

10.0 Peer Review Comments

A peer review of this report has been carried out by Dr. Willem de Lange of the University of Waikato and Dr. Paul Komar of Oregon State University. This included an initial review of the proposed methodology by Dr. de Lange, followed by a review of two drafts of this report by both Dr. de Lange and Dr. Komar. Copies of the review comments are included in Appendix B.

10.1 Methodology

Overall the review considered the methodology employed acceptable and appropriate. However, Dr. de Lange noted that the limitation for the definition of the coastal hazard zones is likely to be the quantity and quality of the data available and recommended regular review and ongoing monitoring.

10.2 Review of First Draft

Dr de Lange's review of the first draft report identified points in the summary of coastal processes that were confusing or apparently inconsistent. His comments have generally been incorporated into the text, improving the clarity of the report.

Dr. de Lange also notes the relatively short time series used for estimating long-term retreat rates but acknowledges there is no alternative to applying the available data for the method used.

The reviewer identified a lack of information on the key aspects of the effects of wave erosion increasing landslide risk and the on-going impact of the 1931 earthquake on coastal erosion. We agree that there is insufficient information available to quantify these effects and recommend further research and monitoring.

A review of gravel barrier behaviour is not within the scope of this study, but should be considered as an aspect to include in a future review.

Overall, we support the Peer Reviewers conclusions, and recommend the hazard assessment be reviewed at least every 10 years, tied in with District and Regional Plan preparation.

10.3 Review of 2nd Draft

The second review by Dr. de Lange and Dr. Komar concluded that all issues had been addressed and the additional information included on run-up was standard and up-to-date given the lack of specific knowledge on run-up characteristics on gravel coasts. Recommendations were made for additional research on quantifying the wave set-up and run-up for surging breakwaters on mixed sand gravel beaches. In Dr Komars' opinion, there would be benefit in further analyses of the profile responses. Specifically he recommends:

- Correlations be made for representative profile sets between the measured volume changes and variations in the shoreline positions assessed at the 11-meter profile position to determine whether either could have been used to represent the beach responses to the causative processes;
- Comparisons be made for beach volumes and changes in shoreline positions between adjacent to distant profiles, to determine the alongshore uniformity of the beach responses to the erosion processes;
- Correlations be made between the annual changes in beach volumes and shoreline positions with the heights and calculated swash runup levels of storm waves that had occurred since the previous profile surveys, using the NIWA hindcasts and wave measurements by the Port of Napier gauge.

We support these recommendations.