**2020 Current Topic:**

**Water Resources Management: Local Control and Local Solutions**

Georgia manages water resources in a sustainable manner to support the state's economy, to protect public health and natural systems, and to enhance the quality of life for all citizens.

The 2004 Comprehensive State-wide Water Management Planning Act authorized the development of the State Water Plan. The State Water Plan in turn, calls for state-wide regional water planning to provide the necessary local and regional perspectives to ensure each of Georgia's ten water planning region's water resources are sustainably managed through at least 2050. The Regional Water Plans set forth the recommended management practices for each water planning region.

Students will learn the concepts of how water is managed in Georgia, and how the regional water planning districts work to address integrated water management challenges.

Key topics include:

* Understand the ability of the region water plan to implement local policy and management in order to protect water users;
* Understand administrative structures and processes for managing water uses and supplies;
* Understand ground and surface water hydrology and connectivity;
* Understand the economic, social and environmental impacts of projects and policy decisions.

\*\*Test questions will come only from the study materials. No questions will come directly from the video resources.\*\*

**Study Materials:**

*Georgia Water Planning Website:*

<https://waterplanning.georgia.gov/water-planning>

<https://waterplanning.georgia.gov/state-water-plan>

<https://waterplanning.georgia.gov/forecasting>

Students should study the information on the forecasting page as well as the links for Municipal, Industrial, Agricultural, and Energy Water Uses.

<https://waterplanning.georgia.gov/resource-assessments>

Students should study information in the links regarding the availability of surface & ground water, as well as the quality of surface water.

***Video Resources***

*National Ground Water Association Video – Interactive Roles of Surface Water & Ground Water:*

<https://www.youtube.com/watch?v=5lK_fs3p7yc>

<https://www.youtube.com/watch?v=cZ7OwgG9oG4>

*American Geosciences Institute Webinar on Groundwater and Surface Water Interaction:*

https://www.americangeosciences.org/webinars/water-as-one-resource

*Metro North Georgia Water Planning District Videos:*

<https://vimeo.com/152489196>

<https://vimeo.com/189730473>

*DNR Hartwell Lake Shoreline Management Video:*

<https://www.youtube.com/watch?v=lHSWsnYFBrY>

*Making Good Water Policy Decisions*

<https://www.youtube.com/watch?v=m5l4eqTTBak>

<https://www.youtube.com/watch?v=olTuMCxQqf0>

**Additional Study Materials**

Students should be familiar with the information on pages 5, 7-9, 12-13, 14-17 and 29-30 of the Georgia Comprehensive State-wide Water Management Plan. A link to the Plan is below:

<https://waterplanning.georgia.gov/sites/waterplanning.georgia.gov/files/related_files/water_plan_20080109.pdf>

Students should also be familiar with the information at the following link:

<https://waterplanning.georgia.gov/guidance>

**Definitions**

1. “Assimilative capacity” is the amount of contaminant load that can be discharged to a specific waterbody without exceeding water quality standards or criteria. Assimilative capacity is used to define the ability of a waterbody to naturally absorb and use a discharged substance without water quality becoming impaired or aquatic life being harmed.
2. “Aquifer” means a geological formation, group of formations, or a part of such a formation that is water-bearing.
3. “Conservation-oriented rate structure” is a rate structure adopted by a water utility or water provider that is designed to reflect the cost of providing water and encourage efficient use of water by customers.
4. “Consumptive use” is the difference between the total amount of water withdrawn from a defined hydrologic system of surface water or groundwater and the total amount of the withdrawn water that is returned to that same hydrologic system over a specified period of time
5. “Excess capacity” means the amount of water supply available in a water supply reservoir over and above the water demand expected to be placed on the reservoir’s storage and the storage dedicated to other purposes.
6. “Flow regime” is a description of the pattern of flow variability for an individual surface water source. Flow regime involves the magnitude, timing, duration, frequency and rate of water movement.
7. “Grey water” is the wastewater produced from baths, showers, washing machines, dishwashers and other appliances
8. “Hydrologically connected” means the process whereby defined surface areas and/or subsurface areas drain to common points or regions under natural conditions.
9. “Impervious surface” means any surface such as pavement, roofs, roadways or others surface material that water does not permeate.
10. “Instream uses” means all those human and ecological uses of water which occur within the banks of rivers and streams, including waste assimilation, hydropower production, recreation, maintenance of aquatic habitats, and support of biological integrity.
11. “Interbasin transfer” is a withdrawal or diversion of water from one river basin, followed by use and/or return of some or all of that water to a second river basin. The river basin from which the withdrawal or diversion occurs is termed the ‘donor’ basin, and the river basin to which all or a portion of the water is diverted and returned is termed the ‘receiving’ basin.
12. “Intrabasin transfer” is a withdrawal or diversion of water from a point within a sub-basin within one of Georgia’s 14 major river basins, followed by the use and discharge of some portion of that water into a second sub-basin within the same river basin.
13. “Low impact development” is a comprehensive land planning and engineering design approach to stormwater management that attempts to mimic a site’s predevelopment hydrology by using techniques that filter, store, and detain runoff close to its source and aid in infiltration and evaporation.
14. “Non-point source pollution” is diffuse contamination including sediment, litter, bacteria, nutrients, metals, oils, grease, chemicals and other pollutants entering bodies of water. Non-point source pollution may be transmitted by stormwater runoff, precipitation, atmospheric deposition, drainage, and/or seepage. Stormwater itself may also detrimentally alter a stream’s hydrology, flow rate, temperature, and other physical and biological characteristics.
15. “Offstream uses” means the purposes for which water is withdrawn from streams, rivers, lakes, or aquifers.
16. “Reclaimed water” is wastewater that has received treatment to urban water reuse standards, meets the treatment criteria specified in EPD’s reuse guidelines, and is utilized at a reuse area or is sent to a designated user for reuse. Reclaimed water can include municipal wastewater, industrial wastewater, or treated effluent.
17. “Return flow” refers to that portion of withdrawn water that is returned to surface water or groundwater systems, and is then available for other uses.
18. “Reservoir” means a lake or pond that is designed, constructed, and operated for the purpose of storing water for some period of time.
19. “Water reuse” is the use of reclaimed water as a substitute for another generally higher quality water source. Reclaimed water can be reused for the beneficial irrigation of areas that may be accessible to the public (such as golf courses, residential and commercial landscaping, parks, athletic fields, roadway medians, and landscapes) and for other beneficial uses such as human uses, cooling towers, concrete mixing, and car washes.
20. “Water supply reservoir” is a lake or pond constructed and operated to store water primarily for the purposes of public water supply.