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Georgia's Water Conservation Implementation Plan Questions and Answers

A copy of the WCIP can be found online at
www.ConserveWaterGeorgia.net

Q. What is the Georgia Water Conservation Implementation Plan (WCIP)?

A. The WCIP was developed by the Georgia Department of Natural Resources, Environmental Protection Division, in partnership with individuals representing the diverse water users of the state, to create a culture of conservation and guide Georgians toward more efficient use of our state's finite water resources. It serves as a resource for institutional water users and may assist with prioritizing water conservation, maximizing water efficiency and protecting water resources without causing harm to the economy or quality of life that Georgians enjoy.

Q. What is the goal of the WCIP?

A. In Georgia, the ultimate goal of water conservation is not to prevent water use, but to maximize the benefit of each gallon because, while abundant, Georgia's water resources are finite. The WCIP provides foundational water conservation goals that will move our state and our diverse water users toward greater efficiency and foster a culture of conservation.

Q. Who is the WCIP for?

A. The WCIP is designed to foster a culture of conservation in Georgia and is intended to guide Georgia business owners, farmers, homeowners, service providers and government officials toward greater water efficiency. It provides specific goals and best practices for the state's seven major water use sectors: agricultural irrigation, electric generation, golf courses, industrial and commercial, landscape irrigation, domestic and non-industrial public uses and state agencies.

Q. How much water do these institutions water sectors use? Has that amount increased or decreased over time, and what is the expected impact of the WCIP goals?

A. Water use varies by water use sector. The WCIP presents data reported in the U.S. Geological Survey (USGS), *Water Use in Georgia by County for 2005*; and *Water-Use Trends, 1980-2005* report released in January 2009. However, some water use sectors addressed in the WCIP are not addressed in the USGS report. For these sectors, EPD calculated estimates of use. The goals in the WCIP are intended to guide water users to greater water efficiency. How much water saved is dependant on the local circumstances and any prior investment in conservation.

Q. Is the WCIP a mandate?

A. No. The WCIP offers menus of optional best practices that can be implemented by those within a specific water use sector in order to achieve benchmarks and reach goals. The water conservation practices included in the WCIP are generally cost-effective options to be considered by Georgia water users.

Q. How does a water user know what goals and best practices are right for them?

- A. The WCIP's water conservation goals are sector-specific, long-term aspirations. The goals are not one-size-fits-all targets for reductions in water use. The WCIP includes benchmarks to help determine progress toward a long-term water conservation goal.

Q. Will the WCIP be revised or updated?

- A. Comments and suggestions for improving and refining the WCIP are encouraged and welcome. Comments received through July 31, 2009, will be compiled and considered for an August update to the WCIP. After August 2009, comments will be reviewed on a quarterly basis.

The WCIP and supporting documents are available online at www.ConserveWaterGeorgia.net and comments and/or suggestions for improvement can be submitted to EPD through WCIP@dnr.state.ga.us

Also, the WCIP will be reviewed and revised every five years as part of the cycle to update the SWP, and EPD will publish an annual report indicating the status of progress on implementing the elements of the WCIP.

Q. What is the cost of implementing the WCIP practices? Are there tax credits or incentives available to help defray costs?

- A. The cost of implementing water conservation practices will depend on the individual water user's situation and local water conditions. To gain the most benefit from water conservation, water users should conduct an analysis to determine the practices that promise the most significant water savings for the cost incurred. The practices listed in the WCIP are not prescriptive, but are considered to be generally cost-effective and should be further evaluated by water users.

There are a variety of funding sources and professional assistance programs available to help water users, agencies and organizations implement water conservation practices. Unfortunately, no general pool of funding is available to assist all Georgia water users interested in water conservation projects. Where funding sources are available, they are often sector-specific, and in many cases activity-specific. Where appropriate the WCIP identifies the funds and resources that are available to water users within the sector-specific chapters.

Q. What are the benefits of using the WCIP in planning water conservation programs?

- A. The benefits of water conservation are realized on several levels:
- o Businesses can streamline operations and reduce operating costs through water-conserving technologies.
 - o Water providers can significantly reduce water treatment and production costs when investments are made to address water lost within their treatment and delivery system.
 - o Landscapes can be less vulnerable to drought conditions when they are designed for efficiency and the included plants require less water.

Q. Why does the state need the WCIP and a focus on water conservation?

- A. Water conservation is identified as a priority water management practices in the Statewide Water Management Plan. The WCIP is a collective effort of Georgia's major water use sectors to identify the activities we can implement to accomplish the statewide benefits.

Statewide, the benefits of water conservation can be manifested in a variety of ways:

- o In terms of economic development, emphasizing water conservation can promote responsible management of finite resources.
- o In areas where resources are not limited, water conservation practices contribute to retaining water for current and future uses.

- A statewide commitment to conservation also promotes equity across regions and across water use sectors.

On all levels, water conservation can help preserve our ability to thrive. Efficient water use across all major water use sectors will help ensure that we have the water to meet future needs as our population and economy grows.

Q. What is the economic impact of water conservation on the state of Georgia?

- A. Conservation, implemented as a long-term water management practice, is fiscally responsible and can enhance our ability to grow. Water conservation does not lower our quality of life or deter business. It can lead to more efficient and effective business operations and help water users recognize the value of water. The ultimate goal of water conservation is to maximize the benefit from each gallon used, while not preventing water use

Q. What will happen if Georgia does not conserve water?

- A. Improperly managed withdrawals and excessive consumptive use can negatively impact Georgia's water bodies, our water uses and the environmental services our waters provide. Because drought occurs in Georgia, proper management of water withdrawals is important to help optimize flows in rivers and streams. Due to extreme drought conditions, many of Georgia's rivers, streams and reservoirs are currently, or have recently been, at record lows. Low water levels can cause water quality problems, which increase treatment costs and may threaten ecosystems and public health. Taking steps to maximize water efficiency and conserve water where possible are increasingly important to protect current and future resources without causing harm to the economy or the high quality of life enjoyed by many. While water conservation alone is not expected to fully meet future water needs, water conservation is recognized as an effective and efficient management practice to meet some needs for all water users in the state.

Q. Where can I find the full WCIP?

- A. The WCIP can be found at www.conservewatergeorgia.net.

Q. Is there a source for assistance in implementing the WCIP's practices and meeting goals?

- A. The implementation actions identified throughout the WCIP include activities, such as providing technical guidance or financial assistance or evaluating general conservation trends. When resources are available, the implementation actions can be taken by state agencies, associations, organizations and other groups to support the implementation of practices. Also, EPD will publish an annual report indicating the status of progress on implementing the elements of the WCIP.

Q&A by sector

Agricultural irrigation

Q. What is the impact of agricultural irrigation on Georgia's water resources?

A. Irrigation of crops is by far the largest use of water on farms in Georgia, while non-irrigation uses such as those in livestock operations and in small, on-farm processing facilities are much lower. Water needs vary by season, and the highest water use occurs during the crop-growing season, April through October.

Q. What does the WCIP offer agricultural water users?

A. The WCIP's goals and benchmarks are designed to help farmers and others assess current water use and identify the practices to improve a farm's overall efficiency.

Q. What does the WCIP hope to achieve among agricultural irrigation users?

A. The WCIP's agricultural irrigation goals include:

- Increasing understanding of water use and current levels of water use efficiency on Georgia farms
- Enhancing the efficiency of existing irrigation systems and encourage installation of high efficiency cropping and irrigation systems
- Minimizing the amount of water lost from ponds and other systems that capture rainfall

Q. Will implementing practices from the WCIP affect soil conditions or crop yield?

A. Many of the agricultural irrigation practices identified in the WCIP allow farmers to be more responsive to the needs of their crops. Many of the activities are focused on understanding crop needs and water use requirements, and getting the water directly to those plants that need it. Also, the WCIP encourages farmers to use of crop varieties, cropping systems and irrigation systems that maximize the efficient use of water on farms. Cropping systems is a term used to describe a specific crop or crop rotation and the associated cultural and mechanical practices used to grow that crop. For example, conventionally tilled cotton and conservation-tilled cotton describe two different cropping systems with the same crop. Conservation tillage systems provide a method of retaining rainfall on agricultural fields so as to decrease the amount of supplemental irrigation farmers must apply to crops. Scientific studies estimate that increasing the number of farms with conservation tillage systems by only 10 percent could result in water savings of 5 to 15 percent.

Electric Generation

Q. How does water conservation affect electric generation?

A. The relationship between energy and water is complex and warrants further research. It is clear, however, that integrating energy and water solutions will become increasingly vital to help sustain our finite resources in light of our state's growing population and environmental needs.

Q. Does the WCIP address all types of electric generation?

A. The energy chapter focuses on helping thermoelectric power plants, which use water in the process of converting thermal energy into electric energy, better understand the relationship between water conservation and long-term energy needs, educating energy customers and implementing practices that minimize the amount of water necessary for electricity generation.

Q. What does the WCIP hope to achieve among electric generation firms?

A. The WCIP's electric generation goals include:

- Assessing the feasibility and benefit of integrating water conservation efforts into utilities' long-term plans for meeting energy demands
- Raising awareness and building an understanding of the impact water conservation practices have on energy demands through partnership with energy customers
- Improving water efficiency at existing facilities and identifying ways to minimize the amount of water needed to produce electricity

Q. Why should electric generation companies implement water conservation practices?

A. Electric utilities have dual roles to play in helping sustain Georgia's water resources through water conservation efforts. First, electric utilities should invest in water conservation to help sustain available water supplies upon which every electric utility depends. Secondly, as a means to meet their responsibility to implement cost-effective demand side management (DSM) measures, electric utilities should also evaluate the impact that water conservation efforts by their customers can have on reducing energy demands.

Q. Can implementing the practices in the WCIP result in the generation of "greener" energy?

A. The relationship between energy conservation and water conservation is complex. Right now, in the Southeast, little is understood about how reductions in energy demand affect the amount of water needed to generate that energy, and about how much water conservation affects energy demand. Because of the information gap regarding how energy demand responds to water conservation efforts, it is important that activities begin now to address the shortcomings of our knowledge.

Golf Courses

Q. How do different golf courses use the WCIP based on their specific needs?

A. The WCIP goals and benchmarks center on the development of course-specific best management practices (BMP) plans and implementing water-conserving practices. BMP plans are site-specific guidelines for golf course turf and water management. These plans can ensure that managers and superintendents incorporate water conservation practices into their decisions and identify conservation-related activities during periods of both adequate and insufficient water supply.

Q. What does the WCIP hope to achieve among golf courses?

A. The WCIP's golf course goals include:

- Developing BMP plans for golf courses
- Enhancing our understanding of water use on golf courses throughout the state (considering variations in rainfall and climate conditions)
- Helping foster a culture of conservation inside and outside Georgia's golf course industry

Q. Will implementing WCIP practices impact the quality of Georgia's golf courses?

A. Water used by golf courses tends to be highly visible to the public and provides the golf industry the unique challenge and opportunity to demonstrate water conservation efforts that can benefit the community. The water conservation activities identified in the WCIP are long-term actions that are not intended to prevent water use, but to maximize efficiency and the benefit from each gallon used.

Industrial and Commercial

Q. How does the WCIP provide guidance for all types of industrial and commercial operations?

A. Water use in industrial and commercial facilities varies by facility type, product, water source and other local circumstances. The WCIP goals for industrial and commercial facilities focus on improving our understanding of water use, measuring efficiency through metrics such as water use

intensity, which is the ratio of water use to a measure of output, function or service, and where practical, implementing practices to improve efficiency.

Q. How will water use reduction targets be established for each facility?

A. Each facility's water use and conservation efforts are unique and there are a number of ways a facility can establish targets for conservation. One option is, after selecting a suite of effective practices, facilities can set reduction targets based on estimated water savings that the facility could achieve. Another option is to compare their facility, or a particular operation within the facility, to a similar facility or operation that is considered (by associations or organizations) to be efficient.

Q. What does the WCIP hope to achieve among industrial and commercial operations?

A. The WCIP's industrial and commercial facility goals include:

- Determining a facility's baseline water use
- Establishing reduction targets for existing water uses and implement cost-effective practices to achieving those targets
- Educating and engaging employees and contractors
- Integrating energy and water conservation practices, where practical

Q. Will support or training be provided to help implement WCIP practices?

A. The implementation actions identified throughout the WCIP include activities, such as providing technical guidance or financial assistance or evaluating general conservation trends. When resources are available, the implementation actions can be taken by state agencies, associations, organizations and other groups to support the implementation of practices. Also, EPD will publish an annual report indicating the status of progress on implementing the elements of the WCIP.

Landscape Irrigation

Q. How does the WCIP provide guidance for all types of landscape irrigation?

A. Like water use for agricultural irrigation and golf courses, landscape irrigation varies significantly from season to season, with the greatest use occurring in summer. Researchers estimate that public water use outdoors increase from 30 to 50 percent each summer. There are number practices and high-efficiency technologies emerging to allow landscapes and irrigation systems to be more water efficient.

Q. What does the WCIP hope to achieve among landscape irrigation uses?

A. The WCIP's landscape irrigation goals include:

- Establishing landscape and irrigation standards
- Documenting professional proficiency through certification
- Reducing summer water use peaks
- Educating all water users regarding sound water conservation practices and the value of water efficient landscapes

Q. How will implementing WCIP practices improve soil conditions and promote healthier landscapes?

A. An important and often overlooked element of landscapes is the condition of the soils. Traditional development practices can strip away topsoil and organic material that is critical to maintaining a healthy and water-efficient landscape. Organic and inorganic amendments can be added to soils that have been compacted or altered during development. These amendments can improve the physical, chemical and biological properties of the soil. Amendments help the soil hold water and improve water and nutrient movement throughout the soil – characteristics of healthy landscapes. Healthy landscapes can improve air quality, reduce energy consumption, provide groundwater recharge, and

reduce storm water runoff and soil erosion. If the proper steps are taken when designing and installing residential and commercial landscapes, they can be maintained and irrigated while still protecting natural resources, environmental quality and economic vitality.

Q. Why is the state interested in setting landscape and irrigation standards?

- A. Statewide standards for design, installation and maintenance of landscapes and landscape irrigation systems can help reduce landscape water use. These standards can also help homeowners and business owners understand the importance of proper landscape water use and avoid problems from faulty irrigation systems or inefficient landscapes.

Domestic and Non-Industrial Public Uses

Q. What does domestic and non-industrial public use include?

- A. Domestic water use includes indoor water that flows through fixtures, such as toilets, faucets and showerheads, and is used by appliances, such as clothes washers and dishwashers. Non-industrial uses include water used for business purposes but not related to industrial and commercial cooling, heating and processing.

Q. How can water providers affect their customers' water use?

- A. For water conservation efforts to be successful, water providers and/or local governments must try to influence the choices of water customers. The amount of water required to support domestic and non-industrial uses is determined largely by customers' behavior and the technologies they employ. Water providers can encourage efficiency among their customers through education programs that stress the importance of water conservation and give customers tools for maximizing efficient water use.

Q. What does the WCIP hope to achieve among domestic and non-industrial users?

- A. The WCIP's domestic and non-industrial public uses goals include:
- Implementing comprehensive water conservation education and outreach programs for customers and citizens
 - Maximizing the efficiency of the systems that treat and deliver water to customers
 - Implementing conservation-oriented rates to encourage customers to conserve and help maintain the systems
 - Helping customers maximize water efficiency indoors and outdoors

Q. Will changes be made to Georgia's watering restrictions based on the WCIP?

- A. Water conservation activities, like those identified in the WCIP, are long-term water management practices that can help minimize the need for emergency responses to drought conditions, such as restrictions on water use.

Q. Does the WCIP provide guidelines for establishing water conservation education programs or conservation-oriented rates?

- A. The WCIP provides the framework of collective water conservation goals and the practices that can be implemented to help achieve those goals. As a resource, the WCIP provides references to detailed, step-by-step guidelines that individuals, businesses and state agencies can use to establish water conservation education programs and conservation-oriented rates.

State Agencies

Q. Why are state agencies considered a water use sector in the WCIP?

A. When a statewide water conservation effort is implemented, state agencies are often held to equal or higher standards than other water users. From this unique position, state agencies should be progressive in water conservation efforts and lead by example. Plus, water conservation within government agencies has the added benefit of saving taxpayers money.

Q. What does the WCIP hope to achieve among state agencies?

A. The WCIP incorporates the Governor’s goal for state agencies to reducing water use intensity (measure of water use per square foot of occupied space) by five percent by July 2011 and two percent annually through 2020, totaling about a 20% reduction. The other state agency goals include:

- Constructing any new facility to be water and energy efficient
- Minimizing water loss in all state facilities

Q. What is the cost of having state agencies meet the WCIP goals?

A. State agencies will reduce water use intensity, relative to a 2007 baseline, by 5 percent in July 2011, and 2 percent annually through 2020. This equates to a more than 20 percent reduction in water use intensity, which has the potential to reduce water and sewer bills significantly, resulting in saving taxpayers money.

Q. Have any state agencies already committed to reducing water use? If so, what are the results?

A. Most state agencies have taken steps to conserve water in response to the current drought. The Executive Order (EO) issued by Governor Sonny Perdue on Oct. 24, 2007, calls for Georgia state agencies to “lead by example” and take immediate actions “to reduce non-essential water use, water waste and water loss” at state-owned facilities.” On the day the order was issued, the Governor also called for state agencies to reduce water consumption by 10 to 15 percent at state-owned facilities. It is assumed that when normal, non-drought operations resume, some of the 10 to 15 percent reductions achieved through emergency measures (such as not installing and, therefore not watering, new landscapes) would be lost. However, these savings can be captured again through long-term water conservation planning and implementation of practices described in the WCIP.