

**Title:** **DREDGING MANAGEMENT PRACTICES FOR THE ENVIRONMENT - A structured selection approach**

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**Abstract:**

Dredging is required to develop and maintain navigation infrastructure throughout the world. In addition to navigation-related projects, dredging may be undertaken for other purposes such as land reclamation, maintenance of river flow, beach nourishment, and environmental remediation of contaminated sediments.

Over a span of decades an increasing awareness of the need to protect the environment during the conduct of dredging projects has emerged. Achieving a balance between the need to dredge and adequate environmental protection can be a challenge. This led PIANC to undertake the writing of this report which presents an international review of Management Practices applied to dredging projects for protection of the environment.

This report describes in brief the full process of a dredging project from conception to the operational phase and indicates where and how in this process the essential decisions on the implementation of management practices should be taken.

The management practices identified in this report are categorized. They may be either related to the planning and design phase or to the construction phase of a dredging project. Management practices that are specifically relevant in the planning and design phase are management tools and planning & design tools. The construction phase management practices are tools related to equipment choice, dredging and reclamation methods, institutional and control tools.

A key element in the report is the outline of a methodology for selecting a management practice which can be regarded as the "best management practice" for the project. A definition of best management practice is given in Section 1.3.

In order to be able to comprehend the need and justification for management practices to be implemented it is essential to be aware of the nature of dredging activities and how these potentially can impact upon the environment. Therefore this report gives a brief description of how dredging projects are executed and how the environment may be affected by the project.

The reader of this report should note that the selection of the best management practice is project specific. The process of selecting management practices should be based on appropriate baseline data and understanding of the ecosystem and sensitivity of habitats within the area of influence of the project. But of similar importance is a high level of understanding of the technical and economical aspects of the dredging process. Proper identification of the best management practice for a dredging project therefore requires input from ecological experts and dredging specialists.

This document has been written for a broad spectrum of stakeholders in the dredging process, including port authorities, regulatory agencies, the dredging industry and non-governmental organisations such as environmentalists and private sector consultancies. The document is meant to be a guide that assists in making decisions on the necessity for and selection of appropriate management practices.

During preparation of this document the working group had a constructive dialogue with other PIANC working groups. To be named are especially EnviCom working groups 14 - Dredged material beneficial use options and constraints and 15 - Dredging and Port Construction Around Coral Reefs as well as MarCom working groups 43 - Minimising harbour siltation and 51 - Water Injection Dredging.

