

PRESS RELEASE

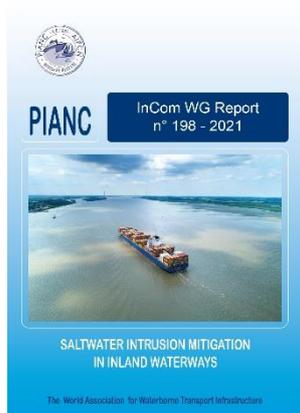


PIANC

The World Association for Waterborne
Transport Infrastructure

28 July 2021

NEW PIANC PUBLICATION AVAILABLE



Title:	'SALTWATER INTRUSION MITIGATION IN INLAND WATERWAYS'
Author's:	InCom Working Group 198
Price:	€ 159,00 (137 pages)
Available at:	https://www.pianc.org/publications/inland-navigation-commission/wg198

Introduction:

Scope: This report provides guidelines and recommendations for the study of saltwater intrusion in inland waterways and, where necessary or required, its mitigation. Mitigation methods are summarised as well as measurement and modelling techniques that can be used to predict or determine the effectiveness of various measures. Attention is given to both inland waterways (i.e. waterways that are enclosed via dams with shipping locks) and to open river estuaries.

Objective: The objectives of the working group on of saltwater intrusion mitigation were to provide guidance and insight into the measuring, modelling and mitigating saltwater intrusion.

The objectives of this working group were to compare current practices to:

- Quantify salt propagation (speed, distance and concentration) in the inland waterways from the open sea or locks.
- Identify the state-of-the-art methodologies to quantify saltwater intrusion induced by lock operation
- Monitor (eventually remote) waterway salinity intrusion using sensors and direct measurement to quantify and predict freshwater availability, which may provide early warning indicators.
- Mitigate saltwater intrusion in channels using flushing techniques, infrastructures (sill, lock) or improved channel design.
- Choose, apply and interpret numerical, spreadsheet, physical modelling and simulation tools to quantify saltwater intrusion and effectiveness of mitigation, including the applicability of the modelling tools for saltwater intrusion.
- And to make recommendations for common practices, where these would be helpful.

Matters Investigated: The Working Group has paid particular attention to three aspects of the issue on saltwater intrusion in inland waterways, namely:

- **Measurement:** how is saltwater intrusion measured and monitored? The implementation of standardised and ad hoc instrumentation (sensor types et cetera), both short- and long-term, for monitoring of salinity intrusion in waterways.
- **Mitigation:** Methods for arresting salinity intrusion, including advanced lock concepts, submerged berms, bubble curtains, channel design, gates and structures, structure operation, flushing, etc.
- **Modelling:** Physics based multi-dimensional modelling (2-D, 3-D), spreadsheet, and physical modelling for insight and solution discovery for salinity intrusion issues, including model realisation criteria of acceptability.

NOTE: The objective of this report is to provide information and recommendations on good practice. Conformity is not obligatory and engineering judgement should be used in its application, especially in special circumstances. This report should be seen as an expert guidance and state of the art on this particular subject. PIANC disclaims all responsibility in case this report should be presented as an official standard. **PLEASE NOTE** that for only € 95,00 (€ 35,00 for students) you can become an **individual member of PIANC**. Individual members receive a login and password to access the members-only page on our website. There you can download all published (English) PIANC reports **FOR FREE**. <https://www.pianc.org/join-pianc>