34th PIANC WORLD CONGRESS PANAMA 2018 May 7 to 12

CANAL DE PANAMÁ

WORKING WITH NATURE

applied to Marinas and Recreational Navigation Infrastructure

INPUT TO RecCom WORKING GROUP 148

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ATM

Outline

- PIANC's Working with Nature
- Working with Nature applied to Marina Design
  - Environmental Design
  - Guest Experience & Social Sustainability
- Illustrations and Project Examples

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PIANC's Working with Nature

Working with Nature Approach

Working with Nature advocates the following steps:

1. Establish project needs and objectives
2. Understand the environment
3. Make meaningful use of stakeholder engagement; identify win-win options
4. Prepare project proposals/design to benefit navigation and nature

Working with Nature Approach

Is there anything "really new" in these steps??

Can these steps help us improve design??

Are these "steps" really useful?

- There is a risk of using this as a formality
- Just as a "checklist" for "compliance"

This approach *can* be used in a practical process:

- Interpret as a common-sense design guideline
- A reminder to "go back to the basics"

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Working with Nature and Marina Design

Marinas Working with Nature

Integrated design process with economic, functional, social and environmental objectives.

- "Environmental Design" - Proactive inclusion of environmental features in the marina design
- "Social Sustainability" - Community benefits create authentic destinations

Environmental permitting should be easier, but even if not, the design will be better….

1. Project Needs and Objectives

- Identify the fundamental needs of the Owner
- Typical primary objectives may differ:
  - Private: business performance, investment risk, support other project elements (marina as part of a larger project), synergy with other profit centers, etc.
  - Public: public access, urban integration, benefits to local businesses, increasing the tax base, self-sufficiency, etc.
- Define the key project objectives (as opposed to a laundry list or features)
- What is necessary? What is ancillary?

2. Environment Understanding

Traditional Approach

- Physical conditions only (waves/depth)
- Planning and feasibility (cost)
- Environmental data for impact studies
- Environmental impacts assessed after design, for permitting

Proposed

- Environmental and social objectives upfront
- Planning and feasibility (cost & synergies)
- Synergies between project objectives and sustainability features
- Environmental Impact formal process starts with better project

3. Identify Win-Win Options

- **Meaningful** stakeholder **engagement**: High Quality Design or Participatory Design
- Environmental and social "constraints" can be converted into project assets
- Increased value and reduced costs:
  - Ecological features of Landscape value
  - Social functions of Commercial value
  - Multi-purpose elements
- Flexibility and Resilience
- Buy-in by Stakeholders

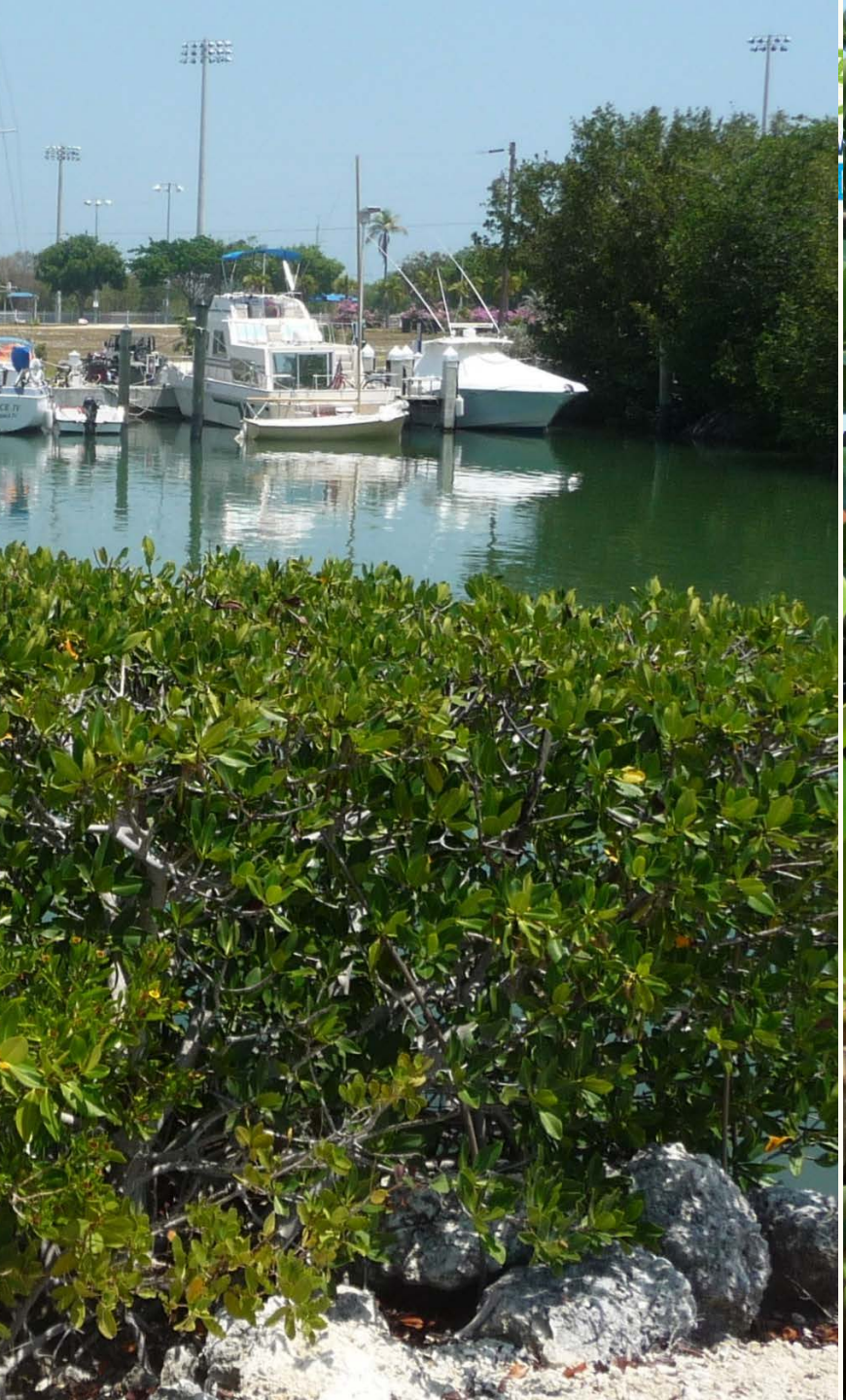
4. Benefit Project & Nature

- Better design proposal from economic, functional, social and environmental point of view
- Proactive inclusion of environmental features – “Environmental Design”
- Community benefits create authentic destinations - “Social Sustainability”

Environmental permitting and regulatory approvals should be easier

Project Examples

Environmental Features




Bellissima


MAJESTIC

Guest Experience

Guest Experience

The Marina Business is a Hospitality Business - “Sell Experiences”

Guest Experience :

- Personal
- Unique
- Authentic
- Transcendent
- Memorable

are of the Highest Value

Social Sustainability

Social Sustainability in Marinas

- Local Community members are the best suited to deliver authentic and memorable experiences.
- Create spaces in the project for Local Community Enterprises, with direct access to visitors and guests.
- Adequate Physical Planning is not sufficient to achieve Social Sustainability of a Marina, but it is necessary.

Puerto Los Cabos

Fishermen Village

Rendering: EDSA
Marina Design: ATM


LA PLAYA XXV
YAMAHA


HONDA


Nohemy
Diosa del Mar
03050147143 SJC


JARIOSA UNO


FINISHER

Zighy Bay, Six Senses, Oman

Haicang Bay, Xiamen, China

Project Examples

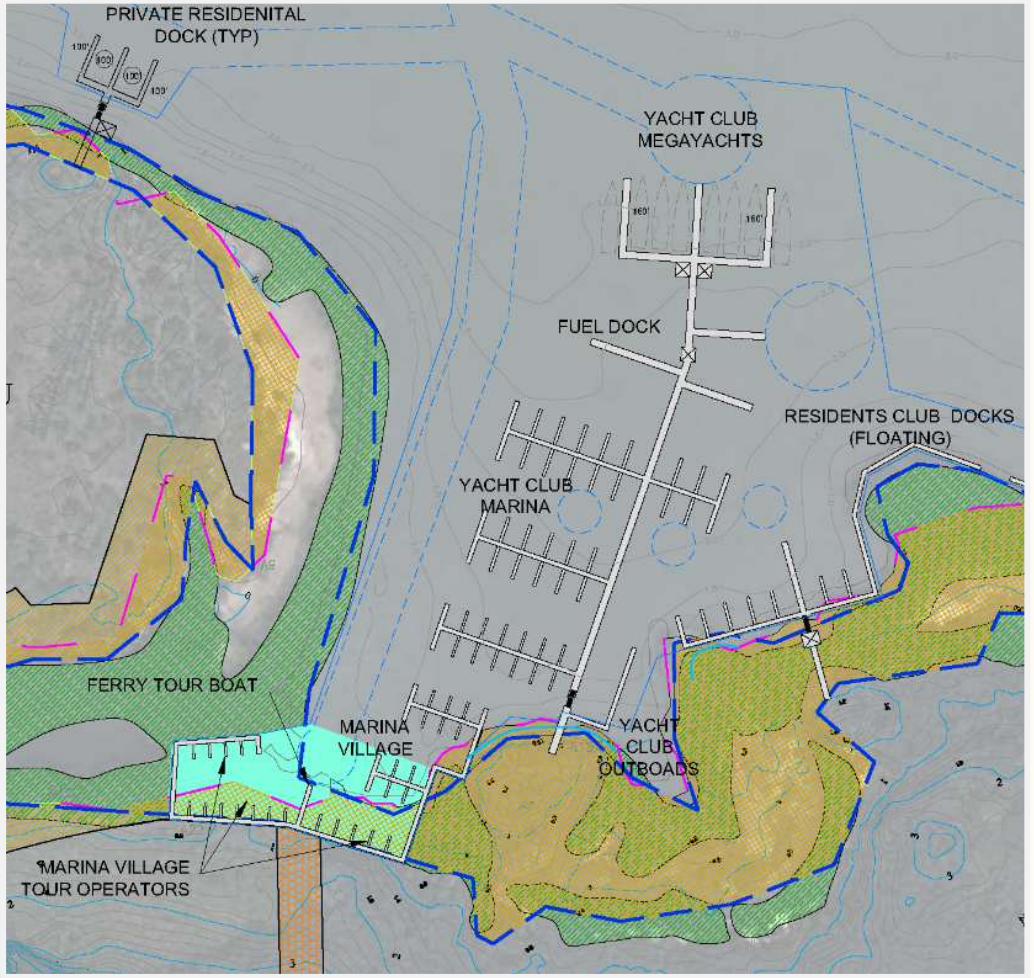
Exuma Cays, Bahamas

- Basin reshaped to improve flushing.
- A mangrove shoreline was proposed.
- A mangrove planting plan was designed.
- A planting crew was assembled by a local NGO, with the supervision of the chief ecologist responsible for the design.

Marina Planning: ATM
Rendering: OBMI

Barú, Colombia

- Marina layout developed to avoid mangrove impacts.
- Docks in front of mangrove edge.
- Fishermen village area to enhance the authentic experience of the project guests.



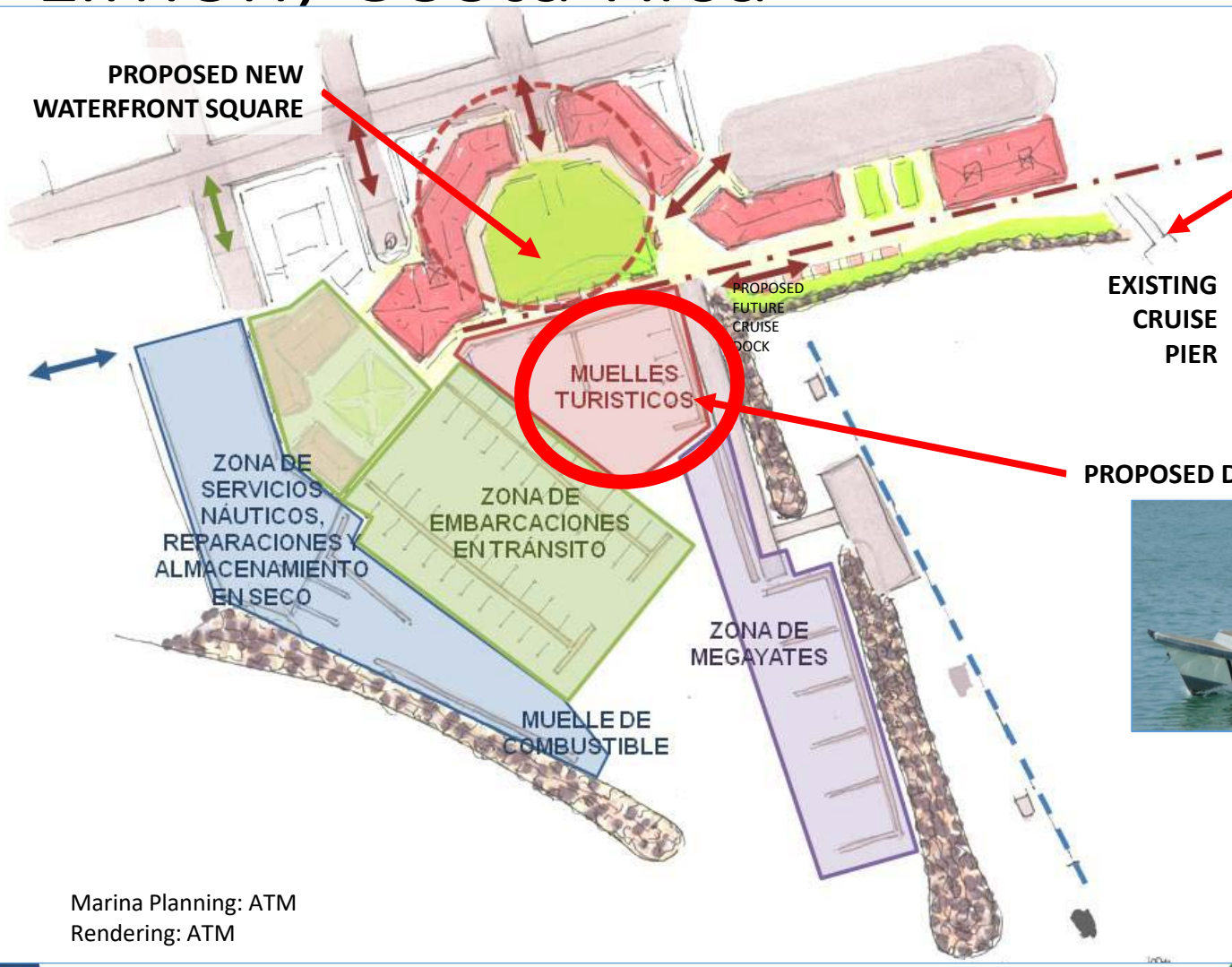
Marina Planning: ATM
Rendering: ATM

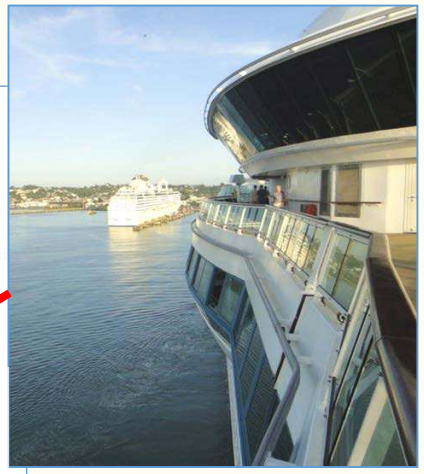
Chamela, Mexico

- Deepening coastal lagoon for navigable access.
- Re-creating mangrove shorelines and mangrove islands in the lagoon
- Preserving existing mangroves and improving flushing to mangroves
- Fishermen traditional area nested in mangroves

Marina Planning: ATM
Rendering: OBMI

Limon, Costa Rica





EXISTING CRUISE PIER

PROPOSED DOCKS FOR TOUR OPERATORS

Marina Planning: ATM
Rendering: ATM

Conclusions

Marinas Working with Nature

- Design process from economic, functional, social and environmental point of view
- Proactive inclusion of environmental features – “Environmental Design”
- Community benefits create authentic destinations - “Social Sustainability” has synergies with Experiential Value.
- The Designer has a responsibility to propose sustainable (and resilient) design features.

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Gracias!

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