Evaluating warning and disaster response capacity in the tourism sector in Long Beach and Ocean Shores, Washington, USA

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CONTENTS

FIGURES

ABSTRACT

This study builds on previous research in Long Beach and Ocean Shores, Washington, USA. It presents the key results of face to face survey research and focus groups undertaken during May 2008, exploring a range of issues around tsunami preparedness in the tourism sector and the wider community. A range of suggestions are made for improving: (1) public education and staff training; (2) tsunami warning system and testing; and (3) tsunami evacuation options.

KEYWORDS

Tsunami, public education, staff training, evacuation options

1.0 INTRODUCTION

An improvement in the understanding of tsunami risk in Washington has emerged from research undertaken since the early seventies (Wilson and Torum, 1972; Atwater, 1992; Atwater et al., 1995; Walsh et al., 2000). Since the 1990s a wide range of mitigation activities has been undertaken by the State of Washington in association with the U.S. National Tsunami Mitigation Program and this has supported the raising of tsunami awareness in Washington communities (Jonientz-Trisler and Mullin, 1999; Bernard, 2001; Bernard 2005; Johnston et al., 2005).

Research into the effectiveness of such programs in Washington has been undertaken by several researchers since 1995. In 2001 Johnston and others (Johnston et al., 2002; Johnston et al., 2005) explored residents' and visitors' understanding of tsunami risk in coastal Washington and found moderate to high levels of awareness amongst residents but lower than desired levels of preparedness. They also found significant differences between visitors and residents in their understanding and preparedness levels with visitors generally being less aware or prepared than residents. In a 2005 study of tourism operators in Ocean Shores low levels of staff training and preparedness for tsunami were found (Johnston et al., 2007), although examples of good practise were evident at a few establishments. The research found that many of the larger hotels already had orientation or general training programs set up that had a potential to incorporate future tsunami and hazard training, while smaller "owner-operator" businesses often did not have such programs. This conclusion led to the State of Washington preparing an educational folder for the tourism sector (Figure 1) on tsunami preparedness. This report builds on previous research and presents the key results of a face to face survey and focus groups undertaken May 2008 in Long Beach and Ocean Shores, to explore a range of issues around tsunami preparedness in the tourism sector and the wider community.

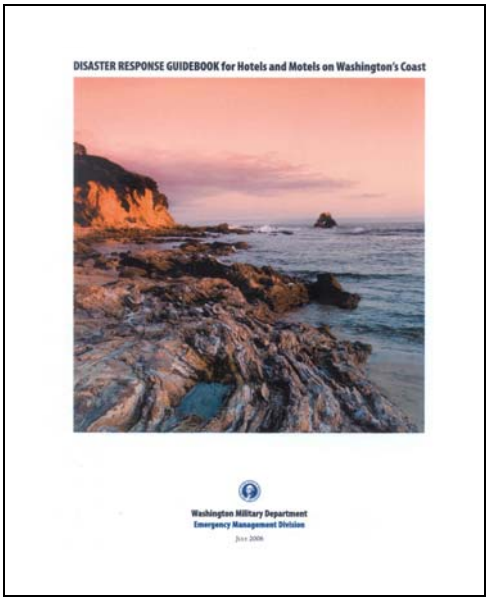

Figure 1 Disaster Response Guidebook for Hotels and Motels on Washington Coast, prepared by Washington Military Department, Emergency Management Division.

2.0 TOURISM SURVEYS

Face to face surveys were undertaken in Long Beach on 11-12 May 2008, to assess levels of tsunami hazard knowledge and response planning within the tourism sector. This study replicated the face-to-face surveys undertaken in Long Beach in 2006 and in Ocean Shores in 2005, 2006 and 2007. The results of the 2005 Ocean Shores survey have been published in Johnston et al. (2007).

Interviews of fifteen minute duration were conducted with reception staff and managers at nine hotels, motels, and other accommodation establishments in Long Beach. Interview questions focussed on employee training for emergencies, emergency management exercises (including drills and evacuation), and hazard signage within premises. At this time of year (May) many of the businesses were closed, limiting the available survey sample.

The number of establishments with employees trained for tsunami and general hazard response was found to be moderate, with four out of nine tourist establishments reporting being exposed to training on how to respond to hazard events, such as tsunami warnings. Only two facilities reported having an on-going training program for tsunami hazards. Three facilities reported having regular exercises, such as drills and evacuation practices. Most employees working at accommodation establishments with or without tsunami training reported a desire to learn more about what to do during a tsunami warning. Most agreed that more attention to training was needed and should be required in areas susceptible to sudden-onset hazards.

All nine establishments surveyed had the legally required signage for fire hazards, which included evacuation and response information, and seven establishments reported having information available to guests that was specific to tsunamis. The tsunami information available usually consisted of a brochure or a poster available for guests to view, and would not have been immediately evident to guests unless they were specifically looking for it. Five establishments reported that information on tsunami hazards is included in every room, and made readily visible to guests.

As is mentioned in the focus group discussion (see following section of this report) the concern amongst many motel/hotel owners/operators was the problem of high staff turnover and the continued need to train new staff. As was also found in the Ocean Shores study in 2005 (Johnston et al. 2007), many of the operators perceived that there was less need for employee training in these small businesses, and it appeared that the owners themselves had little exposure to emergency training of any kind. This is an issue which must be addressed in order to extend training about tsunami awareness and response to warnings to smaller businesses.

3.0 FOCUS GROUPS

In May 2008 three focus groups were run with the aim of exploring residents' and tourism operators' experiences and perceptions of tsunami risk and preparedness. Understanding these attitudes is important to improving warning effectiveness. To understand the intricacies of peoples' attitudes, qualitative research was used as a mode of inquiry. Focus groups were run in Long Beach (tourism operators) and Ocean Shores (two groups, tourism operators and community members). Groups were selected to ensure that the views of a diverse and representative range of constituencies were canvassed. All focus groups were taped and transcribed. Analysis of the content identified a number of key issues.

4.0 LONG BEACH

4.1 Evacuation options

A number of tourism operators were concerned about the lack of available high ground near some of the low-rise accommodation facilities and RV parks, limiting options for on-foot evacuation for tsunami. They also noted that it was not easy to move RVs quickly following an evacuation notification. Due to the distance to high ground, participants expressed a lack of trust in many of the planned evacuation routes. There was good awareness of the evacuation routes and options for movement; however, all three options (vertical evacuation/walking/driving) have problems with short lead-time warnings: driving – roads impassable; walking – lack of time to get there; vertical – lack of capacity to accommodate sufficient people.

A number of issues around vertical evacuation were discussed. Participants expressed concerns about a lack of third floor space in some accommodation facilities in that all guests/evacuees may not fit on the floor. Concern was also noted that if there was an associated earthquake there may be liquefaction and damage to structures that may be considered suitable for vertical evacuation. It was noted that liquefaction could also damage roads, which in turn would affect driving evacuation options.

Many participants expressed concerns about supplies and resources after an evacuation, with many evacuation locations requiring water, food and shelter. Concern was also noted about how to warn boaties gathering oysters and other recreational fishers of an impending tsunami.

4.2 Warning system and tests

Concerns about the warning system testing procedures were expressed by all participants. Participants commented that the warning system appears to have been untested on parts of the peninsula. One accommodation provider stated that sirens cannot be heard at their RV Park.

When testing had occurred, a number of participants reported or observed confusion about what it meant – for example, Beethoven was played rather than a real siren. There was much discussion about the timing and frequency of testing. Some felt a more structured

testing regime should be developed, and would like prior information and notification of any future testing. Within the group there was universal support for regular testing and an annual physical evacuation test. It was noted that any tests should be conducted at full siren volume, and in different weather conditions. To eliminate confusion between real events and testing, participants would like to see a mechanism for the verification of warnings 24/7.

4.3 Public education and staff training

There was widespread acknowledgement of the need to improve education for both public (residents and tourists) and accommodation staff within tourist facilities. The large number of visitors and in-takes of new staff makes maintaining tsunami awareness difficult. Due to high staff turnover, staff training is an ongoing issue.

A number of public education initiatives have been developed, for example pamphlets showing evacuation routes and signs. These were considered by focus group participants to be useful. The “Map your Neighbourhood” project is available to the community, but not many of the participants knew about it.

Most participants believed that the December 2007 winter storm was a wake up call to them. Participants were cut off for three days with no communications and no access to the emergency 911 call system. Many now realise they need to plan for that type of isolation.

5.0 OCEAN SHORES

5.1 Evacuation options

The peak tourism season (in summer, from late May to September) is the main time of concern due to the larger population. All participants recognised that guest safety must come first. With the increased summer population, some felt the single road in and out of the community would be congested when evacuating. For example, in summer there may be up to 40,000 people requiring evacuation, versus the off-peak 5,000 population.

Participants liked the evacuation route road-signs which have been erected, but not everyone knew route locations and end points. Some were concerned that the routes out of Ocean Shores seemed a long way to travel. The route also includes a river crossing (via a bridge), which some thought may not be possible to cross if the bridge was damaged by an earthquake.

5.2 Warning system and tests

The 2005 Crescent City earthquake and subsequent tsunami warning provided the first test of the warning system for an actual threat. Many hotel/motel staff described dealing with concerned guests but there was little available official information to inform either staff or guests of what was happening.

Participants believed that there had been improved knowledge of the warning system over the last decade. NOAA weather radios are widespread within the community, including in accommodation facilities.

The need to improve warning test procedures was expressed by participants. Some of the issues included:

- Currently hotels/motel and RV park operators appear not to be informed prior to the test, and this makes managing guests difficult.
- The timing of testing appears random. Participants expressed a desire to see a regular scheduled testing program. Some suggested testing could be weekly, and this schedule could be included in the tsunami information brochures.
- Many described how it was still hard to hear warning sirens indoors and that they can only hear the tone part and not the specific message indicating what to do, in some areas.
- It was also noted that sometimes guests panic a little during the tests.

5.3 Public education and staff training

Participants said that public education efforts over the last decade had helped improve the tsunami risk, warning and evacuation knowledge of the community. However, participants felt there was still a need to improve education for both public and accommodation staff within tourist facilities. Residents would like more risk information, (for example source and inundation scenarios) to help them understand and make decisions. As with Long Beach, staff training is an ongoing issue due to the seasonal high staff turnover. Few of the participants recalled having seen the recently developed tourism training material.

The recent winter storm (December 2007) highlighted the potential for isolation, with telephone and power cuts for up to seven days. Cell phones mostly did not work, and the road was out for two days. Gas was difficult to get for generators and food difficult to purchase. This situation would be aggravated post-earthquake or post-tsunami.

Several participants commented that better use should be made of the Tourism Board and chamber of commerce to engage with the tourism operators. They were keen that existing community groups and networks be utilised to share information and help build response capacity (e.g. Grays Harbor Tourism, chambers of commerce, Rotary Club, IGA grocery store, senior response centre). Participants felt they had had little contact with State and County Emergency Management officials, but saw that the community groups mentioned above could help with sharing information. Ocean Shores Emergency Management Preparedness Taskforce was mentioned, which is a FEMA citizen corps group spinoff.

Participants would like to see more regular warning and evacuation exercising, and suggested an annual exercise day would be ideal. Exercising needs to involve all members of the community, including residents, tourism facilities, schools, senior care facilities, church groups, and other community groups. Participants believed that there is good support for developing a more regular exercise program involving the above mentioned groups.

6.0 CONCLUSIONS

6.1 Tsunami evacuation options

Participants continue to express concern about existing evacuation arrangements. These include:

- The proximity of evacuation safe locations.
- The capacity of evacuation routes for evacuation by car.
- A desire to be able to use vertical evacuation where available.

6.1.1 Tsunami warning system and testing

- Those participating had generally noticed an improvement in the provision of hardware-based warning (loudspeakers) over the last few years. However, there are still locations where audibility is a problem.
- There was interest in regular audible testing of the system (weekly/monthly), and a wish to participate in evacuation exercises. Participants were happy with these to be at least annual.
- A parallel project (Leonard et al., 2009) is exploring exercising and a standard method for evaluating warning and evacuation effectiveness. It will address a number of these concerns.

6.1.2 Public education and staff training

- It is believed there are further opportunities to enhance public education including both distribution of materials and an increased role for existing community groups.
- Tourism operators recognise the importance of staff training. High staff turnover remains the biggest challenge. The information folder was being used by only a limited number of those visited, but all considered it a valuable resource when it was shown to them.

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