

STRATEGIES FOR WATER CONSERVATION – GREEN and GOLF INDUSTRIES

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Seven Key Strategies for Fostering State-BMPs For Turfgrass/Landscape Water Conservation

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1. Identify and enlist key industry individuals that will be spokesperson.
2. Direct as your primary focus development of a proposed State-BMP water-use and conservation plan.
 - Formally adopt the State-BMP approach as the best model for water-use efficiency and conservation for all water users as part of your mission statement.
 - Develop a proposed State-BMP plan that deals with the most important, specific issues for the Green Industry.
 - Evolve a presentation and promotion plan for your proposed State-BMP plan to various audiences starting with political and regulatory groups.
 - Develop a format to continue to interact with political and regulatory groups over a long time period to influence the initial State Water Plan and changes over time.
 - Develop site-specific BMPs templates/guidelines for larger scale turfgrass and landscape areas that do not already have such template documents.
3. Develop economic impact information
4. Formulate an educational program for internal and external audiences.
5. Partnership with others with similar interests and provide leadership in water planning.
6. Present a proposed benchmarking plan to the political and regulatory groups.
7. Initiate a plan to gather and use information on the important environmental functions, recreational contributions, aesthetic, and economic roles of turfgrass in the environment

Purpose

The purpose of this article is to suggest an *overall strategic approach* for a Green Industry alliance group (such as the Urban Agriculture Council or Georgia Allied Golf Council) as they interact with political and regulatory entities for the purpose of *fostering State-BMPs* (best management practices) policies as the best means for achieving water-use efficiency and conservation for all state water users.

Are We Focusing on the Right Goal?

What we focus on is what we plan for. When under political pressures inherent in water crisis situations, it is easy for the Green Industry to focus on much different goals than the political and regulatory groups – one is on oranges and the other on apples. The political and regulatory government entities have one primary focus – a plan for water conservation; while the Green Industry is often focused on another issue, namely, survival of their businesses. If the Green Industry consistently plans on how to convince the government groups how important their industry is; but does not address the government groups’ primary issue (i.e. water conservation), the two groups often “talk past each other”. These responses are typical when a water crisis initially occurs in a state or region; but successful Green Industry groups have eventually had to change focus to that of water conservation. The more rapid energies and efforts are adjusted to this key issue, the more effective the influence of the alliance will be.

The fact is that the long term economic sustainability and viability of the Green Industry depends on successfully dealing with water-use efficiency and conservation. Thus, water conservation must be the central focus of the Green Industry planning --- and the industry must proactively bring forth an effective Green Industry water-use efficiency and conservation plan for consideration and influence within political and regulatory groups. This approach is targeted directly to the primary goal of the government groups and state citizens; and during the process, the Green Industry will have ample opportunity to present their other points of concern such as economic importance of the industry, how the industry has been adversely economically impacted; etc.

A successful plan is essential for water-use efficiency and conservation. Two general types of management philosophies (or plans) have evolved for addressing complex, individual environmental problems, including water conservation, namely:

- A rigid regulation approach that is neither business-friendly nor environmentally sound (2).
- A best management practices (BMPs) approach based on principles that have evolved over 30 years from the U.S. EPA’s Clean Water Act BMPs program for water-quality protection.

Due to the success of this approach for protection of water quality, the BMPs approach has been increasingly adopted for water-use efficiency and conservation. The Council for Agriculture and Science Technology (CAST) (2) has encouraged this approach; and currently, Colorado (7), California (1), Texas (8), and San Antonio, TX (6) have BMPs based water conservation programs at the State, water district, or community regulatory levels.

For the purposes of this article, we will call the state, water district, or community BMPs, “***State BMPs***” for water-use efficiency and conservation. Common components of a State BMPs plan are outlined in Table 1, while components of site-specific BMPs are noted in Table 2. In the remainder of this article, we focus on State BMPs. State BMPs have three important attributes (4). First, they define the water management region and the regulatory authority for that region. It is not unusual for a state to invest overall water management authority in a department of natural resources, but, the department of natural resources may allow regulation at the level of a water district or a community/metropolitan area. The water district is normally a major water shed area,

and it is often best to allow latitude in management at this level because one water shed may receive rain, while another may not. Second, *a State BMPs plan denotes the regulations for water management at all area levels down to specific sites*. Regulations (that is, the State BMPs) would detail the various water-conservation and water-efficiency measures within the water district. Third, state BMPs encourage or mandate all water users to operate on BMPs principles. All types of large irrigated sites, such as golf courses, athletic fields, sod production fields, and institutional grounds, would each be expected to have site-specific BMPs (Table 2).

Planning Strategies for Fostering a State-BMPs Water Conservation Plan

Successful State-BMPs for the Green Industry do not just happen but must be fostered by the Green Industry – i.e., regulations that are favorable to the sustainability of businesses (jobs and economic health) and the environment do not automatically arise within the political or regulatory realms. While the State-BMPs approach is being used in key states, it is not *yet the “norm”* and, therefore, government groups do not have an existing “package” on the shelf to pull off and use – as would be true for State-BMPs for water quality issues such as pesticide, nutrients, or sediment. Thus, the Green Industry must proactively develop and present such a plan that is tailored to their state for interaction with the political and regulatory entities at the local to state level.

What are key strategies for positive interaction in the political and regulatory realms toward development of favorable State-BMPs? The key strategies outlined below are based on the experience of the authors and other groups (1, 2, 3, 6, 7, 8, 9, 10, 11):

First, identify and enlist key industry individuals that will be spokespersons. These individuals are normally key leaders within various components of the alliance; but may also include a lobbyist for the alliance. From within this group, a primary spokesperson should be identified. Enlist partners from within all components of the Green Industry that have technical, educational, research, or financial strengths.

Second, as the alliance’s primary focus, concentrate on fostering a State-BMPs water-use and conservation plan. This should entail several aspects, such as:

- **Formally adopt the State-BMPs approach as the best model for achieving water-use efficiency and conservation for all water users as well as the Green Industry** --- the details do not need to be worked out at this stage, but adoption of the concept provides the necessary direction for further activities. This could be stated in the form of a mission statement.
- **Develop a proposed State-BMPs plan that deals with the most important, specific issues for the industry** (see eNewsletter 1, November 2007) (4). An individual or committee should be appointed for this task along with identification of key resource people and resource materials such as listed at the end of this article. This is a place that University personnel working with the Turfgrass/Green Industry commodity can assist as resource individuals. Political and regulatory entities normally value integrated, science based information on issues that arise out of universities or science organizations such as CAST (2). Two State-BMPs versions should be developed, a full version and a 1-2 page Executive Summary version.

- **Evolve a presentation and promotion plan for the proposed State-BMPs plan targeted to various audiences starting with political and regulatory groups.** In initial contacts, present the concept and BMPs essentials in summary form of 1-2 pages, since the concept must be readily understood and a large document at this stage will often not be read. Tables 1 and 2 can give guidance in summarizing the concepts. However, in the summary document, it should be stated that similar water conservation programs do exist in key states or communities and that the BMPs approach is based on the same “gold standard” environmental management model used for water quality issues over the past 30 years. The summary format is also an excellent document to educate within the Green Industry (so that there is a wide-spread understanding of this approach) and for media use.
- **Develop a format for long-term interaction with political and regulatory groups to influence the initial State Water Plan and changes over time.** Water issues are not resolved in a single plan that then stays static; but the process normally evolves over several years.
- **Develop site-specific BMPs templates/guidelines for larger scale turfgrass and landscape areas that do not already have such template documents.** The golf course industry has such a template --- one is an on-line template developed by the Georgia Golf Course Superintendents Association (GGCSA), and the second are the web-based packages used in the Golf Course Superintendents Association of America’s (GCSAA) BMP training courses (3, 5). These can be modified for the sports field, sod farm, and general grounds components of the industry. Site-specific BMPs are a core part of a State-BMPs Plan for large irrigated sites (Table 1). After development, there should be a plan for implementation within each of these turfgrass industry areas. Copies of these documents can be located, and downloaded, from the UGA turfgrass webpage at www.GeorgiaTurf.com.

Third, develop and update economic impact information. When in the midst of a water crisis, politicians often react to the immediate political pressure of media and activists. But, crisis management is not a plan for long-term economic stability and viability of the state economy. Eventually, the adverse effects of water regulations on jobs and the economy arise as important considerations – especially if there are cases where crisis management without a good State Water Management Plan has resulted in businesses closing down and job losses. Two types of economic information are important: a) economic survey data on the size, extent, jobs, and economic (direct and indirect) importance of the Green Industry and each component, and b) information on the adverse effects of the water crisis on jobs and the economy. In this instance, job loss should not be solely reported as from within some segment of the industry, such as landscapers; but as jobs lost out of the community and local economy that is providing goods and services and purchasing goods and services. These “jobs” are people within the community who are their neighbors and who are like all citizens – attempting to provide their families with basic needs, sending their children to school, etc. It may be beneficial to document whether those who lost businesses or jobs would go back into the same enterprise if the same regulatory climate continues or if a more favorable one evolved. A related point is that the likelihood of a new business filling the void left by one that went out of business is not very probable if there is a high degree of uncertainty about the same types of crisis water management decision occurring again. As with the proposed State-BMPs document, there should be definite plan for use of the economic information and individuals identified who are responsible for dissemination.

Fourth, develop an educational program for internal and external audiences. This point has been noted in the previous strategies but is highlighted again as an essential point.

Five, partnership with other of similar interests and provide leadership in water planning. All water users will eventually require a water-use efficiency and conservation plan that will be acceptable within the political and regulatory arenas – each industrial, agricultural, commercial, and institutional as well as domestic indoor and outdoor water users. Such plans will entail State-BMPs and site-specific BMPs. While the specific practices and details may vary for each entity, there are many concepts that are very similar; and a holistic, science-based, BMPs model is a common sense model for all water users. Partnerships may also include programs and action strategies with key coalitions of other water users or environmental groups that support a BMPs approach, such as Audubon International, CAST, etc.

Sixth, present a proposed benchmarking plan to the political and regulatory groups. In the initial efforts toward a Georgia state water plan in the early 2000s, it became apparent to the politicians and regulatory agencies that they lacked appreciable information concerning water use and needs from various water users. There were considerable finances directed toward obtaining such “benchmark” information for agriculture but not for the Green Industry. Key benchmarking information is being gathered nationally for the golf industry by the GCSAA. While such information is very important, lack of it is not a reason to delay adoption of a State-BMPs approach for water conservation. When the US EPA initiated the BMPs plan for protection of water quality, they did not have all the answers, but have gained considerable information over the past 30 years to fine-tune and improve the initial BMPs.

Seventh, initiate a plan to develop and use information on the important environmental functions, recreational contributions, aesthetic, and economic roles of turfgrass in the environment (see Table 10.2 in reference 5). Special attention should be given to the environmental benefits. It is possible to integrate this strategy into the sixth (benchmarking) strategy, especially if state funding for the information is available.

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Table 1. This table contains an outline of common **State BMPs** for an urban water conservation plan (1, 6, 7, 8, 9, 10).

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1. Identify water conservation goals.
 2. Develop water-use profiles for water users and forecasting for future needs.
 3. Identify and evaluate all water conservation measures.
 4. With consideration of items 1-3, develop a community or water district BMPs plan including well-defined, logical water restriction levels with stated triggers to move from one level to another. Usually 1-2 triggers are used and these are well publicized. Both water restriction levels and the requirements for triggers should be consistent with state and water district BMPs practices.
 5. Infrastructure improvements. Public system water audits, leak detection and repair. Public water delivery systems are often the source of major water loss in many urban areas. For golf courses and other water users, water audits, leak detection, and repairs would be part of their site-specific BMPs.
 6. Indoor water conservation measures, including all public buildings and facilities.
 7. Conservation pricing with water costs rising above the normal use level for a user that is operating under site-specific BMPs.
 8. Stakeholder cost and benefits. Evaluation of voluntary and regulated water conservation measures on all stakeholders – i.e., community jobs, economy, environmental. This evaluation should be not only when selecting initial conservation practices but also in terms of how fairly and uniformly different businesses are treated, especially in times of water crisis.
 9. Encourage alternative irrigation water sources especially by large landscape areas such as golf courses.
 10. Consider potential for water conservation incentives such as rebates for conservation devices, systems, and measures.
 11. Develop an on-going public information and education program based on a positive attitude that fosters voluntary actions by individuals to achieve water conservation. Avoid making every citizen a “water cop”. Conservation plans and programs are long term and their nature influences the community attitudes and actions.
 12. School based educational programs that foster understanding of BMPs.
 13. Foster development of site-specific BMPs for all industrial, commercial, institutional, agricultural, and irrigation landscape water users. See Table 2 and Carrow et al. (2005b; 2007) for components or strategies within a site-specific BMPs plan. All public owned sites that are irrigated should be models for development and use of site-specific BMPs.
 14. Develop a monitoring and reporting program that entails all water users. Monitoring requirements should focus on the essential information and not become burdensome for water users by requiring unnecessary information. Overall water-use efficiency and conservation are the important aspects and not monitoring every component within a site-specific BMPs plan. Public facilities should not be exempt from monitoring and reporting.
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Table 2. Components or key strategies in a **site-specific BMPs** program (2).

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1. Initial Planning and Site Assessment for a Water Conservation Program.
 2. Alternative Irrigation Water Sources.
 3. Irrigation System: Design, Installation, and Maintenance.
 4. Irrigation Scheduling For Water Conservation: Tools and Approaches.
 5. Selection of Turfgrass.
 6. Turfgrass Facility Design for Water Conservation.
 7. Additional Management Practices for Water Conservation.
 8. Clubhouse, Maintenance Facility, and General Grounds Water Conservation Strategies.
 9. Benefits and Costs of Regulations for All Stakeholders
 10. Education – Internal and Outreach.
 11. Monitoring and Modifying the BMPs Plan.
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