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Coping with Water Scarcity in River Basins
Worldwide: Lessons Learned from Shared
Experiences (Martz Summer Conference, June
9-10)

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SLIDES: Water Management in Spain

Teodoro Estrela

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Water Management in Spain

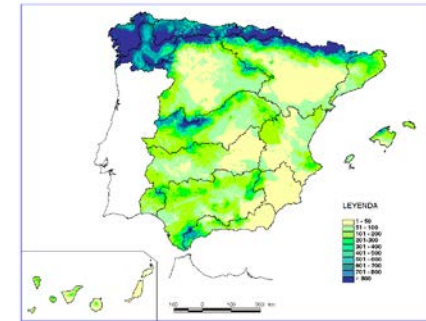
Teodoro Estrela

Júcar River Basin Authority, Spain

Introduction

Water is a scarce resource in Spain, with conflicts among water demands.

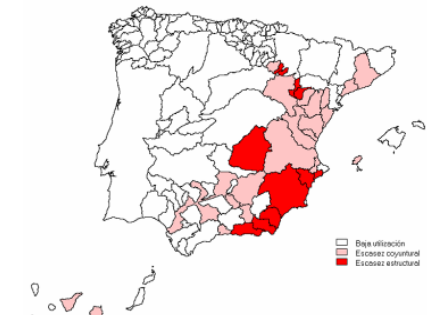
- Population: 45 Millions and 64 Millions of tourists.
- 3,5 Millions Ha of irrigated areas
- Ecological flow regimes.



Mean annual runoff (mm)



Mean annual water demand (mm)



Water exploitation index: water consumption / available water resource

The Spanish Governance System

- Basin management unit
- Stable legal and institutional framework
- Integrated Water Resource Management
- Environmental flows are a restriction for water uses
- Water planning: NHP, RBMPs, DMPs and FRMPs
- Water allocation set out in the RBMPs
- Measures to reach good status in RBMPs
- State ownership on waters. Licensing regime for private use
- User-pays principle applied
- Users' participation and public participation in water management.

Long tradition in basin management

- Creation of the “Hydrological Union Confederation of the Ebro river” in 1926.
- In the beginning it was an original associative formula between Administration and users to foster hydraulic works.



Current Spanish river basin districts



Spanish-Portuguese river basins districts

- Transboundary basins: 46% of the surface of the Iberian Peninsula.
- The Albufeira Agreement was signed in 1998 to improve cooperation between Portugal and Spain in water issues.



Spanish-Portuguese river basin districts

River Basin Organisations

- River Basin Districts do not coincide with the territory of Regional Administrations.
- River Basins which have territory of more than one regional are managed by Central Administration.



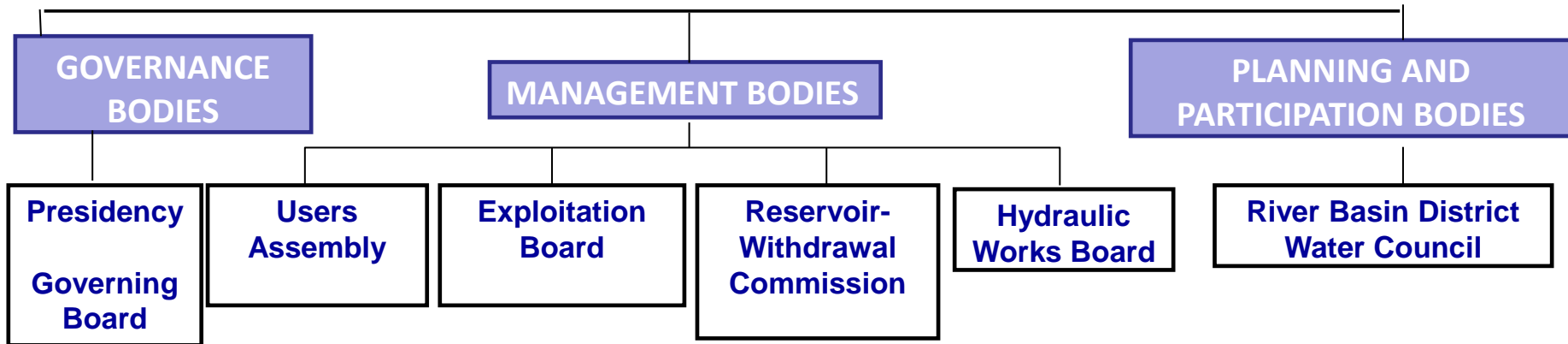
Autonomous regions



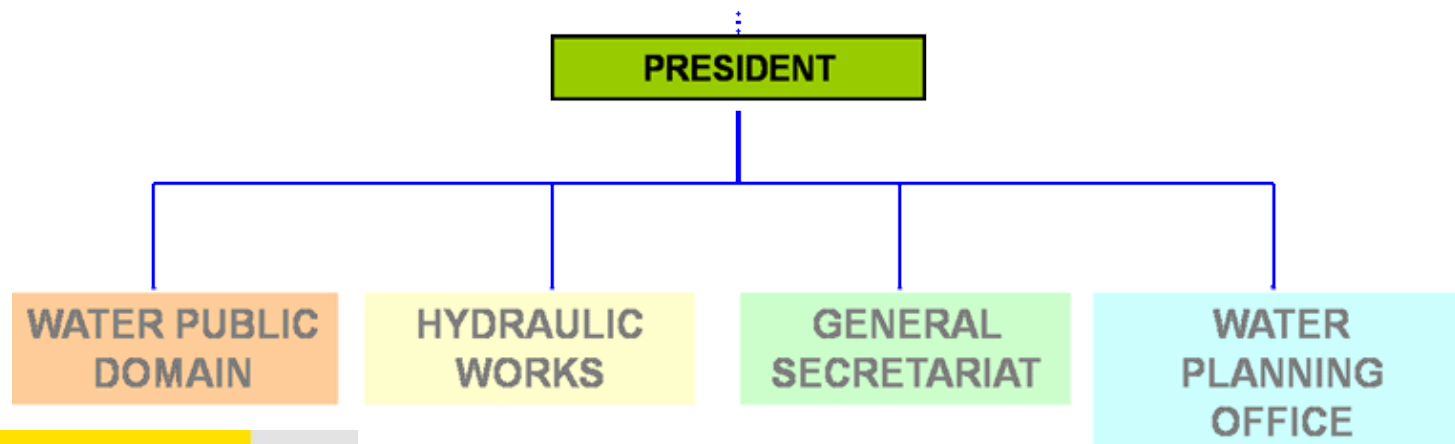
River basin districts

River Basin Organisations

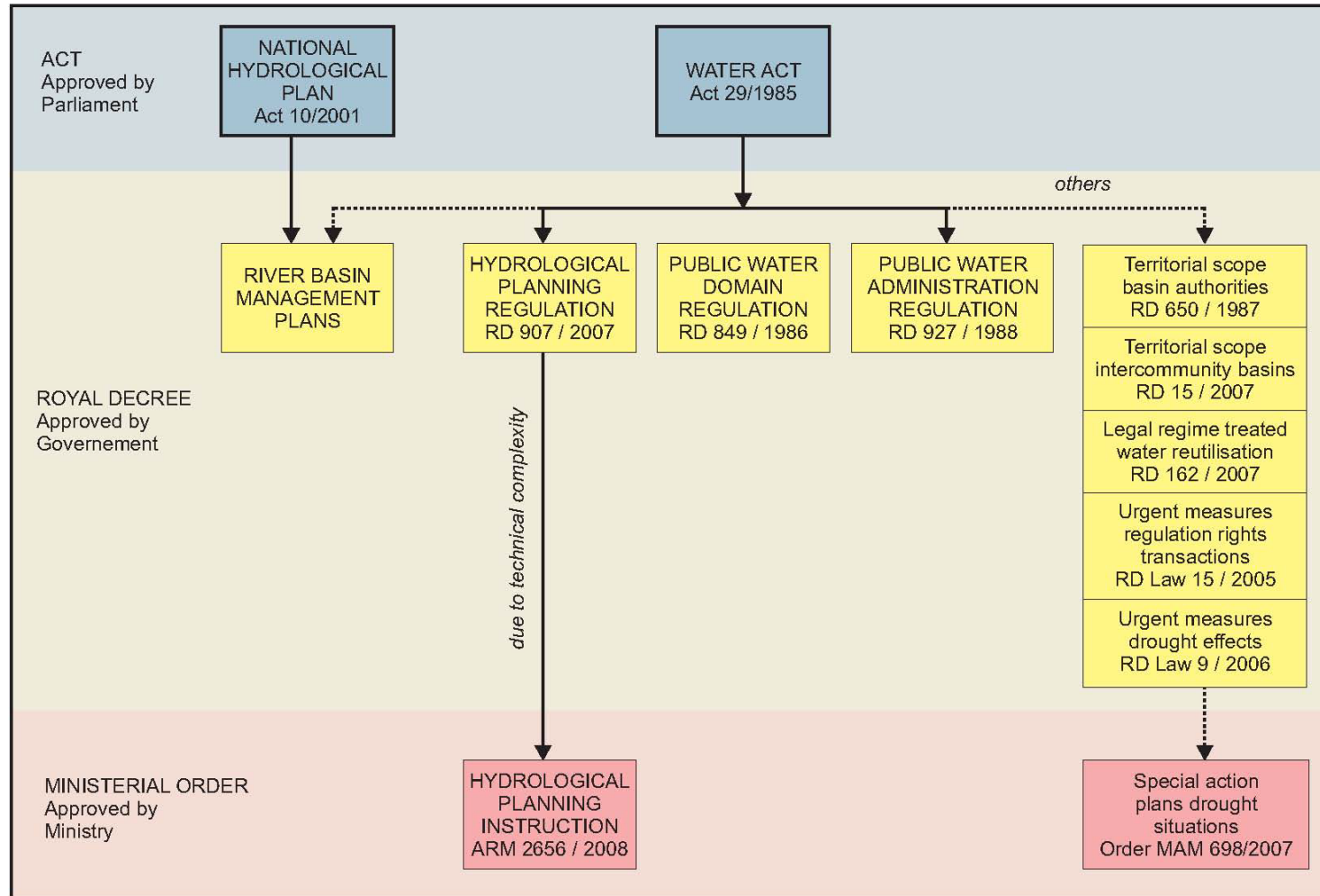
Main bodies of River Basin Organisations



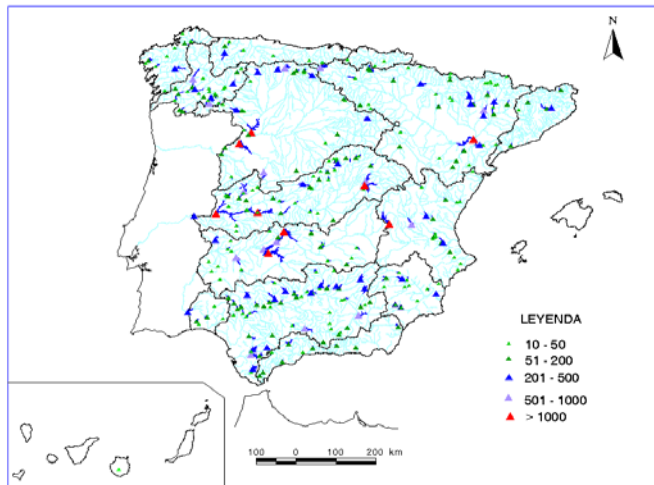
Technical units of River Basin Organisations



Legal framework



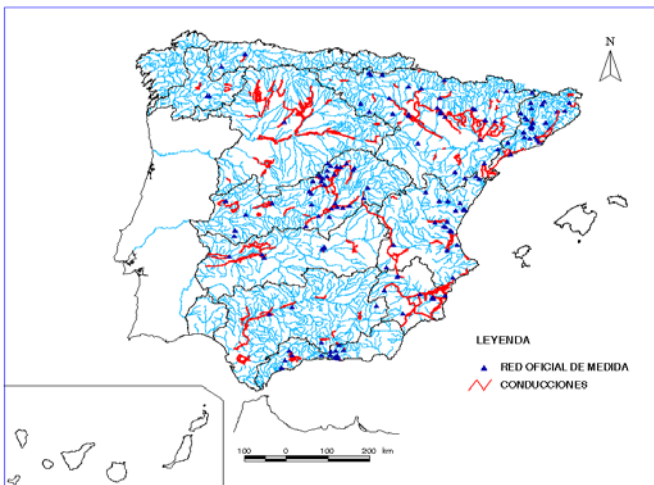
IWRM policies



Map of reservoirs with a capacity over 10 hm³



Installation of desalination



Map of the main supply and irrigation conductions

IWRM policies:

- conventional resources: surface and groundwater.
- non conventional resources: desalination and water reuse.

Ecological flows

- The Spanish legislation establishes ecological flow requirements as a restriction to water uses.
- Ecological flows are determined in the RBMPs: minimum seasonal flows, maximum seasonal flows, flow change rate and flood flows.
- Importance of the harmonisation process: no serious tensions with the consumptive water uses.



Water Planning

- Objectives: good status of water bodies and water demand satisfaction.
- Water planning is carried out through River Basin Management Plans and the National Water Plan.
- Plans are mandatory (approved by Law-National- and Decrees-River Basins-) and represent basic rules for the protection of water and for providing water use rights.
- Related sub-plans: Drought Management Plans and Flood Risk Management Plans
- Participation is a basic requirement



Water allocations and licensing system

- To establish a license there must be a previous water allocation contemplated in the River Basin Management Plans.
- Water Act is reformed in 1999 looking for greater flexibility: new water markets tools (experiences during drought 2005-2008)



Measures to reach the water planning objectives

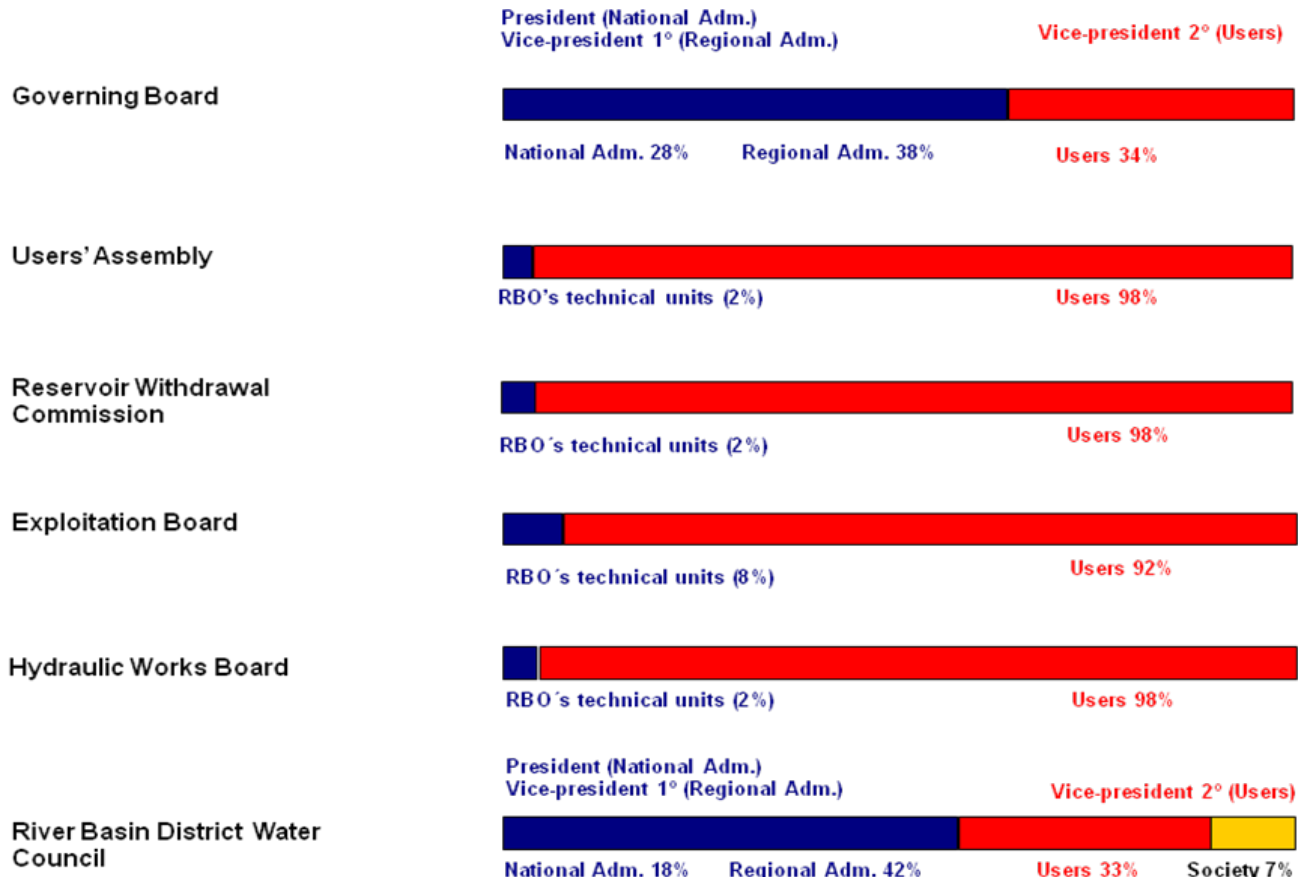
- The River Basin Management Plans define measures to be applied to reach the water planning objectives: supply water demand and to reach good status for water bodies.
- These measures are compulsory. Any deviation must be justified adequately.
- Main measures: sanitation and water treatment, actions against diffuse pollution, water use efficiency, ecological river restoration, water governance,

User-pays principle

- The economical-financial regime for waters is established by the Spanish Water Act.
- The competent Administrations have to establish the mechanisms to charge the costs of water services, including environmental and resources cost, to the final users.
- Water users pay to River Basin Authorities for abstraction, storage and water transportation. The pricing tools to receive these payments are the regulation fee and the water use tariff.



User's participation in Water Management



Participation of users in the governing, management and planning bodies of the Spanish River Basin Organisations