

Japan's tsunami debris is wake-up call for Oregon

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Guest Opinion

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Last month marked the anniversary of the tragic earthquake and tsunami in Japan's Tohoku region.

Recovering communities face great challenges. One is dealing with the effects of debris.

Oregon is vulnerable. The Cascadia Subduction zone has and will again cause a major tsunami along our coast. Federal, state and local agencies have instituted warning systems, evacuation routes and emergency plans. But none fully prepares communities for the overwhelming amounts of tsunami debris.

After human needs have been met, debris is arguably the top problem. Such was the case after the Southeast Asia tsunami and after major hurricanes.

There is little we can do to prevent it, but we can be better prepared. The Japan tsunami generated 29 million tons of debris. It hinders recovery. It damages natural resources on which people depend, and its impacts last well into the future.

Debris composition reflects all aspects of human life and includes building rubble, entire houses and their contents, cars, engines, boats, fishing nets, toxic chemical containers, plastics and more. Natural resources like trees become part of the debris.

Identifying, in advance, the main debris types, likely amounts and the scope for damage are key to the solution.

Towns generate urban and industrialized debris. Here, typically, we need to document where industrial and toxic wastes are stored and forecast where they are likely to be carried by a tsunami or storm surge. Unleashed into the environment, these compounds threaten people and natural resources. Along the Louisiana coast, 2 million hazardous material containers were recovered after hurricanes Katrina and Rita.

Fisheries contribute over \$110 million a year in landed-catch value to Oregon's economy. In a tsunami, boats are destroyed. Debris and lost gear smother fishing grounds and nets become entwined over miles of reef. Derelict gear kills commercial species that are needed for food and income.

A 2009 study in Puget Sound calculated that one derelict gillnet caused the death of 4,368 Dungeness crabs and cost the crab fishery \$19,656. Dungeness crab make up 40 percent of Oregon's fisheries. Post-tsunami, these impacts skyrocket. Oregon's recently designated marine reserves, part of an insurance policy to ensure the future of ocean habitats and fisheries, are not protected from debris.

A tsunami destroys infrastructure, leaving communities less able to deal with much larger problems. For instance, incinerators and the power to run them can be wiped out, hampering recovery.

Dealing with debris is a specialized and multi-year effort. But communities can take action to evaluate their own vulnerabilities and consider priority responses to ameliorate them.

Fishing communities and environmental groups have specialized ocean knowledge and can play a key role in mitigating debris damage and aid recovery. This can start today.

Over 9.5 million people living in Oregon and Washington are directly at risk. As more people settle and build along the coast, the threats increase. Globally, natural disasters affected 250 million and cost \$366 billion in 2011. We have a responsibility to continually improve our efforts.

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