



RecCom WG 221

**DESIGN GUIDELINES FOR RECREATIONAL BOATING
SLIPWAYS**

TERMS OF REFERENCE

1. Historical background - Definition of the problem

A significant portion of the world's recreational boat fleet is dry docked and are launched to lakes, rivers and seas via slipways, also referred to as boat ramps. Slipways are a significantly important element of a boating infrastructure system, as they are key to access to the waterways by small boats.

As existing slipways age and a boat fleet grows or changes its characteristics, slipways may require inspection, repair and upgrade to adapt to new demands. New slipways need to be designed to accommodate modern fleets, new operational requirements, public expectation for access to the waterway and environmental regulations.

There is a lack of current slipway design guidelines. California Department of Boating and Waterways (DBAW, 1991) guidelines, one of the most used guidelines, were developed more than 20 years ago and PIANC (1980) does not specifically address slipway design. PIANC's RecCom WG 149 was developed to provide marina design guidelines, but it does not provide specific guidance for slipways. At the same time, design practice continues to evolve, for example, with the construction of public access ramps and boat trailer parking in different regions of the USA. Slipways, can also be required within marinas, especially as part of dry storage facilities or boatyards.

Just like marinas, slipway design is site-specific, and the design shall respond to the physical and environmental conditions of the site, as well as characteristics of the fleet and demand of the users it will serve. Therefore, no standard design can be used in most cases. Due to increased concerns and more strict

environmental requirements, slipways and their upland support facilities need to comply with water quality regulations relevant to the region.

Old slipways frequently require repair or modification. Such repair work may be conducted underwater and is subject to wave action making the work liable to fail.

Consistent with PIANC's mission to provide guidance, from both technical and environmental perspectives, and given the lack of current slipway design guidelines, the development of a PIANC WG for slipway design guidelines is recommended.

2. Objectives

In developing the PIANC slipway design guidelines, existing PIANC reports and international standards/guidelines will be compiled and reviewed. Existing best practices and guidelines will be adopted which, in conjunction with recent advances in environmental design, materials and design, recreational boating trends and case study experience, will be developed into the new guidelines.

The Working Group may also collect and analyse information to provide guidance for the role of slipways as part of a boating infrastructure system.

3. Earlier Reports to be Reviewed

PIANC Report on Dry Berthing of Pleasure Boats. Supplement to Bulletin No. 37, Vol III/1980.

4. Scope

The scope of the WG is to provide guidelines for the design of slipways intended for the use of recreational boats.

Consideration shall be given to the design aspects of:

- existing slipways in need of repairs
- new slipways, considering physical and environmental conditions, boat characteristics and user demands

The working group may consider slipways that have multiple users, or only address slipways designed for exclusive use by recreational boats.

5. Intended Product

Produce guidelines for engineers and designers of recreational boating facilities to ensure that slipways are suitable for the intended use, adequate for the site conditions and durable for the design life.

The guidelines should also serve as a reference for government agencies in charge of promoting public access to the waterways and for the implementation of sustainable development of boating infrastructure.

6. Working Group Membership

Membership includes:

- Maritime engineers and designers
- Harbour masters and administrators
- Boating access promotion agencies (SOBA, etc)
- Environmental agencies and regulators

7. Target Audience

The target audience for the guidelines will be marine and boating infrastructure engineers and designers, harbour masters and administrators.

8. Relevance

8.1. Relevance to Countries in Transition

The guidelines can assist countries in transition to implement strategies for growth of recreational navigation through the development low cost facilities.

8.2. Climate Change and Adaptation Implications

Slipways inherently need to be considered with respect to sea level rise and flood defense management. The guidelines will consider material selection as part of embodied carbon considerations. The impact on slipway facility design by the growth of electric propulsion boats should be considered.

8.3. Reference to WwN

Implementation and construction of slipways require careful consideration of environmental impacts, especially water quality. Design guidelines that achieves synergies among environmental, engineering and operational goals are critical to the implementation of WwN philosophy.

8.4. Reference to UN Sustainable Development Goals

The guidelines are intended to directly contribute to the following SDG's"

- Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal 13: Climate Action
- Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

9. References

Among other, the following references will be reviewed:

BS 6349-3 1988 (superseded) Maritime structures. Design of dry docks, locks, slipways and shipbuilding berths, shiplifts and dock and lock gates.

California Department of Boating and Waterways (DBAW), 2010. ADA Standards Excerpts for Recreational Boating Facilities. 2013.

California Department of Boating and Waterway (DBAW) 1991. Layout, Design and Construction Handbook for Small Craft Boat Launching Facilities. March 1991.

SOBA (2006). Design Handbook

SOBA (2009). Construction Techniques for Recreational Boating Access Facilities.

Design Guidelines for Recreational Boating Facilities, Third Edition. Oregon State Marine Board. September 2011.

Ohio Boating Facilities Standards and Guidelines, First Edition. October 2003.

United States Access Board, Accessible Boating Facilities, 2003.