



Terms of Reference for

Working group 148 (RecCom)

Second Phase – Relaunch July 2017

**Sustainable Recreational Navigation
Infrastructure**

1. Background

Recreational navigation infrastructure (RNI) encompasses a variety of facilities that allow for waterborne recreation activities, often working synergistically and as a system. Facilities include different types of marinas, wet berths, dry storage, service and maintenance facilities, and navigation channels, among others. This infrastructure provides public access to waterways, facilitates a number recreational opportunities of social value, and supports economic activities that are often very significant at a regional level.

However, individual facilities and the aggregation of infrastructure evolving over time can cause negative environmental impacts. Such impacts have, in the past, resulted in environmental degradation, especially in pristine or undeveloped regions. In many cases, the natural environments that can be negatively impacted are the main reason for the popularity of the recreational activities. Therefore, negative impacts on the environment can have a direct negative effect on economic and social sustainability of recreational navigation.

The sustainability of recreational navigation is therefore a major concern of many different institutions, including stakeholders such as government officials; environmental groups; community organizations; as well as many private sector actors such as commercial, service, and industrial nautical businesses, real estate infrastructure developers, and recreational and tourism businesses.

Concerns regarding potentially negative environmental impacts commonly evolve. Even if environmental impact analysis procedures and best practices are available to avoid, minimize and mitigate such impacts, stakeholders often question their effectiveness.

PIANC's Working with Nature approach provides a framework to achieve sustainability, which is particularly suited for RNI. These type of facilities offer opportunities for environmental restoration and net positive social and environmental impacts. Adequate planning, development and operation of recreational navigation can help grow awareness toward sustainable development and strategic environmental conservation. Social benefits of sustainable RNI include benefits for boaters and non-boaters, new community waterfront spaces, and social and leisure activities and events, etc.

2. Objective of the study

PIANC's "Working with Nature" (WwN) initiative offers a renewed approach to address concerns regarding the environmental impact minimization/mitigation process implementation. This approach provides an opportunity to improve the design process for efficient environmental compliance and to identify opportunities to add value to the design of RNI.

This Working Group will aim at providing specific practical guidelines to implement the general WwN framework to the development of recreational navigation infrastructure in general, and to marinas in particular.

3. Earlier reports and other references to be reviewed

- Working with Nature, PIANC position paper.
- Environmental regulations and guidelines specific to RNI of broad international application
- Marina environmental design and sustainable marina publications, papers and articles
- Publications relative to "Engineering with Nature" and "Building with Nature" applied to RNI
- Guidelines for environmental certification of marinas (Clean Marina US programs, Australian Clean Marina program, Blue Marina certification, TYHA gold anchor certification program)
- PIANC EnviCom related initiatives (e.g., greenports, sustainable navigation, and PTG CC).
- PIANC RecCom WG 148: Marina Design (Environmental and Sustainability chapter)
- PIANC RecCom WG 12: Recreational Navigation and Nature.
- PIANC RecCom WG 5: Standards for the construction, equipment and operation of yacht harbors and marinas, with special reference to the environment.

4. Matters to be investigated

- Types of RNI
- Typical environmental impacts of RNI
- Guidelines to apply the WwN approach to RNI

- Best practices of environmental assessment and comprehensive sustainability considerations as part of the RNI and marina planning and design process
- Case studies of RNI environmental and social sustainability

5. Method of approach

This effort will apply a multidisciplinary Working Group that will follow the WwN principles and draw on case studies to illustrate recommended best practices.

6. Desirable disciplines of the members of the Working Group

The Working Group should include marina planners and designers, environmental impact experts, and marina managers. The Working Group will also encourage contributions from environmental regulators, environmentalist association representatives, marina developers, waterfront urban planners, marine engineers, coastal landscape architects, local government representatives, and marina certification program representatives.

7. Relevance for Countries in Transition

Sustainable marina development is a pre-requisite to recreational navigation in countries in transition. Early implementation of best practices can improve the quality of future RNI and prevent unnecessary regulatory restrictions (which tend to expand after negative impacts of new development are observed).

The report should attempt to include Case Studies from different parts of the world, urban and resort areas, marine and freshwater environments, as well as projects in tropical, subtropical, temperate and boreal zones.

8. Consideration for Climate Change

The WwN approach is also conducive to achieving improved resilience performance of RNI and will facilitate Climate Change adaptation. Best practice environmental measures in marina equipment typically conserve resources and can contribute to Climate Change mitigation, while proactive design measures can improve resilience and facilitate future adaptation.