



## Flood and Coastal Erosion Risk Management Research Programme

# Updated wave overtopping and assessment manual (EurOtop) and calculation tool (Bayonet GPE)

## Project summary SC140003/S

### Introduction

This new manual offers up-to-date guidance to help users more accurately predict the rate of waves overtopping sea defences. It is an update to the 2008 Wave Overtopping and Assessment (EurOtop) manual, a widely accepted, international best practice tool. It shares the best approaches for assessing overtopping in different scenarios, improving coastal flood forecasting and delivering more cost effective design of coastal flood defence schemes.

It is accompanied by an online calculation tool (Bayonet GPE) which helps users produce overtopping predictions for different types of sea defences, including embankments and dikes, rubble mound structures and vertical structures.

### Background

Understanding future changes in flood risk from waves overtopping seawalls or other structures is crucial for the effective management of coastal defences. Economic damage or loss of life due to wave overtopping is expected to become more likely in future. Coastal managers are increasingly aware of the health and safety risks these events present. Reducing the risk of overtopping is an important requirement in the design, management and adaptation of coastal structures.

### New manual

Seawalls range from simple earth banks through to vertical concrete walls and more complex composite structures. Each of these requires different methods for assessing overtopping.

This updated manual takes account of new data which have advanced our understanding of overtopping processes for a wider range of defence types. Videos are also available that show what a specific overtopping discharge looks like in reality.

### Benefits

The EurOtop manual will support government, agencies, businesses, specialist advisors and consultants concerned with reducing flood risk. It will also help

engineers who are already aware of the general principles and methods of coastal engineering. Users may be working with existing defences or considering possible rehabilitation or new build.

### Collaboration and funding

This project was a European-wide collaborative project funded and co-ordinated by the joint Flood and Coastal Erosion Risk Management Research and Development Programme and partly-funded in the Netherlands by its equivalent, Rijkswaterstaat. Other funding and support was provided by HR Wallingford and a number of different European organisations, consultancies and universities.

### Further information

The updated EurOtop manual is freely available to download [here](#). The Bayonet GPE online calculation tool can be accessed [here](#).

This summary relates to information from project SC140003, reported in detail in the following output(s):

**Report:** SC140003

**Title:** Extension of EurOtop Calculation Tool

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**Project manager:** Lee Swift, FCRM

**Theme manager:** Lee Swift, Coastal theme

**Research collaborators:** HR Wallingford, Rijkswaterstaat, Netherlands Expertise Network for Flood Protection, German Coastal Engineering Research Council (KFKI).

**Research contractor:** HR Wallingford

This project was co-ordinated by the joint Flood and Coastal Erosion Risk Management Research and Development Programme.

Email: [fcrm.evidence@environment-agency.gov.uk](mailto:fcrm.evidence@environment-agency.gov.uk)

Enquiries: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)

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