

Litoranea

Rethinking an ancient waterway for the management of environmental transformations in the Venetian costal area, Italy.

Before < > After



Country / City Caorle, Eraclea, San Michele al Tagliamento - Italy, Ferrara

University / School University of Ferrara

Academic year 2016/2017

Title of the project LITORANEA VENETA - Rethinking an ancient waterway for the management of environmental transformations in the Venetian costal area, Italy.

Authors Alberto Grando





PERFORMATIVE NATURE

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SCHOOL PRIZE

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Máster d'Arquitectura del Paisatge -DUOT - UPC

ETSAB- Escola Tècnica Superior

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TECHNICAL DOSSIER

Title of the project	LITORANEA VENETA - Rethinking an ancient waterway for the management of environmental transformations in the Venetian coastal area, Italy.
Authors	Alberto Grando
Title of the course	Landscape architecture and infrastructures
Academic year	2016/17
Teaching Staff	Arch. Prof. Luca Emanuelli, Ing. Prof. Massimo Tondello, Prof. Laura Gabrielli
Department/Section/Program of belonging	Architecture department - Sealine research centre
University/School	University of Ferrara

Written statement, short description of the project in English, no more than 250 words

The thesis focuses on the environmental potential of reconditioning the ancient "Litoranea Veneta", a waterway flowing parallel to the Adriatic coast from the Venetian Lagoon to the Trieste Gulf. The project strategy aims at creating along the whole infrastructure's path a wetland system capable of increasing resilience performances and unveiling new touristic opportunities.

During the last century, the combined action of wetlands' reclamation for farming and coastal engineering for tourism exploitation have shrunk the entire waterway into a discontinuous system of small canals barely navigable. The hydraulic exchange between the sea and the inland has been almost interrupted threatening ecosystems and hydrogeological security. Existing plantations are mostly exhausted and subject to a remarkable subsidence in wide areas.

Grounded on such trends' analysis and on the costs assessment related to the maintenance of the present territorial arrangement, the project strategically selects farming areas to be converted into wetlands. Such operation allows to envisage a feasible reconversion of remaining crops into more sustainable organic farms capable of boosting biodiversity. As set by the project, the entire hydraulic system reaches a storing capacity of 3 million water m³, acting both as a defence from flooding and as a fresh water storage for agriculture.

Moreover, the wet buffer zone along the waterway represents a new littoral, a "second coast" in which to develop new touristic paths, nautical facilities and public services linked to lagoon areas. In this scenario, the "Litoranea", by acting as landscape device of territorial transformation, represents a driver for shifting from a rigid environmental system to a more dynamic and resilient one.

For further information

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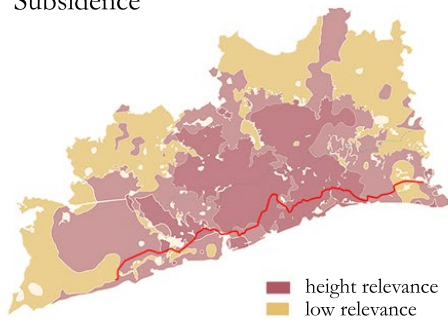
T: + 34 93 401 64 11 / +34 93 552 0842

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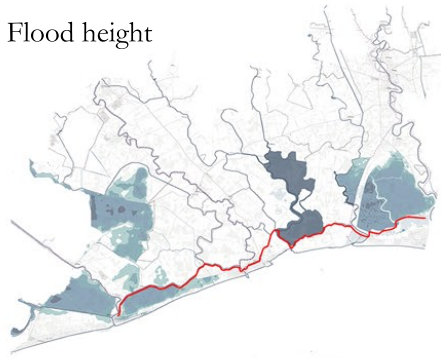
Consult the web page <http://landscape.coac.net/>

Critical issues

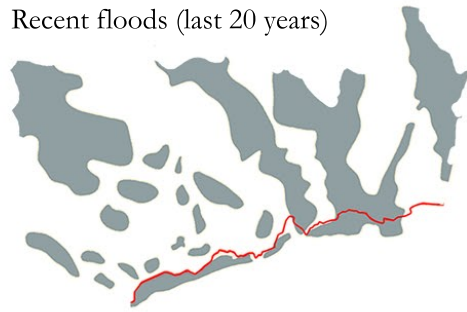
Subsidence



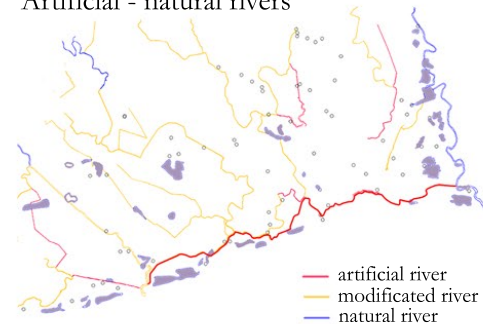
Flood height



Recent floods (last 20 years)



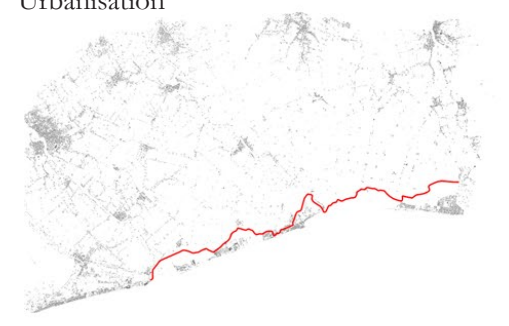
Artificial - natural rivers



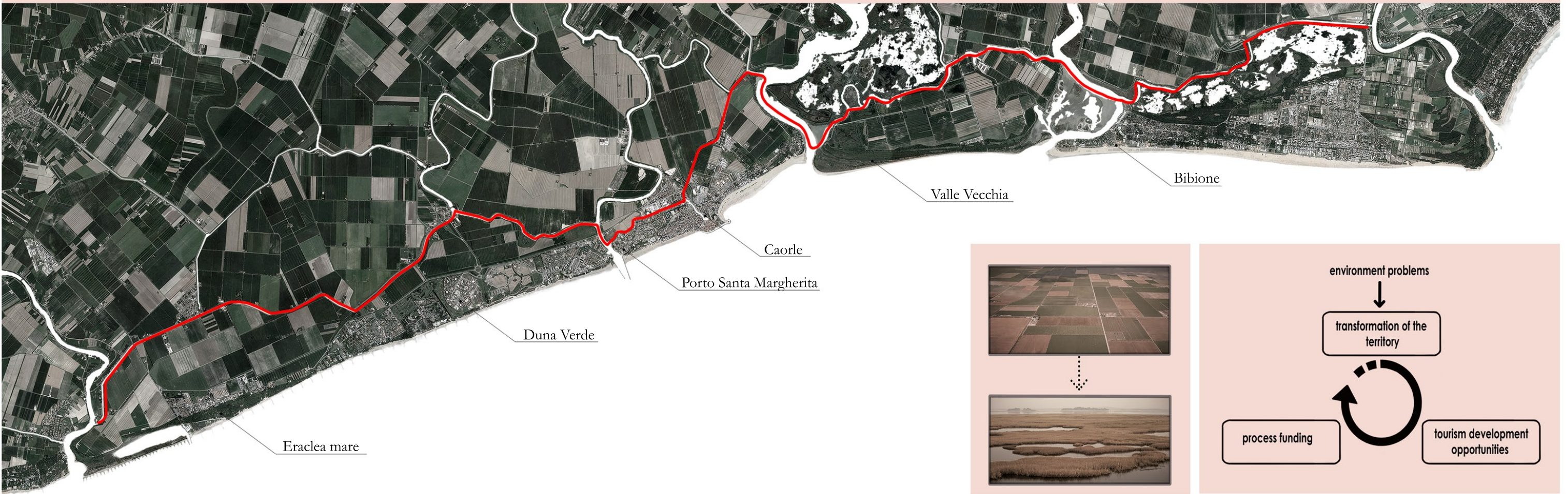
Microaltimetry



Urbanisation



Waterway path



Strategy

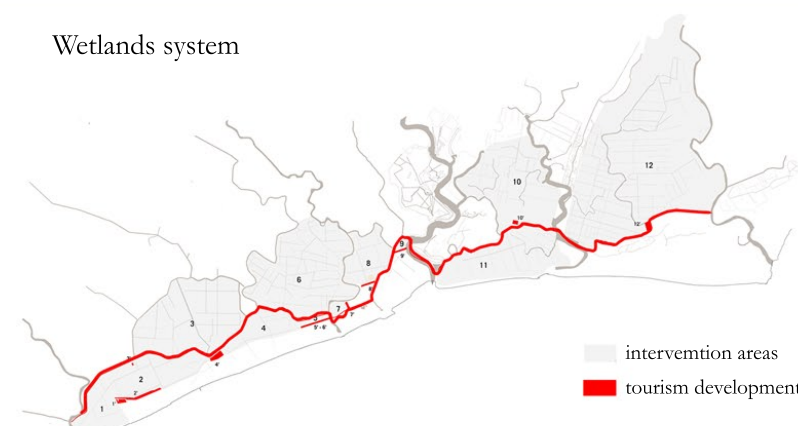
Critical issues overlapping



Hidrography



Wetlands system



intervention areas
tourism development areas

10

The second coast: towards a more resilient and attractive landscape

Legend:



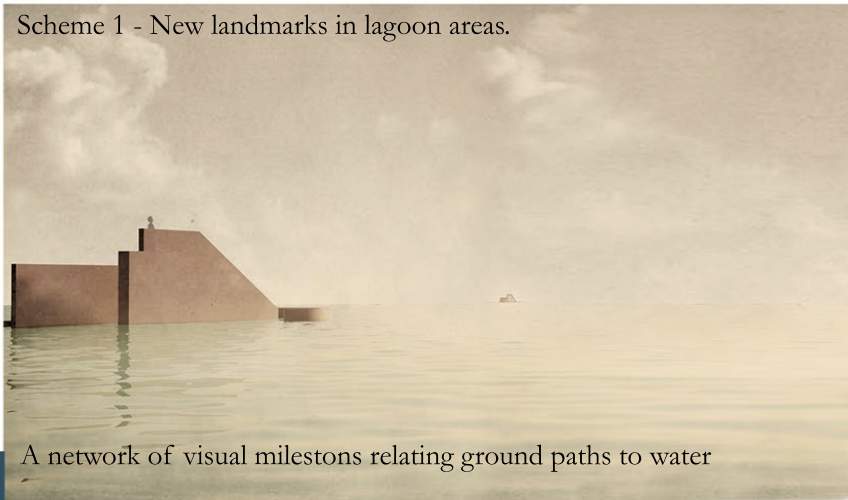
- waterway
- coastal erosion phenomena
- embankments type 1
- embankments type 2
- embankments type 3
- embankments type 4



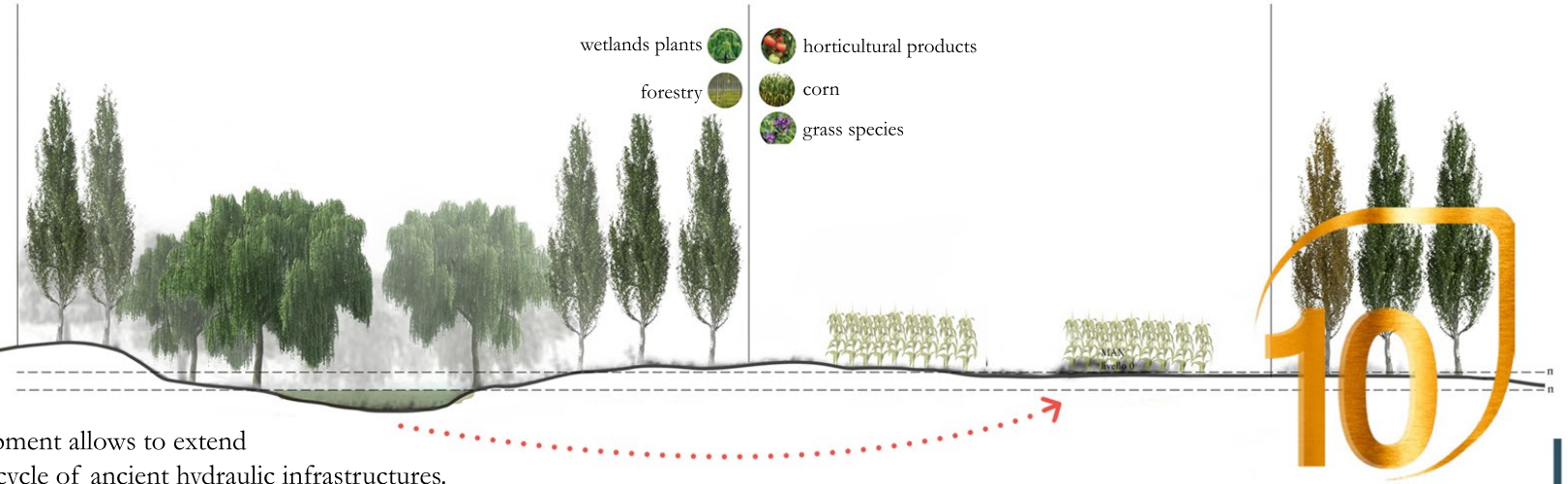
Economic feasibility assessment

	Cold works	Hot works
Interventions	- hydraulic defence works	- touristic facilities development
Aim	- extend the existing infra structure life-cycle - re-organize the land-use managment system	- cash flow funding for risk managment interventions - diversify and update the touristic offerentions

Scheme 1 - New landmarks in lagoon areas.



Scheme 2 - Water storage system.



The wetlands development allows to extend the the technical life-cycle of ancient hydraulic infrastructures.

The new Eraclea Lagoon (Area 1)

