



**PIANC**

The World Association for  
Waterborne Transport Infrastructure

Terms of Reference  
WG 170 EnviCom

## Best Practices of how to deal with sea turtles and mammals in marine waterway and port construction activities

### 1. Background

Dredging operations worldwide potentially impact sensitive marine species which have various levels of country-specific and/or international protection status. Of particular concern are marine turtles and mammals some of which are known to migrate long distances, traverse oceans, and inhabit shorelines of many countries throughout their life and potentially inhabit most, if not all, project sites for marine dredging operations and port construction worldwide. Documented impacts to marine turtles and/or mammals from dredging operations and port construction include physical harm and mortality, alteration to critical habitat or food sources, interruption in migration or nesting behaviors, and reduction in reproductive success. Therefore, these species are provided various levels of protection status as well as protective measures and protocols during dredging and port construction operations throughout the world. Dredging and port construction projects and operations are subjected to various levels of impacts due to the imposed protective measures and protocols for the sensitive marine sea turtles and mammals. These impacts may be realized through costs, production, scheduling, equipment options, and safety.

Dredging and port construction operations worldwide are in tremendous need of comprehensive, up-to-date information on cost-effective methods to minimize impacts on sensitive marine turtles and mammals. A new effort is, therefore, proposed to meet these needs with a series of reports targeted towards marine turtles and mammals but would also address other relevant animals (e.g. sturgeon) as applicable.

### 2. Objective

The tasks of the Working Group would be:

- To collect available literature and "good practice"-case studies from dredging operations and port constructions in marine habitats with associated occurrence of marine turtles and/or marine mammals;
- To analyze the information; and,
- To provide a report with two concise parts with guidelines on the actual knowledge of the impacts of dredging and port constructions activities on sensitive marine turtles and mammals and methods/techniques to minimize impacts on these species.

The report (devided into the parts marine turtles and marine mammals) produced shall serve as state-of-the-practice guidance by presenting the available information in a systematic format. The report is not intended to serve as a restrictive guideline on practices of operating around marine ecosystems. Local conditions are unique and therefore recommended methods or practices for minimizing impacts to sensitive species may not be practical or implementable in all areas. The Work Group will give consideration to the role, influences, and implications of climate change for the management of these issues. The use of 'good practice'–case studies, however, can highlight important issues to be considered in the planning of such work and how they might be addressed.

### **1. Earlier Reports to be Reviewed**

CEDA. 2012. Terms of Reference for CEDA Working Group on Ecosystem Services (WGES), [http://www.dredging.org/documents/ceda/downloads/20120703\\_wges\\_tor\\_final.pdf](http://www.dredging.org/documents/ceda/downloads/20120703_wges_tor_final.pdf).

PIANC. 2011. PIANC Position Paper, *Working with Nature (October 2008, revised January 2011)*, <http://www.pianc.org/downloads/envicom/WwN%20Final%20position%20paper%20January%202011.pdf>.

PIANC. 2012. *Waterborne Transport, Ports and Waterways: A Review of Climate Change Drivers, Impacts, Responses and Mitigation*, <http://www.pianc.org/downloads/envicom/envicom-free-tg3.pdf>

National Research Council. 1990. *Decline of the Sea Turtle, Causes and Prevention*, National Academy Press, Washington, D.C.

Dickerson, D.D., et al. 2004. *Dredging impacts on sea turtles in the Southeastern USA: A historical review of protection*. In: *Proceedings of World Dredging Congress XVII, Dredging in a Sensitive Environment*. 27 September-1 October 2004, Central Dredging Association, ISBN 90-9018244-6, CD-ROM.

### **2. Scope**

An EnviCom Working Group will be established in order to produce a report series that presents documented case studies as well as summarizes current methods and practices and describes a methodology to identify, evaluate, and select, and implement procedures for minimizing risks to sensitive marine turtles and mammals in relation to dredging operations and port construction activities. The report series can be either one report in two parts or finally two reports. Although similar in framework and scope, the report series will address marine turtles separate from marine mammals due to the biological and potential impact differences between these groups of organisms. One part will address methods to minimize dredging and port construction impacts on marine turtles and a second part will address the same issues for marine mammals. The process developed should, where possible, be founded upon the 'Working with Nature' concept as well as previous EnviCom publications, take into account existing methods for reducing dredging and port construction impacts on sensitive marine species, and provide an open, deliberative, and transparent decision-making process. The two parts (marine turtles and marine mammals and other relevant species as applicable) should both:

- Define the sensitive species of concern and associated habitats as related to dredging and port construction operations;
- Assimilate the potential impacts to the identified sensitive species and to the dredging and port construction operations and map the global distribution of these potential impacts;
- Present documented case studies for the identified sensitive species or related species

- Review available methods from global case-studies (comparing/contrasting weaknesses and strengths);
- Explore the uncertainties associated with various methodologies - recognize, embrace, and transparently communicate these to the audience;
- Present management of dredging and port construction operations around identified sensitive species as a process for achieving sustainability;
- Discuss the role of sustainability and life-cycle analysis in the context of managing dredging and port construction operations around the sensitive species of concern;
- Incorporate adaptive management principles and practices; and,
- Present an integrated approach to managing dredging and port construction operations around the sensitive species of concern that is practical, defensible, and implementable.

In the process of developing a comprehensive management framework, consultation with subject-matter experts and stakeholder engagement should be included.

### **3. Intended Product**

The following Terms of Reference describe themes that should be included in the report series, all based on a worldwide analysis of existing literature:

- Define marine turtles and marine mammals and their associated habitats that are the focus of this report;
- Describe the ecological significance of these species and their habitats;
- Identify the particular sensitivities of dredging and port construction and their operational impacts to the species and associated habitats;
- Report the available "good practices" for reducing and/or avoiding potential impacts from dredging and port construction on sensitive marine turtles and mammals;
- Based on the information and cases reviewed, consider the possibility for new protection measures and conditions where and when suitable;
- Identify the potential impacts to dredging and port construction activities from implementing protective protocols;
- Consult existing PIANC, CEDA and other publications to ensure the process developed is practical and integrates current knowledge.

### **4. Working Group Membership**

The Chairman should have experience in dredging and port construction activities, be knowledgeable with dredging impacts on sensitive marine species (particularly marine turtles and marine mammals), have a basic understanding of the biology of these species, and be sensitive to the environmental issues associated with these species. The members should have knowledge in specific fields of interest identified above (preferably impacts of dredging and port construction on sensitive marine species). Possible members can be engaged from PIANC, CEDA, WEDA, ESC, contractor representatives from other associations with some of them performing as technical reviewers and/or corresponding members.

### **7. Relevance to Countries in Transition**

The report will be written for use by a broad spectrum of stakeholders that are interested in management of dredging operations, port construction, and other related activities around sensitive marine species, including port authorities, regulatory agencies, the construction and dredging industries, and non-governmental organizations such as environmental groups and private sector consultancies. The intent is to focus specifically on end-users who have decision-making responsibilities, and contractors who implement the projects conforming to guidelines developed through the assessment and management process in both developed and transitional countries. The report will be written in a very straightforward manner that will be easy to understand in either venue (transitional and developed countries).

## **8. Climate Change**

The report will consider the role, influences, and implications of climate change and will integrate current knowledge from reports produced by the PIANC Permanent Task Group on Climate Change (PTGCC).