

DROUGHT MANAGEMENT PLANS IN SPAIN

Dr Teodoro Estrela Monreal
Deputy Water Spanish Director

Drought management as emergency situation

Spanish Water Law (TRLA), in **article 58**, foresees in extraordinary drought situation the adoption, by the Government, of necessary measures to overcome these situations, related to the use of the public water domain.

Additional decrees for urgent extraordinary measures are used.

Policy bases for drought planned management

Law 10/2001, July 5, of the Hydrological Water Plan, establishes the bases for the drought planned management.

Article 27. Drought management

Section 1. The Ministry of Environment, for the intercommunitary basins, in order to minimize environmental, economic and social impacts of eventual drought situations, will establish a global hydrologic indicators system that will allow foreseeing these situations, and will serve as general reference for river basin authorities for the **formal declaration of emergency situations and eventual drought**. This declaration will imply the entry into force of Drought Management Plans (DMP).

Section 2. **Basin Organizations** will develop (in 2 years) drought management plans (DMP) for alert situations and **eventual drought** (exploitation rules and measures)

DMPs

Entities in charge: River Basin Authorities

Legal Framework: Law 10/2001, of the Hydrological National Plan and Directive 2000/60/CE –Art. 4.6-

Objective: Minimize environmental, social and economic impacts of drought situations

Placement within the planning process: It's a specific plan within the River Basin Management Plans.

DMPs

Summary of their content

Diagnosis:

- Identify and characterize territorial and environmental elements.
Zonification
- Analysis of historical droughts and drought characterization
- Definition of indicators, thresholds and drought phases

Program of Measures (POM):

- Definition of general measures and specific ones for each area to be applied in each drought phase

Management and follow-up system:

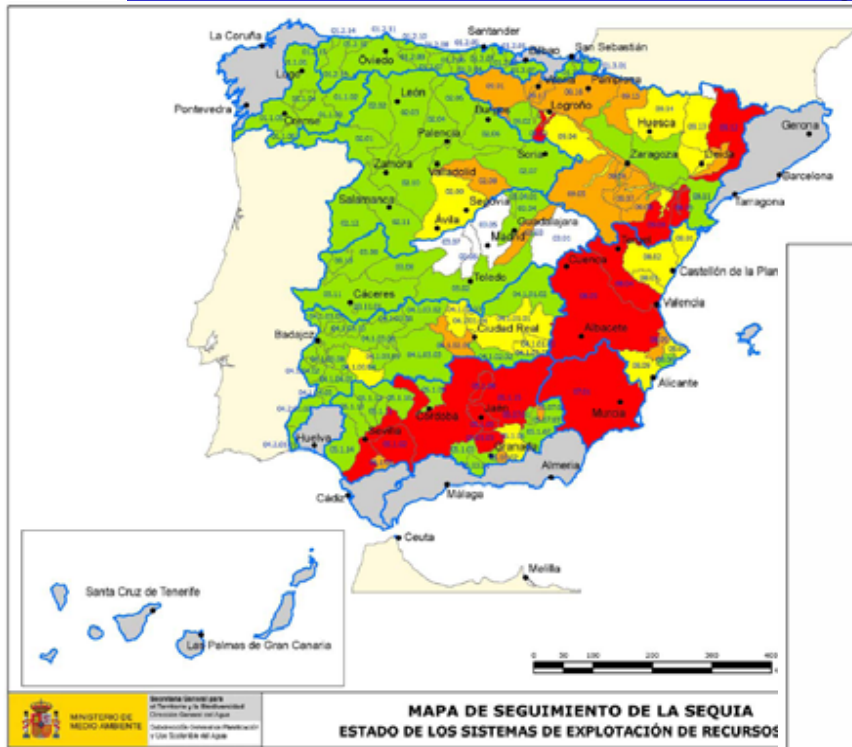
- Organization and management systems
- Definition of indicators for the implementation follow-up and effects

Indicators system

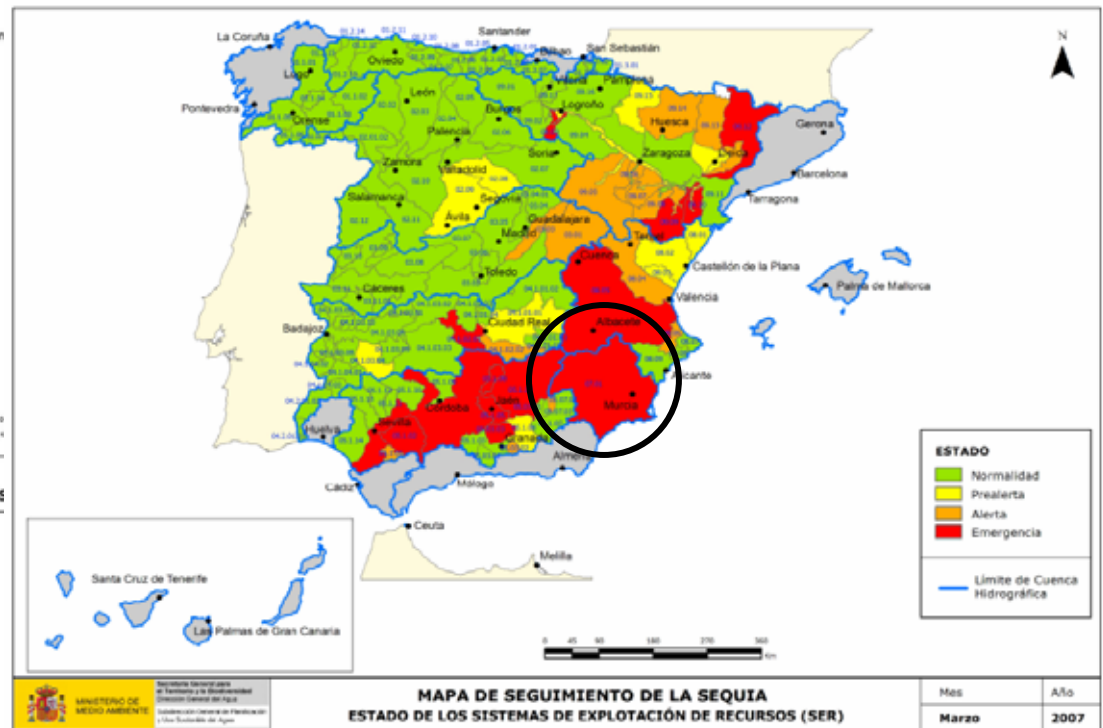
Indicators selection criteria

- Identification of the origin areas of resources associated to specific demand units.
- Selection of indicators types according to their representativity in the resources supply.
 - Precipitation
 - River inflows in natural regime
 - Stored volume in surface reservoirs
 - Piezometric levels in aquifers

Hydrological status, global indicator system



February 2007



March 2007

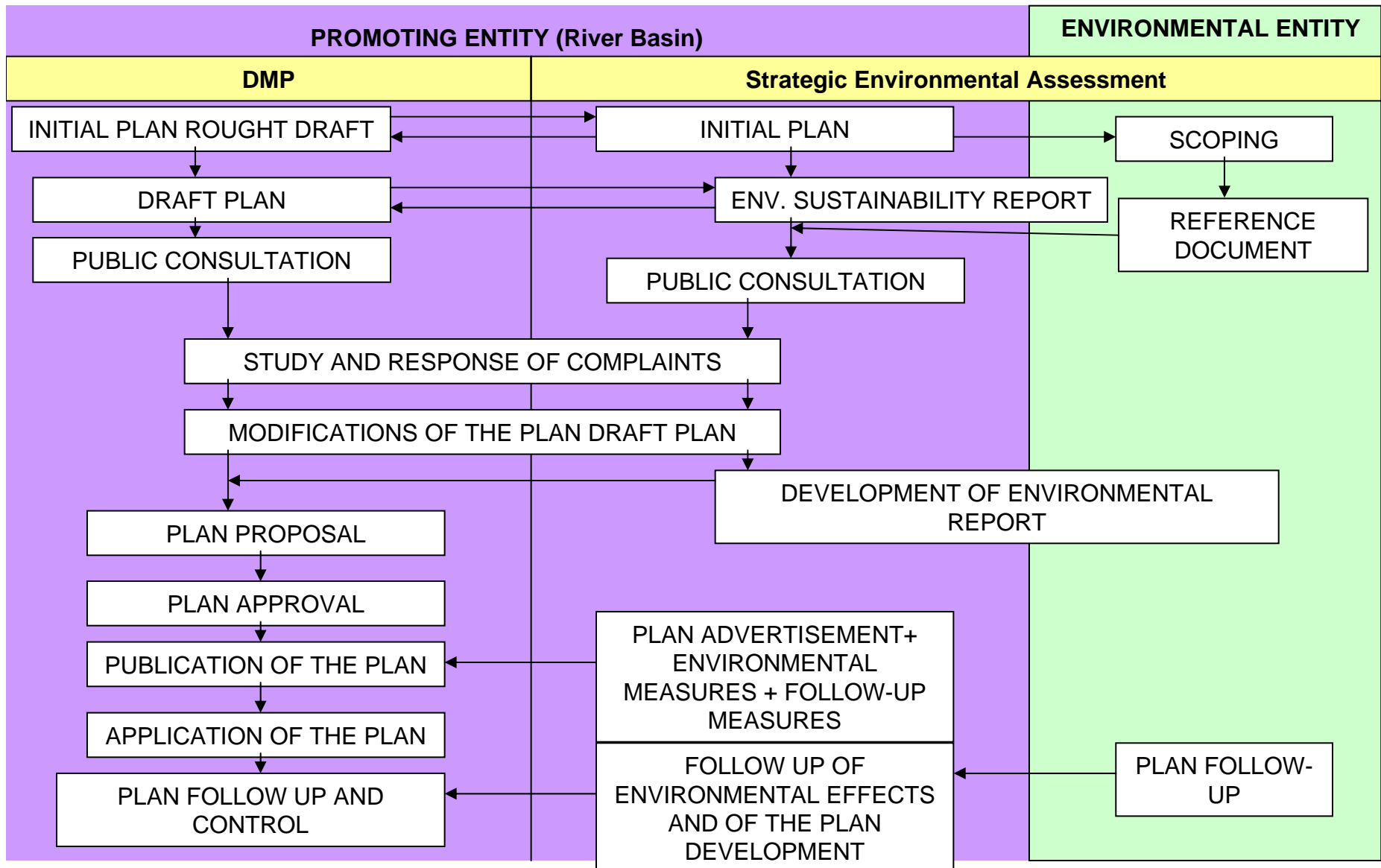
Mitigation drought measures

TYPES OF MITIGATION MEASURES							
Indicator	1-0.5	0.5-0.4	0.4-0.3	0.3-0.2	0.2-0.15	0.15-0.1	0.1-0
Status	Normal	Pre-alert		Alert		Emergency	
Objective	Planning	Information-control		Conservation		Restrictions	
Type of measure	Strategic			Tactics		Emergency	

Main measures to apply during drought situation

- Management rules, savings and use restrictions
- Joint management of surface water and groundwater: drought wells
- Increase non-conventional resources: reuse of treated wastewaters in agriculture
- Water markets.

Development process of the DMPs



National Drought Observatory

The screenshot shows a Microsoft Internet Explorer browser window displaying the website of the Spanish Ministry of the Environment. The browser's address bar shows the URL: http://www.mma.es/portal/secciones/acm/aguas_continent_zonas_asoc/ons/planes_sequia_isas/index.htm. The website header includes the logo of the Ministerio de Medio Ambiente and the domain mma.es. A search bar is located in the top right corner. The main navigation menu includes links for 'Medios de Comunicación', 'Novedades en la web', 'Licitaciones', and 'Biblioteca y Publicaciones'. The main content area features a banner for 'Aguas Continentales, Marinas y Litoral' and a section titled 'Planes Especiales de Sequía e Informes de Sostenibilidad Ambiental'. The left sidebar contains a tree view of the website's structure, with 'Observatorio Nacional de la Sequía' selected. The footer of the browser window shows 'Intranet local'.

Ministerio de Medio Ambiente: Aguas Continentales, Marinas y Litoral: Aguas Continentales y Zonas - Microsoft Internet Explorer

Archivo Edición Ver Favoritos Herramientas Ayuda

Dirección http://www.mma.es/portal/secciones/acm/aguas_continent_zonas_asoc/ons/planes_sequia_isas/index.htm

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Aguas Continentales, Marinas y Litoral

< volver

Planes Especiales de Sequía e Informes de Sostenibilidad Ambiental

De acuerdo con los artículos 10 y 21 de la Ley 9/2006, de 28 de abril, sobre evaluación de los efectos de determinados planes y programas en el medio ambiente, el Ministerio de Medio Ambiente anuncia la apertura del período de consulta pública de las versiones preliminares de los Planes Especiales de Actuación en Situaciones de Alerta y Eventual Sequía y los correspondientes Informes de Sostenibilidad Ambiental, de las Confederaciones Hidrográficas del Norte, Duero, Tajo, Gadiana, Guadalquivir, Segura, Júcar y Ebro. A tales efectos, las versiones preliminares de los Planes Especiales de Actuación en Situaciones de Alerta Eventual Sequía y sus correspondiente Informes de Sostenibilidad Ambiental se podrán consultar desde el 13 de noviembre de 2006 al 15 de enero de 2007 en las sedes y páginas web de las Confederaciones Hidrográficas respectivas, así como en la página web del Ministerio de Medio Ambiente <http://www.mma.es>, apartado de Evaluación Ambiental.

PLANES ESPECIALES DE SEQUÍA (PES) E INFORMES DE SOSTENIBILIDAD AMBIENTAL

- Confederación Hidrográfica del Tajo
- Confederación Hidrográfica del Guadalquivir
- Confederación Hidrográfica del Norte
- Confederación Hidrográfica del Duero
- Confederación Hidrográfica del Ebro

Biodiversidad

Cambio Climático

Calidad y Contaminación

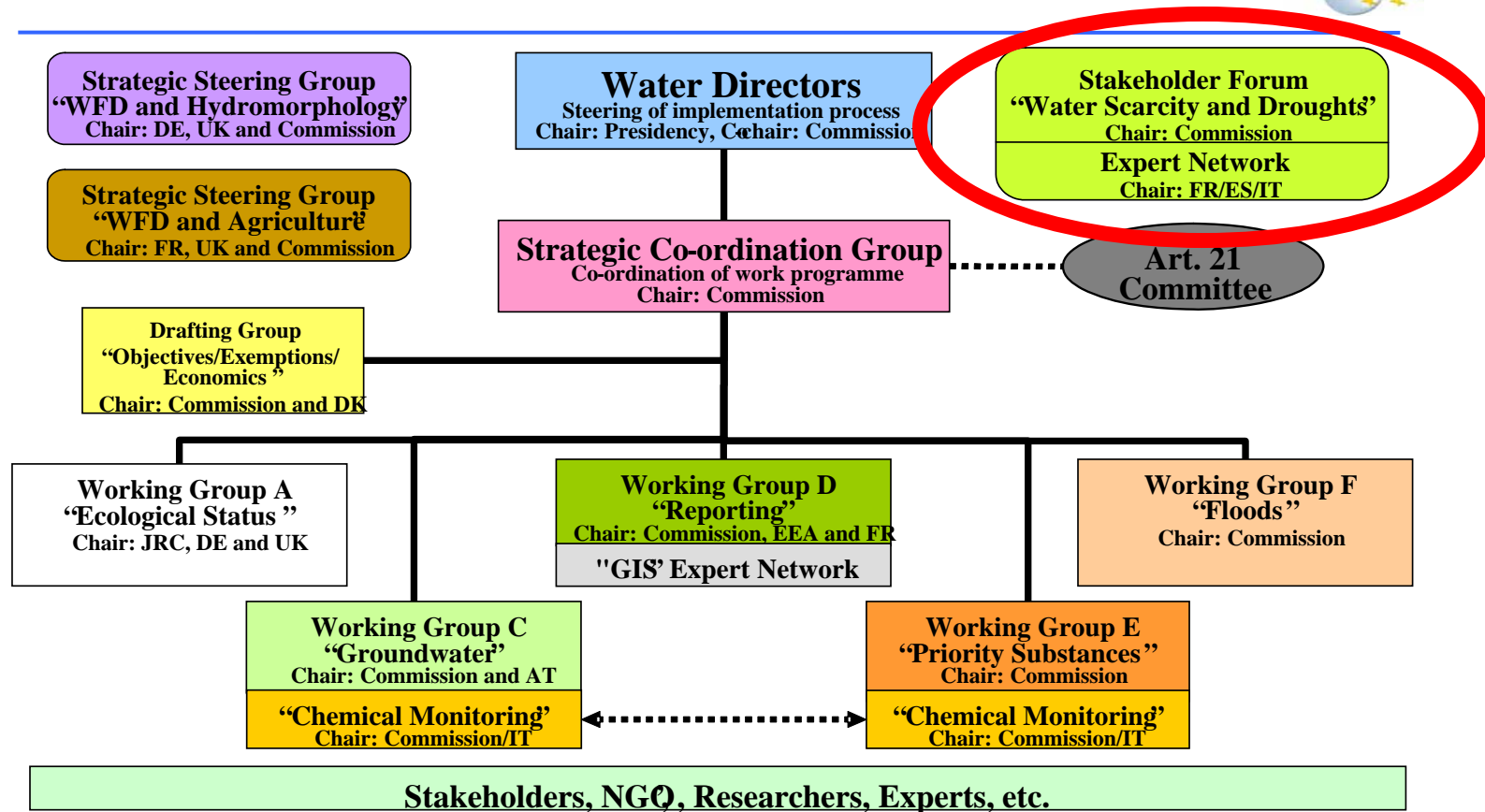
Evaluación Ambiental

Red de Autoridades Ambientales

Información Estadística y

Intranet local

Works at European level –WFD CIS



Expert Network on Water Scarcity and Droughts is co-led by FR, IT and ES.
A final report on Drought Management Plans will be presented to European Water Directors by the end of 2007.