

**NWRM Mediterranean Network –
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**Sediment Management Programs and River Contracts:
two instruments at a catchment scale for river and basin
restoration**

Paolo Mancin

**Direzione Ambiente
Settore Tutela Quantitativa e Qualitativa delle Acque**



Sediment Management
Programs are planning
tools at river basin
scale.

They have the same
purposes as the “PAI -
Plan for the hydrology”

PAI regards all Po basin,
a sediment management
programm deals with a single
river (sub)basin.

Their principal aims are:

Enviromental protection

Enviromental quality

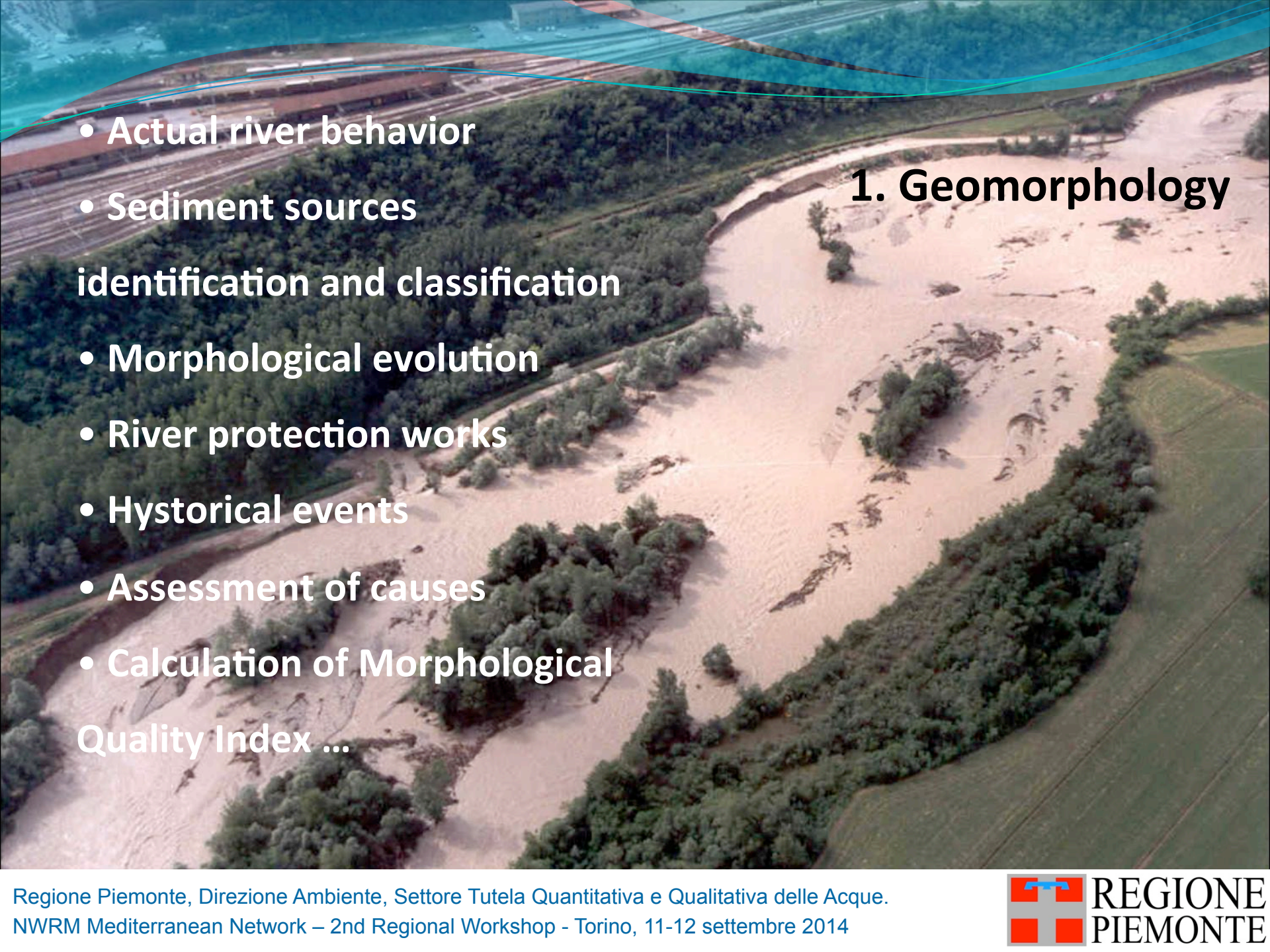
Environmental improvement

BASIC QUESTION:

Which actions are necessary to recreate/preserve
river dynamic equilibrium?

Answers come from
studies on river system at
basin scale,
looking at three main
aspects:

1. GEOMORPHOLOGY
2. HYDRAULICS
3. ECOLOGY

An aerial photograph showing a wide, muddy river flood that has inundated a large area of green forest and agricultural fields. The water is a light brown color, contrasting with the dark green of the trees and the green of the fields. The flood appears to be a significant event, with water reaching the edges of the land.

- Actual river behavior

- Sediment sources

identification and classification

- Morphological evolution

- River protection works

- Hystorical events

- Assessment of causes

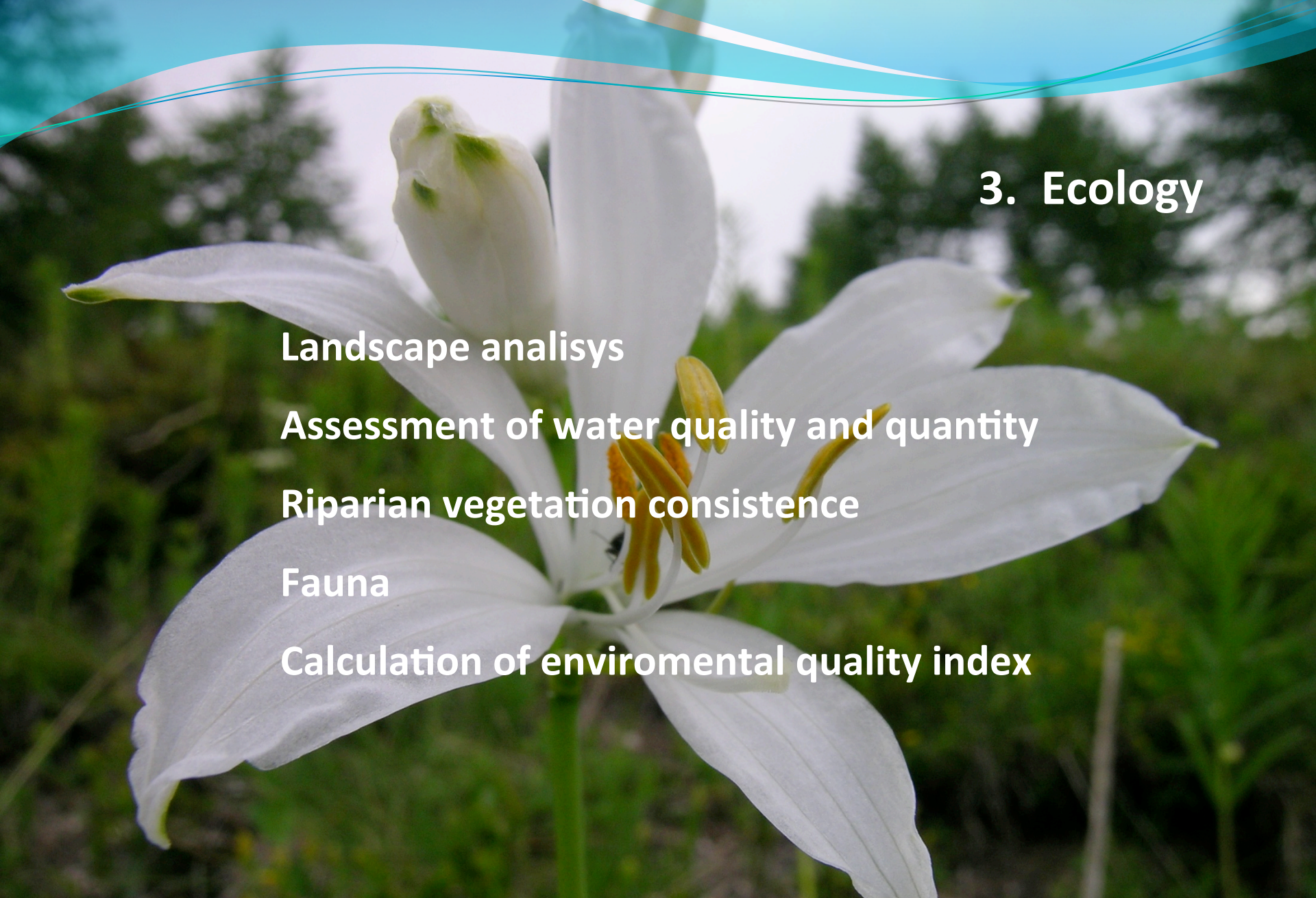
- Calculation of Morphological

Quality Index ...

1. Geomorphology

2. Hydraulics

- Hydrology
- Water discharge calculation for different return periods
- Grain size curves
- Definition of flood plains
- Sediment transport and volumes evaluation ...



3. Ecology

Landscape analysis

Assessment of water quality and quantity

Riparian vegetation consistence

Fauna

Calculation of enviromental quality index

Which kind of interventions?

- 1.No interventions
- 2.Sediment removal
- 3.Morphological restoration
- 4.Protection works (construction, removal)
- 5.Management of woodland belt
- 6....



Sediment Management Programs derives from multidisciplinary studies where river is the thread.

Sediment Management Program:

**Integration Directives 2000/60 / EC - Dir 2007/60 /
EC - Dir Habitat. Technical and coordination
guidance for many on the territories stakeholders**

Stocks prepared through consultation

River and Lake Contracts in Piedmont: the beginnings

- Obligation to achieve environmental objectives
- Fragmentation of responsibilities
- Difficulty to reconcile different interests
- Planning at the REGIONAL scale (PTA) requires application at the LOCAL level



**In Regional Water Protection Plan - PTA (2007)
New tools for INTEGRATED APPROACH of the politics
of water management in Piedmont**



River Contracts: what they are (and what they are NOT)

DO NOT constitute an additional level of spatial planning
DO NOT introduce new administrative competences
DO NOT create additional bureaucratic procedures
DO NOT only refer to the "river"

Integrate the various decision-making levels

Each subject operates within its powers

Allow a streamlining procedural

"RIVER CONTRACT"= instrument for achieving environmental quality objectives

...NOT through the adoption of authoritative centralized measures

...BUT through public and private participation

River Contracts: participation



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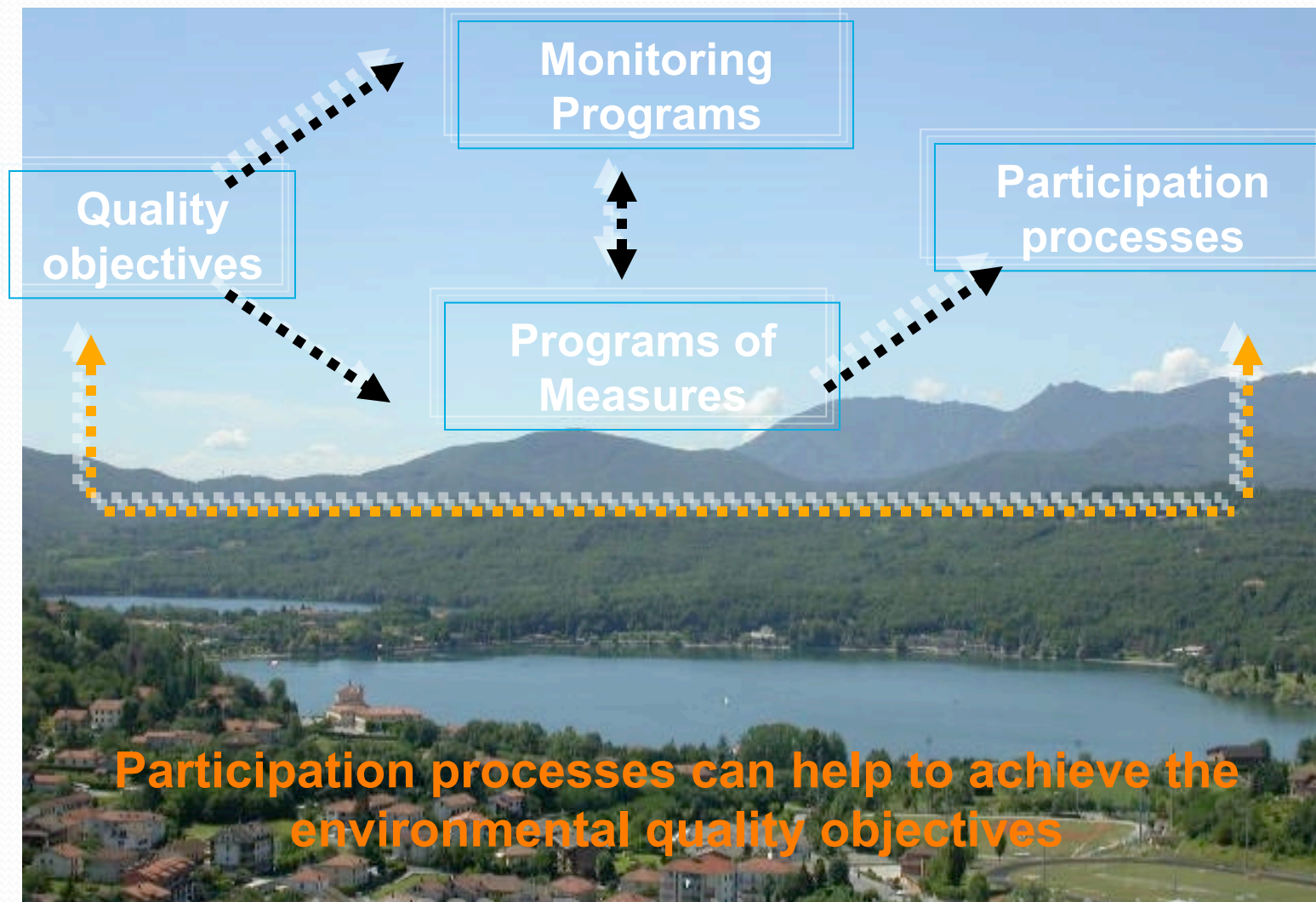
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a cura di CIRP - Centro Italiano per la Riqualificazione Provinciale

Age Group	Percentage
18-24	~10%
25-34	~35%
35-44	~25%
45-54	~20%
55-64	~15%
65-74	~10%
75-84	~5%
85+	~2%

RESPONDENTE: ATTIVITÀ - REGIONE: PUGLIA			
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River Contracts: participation (art. 14 WFD)



1. The Lakes of Avigliana Contract

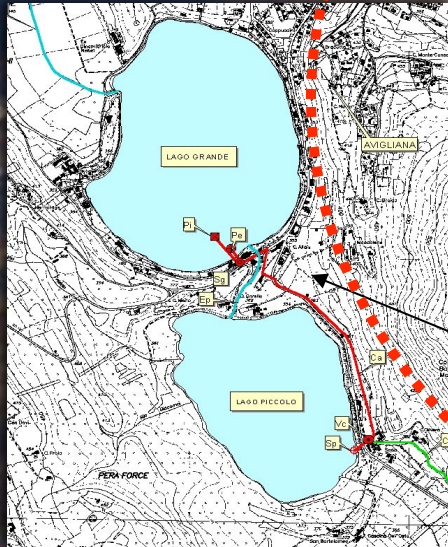


Requalification of the Channel
Naviglia
and Swamp Mareschi

Improvement of Recreational
function

Redevelopment area of peat bog
Trana

Reduction / mitigation
water abstractions from the
lake and the lowering of
water levels



1. The Lakes of Avigliana Contract

Integrated and complex actions, such as the revision of the drawing rights of irrigation consortia, probably would not have been implemented quickly and with environmental criteria without the Lake Contract



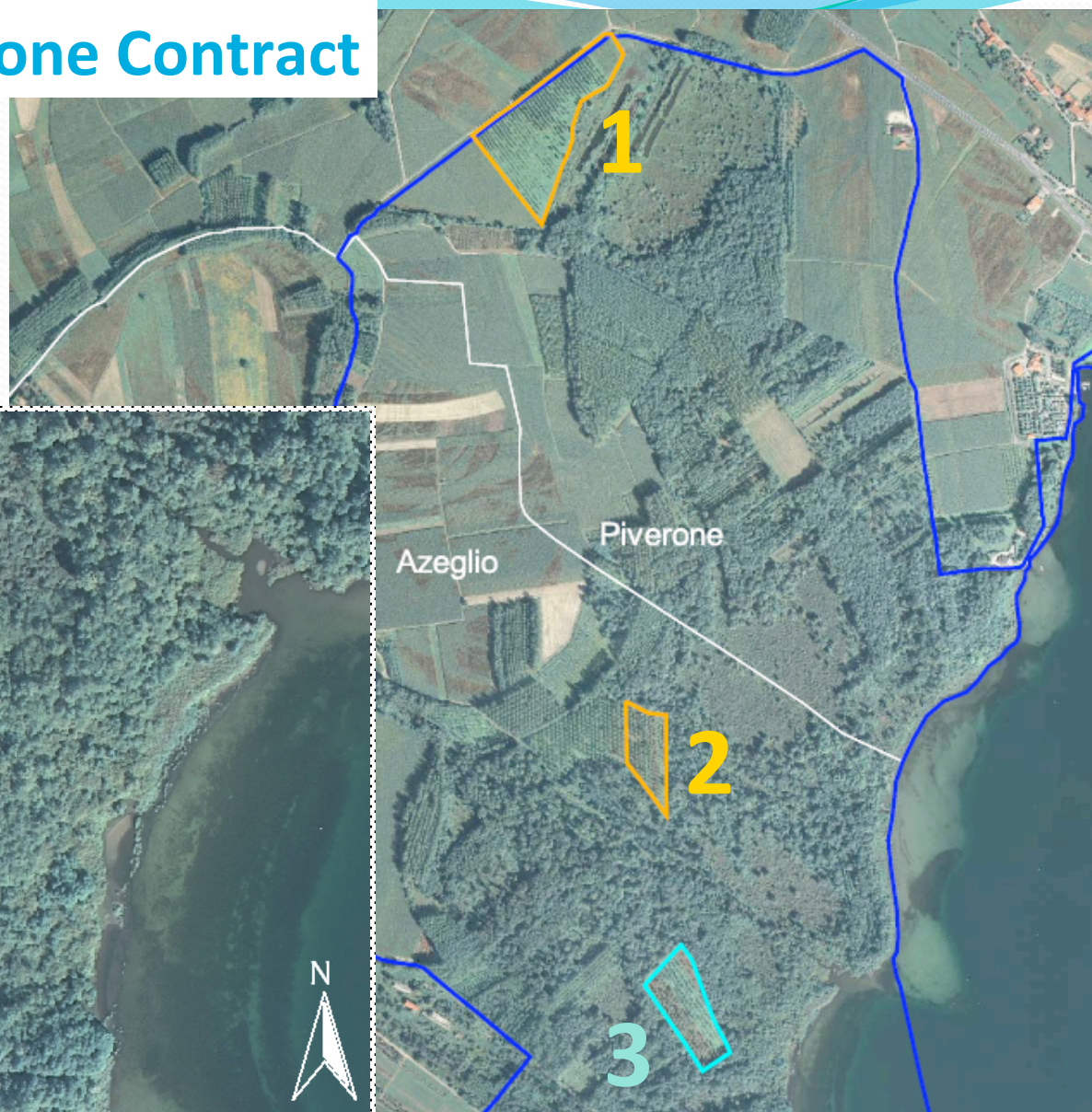
2. The Lake of Viverone Contract

infrastructural interventions on the sewage collector
improve the function of the filter of the zones around the lake
environmental restoration per lacuali wetlands



2. The Lake of Viverone Contract

Reconstitution of the forested areas in the wetland (SIC), with removal of poplars





River and Lake Contracts :

- LOCAL implementation of regional planning
- Implementing the participation (art. 14 WFD)
- Platform for dialogue for everything related to water
- (and not just water)
- Implementation of sustainable development policies



THANK YOU !!!

Read more: <http://regione.piemonte.it/ambiente>

Paolo.Mancin@regione.piemonte.it