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OREGON NONPROFIT DISASTER PREPAREDNESS

FINDING FROM THE 2018 SURVEY

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INTRODUCTION

This report summarizes results from a survey administered in spring 2018 to 501(c)(3) charitable benefit nonprofit organizations across Oregon. The survey was developed by Portland State University in collaboration with the City Club of Portland's Earthquake Report Advocacy Committee (CCERAC) and the Nonprofit Association of Oregon (NAO), following Sutton & Tierney's (2006) and Ritchie, Tierney, & Gilbert's (2010) classification and previous survey. Based on the survey distribution process, primarily through NAO, PSU's Nonprofit Institute, and other nonprofit and public agencies' networks, these survey results are based on a convenience sample of nonprofits that responded to the survey. As such, the results are not representative of ALL nonprofits in Oregon. Nevertheless, the survey results are quite telling of how *concerned* and *informed* nonprofit respondents are about potential hazards, what actions they have taken to prepare for potential disasters, as well as their perceived roles should a major disaster like the Cascadia Subduction Zone (CSZ) event occur. The survey results are also very informative with respect to the challenges and barriers to disaster preparedness that nonprofits currently face, and the kinds of assistance they would need to be able to adequately prepare for major disasters.

The focus on charitable nonprofit organizations is driven by the fact that nonprofits have come to be regarded as a "critical civic infrastructure" that is essential for the delivery of a range of social services that are key to the livelihood of both young and elderly, the disabled, those suffering from debilitating illnesses, and those living in poverty within our communities (Ritchie et al., 2010). In a nutshell, nonprofits serve the most vulnerable in our communities and strive to fill gaps in our social service system. Not only do nonprofits often complement government in the provision of social services, they often are contracted by agencies to provide public social services.

In disaster preparedness, there is a focus on protecting critical infrastructure – the physical systems that provide support, life safety, and public health. Infrastructure is usually understood as the "hard" systems we rely on: water and wastewater utilities, electricity, transportation, communication, and hospitals for example. Nonprofits serve the same role and are often viewed as critical civic infrastructure. They are already embedded in our communities and their capacity for disaster resilience requires further development, as Oregon continues to face the threat of major or catastrophic disasters like the CSZ earthquake, frequent wildfires, and widespread landslides.

The following sections detail our findings from 189 responses from Oregon nonprofit organizations. Note however, not every organization responded to every question. **Section I** shares findings on levels of knowledge and concern across multiple hazard types. **Section II** shares how organizations are taking steps to act on these concerns. This section details a broad set of actions that can be taken by organizations to improve preparedness and resilience. **Section III** describes the barriers to disaster preparedness, the role of nonprofits in disaster response shared in the survey, and their experiences with recent hazard events in Oregon. **Section IV** concludes with some organizational demographics (location, types, size, and funding sources).

SECTION I: HAZARD KNOWLEDGE AND CONCERNS

The state of Oregon is prone to a range of natural disasters; these include wildfires, floods, landslides, severe weather, windstorms, coastal hazards like tsunamis, dust storms, droughts, volcanoes, and earthquakes. For instance, according to the Department of Land Conservation and Development, Oregon received 400 flood insurance claims amounting to $6.78 million between 2013 and 2017. During that same period, three lives were lost as a result of floods. Landslides on the other hand, "are amongst the most widespread, chronic, and damaging natural hazard" in Oregon (Burns, Duplantis, Jones, & English, 2007, p.2). Per an Oregon Department of Geology and Mineral Industries fact sheet (2008), 9,500 landslides were

reported in the 1996-1997 winter. Wildfires have a long history in Oregon. Between 1911 and 2017, Oregon Department of Forestry estimated 5,408,770 acres burnt from wildfires, averaging 452,000 acres burnt between 2008 and 2017.

According to the Oregon Department of Geology and Mineral Industries, earthquakes have been recognized as a major natural hazard in Oregon since the late 1980s. The Oregon Office of Emergency Management (OEM) notes that two earthquakes, which occurred six months apart in 1993, demonstrated Oregon's susceptibility to earthquakes – the Scotts Mills earthquake, with a magnitude of 5.6 which impacted "thousands of people and caused more than $30 million in damage in the Portland metro area," and the Klamath Falls earthquakes (with magnitudes of 5.9 and 6.0). Absent any prior preparation, it is estimated that Oregon could lose about $355 billion in gross state product resulting from failures in transportation infrastructure, in the 8-to-10-year period after a CSZ earthquake (Oregon Department of Transportation, 2013). This estimate does not account for loss of life and injuries or losses due to damage to capital, equipment, and utilities.

In the survey of Oregon nonprofits, we first asked organizations about their concerns for various hazards we experience in Oregon. Earthquakes, wildfires, and severe winter storms were of most concern and believed to be most likely. A quarter to a third of the organizations self-assessed as informed on these hazards, with the notable exception of winter storms. Organizations report being least informed about severe winter storms when compared to other hazards. Most organizations report taking steps to learn about CSZ earthquake and how a major earthquake could impact their services. The following section reports nonprofits' perceptions on the likelihood of a major disaster occurring in their county, in addition to demonstrating how informed they are about different types of hazards, and their level of concern regarding those hazards.

Perceived Likelihood of Various Types of Hazards Occurring in Oregon

To assess perceptions of risk, we asked the question: *"How likely is your county to experience any of the following hazards in the foreseeable future?"* Table 1 below ranks nonprofits' responses across a list of 12 possible hazards. There were six response categories; "Almost no chance," "Not Very Likely," "Likely," "Very Likely," "Almost Certain," and "Unsure." Based on the mean score of the perceived likelihood of each hazard, earthquakes rank highest, with a mean score of 3.69. Overall, 135 out of 155 nonprofits (87%) indicated that earthquakes were "Likely," "Very Likely," and "Almost Certain." Wildfires and severe winter storms ranked second and third.

Table 1. *Perceived Likelihood of Hazard of Event*

Type of Event	Mean	Ranking of Perceived Likelihood of Event	Percentage of "Likely," "Very Likely," "Almost Certain"
Earthquakes	**3.69**	1	87.1%
Wildfires	**3.68**	2	77.3%
Severe Winter Storms	**3.57**	3	81.9%
Severe Windstorms	3.40	4	78.9%
Flooding	3.38	5	76.1%
Landslides	3.17	6	62.6%
Industrial or Hazardous Material Accidents	3.01	7	57.8%
Pandemics	2.93	8	35.7%
Volcanoes	2.25	9	27.7%
Tornadoes	1.89	10	8.3%

Hazard Concern: How Concerned are Nonprofit Organizations?

In response to the question: *"How concerned is your organization regarding the following hazards?"* respondents were also asked to select from the same 12 events, with response categories ranging from a scale of "0" to "10." In calculating, we regard scores from "8" to "10" as indicating high concern ("Very Concerned").

Table 2. *How concerned is your organization regarding the following hazards?*

Type of Event	Mean	Ranking Concerned	Percentage of "Very Concerned"
Earthquakes	**6.25**	1	33.55%
Severe Winter Storms	**5.60**	2	28.67%
Wildfires	**5.06**	3	28.78%
Severe Windstorms	4.81	4	17.94%
Flooding	4.30	5	17.49%
Industrial or Hazardous Material Accidents	3.65	6	6.66%
Pandemics	3.50	7	10.77%
Landslides	3.32	8	5.26%
Volcanoes	2.21	9	2.44%
Tornadoes	1.72	10	.083%

As shown in Table 2 above, nonprofits in this study are very concerned about earthquakes. Ranking highest are earthquakes, with a mean score of 6.25, following by severe winter storms (mean = 5.60). Note that (51 out of 152) 33.6% of the nonprofits in this study scored "8" and above indicating being "Very Concerned," with 46% (70) reporting being "Somewhat Concerned," (a score of 5 – 7) about earthquakes.

How Informed are Nonprofits on Various Hazards?

When asked: *"How informed do you think your organization is regarding the following hazards?"* with response categories ranging from '"0" (Not Informed at All) to "10" ("Very Informed"), respondents appear to be slightly more informed about severe windstorms (mean score of 5.79) than earthquakes (mean score of 5.73) (see Table 3 below).

Table 3. *How informed do you think your organization regarding the following hazards?*

Type of Event	Mean	Ranking Concerned	Percentage of "Very Informed"
Severe Windstorms	**5.79**	1	28.05%
Earthquakes	**5.73**	2	27.88%
Volcanoes	**5.24**	3	31.82%
Tornadoes	4.83	4	14.93%
Flooding	4.69	5	17.28%
Wildfires	4.67	6	16.67%
Landslides	3.23	7	5.26%
Industrial or Hazardous Materials Accidents	3.22	8	7.7%
Pandemics	3.04	9	7.32%
Severe Winter Storms	2.43	10	3.41%

Note that, 63 out of 147 nonprofits (42.9%) reported being "Somewhat Informed" about Earthquakes (scores between "5" and "7"), with 41 nonprofits (27.9%) scoring "8" or higher ("Very Informed"). Moreover, 43 out of 147 nonprofits in this study (29.2%) indicated that they were "Not Informed at All" about earthquakes. This suggests a need for increased opportunities to engage and provide earthquake-related information to more nonprofits.

SECTION II: ORGANIZATIONAL DISASTER PLANNING & PREPAREDNESS

Our survey was particularly interested in assessing the level of disaster planning and preparedness among nonprofits in Oregon. To that effect, we asked a series of questions to which nonprofits could indicate whether they had engaged in the activity or not, as well as indicate the most recent period they engaged in the said activity. These activities are reported by each section and later summarized using an index value that compares different types of nonprofits by levels of preparedness activity.

Key findings from this section include a generally high level of effort to learn about earthquake hazards, but limited internal efforts to take concrete steps towards preparedness. Another important finding is a lack of coordination or resource-sharing agreements between nonprofits and governmental agencies to respond to events. Nonprofits indicate a need to expand training and support for disaster planning for their clients and volunteers. Over half of the nonprofits have not developed a plan detailing how they would restore or continue to provide services after a disaster event. When comparing organizations across all preparedness actions, health, and human services nonprofits indicate higher levels of activity in preparing for a disaster. When comparing organizations by budget size, organizations with larger budgets report having taken more actions towards preparedness, with some exceptions.

Hazard Knowledge

Table 4 reflects the actions taken by the nonprofits in our sample to improve their knowledge about potential hazards or major disasters likely to occur in our region.

Table 4. *Has your organization engaged in any of the following activities? If so, when?*

Type of Engagement	Most Recent Period during which the Activity was Conducted				
	<2 Years	>2 Years	Never	Unsure	n
Obtained education brochures or printed information on how the "Cascadia Earthquake Event" would affect the area	**51.77%**	**11.35%**	30.50%	6.38%	**141**
Obtained education brochures or printed information on how other major disasters would affect the area	**45.00%**	**11.43%**	32.86%	10.71%	**140**
Attending meetings, discussions, or heard talks about how a major earthquake or another major disaster would affect the region	**61.70%**	**10.64%**	21.99%	5.67%	**141**
Obtained information from media sources (newspapers, radio, television, the Internet, or other communications media) on how a major disaster would affect the region	**68.09%**	**10.64%**	14.18%	7.09%	**141**

Table 4 continued. *Has your organization engaged in any of the following activities? If so, when?*

Type of Engagement	Most Recent Period during which the Activity was Conducted				
	<2 Years	>2 Years	Never	Unsure	n
Distributed information to your clients/members on how a major disaster would affect the region	35.71%	3.57%	**51.43%**	9.29%	**140**
Sought information on how the building(s) that house your organization could be affected by a major earthquake in the region	**40.71%**	**10.71%**	37.86%	10.71%	**140**
Had your building(s) inspected by a structural engineer or other building professional	21.58%	15.83%	**41.01%**	21.58%	**139**

Based on Table 4 above, over the past two years or more, the most frequent knowledge improving activities undertaken by nonprofits include: *Obtaining information from media sources (newspapers, radio, television, the Internet, or other communications media) on how a major disaster would affect the region* (78.7% of 141 nonprofits); *Attending meetings, discussions, or heard talks about how a major earthquake or another major disaster would affect the region* (72.3%); and *Obtaining education brochures or printed information on how the "Cascadia Earthquake Event" would affect the area* (63.1%). This indicates significant efforts by nonprofits to be informed on the hazards that might affect our region. Of the 139 nonprofits that responded to the question, 37.4% have *had [their] building(s) inspected by a structural engineer or other building professional,* over the last two years or more.

Management and Coordination

Organizations can take steps to be prepared through internal planning, training, and conducting drills and exercises. These management and coordination activities direct the organization on how to respond in an event. Table 5 assesses strategies or actions that help boost nonprofits' disaster response capacities. Undertaking such strategies ensures that, should a disaster occur, any ensuing emergency operations would be performed effectively (Ritchie et al., 2010).

Table 5 below assesses the level of disaster planning within organizations, thus reflecting management's thinking with regards to organizational disaster planning and preparedness. Most nonprofits in this study (76.4%) indicated having *participated in organizational discussions about a potential disaster* in the past two years or more. In addition, over the past two or more years, 72.7% of 139 nonprofits have *developed evacuation plans for their organization,* and 57.6% provided their staff with training and educational materials regarding their roles during a major disaster.

Table 5. *Has your organization engaged in any of the following activities? If so, when?*

Type of Engagement	Most Recent Period during which the Activity was Conducted				
	<2 Years	>2 Years	Never	Unsure	n
Discussed potential disaster in organizational meeting	**67.14%**	**9.29%**	22.14%	1.43%	**140**
Formed a disaster preparedness committee	36.23%	10.87%	**49.28%**	3.62%	**138**
Provided training and educational materials to staff concerning their roles during a major disaster	**44.60%**	**12.95%**	36.69%	5.76%	**139**
Held a disaster drill for employees and volunteers	37.68%	10.87%	**47.83%**	3.62%	**138**

Table 5 continued. *Has your organization engaged in any of the following activities? If so, when?*

Type of Engagement	Most Recent Period during which the Activity was Conducted				
	<2 Years	>2 Years	Never	Unsure	n
Taken part in an inter-agency or municipal disaster drill	17.86%	7.14%	**68.57%**	6.43%	**140**
Developed a written disaster plan for our organization	**33.33%**	**15.22%**	46.38%	5.07%	**138**
Developed evacuation plan for your building	**58.27%**	**14.39%**	26.62%	0.72%	**139**
Arranged site visits for assessing organizational disaster preparation	18.84%	5.07%	**65.94%**	10.14%	**138**

Formal and Informal Response Agreements

External collaborations allow organizations to share resources, prepare to contribute to response and recovery, and to understand the possible gaps in local networks. To assess this, we asked nonprofits if they had developed multi-organizational response networks through formal or informal response agreements. Such arrangements would allow organizations to share personnel, facilities, and other resources as local resources are likely to be insufficient for the needs of a disaster (McEntire, 2006).

Table 6. *Has your organization entered into any formal or informal disaster preparedness/response agreement with any of the following organizations in your county or region? If so, when?*

Entity Agreement is with	Most Recent Period during which the Agreement was entered				
	<2 Years	>2 Years	Never	Unsure	n
City, County, State, or Federal Govts	16.79%	5.11%	**62.8%**	15.3%	**137**
Other nonprofits in your region	15.83%	7.19%	**63.3%**	13.7%	**139**
Other organizations outside of your region	10.87%	4.35%	**70.3%**	14.5%	**138**

Based on Table 6 above, very little multi-organizational response network building is taking place among the nonprofits in our study, either with public agencies or other nonprofits in and outside of the region. Specifically, 86 out of 137 nonprofits in this study (62,8%) have ***never*** *entered into any formal or informal agreement with any City, County, State, or Federal Government entity.* Only 21.9% (30 out of 137) nonprofits *have entered into formal/informal agreements with public agencies,* compared to 23% (32 out of 139) nonprofits that *entered into agreements with other nonprofits in the region,* and 15.2% (31 out of 138) *with other organizations outside the region.* This is the lowest area of preparedness, suggesting that, the nonprofits in this study, consistent with prior research (Ritchie et al., 2008), tend to regard preparedness as an intra- as opposed to an inter-organizational effort.

Supportive Resources

In addition to planning internal and external roles, there are concrete preparedness steps that can be taken to have emergency supplies and tools on hand for an event. We asked nonprofits to share the supportive resources they have set aside for disaster response and recovery (Ritchie et al., 2010). This also includes resource management with respect to the storage and the planned dissemination of those resources in the event of a disaster. We also include planning to support clients as part of supportive resources in this section.

Table 7. *Has your organization engaged in any of the following logistical (supportive resources) preparedness activities? If so, when?*

Type of Engagement	Most Recent Period during which the Activity was Conducted				
	<2 Years	>2 Years	Never	Unsure	n
Established Communication protocols with staff/ volunteers in event of disaster	**44.60%**	**15.83%**	34.53%	5.04%	**139**
Obtained first aid supplies for use by your organization in a disaster	**52.90%**	**14.49%**	28.26%	4.35%	**138**
Obtained an emergency kit for use by your organization in a disaster	31.16%	13.77%	**48.55%**	6.52%	**138**
Obtained emergency food & water for use by your organization in a disaster	28.06%	8.63%	**57.55%**	5.76%	**139**
Made transportation plans for your clients to/from services	14.60%	6.57%	**68.61%**	10.22%	**137**
Made transportation plans for your staff to/from services in the event of a disaster	18.12%	6.52%	**67.39%**	7.97%	**138**
Made plans to share resources (building, staff, materials, etc.) with other organizations (including government) in the event of a disaster	18.71%	10.07%	**63.31%**	7.91%	**139**
Obtained a generator to provide emergency power due to an earthquake or other disaster	9.35%	7.19%	**78.42%**	5.04%	**139**

Table 7 above shows that, over the past two or more years, on the low-cost resources end, more nonprofits in this study (67.4%) *obtained first aid supplies for use by the organization in a disaster and established communication protocols with staff/volunteers in the event of a disaster* (60.4%).

A large number of organizations in this sample, have ***never*** *obtained emergency food and water (57.6%), made plans to share resources with other organizations* (63.3%), *made transportation plans for either staff* (67.4%) or *clients* (68.6%) *to and from services, nor obtained a generator to provide emergency power due to an earthquake or other disaster* (78.4%). Hence, such nonprofits will face significant limitations in their ability to render assistance in the event of a disaster.

Life Safety Protection

Disaster preparedness encompasses making plans and taking steps, strategies, or protective actions designed to enhance life safety, should a disaster strike, in addition to boosting one's capacity to respond and cope, thus enhancing disaster recovery (Sutton & Tierney, 2006). We asked organizations about the life safety and property protection strategies they had undertaken over the past two years or more. We found that training and planning tools had been provided to staff and volunteers, but not for clients. First aid training was more common followed by encouraging staff and volunteers to prepare a disaster plan.

We asked four questions pertaining to life safety protection activities. As shown in Table 8 below, it is noteworthy that, over the last two or more years, 62.7% of the nonprofits in this study have made significant efforts to *provide first aid or other medical training to staff and/or volunteers and to a lesser degree, encourage staff and/or volunteers to develop household disaster plans* (52.2%).


Marcus Kauffman, Jones Fire In Lowell, Ore.

Table 8. *Has your organization engaged in the following life safety protection activities? If so, when?*

Type of Engagement	Most Recent Period during which the Activity was Conducted				
	<2 Years	>2 Years	Never	Unsure	n
Provided first aid or other medical training to staff/volunteers	**53.28%**	**9.49%**	32.12%	5.11%	**137**
Provided training for clients on how to avoid death/injury should a major disaster strike	19.71%	2.92%	**70.07%**	7.30%	**137**
Encouraged staff/volunteers to develop household disaster plans	**44.20%**	**7.97%**	39.86%	7.97%	**138**
Encouraged clients to develop household disaster plans	24.44%	2.22%	**63.70%**	9.63%	**135**

However, although not surprising, given that not all nonprofits' missions are concerned with public safety, disaster preparedness, and relief, 70.1% of the nonprofits in this study have ***never*** *provided training for clients on how to avoid death/injury should a major disaster strike.* In addition, 63.7% of the nonprofits have also ***never*** *taken steps to encourage their clients to develop household disaster plans.* These results are consistent across all nonprofits in this study, irrespective of organizational budget size.

Property Protection

Property protection includes immediate response actions such as how to use emergency shut-offs or fire extinguishers. Protection also includes securing data and more involved steps such as retrofitting buildings. Nonprofit organizations indicated a focus on measures to secure data and critical records, with 67.9% of the nonprofits in this study reporting doing so over the last two or more years. However, over half of the nonprofits in this study (55.8%) have ***never*** *provided any training to their staff/volunteers on emergency fire suppression and shutting off gas lines.* Furthermore, 72.1% of the organizations ***have not*** *retrofitted their buildings for earthquakes.*

Table 9. *Has your organization engaged in any of the following? If so, when?*

Type of Engagement	Most Recent Period during which the Activity was Conducted				
	<2 Years	>2 Years	Never	Unsure	n
Provided training for your staff/volunteers for emergency fire suppression, shutting off gas lines, and so on	28.99%	8.70%	**55.80%**	6.52%	**138**
Secured data and critical records in case of a major disaster	**62.77%**	**5.11%**	24.09%	8.03%	**137**
Retrofitted building for earthquakes	3.68%	7.35%	**72.06%**	16.91%	**136**

Rent or Own Facilities: 50 nonprofits out of 132 that responded to this question own the primary building where they are located, 46 rent, 29 have a blend of both or have other arrangements where they rent office space while owning the buildings where they provide services. Of the 50 organizations that reported owning their buildings, 8 retrofitted their buildings for earthquakes, 35 have not, and 6 were unsure (1 organization did not provide a response to this question).

Age of Buildings: Most nonprofits (63 out of 124) operate from older buildings built before 1974, that is, before the requirement for building codes. Of these 63, a little over half (37) have *property and building insurance*, and only 8 organizations have *earthquake insurance*. While 19 nonprofits in this study were unsure when the buildings they operate in were constructed, only 23 nonprofits are operating in relatively newer facilities built after 1993. Of these 23 nonprofits, 17 have property or building insurance, and 10 have earthquake insurance. Of the 19 organizations with facilities built between 1974 and 1993, 12 have property and building insurance, and 3 have earthquake insurance. In total, only 71 nonprofits in this study reported having property and building insurance. Table 10 below ranks insurance types. Of concern here, is that, only **23 nonprofits** in this study have earthquake insurance. 35 nonprofits did not know which type of insurance coverage their organizations had.

Table 10. *What types of insurance does your organization maintain?*

Type of Insurance	Count	Ranking
Organizational Assets & Equipment	76	1
Public Liability	74	2
Property and Buildings	71	3
Motor Vehicle	54	4
Other	34	5
Business Interruption	27	6
Earthquake	**23**	7
Cash Flow Protection	12	8

Retrofitted Building for Earthquakes: Only 15 out of 136 nonprofits (11%) in our study have retrofitted their buildings for earthquakes over the last two years or more, 98 (72%) have never done so, and 23 were unsure.. Out of the 63 buildings built prior to 1974, only 9 were retrofitted for earthquakes. Of the 19 buildings that were built between 1974 and 1993, 15 have never been retrofitted; 4 organizations were unsure. Finally, of the 23 buildings built after 1993 only 5 were retrofitted. These findings suggests that many nonprofits in this study would sustain significant damage to their facilities or buildings in the event of a major earthquake. This damage would be exacerbated by the fact that most nonprofits in this study (63 out of 124), as noted above, operate from older buildings built before 1974.

Early Recovery: Emergency Coping and Restoring Activities

There has been a long-standing recognition in the disaster management field that post-disaster recovery is influenced by decisions made or not made during pre-disaster planning and preparedness and post-disaster recovery periods (Ritchie et al., 2010). Organizations were asked about the measures they had taken to facilitate rapid resumption of their operations following a disaster.

Similar to Ritchie et al.'s (2010) findings on disaster preparedness among community-based organizations in San Francisco City and County, Table 11 below show that 55.8% of the nonprofits in our study reported having *developed a notification system for staff/volunteers that is activated in case of an emergency* over the past two or more years. Another 45.7% reported having *identified long-term recovery resources* (e.g., insurance, physical resources, financial resources), with 42% reporting ***never*** *having done so*. In addition, over half of the nonprofits in this study (51.8%) *have* ***never*** *developed a plan for how their organization would continue operations after an emergency/disaster,* what is commonly referred to as a *contingency plan or business continuity plan*.

Table 11. *Has your organization engaged in any of the following Emergency Coping and Restoration Preparedness Activities? If so, when?*

Type of Engagement	Most Recent Period during which the Activity was Conducted				
	<2 Years	>2 Years	Never	Unsure	n
Developed a notification system for staff/volunteers activated in case of an emergency	**42.03**	**13.77**	37.68	6.52	**138**
Developed a plan for how your organization would continue operations after an emergency/disaster (contingency plan or business continuity plan)	29.93	9.49	**51.82**	8.76	**137**
Identified long-term recovery resources (e.g., insurance, physical resources, financial resources)	**32.61**	**13.04**	42.03	12.32	**138**

Differences in the Adoption of Disaster Preparedness Activities (by Size & Type)

An important question remains as to which types of nonprofits are more prepared than others? In other words, are some types of nonprofits more prepared for disasters than others, and does preparedness vary by organizational size (measured by budget size)? To make comparisons between groups of nonprofits we constructed a preparedness index for each of ***seven disaster preparedness dimensions*** (Ritchie et al., 2010). (These dimensions are detailed in the questions presented in the previous section); *Engagement in:*

- Hazard Knowledge Preparedness;
- Management Direction and Coordination;
- Formal and Informal Response Agreements;
- Supportive Resources;
- Life Safety Protection;
- Property Protection; and
- Early Recovery: Emergency Coping and Restoration

The preparedness index is simply a count of the number of organizations engaging in any of the activities or actions in a given dimension, divided by all possible actions in that dimension. It can be thought of as a percentage of the completed tasks we listed under each dimension (e.g., Table 11 above reports all the actions in the emergency coping and restoring activities and each row is an action). Using this index approach allows us to compare organizations by budget size (a measure of organizational size) and by service type (subsector). For this index, we counted an activity as completed for the index if an organization indicated they had engaged in that activity in the past two years or more than two years ago. This might slightly over-report preparedness for those items that are more sensitive to change over time, such as planning For other items such as retrofits, timing is less important. Also, note that these indices are likely to change, to the degree that we are able to identify the size and types of organizations in the "Other/NA" bracket.

Table 12 below reports the indices by budget size; in general, the larger budget organizations have completed more tasks for preparedness. This is likely due to the response rates by each size. Notably, organizations with budgets between $500,000 and less than $1 million were a smaller group in our sample (10%). Similarly, those with budgets of $10 million or more were not as common (13%). Responses in these smaller groups are lower and therefore impact the level of variation in the responses. Not surprisingly, those organizations with larger budgets indicate higher levels of preparedness. For example, nonprofits with budget sizes between $1 million and $4.99 million reported having engaged in 66% of the all the hazardknowledge preparedness activities, compared to 48% of the activities undertaken by nonprofits with budgetunder $100,000.

However, there some notable exceptions; for instance, both small and large nonprofits engaged in limited formal and informal response agreements, only nonprofits with budget sizes of $5 million or more have adopted 50% or more of life safety protection activities, and only nonprofits with budget sizes between $5 million and $9.99 millions have adopted at least half of the supportive resources activities. Note that the property protection index is not statistically significant, we are unable to reliably measure a difference between budget size on this index.

Table 12. *Differences in Disaster Preparedness: By Organizational Size*

Budget	Hazard Knowledge	Management Direction & Coordination	Formal & Informal Response Agreements	Supportive Resources	Life Safety Protection	Property Protection*	Emergency Coping	Overall Average
Under $100,000	0.48	0.35	0.07	0.25	0.29	0.30	0.28	0.29
$100,000 to $499,999	**0.59**	0.45	0.17	0.42	0.45	0.41	**0.51**	0.43
$500,000 to $999,999	**0.50**	0.38	0.24	0.39	0.44	**0.50**	0.37	0.40
$1 million to $4.99 million	**0.66**	**0.52**	0.21	0.40	0.41	0.44	**0.60**	0.46
$5 million to $9.99 million	**0.67**	**0.70**	0.31	**0.55**	**0.50**	0.37	**0.61**	**0.53**
$10 million or more	**0.64**	**0.69**	0.19	0.39	**0.68**	**0.49**	**0.60**	**0.53**
Other/NA	**0.51**	**0.52**	0.43	0.38	0.17	0.39	**0.50**	0.34

* All variables were tested with Chi-square test and found to be significant with a p-value of <0.01, with the exception of Property Protection that was not significant.

Table 13. *Differences in Disaster Preparedness: By Type of Nonprofit Activity (Subsector)*

Budget	Hazard Knowledge	Management Direction & Coordination	Formal & Informal Response Agreements	Supportive Resources	Life Safety Protection	Property Protection*	Emergency Coping	Overall Average
Education	**0.57**	0.40	0.13	0.30	0.44	0.38	0.39	0.37
Health	**0.59**	**0.57**	0.31	0.44	**0.50**	0.45	**0.64**	**0.50**
Human Services	**0.65**	**0.59**	0.22	0.48	**0.51**	0.42	**0.57**	**0.49**
Arts, Culture & Humanities	0.46	0.28	0.12	0.27	0.20	0.41.	0.37	0.30
Public, Societal Benefit	**0.73**	**0.50**	0.23	0.32	0.38	0.27	0.42	0.41
Environment & Animals	0.43	0.33	0.06	0.30	0.28	0.33	0.24	0.28
Other/NA	**0.54**	0.45	0.15	0.33	0.47	**0.53**	**0.59**	0.44

* All variables were tested with Chi-square test and found to be significant with a p-value of <0.01, with the exception of Property Protection that was not significant.

Table 13 above examines these indices for selected service types. Reviewing data for all dimensions, health and human services nonprofits have the highest average overall compared to other service types presented here at 50% and 49% of overall preparedness activities completed, respectively. Comparisons on these sectors require some caution outside the direct service or client-based organizations. Several of the items in our indices relate to planning for the provision of services for clients, an issue that likely is not as important for environmental or arts organizations. This is the case for the supportive resources and life safety protection indices. The property protection index is not statistically significant, we are unable to reliably measure a difference between budget sizes on this index.

Tech. Sgt. Nick Choy, U.S. Air Force, Vernonia Flood 2007

SECTION III: CHALLENGES & BARRIERS TO DISASTER PLANNING & PREPAREDNESS

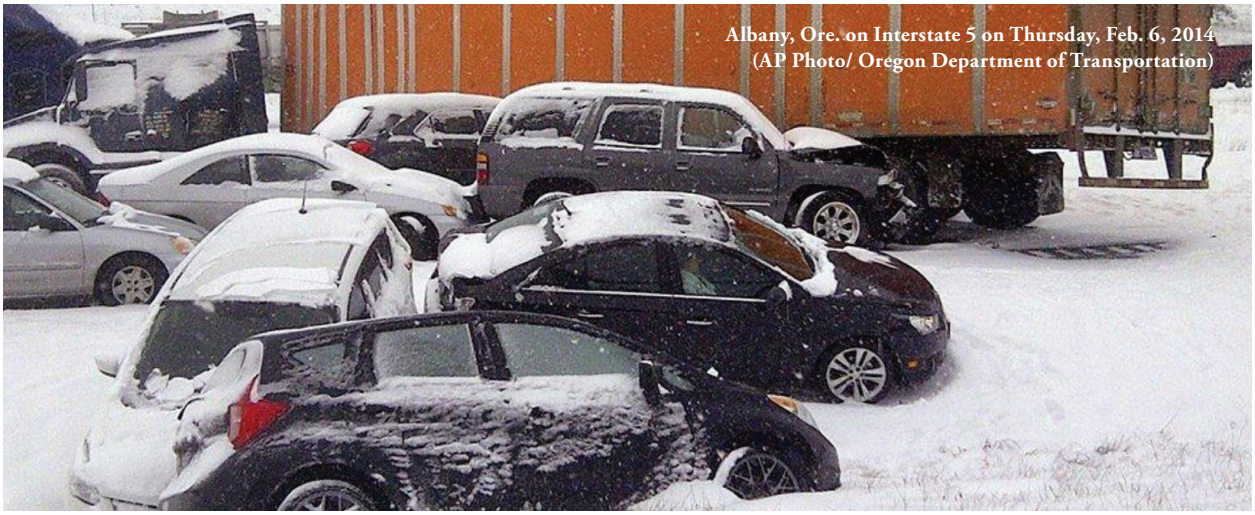
Our survey also sought to document the challenges and barriers nonprofits encounter in the adoption and implementation of organization-wide disaster planning and preparedness strategies. Following a discussion on challenges and barriers, we also document the kinds of assistance nonprofits identified to help boost their resilience and response capacities. Finally, we conclude with a discussion of the roles nonprofits see themselves playing should a major disaster occur.

Based on Table 14 below, the most frequently cited challenge to organizational preparedness efforts among the nonprofits in our study is *limited staff/volunteer time to dedicate to disaster planning and preparedness* (referenced by 108 organizations). In second place was a *lack of financial resources for undertaking disaster preparedness* (referenced by 92 organizations).

Table 14. *What challenges and barriers have you experienced in your organizational disaster preparedness efforts?*

Type of Challenge	Frequency	Ranking
Limited staff/volunteer time	**108**	1
Lack of financial resources for disaster preparedness	**92**	2
Competing urgent demands associated with serving clients	**69**	3
Non-immediacy of disaster	**62**	4
Lack of guidance and/or structured information specific to your organizational context	**59**	5
Unclear organizational benefits from disaster planning and mitigation	31	6
Lack of convincing information about the potential impacts of disaster events	13	8

A little concerning, however, is that 13 organizations identified the *lack of convincing information about the potential impacts of disaster events* as a barrier to organizational disaster preparedness. Interestingly, 8 of these nonprofits reported that various disasters had shifted their thinking about organizational disaster preparedness. It may be that such organizations need individualized information regarding their organization's particular vulnerabilities to disasters.



Albany, Ore. on Interstate 5 on Thursday, Feb. 6, 2014
(AP Photo/ Oregon Department of Transportation)

Assistance Needed to Enhance Nonprofit Resiliency & Response Capacity

"If you don't already have one, what kind of assistance might your organization need to help establish a disaster preparedness plan?"

The responses to this open-ended question were quite telling. Nonprofits identified a need for **(1) Templates for Disaster Preparedness Plans, (2) Resources, particularly, funding, time, staff, (3) Training and Workshops, (4) Expert Opinion or Consultation on Disaster Planning, (5) Interagency Cooperation**, and **(6) Motivation**. This ranking is based on the frequency with which each category was mentioned or referenced in the data.

1. ***Templates for Disaster Preparedness Plans:*** Mentioned 45 times, the nonprofits in this study strongly emphasized a need for templates and/or examples of disaster preparedness plans to help guide them with their own planning process. This includes information on some "best practices" for disaster preparedness planning.
2. ***Resources, particularly, funding, staff, and time:*** Mentioned 43 times, nonprofits also highlighted a significant lack of funding, staff (including expertise), and time to initiate disaster planning. This is in part due to how the same resources compete with their day-to-day service provision needs and roles. As such, applicable funding resources, including assistance with identifying appropriate funding sources for disaster planning, as well as providing free disaster planning assistance, would be of great use to nonprofit organizations.
3. ***Training and Workshops:*** The nonprofits in this study also mentioned (23 times), a need for organizational disaster planning and preparedness training. Offering such training or workshops would help educate, inform, and guide nonprofits on the critical components of disaster planning.
4. ***Expert Opinion or Consultation on Disaster Planning*** *(22 mentions):* Related to training, was a need for some individualized consultation and/or vulnerability assessments. Some nonprofits indicated a lack of clarity on the scale or scope of disaster planning and preparedness as it pertained to their specific organizational and mission context.
5. ***Interagency Cooperation*** *(5 mentions):* A few nonprofits expressed a desire for some level of interagency collaboration with regards to disaster planning. This particularly included effective network or partnership building.
6. ***Motivation*** *(5 mentions):* Finally, another handful of nonprofits noted a lack of motivation, in part due to competing demands and priorities among leadership and staff.

Nonprofits' Perceived Disaster Response Roles

"In case of a major disaster (e.g., Cascadia Earthquake), what do you see as your organization's role?"

While some nonprofits were unsure of the roles they would play in the event of a major disaster like the CSZ earthquake, a few nonprofits did not think that their buildings or facilities would survive such a disaster rendering their organizations inactive. Mentioned 10 times, nonprofits in this study see themselves playing some pre-disaster role in terms of helping people and communities with resources, information, raising awareness, advocating for pre-disaster planning, and even preparing to provide direct volunteer assistance in the case of an emergency event.

Many respondents in this survey see their organizations playing significant roles such as, **(1) Disaster Response, (2) Providing Shelter, (3) Assisting with Coping, (3) Serving and Protecting their Clients and Staff,** and **(4) Post-disaster Recovery**, ranked in order of mentions.

1. ***Disaster Response:*** Most frequent references were made with respect to the different ways nonprofits saw themselves assisting, in the event of a major disaster. Nonprofits see themselves playing very diverse disaster response roles, including, emergency food and water distribution, "emergency response, rescue, community response coordination, victim relief, [and] shelter services," assisting with transportation, and providing additional support to the hospital community, among other tasks.
2. ***Providing Shelter:*** Over 30 references were made with regards to providing emergency shelter to those displaced by the disaster. In fact, nonprofits in this study noted that they had space to shelter people in the aftermath.
3. ***Assisting with Coping:*** Other nonprofits see themselves providing services to help communities and individuals cope in the aftermath of the disaster. Such roles include, providing behavioral health care, being available to those "experiencing suicidal or mental health crises," "providing comfort and emotional support," reuniting families, and linking individuals to services.
4. ***Serving and Protecting their Clients and Staff:*** Many nonprofits also demonstrated a strong commitment to making sure that their clients and staff are safe and taken care of.
5. ***Post-disaster Recovery:*** Finally, a few respondents referenced providing recovery assistance (e.g., "providing long-term economic recovery," providing grants for temporary housing or for repairing multi-family housing structures, providing furnishings to those in need, and mobilizing volunteers to assist with "debris cleanup efforts," etc).

Other perceived roles include, being information hubs and communication conduits for families and communities, and volunteering where assistance is needed. In all, many nonprofits in this study are prepared to step up and play some role in disaster preparedness, response, and recovery. However, there remains a need to demonstrate and emphasize the roles nonprofits can play in the aftermath of a disaster, even when disaster response is not central to their missions.

Impact of Recent Oregon Hazard Events on Nonprofit Organizations

"Did the 2016/2017 severe winter storms and/or the 2017 wildfires have an impact on your organization? If "yes," how were you affected, and how quickly was your organization able to resume services?"

Impact statements were gathered from the respondents to gauge how Oregon's 2017 wildfires and/or the 2016/2017 severe winter storms affected their organizations and their operations. From these statements, we were able to glean anecdotes of mitigation, lessons learned, and how organizational staff, clients, services, facilities, and property suffered during these events. Practitioners and academics utilize impact studies to determine vulnerabilities and put actions and plans in place to reduce future exposure (Sutton & Tierney, 2006). Our goal in asking this question was to provide insight into a recent natural hazard and the impact from it, so that planners, researchers, and practitioners may better understand what resources may be utilized to address, mitigate, and prepare for the future.

The survey asked a series of open-ended questions that allowed respondents to share their thoughts in their own words. We collected these statements and analyzed them for common themes. Based on our analysis of responses from 85 nonprofits, several common impacts themes emerged as shown below.

Table 15. *Impact of the 2016-17 Severe Winter Storms and/or 2017 Wildfires*

Type of Challenge	Frequency	Ranking
Facility Closure	46	1
Interruption to Transportation (To workplace)	22	2
Poor Air Quality	14	3
Loss of Revenue	11	4
Reduced Operational Capacity (e.g. reduced service hours, rationed supplies, distribution of supplies).	9	5
Increased Demand for Services	6	6
Mental Health Issues and Stress	5	7
Major Utility/Telecom Interruption	5	8
Property Damage (Winter Storms)	4	9
Unexpected Expenses	4	10
Limited Staff/Volunteer Time	3	11
Extended Service Hours	1	12
Theft of Property (stolen during the event)	1	13

Impact from the 2016-17 Severe Winter Storms

85 nonprofits in our survey reported being directly or indirectly affected by the 2016/2017 Severe Winter Storms in various ways. Chief among the impacts were *facility closures* and *loss of income* due to cancelled events as shown in Table 15. Of all 85 nonprofits, **46** reported closing their facilities anywhere from 24 hours to two weeks and, therefore, not being able to provide services during that time. One organization reported losing "*2 weeks' worth of revenue.*" Commonly reported among arts organizations, was loss of income due to patrons' inability to visit sites. This was the case for other organizations that rely on earned income from clients and patrons accessing and utilizing their facilities (e.g., recreational outdoor spaces, donations collections or sales). One organization "*never recovered from the poor sales in [its] store in January and February.*"

Also, inaccessible road conditions resulted in staffs' *inability to reach their clients,* which was a major issue particularly for those organizations that need to travel to provide services to their clients (e.g., Meals-on-Wheels; nonprofits offering transportation services; nonprofits offering mental health care and out-patient medical care programs). It was equally challenging for staff and volunteers to get to work, forcing many across multiple organizations to work from home. For one organization, the severe winter storms "cost about a month of work time."

The severe winter storms, also caused *property damage, power outages*, and *increases in property maintenance and other costs.* One organization reported needing roof repairs, while another reported spending $30,000 in additional snow removal, not to mention the increase in the stress for maintenance staff.

Impact from the 2017 Wildfires

With respect to the wildfires, some **26** nonprofits reported being affected directly and indirectly as well. For those organizations that offer outdoor activities and services, wildfires resulted in a loss of revenue; one outdoor nonprofit estimated its *revenue loss* at $500,000 due to closures and cancelled events.

While the wildfires caused general *poor air quality* due to ash and smoke, across multiple communities; the poor air quality was especially an issue for organizations whose staff had to visit with clients, as well as for staff and clients with health issues. This in turn resulted in some organizations seeing an *increase in the demand of their services*. For example, one hospital experienced a hike in patient visits due to poor air quality. Another had to increase their community preparedness and outreach programs, while another had to send clients to a different location. Wildfires also caused an increase in *stress and anxiety* especially for staff that lived in close proximity to the fires or had relatives that did, and this is something organizations had to deal with.

In all, these impacts did result in increased awareness for the need for organizational preparedness. There were a handful of nonprofits that demonstrated admirable preparedness for the severe winter storms and wildfires; however, the organizations' lines of work (e.g., hospitals, clinics, and emergency services organizations), or for a few, past experiences dictated this level of preparedness.

SECTION IV: DEMOGRAPHICS OF THE NONPROFITS IN THIS STUDY

***County Location:* 133** nonprofits that identified their location are located all across the state of Oregon, with a handful with multiple locations. As shown in Table 16 below, most nonprofits in this study (53 out of 133) are located in Multnomah County, with 18 located in Lane County, and 12 in Washington County.

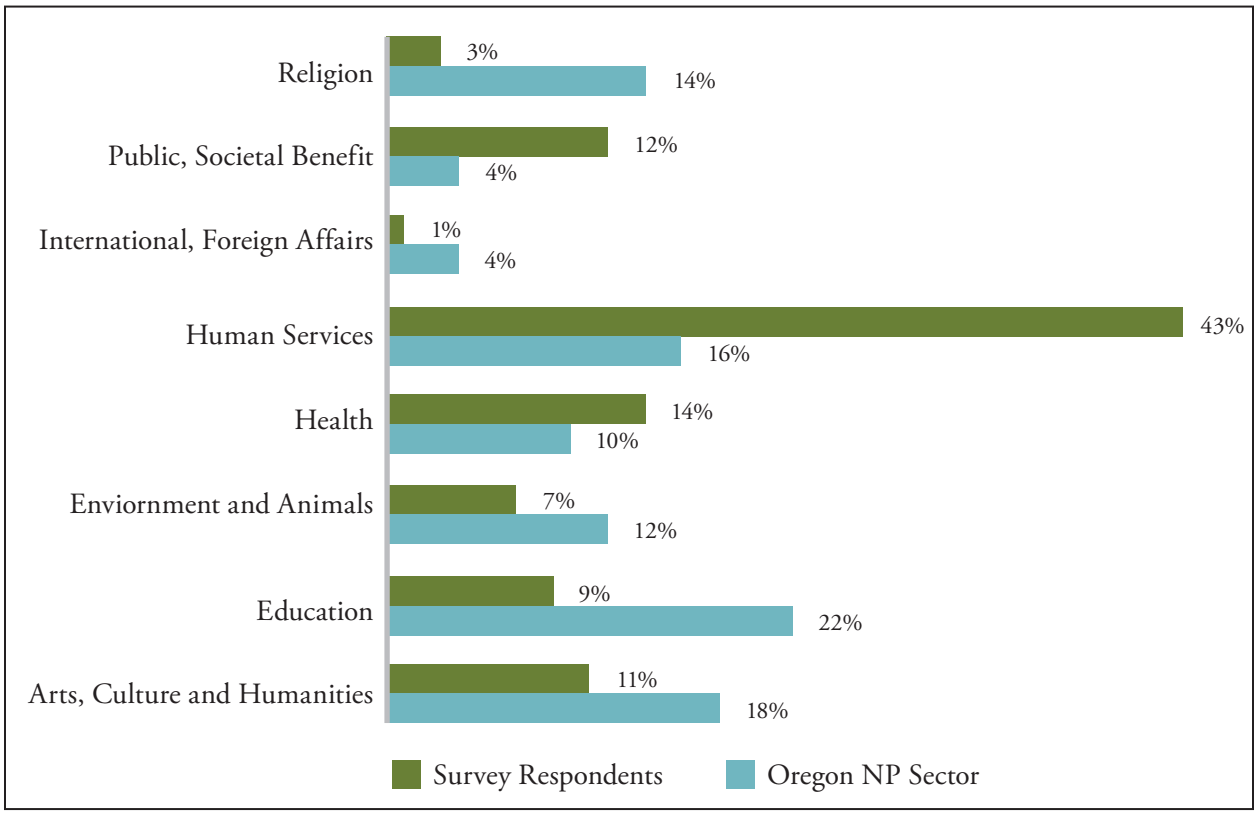
Table 16. *Nonprofit Respondents, by County Location*

County	Frequency	Percent
Baker	2	1.1%
Benton	2	1.1%
Clackamas	10	5.3%
Clatsop	1	0.5%
Columbia	3	1.6%
Coos	1	0.5%
Crook	2	1.1%
Curry	2	1.1%
Deschutes	9	4.8%
Douglas	1	0.5%
Jackson	7	3.7%
Jefferson	2	1.1%

County	Frequency	Percent
Josephine	2	1.1%
Klamath	2	1.1%
Lane	18	9.5%
Lincoln	2	1.1%
Linn	2	1.1%
Marion	7	3.7%
Multnomah	53	28.0%
Polk	1	0.5%
Tillamook	1	0.5%
Union	1	0.5%
Wallowa	3	1.6%
Washington	12	6.3%
**Data Unavailable*	43	22.8%

Nonprofit Services: To get a sense of the critical services nonprofits provide, Figure 1 below shows the kinds of services nonprofits in this study provide in our communities. The Figure also shows the proportion of Oregon public charities by subsector or types of activities, relative to the share of nonprofits that responded to our survey. Out of the 140 nonprofits that provided information about their field of services, 43% (60) are human services nonprofits. These human services nonprofits describe themselves as providing: trauma relief after natural disasters; services to families with children at-risk of abuse; mental health services for children and families; early learning services; vocational training; shelters for the homeless; food to people; housing and emergency shelters for those in need; support to families with youth in the juvenile court systems; support to foster care families; support to low-income families, including providing food; support to survivors of domestic and sexual violence; as well as services and advocacy for the disabled to promote independent living, among other services.

Figure 1. *Type of Nonprofit Activity by Survey Respondent compared with Oregon Nonprofit Sector*

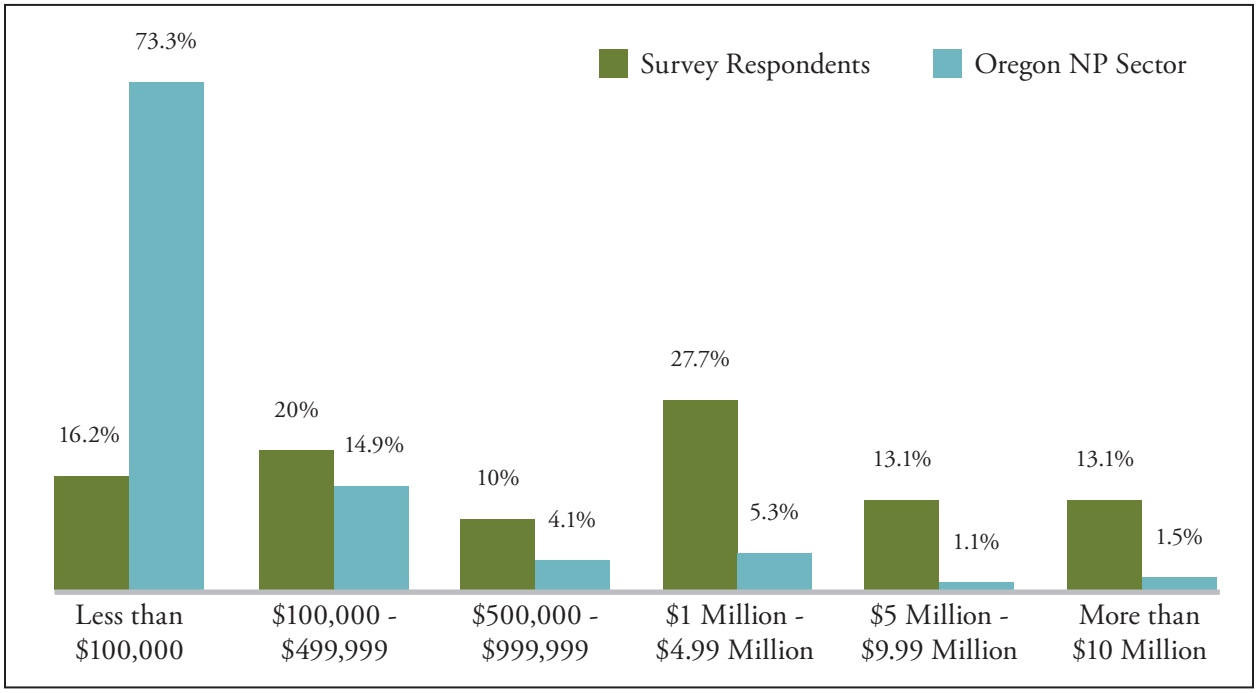


19 out of 140 nonprofits (14%) operate in the health sector, providing primary care health services to low-income communities, shelter, food, and support for families with seriously ill children, critical support to the homeless, emergency response roles, and connecting people to the health care services they need. Based on these few examples, most nonprofits in this sample provide essential services that would become even more critical in the event of a major disaster.

Organizational Size: The nonprofits also varied in terms of size, measured by (1) reported organizational budget size and (2) the number of paid staff. The nonprofit sector is largely comprised of smaller nonprofits with budgets under $500,000 (McKeever, Dietz, & Fyffe, 2016).

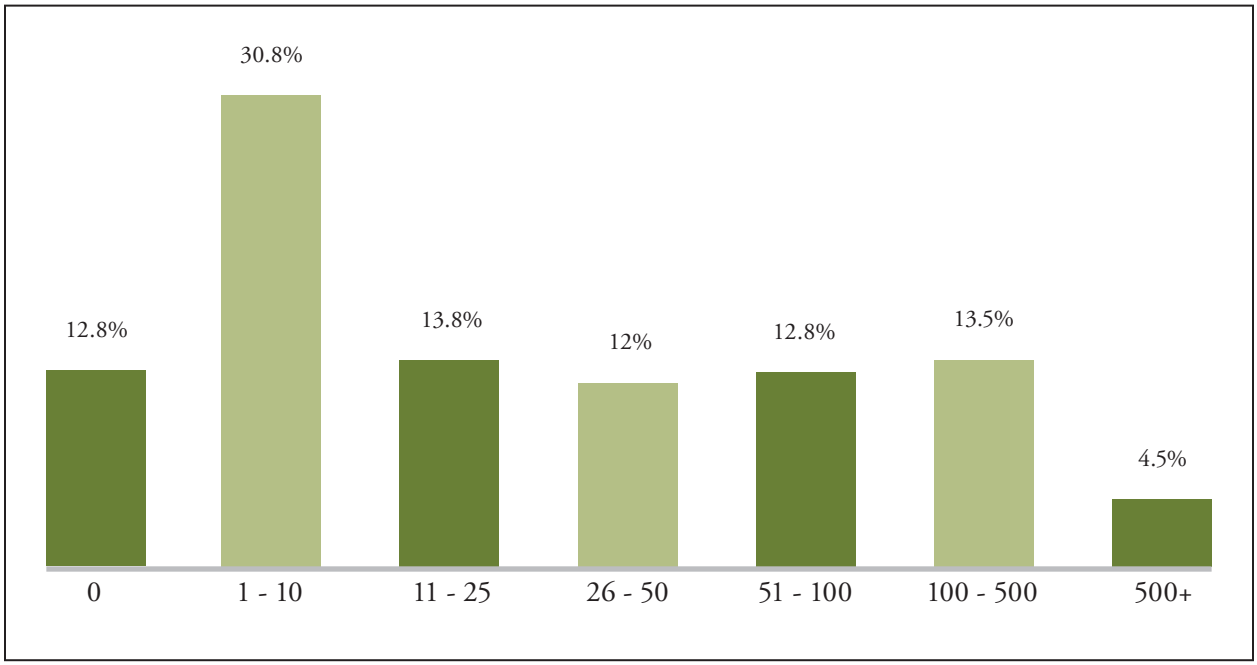
Based on Figure 2 (page 22), the majority of the nonprofit respondents – 54% (70 out of 130 respondents), have budgets of $1 million or more, with 36% (47 out of 130) nonprofits with budget under $500,000. Note that 59 nonprofit respondents did not provide information on their budget size.

Figure 2. *Percent of Budget Size reported by Survey Respondents in comparison with Oregon's Nonprofit Sector*



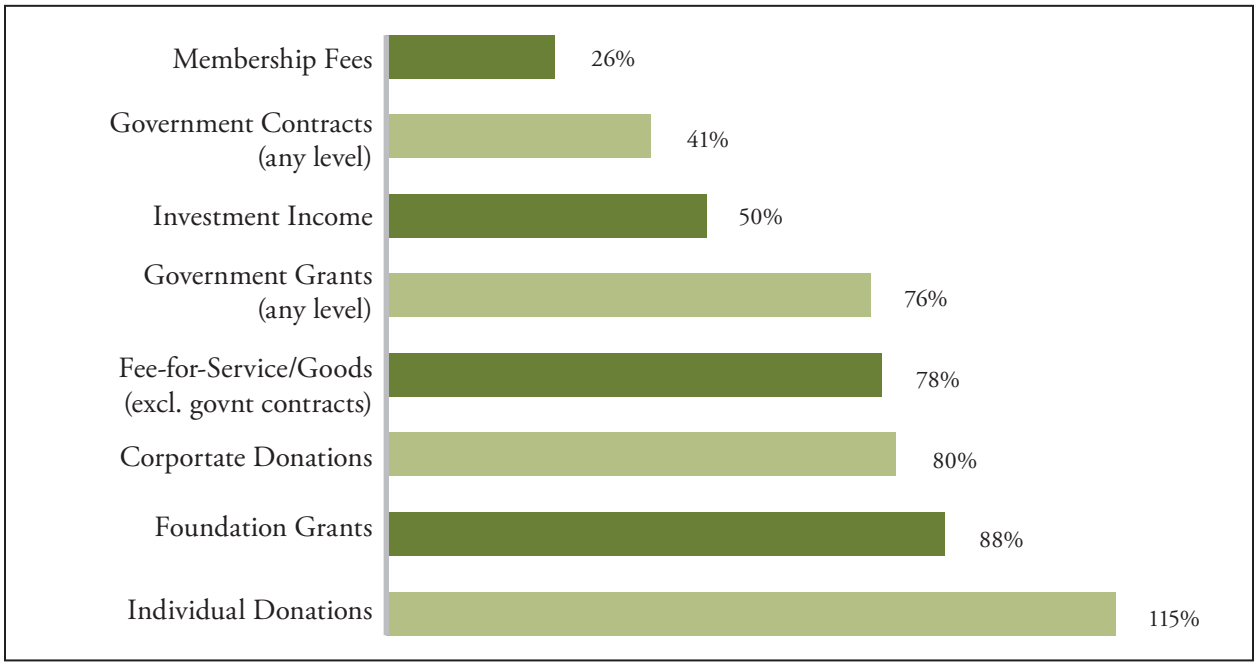
Paid Staff and Volunteers: Oregon's nonprofit sector as a whole, provides relatively stable employment opportunities. In 2017, nearly 20,000 public charities in Oregon "employed 190,124 Oregonians, with nearly $10 billion in annual payroll" (Bureau of Labor Statistics, 2018). For the nonprofits in this study, 30.8% (41 out of 133 nonprofits) employ between 1 and 10 paid staff and 4.5% (6) of organizations in the survey have 500 paid employees or more (see Figure 3 below). 12.8% (17 nonprofits) rely solely on volunteers.

Figure 3. *Percent of Survey Respondents, by Paid Staff*



Common Funding Sources: Public charities rely on multiple funding sources with a general pattern reflecting a high dependence on fees-for-services and goods from private and government sources, followed by private contributions, which include individual and foundation giving (McKeever et al., 2016). Figure 4 below shows that 115 nonprofits in this survey identified individual donations as an important funding source for fiscal year 2017, followed by foundation grants (88), and corporate donations (80). In terms of government sources, 76 nonprofits received government funding in the form of grants, and 41 in the form of contracts. In general, fees-for-services from members, government contracts, and the sale of nonprofit goods and services, are the most commonly reported funding sources – identified by 145 nonprofits.

Figure 4. *Funding Sources*



CONCLUSIONS

Despite the strong concerns about hazards impact and efforts to build organizational hazard awareness, nonprofit organizations in this sample exhibited low levels of disaster preparedness across multiple dimensions, which correlates to a lack of resilience. Based on responses throughout the report, a majority of nonprofits in this study have "never engaged" in 20 of 36 activities associated with disaster resilience practices.

A main reason for low preparedness is limited resources in terms of staff/volunteer time, followed by lack of financial resources for disaster preparedness. This finding is also confirmed by the fact that larger budget organizations completed more preparedness tasks compared to smaller organizations. This suggests that nonprofits could benefit from additional human resources, be it through funding of temporary positions or state-provided assistance teams. Collaborative philanthropic, state, and local partnerships can be springs of the critical resources nonprofits need to bolster disaster preparedness and resilience to mitigate overall hazards impact, as well as help them maintain their operations in the event of an emergency. We envision such collaborative partners being sources of funding, expertise, and technical assistance. Capacity-building efforts should center on education and training, providing readily available templates and examples of preparedness plans, expanding partnerships, and committing resources – particularly funding, expertise, technical assistance, and time so our nonprofits may bolster their disaster resilience.

While the results in this study are revealing in terms of nonprofit organizational preparedness levels, the challenges nonprofits currently face in their efforts to build up their disaster resilience, and the kinds of assistance they need to do so; we are limited in our ability to generalize about the disaster resilience of Oregon's nonprofit sector as a whole. Nonetheless, the issues presented in this report highlight a critical need for investing in nonprofit disaster resilience, so nonprofits can significantly increase their ability to provide assistance and services in the event of a disaster. Furthermore, the response rate we received to this survey match other recent efforts by researchers to assess the nonprofit community of Oregon. As we consider community resilience and response capacities currently available to us, resources are also needed to support a comprehensive study that can fully gauge the disaster resilience and capacities of this critical civic infrastructure – i.e. Oregon's nonprofit sector.

Disaster experiences have shown that nonprofits are often "thrust into" or end up "voluntarily" playing unanticipated disaster response roles following a disaster (Simo and Bies, 2007). The nonprofits in this survey understand their importance in a disaster and do see a role in disaster response to protect both their clients and staff. We strongly urge the state of Oregon, the public agencies that contract with nonprofits, and the Oregon philanthropic community to take committed measures to assist nonprofits to bolster their disaster preparedness response, and resilience.

Acknowledgements

The survey and report would not have been possible without the support of many people within the Oregon nonprofit and public sectors. We thank Dr. Anne Castleton and the members of the City Club of Portland's Earthquake Report Advocacy Committee (CCERAC) for their support in the planning and review of various stages of the survey. We also thank Dr. Billie Sandberg and the Nonprofit Institute team, as well as other nonprofit and public sectors leaders for sharing our survey with their networks. We also thank Brad Ramos at the Nonprofit Association of Oregon for the graphic design and layout of the report and Lilisa Hall for her editorial review of this report. Finally, printed versions of this report were printed with support from Dean Stephen Percy of PSU's College of Urban and Public Affairs.

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U.S. Department of Housing and Urban Development. *Sample Plans and Guidance Documents.* Disaster Recovery Homelessness Toolkit: https://www.hudexchange.info/resources/documents/DR-H-Sample-Plans-and-Guidance.pdf.

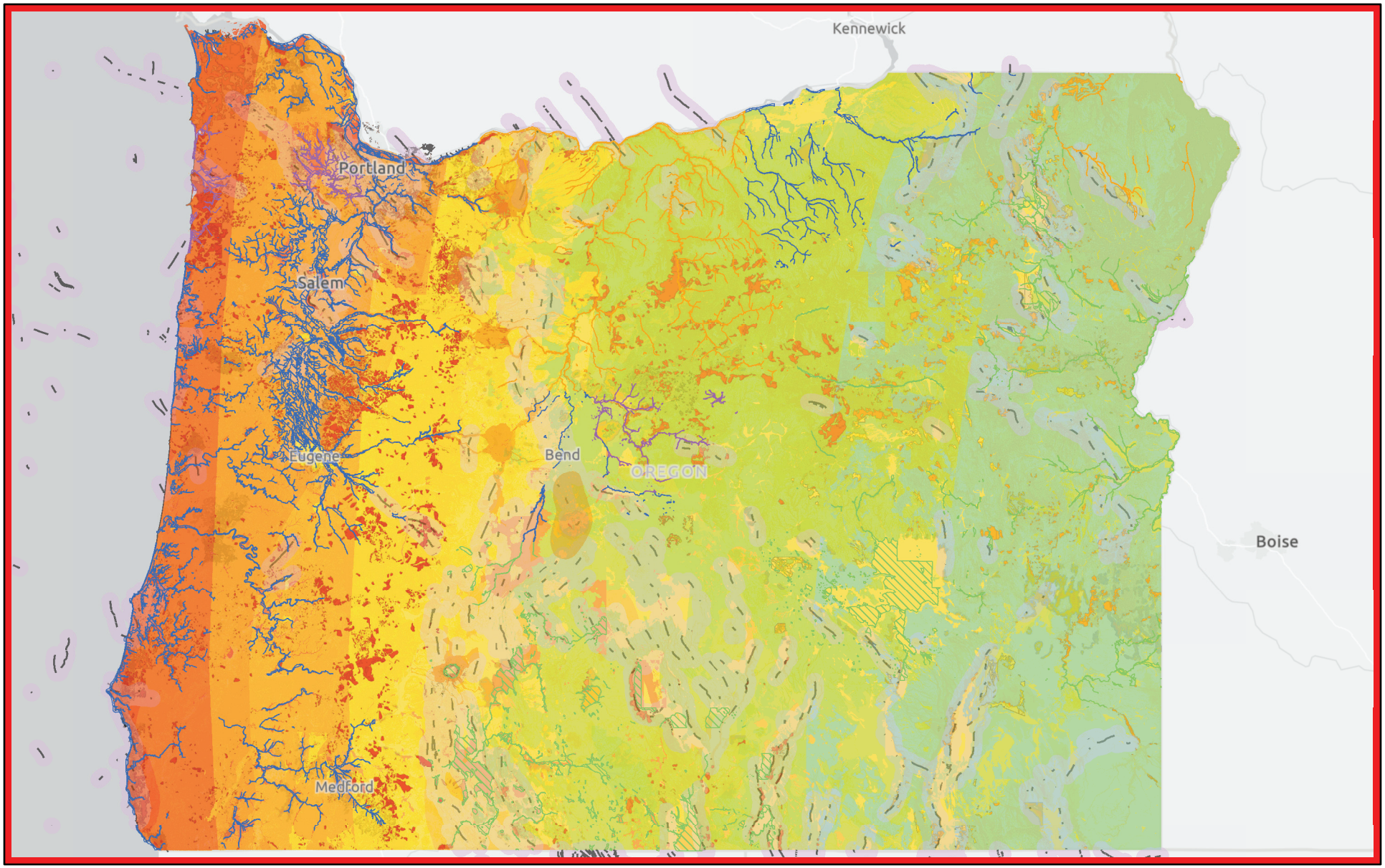
IT Disaster Planning & Recovery

TechSoup (2017). The Resilient Organization: A Guide to IT Disaster Planning and Recovery: https://www.techsoup.org/SiteCollectionDocuments/resilient-organization-pdf-full-document.pdf. With the Center for Disaster Philanthropy.

Techsoup (2017). The Resilient Organization: A Guide to IT Disaster Recovery: https://www.techsoup.org/SiteCollectionDocuments/resilient-organization-pdf-document.pdf.

Map Disclaimer (back cover):
Mapping natural hazards across the state is a challenge. Some hazards are only experienced at a local scale, such as flooding. These may not appear clearly on a map of Oregon, but are still a very real risk. Conversely, seismic data can be presented on a state scale due to the size of the events, but this might mislead a reader to think they are safe if in the green seismic zone. This map only displays a selection of hazards to show that all of Oregon is exposed to hazards. Not included on this map are hazards such as landslides, winter storms, wildfire, and tsunami. Always consult local mapping for assessing your own hazards.

Oregon Hazard Map



November 2, 2018

1:4,320,000

0 25 50 100 mi

0 40 80 160 km

Type and Source of Flood Data

- Effective FEMA 100 yr Flood
- Preliminary FEMA 100 yr Flood
- State Digitized Flood Data
- Q3 FEMA Flood Data

Cascadia Earthquake Expected Shaking

- Violent
- Severe
- Very Strong
- Strong
- Moderate