WATER AND AGRICULTURE
MANCHA ORIENTAL AQUIFER: PLANNING AND MANAGING
ACTIONS SHARED WITH USERS

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INDEX:

I.- MANCHA ORIENTAL AQUIFER

II.- DEVELOPED MEASURES

III.- SHARED MANAGEMENT WITH USERS

IV.- PUBLIC OFFER FOR ACQUISITION OF WATER RIGHTS

V.- NEW BASIN PLAN AND CONCLUSIONS
Groundwater Body 080.129 Mancha Oriental
Surface: 7.286 km²

Demanda total por uso
- Agrícola: 17%
- Urbano: 3%
- Industrial: 1%
- Ganadero: 0%
- Recreativo: 79%
MANCHA ORIENTAL AQUIFER

Piezometric levels evolution

- 08.29.055 (T.M. Roda (La))
- 08.29.056 (T.M. Albacete)
- 08.29.059 (T.M. Barrax)
- 08.29.036 (T.M. Albacete)
- 08.29.038 (T.M. Carcelen)
- 08.29.080 (T.M. Valdeganga)
Important relationship river-aquifer

MANCHA ORIENTAL
AQUIFER

Picazo – Los Frailes

Los Frailes – El Molinar

Ganancias-Pérdidas (hm³/mes)

año

aH 04-05  aH 05-06  aH 06-07  aH 07-08

Ganancias-Pérdidas (hm³/mes)

aH 04-05  aH 05-06  aH 06-07  aH 07-08
Hydrological Júcar Basin Plan

Need to limit extractions and ensure sustainability to the aquifer and its exploitation


Water resources in Mancha Oriental Aquifer
- 320 hm³/year of groundwater resources
- 80 hm³/year of surface resources for the substitution of pumping
- Reserve of 65 hm³/year for the consolidation of existing irrigation and possible irrigation of Royal Decree 950/1989 included in the National Irrigation Plan (PNR).
- 1 m³/s supply Albacete city

Integration in only users’ community: JCRMO
Characterisation, regularisation and control of exploitations
2 m³/s minimum flow Alarcón reservoir
MEASURES

Pumping substitutions

| Modernisation and consolidation of Irrigation in CR Balazote La Herrera Phase I. Shock Plan. | In course | SEIASA of Meseta Sur | 17.631 | Modernisation of 5,349 ha of irrigation |
| Supply of ETAP in Llanos, phase I | In course | Aguas del Júcar, SA | 49.204 | Materialisation of the reserve of the Hydrological Basin Plan in force |
| Supply of ETAP in Llanos, phase II | In course | Confederación Hidrográfica del Júcar | 8.600 |
| Supply of ETAP in Picazo, phases I y II | Projected | Confederación Hidrográfica del Júcar - Aguas de Castillala Mancha | 70.000 |
| Infrastructures for the substitution of Pumpings in Mancha Oriental, phase I | Being exploited | Consejería de Agricultura de la JCC | 7.575 | Materialisation of the Allocation of 80 hm³/year of Hydrological Basin Plan In force |
| Infrastructures for the substitution of Pumpings in Mancha Oriental, phase II | Projected | Confederación Hidrográfica del Júcar | 103.640 |
### Agricultural extractions stabilisation

#### Agricultural consumption by origin in Mancha Oriental

<table>
<thead>
<tr>
<th>Year</th>
<th>Mixed and groundwater (hm³/year)</th>
<th>Compensation ATS (hm³/year)</th>
<th>Pumping substitution (hm³/year)</th>
<th>Groundwater extraction (hm³/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004/05</td>
<td>404.8</td>
<td>6.4</td>
<td>21.5</td>
<td>376.9</td>
</tr>
<tr>
<td>2005/06</td>
<td>369.3</td>
<td>6.4</td>
<td>8.4</td>
<td>354.5</td>
</tr>
<tr>
<td>2006/07</td>
<td>286.6</td>
<td>6.4</td>
<td>6.3</td>
<td>273.9</td>
</tr>
<tr>
<td>2007/08</td>
<td>307.0</td>
<td>6.4</td>
<td>4.0</td>
<td>296.6</td>
</tr>
</tbody>
</table>
Urban extraction reduction

Albacete supply

Piezometric stability

Higher stability river-aquifer
Alarcón Reservoir management during drought

Volumen en el embalse de Alarcón al 29 de septiembre

Vol. 29-sep-2008 = 98.5 hm³ (9 %)
Vol. 29-sep-2007 = 71.1 hm³ (6 %)
Vol. 29-sep-2006 = 44.3 hm³ (5 %)
Vol. 29-sep-med. = 216.2 hm³ (19 %)
User’s communities are Public Rights Corporations, ascribed to the basin river authority that participate in the nature of Public Administration: Administrative authority.

- They have legal personality and own patrimony.
- Governed by their Statutes and By-Laws and act according to procedures established by the Water Law and its development regulations, as Legal Regime for Public Administrations and Common Administrative Procedure.
- Basic role: to administrate and guard the good functioning of the exploitation.
- Internal organisation
  - General Board or Assembly
  - Governing board
  - Jury/s
- Economical regime
  - Water consumption fee
  - General expenses contribution fee
Advantages:

- Resource management by direct beneficiary.
- Work relief of the basin organisation: non-viability for personalised treatment for all the incidents.
- Proximity of Administration to the citizen and participation in the decision-making process (formal and informal).
- Co-responsibility.
- Sustained exploitation of water resources.
  - Optimal current performance of exploitations
  - Future generations’ needs satisfaction: rationalisation culture, economy and protection of water.

Inconvenients:

- Pressure to hierarchic authority: legal, economic and social.
- Diverse degree of management efficiency depending on it being:
  - Exploitation: good water administration.
  - Administrative and economic regime: lack of specialisation and professionalism.
- Adoption of agreements – majority regime.
• JCRMO: Public Rights corporation ascribed to the Júcar River Basin Authority (JRBA), created in 1994 by initiative of users
• Objective: sustainable management of water exploitations
• Acknowledged as Users’ Community of the aquifer Mancha Oriental on 19/2/1999 by resolution of the JRBA
• > 800 members and > 90,000 ha
• Very active implication of users in planning and management

- Exploitation characterisation
- Definition of the pumping substitution actions
- Public Offer for Rights Acquisition (OPAD)
- Withdrawal Commission
- Permanent Drought Commission of the Governing Board
- Governing Board
- Water Council
- Public Offer for Water Rights Acquisition (POWRA)
- Special Drought Plan
- Hydrological Basin Plan in Júcar
PUBLIC OFFER OF WATER RIGHTS ACQUISITION (POWRA)

Objective:
Flow maintenance downstream of the Alarcón Reservoir

Júcar river in Summer 1995

Júcar river during Summers 2007 and 2008
Reduction of the use 2007-08

AGREEMENT FOR THE PUBLIC OFFER OF WATER RIGHTS ACQUISITION (OPAD) IN THE MIDDLE SECTION OF THE JUCAR BASIN FOR ENVIRONMENTAL REASONS

Objective: To reduce water extractions in the middle section of the Júcar river, both in superficial takings, and in subterranean takings with a higher affection to the river.

• 2007 Rights acquisition through the reduction of irrigated surfaces.
• 2008 Rights acquisition through the use of less water-consuming (spring crops) crops.
Legal Framework

- **Water Law. Art. 71. Rights Exchange Centres**
  - In certain situations, as drought, authorises to, by agreement of the Ministers’ Council, constitute Water Rights Exchange Centres.
  - Basin organisations will be authorised to develop public offers of water rights acquisition to later give them to other users, through the price payment.

- **Royal Decree Law 9/2006, of 15 September**, by which urgent measures are adopted to palliate the effects produced by drought in towns and agricultural irrigation exploitations in certain Hydrological basins.
  - Third additional disposition: Authorises as destination of the acquired resources the consecution of **good status of the groundwater bodies**.....
Main Characteristics

Selection criteria:
1. Affection to the river (0-20 points)
2. Offered price (0-20 points)

Geographical scope: 28,000 has
Rights volume: 148 hm³
Temporary character: seasons 2007-08

<table>
<thead>
<tr>
<th>Year</th>
<th>Maximum amount</th>
<th>Minimum amount</th>
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<tbody>
<tr>
<td>2007</td>
<td>0.1957 €/m³</td>
<td>0.13 (€/m³)</td>
</tr>
<tr>
<td>2008</td>
<td>0.25 €/m³</td>
<td>0.20 (€/m³)</td>
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**OPAD 2007:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications submitted:</td>
<td>119</td>
</tr>
<tr>
<td>Rights volume (hm³)</td>
<td>56.8</td>
</tr>
<tr>
<td>Given-up volume (no economic compensation) (hm³)</td>
<td>22.9</td>
</tr>
<tr>
<td>Offered volume (hm³)</td>
<td>27.3</td>
</tr>
<tr>
<td>Materialised budget (million€)</td>
<td>5.5</td>
</tr>
<tr>
<td>Reserved volume (hm³)</td>
<td>6.6</td>
</tr>
</tbody>
</table>

**OPAD (I,II,III) 2008:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications submitted:</td>
<td>234</td>
</tr>
<tr>
<td>Rights volume (hm³)</td>
<td>109.6</td>
</tr>
<tr>
<td>Given-up volume (no economic compensation) (hm³)</td>
<td>12.5</td>
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<tr>
<td>Offered volume (hm³)</td>
<td>50.6</td>
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<tr>
<td>Provisionally materialised budget (million€)</td>
<td>12.7</td>
</tr>
<tr>
<td>Reserved volume (hm³)</td>
<td>46.5</td>
</tr>
</tbody>
</table>
Effect of Public Offer for Rights Acquisition in 2008 for summer crops

Better relationship river-aquifer
New Basin Plan

Renewable water resources reduction
Conclusions

- The current Hydrological Basin Plan has allowed for a better and sustainable water management.
- It is need a sharing management with groundwater users.
- Public Offer for Water Rights Acquisition is a good example of environmental water resources sharing management.
- The new Hydrological Basin Plan (WFD) sets new objectives and uncertainties in the consecution of the good quantity status:
  - Reduction renewable resources
  - Need to incorporate environmental requirements
  - No disproportioned costs
  - With Public Participation:
    - Users
    - Rest of social agents
Thanks for your attention !