

Planning of Fishing Ports

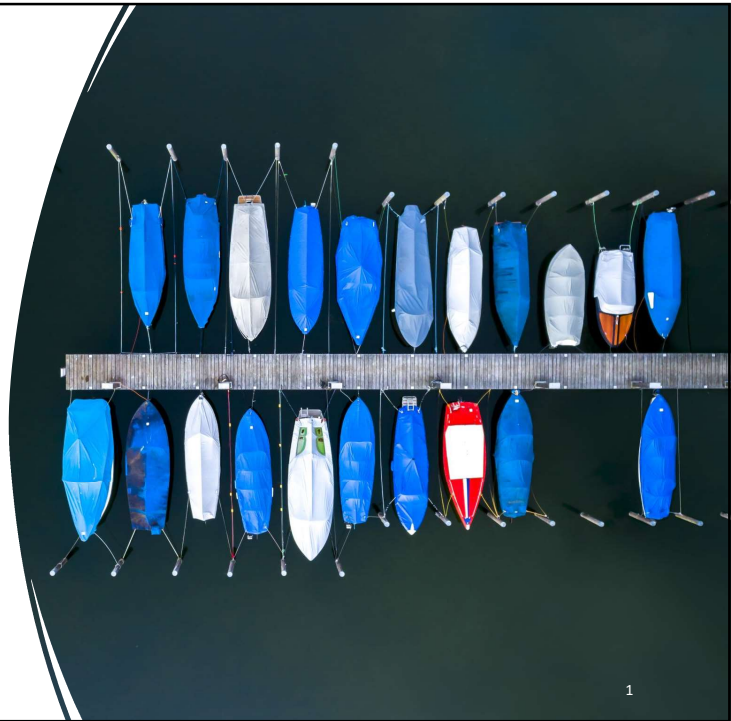
(MARCOM WG 224)

Presented by Meysam Rad

September 2022

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Introduction

- Aim of presentation:
 - Present the latest updates on the progress as well as highlighting some findings of the working group (WG) 224
- Working Group 224 Responsibility:
 - **Review** recently published technical information and lessons from recent efforts related to the development, management, and operation of fishing ports;
 - **Incorporate** useful information to the existing PIANC report; and
 - **Publish** the new guideline for the planning of fishing ports

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Background

• Why we need a new guideline?

- In **1998**, PIANC PTCII Working Group 18 (WG18) published a supplement to Bulletin No. 97, "Planning of Fishing Ports"
- Since publishing the WG18 report, circumstances in the fishing and fishing ports have significantly changed
 - Dramatic increase in consumption of fish products
 - Introducing more effective methods for fish resource management
 - Expansion of sustainable fisheries and aquaculture
 - More frequent and severe natural disasters

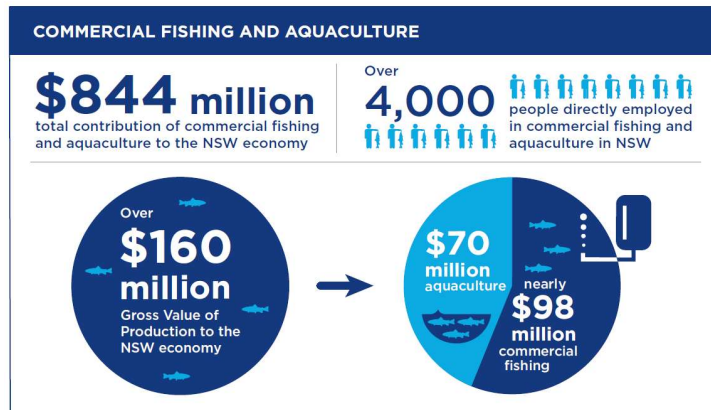
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Importance for Australia

- Reference: NSW Maritime Infrastructure Plan 2019-2024



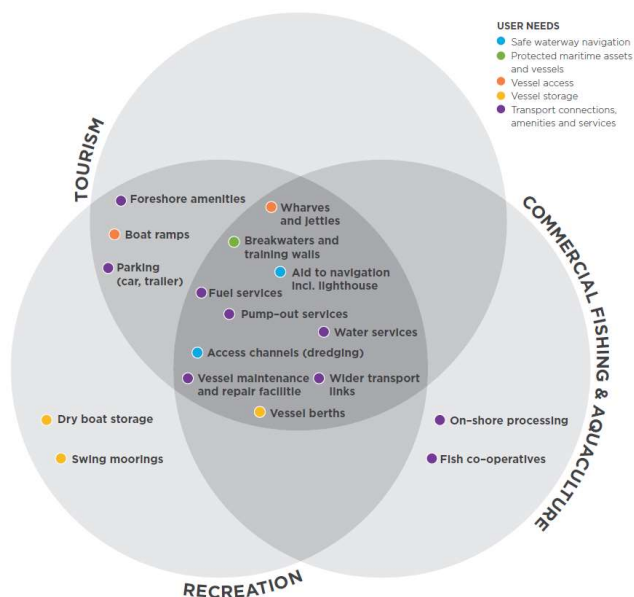
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Importance for Australia

- Reference: NSW Maritime Infrastructure Plan 2019-2024



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Intended product

- An updated version of the PIANC WG18 report.
- The guideline will seek to cater to fishing ports of different scales, in the developed and developing world, and to expansions/redevelopments as well as greenfield facilities.
- A variety of stakeholders can use the new guideline, including governments,
 - town councils,
 - port authorities,
 - fishermen's associations,
 - fishing industries,
 - consultants,
 - universities and research organizations.

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Guideline breakdown

- A. Development of Fishing Port and Resource Planning Policies
- B. Planning Principles to Ensure Efficient Investment in Ports and Port Related Infrastructure
- C. Disaster-Resilient Ports
- D. Institutional Aspects of a Fishing Port
- E. Cost-Benefit Analysis
- F. Technology Development for Off-loading, Handling and Marketing of Fish
- G. General Guidelines for Auction Halls
- H. ICT, IoT Utilization in Fishing Port Operation
- I. Maintenance of Fishing Port and Port Facilities
- J. Training
- K. Environmental Aspects of the Planning of Fishing Ports
 - *NB: Chapters on Disaster Resilience and Maintenance have been added comparing to WG18.*

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Section A. Development of Fishing Port and Resource Planning Policies

- In this section, the background of fishing industry as well as its importance and relation to the sustainable goals are presented.
- Moreover, the summary of the elements or facilities related to fishing ports (both landside and seaside) are presented to establish a common ground for other sections.

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Fishing Port Facilities

Category	Subcategory	Further subcategory	
Basic facilities Seaside facilities	Contour facilities	Breakwaters, sand groins, tide embankments, training walls, sluices, locks, revetments, and seawalls	
	Mooring facilities	Mooring quays, landing places, mooring buoys, bollards, pier , floating piers and slipways	
Functional facilities Landside assets	Water facilities	Routes, anchorages and basins	
	Navigation facilities	Navigational aids, signals and lighting facilities	
	Transportation facilities	Roads, railways, parking lots, bridges, canals and heliports	
	Fish handling facilities	Auction hall (first sale market and second sale market)	
		Handling sheds	
		Handling machinery and equipment	
	Supply facilities	Oil supply facilities	
		Ice-making and supply facilities	
		Clean water supply facilities	
		Power supply facilities	
	Cold storage	Freezing and Refrigeration Facilities	
	Processing plants		
	Fishing vessels and gear preservation facilities	Fishing gear drying yards	
		Fishing gear warehouses	
		fishing vessel and engine repair yards	
	Fish boxes washing and storage facilities		
	Wastewater treatment facilities		
Fish cultivation and farming facilities	Hatcheries, aquaculture feed storage and land aquaculture farms		
Fishing port management office			
Buyer's offices/warehouses			
Related offices	Fishery cooperative's office		
Welfare facilities	Lodgings, bathhouses, restaurants, medical clinics, etc.		
Land areas	Sites of fishing port facilities and related facilities		

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Section B. Planning Principles to Ensure Efficient Investment in Ports and Port Related Infrastructure

- The focus of this section is presenting the guidelines and recommendations regarding the planning of fishing ports, which will mainly include:
 - Location and Site Selection
 - Infrastructure Requirements for different types of Fishing Ports and/or Basins
 - General Guidelines for Planning Onshore Infrastructure (such as Auctioning facilities, dispatching and shipping areas)
- In addition, some mini-case studies across the world are presented, which shares the information about harbour layout and background of various fishing ports and harbours.

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mini-case
studies
sample

MINI CASE STUDY X: Natural disasters, damage to a coastal fishing port, recovery and building up resilience (I).

The fishing port of xxxxxx is located in a small village 50 Km to the South of Tarragona (Spain). The foundation of the village.....



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Section C. Disaster-Resilient Ports

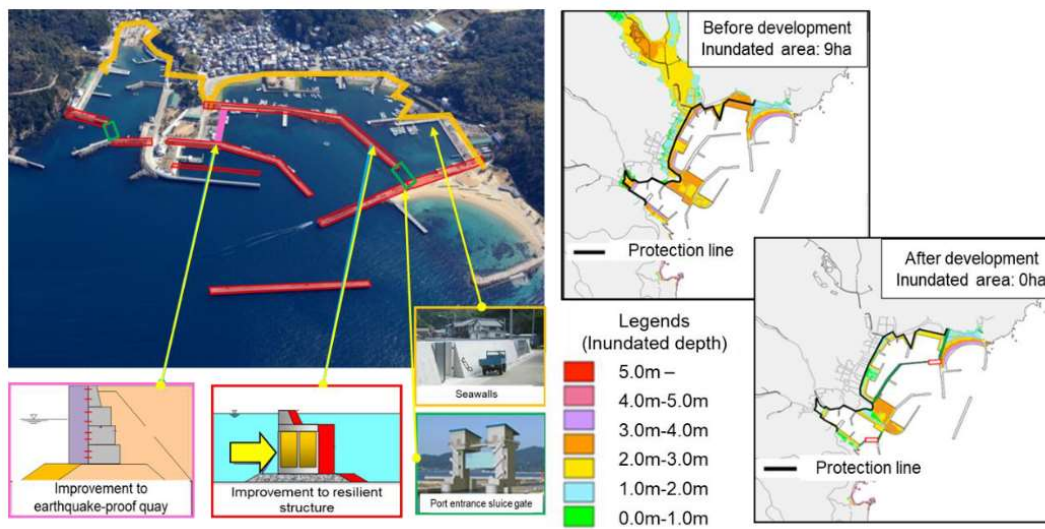
- Section C provide an overview about the effects of the climate change on the fishing ports and natural disasters causing frequent damage to fishing ports.
- Then, various recommendations regarding building fishing ports resilience and the risk assessment procedure are presented.

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Resilient structures and multiple protection at Nushima fishing port, Japan



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Section D. Institutional Aspects of a Fishing Port

- The purpose of this chapter is to present the main institutional aspects of a Fishing Port illustrating typical administration, marketing and organisational structures.
- Then, a review of different management strategies that could be followed and their relative advantages and disadvantages are discussed

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Section E. Cost-Benefit Analysis (CBA)

- Aim: To ensure that a well informed and balanced decision-making process would be undertaken based on financial, social and environmental grounds, to establish the correct investment priorities between competing projects or project options.
- This chapter is largely based on the 'Guideline to Cost-Benefit Analysis of investment Projects, Economic appraisal tool for Cohesion Policy 2014-2020', European Commission (December 2014).

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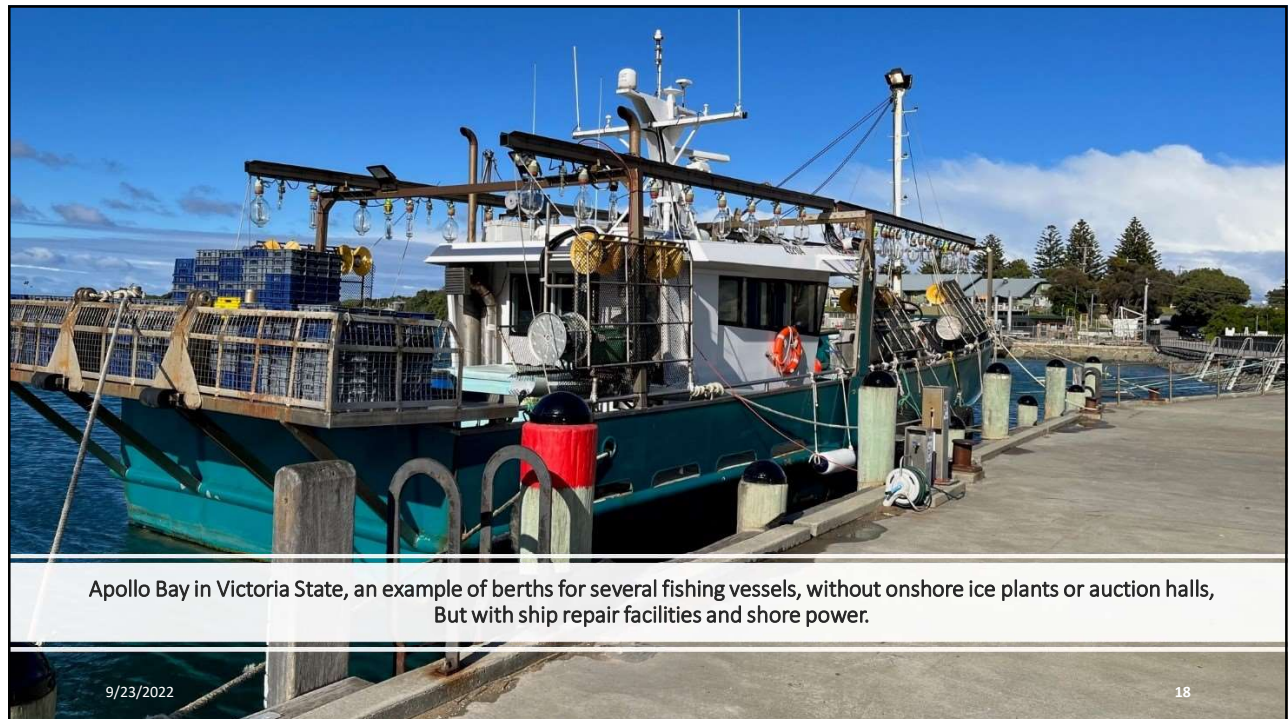
Section F. Technology Development for Off-loading, Handling and Marketing of Fish

- It has become an increasingly common desire or requirement of ensuring the preservation of quality and thus value of the fish, regardless of the species and what the cargo is to be used for.
- Section F covers the most common methods/techniques for unloading and handling (such as offloading, Wet fish pump) as well as marketing practices.

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Apollo Bay in Victoria State, an example of berths for several fishing vessels, without onshore ice plants or auction halls, But with ship repair facilities and shore power.

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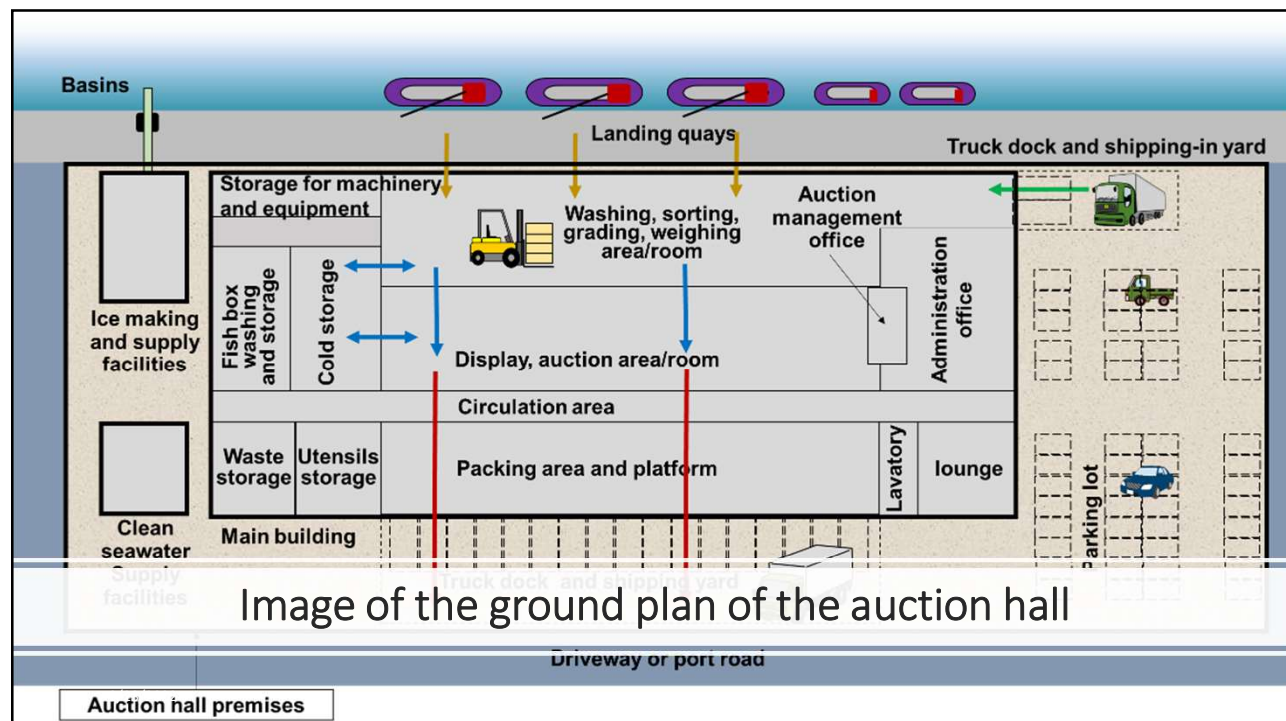
Section G. General Guidelines for Auction Halls

- The auction hall shall be planned and designed to fully function to ensure the safe and efficient operation of the entire process from receiving to dispatching or transporting fish and fishery products under the appropriate hygiene management.
- Therefore, considering the importance of the auction halls in fishing ports, Section G covers this element of the fishing ports.

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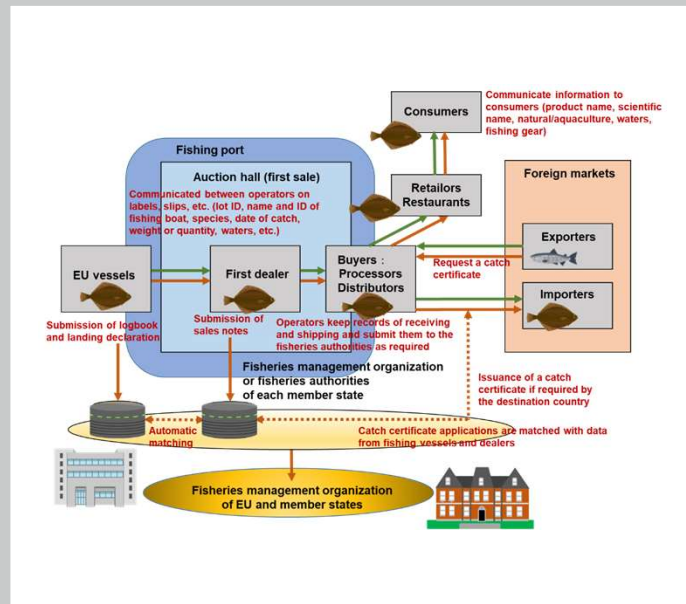


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H. ICT, IoT Utilization in Fishing Port Operation

- This section presents the Information and Communication Technology (ICT) systems used in the fishing industry and harbor, such those applied for recording, reporting and transmitting information on the catch and trade of fish and fishery products.
- [Image: EU system for recording, reporting and transmitting information on the catch and trade]

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I. Maintenance of Fishing Port and Port Facilities

- This chapter describes the maintenance of fishing port facilities so that they should be in service and maintain their functions at the appropriate levels for a long period of time.
- The focus of this section is the principles of the LCM-based maintenance (i.e. stock management) for maintaining the seaside and landside facilities of the fishing harbours.
- Guideline for Stock Management of Fishing Port Facilities (by Fisheries Agency of Japan) is one of the main references of this chapter.
- Stock management:
 - a method for optimizing the maintenance, renewal, etc. of facilities by a **series of technical systems** that go through functional diagnosis and **deterioration forecasting** to **formulate scenarios for appropriate countermeasure methods** and plans for maintenance and **countermeasure methods that are highly effective in reducing life cycle costs**.

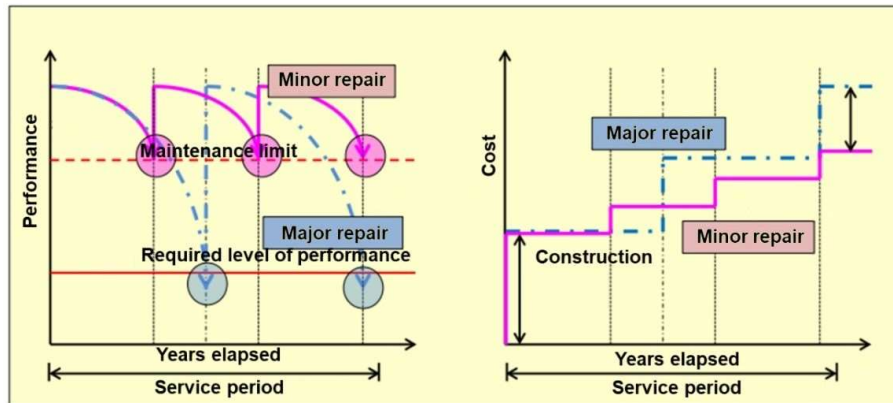
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I. Maintenance of Fishing Port and Port Facilities

- Stock management refers to strategic maintenance management with a focus on **preventive maintenance** that takes life cycle costs into account.
- Stock management has been introduced to social infrastructures (including fishing port facilities) in Japan since around 2015.
- Implementation of planned maintenance measures, designed to restore their degraded performance and maintain their required performance, helps to reduce the life-cycle costs.

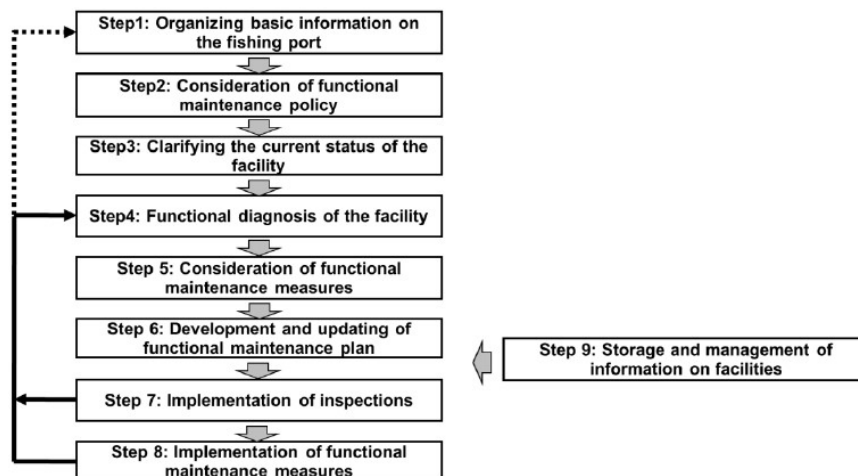


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Implementation procedures for stock management



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Section J. Training and Section K. Environmental Aspects of the Planning of Fishing Ports

- Section J: the general guidelines about the training of the resources and stakeholders involved in the management and operation of fishing ports.
- Section K : In general, this section will follow the processes proposed by the PIANC Environmental Commission (EnviCom) in their Work Group publications (e.g. WG 143 2014 and WG 176 2018).

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Conclusion and plan ahead

- Currently, the first draft of the WG 224 has been completed and the team is seeking inputs from contributors beyond the members to help generate an improved document.
- The contribution and support of A-NZ companies and individuals will be largely welcomed.

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