22. Would you like to receive updates on mitigation projects and information? If so, please provide your email address. (The answer option was an open text field.)

### 1.3.6. Existing Data and Plans

Existing hazard mitigation information, data and studies, NHMPs, and relevant reports and technical information were reviewed during the development of this plan. Data was gathered through numerous sources, including geographic information systems (GIS) and the Oregon Department of Geology and Mineral Industries (DOGAMI).

The intent of reviewing existing material was to identify existing data and information, shared objectives, and past and ongoing activities that could help inform the mitigation plan. It also helped identify the existing capabilities and planning mechanisms to implement the mitigation strategy. The documents and data used are cited throughout the NHMP.

## 1.4. Planning Workshops and Meetings

Workshops and one-on-one meetings were held so plan participants could be involved and have ample opportunity to provide input on the plan. Twelve meetings or workshops were held for all plan participants and at least one representative from each participating jurisdiction or special district attended to actively engage in discussions. Meeting and workshop documentation is on file at the Washington County Office of Emergency Management.

All meetings were held virtually, and a virtual engagement plan was created and approved by Washington County, OEM, and FEMA. The engagement plan framework detailed the outreach strategy used throughout the planning process, including with planning participants. The engagement plan implemented meets FEMA requirements outlined in Code of Federal Regulations (CFR) Title 44, Part 201.6 (44 CFR §201.6), including requirements §201.6(b)(1) and (2), as outlined in Section 4.1 of the *Local Mitigation Plan Review Guide*.<sup>3</sup>

**Table 4: Planning Workshops**

Date	Meeting or Workshop	Discussion Topics
January 21, 2022	Initial Project Management Meeting with Washington County	<ul style="list-style-type: none"> <li>• Introductions of project staff</li> <li>• Project phases and proposed workshop schedule</li> <li>• Administration and logistics</li> </ul>

<sup>3</sup> Federal Emergency Management Agency. (2011, October 1). *Local Mitigation Plan Review Guide*. [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide\\_09\\_30\\_2011.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf)

Date	Meeting or Workshop	Discussion Topics
February 10, 2022	NHMP Kick-Off Workshop	<ul style="list-style-type: none"> <li>• Mitigation overview</li> <li>• Intent of plan update</li> <li>• Plan participants</li> <li>• Hazards covered</li> <li>• Planning expectations</li> <li>• Planning roles and responsibilities</li> <li>• Planning documents</li> <li>• Project phases</li> <li>• Proposed outline</li> <li>• Use of SharePoint</li> </ul>
March 10, 2022	Risk Assessment Workshop 1	<ul style="list-style-type: none"> <li>• Risk assessment overview</li> <li>• Significant natural hazard events</li> <li>• Significant infrastructure, facilities, and resources</li> <li>• Hazard information</li> <li>• Risk ranking</li> <li>• Planning documents</li> </ul>
April 14, 2022	Risk Assessment Workshop 2	<ul style="list-style-type: none"> <li>• Project timeline</li> <li>• Hazard analysis/risk ranking</li> <li>• Hazard Analysis Methodology presentation by Joseph Murray, Planner, OEM</li> <li>• Public engagement strategy</li> <li>• Stakeholder engagement</li> <li>• GIS component of the NHMP</li> </ul>
May 12, 2022	GIS Strategy Workshop	<ul style="list-style-type: none"> <li>• NHMP overview</li> <li>• Hazards covered</li> <li>• Feedback from 2017 NHMP</li> <li>• Workshop goals</li> <li>• Maps and analysis</li> <li>• Data collection</li> <li>• DOGAMI report</li> </ul>
May 18, 2022	Public Engagement Strategy Workshop 1	<ul style="list-style-type: none"> <li>• NHMP overview</li> <li>• Hazards covered</li> <li>• Workshop goals</li> <li>• Feedback from 2017 NHMP</li> <li>• Updated FEMA guidance</li> <li>• What do you want to know?</li> <li>• Who do you want to reach out to?</li> <li>• How do you want to reach out?</li> <li>• Documentation requirement</li> <li>• Next steps</li> </ul>
May 23, 2022	OEM Hazard Analysis Worksheet Workshop	<ul style="list-style-type: none"> <li>• Review of terminology</li> <li>• Prioritization</li> <li>• FEMA and OEM requirements</li> <li>• Intent of scoring and ranking</li> <li>• Using common scores for countywide hazards</li> </ul>

Date	Meeting or Workshop	Discussion Topics
May 27, 2022	Mitigation Strategy Workshop 1	<ul style="list-style-type: none"> <li>Mitigation strategy overview</li> <li>2017 mitigation mission</li> <li>Mitigation goals</li> <li>Capability assessment</li> <li>NFIP survey</li> <li>Incorporation into existing plans and procedures</li> <li>Review of previous action items</li> </ul>
June 3, 2022	Public Engagement Strategy Workshop 2	<ul style="list-style-type: none"> <li>Workshop goals</li> <li>What do you want to know?</li> <li>Who do you want to reach out to?</li> <li>How do you want to reach out?</li> <li>Documentation requirement</li> <li>Continued public engagement</li> </ul>
June 23, 2022	Mitigation Strategy Workshop 2	<ul style="list-style-type: none"> <li>Stakeholder engagement</li> <li>Mitigation strategy</li> <li>New action items</li> <li>Potential funding sources</li> <li>Action item prioritization</li> <li>Mitigation project successes</li> </ul>
July 26, 2022	Stakeholder Engagement and Education Workshop	<ul style="list-style-type: none"> <li>Stakeholder engagement</li> <li>Mitigation strategy</li> <li>New action items</li> <li>Potential funding sources</li> <li>Action item prioritization</li> <li>Mitigation project successes</li> </ul>
September 27, 2022	NHMP Implementation and Maintenance Process Workshop	<ul style="list-style-type: none"> <li>NHMP implementation</li> <li>Monitoring and evaluating NHMP</li> <li>NHMP maintenance</li> <li>NHMP adoption</li> </ul>

In addition to workshops, one-on-one planning meetings were held with plan participants throughout the planning process. Thirty-five individual meetings were held with plan participants to gather information and to provide guidance for the jurisdictions throughout the planning stages. Additionally, two meetings were held with Tualatin Valley Fire & Rescue, an NHMP external stakeholder, to collect data and information about wildfires and high-water rescues.

**Table 5: Plan Participant Meetings**

Date	Participant	Discussion Topic(s)
March 10, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>How the Willamette Water Supply Program fits into the NHMP</li> </ul>
March 11, 2022	Washington County	<ul style="list-style-type: none"> <li>GIS strategy for NHMP</li> </ul>
March 23, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>Planning process contacts</li> <li>Phases of the planning process</li> <li>Significant infrastructure, facilities, and resources</li> </ul>

Date	Participant	Discussion Topic(s)
March 24, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>• Planning process contacts</li> <li>• Critical infrastructure</li> <li>• Critical customers</li> </ul>
March 24, 2022	City of Tigard	<ul style="list-style-type: none"> <li>• Significant hazard events</li> <li>• Significant infrastructure, facilities, and resources</li> <li>• Hazard information</li> </ul>
April 5, 2022	Tualatin Valley Fire & Rescue	<ul style="list-style-type: none"> <li>• Participation as an external stakeholder in the plan</li> <li>• Wildfire and high-water rescue data</li> </ul>
April 5, 2022	Cities of Cornelius and Forest Grove	<ul style="list-style-type: none"> <li>• Planning process phases</li> <li>• Significant hazard events</li> <li>• Significant infrastructure, facilities, and resources</li> <li>• Hazard information</li> </ul>
April 6, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>• GIS information</li> </ul>
April 7, 2022	City of Beaverton	<ul style="list-style-type: none"> <li>• Planning process contacts</li> <li>• Significant hazard events</li> <li>• Significant infrastructure, facilities, and resources</li> <li>• Hazard information</li> </ul>
April 29, 2022	Tualatin Valley Fire & Rescue	<ul style="list-style-type: none"> <li>• Participation as an external stakeholder in the plan</li> <li>• Wildfire and high-water rescue data</li> </ul>
May 6, 2022	Cities of Cornelius and Forest Grove	<ul style="list-style-type: none"> <li>• Significant hazard events</li> <li>• Significant infrastructure, facilities, and resources</li> <li>• Hazard information</li> </ul>
May 9, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>• Significant hazard events</li> <li>• Significant infrastructure, facilities, and resources</li> <li>• Hazard information</li> <li>• OEM Hazard Risk Analysis Worksheet</li> </ul>
May 11, 2022	City of North Plains	<ul style="list-style-type: none"> <li>• Significant hazard events</li> <li>• Significant infrastructure, facilities, and resources</li> <li>• Hazard information</li> <li>• OEM Hazard Risk Analysis Worksheet</li> </ul>
June 28, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>• New action items</li> <li>• Tualatin Valley Water District Seismic Master Plan and America's Water Infrastructure Act of 2018 compliance</li> </ul>
June 28, 2022	City of North Plains	<ul style="list-style-type: none"> <li>• New action items</li> </ul>
June 30, 2022	City of Sherwood	<ul style="list-style-type: none"> <li>• Capabilities assessment</li> <li>• Implementation and integration plan</li> <li>• New action items</li> </ul>

Date	Participant	Discussion Topic(s)
June 30, 2022	Tualatin Hills Park and Recreation District	<ul style="list-style-type: none"> <li>New action items</li> </ul>
July 6, 2022	Cities of Cornelius and Forest Grove	<ul style="list-style-type: none"> <li>Capabilities assessment</li> <li>Implementation and integration plan</li> <li>New action items</li> <li>Previous action items</li> <li>Mitigation project successes</li> </ul>
July 6, 2022	Washington County	<ul style="list-style-type: none"> <li>New action items</li> </ul>
July 7, 2022	City of Hillsboro	<ul style="list-style-type: none"> <li>New action items</li> </ul>
July 11, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>New action items</li> </ul>
July 12, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>Planning documentation review</li> <li>New action items</li> </ul>
July 19, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>New action items</li> </ul>
July 20, 2022	City of Beaverton	<ul style="list-style-type: none"> <li>Capabilities assessment</li> <li>Implementation and integration plan</li> <li>New action items</li> </ul>
August 10, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>Information to include in participant annex and formatting details</li> </ul>
August 30, 2022	City of Hillsboro	<ul style="list-style-type: none"> <li>Draft participant annex review</li> </ul>
August 30, 2022	City of Tigard	<ul style="list-style-type: none"> <li>Planning documentation review</li> </ul>
September 19, 2022	City of Hillsboro	<ul style="list-style-type: none"> <li>STAPLEE method for action item prioritization</li> </ul>
October 12, 2022	City of Sherwood	<ul style="list-style-type: none"> <li>Draft participant annex review</li> </ul>
October 14, 2022	Washington County	<ul style="list-style-type: none"> <li>First draft of participant annex review</li> </ul>
October 18, 2022	City of Beaverton	<ul style="list-style-type: none"> <li>Draft participant annex review</li> </ul>
October 18, 2022	City of North Plains	<ul style="list-style-type: none"> <li>Draft participant annex review</li> </ul>
October 19, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>Implementation and maintenance process</li> </ul>
October 21, 2022	Cities of Cornelius and Forest Grove	<ul style="list-style-type: none"> <li>Draft participant annex review</li> </ul>
October 21, 2022	Clean Water Services	<ul style="list-style-type: none"> <li>Draft participant annex review</li> </ul>
October 26, 2022	Tualatin Hills Park and Recreation District	<ul style="list-style-type: none"> <li>Draft participant annex review</li> </ul>
November 1, 2022	Washington County	<ul style="list-style-type: none"> <li>Second draft of participant annex review</li> </ul>
November 30, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>Discussed adding a Willamette Water Supply System-specific section to TVWD annex</li> </ul>
December 14, 2022	Tualatin Valley Water District	<ul style="list-style-type: none"> <li>Final review of participant annex</li> </ul>
December 16, 2022	Clean Water Services	<ul style="list-style-type: none"> <li>Review of participant annex</li> </ul>

## 1.5. Summary of Changes to the NHMP

The 2023 NHMP is a comprehensive review and update of the 2017 Washington County NHMP and includes the addition of eight new participants. Changes to the plan’s format and contents involved a multi-step process that included best practices research and an assessment of jurisdiction planning needs. Changes are included in plan sections, as applicable.

**Table 6: Summary of Changes to the NHMP**

Section(s)	Changes
All	<ul style="list-style-type: none"> <li>• Eight new plan participants added.</li> <li>• Reorganized and streamlined.</li> <li>• Reformatted to be consistent with FEMA planning guidance.</li> <li>• Comprehensive review and update of all information and data.</li> <li>• Addition of maps and graphics.</li> <li>• Acronyms and abbreviations list added.</li> </ul>
<b>Volume I</b>	
Executive Summary	<ul style="list-style-type: none"> <li>• Renamed section from Plan Summary to Executive Summary.</li> <li>• Shortened to make more streamlined, per request of State Hazard Mitigation Officer.</li> <li>• Added release statement, record of distribution, and record of change.</li> <li>• Relocated plan adoption resolutions and FEMA’s completed Local Mitigation Plan Review Tool to Appendix B.</li> </ul>
Section 1: Introduction	<ul style="list-style-type: none"> <li>• Shortened to make more streamlined, per request of State Hazard Mitigation Officer.</li> </ul>
Section 2: Hazard Identification and Risk Assessment	<ul style="list-style-type: none"> <li>• Detailed information on the OEM hazard analysis methodology included.</li> <li>• Dam failure, extreme heat, and wildfire smoke added as hazards impacting the planning area.</li> <li>• Disaster declarations expanded to include federal, state, and local declarations.</li> <li>• Summary table of participant hazard risk scores for all hazards added.</li> <li>• Information on characteristics, location, extent, history, probability of future events, vulnerabilities, and how climate change may impact frequency and severity added for all natural hazards in the planning area.</li> <li>• Updated all tables and figures to reflect current information.</li> <li>• Inclusion of additional maps and graphics showing hazard information.</li> <li>• Drought hazard profile expanded to include ecological drought, cascading hazards and impacts, and measure of drought extent.</li> <li>• Earthquake hazard profile expanded to include information about liquefaction and coseismic landslides. Information about the Portland Hills, Gales Creek, and Beaverton fault zones and Hazus®-MH event scenarios with damage data for these faults added to the hazard profile.</li> <li>• Flooding hazard profile expanded to include streambank and riverbed erosion and channel migration.</li> <li>• Volcano hazard profile streamlined to focus on volcanic ash.</li> <li>• Wildfire smoke impacts included in wildfire hazard profile.</li> <li>• Enhanced Fujita scale added to illustrate extent of tornados in windstorm, including tornado hazard profile.</li> </ul>

Section(s)	Changes
Section 3: Mitigation Strategy	<ul style="list-style-type: none"> <li>• Mitigation goals updated and expanded.</li> <li>• Description of STAPLEE evaluation criteria used for mitigation actions added.</li> <li>• Mitigation actions relocated to participant annexes.</li> </ul>
Section 4: Plan Execution, Maintenance, and Adoption	<ul style="list-style-type: none"> <li>• Expanded detail on plan monitoring, evaluating, and updating to include roles and responsibilities and description of specific methods and schedule.</li> </ul>
<b>Volume II</b>	
Participant Annexes	<ul style="list-style-type: none"> <li>• Reorganized into distinct sections and subsections.</li> <li>• Updated data and information incorporated into annexes for each participant.</li> <li>• Changes in development included for participants with previous mitigation plans.</li> <li>• Detailed information about critical facilities and infrastructure included.</li> <li>• Dam failure, extreme heat, and wildfire smoke added as hazards of planning significance.</li> <li>• Volcano hazard information streamlined to focus on volcanic ash.</li> <li>• Maps added, as applicable.</li> <li>• Information on vulnerabilities and how climate change may impact the frequency and severity of hazards included.</li> <li>• Updated capabilities assessments conducted for all participants.</li> <li>• Status of previous action items identified, as applicable.</li> <li>• Detailed action item planning worksheets for 2023 action items included in each annex.</li> </ul>
<b>Volume III</b>	
Appendix A: Planning Area Profile	<ul style="list-style-type: none"> <li>• Plan format reorganized. Appendix A became a Planning Area Profile (formerly Appendix C), and participant action items were relocated to participant annexes.</li> <li>• Data and information were updated.</li> </ul>
Appendix B: Planning Process and Public Engagement	<ul style="list-style-type: none"> <li>• Plan format reorganized. Participant action item status and changes relocated to participant annexes.</li> <li>• Detailed information about the planning process and public engagement included.</li> </ul>
Appendix C: Implementation Resources and Funding Opportunities	<ul style="list-style-type: none"> <li>• Plan format reorganized. Community Profile relocated to Appendix A and renamed Planning Area Profile. Appendix C now includes Implementation Resources and Funding Opportunities information for plan participants.</li> </ul>

## 1.6. NHMP Approval Letter and Adoption Resolutions

The NHMP was approved by OEM on February 21, 2023, and by FEMA on March 17, 2023. Plan participants began the local adoption process soon after. The NHMP will remain valid for five years, until April 17, 2028.

Below is the FEMA approval letter and the adoption resolutions for NHMP participants. In addition to being in this appendix, a copy of each adoption resolution will be held on file at FEMA, OEM, and the Washington County Office of Emergency Management.



U.S. Department of Homeland Security  
 FEMA Region 10  
 130 228th Street, SW  
 Bothell, WA 98021-8627



**FEMA**

August 8, 2023

The Honorable Kathryn Harrington  
 At-Large Chair, Washington County Board of Commissioners  
 155 N. First Avenue  
 Hillsboro, Oregon 97124

Dear Commissioner Harrington:

On April 18, 2023, the United States Department of Homeland Security’s Federal Emergency Management Agency (FEMA) Region 10, approved the Washington County Natural Hazard Mitigation Plan as a multi-jurisdictional local plan as outlined in Code of Federal Regulations Title 44 Part 201. This approval provides the below jurisdictions eligibility to apply for the Robert T. Stafford Disaster Relief and Emergency Assistance Act’s Hazard Mitigation Assistance grants projects through April 17, 2028, through your state:

Washington County	City of Hillsboro	City of Tigard
Tualatin Valley Water District	City of North Plains	City of Sherwood
Clean Water Services	Tualatin Hills Park and Recreation District	City of Beaverton

The updated list of approved jurisdictions includes the City of North Plains, City of Sherwood, Clean Water Services, Tualatin Hills Park and Recreation District, and the City of Beaverton that recently adopted the Washington County Natural Hazard Mitigation Plan. FEMA individually evaluates all application requests for funding according to the specific eligibility requirements of the applicable program. Though a specific mitigation activity or project identified in the plan may meet the eligibility requirements, it may not automatically receive approval for FEMA funding under any of the programs.

Approved mitigation plans may be eligible for points under the National Flood Insurance Program’s Community Rating System. For additional information regarding the Community Rating System, please visit: [www.fema.gov/national-flood-insurance-program-community-rating-system](http://www.fema.gov/national-flood-insurance-program-community-rating-system) or contact your local floodplain manager.

Over the next five years, we encourage your communities to follow the plan’s schedule for monitoring and updating, and to develop further mitigation actions. To continue eligibility, jurisdictions must review, revise as appropriate, and resubmit the plan within five years of the original approval date.

[www.fema.gov](http://www.fema.gov)



The Honorable Commissioner Harrington  
August 8, 2023  
Page 2

If you have questions regarding your plan's approval or FEMA's mitigation grant programs, please contact Joseph Murray, Planner with Oregon Office of Emergency Management, at (503) 378-2911, who coordinates and administers these efforts for local entities.

Sincerely,



Digitally signed by KRISTEN C  
MEYERS  
Date: 2023.08.09 18:58:31 -06'00'

Kristen Meyers, Director  
Mitigation Division

Enclosures

cc: Anna Feigum, Oregon Office of Emergency Management

EC:vl

## 1.7. Local Mitigation Plan Review Tool

The NHMP was reviewed by OEM and FEMA using FEMA’s Local Mitigation Plan Review Tool.<sup>4</sup> This tool was used to evaluate how the plan meets 44 CFR §201.6 requirements and offers state and federal mitigation planners an opportunity to provide feedback.

**Figure 67: Local Mitigation Plan Review Tool**

### FEMA REGION 10 LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in [44 CFR §201.6](#) and offers States and FEMA Mitigation Planners an opportunity to provide feedback to participating jurisdictions.

1. The [Multi-Jurisdiction Summary Sheet](#) is used to document how each jurisdiction met the requirements in the Plan.
2. The [Regulation Checklist](#) provides a summary of FEMA’s evaluation of whether the Plan has addressed all requirements.
3. The [Plan Assessment](#) identifies the plan’s strengths as well as documents areas for future improvement.

The FEMA Mitigation Planner must reference the [Local Mitigation Plan Review Guide](#) when completing this *Local Mitigation Plan Review Tool*.

<b>Jurisdiction:</b> Washington County, Oregon	<b>Title of Plan:</b> Washington County Natural Hazards Mitigation Plan	<b>Date of Plan:</b> February 2023
<b>Local Point of Contact:</b> Ken Schlegel	<b>Address:</b> 1400 SW Walnut St, Ste. 241 Hillsboro, OR 97123	<b>E-Mail:</b> Ken_Schlegel@washingtoncountyor.gov
<b>Title:</b> Emergency Management Coordinator		
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<b>Phone Number:</b> 503-846-7584		

<b>State Reviewer:</b> Jason Gately	<b>Title:</b> Mitigation Planner	<b>Date:</b> 4/18/2023
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<b>FEMA Reviewer:</b> Josh Vidmar Erin Cooper Jennifer Adleman	<b>Title:</b> CERC Planner Lead Planner Community Planner	<b>Date:</b> 2/23/2023 3/17/23 4/18/2023
<b>Date Received in FEMA Region 10</b>		
<b>Plan Not Approved</b>		
<b>Plan Approvable Pending Adoption</b>	3/17/23	
<b>Plan Approved</b>	4/18/2023	

<sup>4</sup> Federal Emergency Management Agency. (2011, October 1). *Local Mitigation Plan Review Guide*. [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide\\_09\\_30\\_2011.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf)

**SECTION 1: MULTI-JURISDICTION SUMMARY SHEET (used only for multi-jurisdictional plans)**

**INSTRUCTIONS:** The Multi-Jurisdiction Summary Spreadsheet is completed by listing each participating jurisdiction and which required Elements for each jurisdiction were ‘Met’ or ‘Not Met,’ and when the adoption resolutions were received. This Summary Sheet does not imply that a mini-plan be developed for each jurisdiction; it is used to ensure that each jurisdiction participating in the Plan has been documented and has met the requirements for those Elements (A through E).

<b>MULTI-JURISDICTION SUMMARY SHEET (Add additional pages if necessary)</b>										
#	Jurisdiction Name	Jurisdiction Type (city, district, etc.)	POC	Required Revisions / Comments	Requirements Met (Y/N)					
					A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Requirements
1	Washington County				Y	Y	Y	Y	Y	n/a
2	City of Beaverton				Y	Y	Y	Y	Y	n/a
3	City of Cornelius				Y	Y	Y	Y	Y	n/a
4	City of Forest Grove				Y	Y	Y	Y	Y	n/a
5	City of Hillsboro				Y	Y	Y	Y	Y	n/a
6	City of North Plains				Y	Y	Y	Y	Y	n/a
7	City of Sherwood				Y	Y	Y	Y	Y	n/a
8	City of Tigard				Y	Y	Y	Y	Y	n/a
9	Clean Water Services				Y	Y	Y	Y	Y	n/a

<b>MULTI-JURISDICTION SUMMARY SHEET (Add additional pages if necessary)</b>										
#	Jurisdiction Name	Jurisdiction Type (city, district, etc.)	POC	Required Revisions / Comments	Requirements Met (Y/N)					
					A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Requirements
10	Tualatin Hills Park and Recreation District				Y	Y	Y	Y	Y	n/a
11	Tualatin Valley Water District				Y	Y	Y	Y	Y	n/a
12										
13										

**SECTION 2: REGULATION CHECKLIST**

**INSTRUCTIONS:** The Regulation Checklist is completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the Plan by Element/sub-element and to determine if each requirement has been ‘Met’ or ‘Not Met.’ The ‘Required Revisions’ summary at the bottom of each Element is completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions are explained for each plan sub-element that is ‘Not Met.’ Sub-elements are referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable.

<b>1. REGULATION CHECKLIST</b>		<b>Location in Plan</b>	<b>Met</b>	<b>Not Met</b>
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or		
<b>ELEMENT A. PLANNING PROCESS</b>				
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	Ex. Summary, pp. iv-v App. B, pp. 1249-1405	X		
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	Ex. Summary, pp. iv-v App. B, pp. 1249-1405	X		
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	Ex. Summary, pp. iv-v App. B, pp. 1249-1405	X		
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	Footnotes found throughout document.	X		
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))	Sec. 4, pp. 142	X		
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	Sec. 1, p. 6 Sec. 4, pp. 134-142	X		
<b><u>ELEMENT A: REQUIRED REVISIONS</u></b>				
None				

<b>1. REGULATION CHECKLIST</b>		<b>Location in Plan</b>	<b>Not Met</b>
<b>Regulation (44 CFR 201.6 Local Mitigation Plans)</b>	<b>(section and/or</b>	<b>Met</b>	
<b>ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT</b>			
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))	<p><b>Location</b>                      Dam Failure, pp. 16-19                      Drought, pp. 24-27                      Earthquake, pp. 34-42                      Extreme Heat, pp. 53                      Flooding, pp. 64-79                      Landslide, pp. 90-92                      Volcanic Ash, pp. 96-98                      Wildland Fire, pp. 103-107                      Windstorm, p. 115                      Winter Storm, pp. 121-122</p> <p><b>Extent</b>                      Dam Failure, pp. 17-18                      Drought, pp. 24-27                      Earthquake, pp. 34-35                      Extreme Heat, pp. 53-55                      Flooding, pp. 64-79                      Landslide, pp. 90-92                      Volcanic Ash, pp. 96-98                      Wildland Fire, pp. 101-106                      Windstorm, pp. 115-116                      Winter Storm, pp. 121-122</p>	X	

1. REGULATION CHECKLIST	Location in Plan	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or		
<p>B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))</p>	<p><b>History</b>                      Dam Failure, p. 19                      Drought, pp. 27-28                      Earthquake, pp. 42                      Extreme Heat, pp. 56-57                      Flooding, pp. 78-79                      Landslide, p. 92                      Volcanic Ash, p. 97                      Wildland Fire, pp. 106-109                      Windstorm, pp. 116-117                      Winter Storm, pp. 122-123</p> <p><b>Probability</b>                      Dam Failure, pp. 19-20                      Drought, pp. 28-29                      Earthquake, pp. 43                      Extreme Heat, pp. 57-58                      Flooding, pp.79-80                      Landslide, pp. 92-93                      Volcanic Ash, pp. 97-99                      Wildland Fire, pp. 109-110                      Windstorm, pp. 117-118                      Winter Storm, p. 124</p>	<p>X</p>	

<b>1. REGULATION CHECKLIST</b>		<b>Location in Plan</b>	<b>Met</b>	<b>Not Met</b>
<b>Regulation (44 CFR 201.6 Local Mitigation Plans)</b>		<b>(section and/or</b>		
B3. Is there a description of each identified hazard’s impact on the community as well as an overall summary of the community’s vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))	<p><b>Impact</b>                      Dam Failure, pp. 19-22                      Drought, pp. 27-31                      Earthquake, pp. 42-52                      Extreme Heat, pp. 56-63                      Flooding, pp. 73-87                      Landslide, pp. 93-95                      Volcanic Ash, pp. 99-100                      Wildland Fire, pp. 110-114                      Windstorm, pp. 118-120                      Winter Storm, pp. 124-125</p> <p><b>Vulnerability</b>                      Dam Failure, pp. 19-22                      Drought, pp. 29-31                      Earthquake, pp. 43-52                      Extreme Heat, pp. 58-63                      Flooding, pp. 80-87                      Landslide, pp. 93-95                      Volcanic Ash, pp. 99-100                      Wildland Fire, pp. 110-114                      Windstorm, pp. 118-120                      Winter Storm, pp. 124-126</p> <p><i>Vulnerability information is also found in each jurisdictional annex.</i></p>		X	
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))	Sec. 2, pp. 86-87		X	
<b><u>ELEMENT B: REQUIRED REVISIONS</u></b>				
None				



<b>ELEMENT C. MITIGATION STRATEGY</b>			
<p>C1. Does the plan document each jurisdiction’s existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))</p>	<p><b>Sec. 4 of each Jurisdictional Annex</b>                      Beaverton, pp. 202-207                      Cornelius, pp. 260-264                      Forest Grove, pp. 348-352                      Hillsboro, pp. 450-454                      North Plains, pp. 665-669                      Sherwood, pp. 712-716                      Tigard, pp. 802-806                      Clean Water Services, pp. 854                      THPRD, pp. 906-910                      TVWD, pp. 1001-1005                      Washington County, pp. 1120-1127</p>	<p>X</p>	
<p>C2. Does the Plan address each jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))</p>	<p>Sec. 2, pp. 85-87                      Sec. 4.1.1 of each Jurisdictional Annex                       Beaverton, pp. 204-205                      Cornelius, pp. 262                      Forest Grove, pp. 350                      Hillsboro, pp. 452                      North Plains, pp. 666-667                      Sherwood, pp. 713-714                      Tigard, pp. 804-805                      Clean Water Services, pp. 854                      THPRD, pp. N/A                      TVWD, pp. N/A                      Washington County, pp. 1122-1123</p>	<p>X</p>	
<p>C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))</p>	<p>Sec. 3, p. 128</p>	<p>X</p>	

<p>C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))</p>	<p>Beaverton, pp. 210-228                  Cornelius, pp. 268-315                  Forest Grove, pp. 356-403                  Hillsboro, pp. 458-630                  North Plains, pp. 672-682                  Sherwood, pp. 719-758                  Tigard, pp. 810-853                  Clean Water Services, pp. 854                  THPRD, pp. 914-963                  TVWD, pp. 1010-1076                  Washington County, pp. 1130-1199</p>	<p>X</p>	
<p>C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))</p>	<p>Sec. 3, pp. 130-133                  Beaverton, pp. 210-228                  Cornelius, pp. 268-315                  Forest Grove, pp. 356-403                  Hillsboro, pp. 458-630                  North Plains, pp. 672-682                  Sherwood, pp. 719-758                  Tigard, pp. 810-853                  Clean Water Services, pp. 854                  THPRD, pp. 914-963                  TVWD, pp. 1010-1076                  Washington County, pp. 1130-1199</p>	<p>X</p>	
<p>C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))</p>	<p>Beaverton, pp. 208-209                  Cornelius, pp. 265-267                  Forest Grove, pp. 252-255                  Hillsboro, pp. 455-457                  North Plains, pp. 669-671                  Sherwood, pp. 716-718                  Tigard, pp. 807-809                  Clean Water Services, pp. 854                  THPRD, pp. 912-913                  TVWD, pp. 1008-1009                  Washington County, pp. 1127-1129</p>	<p>X</p>	
<p><b><u>ELEMENT C: REQUIRED REVISIONS</u></b>                  None</p>			

<b>ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION</b> (applicable to plan updates only)			
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))	Appendix A, pp. 1201-1248	X	
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	Beaverton, pp. 210-228 Cornelius, pp. 268-315 Forest Grove, pp. 356-403 Hillsboro, pp. 458-630 North Plains, pp. 672-682 Sherwood, pp. 719-758 Tigard, pp. 810-853 Clean Water Services, pp. 854 THPRD, pp. 914-963 TVWD, pp. 1010-1076 Washington County, pp. 1130-1199	X	
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))	Executive Summary, pp. iii-vi Sec. 2, pp. 8-15	X	
<b><u>ELEMENT D: REQUIRED REVISIONS</u></b>			
None			
<b>ELEMENT E. PLAN ADOPTION</b>			
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))	Forthcoming Sect. III.I. Adoption Resolutions pp.322	X	
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))	Forthcoming Sect. III.H. APA letter, J. Approval letter pp.321,324	X	
<b><u>ELEMENT E: REQUIRED REVISIONS</u></b>			
None			
<b>ELEMENT F. ADDITIONAL STATE REQUIREMENTS</b>			
<b>(OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)</b>			

## SECTION 3: PLAN ASSESSMENT

### A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

#### Element A: Planning Process

##### Plan Strengths

- Surveys were made available in Spanish as well as English. This is a good way to make sure more parts of the population can have a say in the process.
- The appendix includes an analysis of all the answers that were given during the survey. This also lists some of the raw answers that were given.
- Social media was used as a major part of the public engagement process. This is a good way to get the word out about the plan. This is often the main source of news and can spread awareness that the plan is undergoing an update.

##### Opportunities for Improvement

- Continue to reach out to underserved and vulnerable communities in the next plan update. This will be required under the updated 2022 Local Mitigation Planning Policy Guide.

#### Element B: Hazard Identification and Risk Assessment

##### Plan Strengths

- Each jurisdictional annex includes specific vulnerable assets. This is a great way to make sure that each community knows exactly what is most at risk.
- A wide variety of resources were used to create the risk assessment for the main plan and the annexes. This includes local, state and federal resources. All resources are noted in footnotes throughout the plan. Links are included where applicable.

##### Opportunities for Improvement

- Consider including jurisdictional-specific maps where possible. This can better show where there may be future issues for each participant.

#### Element C: Mitigation Strategy

##### Plan Strengths

- There is an action plan for all actions identified in the plan for each jurisdiction. This allows for each action to be easily maintained throughout the plan's approval period.
- Each annex clearly states how the plan will be integrated into other existing community capabilities. These are applicable for each type of community. For example, the special districts identify their own particular types of plans, like water system master plans. The incorporated communities then will integrate it into their comprehensive and master plans.

##### Opportunities for Improvement

- None identified.

**Element D: Plan Update, Evaluation, and Implementation (Plan Updates Only)**

**Plan Strengths**

- Table 2 is a description of changes that will be used to capture changes during the plan maintenance process. This helps make sure the plan is a living document.
- Each action has a section on its implementation status. Those responsible for each action can use this to monitor them during the maintenance cycle.

**Opportunities for Improvement**

- None identified.

**B. Resources for Implementing Your Approved Plan**

*Ideas may be offered on moving the mitigation plan forward and continuing the relationship with key mitigation stakeholders such as the following:*

- *What FEMA assistance (funding) programs are available (for example, Hazard Mitigation Assistance (HMA)) to the jurisdiction(s) to assist with implementing the mitigation actions?*
- *What other Federal programs (National Flood Insurance Program (NFIP), Community Rating System (CRS), Risk MAP, etc.) may provide assistance for mitigation activities?*
- *What publications, technical guidance or other resources are available to the jurisdiction(s) relevant to the identified mitigation actions?*
- *Are there upcoming trainings/workshops (Benefit-Cost Analysis (BCA), HMA, etc.) to assist the jurisdictions(s)?*
- *What mitigation actions can be funded by other Federal agencies (for example, U.S. Forest Service, National Oceanic and Atmospheric Administration (NOAA), Environmental Protection Agency (EPA) Smart Growth, Housing and Urban Development (HUD) Sustainable Communities, etc.) and/or state and local agencies?*