



Connie Beauvais, Crescent Water Association manager, pulls a lever on the Joyce Emergency Planning and Preparation group's portable hand-powered water purification system Monday. (Jesse Major/Peninsula Daily News)

Joyce residents make filtration system to create emergency water supply

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- JESSE MAJOR
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JOYCE — A group working to prepare Joyce residents for surviving after a catastrophic 9.0-magnitude earthquake has unveiled technology to provide potable water as residents wait for help to arrive.

Researchers have said it's not a question of if but when a quake of at least 9.0 magnitude will strike in the Cascadia Subduction Zone, a fault that stretches from Vancouver Island to Northern California.

When that earthquake eventually hits, Terry Barnett's handmade portable water filtration system will be put to the test.

He unveiled a prototype during a Joyce Emergency Planning and Preparation (JEPP) group meeting in Joyce on Monday. People had the chance to pull the lever on the system and produce about 6 gallons of potable water per minute.

When Barnett and Jim Buck, a former legislator who has spearheaded the earthquake-preparedness effort, began looking for ways to filter water, they first thought of purchasing a ready-made filtration system.

The \$10,000 price tag was enough to convince them to make their own.

“As Jim put it, it’s just an offer we can refuse,” Barnett said.

The prototype was finished last week, but Barnett tinkered with it right up to the Monday night meeting.

It features a 250-gallon tote, three filters and two 55-gallon barrels.

Users can pump water through a 10-micron, 1-micron and charcoal filter comfortably at about 360 gallons per hour — more than what would be required to sustain 100 people a day, Barnett and Buck said.

With a donated tote and trailer, the group was able to build the filtration system for less than \$1,000.

He estimated it would cost \$2,500 or so to purchase everything for the same system if supplies weren’t donated.

The group’s goal is to have enough supplies for 100 people to live for three weeks by the end of 2017, with the eventual goal of providing for 300 people.

“You can produce enough water to support those 100 people,” Barnett said. “If we had a bigger system, we could support those 300 people easily.”

He estimated that while a person can survive on about 1 gallon of water per day, the finalized system would need to produce about 4 gallons per day per person.

This would provide enough water for drinking, cooking, sanitation and other needs, he said.

Barnett hopes JEPP’s efforts could help other communities prepare themselves for disaster.

When the earthquake hits, Joyce — like many other areas on the Olympic Peninsula — will likely be on its own, Buck said.

He doesn’t expect any bridges to survive in Clallam County and wants residents to be prepared because help likely wouldn’t be coming soon, he said.

This summer, a region-wide drill, Cascadia Rising, sought to practice response to such a quake.

A draft report by the state on Cascadia Rising found there is an urgent need for residents to prepare as professional responders “have not sufficiently planned and rehearsed for a catastrophic event where they themselves are in the impact zone.”

The report called the response in the drill “grossly inadequate.”

“We’re hoping to get the interest growing in people preparing their communities just like we’re trying to prepare here,” Barnett said.

He said there are already some plans to demonstrate the water filtration system in different communities and boards around the North Olympic Peninsula.

JEPP is led by a team of volunteers in Joyce preparing the community for a disaster over the past year.

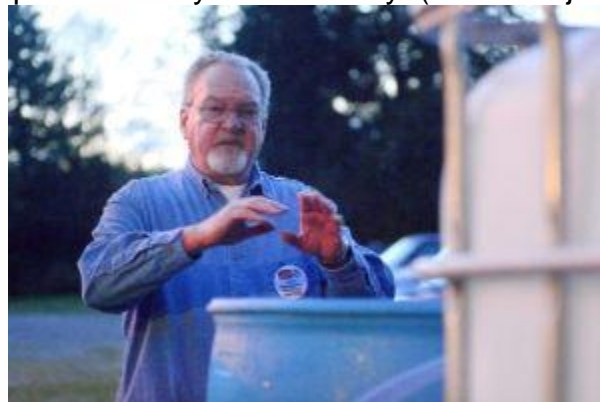
Members have worked to gather supplies and food, train residents for an emergency and reduce risks in and around Joyce.

For more information, email jepp.group@gmail.com.

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Mel Melmed, Joyce Emergency Planning and Preparation volunteer, pulls a lever on the group's portable hand-powered water purification system Monday. (Jesse Major/Peninsula Daily News)



Terry Barnett, Joyce Emergency Planning and Preparation volunteer, talks about the water purification system he made, which would be used to make potable water during an emergency. (Jesse Major/Peninsula Daily News)