

# Vitality



## Experts warn that we need to prepare now

**Socio-economic resilience is key to recovery after a disaster strikes**

By **David Frohnmayer**



**N**o one likes to think that he or she will ever experience a catastrophic event — a natural or manmade disaster that puts lives and communities at risk. Yet we've seen it happen again and again — Superstorm Sandy, Hurricane Katrina, the tsunami in Japan, the earthquake in Haiti. Closer to home, we've had forest fires in Southern and Central Oregon, train derailments in Eastern Oregon, flooding at the coast and, decades ago, an explosion in Roseburg when a truck loaded with fertilizer and dynamite caught fire.

The reality is that catastrophic events can happen

anywhere, at any time. When we talk about a regional disaster in the Northwest, the first thing that comes to mind is a major earthquake. It's not just a distant possibility. Scientists warn that the next rupture of the Cascadia Subduction Zone, located just off the Pacific coast, may happen in the next 50 years. And it could be devastating — a 9.0 earthquake and resulting tsunami would wreak devastation from the coast to the Cascades.

We don't know how or when disaster will strike, but we do know that we need to start getting ready now. The Ford Family Foundation is joining this effort as it embarks on a project to explore socio-

*Continued on page 15*



Yumei Wang tells you what to expect. See page 6.

### I N S I D E

- The Plan:** Oregon lags in preparedness..... **2**
- What did we learn?** Recent earthquakes should have been a wake-up call ..... **4**
- What to expect:** The first minutes after the ground starts to shake ..... **6**
- Storage:** Evacuation support sites provide shelter, water and food ..... **8**
- Youth:** Disaster training by and for young people ..... **9**
- The government:** Don't count on it ..... **10**
- Your emergency kit:** What to include..... **10**
- Scholarships:** An Oregon midwife takes her skills to Haiti ..... **12**
- Map Your Neighborhood:** Who will you count on? ... **14**

➔ **Community Vitality has moved online.**  
See page 13



## By the numbers

National average of state  
Emergency Management  
Budgets (in millions)

**\$6.1**

Oregon's Emergency  
Management Budget  
(in millions)

**\$2**

Percentage of Oregon  
residents who carry  
earthquake insurance  
(special premium  
required)

**20%**

Percentage of  
respondents in an ASPCA  
survey who said they'd  
refuse to evacuate  
without their pets

**67%**

How much longer  
batteries can last in  
LED flashlights vs.  
incandescent

**10x**

Percentage of Oregon  
schools with a high or  
very high risk of collapse  
in a major earthquake

**47%**

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Many of you have heard about it. Some of you may have even seen it. The elephant ... sitting quietly ... in the corner of the room.

The elephant is, of course, just a metaphor. A metaphor for one of the largest, most powerful events on the planet: a Cascadia Subduction Zone earthquake and tsunami. It is now common knowledge that much of Oregon's breathtaking beauty — from the rugged coastline of the Pacific to the jagged peaks

# The plan f

## Oregon lags in preparedness and the consequences could be dire

By **Josh Bruce**



of the Cascades — is born out of these awesome, perfectly natural, geologic events.

The most recent subduction zone earthquake and tsunami occurred off the coast of Japan on March 11, 2011. The fifth-largest earthquake recorded in modern times, it moved Japan's main island of Honshu eastward by eight feet, displaced trillions of tons of seawater, resulting in a devastating tsunami, and literally shifted the earth on its axis. The event also exacted major human, economic and environmental costs: 18,000 deaths, \$200 billion in damage and the meltdown of a nuclear power plant. All of this in the most earthquake- and tsunami-prepared country in the world.

Like Japan, Oregon and the Pacific Northwest will experience a major earthquake and tsunami in the future. We don't know when it will strike. We don't know how big it will be. But we know it is coming. And like the elephant in the room, we can little afford to ignore it.

Josh Bruce is the interim director of the Oregon Partnership for Disaster Resilience (OPDR), a program of the Community Service Center at the University of Oregon. He has assisted communities throughout Oregon with a variety of natural hazard mitigation and recovery planning projects.



◀ **Oregon is at risk for a catastrophic earthquake and tsunami event like the one that hit Japan in 2011.**

decline — in effect, a ‘lost generation’ that will devastate our state and ripple beyond Oregon to affect the regional and national economy.”

Anyone who knows me well would tell you I can be a cynic at times. On those days when cynicism takes hold, I fear that Oregon is perilously *under*-prepared for a Cascadia Subduction Zone earthquake and tsunami event. And I am not alone. Scott Ashford, chair of the Oregon Resilience Task Force and director of the Cascadia Lifelines Program at Oregon State University recently said, “Compared to the level of earthquake preparedness even in California and Washington, it’s clear that Oregon is bringing up the rear.”

**Consider these facts:**

The Oregon Military Department’s Office of Emergency Management has half the staff (39) that Washington has (84).

Only 20% of Oregon residents carry earthquake insurance.

It’s estimated that 47% of Oregon schools have a high or very high risk of collapse in a major earthquake — 75% of

them were constructed before modern building code standards were adopted.

The national average of state Emergency Management Budgets is \$6.1 million. Washington state’s budget is \$3.8 million. Oregon’s budget is \$2 million.

The good news is that OSSPAC also has a plan. The Oregon Resilience Plan outlines a set of strategies that over a 50-year time frame would dramatically increase Oregon’s ability to bounce back from a catastrophic earthquake and tsunami. As an added bonus, benefits from this effort will extend across a wide range of other natural and manmade hazards.

In response to OSSPAC’s plan, the Legislature passed Oregon Senate Bill 33. The bill establishes a Resilience Task Force with a specific charge to “implement the strategic vision and road map contained in the Oregon Resilience Plan.” The group held its first meeting in November. It has one year to deliver an implementation plan.

**Resilience: Oregon’s New Investment Strategy**

Resilience won’t just happen overnight. The Oregon Resilience Plan proposes 50 years of new capital investment, policy changes and incentives for individuals and businesses — bite-sized investments made over time that will pay dividends now and into the future.

Imagine the jobs we will create by investing in seismic upgrades to bridges, rebuilding our already crumbling schools and modernizing our utility infrastructure. Imagine the social benefits we will gain as commu-

*Continued on page 15*

# or resilience

**What is Oregon doing to prepare?**

Thankfully, subduction zone earthquakes don’t happen very often in Oregon. The last one occurred 105 years *before* Lewis and Clark ever set eyes on the Pacific. It was January 26, 1700 — a time when native stories told of the ground shaking and the waters rising. A time when Oregon was much more resilient than today.

There were no bridges to shake apart. No schools, hospitals or fire stations located where the tsunami could swallow them up. And no cities full of people dependent on basic goods and services provided by a global economy.

The 1700 earthquake and tsunami was an epic event. But it was not a disaster.

By comparison, it is very easy to paint a grim picture of Oregon’s state of resilience today. In February of 2013, the Oregon Seismic Safety Policy Advisory Council (OSSPAC) told members of the Legisla-

tive Assembly that: “Available studies estimate fatalities ranging from 1,250 to more than 10,000 due to the combined effects of earthquake and tsunami, tens of thousands of buildings destroyed or damaged so extensively that they will require months to years of repair, tens of thousands of displaced households, more than \$30 billion in direct and indirect economic losses (close to one-fifth of Oregon’s gross state product), and more than one million dump truck loads of debris.”

Numerous vulnerabilities exist across a wide range of sectors: business, housing, energy, education, water, wastewater, transportation, critical facilities, communication, public health, food and more. The main conclusion from OSSPAC’s study: “Resilience gaps of this magnitude reveal a harsh truth: a policy of business as usual implies a post-earthquake future that could consist of decades of economic and population

**The Oregon Resilience Plan proposes 50 years of new capital investment, policy changes and incentives.**

# Did we learn anything?

**The earthquakes in Japan and Chile should have been a wake-up call for the Northwest, but experts say we're far from ready**



**When the Cascadia fault finally delivers its megaquake, the potential rupture zone, marked in yellow, will be the first area to fail. Some of that zone is directly beneath the West's coastal communities.**

**R**ecent disasters have underscored the importance of preparation and resilience in a catastrophic event. A lot of that attention came after megaquakes in Chile in 2010 and Japan in 2011.

Oregonians need to get busy getting ready, says Jay Wilson, a self-described earthquake awareness activist. Wilson, hazard mitigation coordinator for Clackamas County Emergency Management since 2008, says he's trying to shake the state awake for the coming Cascadia Subduction Zone earthquake.

"Oregon is pretty sleepy when it comes to earthquakes, and it creates a lot of complacency. We haven't been put in the position of having to deal with these things yet," he says. "[Oregon] has to look elsewhere for our lesson, and we're never going to get a better proxy for what we're looking at than Japan and Chile."

Yumei Wang, earthquake

risk engineer for the Oregon Department of Geology and Mineral Industries, agrees with Wilson. Japan's double-whammy earthquake-tsunami is a mirror image of what will happen in a Cascadia event, she says. "It's an eye opener."

Design codes, emergency protocol and countrywide cultures of readiness in both Chile and Japan (with the exception of certain zones, such as the Fukushima nuclear plant) helped those countries return to a semblance of normalcy within weeks.

Japan, which has had earthquakes throughout its history, built better structures and increased its resiliency after World War II, when bombings forced the country to rebuild. Chile's infrastructure was newer, too, rebuilt after a magnitude 9.5 earthquake in 1960.

## **No power for weeks**

Right now, Oregon's older infrastructure and ability to spring back from a disaster is in poor shape. A large-scale

disaster here would be more like the East Coast after Superstorm Sandy in 2012. "Sandy is a good American analog for why we now recommend people prepare for two to four weeks, rather than just 72 hours," Wilson says. In some cases, New Jersey residents were without power and other basic services for three to four weeks.

But Wang cautions that the East Coast got something the West Coast won't: a warning. "Sandy and Katrina had days of warnings. With an earthquake there will not be that warning," she says. "The warning is really now—now that we know."

Wang says that everywhere she visits after an earthquake, she hears the same thing: People wished they had been better prepared.

The Japanese earthquake served as an unfortunate dress rehearsal for the state of Oregon. When the tsunami alert went out after the 2011 earthquake, the Oregon coast was included in the list of areas which possibly could be affected.

The media reported heavy congestion on the roads as coastal residents headed inland. The Oregon Department of Transportation added extra workers for traffic control and mobilized bridge experts in case they needed to inspect any bridges damaged by the waves.

The Oregon National Guard issued a standby order for engineers and air crews. The American Red Cross opened shelters in Waldport, Newport and Lincoln City. Limited



► Jay Wilson, hazard mitigation coordinator for Clackamas County, speaks to the media after the announcement of The Oregon Resilience Plan in January 2013.



OFFICE OF OREGON GOVERNOR JOHN KITZHEBER

**The tsunami caused by the Japanese earthquake reached The Port of Brookings Harbor in southern Oregon on March 11, 2011. The surge of water smashed boats and destroyed nearly half the port. No one was killed. Federal and state officials estimated damage to the port at \$6.7 million.**

evacuations took place in most coastal towns.

In the end, the waves did reach Oregon's shores, causing damage to ports and vessels up and down the Oregon coast.

The Port of Brookings Harbor was hardest hit, with damage estimated at \$6.7 million. Nearly half the port was destroyed, and a number of fishing boats were demolished.

### 10-year setback

A major earthquake today would set Oregon back 10 years, according to Wilson. And Wang says that the economy could only handle two to four weeks

Analysis in The Oregon Resilience Plan reveals the following time-frames for service recovery under present conditions:

| Critical Service                            | Zone   | Estimated time to restore service |
|---|--------|-----------------------------------|
| Electricity                                 | Valley | 1 to 3 months                     |
| Electricity                                 | Coast  | 3 to 6 months                     |
| Police/Fire Stations                        | Valley | 2 to 4 months                     |
| Drinking water/ sewer                       | Valley | 1 month to 1 year                 |
| Drinking water/ sewer                       | Coast  | 1 to 3 years                      |
| Top-priority highways (partial restoration) | Valley | 6 to 12 months                    |
| Healthcare facilities                       | Valley | 18 months                         |
| Healthcare facilities                       | Coast  | 3 years                           |

of disruption in basic services before some businesses closed or moved away.

"If there's a school or bridge the community has to rely on after a disaster, it can't remain in a tsunami zone," Wilson says. "Otherwise, it will be obliterated or abandoned. If we wait to fix these things after they break, then you will have lost that capacity when you need it most."

### Moving in right direction

Both experts agree that the state is starting to move in the right direction. It is a slow process, and they say it is impossible to reach Japan's or Chile's level of readiness, even if there are 50 years left to prepare.

Wang says Oregon should have a "Triple 3 Target."

That means three days after an earthquake, emergency services such as hospitals, firefighters and police should be back up.

After three weeks, water, electricity, telecommunications and other basic services should be on in some fashion. And in three years, repairs and permanent improvements should be completed.

"Right now we are very far from being that ready," she says. "But we should strive for that." ■

## Exactly what does 'resilience' mean when it comes to disasters?

**BUILDING RESILIENCE is about making people, communities and systems better prepared to withstand catastrophic events – both natural and manmade – and able to bounce back more quickly and emerge stronger from these shocks and stresses.**

*In July 2013, Dr. Judith Rodin, president of the Rockefeller Foundation, addressed the crowd of The City Resilient, an event co-hosted by the Rockefeller Foundation and PopTech at BAM in New York City. The event focused on how to build communities that can recover, persist or even thrive amid disruption. Following is an excerpt from her presentation:*

All cities deal differently with these shocks. Some will return quickly to a full way of life. Others will take much longer. And even others will never fully recover at all. What makes this true? Why do some cities never recover, while others seem to rebound in just a matter of weeks?



Rodin

The answer, as I am sure you have surmised by now, is resilience. We define resilience as:

"...the capacity of individuals, communities and systems to survive, adapt and grow in the face of changes, even catastrophic incidents."

In other words, building resilience is about making people, communities and systems better prepared to withstand catastrophic events – natural, climate change-driven, and man-made – and able to bounce back more quickly and sometimes even emerge stronger from those shocks and stresses.

As we unpack what resilience is, it's helpful to talk briefly about what resilience is not.

It is not solving for the last problem.

For example, after 9/11, property owners were so worried about attacks from the air that they buried their generators underground, where they were submerged by storm surge during Sandy.

It is not an innate human quality that bubbles up in times of stress – as it is often talked about, for example, after the Boston bombings.

And it is not the emergency response after the disaster has hit.

Rather, resilience is what we build in those moments between catastrophe and the next big disruption, a skill that can be learned, and a quality that can be adapted, from toughening up building codes in San Francisco to withstand the shocks of the next earthquake to the creation of "Evacuspots" in New Orleans to ensure a speedy evacuation of residents ahead of future storms.

And building resilience is critical to protecting the poorest and most vulnerable among us, those who typically live in the most easily impacted areas and who are least likely to have savings stashed away or insurance to protect them in case of disaster. ■

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<http://100resilientcities.rockefellerfoundation.org/resilience>

► The BBC video “The Next Megaquake” dramatizes how devastating the earthquake could be for the Northwest. You can watch it online at: [tinyurl.com/l9fspbv](http://tinyurl.com/l9fspbv)

Yumei Wang, the earthquake risk engineer for the Oregon Department of Geology and Mineral Industries, is featured in the video.



# The first minutes after a

Time seems to slow as the soil liquefies, bridges collapse and buildings crumble

Yumei Wang vividly remembers being in a lighting store in California during an earthquake. The ceiling was covered with chandeliers and other lighting fixtures. “The shaking made the whole ceiling sway,” she says.

And though it was only seconds, Wang, who is now the earthquake risk engineer for the Oregon Department of Geology and Mineral Industries, described the experience as interminable.

A feeling of time slowing, hyper awareness and vivid, detailed memories — sometimes called flashbulb memory — is common for people who experience earthquakes.

Most earthquakes in recent memory on the West Coast have lasted seconds to a few minutes, but the predicted 9.0 Cascadia earthquake event is expected to rock 600 miles from California to

Canada for three to five *minutes*. Wang says that, like rings from a pebble thrown in a pond, the seismic waves from an earthquake emanate outward three-dimensionally, and scientists estimate that very strong shaking and damage from the Cascadia quake will reach 100 miles inland, essentially to the Cascade Range.

The BBC video “The Next Megaquake” dramatizes how devastating the earthquake could be for the Northwest. You can watch it online at: [tinyurl.com/l9fspbv](http://tinyurl.com/l9fspbv). The segment beginning at the 37-minute mark is especially compelling.

## Survivor memories

Here’s what survivor memories might capture during those initial minutes.

It may not immediately appear to be an earthquake. People on the coast nearer the epicenter may feel like they were in a building just hit by a

truck and will have a hard time just standing upright. People who are farther away from the coast may find themselves walking like they’re drunk. Water-saturated, sandy soil may liquefy during the shaking and temporarily become quicksand.

“It’s not like the Tarzan movie. Things won’t disappear, but they will sink a few feet,” Wang says.

Depending on how close they are to the coast, people who are driving and already in motion may not notice the shaking ground. Violently swaying power lines may be their first clue. Roads and bridges will be damaged. Many bridges across the state will collapse.

Earthquakes don’t necessarily make noise, but buildings will creak and groan with the shaking. Household items such as refrigerators and desks may move across the room, shelves may topple, dishes and wall



Yumei Wang visited Japan after its 2007 and 2011 earthquake and tsunami events.

COURTESY OF YUMEI WANG

hangings may fall. Windows, chimneys and architectural decorations could topple off buildings.

“That’s why it’s important to not run out of buildings, but duck, cover and hold,” Wang says, adding that you should orient your face away from windows, which can fall and break into the building.

Infrastructure that communities rely on will also be affected, and most basic services will be severely disrupted. “Waste water and water systems always get hammered in earthquakes,” Wang says. Water pipes can

# quake

burst or crack; plumbing and wiring for electricity and gas will likely be down too.

Small, wood-frame buildings and homes have enough flexibility that most of them will survive the quake. But houses not anchored to their foundations may slide off, breaking water, sewer and gas connections. One of the bigger worries with wood homes is fire. Firefighters may not be able to reach the home in time, and even if they come, the water may not.

Old masonry buildings, like many historic government buildings and schools, often weren’t built or updated with adequate reinforcement. These can collapse within seconds of the shaking, Wang says.

“I’ve been to many earthquakes. It’s stressful and sad when basic services are out,” Wang says. “But it’s worse when there have been mass casualties of students in a school.” ■

## Months, even years later basic systems could still be down

**T**he seemingly interminable minutes of the earthquake will eventually end, but the disaster will still be in its infancy.

Those first months afterwards will be a challenging time for the Northwest, says Yumei Wang, earthquake risk engineer for the Oregon Department of Geology and Mineral Industries.

“The shaking will probably be something people never forget, but water and warmth will be major concerns afterwards,” she says. Often, earthquake survivors feel like the ones who died were lucky.

If an earthquake were to hit our region tomorrow, next month or even next year, Oregonians’ basic services would be down for a long time.

Estimates range from one month to a year, and up to three years along the coast, for water systems to regain functionality, according to The Oregon Resilience Plan. Electricity could be down for one to three months in the valley, but on the coast, it could take up to six months to get back to normal. Healthcare facilities at the coast could take as long as three years to restore. (See chart, page 5.)

“The good news is that most people won’t die, and the other part of the good news is that we haven’t been hit yet. So preparing is a smart option,” Wang says.

Earthquake experts like Wang are beginning to see politicians and the public take notice of their research and warnings. Things are starting to happen: The Governor’s Oregon Resilience Task Force is looking at The Oregon Resilience Plan (see page 2) to determine which preparations should happen and in what order.

Private citizens can help, too, by having emergency supplies and plans in place for their own families, and by demanding their public utilities are prepared.

Oregon can leverage this threat into a culture of readiness. “We can do a lot to reduce the damage ... it can be like saving for retirement,” Wang says. “Planning for these kinds of things that are eventualities is especially important sooner rather than later.” ■



**In 1959, a truckload of explosives in downtown Roseburg blew up and leveled six blocks. Ten people were killed.**

## From floods to fires: Earthquakes are not the only disaster to fear

**W**hile the anticipated Cascadia earthquake gives us a specific reason to prepare, history reminds us that plans put in place now could well be activated for other unexpected events. Within the last few years, Oregon and Northern California have been hit by massive wildfires, flooding, mudslides, train derailments and chemical spills. In 1959, a truckload of dynamite and fertilizer in Roseburg exploded and leveled six blocks in the downtown area. Ten people died. ■



**Catastrophic floodwaters in 2007 cut Vernonia off from the rest of the world and caused more than \$30 million in damages.**



**The lightning-sparked Barry Point Fire near Lakeview in 2012 spread through timber and rangeland. More than 30 homes were evacuated.**

► Sam Stiedel, left, Cannon Beach Emergency Preparedness Committee member, and Bill Vanderberg, center, the city's emergency preparedness consultant, show a representative from Oregon Emergency Management one of the city's cache sites.



OREGON EMERGENCY MANAGEMENT

# A storage solution for supplies

Evacuation support sites help provide shelter, water and food for thousands

**Coastal families are invited to obtain storage containers at cost from the city and fill them with their own supplies.**

Thanks to an innovative pilot project sponsored by the city of Cannon Beach, North Coast residents have some help in place today in case of an earthquake or tsunami tomorrow.

Three evacuation support sites will help provide shelter, water and food for the thousands of people in the area that are expected to be affected by a Cascadia Subduction Zone event. At the first site, two 20-foot shipping containers were placed on a concrete pad; each one can benefit about 700 people for at least four days. With the recent addition of two more sites, Cannon Beach can

provide sustainable support for up to 4,200 survivors.

"The success of the Emergency Preparedness program in Cannon Beach is a direct result of citizen involvement and city council commitment to supporting the program," says Public Works Director Dan Grassick.

## Combating fear

Public reaction to this natural disaster planning has been very positive. "The goal is to take practical steps to increase the odds of surviving those events as opposed to living in fear of them happening," Grassick says.

Emergency Preparedness Committee members and city

staff continue with community education efforts for both local and part-time residents. Since the inception of the program in early 2012, between 15 and 20 additional barrels are added to the cache sites each year.

Each shipping container is loaded with three different types of supplies: family cache containers; medical, administrative, and support equipment; and tourist, employee and visitor kits. City emergency management personnel will open the containers in case of an emergency.

Coastal families are invited to obtain storage containers at cost from the city and fill them with their own supplies, to be



# Knowledge of adults, energy of youth

## Emma Wampler leads the effort to bring emergency training to the young people of Bandon

The competition may have been lighthearted but Emma Wampler's speech wasn't — it was deadly serious. The 2013 Miss Bandon Cranberry Festival contestant spoke in September about a subject she holds dear: preparing for disaster. As a resident of Bandon, Wampler and her neighbors are at Ground Zero for a Cascadia Subduction Zone event, which is expected to produce a 9.0 earthquake and a succession of devastating tsunamis. The hardest hit area is expected to be the South Coast.

During her speech, Wampler talked about the imminent nature of the event and the devastation that is likely to result. But she spent most of the time talking about the importance of disaster planning, and the potential this process has to bring the community together.

"It's important that people be educated and not afraid, but ready. We need to know how we

will handle the situation, individually and as a whole," she said in her speech. "Because disaster preparedness is not only about being ready for the event to happen, but being ready to rally as a community after the inevitable damage is done."

Wampler's speech found a

receptive audience. She won the pageant, but, more importantly, helped rally youths around the effort. Bandon's first teen-age Community Emergency Response Team will begin training soon.

"CERT is a program that teaches people to be calm, stick together, take care of yourself and your community," Wampler explains. "If we have that when a disaster comes along, we will be in a better place to take care of each other. In turn, it will bring us closer together as a community if we have a set goal to prepare ourselves. Even if



Since winning the pageant, Emma Wampler has led the effort for Bandon's first teen-age Community Emergency Response Team.



Emma Wampler shares her platform at the Miss Bandon Cranberry Festival pageant in 2013. Wampler, 17, talked about the importance of disaster planning for the Oregon coast.

nothing happens, either way it's best for us to have this plan set, because we're pretty sure this will happen eventually."

### A personal connection

Wampler's interest in the subject began two years ago, after she began hearing about tsunamis and disaster preparedness efforts on the radio. Her father had just been diagnosed with cancer (he passed away in October 2013). "If we'd had a tsunami, he would have been in a real critical state. And if my family was in that situation, a lot of families would be as well."

Disaster preparedness is Wampler's platform this spring and summer as she prepares for the Miss Oregon pageant in Seaside. And she's aiming that message at her fellow students. "The Cascadia event could happen while kids are still here," she says. "A lot of kids got woken up to that at Cranberry and the school assembly. The teen CERT will give us the knowledge of the older generation and the agility and energy of the younger members. It provides a level of hope for the next generation and people can see that we are passionate about protecting our community.

"The worst thing that could happen is chaos because no one is taking care of anyone. A lot of people are either sure it's not going to happen, or they are so terrified that it will happen that they aren't prepared. We need to find a happy medium that allows us to be as ready as possible." ■

stored at the evacuation site nearest to their home.

Families can choose from 55-gallon drums, 30-gallon barrels or 5-gallon buckets.

The city also charges an annual maintenance fee based on the size of the container. The cost for a 55-gallon plastic barrel, for instance, is \$57.90, plus \$55 for the annual maintenance fee.

### Packing workshops

Cannon Beach offers container packing workshops and a written guide to filling the caches, with community priorities identified as shelter first, water second and food last. The shipping containers are opened for three days every spring and fall to enable families to restock their supplies, and the city plans to make the openings a community gala that will include disaster awareness training, education and tsunami information.

Because tourists could make up the largest population segment at certain times of the year, Cannon Beach developed its innovative employee and visitor kit, consisting of a shelter system (poncho, space blanket, tube tent), water and food for 500 survivors.

The idea is catching on: Arcadia Beach has established its own program directly patterned on the Cannon Beach model; Arch Cape is launching its own emergency cache project; and Bandon is looking into an emergency storage system for businesses and community members.

"The key to the success of the Cannon Beach program is the folks that have stepped up," Grassick says. "When you have people that actually live in the high-risk area, it's real and they have a stake in it." ■

# 'the government won't be

Douglas County's emergency manager says be prepared to take care of yourselves and your neighbors

Part of Wayne Stinson's job is to talk to the public about disaster preparedness. His message at a recent meeting on the southern Oregon coast was simple: "You need to be ready, because the government won't be there for you."



Stinson

It brought one audience member to tears.

"It sounds harsh, but it's the reality," says Stinson, the emergency manager for the Douglas County Sheriff's Office. "There aren't enough police, firefight-

ers, EMTs and public works folks to help. There's just not enough of them."

Stinson's words are echoed by the national emergency management community, especially in the aftermath of recent events hitting American communities — Superstorm Sandy and Hurricane Katrina.

In the case of a major disaster, even the most prepared government agencies will likely be overwhelmed with requests for help.

Stinson recommends that people always be prepared for an event. It could come as a severe winter storm, a particularly devastating wildfire, or a

catastrophic train derailment. But the worst-case scenario in our area is getting more and more attention as researchers pin down the science — a 9.0 earthquake and resulting tsunami when the Cascadia fault off the Pacific coast lets go.

### 'people just shut down'

"When I start thinking about Cascadia, it concerns me greatly," Stinson says. It is such a great threat with such potentially devastating consequences, that he finds people often just don't want to think about it.

"When I start talking about Cascadia, it's so overwhelming that people just shut down. They don't know where to start.

## Put your emergency kit together

Being prepared means being equipped with the proper supplies you may need in the event of an emergency or disaster. Keep your supplies in an easy-to-carry emergency preparedness kit that you can use at home or take with you in case you must evacuate.

### At a minimum, you should have the basic supplies listed below:

- Water—one gallon per person, per day (3-day supply for evacuation, 2-week supply for home)
- Food—non-perishable, easy-to-prepare items (3-day supply for evacuation, 2-week supply for home)
- Flashlight
- Battery-powered or hand-crank radio (NOAA Weather Radio, if possible)

- Extra batteries
- First aid kit
- Medications (7-day supply) and medical items
- Multi-purpose tool
- Sanitation and personal hygiene items
- Copies of personal documents (medi-

- cation list and pertinent medical information, proof of address, deed/lease to home, passports, birth certificates, insurance policies)
- Cell phone with chargers
- Family and emergency contact information
- Extra cash
- Emergency blanket
- Map(s) of the area

### Consider the needs of all family members. Suggested items to help meet additional needs are:

- Medical supplies (hearing aids with extra batteries, glasses, contact lenses, syringes, etc)
- Baby supplies (bottles, formula, baby food, diapers)
- Games and activities for children
- Pet supplies (collar, leash, ID, food, carrier, bowl)

- Two-way radios
- Extra set of car and house keys
- Manual can opener

### Additional supplies to keep at home or in your survival kit based on the types of disasters common to your area:

- Whistle
  - N95 or surgical masks
  - Matches
  - Rain gear
  - Towels
  - Work gloves
  - Tools/supplies for securing your home
  - Extra clothing, hat and sturdy shoes
  - Plastic sheeting
  - Duct tape
  - Scissors
  - Household liquid bleach
  - Entertainment items
  - Blankets or sleeping bags
- Source: American Red Cross



# there'

It's a little bit like: How do you eat an elephant?"

It's a metaphor used by others when talking about the "Big One" (see page 2). And the answer, of course, is one bite at a time.

To help get your household prepared, Stinson recommends starting small. Instead of buying four cans of soup, buy six. Don't wait until your prescription medicines run out; make a practice of refilling them as soon as the prescription allows. Make sure you have a heat source you can use if the power goes out. Develop a plan so all family members know what to do and where to meet up in case of an emergency. Request a copy of the "Family Emergency Plan," offered on page 13; it provides a place to record such information.

Specific readiness tips are available from a number of organizations. The Federal Emergency Management Agency operates a Ready Campaign website, [www.ready.gov](http://www.ready.gov), that offers a host of resources for personal preparedness. See page 13 to learn what's available.

The American Red Cross ([www.redcross.org](http://www.redcross.org)) offers preparedness classes and publishes the "Together We Prepare Oregon" booklet. Red Cross guidelines recommend that families be prepared to rely solely on themselves for at least three days. As people in recent natural disasters discovered, it

**There aren't enough police, firefighters, EMTs and public works folks to help. There's just not enough of them.**

—Wayne Stinson

could be much longer than that.

"You need to think through the process," Stinson says. "You don't want to just survive, but survive in comfort."

### Help your community

On a larger level, people can help their communities by making disaster preparedness a priority. "We need to bring it to a level where political and government leaders are concerned," Stinson says. "The key to a community being prepared is that leaders need to embrace the necessity of preparation."

But it all comes down to individual preparation and a realistic view of what to expect — and what not to expect — during a catastrophic event. It's the biggest thing Stinson deals with when talking with community members about preparation.

"There's a huge expectation out there about everything we'll be able to do for them. We will not be there," he says emphatically. "We don't have enough resources.

"The only thing that will work is if citizens prepare, and there are lots of small steps you can take to get there." ■

Screenshots



## Disaster preparedness: There's an app for that

The best way to prepare for any event is to be informed, and one of the best information tools we have nowadays are smart phones. There are apps for everything, and disaster planning is no exception. Of course, cell phones have their limitations, and you should not count on them in an emergency. Batteries run down, reception can be poor, and major disasters could knock out the wireless network completely. But before a disaster hits, check out a few of our favorite disaster planning apps:

**First Aid & CPR:** This American Heart Association app provides concise and clear first aid and CPR instructions. The most recent update features 34 videos and 46 high-resolution illustrations, re-organized content to make it easier to find help, an improved user experience and new search functionality. (Android and iPhone)

**Tripcheck:** The Oregon Department of Transportation provides current road conditions and road cams on a site optimized for mobile phones. Not exactly an app, but very useful anyway. ([www.tripcheck.com/mobile](http://www.tripcheck.com/mobile).)

**Tsunami Alerts:** TsunamiEvac-NW provides a view of tsunami hazard zones, and allows users to map whether their homes or schools are located in an evacuation zone. (Android and iPhone)

**Disaster Alert:** Developed by the Pacific Disaster Center (PDC), Disaster Alert features an interactive map of active hazards occurring around the globe. (Android, iPhone and iPad)

**FEMA:** The Federal Emergency Management Agency app contains preparedness information for different types of disasters, an interactive checklist for emergency kits, a section to plan emergency meeting locations, information on how to stay safe and recover after a disaster and more. (Android, BlackBerry, iPhone and iPad)

**Red Cross:** The American Red Cross has developed a whole suite of apps for tornadoes, hurricanes, wildfires, earthquakes and shelter accessibility to ensure that communities have the resources they need when it is time for action.

**Winter Survival Kit:** This app will help you find your current location, call 911, notify your friends and family, calculate how long you can run your engine to keep warm and stay safe from carbon monoxide poisoning. (Android and iPhone) ■

# Shaken into action

**Yvette Blanchette, a Ford Opportunity Scholar, brings her midwifery skills to Haiti**

**A**mid all the damage reports from Haiti's January 2010 earthquake, Yvette Blanchette heard one thing loud and clear: 39,000 pregnant women were homeless.

"My heart was in my hands. That was the deciding moment for me when I started searching for an organization to head that way," the Hood River midwife says. Blanchette, 48, has been working in midwifery in Oregon since 2005. She received a Ford Opportunity scholarship and attended the Birthingway College of Midwifery in Portland from 2004 to 2008.

Since 2010, she has spent 10 weeks each year in Haiti. The country is still struggling to recover from the earthquake. But its endemic poverty is more tragic, she says, and going to Haiti opened her eyes to a basic need often taken for granted in the United States.

Blanchette had her first child in a hospital, where she felt there was too much intervention. Her second child was born at home. "Initially I came to [midwifery] because I wanted all women to have the option of a home birth," she says.

Most women in Haiti don't get to choose between hospital or home. More than 70 percent



**Yvette Blanchette, an Oregon midwife, has spent 10 weeks a year in Haiti since the 2010 earthquake there. In addition to "catching babies," she has trained Haitian midwives so they can help after aid workers leave.**

of Haitian women go unattended during their whole pregnancy and birth, contributing to high mother and infant mortality.

"Every woman deserves to be attended by a trained, compassionate person," Blanchette says. "I realize that I can't fix Haiti, but as a midwife I can contribute to the welfare of one woman and one baby and one family at a time."

In August 2010, she arrived in Haiti as a member of a volunteer team of certified professional midwives with a nonprofit organization. They worked at a

maternity clinic in Jacmel, next to a refugee camp, where there was no electricity and only one or two translators.

During her first 10 weeks, the clinic averaged 60 births a month.

"We worked from sunup to sundown and sometimes to sunrise by head lamp," she remembers. "We were working fast and furious. There were sometimes 50 people coming for prenatal care each day."

During one six-day period in 2010, Blanchette assisted in 21 births and one translator stayed with the midwives the

**"I realize that I can't fix Haiti, but as a midwife I can contribute to the welfare of one woman and one baby and one family at a time."**

**—Yvette Blanchette**

# Do you have a plan?

whole time. After the deluge, Blanchette taught the woman several basic skills of her trade.

## Training others

Since then, the focus of Blanchette's work has gone from "catching babies" to training Haitian midwives so they can help after aid workers leave. Her first translator-turned-apprentice is now a capable midwife. Last summer, the woman stayed with Blanchette in Hood River while she sat for her North American Registry of Midwives exam. Blanchette is confident in her protégé's abilities.

"She was assisting 50 births a month, whereas here a new midwife might only see four or five a month. When I was there last winter, she was a full-on midwife," Blanchette says.

Blanchette is often asked if she sees improvement in Haiti. It's a tough question and one her apprentice struggled to answer, too.

"I saw all the emotion roiling inside her as she was grasping for any way to speak the truth without sounding ungrateful," Blanchette says. "In the long run, assistance hasn't affected the quality of life on a daily basis. The lack of infrastructure is just crippling, keeping them from taking any strides forward."

Her experiences in Haiti have inspired Blanchette to pursue more opportunities in international maternal health.

"This work connects what is most meaningful in my life," she says. "I have a true desire to contribute to the quality of women's health care in underserved communities, wherever that may be." ■

**A**s a special feature of this issue of *Community Vitality*, we are offering to mail you hard copies of three brochures detailing what you need to do to prepare:

**Family Emergency Plan:** This brochure (see image, right) provides a place to record meeting places and contact information for your whole family, including cutout cards to distribute to all. We also hope it will lead to more discussions about your family's overall disaster-preparedness plans.

**Prepare for Emergencies Now:** This brochure outlines the four steps to preparedness: get a kit of emergency supplies; make a plan for what you will do in an emergency; be informed about what might happen; and get involved in preparing your community.

**Emergency Supply List:** FEMA recommends that all families have at least two emergency supply kits, one full kit at home and smaller portable kits in the workplace, vehicle or other places they spend time. Do you know what to put in yours? This checklist offers a basic list of recommended supplies.

➔ **To receive all three, email your request** (include your U.S. postal address) to [afloxy@tfff.org](mailto:afloxy@tfff.org) or send your request in writing to Alicia Flory, The Ford

Family Foundation, 1600 NW Stewart Parkway, Roseburg, OR 97471.

Additional brochures are available from the Federal Emergency Management Agency at [ready.gov](http://ready.gov):

**Prepare for Emergencies Now for Business:** How quickly your company is back in business following a disaster will depend on emergency planning done today. This brochure offers solid tips on business continuity planning as well as how to best protect your employees and your physical assets.

**Prepare for Emergencies Now for Pet Owners:** If you ever



have to evacuate your home, do you take your pet with you?

What do you do if something happens and you are not near your pet? Find the answers to these and other questions in this brochure from [ready.gov](http://ready.gov). ■



## Two ways to read

Printed copies of *Community Vitality* are available on request. Send an email to: [communityvitality@tfff.org](mailto:communityvitality@tfff.org)



*Community Vitality* is online. [www.tfff.org/cv](http://www.tfff.org/cv)

Receive email notifications when a new online issue is available. Sign up at: [www.tfff.org/cvsubscribe](http://www.tfff.org/cvsubscribe)

# When something happens, your most immediate source of support is the people living around you

Many of us grew up in tightknit neighborhoods, where everyone knew each other and the sense of community was strong. Those kinds of neighborhoods may not be as common today as they once were, but they can make a big difference in how, or how well, we all survive in the face of disaster.

When something happens, your most immediate source of support is the people living around you. A united neighborhood can help take care of the elderly and the young, can share food, and make sure everyone is warm.

Several communities in Oregon are rebuilding the traditional concept of neighborli-

ness to create effective strategies for surviving a catastrophic event. In Bandon, Ashland, and in several other communities, the **Map Your Neighborhood** tool is getting a lot of attention.

Map Your Neighborhood is simple. People gather at a home in their neighborhood for a 90-minute meeting where they watch a video, learn the nine steps to take immediately following disaster (see “Resources,” below). They then make an inventory of people, pets, needs, skills and equipment, and finally, plan a team approach to help each other.

Bandon began using Map Your Neighborhood in 2010 as a way to organize residents and raise the awareness for disaster planning. Almost half

the people in Bandon live in a tsunami inundation zone, and preparedness is getting new attention there in the face of increasing knowledge about the likelihood of a Cascadia Subduction Zone event.

“Most people don’t even want to think about the possibility of a tsunami,” says Bill Russell, co-founder with his wife, Joan, of the new BandonPrepares nonprofit group ([www.banprep.org](http://www.banprep.org)).

“The earthquake in Japan helped some, but not as much as I would have wished. People are just not anxious to talk about the possibility of a disaster.”

The group’s Preparedness Faire in September encouraged people to participate in Map Your Neighborhood. Interest in

the program and in preparedness in general was high, Russell says. Of the 100 people who attended the fair, 40 signed up to help with BandonPrepares, and 30 signed up for the Certified Emergency Response Team training.

BandonPrepares is continuing its neighborhood mapping project, as well as other preparedness initiatives. The group organizes regular CERT sessions, sponsors first aid classes, and is exploring the idea of establishing survivable storage space for residents and area businesses.

“We can’t wait for help from the outside to reestablish business,” Russell says. “When the ground starts shaking, it’s too late to prepare.” ■

## Resources to prepare your neighborhood

There are many resources available for people wishing to connect with their neighbors on preparedness. FEMA offers the **Neighbors Helping Neighbors** program, which provides community groups with tools and preparedness training opportunities, including an educational module for community leaders called “Community Preparedness: Simple Activities for Everyone.” For more information, visit: [www.ready.gov/neighbors-helping-neighbors-through-preparedness](http://www.ready.gov/neighbors-helping-neighbors-through-preparedness).

**Map Your Neighborhood** was developed by Washington state emergency managers, and has been adapted for use across the country. For information about how to establish the program in your area, contact Oregon’s Department of Geology and Mineral Industries at (971) 673-1555.



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

- At the first Map Your Neighborhood meeting, participants will:
- Learn the “**9 Steps to Take Immediately Following a Disaster**” to secure your home and to protect your neighborhood.
    - **Identify the Skills and Equipment** each neighbor has that would be useful in an effective disaster response. Knowing which neighbors have supplies and skills helps your disaster response be timely, and allows everyone to contribute in a meaningful way.
    - **Create a neighborhood map** identifying the locations of natural gas and propane tanks.
    - **Create a contact list** that helps identify those with specific needs such as elderly, disabled, or children who may be home alone.
  - **Work together as a team** to evaluate your neighborhood during the first hour following a disaster and take action. ■



## Community Preparedness: Simple Activities for Everyone

Program Leader Guide

September 2011



FEMA

FEMA offers the Neighbors Helping Neighbors program, including an educational module called "Community Preparedness: Simple Activities for Everyone." Get it for free at [www.ready.gov](http://www.ready.gov).

## The plan for resilience

Continued from page 3

nity members come together to map their neighborhoods, taking stock of the things in their homes and garages that they will use to help each other after the quake. Imagine the parks, open spaces and natural amenities we will restore when hospitals and homes, businesses and infrastructure are relocated outside hazard zones. Imagine the tourists that will come to walk and bike on the paths we've built to serve as evacuation routes for when that fateful day comes.

Imagine the benefits in your community, not after the earthquake, but *today*. The environmental, social and yes, economic dividends that come when communities invest in resilience. It is not a risk-free path. First, we must choose to plan for a low-chance, high-impact event that may not happen in our lifetime.

Remember the elephant? I hope you're hungry. Because it is past time we started eating it. One bite at a time. ■

For more information on the plan, visit: [www.oregon.gov/OMD/OEM/ossnac/docs/Oregon\\_Resilience\\_Plan\\_Final.pdf](http://www.oregon.gov/OMD/OEM/ossnac/docs/Oregon_Resilience_Plan_Final.pdf).

## Experts warn: Prepare now

Continued from page 1

economic resilience in rural communities in Oregon and Northern California.

Socio-economic issues — social and financial realities that make up quality of life — are deeply affected by disasters of all kinds. If we are to have healthy communities, we also must have the ability to deal with disasters if they strike. We call that ability "resilience," and it's all about making people, communities and systems better prepared to withstand catastrophic events of all kinds. It's about being able to bounce back more quickly — sometimes even stronger.

This issue of *Community Vitality* explores a host of issues relating to community resilience. We look at what Oregon is doing to prepare for a potential earthquake (page 2) and an article on what neighborhoods are

doing to build resilience (page 14). We also talk with a Ford Opportunity Scholar about her work in Haiti (page 12), and to a high school student about her efforts to set up a teen Community Emergency Response Team in her town (page 9).

### Particularly vulnerable

These kinds of efforts are of vital importance. Although rural communities are used to depending on themselves to some extent, they are particularly vulnerable to large-scale disasters because of fewer resources and access to help during the recovery process.

Communities are perhaps the most important element in a successful recovery from disaster. A survey from the Oregon Partnership for Disaster Resilience found that Oregon residents have more confidence in local efforts to support resili-

ence than national or state-level efforts. This perception seems to be borne out in the wake of actual disasters. In the aftermath of Superstorm Sandy, for example, 31% of the people affected reached out to nearby friends, family and neighbors for help, according to a recent poll from the AP and the University of Chicago. Only 17% reached out to government programs.

Economic development and physical infrastructure, of course, play a big role in recovery efforts, according to the same report. But interestingly, recovery rates after Superstorm Sandy often differed in adjacent neighborhoods — even though they had similar economic and structural resources. The difference? Social resources. Community bonds. Trust. This connectedness could be drawn on, resulting in a faster recovery.

But still, economic resilience is crucial; Oregon respondents to the disaster resilience survey ranked medical services, utilities, and grocery/drug stores as critically important both before and after a catastrophic event. They also expressed concern regarding current conditions of those services. If economic resilience is already at risk, the aftermath of a catastrophic event becomes even more dire.

Earthquake. Fire. Chemical spill. Train derailment. It is up to us to plan for these events now, so our communities will be in a better position to deal with them should they happen. It's time for us to start figuring out what we can do to prepare. By building resilience, we can prevent disasters from becoming community catastrophes. ■

**David Frohnmayer was president of the University of Oregon from 1994 to 2009. He served as Oregon's attorney general from 1981 to 1991. He is a former member of The Ford Family Foundation board of directors.**

FROM THE EDITOR

# Bringing home the lessons

From water storage to ham radios, we're making changes, too



NORA VITZ HARRISON

**We have 49 gallons of water stored in our basement.**

When the editors of *Community Vitality* began researching this issue, we learned much more than we ever expected. Like a lot of you, we know that the possibility of a disaster is always present. We know that earthquakes (and train wrecks and forest fires and floods) could happen in our area. And we know that being prepared is always a good idea.

As we interviewed, read, wrote about and discussed the lessons of recent disasters, we also discovered during an editorial meeting that each of us has taken the lessons to heart.

Megan Monson, who was in the process of replacing an older wood stove, decided against a natural gas system in favor of a new, more efficient wood stove. Her motivation? Having an assured source of heat (gas lines break), and knowing she could fire it up even if the power goes out. She's also dusting off her old ham radio manuals and plans to take the Technician Class exam.

I now have 49 gallons of water and a three-week supply of food in our basement. My

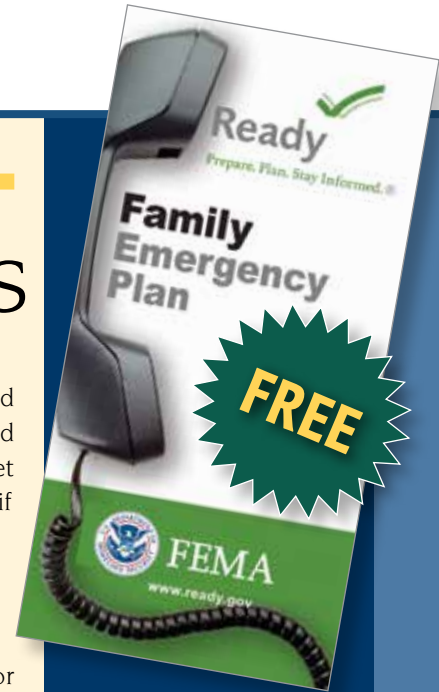
husband, Jon, bolted our wood stove to the wall, and installed extra latches on our cabinet doors to keep them closed if the ground starts to sway.

It's not just the predicted catastrophic earthquake for which we prepare. All of these efforts can pay off for lesser disasters. A few years ago, a windstorm toppled a massive fir tree in our yard, just missing our house. But it blocked us in and cut our power. Trees were down throughout the area, overwhelming power and tree removal crews. Our generator kept our lights on. Our wood stove kept us warm, and with Jon's tools and help from the neighbors, we removed the tree.

Wayne Stinson is right (see page 10). Stinson, the emergency manager for the Douglas County Sheriff's Office, warns that we must be prepared to take care of ourselves.

That's what this issue drove home for us. We hope it strikes you in a similar way, because it's the small things we do today that can help us all survive later.

—Nora Vitz Harrison  
Editor, Community Vitality



## Yours for the asking

See page 13.

  
**THE Ford Family FOUNDATION**

### MISSION

Successful citizens and vital rural communities

### CORE VALUES

**Integrity:** Promoting and acknowledging principled behavior

**Stewardship:** Responsibility to give back and accountability for resources and results

**Respect:** Valuing all individuals

**Independence:** Encouraging self-reliance and initiative

**Community:** Working together for positive change