

EnviCom WG227: Decision-Making for Environmental Windows & Seasonal Restrictions for Marine Works

ENVICOM WG 227 UPDATE

David Petch

GHD, Melbourne, Australia; david.petch@ghd.com

Summary

EnviCom WG 227 is preparing a technical report titled “A Guide for the Decision-Making Process Relating to Environmental Windows & Seasonal Restrictions for Dredging and Navigation Infrastructure Works”. A joint PAINC / CEDA / IADC initiative, this technical report is moving from the early stages of design to completing each of the chapters to a draft stage with assistance of contributing authors from six continents. This author is one of the Co-Chairs of the Working Group, the lead for one of the chapters and the representative for PIANC Australia and New Zealand. This presentation addresses the terms of reference for the Working Group and gives an overview of the report as it currently stands.

Keywords: environmental windows, dredging, marine navigational infrastructure, risk assessment

Background

Environmental windows and seasonal restrictions are a common measure used to mitigate impacts of navigation infrastructure construction- and maintenance works such as dredging. Defining these windows in a sound manner is a challenging but important part of the mitigation process and should be based on the local ecological-, physical- and social environment, type-, intensity- and frequency of the works and existing rules and regulations whilst taking into account the existing background situation.

Previous PIANC, CEDA and IADC Working Groups (WGs) have developed procedures and knowledge which can be used to define scientifically sound, realistic and practical working windows and seasonal restrictions. A lot of knowledge was gained on understanding impacts of dredge related works such as the biological assessment of dredged material, evaluating whether sediments to be dredged are appropriate for use beneficially or require special handling, as related to navigation and port infrastructure.

However, these reports did not address specific tools, steps, and practices needed to evaluate seasonal environmental restrictions currently being placed on navigation works and dredging and dredging placement / disposal operations. A new effort is proposed to fill this gap by developing a practical guide to assist those tasked with making such decisions such as regulators, project owners and stakeholders planning- & designing projects.

The report will further define these environmental windows, overall accepted to be a common management (mitigation) practice used to minimize or avoid stresses from navigation infrastructure

works on resident and transient biota. Working windows are times during which works such as dredging and dredged material disposal are allowed, whereas seasonal restrictions are periods during which these activities are prohibited.

Seasonal restrictions are imposed based upon the assumption that potential detrimental exposures could cause significant harm during these predetermined periods. Such time-of-year constraints are associated with execution of projects in many navigation infrastructure areas globally. They often complicate contracting schedules (constricting them), add challenges with respect to availability of dredge plant, impact safety of works and substantially inflate the cost of the works whilst often not being based on factual data.

Working Group Membership

the working group includes members from the PIANC members across the globe with backgrounds in:

- Environmental consultants
- Dredging contractors
- Academics and Researchers
- Government authorities and regulatory bodies

The WG also includes Young Professional members.

The countries represented include

- Argentina,
- Australia,
- Belgium,
- Canada,
- France,
- Netherlands,
- Panama,

- Poland,
- PR China,
- Spain,
- South Africa,
- United Kingdom and
- United States of America.

Scope of Report

The objective of the WG is to provide a framework (*i.e.*, a method or approach) which is accessible (easy to understand and apply) and robust (consistently yields the correct result), which can be applied universally in cases where seasonal restrictions on navigation infrastructure works may be considered. The framework provides guidance on how to define the intensity (what is possible) and the 'borders' (how long) the seasonal restrictions need to be implemented. It is recognized that uncertainty and risk are key factors in the decision-making process relating to seasonal restrictions, as such these will be important topics that are considered in the report.

The framework aims to be applicable to waterborne transport infrastructure projects in both coastal and inland waterways. The approach will draw from existing approaches and best practices worldwide. It will build on the work and ideas from previous PIANC/CEDA/IADC WGs and, in particular, PIANC WG108 (*Dredging and Construction around Coral Reefs*) and PIANC WG175 (*A practical Guide to Environmental Risk Management (ERM) for Navigation Infrastructure Projects*). The WG is working closely with other proposed WGs related to Working with Nature (WwN) and ecosystem goods and services (EGS) within the PIANC, CEDA and IADC organizations to ensure consistency among the WGs and sector globally.

The report aims to develop a practical methodology for identifying the potential impact and managing the likely effects of navigation infrastructure and dredging works in the context of natural variations in time (short to long term) and space, (*e.g.*, floods, storms, near field/far field), other activities that cause resuspension of sediments (*e.g.*, commercial shipping, storm runoff, etc.) and the ability of the identified habitats or species to recover from or compensate for effects, *i.e.*, temporary as opposed to permanent effects (*e.g.*, Building with Nature species response curves).

Managing project risks involves considering multiple processes (*e.g.*, physical, chemical, biological, socioeconomic, etc.) operating over broad spatial and temporal scales. Large uncertainties related to these processes prevent clear projections about the future performance of risk management actions. The effectiveness and choice of the management of risk involves both large economic and environmental costs and is further complicated by the diverse range of policies, perspectives, risk attitudes and personal values that drive risk management decision making.

The decision-making framework is to be designed to deliver robust management decisions with respect to the need or otherwise for seasonal restrictions, the nature of these and the (local) evidence supporting them, along with guidance for review of those restrictions already in place.

Progress

A full two-day meeting of the WG in Delft Netherlands is to occur on the 22nd and 23rd of June 2022 where the initial outlines of the chapters are to be discussed and then the process of writing the report commences in earnest. We have already had a number of meetings to shape the report and its contents. The aim is to have a draft report by the end of the year with a final report in mid-2023.

How Can You Contribute

As drafting of the report draws to an end a key area where we could use input from the broader industry is in the provision of Case Studies. For this we are looking for projects where environmental windows were developed and implemented. If you have a suitable project please contact the author.