

Ecological based solutions to coastal management and flood hazard mitigation: examples and relevance to the Emilia Romagna region

Workshop - 13th December 2013

Ex manifattura Marinati – Comacchio - Corso G. Mazzini n. 200

Organizing Committee

L. Airoidi

(University of Bologna)

L. Schippa

(University of Ferrara)

9:30 **Welcome** *Amministrazione comunale di Comacchio*

9:40 **Opening** *M. Medri, Presidente Parco Delta del Po*

Climate adaptation and resilience: the case of New Orleans HSDRRS after Katrina hurricane

W. Goldsmith, Bioengineering Group (USA)

11:30 **Panel Group**

Introduction *G. Bellini, Assessore Provincia di Ferrara*

Value Methodology for resilience and future-based design

W. Goldsmith, Bioengineering Group (USA)

Mappe di pericolosità e rischio ai sensi della direttiva UE 2007/60

L. Perini, RER – Direzione Generale Ambiente

Resilienza e ripristino morfologico delle spiagge nella strategia di difesa della costa dell'Emilia Romagna

A. Peretti, RER - STB Po di Volano e Costa

Il ruolo delle opere di regolazione nella mitigazione del rischio

I. Galvani, Agenzia Interregionale per il PO

Il Delta nel quadro della pianificazione di bacino

F. Puma, Autorità di Bacino del Po

12:45 **Discussion**

13:15 **Closing** *P. Gazzolo, Assessore Regione Emilia Romagna*

13:30 **Lunch**

14:30 **Technical excursion**

Integrating green infrastructures into a constructed environment can provide benefits on a large scale, including improvements to stormwater quality and quantity, flood mitigation, carbon storage, and biodiversity conservation. Green infrastructure practices are increasingly applied on a larger scale, and offer particularly promising **solutions to climate adaptation and resilience**. At the macrocosm level, large scale natural systems such as wetlands, oyster reefs, seagrasses and dunes deliver important ecosystem services and contribute to the stable equilibrium of fragile or dynamic landforms. A **integrated approach** is both necessary and highly desirable for communities facing threats related to sea level rise, land subsidence, increased storm intensity, aging infrastructures, and other factors associated with **climate change**. These measures provide resilient and sustainable solutions to mitigate several issues at once, and can also offer **efficient remediations** where repairs or upgrades are needed but the costs can be too great for many communities to afford. We will discuss examples of successful regional scale integrated green and hard infrastructure systems offering measurable, reliable, and cost-effective flood risk reduction.

The **Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS)** formulated a robust and resilient regional scale infrastructure system after Katrina that factored in trends and uncertainties surrounding climate change, sea level rise, and land subsidence. Recognizing hard infrastructure could perform much better long term while surrounded and shielded by healthy coastal wetlands and protective landforms such as barrier islands, these systems and measures were included as core functional elements of the design.

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