



# CONVENTION ON THE COOPERATION FOR PROTECTION AND SUSTAINABLE USE OF THE WATERS OF THE PORTUGUESE- SPANISH SHARED RIVER BASINS

- **PEDRO CUNHA SERRA - MINISTRY OF THE ENVIRONMENT - PORTUGAL**



## BACKGROUND

### Natural hydrological conditions in the Iberian Peninsula:

- rainfall very unevenly distributed in space and time
- mean annual rainfall in the order of 900 mm
- $400 \text{ mm} < \text{mean annual rainfall} < 2500 \text{ mm}$
- rainfall is highly seasonal
- mean annual runoff in the order of 350 mm
- medium size rivers may dry up during dry season
- inter annual irregularity of runoff in the Guadiana river in natural conditions is up to 1/40

## BACKGROUND

### Water uses

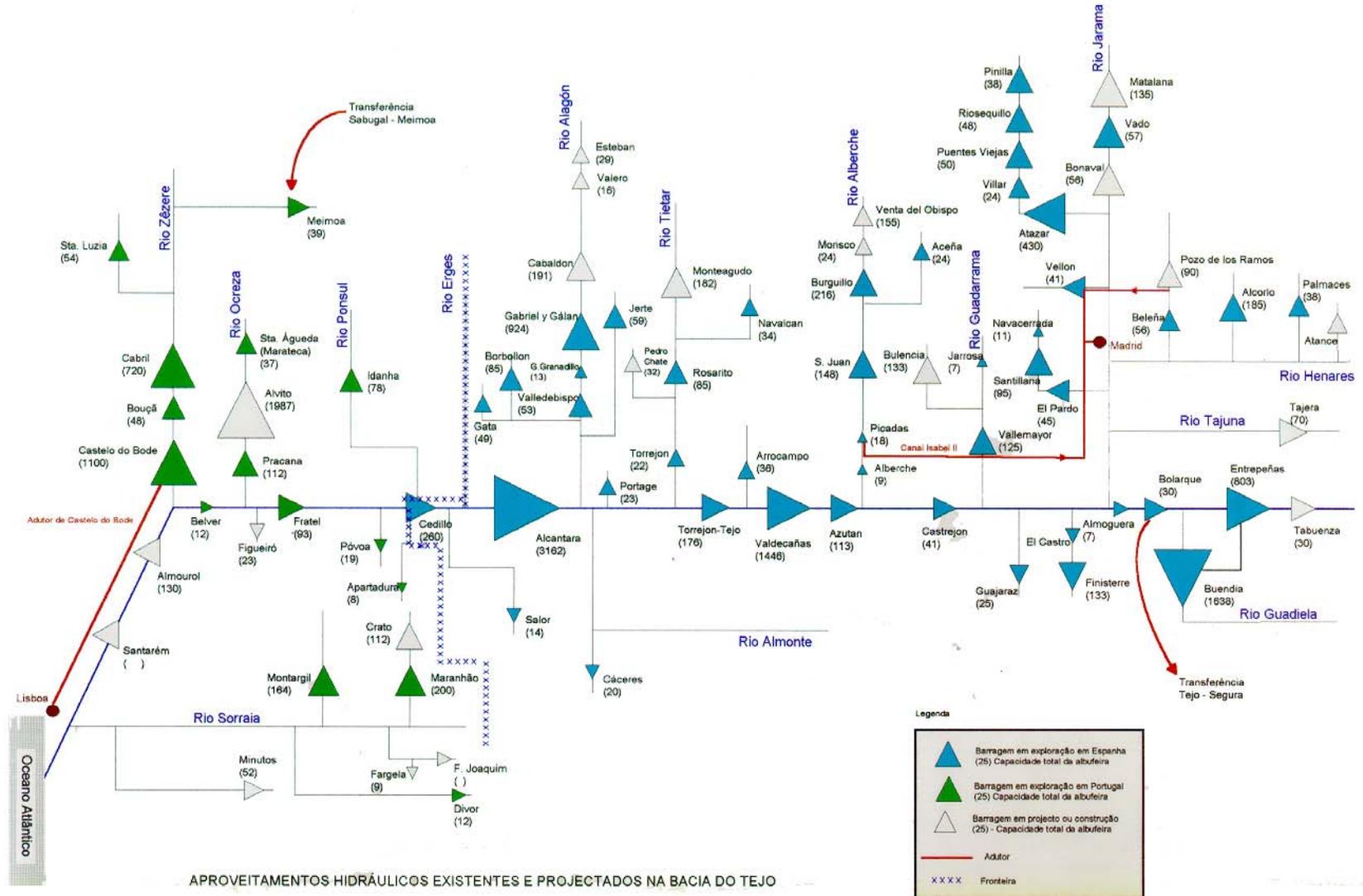
**Irrigation**, a highly consumptive use, represents up to 70~75% of all uses.

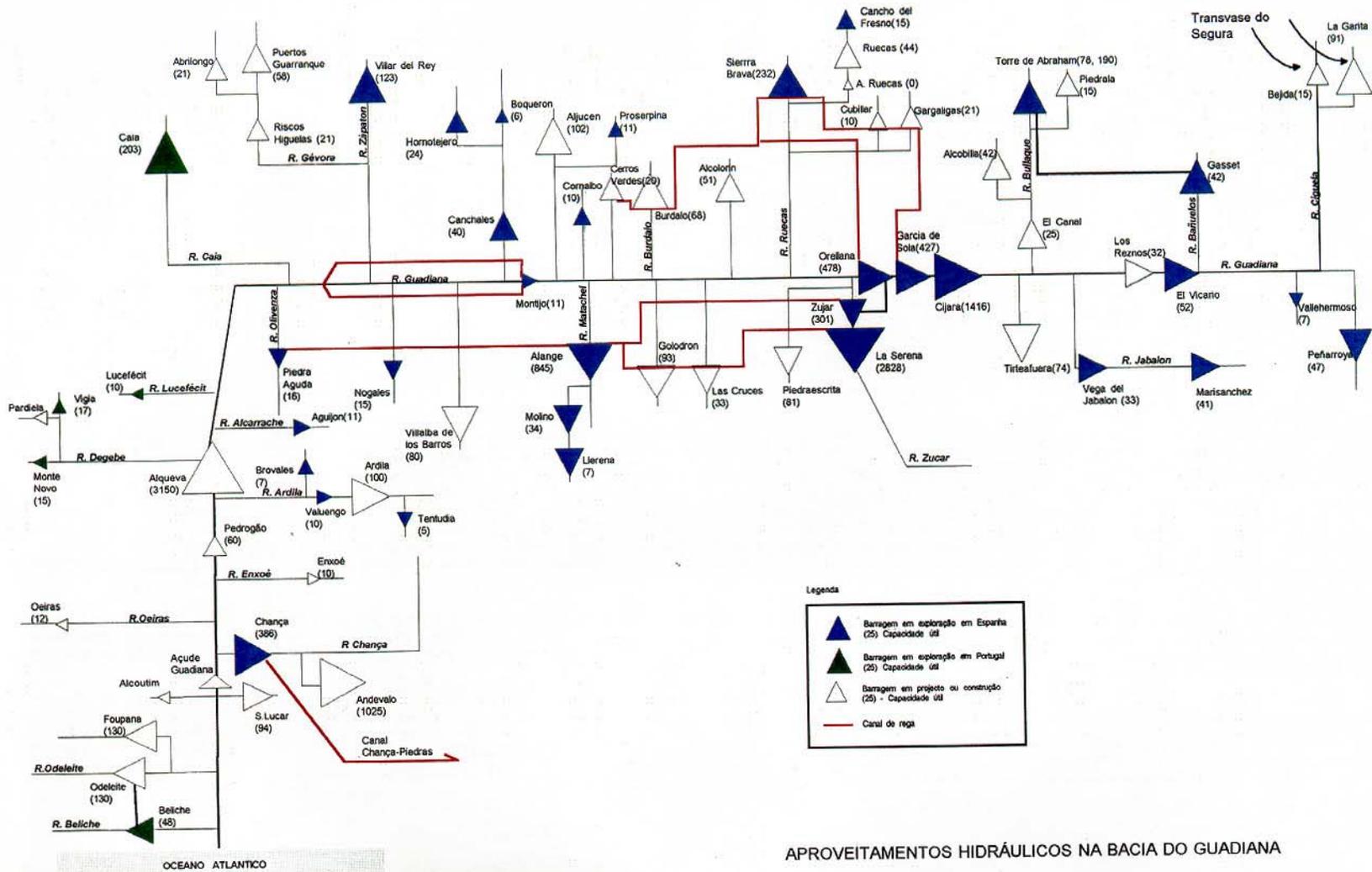
**Tourism** - during summer and concentrated in the dry coastal areas.

- ✓ Water consumption is very strongly seasonal.
- ✓ Uses strongly depend on massive water regulation schemes and, in some cases, on long distance river basin water transfers.

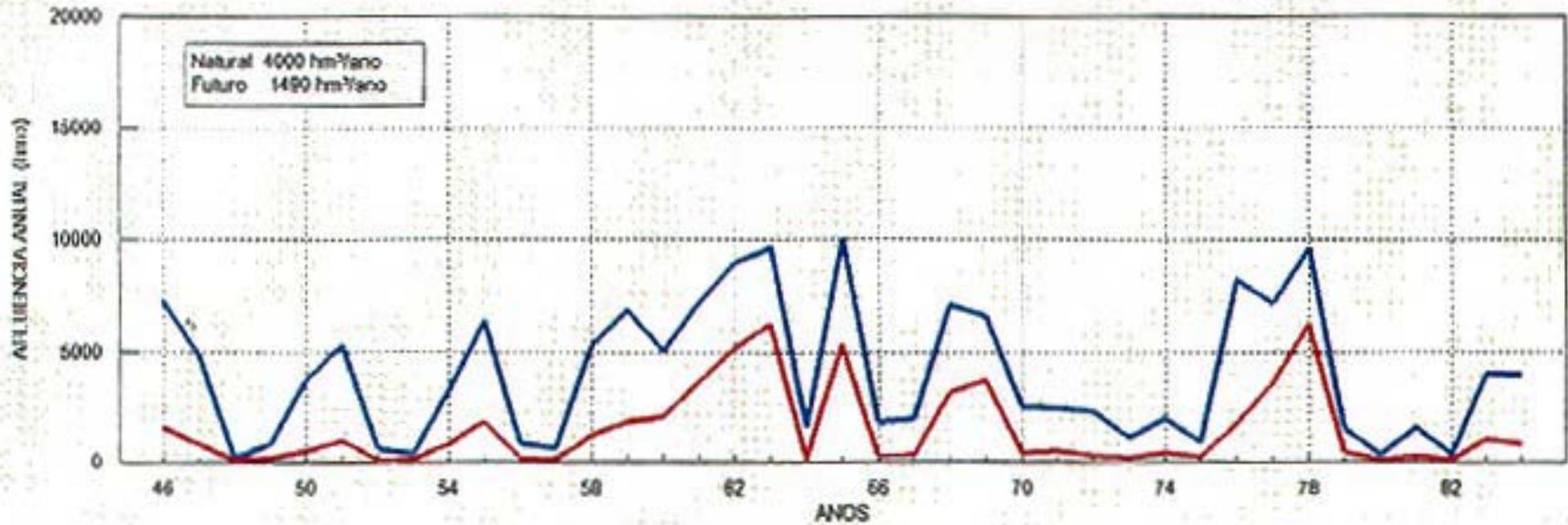
## BACKGROUND

- As a consequence, river flow regimes are strongly modified, with increased variation of annual flows, lower flows during dry season and longer duration of this season.
- Increased concentration of salts, nitrates and chemicals in the waters (surface as well as ground waters).
- Organic pollution due to poor urban and agro-industrial wastewaters treatment.
- Situation common to Spain and Portugal, but more severely endured in Portugal, it being the downstream country.



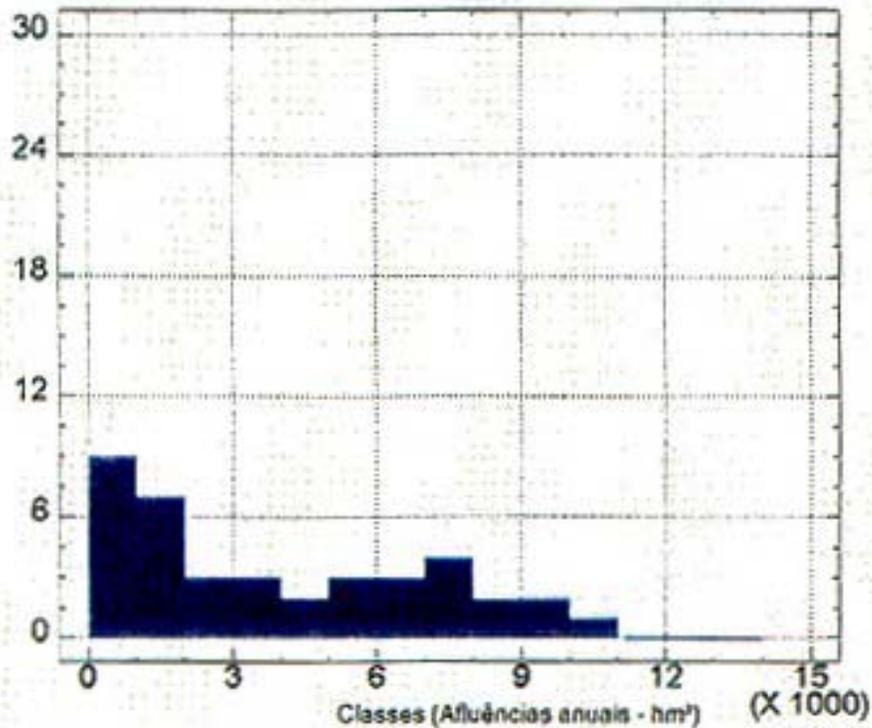


## ANNUAL FLOWS OF THE GUADIANA RIVER AT THE BORDER

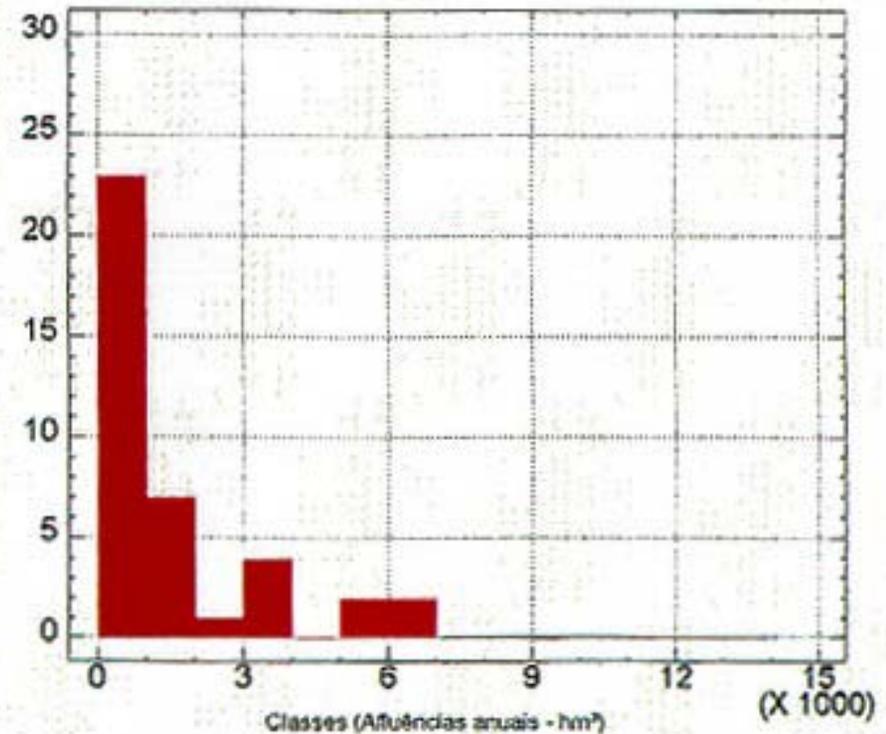


## HISTOGRAMS OF ANNUAL FLOWS OF THE GUADIANA AT THE BORDER

NATURAL CONDITIONS



SITUATION IN FUTURE CONDITIONS



## BACKGROUND

- **1993**: Spanish National Hydrological Plan was presented where more intense water uses and new reservoirs and water transfer schemes were foreseen. Portuguese authorities were caught by surprise because of absence of notification.
- **Alqueva** water scheme was resumed in Portugal at the same time, requiring an increasing attention on the issue of Guadiana river flows (and ecosystems), in one of the poorest and driest regions of Europe.

## LEGAL FRAMEWORK

- **1864** Treaty of Limits
- **1866** Rules for the use of international stretches of rivers
- **1964** Convention for the hydropower use of the international stretches of the river Douro and its tributaries
- **1968** Convention for the hydraulic use of the international stretches of rivers Minho, Lima, Tejo, Guadiana and Chança, and its tributaries.
- **1991** and **1992** UN Economic Commission for Europe Conventions (Helsinki and Spoo)
- **EU directives** (framework directive)

## KEY ISSUES

- Co-operation
- Co-ordination
- Environmental protection
- Sustainable development
- Exchange of information
- Consultation
- Impact mitigation
- Flow guarantees



## CO-OPERATION

- The Parties agree to co-operate for the **protection** of surface and ground waters and the **aquatic and terrestrial ecosystems**, and for the sustainable use of the water resources of the shared **river basins**, in accordance with the applicable principles and norms of the Convention and of the international and EU laws.
- Two joint bodies are created by the Convention for the co-operation: the **Commission for the Application and Development of the Convention** and the **Conference of the Parties**.

## CO-ORDINATION

The Parties agreed to co-ordinate the water management at river basin level through the activity of the Commission:

- co-ordination of procedures for the prevention and control of pollution (combined approach);
- co-ordination of programs of measures for the implementation of EU directives;
- co-ordination of actions for flood control and drought mitigation;
- co-ordination of monitoring activities



## ENVIRONMENTAL PROTECTION

- The Convention applies to the activities aiming at the promotion and the protection of the water quality and to the activities which may affect the environment and the quality status of the waters.
- The Parties will adopt the measures and actions leading to the sustainable use of the waters, in accordance with the unity of the river basins, with the exceptions determined by the Convention.
- In exceptional hydrological situations the instream flows will have a high priority in water management.

## SUSTAINABLE DEVELOPMENT

- All the activities under the Convention aim at the sustainable development, and the uses of the waters must cope with this principle.

## EXCHANGE OF INFORMATION

- The Parties will proceed to the exchange of information on a regular basis on:

rainfall

water resources

permits

water uses

programs of measures

river basin plans

projects

## EXCHANGE OF INFORMATION

- The information will be available to the public according to the criteria of the Aarhus Convention and EU directive.
- The information will be displayed to the EC and international bodies whenever required.

## CONSULTATION

- Transboundary impact assessment of projects.
- Transboundary impact assessment for plans, whenever appropriate.

- **IMPACT MITIGATION**
- Mitigation of project impacts
- Mitigation of droughts
- Flood control
- Prevention of accidental pollution incidents

## FLOW GUARANTEES

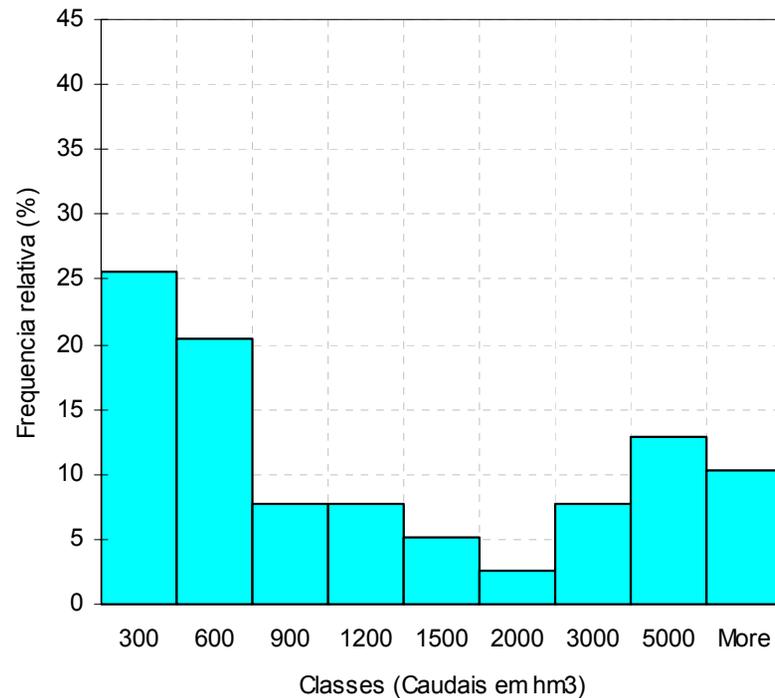
- For each river, in chosen sections, a minimum flow regime is guaranteed except for very dry years, according to the following criteria:
  - geographic, hydrologic and climatic characteristics;
  - instream flow requirements;
  - present and foreseeable sustainable uses of waters;
  - existing infrastructures, especially those with capacity for flow regulation useful for the fulfillment of the regime;
  - the regime of the 1964 and 1968 Conventions.

## FLOW REGIME

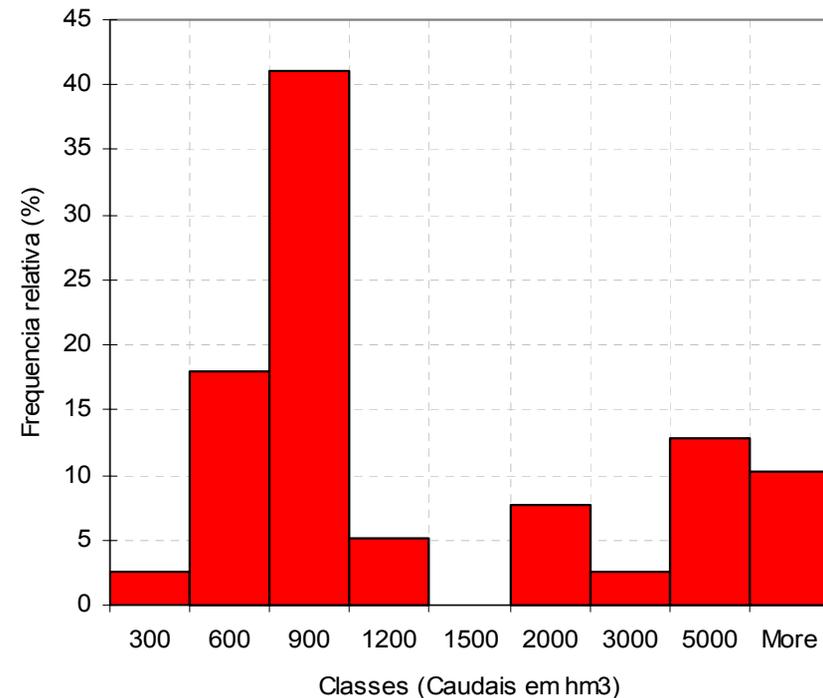
- The flow regime is not applicable in very dry years, when the reference precipitation is below some limit.
- For the Guadiana river, the volumes of water stored in the reservoirs upstream are also to be considered (drought and water scarcity).
- In such situations the supply of water to the populations, for uses of social nature and instream flow requirements have priority, by this order (irrigation of annual cultures and hydropower will not be attended unless the above mentioned are satisfied).

## ANNUAL FLOWS OF THE GUADIANA RIVER AT THE BORDER

HISTOGRAM OF ANNUAL FLOWS WITHOUT THE CONVENTION



HISTOGRAM OF ANNUAL FLOWS WITH THE CONVENTION



## ANNUAL FLOWS IN THE GUADIANA RIVER AT THE BORDER WITH AND WITHOUT THE CONVENTION

