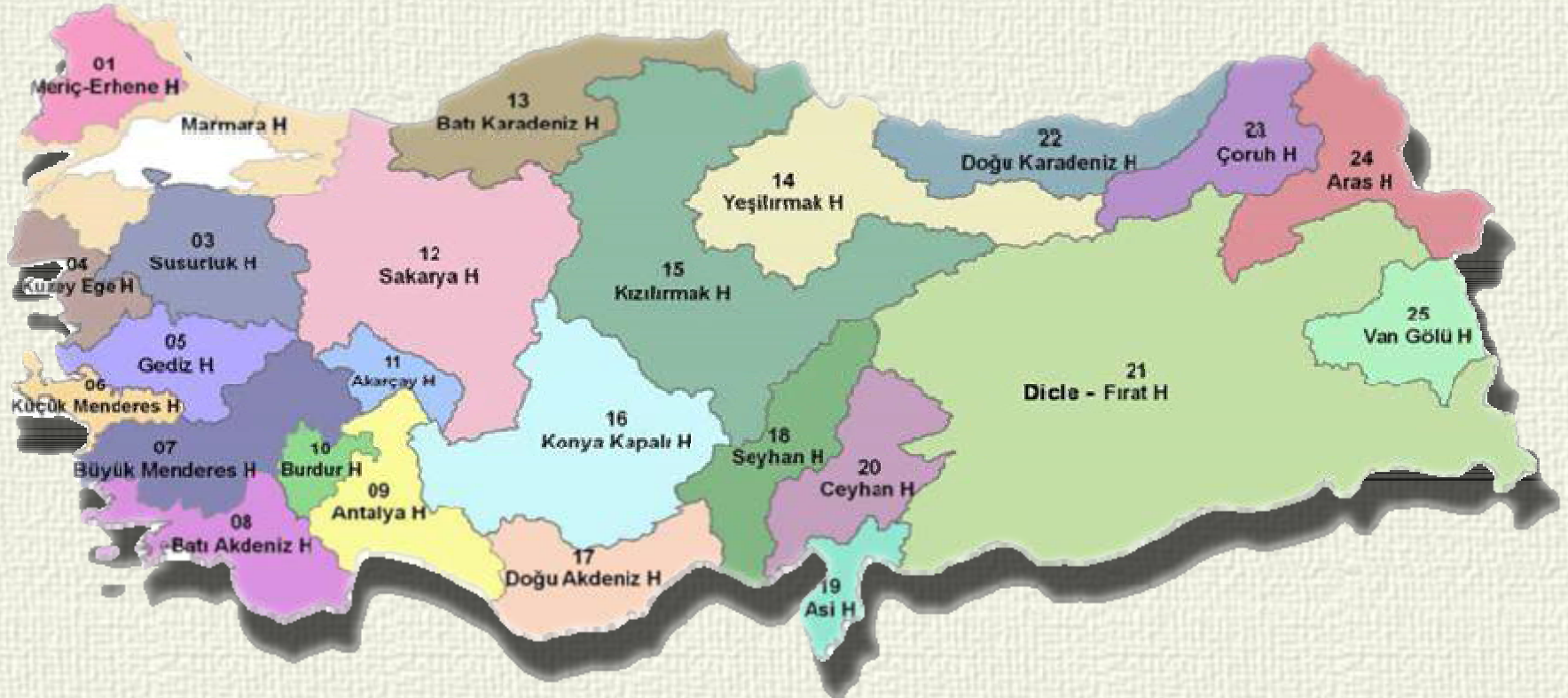


WATER MANAGEMENT IN TURKEY



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DG WATER MANAGEMENT

17th October 2012

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 - Sectoral Allocation Planning
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 - Water Data Base
 - National Basin Management Strategy
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WATER POTENTIAL IN TURKEY

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Annual Precipitation	: 501 billion m³
Annual Usable Surface Water	: 98 billion m³
Annual Usable Ground Water	: 14 billion m³
Annual Total Usable Water	: 112 billion m³
Population of Turkey (2010)	: 74 million
Annual Water Amount per person	: 1500 (m³/person-year)



WATER POTENTIAL IN TURKEY

Irrigation: **32 billion m³ (%73)**

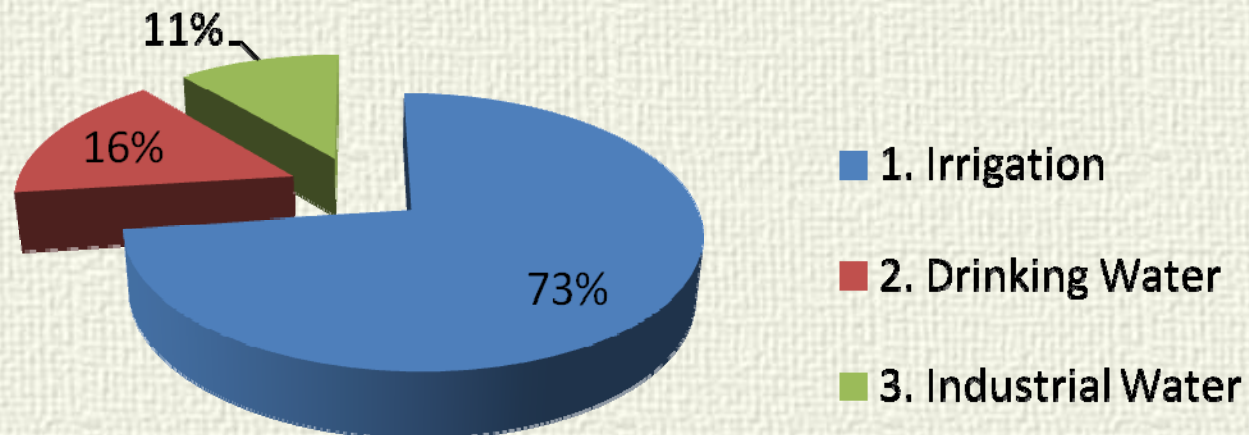
Drinking Water: **7 billion m³ (%16)**

Industrial Water: **5 billion m³ (%11)**

Total Used Water: **44 billion m³**

Usage Ratio of Water Potential: **(%40)**

Annual Water Amount per person : **1500 (m³/person-year)**



TURKEY: Not a WATER-RICH Country

Annual Water Amount per person (m³/year)

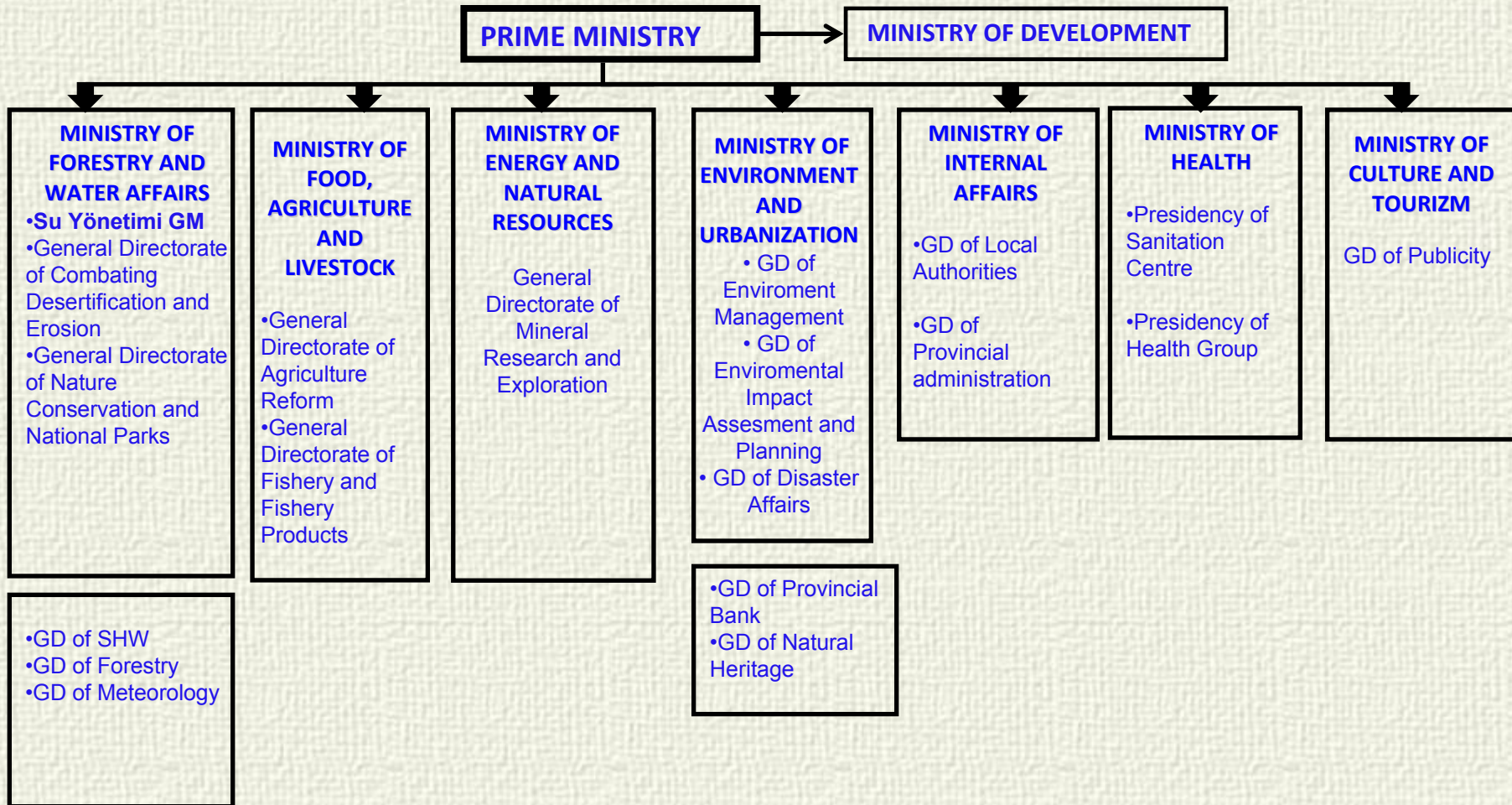
<u>COUNTRIES</u>	<u>2005</u>	<u>2023</u>
Water-Rich Countries (Canada, ABD, North and West European Countries)	10.000+	8.000+
Iraq	2.110	1.400
Turkey	1.600	1.300*
Syria	1.420	950
Israel	300	150
Jordan	250	90
Palestine	100	40

* Estimated calculation made as population of Turkey will be approximately 85 million in 2023.

INSTITUTIONAL AND LEGISLATIVE STRUCTURE OF WATER MANAGEMENT



WATER RELATED INSTITUTIONS IN TURKEY (CURRENT STRUCTURE)



LAWS RELATED TO WATER

- ✓ The Law About Water no:831 (1926)
- ✓ The General Sanitation Law No:1593 (1930)
- ✓ Protection Law against Flood Water and Inundation No: 4373 (1943)
- ✓ DSİ Law No: 6200 (1953)
- ✓ The Law on Drinking Water for Villages No: 7478 (1960)
- ✓ The Law of Drinking, Utility and Industrial Water Supply for Settlements Under Municipal Organisations No: 1053 (1968)
- ✓ The Law about Aquaculture No:1380(1971)
- ✓ The Law on Foundation and Services of ISKI No: 2560 (1981)
- ✓ The Law on Territorial Water No: S2674 (1982)
- ✓ Coastal Law No: 3621 (1990)
- ✓ The Law for Metropolitan Municipalities No: 5216 (2004)
- ✓ Municipality Law No: 5393 (2005)
- ✓ The Law of Provincial Special Administration 5302 (2005)
- ✓ Environmental Law No: 2872 (2006)
- ✓ The Law on Geothermal Sources & Sparkling Mineral Water No: 5686 (2007)
- ✓ The Law for Provincial Bank No: 6107 (2011)



Law & By Law Preparations of Water Management DG



Law / By law	Status	Related EU Legislation
Water Law	Draft, under consideration of other institutions	Water Framework Directive
By Law of Basin Protection	Sent to Prime Ministry for publication	Water Framework Directive
By Law of Special Provision On Drinking Water Protection	Will be sent to Prime Ministry asap	
By Law of Surface Water Quality Management	Will be sent to Prime Ministry asap	Water Framework Directive & Directive on Environmental Quality Standards
By-law On The Protection Of Groundwater Against Pollution And Deterioration	Published in Official Gazette (07.04.2012 – No. 28257)	Water Framework Directive Groundwater Directive
By Law of Water Monitoring	Preparation ongoing	Water Framework Directive

LAW AND BYLAW STUDIES OF GENERAL DIRECTORATE OF WATER MANAGEMENT

Law / Bylaw	Status	Related EU Legislation
Bylaw of quality required of surface water intended for to be obtained or planned to be obtained of drinking water	Publicated in Official Gazette (29.06.2012 - No. 28338)	Surface Water Directive
By Law of Wastewater Recycling	Preparation ongoing	
By Law of Water Tariff	Preparation ongoing	
By Law for Prevention of Water Loss and Leakage	Preparation ongoing	Water Framework Directive



BYLAWS WILL BE PROMULGATED BY THE COORDINATION WITH OTHER INSTITUTIONS

Law / By law	Status	Related EU Legislation
By Law on Bathing Water Quality	Preparations ongoing under coordination of Ministry of Health	Bathing Water Directive
By Law of Water Protection Against Nitrates Pollution From Agriculture	Preparations ongoing under coordination of Agricultural Reform DG with support of Water Management DG	Nitrates Directive
By Law of Fresh Water Quality in Demand of Protection and Recruitment for Fish Life Sustainability	Preparations ongoing with Ministry of Food, Agriculture and Livestock	December 2012

REQUIREMENT / WATER LAW

1- Inefficiency of the Water Law No: 831 (1926)

- Water constructions (There was only Çubuk Dam in 1926)
- Industrial water needs
- Hydroelectric energy production
- Groundwater usage
- Irrigation
- Sectoral Allocation
- Wastewater management
- Pollution of receiving environment
- Water Private Sector
- Nature life conservation

2- Turmoil of authority and responsibility in existing water legislation: Decreasing the number of authorized and responsible institutions and organizations as much as possible.

- Minister of Forestry and Water Affairs
- Ministry of Environment and Urbanization
- Ministry of Food, Agriculture and Livestock
- Ministry of Health
- Ministry of Energy and Natural Resources
- Ministry of Internal Affairs (Municipality, Licence)
- Ministry of Culture and Tourism

3- Necessity of accordance with the EU Water Framework Directive

4- Filling gaps about the water legislation

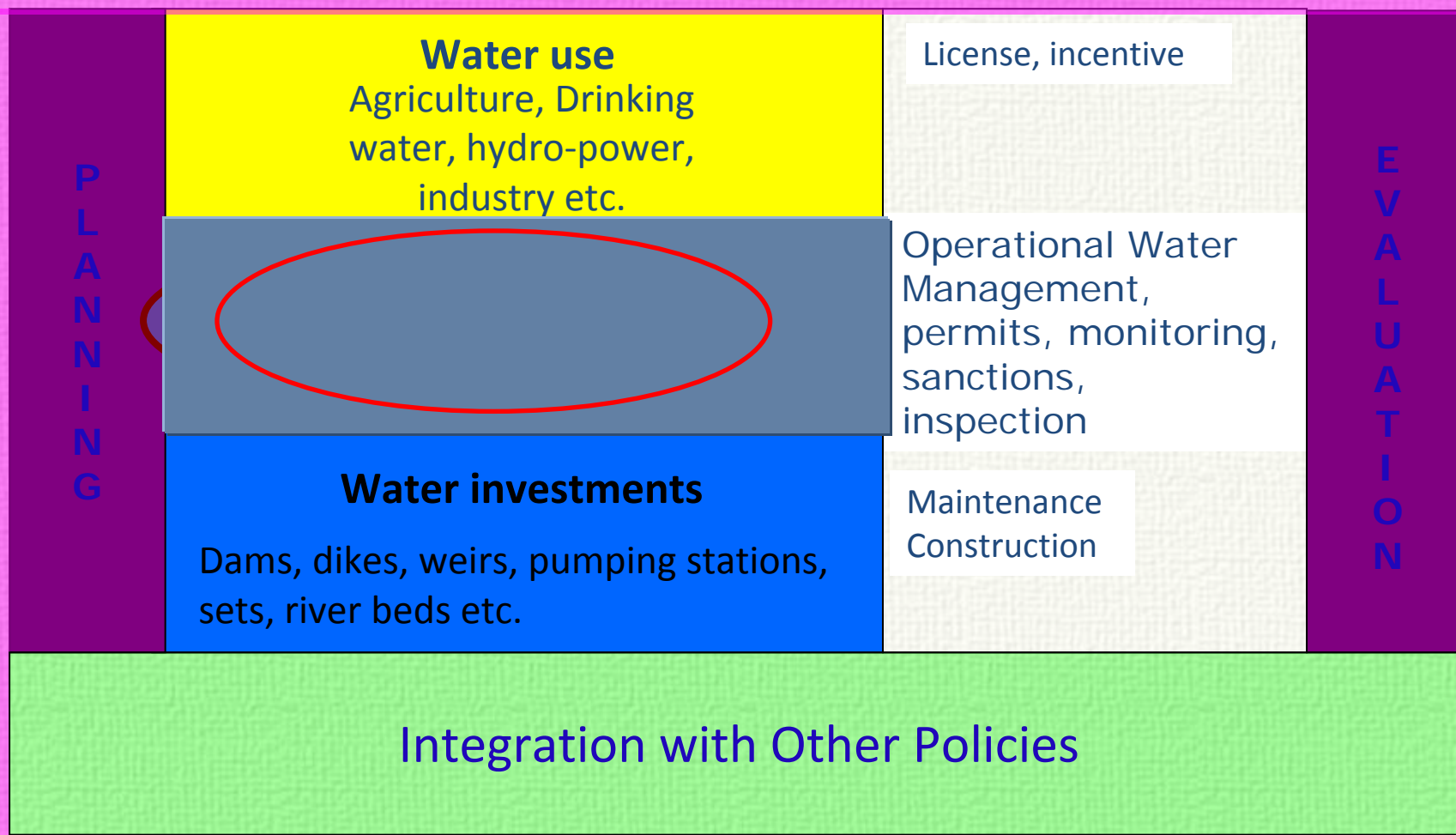
5- Obligation of considering not just the quantity but the quality of water

PROCEEDS of NEW WATER LAW

- 1) Basin Based Water Management**
- 2) Water Management by quantity and quality**
- 3) Water as a Property and Disposal of State**
- 4) Full Cost Principle (User/Polluter Pays)**
- 5) Basin Based Allocation**
- 6) Participation of Shareholders**
- 7) Providing Coordination in Water Management**
- 8) Preparation of Flood Management Plans and
Consideration of these Plans in Master Plans**
- 9) Preparation of National Water Plan**
- 10) Establishing Supreme Court for Water Management**
- 11) Inclusion of Sparkling Mineral Water in Water Law**

ROLES AND RESPONSIBILITIES IN WATER MANAGEMENT

Coordination, Policy and Law-Making





GENERAL DIRECTORATE OF WATER MANAGEMENT (GDWM)

A NEW INSTITUTION

By Promulgation in 4 July 2011 Dated and 27984
(Repetitive) Numbered Official Gazette

**GENERAL DIRECTORATE OF WATER
MANAGEMENT** is Established in Turkey

TASKS OF GDWM - I

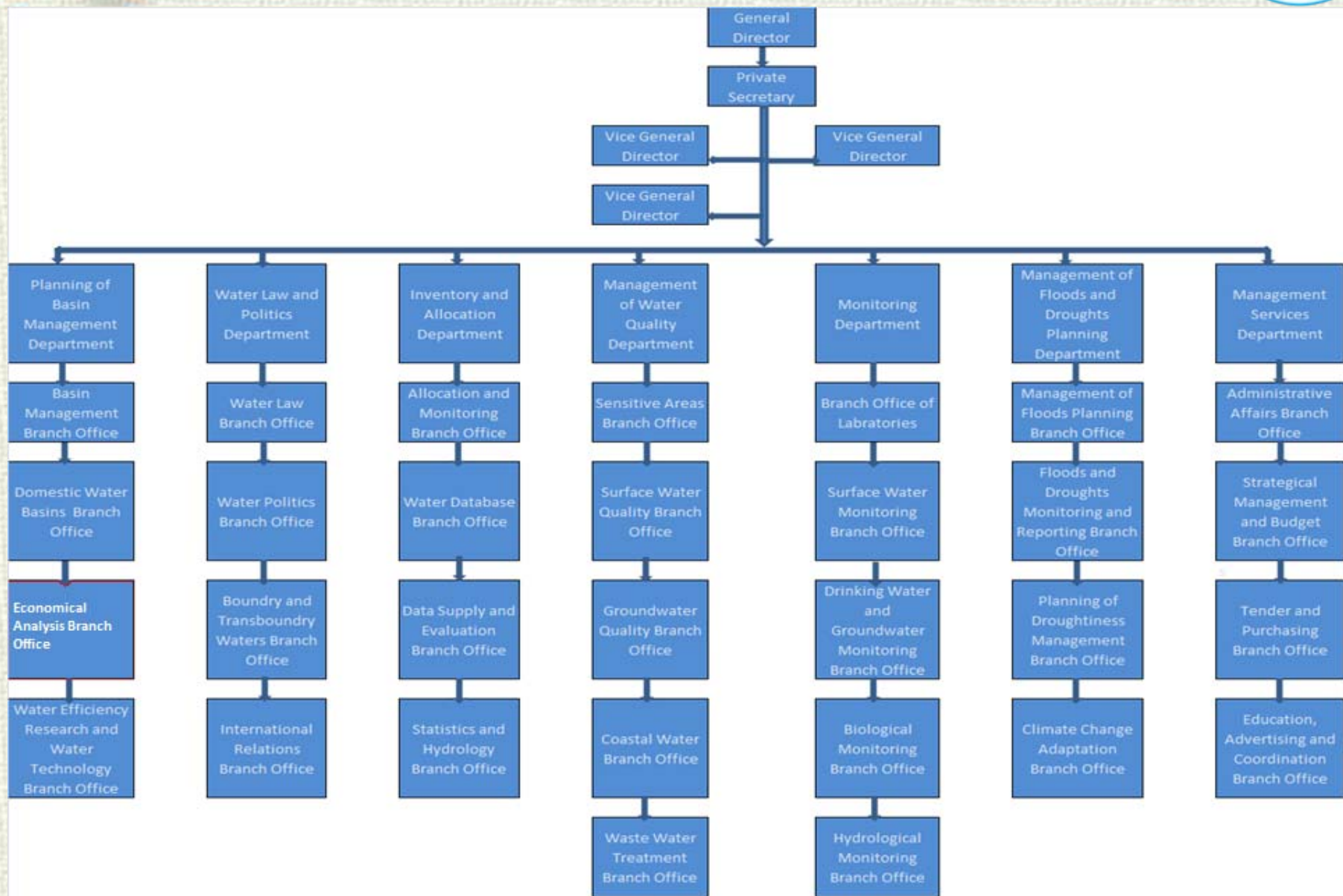
- 1. Planning (Basin and Special Provision)
- 2. Coordination
- 3. Water Policy
- 4. Transboundary Water
- 5. Water Legislation
- 6. Developing Legislation
- 7. Inventory and Water Data System
- 8. Sectoral Water Allocation
- 9. Qualitative Classification of Water
- 10. Developing Water Discharge Standards and Criterion
- 11. Water Quality Standards For Receiving Environment

TASKS OF GDWM - II

- 12. Sensitive Areas
- 13. Water Treatment Systems Water Technology
- 14. Preparing Quality Monitoring Programme
- 15. Coordinating Quality Measurements
- 16. Preparing Flood Risk and Hazard Maps
- 17. Planning Flood Management
- 18. Planning Drought Management
- 19. Climate Change and Water Resources
- 20. International Relations With Regard to Water
- 21. Water Efficiency



ORGANIZATIONAL STRUCTURE OF GDWM



GENERAL DIRECTORATE OF WATER MANAGEMENT

- Basin Management Planning Department,
- Water Legislation and Policy Department,
- Inventory and Allocation Department,
- Water Quality Management Department,
- Monitoring department,
- Flood and Drought Management Department,
- Management Services department,

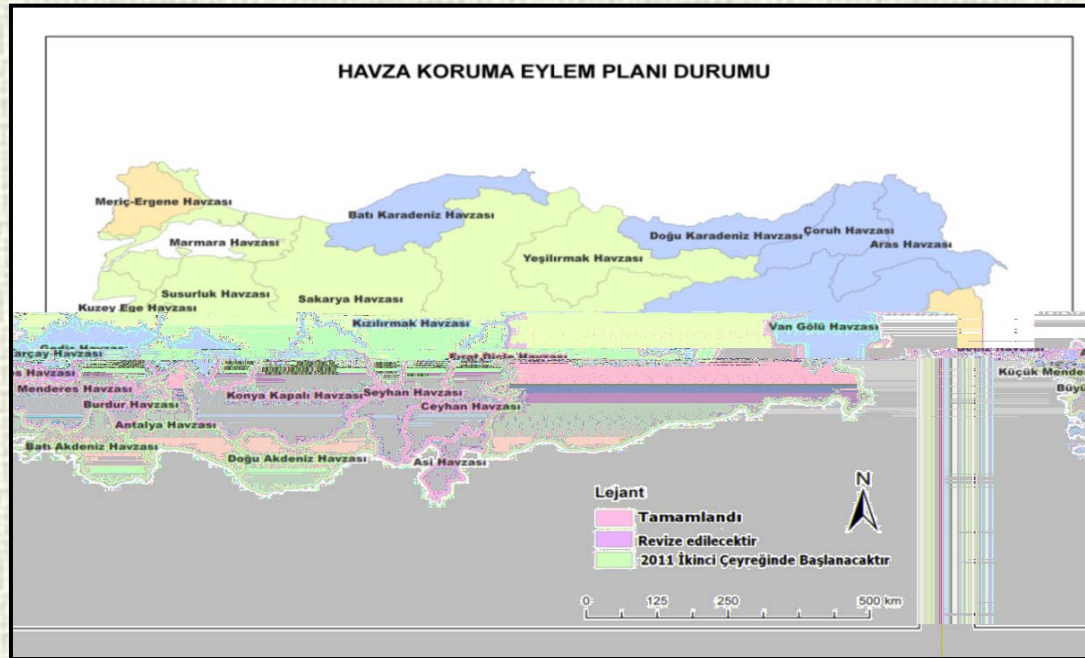


BASIN BASED PLANNED TERM IN WATER MANAGEMENT

THE POLICY OF WATER BASIN

Approach to basin-based solution instead of individual solution :

- Wastewater Treatment Action Plan
- Basin Protection Action Plan
- River Basin Management Plans (WFD)



Büyük Menderes Nehir Havzası Yönetim Planı



Su politikası alanında Topluluk faaliyetleri için çerçeve oluşturan, 23 Ekim 2000 tarihli ve 2000/60/EC sayılı AVRUPA PARLAMENTOSU VE KONSEYİ DİREKTİFİ Madde 13 ve Ek VII gereğince

Ankara,2010

THERE ARE 25 RIVER BASINS IN TURKEY



Preparing Basin Protection Action Plans.

The plans have been completed for **11 Basins**, being updated for **5 Basins** and started for **9 Basins**.

These plans will be prepared within the scope of Water Framework Directive and form a base to River Basin Management Plans.

MARITZA-ERGENE BASIN

1. Stream remediation
2. DSI is responsible for constructing municipalities WWPs
3. Individual industries are rehabilitated as organized industrial sites
4. Common advanced wastewater treatment plants are under construction for industries
5. Less water, energy and pollutant usage in industrial processes
6. Afforestation to combat against erosion in Maritza-Ergene
7. A planned era in Maritza-Ergene, 1/25.000 plans taking action



MARITZA-ERGENE BASIN

- 8. Solid waste recycling and disposal plants are under construction**
- 9. Agricultural pollution is under control**
- 10. Real time monitoring in Maritza-Ergene**
- 11. Frequency of inspections are increased**
- 12. . Water discharge standards are reorganised, colour standard takes action.**
- 13. Flood early warning system is under construction**
- 14. Usage of underground water is about to be taken under control**
- 15. Irrigation systems will be built by several dams and ponds.**



GEDİZ BASIN

- 1. Control of domestic wastewaters**
- 2. Control of industrial wastewaters**
- 3. Control of olive mill wastewater**
- 4. Inert and hazardous waste control**
- 5. Agricultural waste control**
- 6. Stream remediation**
- 7. Afforestation and erosion combat**



SPECIAL PROVISIONS IN DRINKING WATER BASINS IN TURKEY



**We are determining Special Provisions to protect Drinking
Water Basins**

EFFICIENT WATER USE

Taking action against water loss and leakage.

Standardisation.



USAGE OF TREATED DOMESTIC WASTEWATER IN IRRIGATION

Carry on works or studies about recycling treated domestic wastewaters



NATIONAL WATER QUALITY MANAGEMENT STRATEGY PAPER (2012 - 2023)

SA-01: Define a legal and institutive framework by coorparation & coordination with related institutes to restore quality of all ground and surface waters including coastal and transitional waters. (6 Actions)

SA-02: Corporative capacity improvement and developement of technical and economical instruments in water management. (8 Actions)

SA-03: To define measures and track action for protection and restoration of of water bodies quality. (12 Actions)

REGULATIONS for TREATMENT PLANTS

Treatment Plants will be designed, constructed and operated according to standards and norms.

Definitions of designing treatment plants for drinking, utility and waste water will be made.



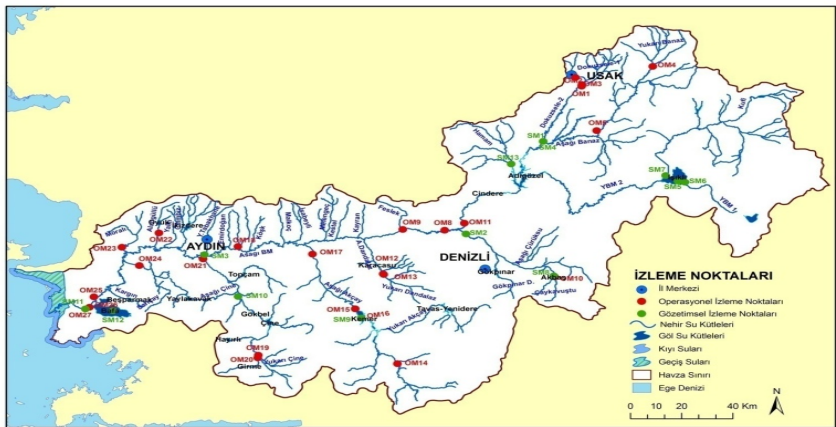
Sectoral Allocation Planning in BASIN aspect

Individual Allocations will be made
according to Sectoral Allocation

Allocation Commission will be
constituted.

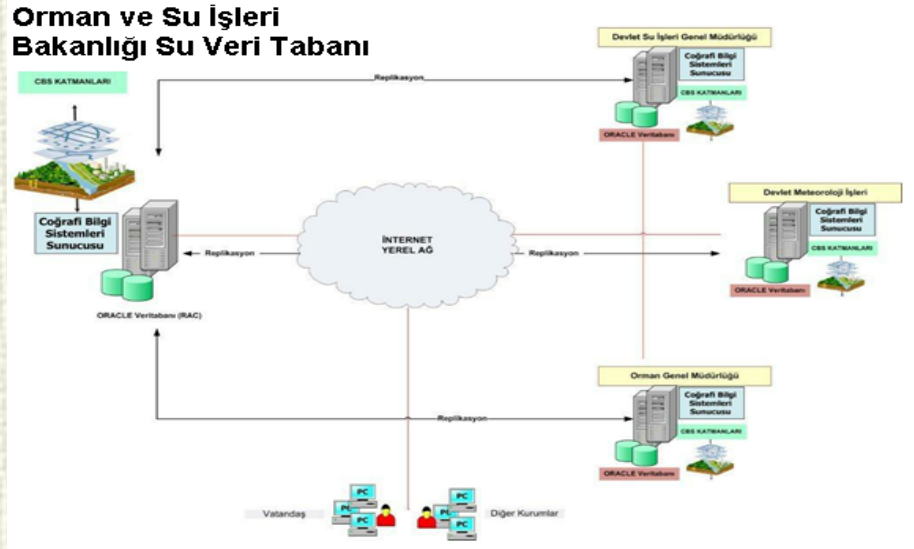
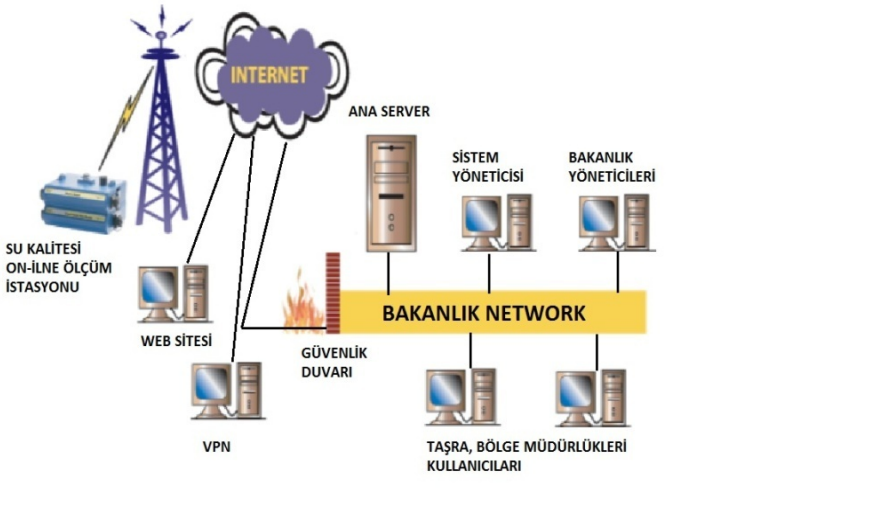
MONITORING SYTEM IN EU STANDARDS

We will instantly monitor Maritza-Ergene water quality from Ankara by July 2012

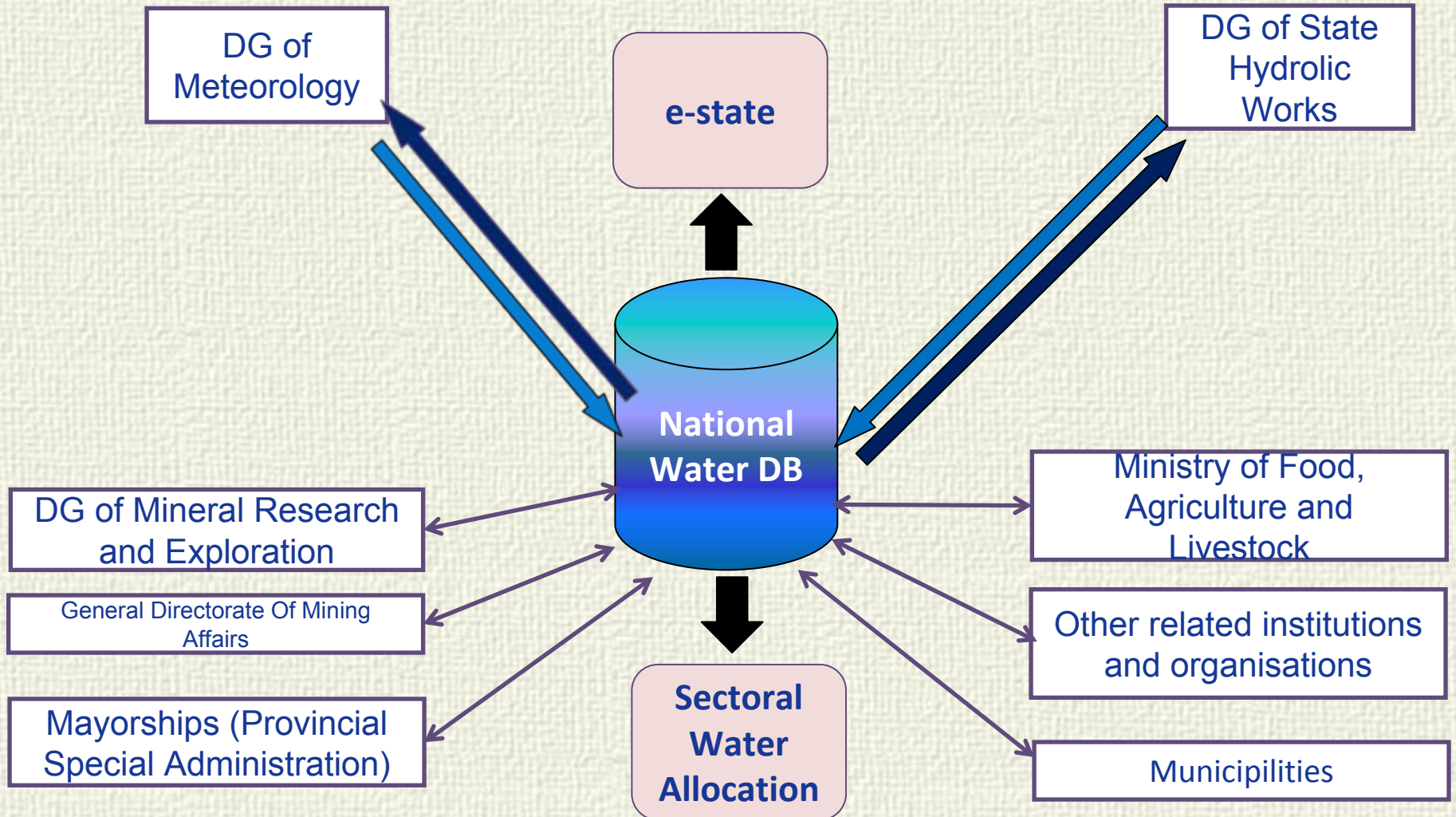


We are establishing a monitoring network by connecting all the water quality and quantity monitoring points.

A Biological Monitoring Network is under establishment to enlist our countries aquatic flora & fauna



MoFWA Water Database



NATIONAL BASIN MANAGEMENT STRATEGY

National Basin Management Strategy (2012-2023)

We prepared our Basin Management Strategy by combining all these works and other components of a basin under one strategy.

FLOOD PLANS

Flood Management Plan preparation is ongoing.



Flood Protection Action Plans were started for West Blacksea Territory.

Draught term strategies are defining.

Effects of climate change are defining.

WATER MANAGEMENT COORDINATION COMMITTEE

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**“Water Management Coordination
Committee”** was established with
numbered **2012/7, Prime Ministry
Notice.**



TASKS OF WATER MANAGEMENT COORDINATION COMMITTEE

- **Determination of necessary measures to conserve the water resources within the framework of integrated river basin management,**
- **Providing inter-sectoral coordination, collaboration and speeding up investment in water provision for an effective water management,**
- **Developing strategy, policy and plan for the realization of the objectives set out in the documents of national and international,**
- **Evaluation of implementation of the issues that must be met in public institutions and organizations in basin plans,**
- **Ensuring a high level of coordination and cooperation.**



WATER MANAGEMENT COORDINATION COMMITTEE



Minister of Forestry and Water Affairs	
Ministry of European Union Undersecretary	Ministry of Science, Industry and Technology Undersecretary
Ministry of Environment and Urbanization Undersecretary	Ministry of Foreign Affairs Undersecretary
Ministry of Energy and Natural Resources Undersecretary	Food, Agriculture and Livestock Undersecretary
Ministry of Internal Affairs Undersecretary	Ministry of Development Undersecretary
Ministry of Culture and Tourism Undersecretary	Ministry of Health Undersecretary
State Hydraulic Works General Director	Water Management General Director
Nature Conservation and National Parks General Director	Combating Desertification and Erosion General Director
Meteorology General Director	Head of Water Institute

Thank you....

