Autorità di bacino del fiume Po
Bacino di rilievo nazionale

AIPO
Agenzia Interregionale per il fiume Po

Role of regions/provinces in river basin management in the system of Po basin

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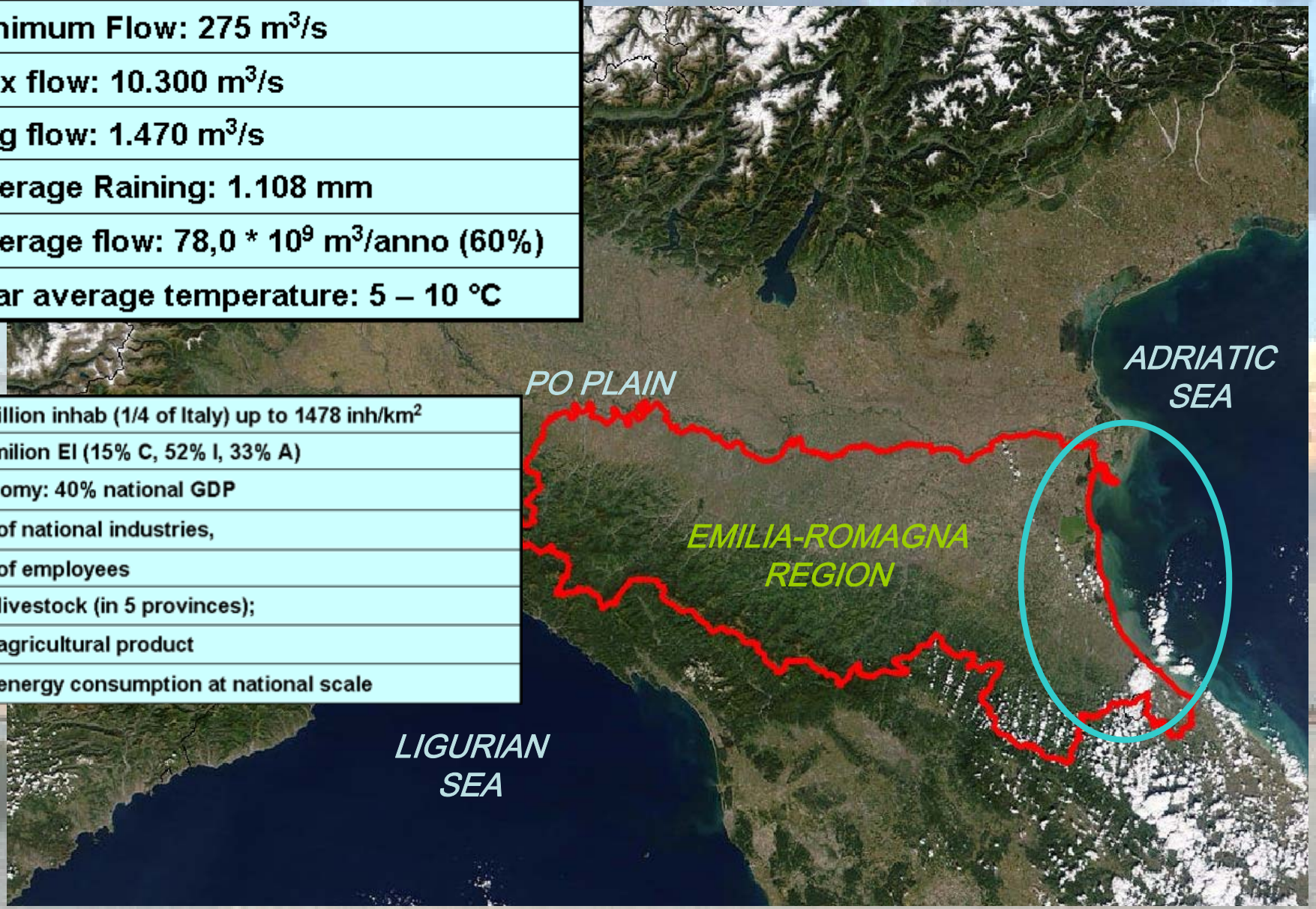
Director General Environment, Coast and Soil Department
Emilia-Romagna Region

REGIONE PIEMONTE
RegioneEmiliaRomagna
RegioneLombardia
REGIONE DEL VENETO

Po River: European Basin District

Lenght: 650 km
Area: 71.000 km^2
Minimum Flow: 275 m^3/s
Max flow: 10.300 m^3/s
Avg flow: 1.470 m^3/s
Average Raining: 1.108 mm
Average flow: 78,0 * 10^9 m^3/anno (60%)
Year average temperature: 5 – 10 °C

around 1/10 of Yellow River!



16 million inhab (1/4 of Italy) up to 1478 inh/km^2
114 milion EI (15% C, 52% I, 33% A)
Economy: 40% national GDP
37% of national industries,
46% of employees
55% livestock (in 5 provinces);
35% agricultural product
48% energy consumption at national scale

Po River IRBM

- The Po river resumes all crucial issues on Integrated River Basin Management in relation to the anthrophic pressures and the effects of climate change
- In the last years, we are facing drought and floods, with hydrological cycles seriously altered by climate change but also by human overexploitation
- Even in a country with abundant water resources, as in Northern Italy, the problem of supplying water in the necessary quantity and quality is therefore for us one of the major challenge of the coming years

- We are studying a package of integrated solutions: improved agricultural efficiency, better distribution to reduce losses, greater public awareness and participation, commitment to water equity and rights, information sharing, transparency, and the development of new water supplies even through re-use and recycling in industries and agriculture

Integrated River Basin Management

- Appropriate government system represented by the Po River Basin Authorities as coordinated expression of all the administrative levels, from the State, to the regions, provinces and municipalities, that also have to ensure the participation of all stakeholders
- This institutional capacity, that in Italy started since 1989, has offered many opportunities that now we wish to exploit.
- We have a set of integrated water management plans as well as flood risk management plans already adopted in all regions of the Po river basin.
- This year 2009 all these plans will be homogenised into the integrated river basin management plan at District level according to the WFD

Ministry

Environment and Territory

Agriculture and Forestry

Cultural and Environmental assets

Transport and infrastructure

Civil Defence Department

Regions

Valle d'Aosta

Piemonte

Lombardia

Veneto

Liguria

Emilia-Romagna

Provincia Autonoma di Trento

Toscana

INSTITUTIONAL COMMITEE

Ministers

Presidents of the Regions

Secretary-general

which represents the decision making authority

which is the consulting body of the institutional committee and is responsible for the drawing up of the Basin Plan

Secretary-general

who oversees and coordinates the Authority activities, chairing the technical committee and directing the technical –operational secretariat

which carries out the operational functions of the Authority

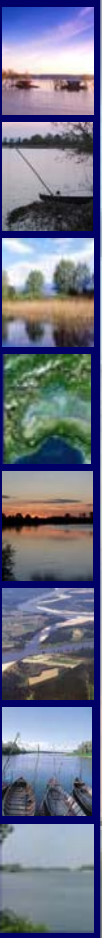
TECHNICAL COMMITTEE

Representatives of the Regions

Experts

TECHNICAL- OPERATIONAL SECRETARIAT

Water resources planning and management: actors involved



Basin Authorities

Basin scale planning

Regional planning

Regions

Management

Verification and control

- Goals: Conservation and sustainable use of water resources
- Structural and non-structural measure programmes

ATO: "Optimal territorial ambits Authorities"

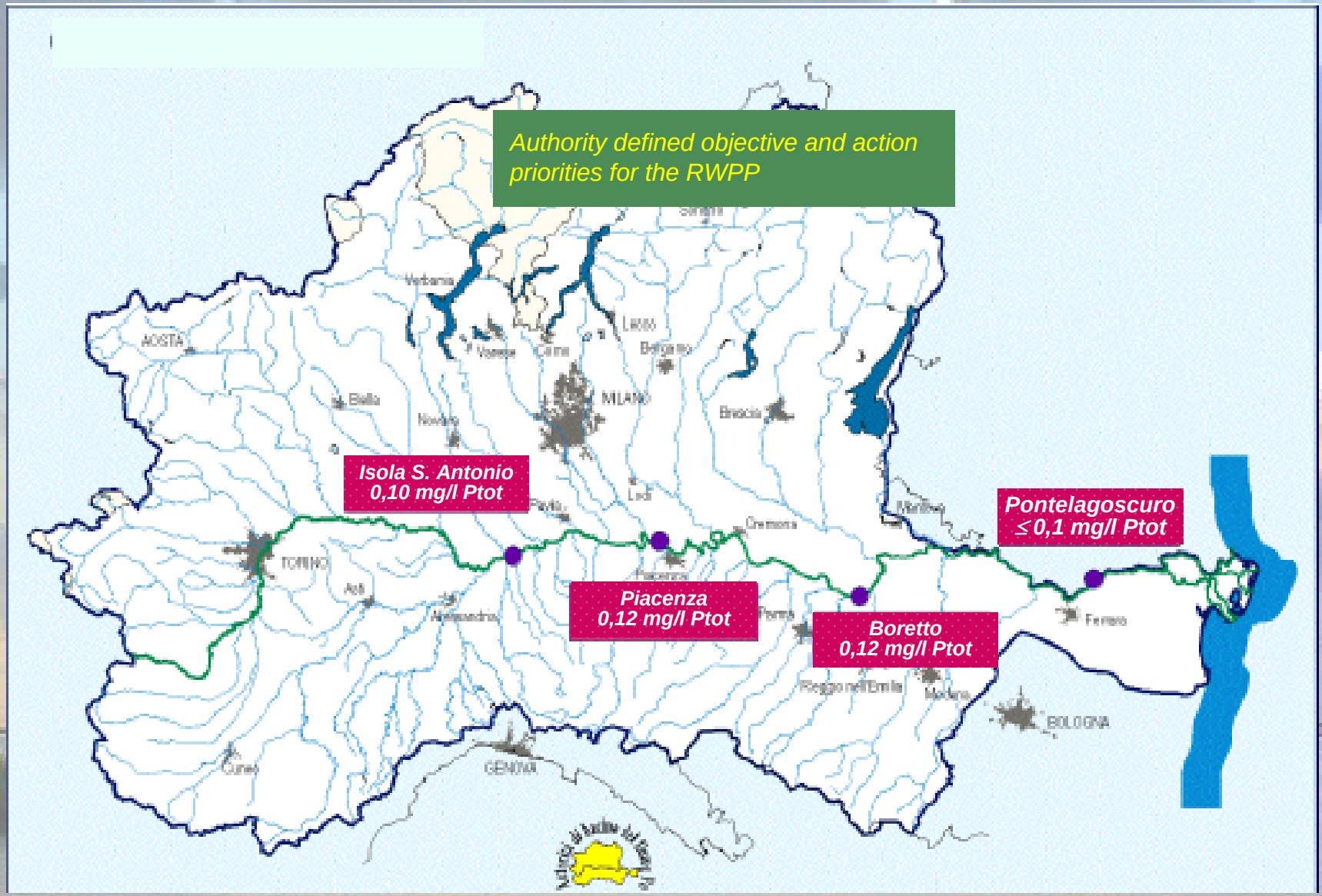
Integrated management of: sewage systems, drink water quality and distribution network, and waste-water treatment plants.

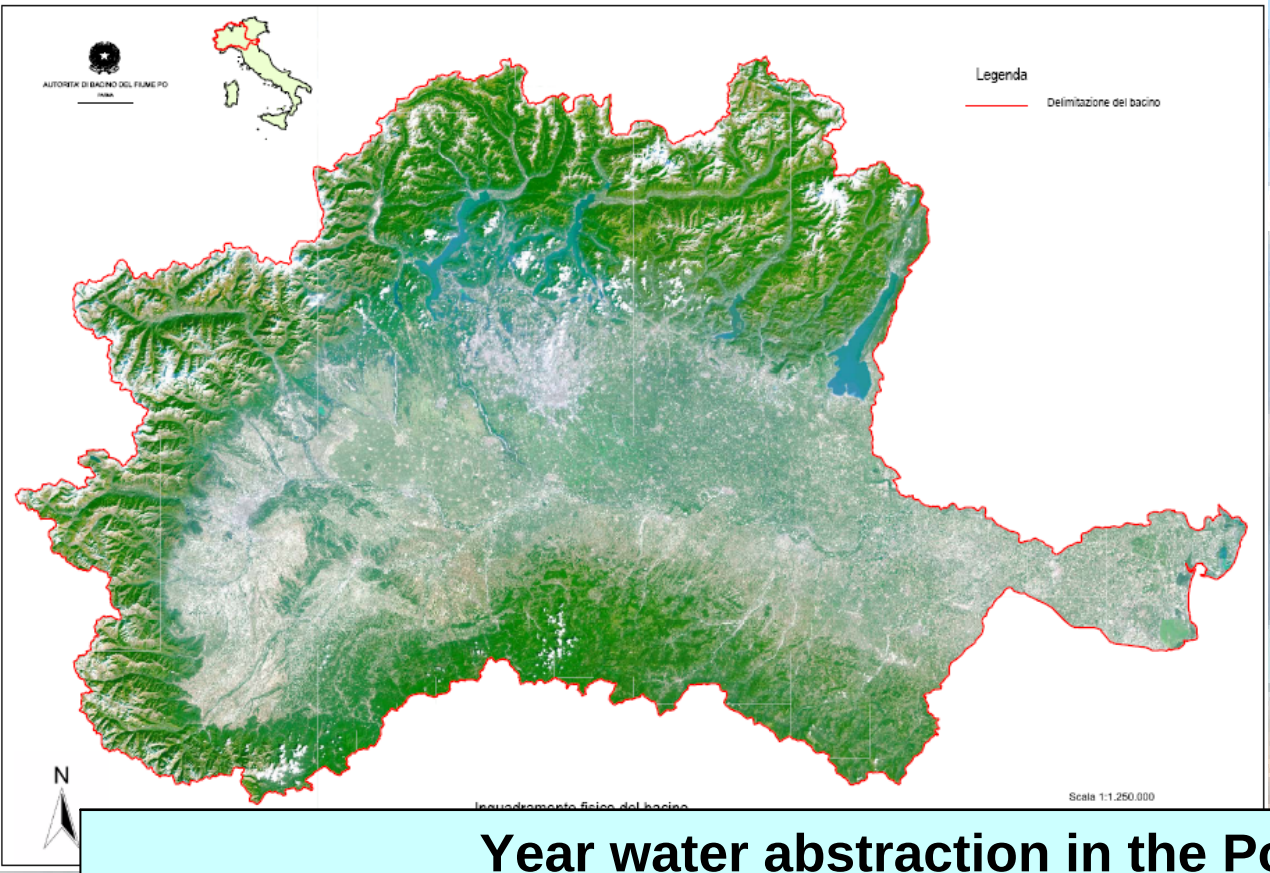
Drainage and irrigation consortia

Public bodies, with users' participation (farmers)

- Management of water distribution for irrigation purposes
- Realisation of public drainage works
- Maintenance of irrigation channels and regulations

River Authorities Objectives





Averaged year flow rate is lower than water use permits

1470 m^3/sec against

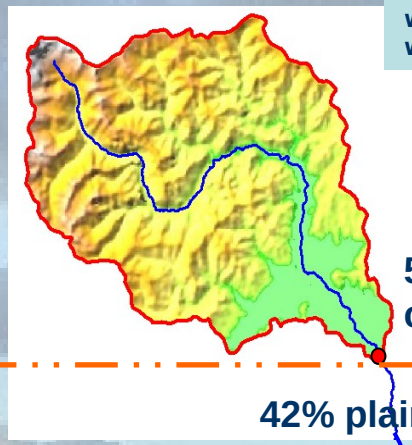
1850 m^3/sec

Year water abstraction in the Po River

Uses	Withdrawal Volume (10^6 m^3/year)	% Surface water	% Ground water
Drinking	2.500	20	80
Industry	7.800	20	80
Irrigation	21.900	83	17
Overall	32.200	63	37

Po River Basin water system: uses' complexity

Mountain basins



This is the portion of the basin where the major amount of water flow originates

Upstream stakeholders

58% of the basin territory is constituted by mountain

42% plain terrain

Mountain reservoirs for Hydroelectric use

3 billion cubic meter storage capacity in hydropower reservoirs and Lakes

Plain part of the rivers

Place where flows, originated from the mountain basins, are transferred and transformed by:

Pollution problems deriving from industrial discharges and agricultural practices

Withdrawals for irrigation purposes

Withdrawals for hydroelectric purposes

Minor hydrographic network, natural and artificial

Exchange with groundwaters

Downstream stakeholders

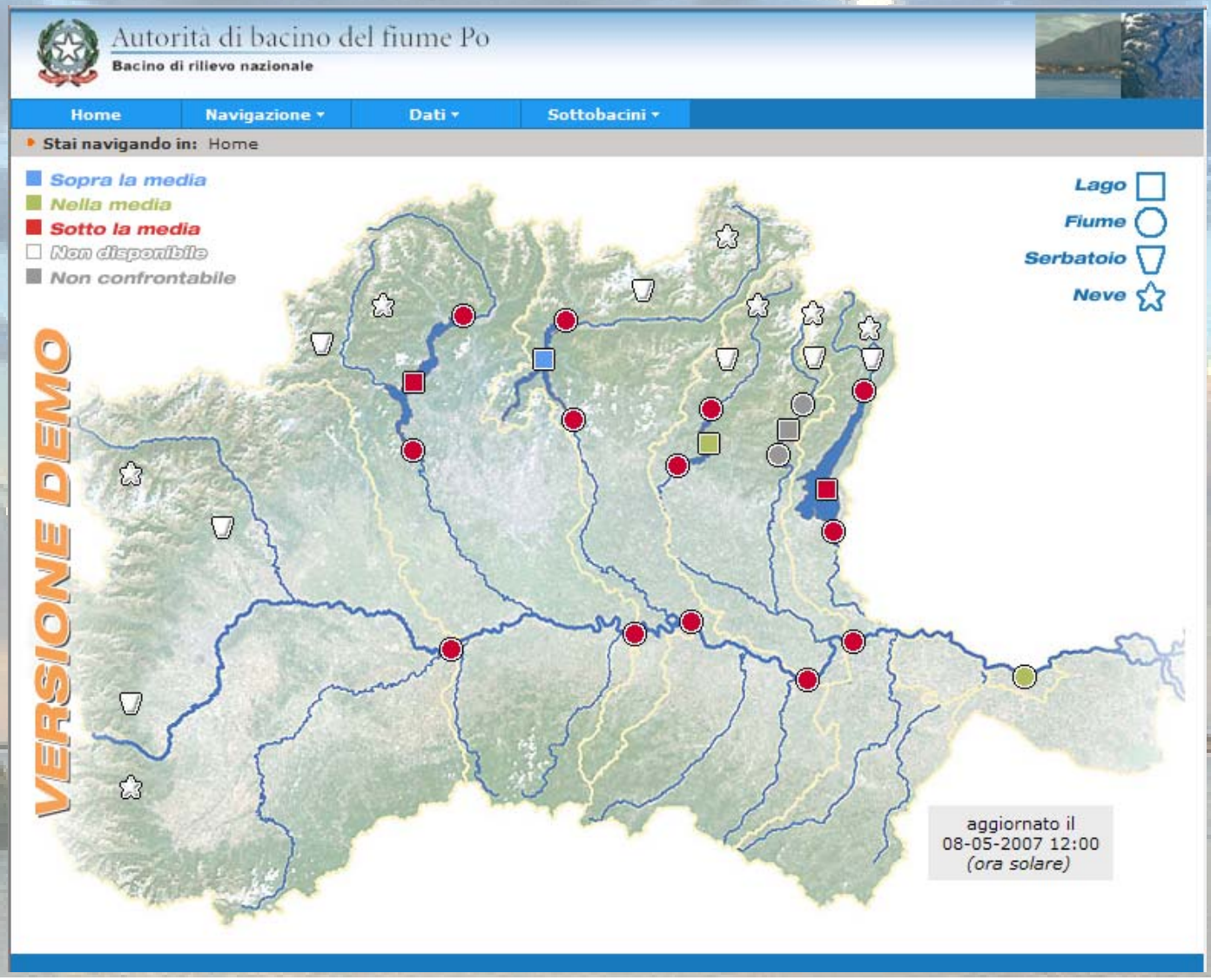
River flows during drought events are basically sustained by groundwater discharges (gaining streams)

Water scarcity management programme

Rules for water withdrawals for all users

Contingency programme

The web site


Autorità di bacino del fiume Po
Bacino di rilievo nazionale
Home
Navigazione
Dati
Sottobacini
Stai navigando in: Home
Sopra la media
Nella media
Sotto la media
Non disponibile
Non confrontabile
Lago
Fiume
Serbatoio
Neve
VERSIONE DEMO
aggiornato il
08-05-2007 12:00
(ora solare)

Water scarcity directive

Structured as follows:

Goals are individuated as minimum discharge values to be guaranteed in the Po river during drought events - to be monitored in fixed Po river sections (for example Piacenza measurement station)

Rules are given to determine minimum discharges from single tributaries to meet targets

Critical thresholds are defined: when reached, specific measures have to be applied to mitigate the effects of such scarcity events

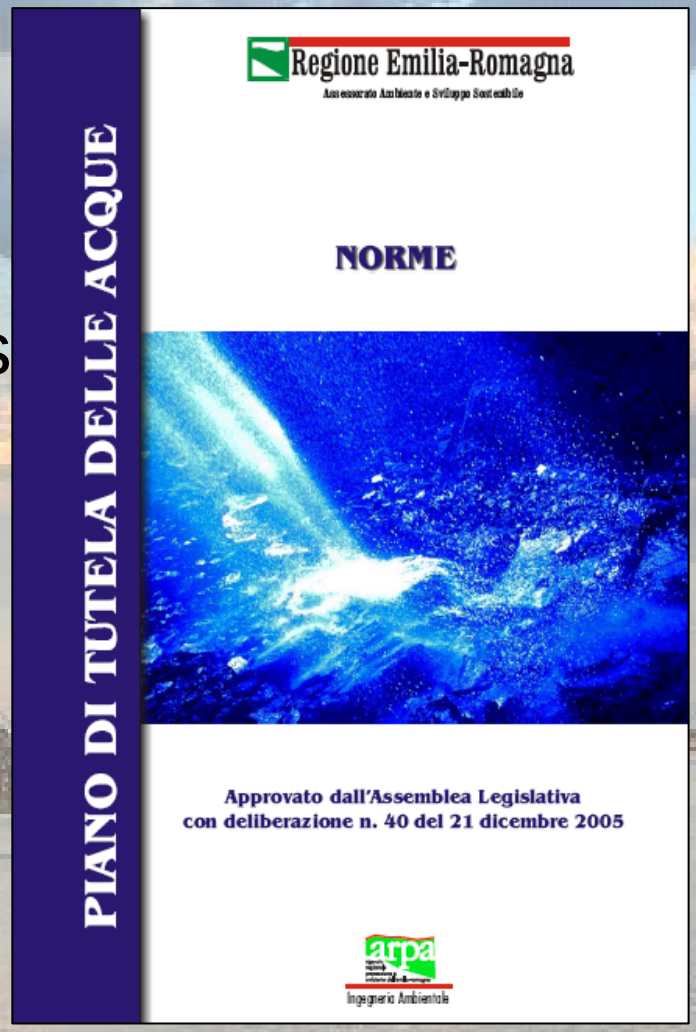
Specific guidelines on monitoring activities to acquire appropriate data for the definition of quantitative status of water resources in the basin

Definition of measures to be included in “interventions programs”, and individuation of appropriate administrative and/or technical bodies to produce and apply such interventions programs

Integrated Regional River Basin Management Plan (WFD)

- Regional Council Approval on 2005
- The Plan represents the tool to achieve the qualitative objectives withi 2015 according to the European Directives (2000/60/EC)
- through an integrated approach

- Quantitative ⟷ Qualitative



The ER strategy
WATER DEMAND MANAGEMENT

- **a drastic review of water use is necessary to meet the objectives on 2015**
- Improving effectiveness and sustainability of existing drinking water, industrial process and irrigation systems: first priority in the option assessment process
  - Recycle, conservation, saving, interconnection, flexibility, optimization…….new infrastructures
- The newly-released strategy reflects the demand for a more balanced approach in which better management of existing resources is complemented by investment in priority water infrastructure (twin track)
- The Water Conservation Programme (WCP) plays a key role
- WCP also includes guidelines for a Drought contingency Program

The role of regions

- The role of local authorities is fundamental:
  - To move towards water demand management policies
  - To give stakeholders the instruments to understand and forecast the consequences of political choices
  - To reduce the asymmetry of knowledge among the stakeholders and the policy makers, contributing to a democratic knowledge-based society
  - To improve the management of our natural water environment
  - To foster integrated policies taking in consideration not only the environment but also social aspects and economy
  - To reduce the vulnerability of social, economic structures and ecosystems to the impacts of climate change
  - To allow future generations to satisfy their own needs
- To guarantee homogeneous approach at basin level, effective and clear directives on targets and objectives are necessary

The Water Conservation Program WCP

The Program is based on different levers:

- Regulatory and Legislative tools
- Economic tools
- Actions


RegioneEmilia-Romagna

Assessorato Agricoltura, Ambiente e Sviluppo Sostenibile

Programma Regionale di conservazione e risparmio della risorsa acqua

Analisi e proposte

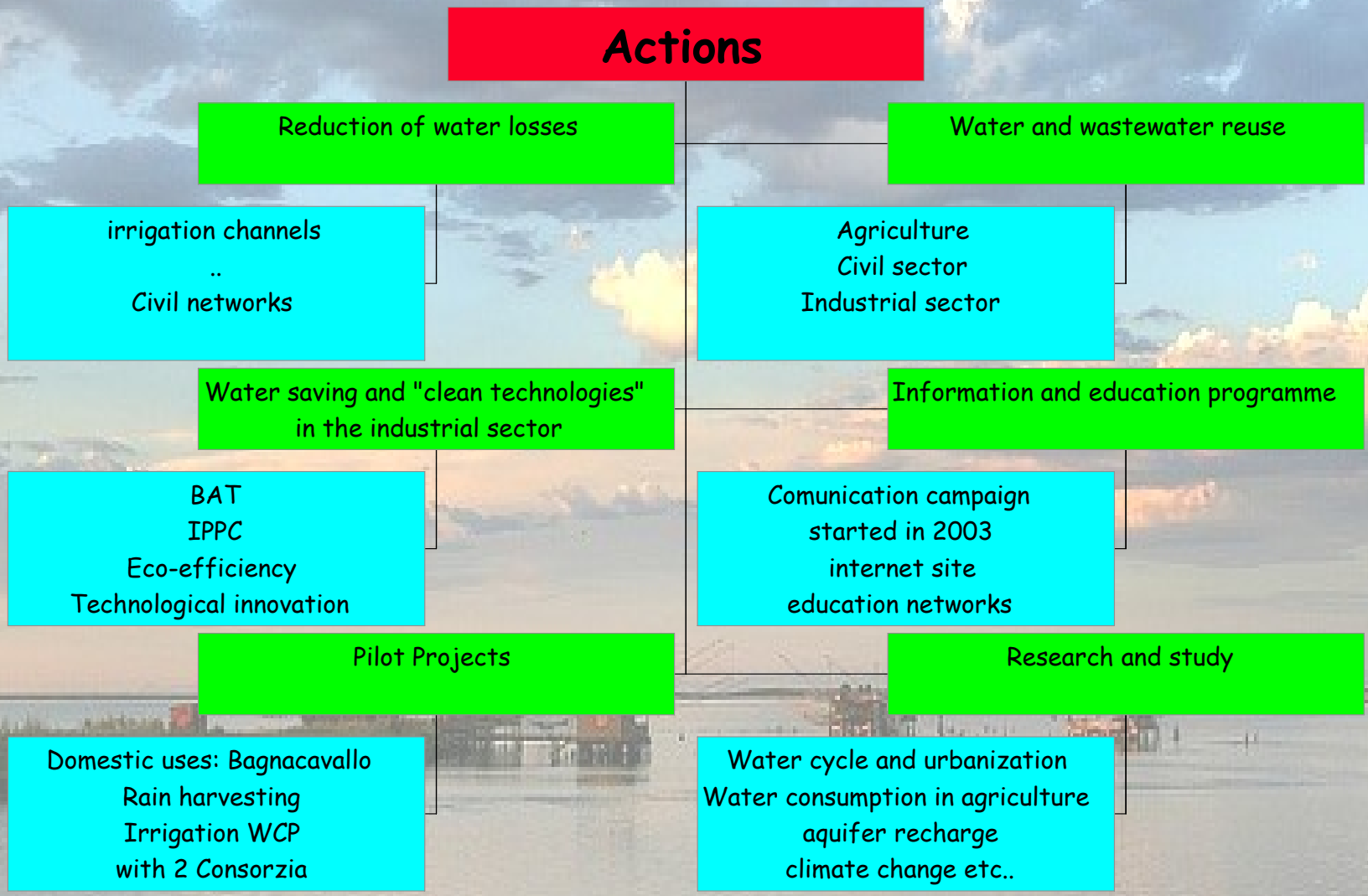
Versione 2004

Giuseppe Bortone, Tiziano Draghetti, Emanuele Cimatti

DIREZIONE GENERALE AMBIENTE E DIFESA DEL SUOLO E DELLA COSTA

Servizio Tutela e Risanamento Risorsa Acqua

The Water Conservation Program of Emilia-Romagna



Public regulation

- **Effective public regulation** of drinking water systems, based on the following pillars:
  - water is public
  - water is an inalienable human right
  - water is not a commercial product like any other
- nevertheless cost recovery strategies need to be applied for all water uses;
- once the public control and regulation is empowered, services can be also privatised, but it's fundamental to maintain the separation between regulation and service management

- Since 1994, we have a **tariff regulation system** that has shown to be effective in attracting investment capacity and regulating water consumption
- Now we are studying how to improve the system

A new tariff system

- The actual tariff covers the cost for drinking water, sewerage and treatment (1.3 Euro/m^3, based on consumption)
- Growing tariff charge with increasing consumption (block tariff)
- What is needed it's a tariff working either on demand side and on supply perspectives
- The policy option is to decouple the water companies revenues from the amount of water they sell

The ER new tariff system

- Water tariffs that provide adequate incentives (also to the water companies) to use water resources efficiently
- The new regional tariff gives them an incentive to increase the efficiency of water usage rather than to sell extra water

The ER new tariff system

- “Social” tariff for putting the right price on water and to allow private households, irrespective of their available financial resources, to adequate water provision.
- Pro-capita tariff for large families
- First applications and first successful results (decreasing per-capita consumption)