Issues and challenges of managing Maryland's water

Chesapeake Environmental Protection Association
2014 Forum

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Presentation Outline

- Value of water
- Threats on water resource
- Overview of Maryland Water program
- Water use in Maryland
- Maryland Advisory Committee
- Maryland's future water concerns
- Where do we go from here

“Water is life”

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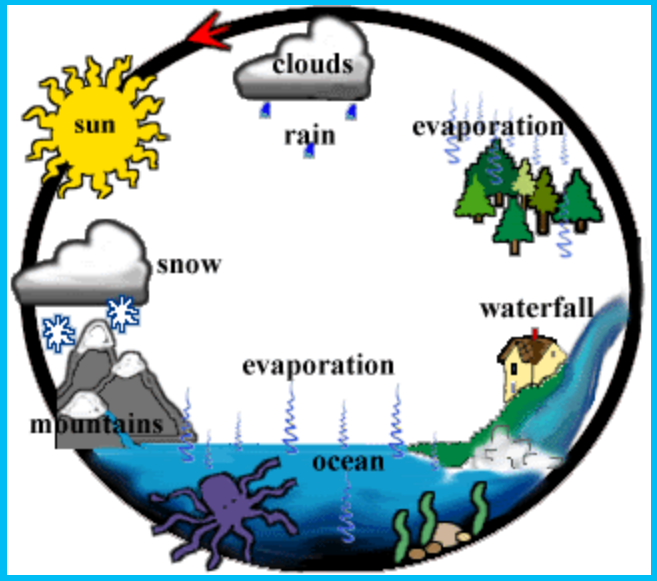
True, or False? “Water is an infinite perpetual gift bestowed upon us by nature.”



We expect to turn a faucet and water will flow

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Threats

- Population growth
- Increasing demand
- Manmade contaminants
- Over development
- Lack of investment in preserving resources

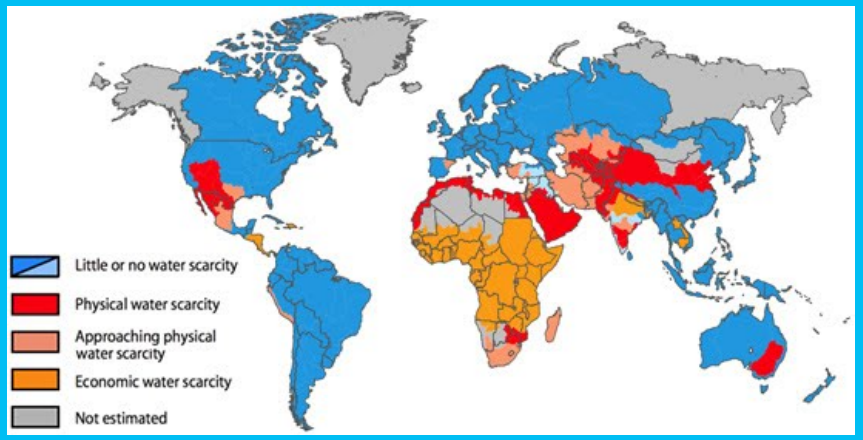
- Estimated* that by 2030 half the world population will live in water scarce area due to:
  - Urbanization, population growth, and climate change
  - Concern not having enough water for everyone on the planet i.e. 60% of China gw is polluted
  - Concern over global conflicts, possibility of water wars

* The Organization for Economic Co-operation and development

Global Instability

- According to the National Intelligence Council report (March 2012):

  In next 10 years many countries important to the US will experience water problems that will increase the risk of instability leading to regional tensions.



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Does water shortages belong only to the third world, developing countries or arid regions?

- How about Maryland?
- Do we have enough water in 20 years?
- Who is minding the shop?

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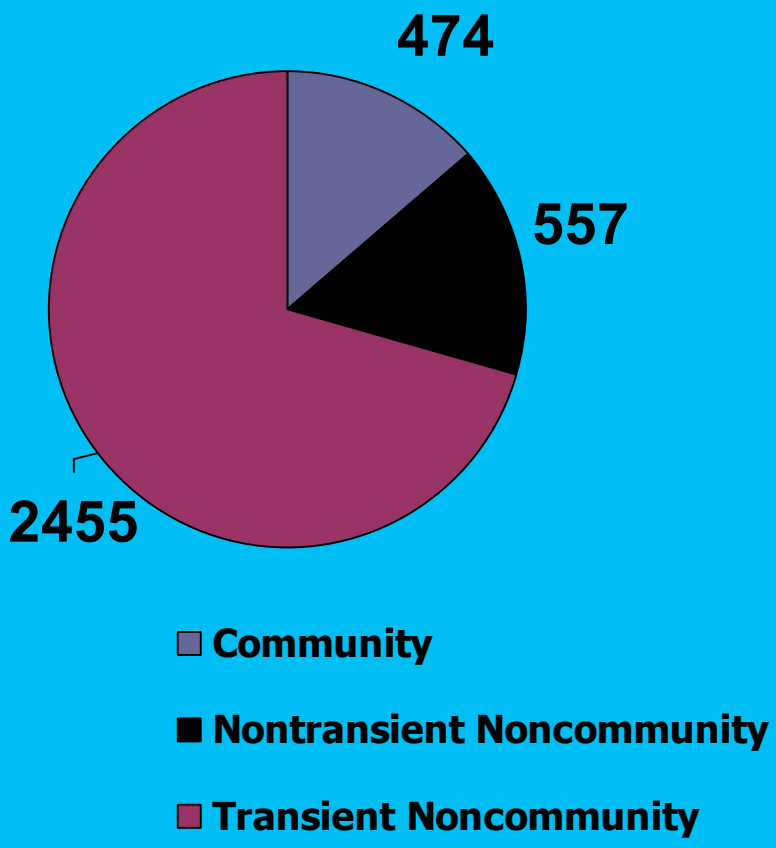
"The mission of the Water Supply Program is to ensure that public drinking water systems provide safe and adequate water to all current and future users in Maryland, and that appropriate usage, planning, and conservation policies are implemented for Maryland's water resources."

Public Water System (PWS)

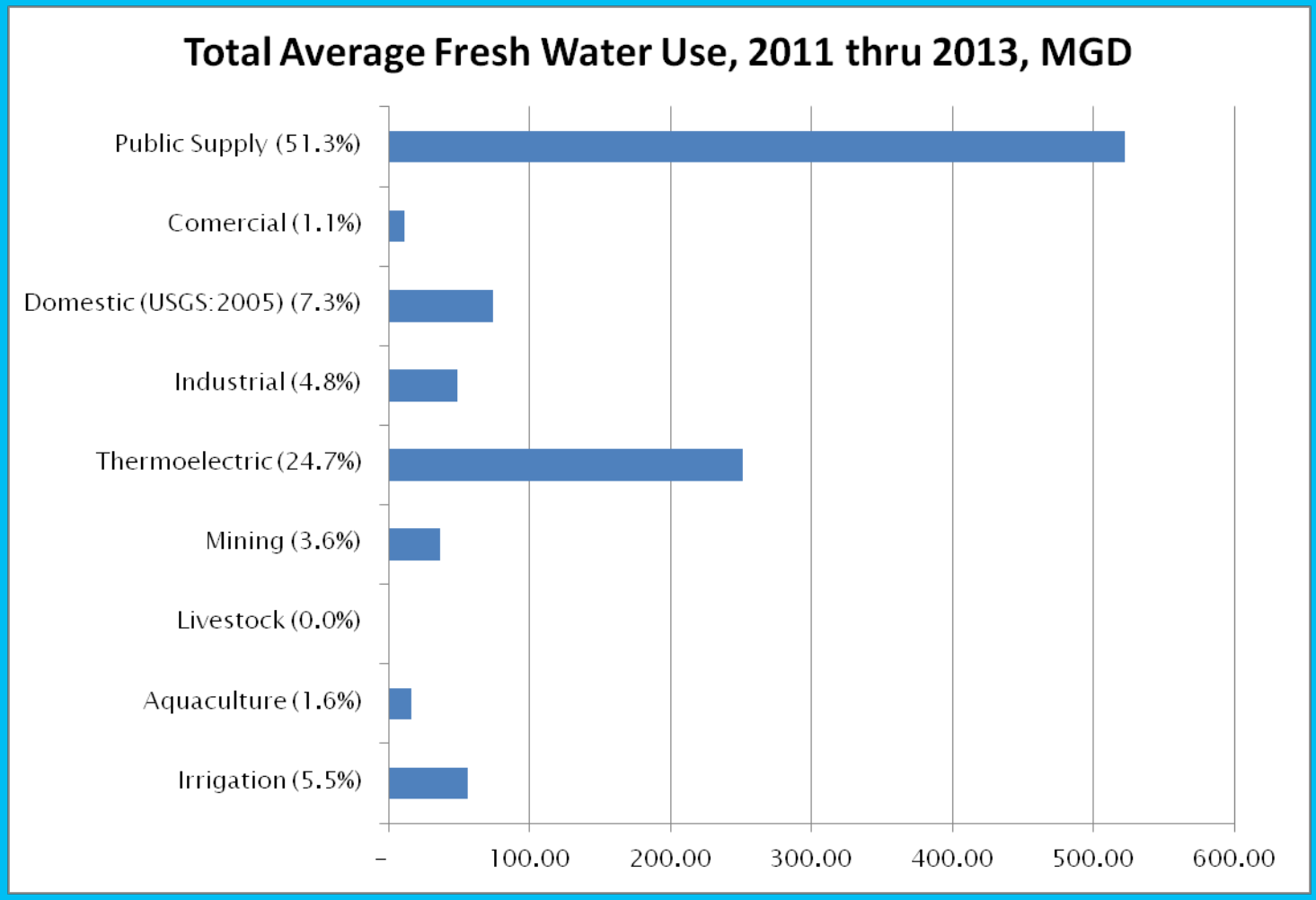


Serves 25 or more individuals more than 60 days per year

13% of Marylanders use a residential well

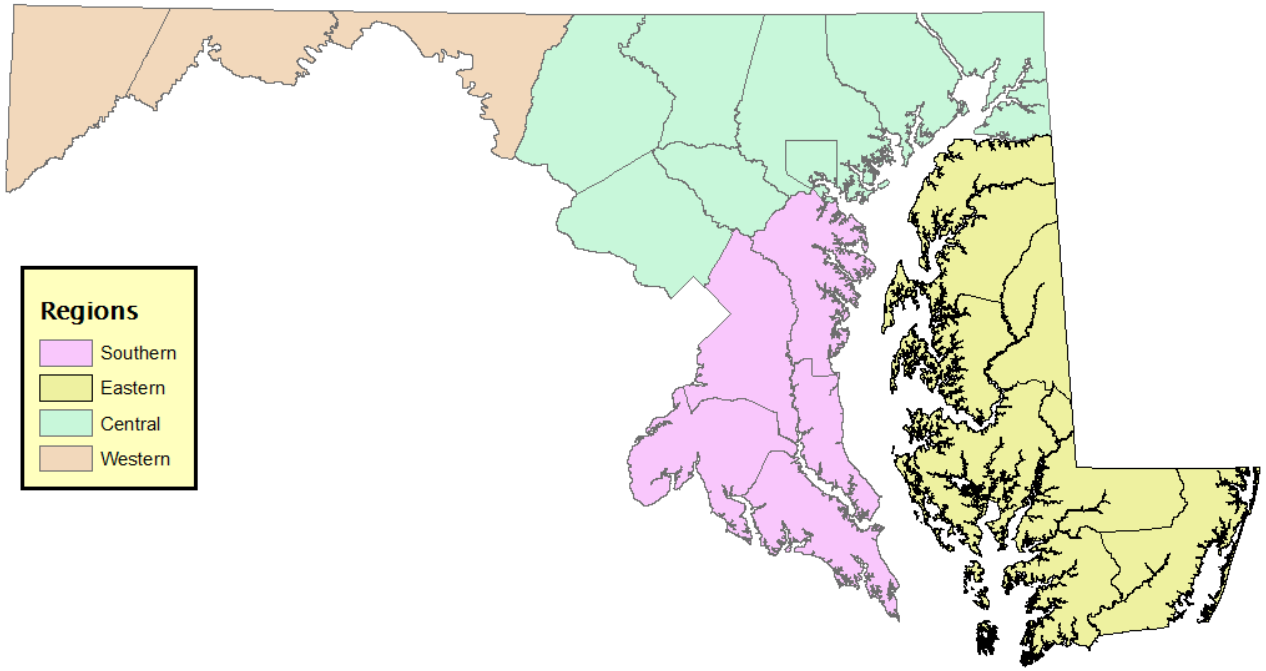
Water appropriation permits

- About 10,000 active permits
- About 2,800 permits >10,000 gpd
- 143 applications in 2013 requiring public notification (new uses >10,000 gpd)
- 740 permits issued in 2013


Total Average Fresh Water Use, 2011 thru 2013, MGD
Public Supply (51.3%)
Comercial (1.1%)
Domestic (USGS: 2005) (7.3%)
Industrial (4.8%)
Thermoelectric (24.7%)
Mining (3.6%)
Livestock (0.0%)
Aquaculture (1.6%)
Irrigation (5.5%)
-
100.00
200.00
300.00
400.00
500.00
600.00

MDE

Water Use Regions



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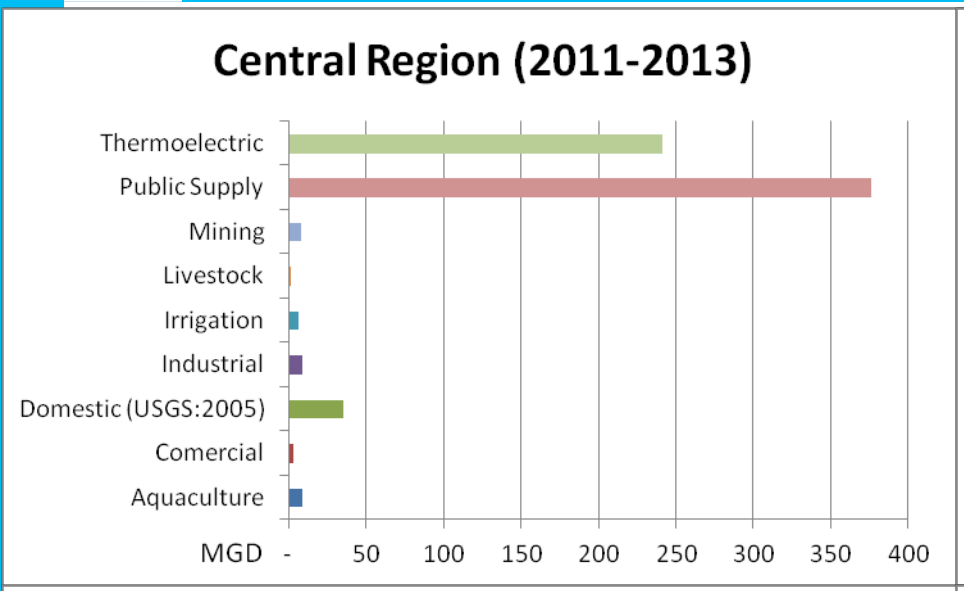
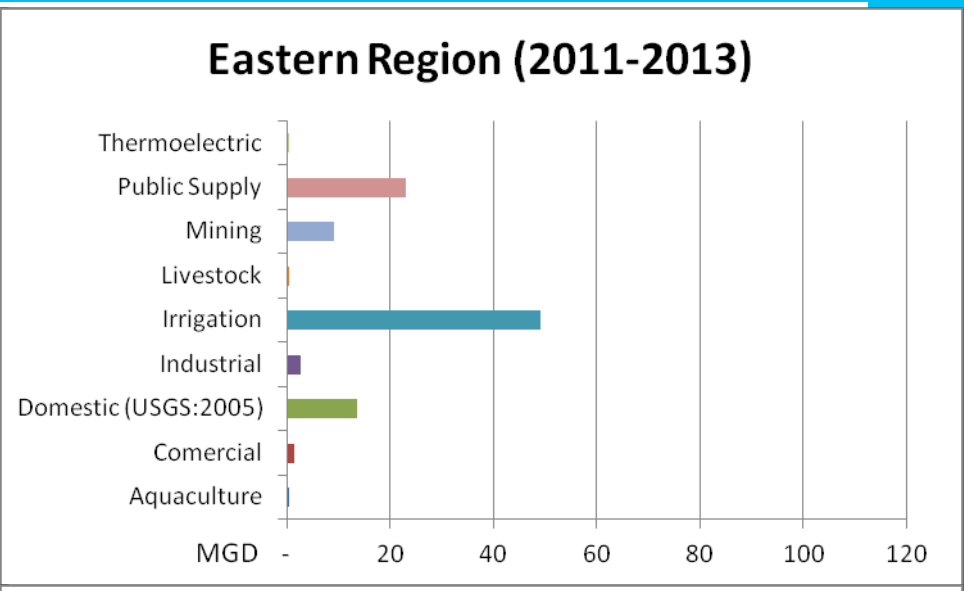
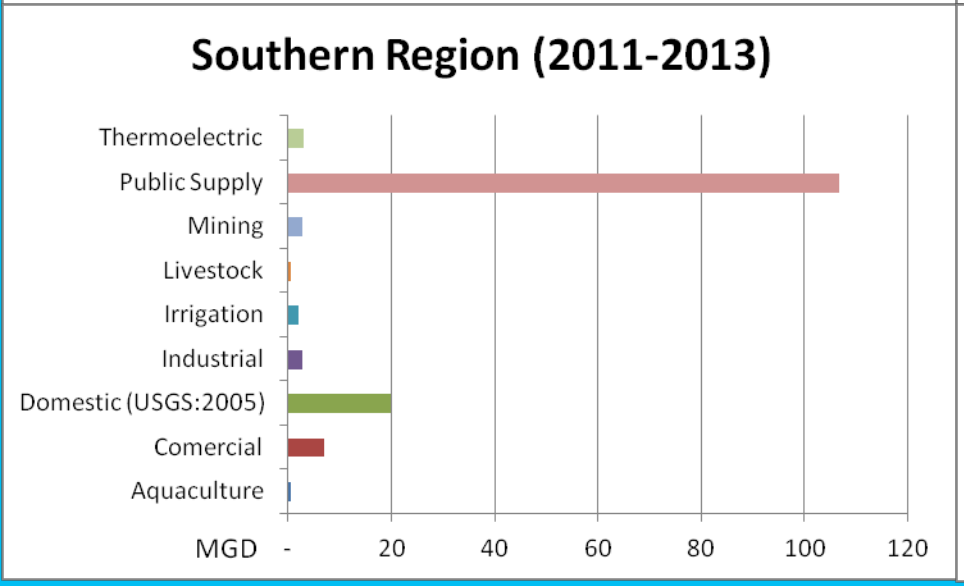
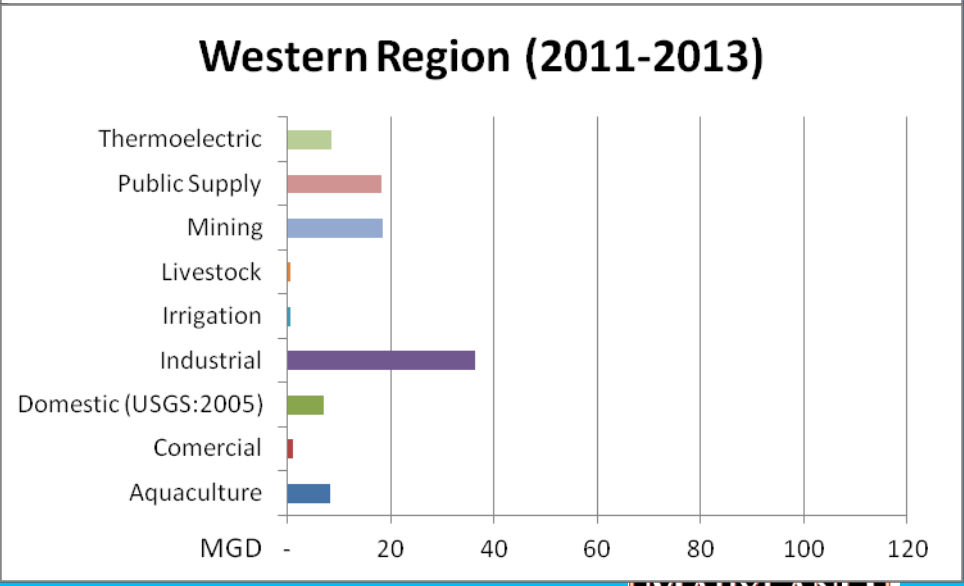
Fresh Water Appropriation







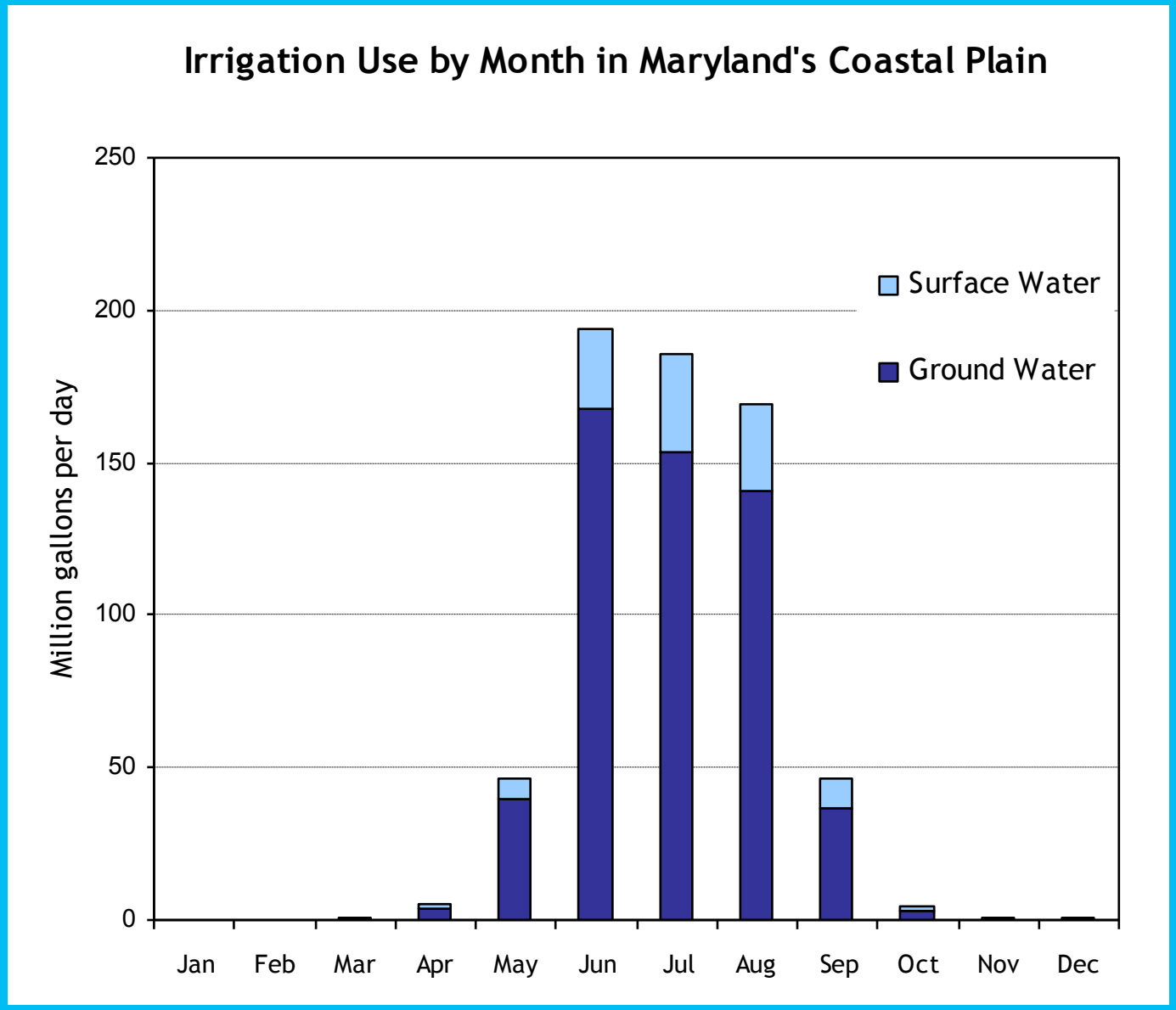


Projected water demand in Maryland by 2030

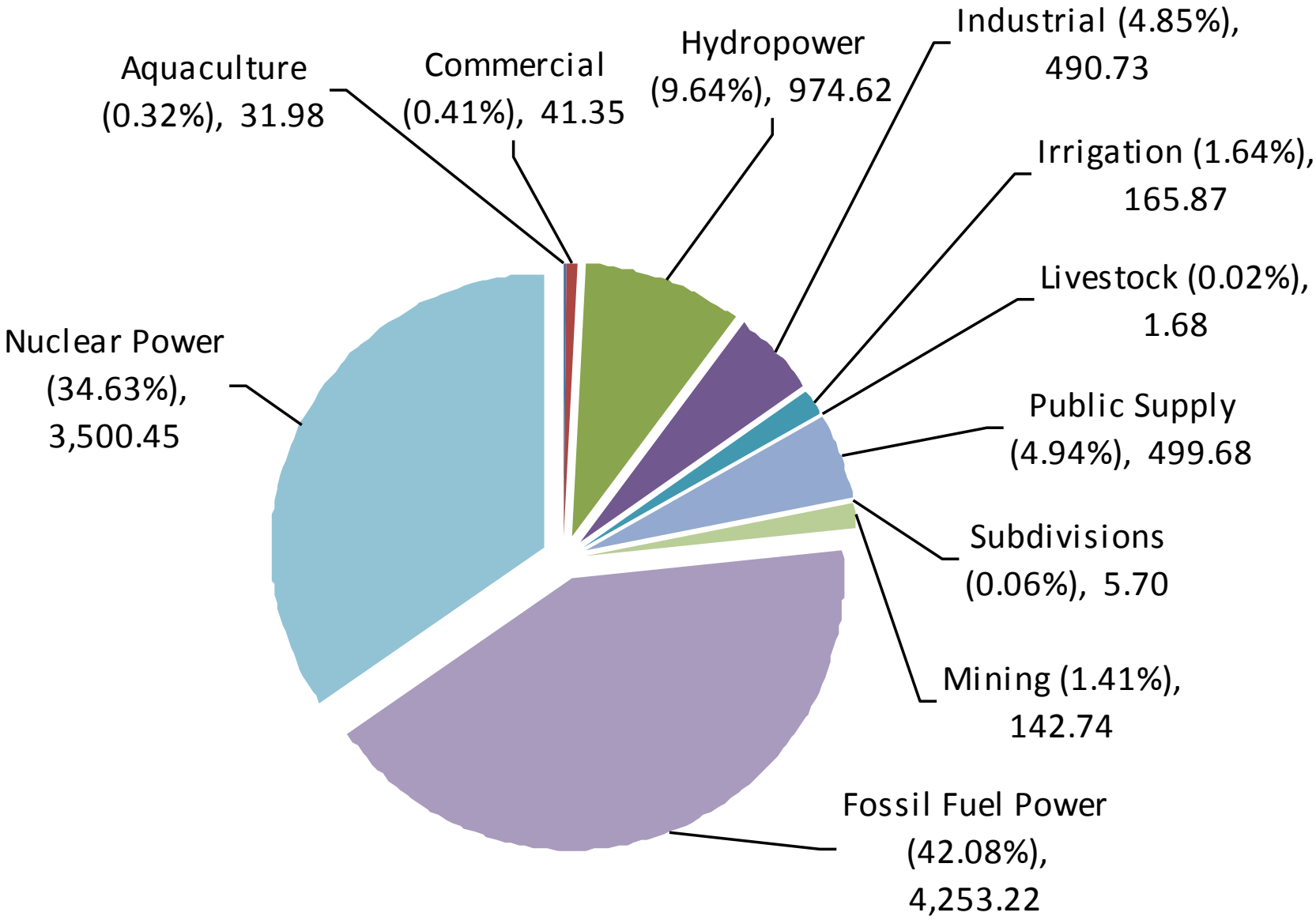
	2000 Water Demand	Projected Water Demand Increase by 2030
Public Supply	824	+ 58
Thermoelectric	379	+ 54
Domestic Self-Supplied	77	+ 17
Industrial	66	*
Irrigation	42	+ 84
Aquaculture	20	+ 20
Commercial	21	*
Livestock	10	*
Mining	8	*
Total	**1,447 (mgd)**	**+ 233 (mgd)**

(* Not projected)

Agricultural Water Use is Expected to Increase



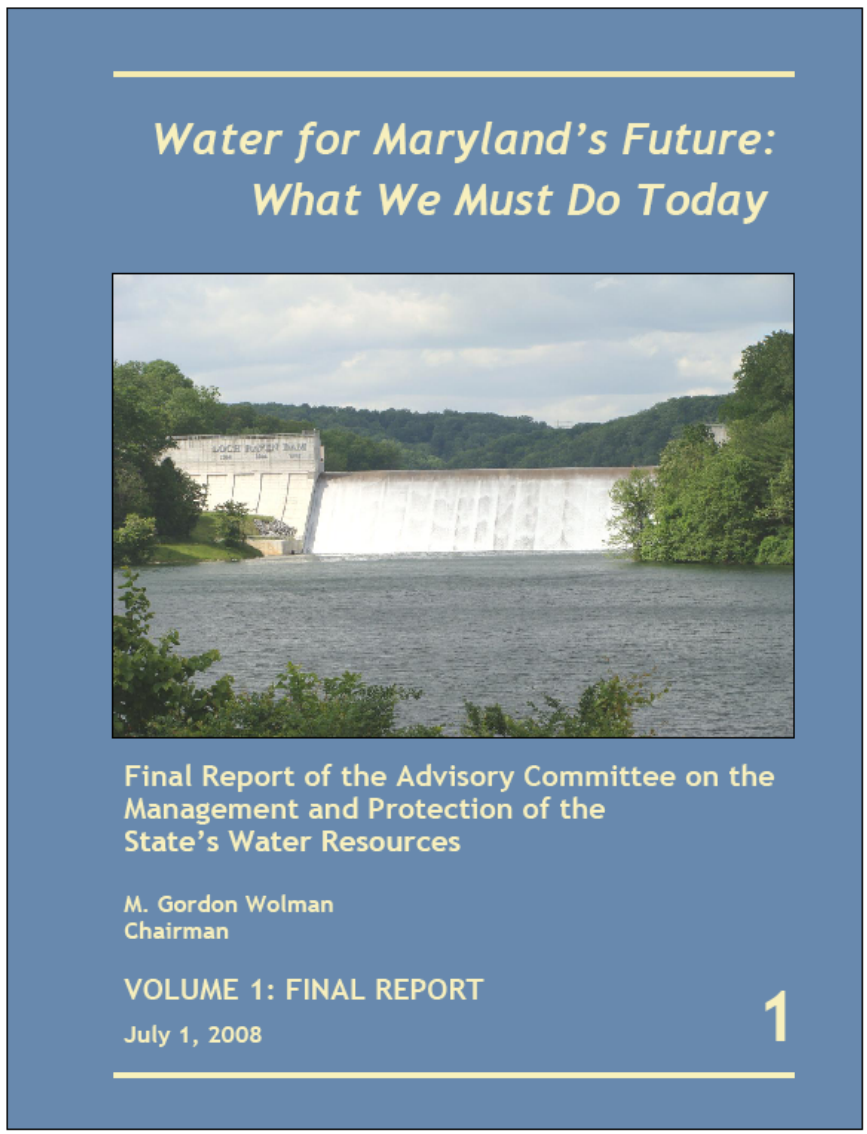
Permitted AGPD in MGD



Advisory Committees

- First Committee Report May 2004
- Second Committee Interim Report July 2006
- Second Committee Final Report July 2008

- Final Report of the Committee on the Management and Protection of the State's Water Resources
- July 2008



"…the Committee has completed its tasks, but the work will bear fruit only if there is increased and sustained support from elected officials, agency leaders, the regulated community, and the public to create the institutional structure and to provide the funding for a robust water resources program."

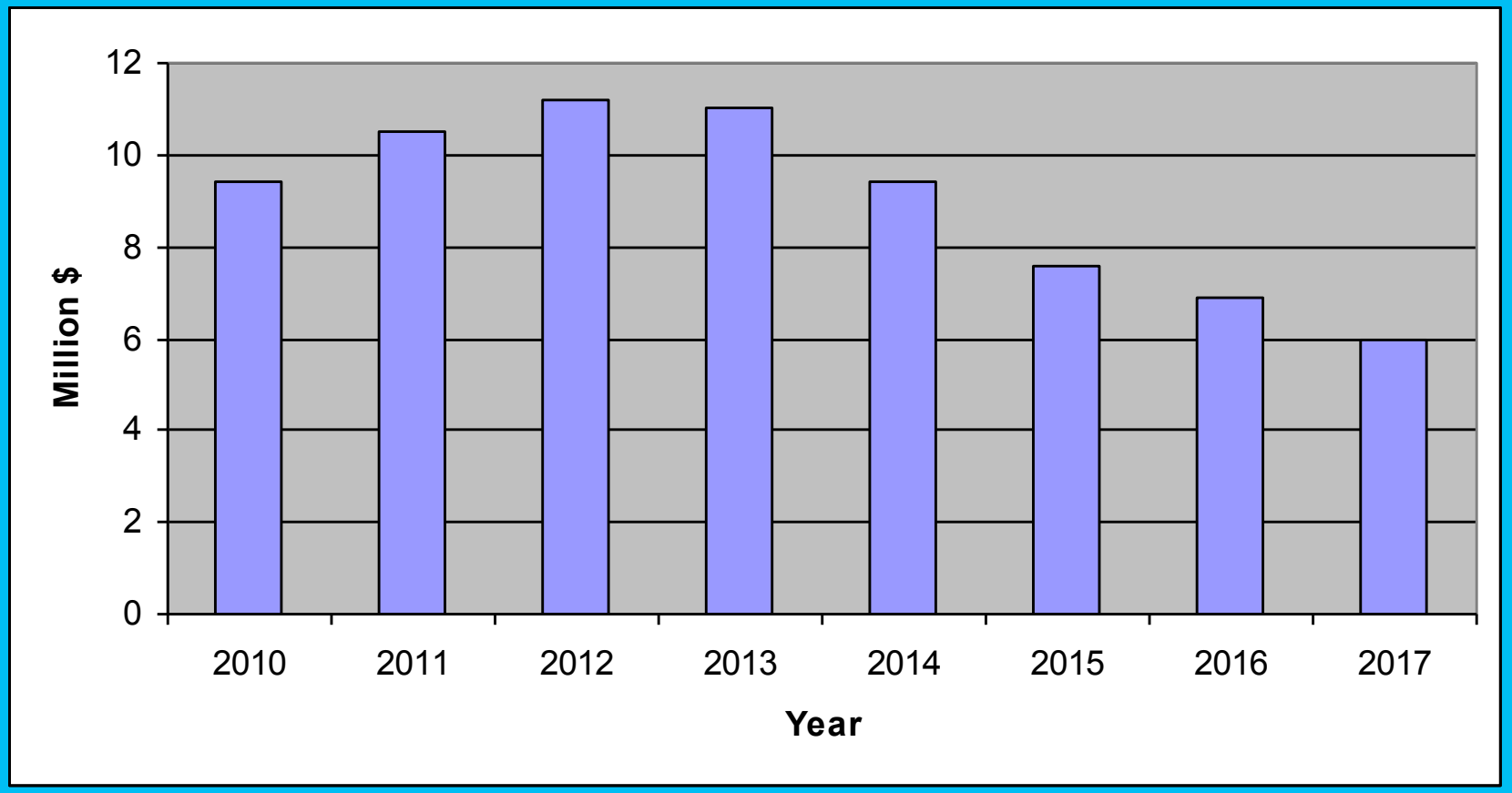
Water resource concerns

- Population growth
- Land use trends
- Increase in agricultural irrigation
- Threats to water quality
- Climate change
- Insufficient data
- Lack of planning
- Lack of investment

Wolman recommendations

- Maryland must develop a more robust water resources program based on sound, comprehensive data
- Staffing, programmatic, and information needs of water supply management program must be adequately and reliably funded
- Specific legislative, regulatory, and programmatic changes should be implemented

Funding Required to Implement Committee's Recommendations



Total Cost of Committee Recommendations is about $72 million

Maryland current and Future concerns

- Population growth
- Land use trends
- Increase in agricultural irrigation
- Threats to water quality
- Climate change
- Insufficient data
- Lack of planning
- Lack of investment
- Shrinking state and federal funding
- Complacency
- Security
- Water conflicts among neighbors
- Inadequate regulatory authority
- Aging infrastructure
- Emergency preparedness
- Fracking

Why are these recommendations important?

- Population and water demand are increasing, placing pressure on Maryland's most precious resource
- Growth cannot occur without adequate, reliable water supplies
- Every economic sector needs water, and every sector will be impacted if we do not ensure a sustainable resource

Questions?

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