

## **Water Conservation Advisory Council**

### *Stakeholder Statement – Looking Forward*

#### Background

Water conservation is critical to the future economic and environmental viability of Texas. By 2060, more than 46 million people are expected to call Texas home – greater than 80 percent of the 2010 population. It is projected that almost 22 million acre-feet of water per year would be required to meet the water demands of the state’s homes, businesses, and agricultural enterprises if the drought of record were to occur. Conservation can play a vital role in meeting the future water needs of Texas. Conservation reduces the total water demand which also reduces infrastructure costs and the cost of developing new supplies.

Recognizing the importance of water conservation in Texas, the legislature created the Water Conservation Advisory Council in 2007, a group consisting of 23 experts representing various agencies, political subdivisions, water users, and interest groups. The legislature directed the Council to address several charges and to report to state leadership before every legislative session. The specific legislative charges that include:

- ❖ *Monitoring trends in water conservation implementation*
- ❖ *Monitoring target and goal guidelines for water conservation*
- ❖ *Monitoring the implementation of water conservation strategies by water users in regional water plans*
- ❖ *Monitoring new technologies for inclusion in best management practices guide*
- ❖ *Monitoring the effectiveness of the statewide water conservation public awareness program*
- ❖ *Developing and implementing a state water management resource library*
- ❖ *Developing and implementing a public recognition program for water conservation*

Recognizing that conservation is not a switch that can be turned on when we experience a water shortage but rather is a set of responsible practices that are learned and passed along to others over a long period of time, the Council believe that we must constantly refine and expand our best water conservation practices to maximize our benefits from our valuable and limited natural resource. Toward that end we have adopted our mission as:

#### Our Mission

*To provide a professional forum for the continuing development of water conservation resources, expertise, and progress evaluation of the highest quality for the benefit of Texas—its state leadership, regional and local governments, and the general public.*

#### Our Commitment

To best achieve broad conservation success throughout the state we believe it is important to establish a consistent framework by which input, information, and ideas can be shared. We believe the following goals are critical in order to continue development of water conservation resources, expertise, and progress evaluation:

1. Expand stakeholder involvement
2. Measure Implementation of Conservation Strategies
3. Update or expand Resources (Information, Tools, and Expertise)
4. Expand public awareness and recognition.

## Looking Forward

### ***Establish a Framework for Stakeholder Involvement***

The Council comprises of 23 members who represent various broad interest groups. To ensure that varying interests are represented the Council believes that it is essential to actively engage appropriate stakeholders in the Council's efforts. The Council would like to recruit active participation from leadership groups, associations, and organizations that represent interests for varying water user groups.

Stakeholder involvement is essential to support the Councils process of proposing refined metrics, developing and revising Best Management Practices (BMPs), documenting trends, and preparing case studies. In order to continuously expand stakeholder involvement the Council will actively communicate and inform key stakeholder groups of Council activities and will encourage active participation by arranging meetings, discussions, and other forums to develop consensus based decisions on metrics, practices, and information sharing.

### ***Evaluation of Water Use Metrics***

The Council intends to work closely with the Texas Water Development Board, the Texas Commission on Environmental Quality, Texas State Soil and Water Conservation Board and other key stakeholder groups and state agencies to evaluate current metrics and methodologies for the analysis of water use and conservation starting with the following water user groups: *Agriculture, Industrial, and Municipal*.

It is our hope that this evaluation will lead to the adoption of metrics that all water users can use to evaluate their water conservation successes. With a uniform set of metrics it will be possible to accurately measure water conservation progress in Texas and to identify trends in implementation.

### ***Water Conservation Best Management Practices***

The Council intends to work closely with stakeholder groups to actively communicate requests for revisions, additions, or deletions to the Best Management Practices Guide. Additionally the Council plans to work closely with stakeholder groups to identify case studies where Best Management Practices or strategies have been implemented successfully. The Council believes that identification of case studies will help to provide guidance and resources to water user groups as they evaluate their conservation and efficiency goals.

### ***Public Awareness***

The Council intends to work closely with stakeholder groups to document efforts and impacts of public awareness throughout the state. Additionally the Council plans to expand our recognition awards program that recognizes success in water conservation efforts in the following water user categories: *Agriculture, Industrial, and Municipal*

## Public Awareness Stakeholder Overview

The Water Conservation Advisory Council (Council) seeks to invite stakeholders to participate in activities and discussions on the following topics:

- Public awareness for increased water conservation
- Recognition awards for water conservation success and achievements
- The availability of resources & tools developed to guide and facilitate water conservation practices
  - Messaging and techniques that have shown success
  - Opportunities for improvement resulting in increased public participation and reduces water usage

### **Public Awareness**

There are many water conservation public awareness efforts currently underway across Texas. Multi-media campaigns, grass-roots outreach events and resource tools are all strategies that have aided in a respectable measure of success in decreasing water waste and increasing water use efficiency.

However, sustained water conservation will be achieved over the next 50 years and beyond through the involvement and commitment of all water user groups in Texas. A concerted effort of all Texas residents will be necessary to meet the needs of our growing population and associated water demands. Effective water conservation efforts and increased public awareness will be critical to meet that end.

### **Recognition Awards**

Individuals, businesses, and communities alike are ultimately responsible for protecting and preserving our state's water resources. Recognizing the achievements of municipal, industrial, and agricultural leaders in water conservation serves as a means to reward their efforts. These recognition efforts generate credible spokespersons within the municipal, industrial, and agricultural sectors. The Council aims to recognize the water conservation efforts of leaders across Texas while at the same time generating positive media coverage, influencing policy, and encouraging others to implement their own water conservation efforts.

### **Resources & Tools**

The Texas Water Conservation Best Management Practices (BMP) Guide<sup>1</sup> was prepared by industry experts to provide general examples of how water conservation BMPs may be structured. It is the Council's hope to update and expand the BMP to include additional water conservation best practices that are directly related to the largest water users in Texas.

The Council is currently considering specific updates and modifications to the BMP that will provide enhanced guidance and information to users. For example, one enhancement under consideration is to incorporate a discussion on the ***Determination of the Impact on Other Resources, such as energy.*** Industry leaders have learned that water conservation practices may impact infrastructure costs, operating and maintenance cost savings, energy savings, personnel issues, etc., it is important to recognize the impacts associated with water conservation practices.

For additional enhancements, the Council would like to supplement the BMP with actual case studies. Case studies will serve to identify those entities that have achieved measurable water conservation success. These case studies will serve as an example for others to follow as well as provide a resource for those who wish to implement like measures.

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<sup>1</sup> Water Conservation Implementation Task Force 2004

<http://www.twdb.state.tx.us/assistance/conservation/TaskForceDocs/WCITFBMPGuide.pdf>



## Agricultural Stakeholder Overview

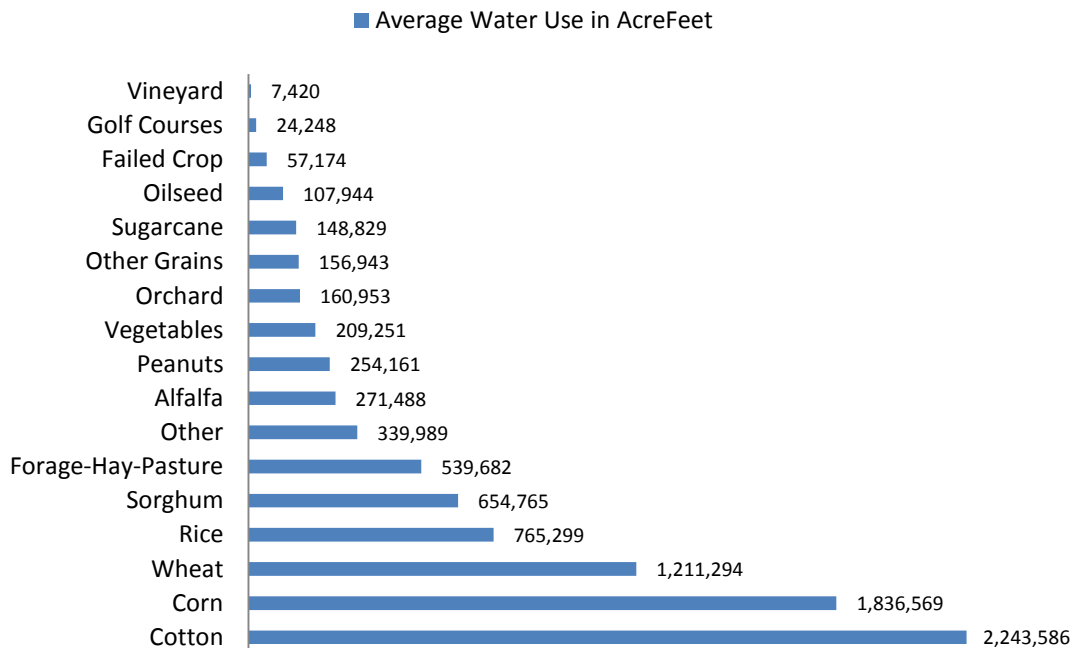
The Water Conservation Advisory Council (Council) is initiating an effort to invite agricultural stakeholders to participate in activities and discussions on the following topics areas:

- Evaluating and defining metrics for agricultural water uses,
- improving resource information such as developing agricultural Best Management Practices (BMPs)
- improving awareness and recognition for agricultural water conservation
- identifying case studies and trends in agricultural water conservation efforts
- studying/measuring the success and implementation of BMPs
- identifying barriers & solutions to conserving irrigation water

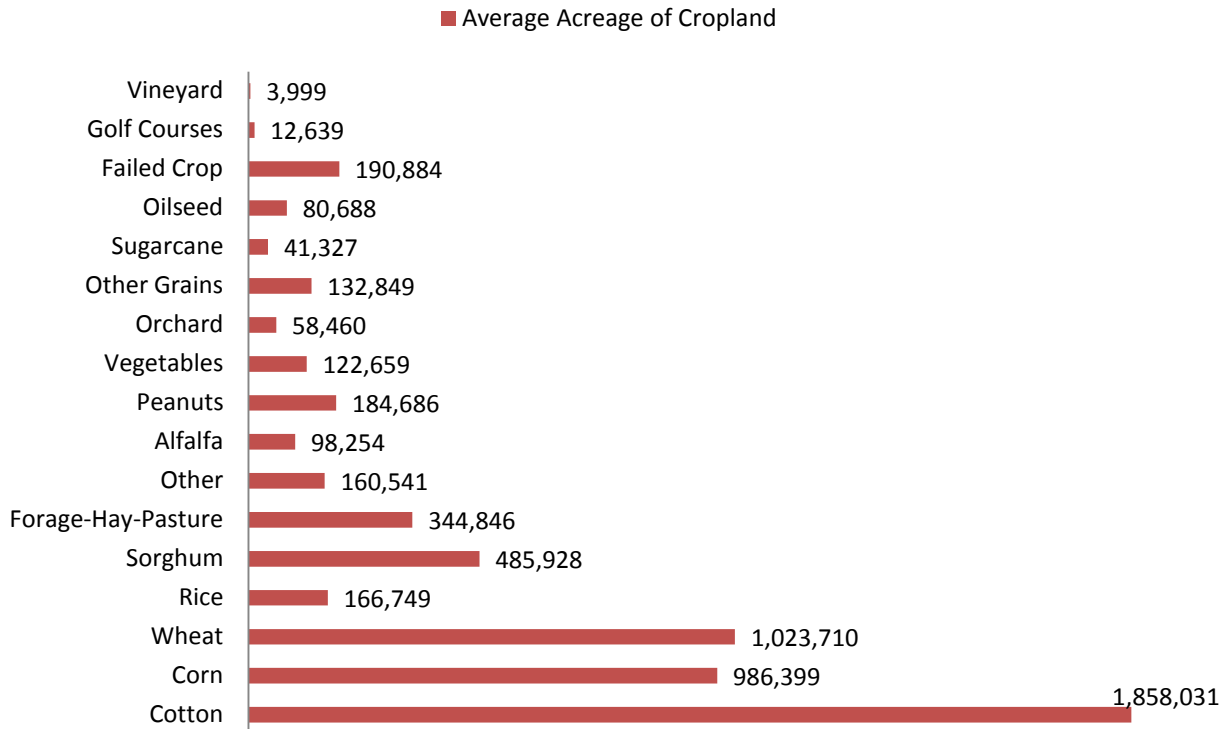
The Council would like to engage the agriculture sectors that use the greatest volumes of water. Within the agricultural arena water conservation goals can be achieved without severe restrictions on irrigation and damaging impacts on the economy. In fact, Texas producers are already taking the lead in conservation efforts by investing in new technology and implementing practices that reduce the amount of water used per acre. In many areas, Texas producers have already been able to reduce their water use or use it more efficiently.

Reducing water usage through more efficient equipment and practices brings cost benefits to producers as well as significant public benefits. The economic activity generated by irrigated agriculture creates tens of thousands of jobs in Texas. Implementing water conserving practices maximizes the economic benefit from each gallon of water that is pumped, and extends those benefits and jobs for generations to come.

### Annual Irrigation Estimates: 5-yr average Irrigation Water Use in Acre-Feet (2005-2009)



## Annual Irrigation Estimates: 5-yr average Irrigated Acres (2005-2009)



Texas Water Development Board Irrigation Estimates

### **Evaluation of Water Use Metrics**

The Council would like to host discussions with agricultural stakeholder groups in order to evaluate current metrics and define possible new metrics for calculating agricultural water use. Currently agricultural water use estimates are calculated using the universal metric of *acre foot per acre of irrigated crop land*. To better understand agricultural water use it is necessary to use consistent terminology and consistent methodologies to compute water use data.

One area where the council would like to take a closer look at is using a metric that is based on a Unit of Production (UOP). For example, *the number of gallons required to grow a bushel of wheat, or the number of gallons required to raise a pound of beef etc.*

The council would like to invite key stakeholder groups to the table in order to involve them in discussions of developing metrics for various agricultural applications.

### **Water Conservation Best Management Practices**

The Texas Best Management Practices Guide<sup>1</sup> currently has 21 agricultural BMPs. These were originally developed and adopted in 2004. It is our intent to review, update and expand the Guide to include additional water conservation best practices resulting from improvements in technology and from

<sup>1</sup> Water Conservation Implementation Task Force 2004

<http://www.twdb.state.tx.us/assistance/conservation/TaskForceDocs/WCITFBMPGuide.pdf>

subsequent research in agricultural water use. The Council is currently considering some specific updates and modifications to the BMP Guide that will better provide guidance and information to users.

For example one enhancement that is expected to be made to the guide is to incorporate some information on the ***Determination of the Impact on Other Resources***. We have learned that water conservation often has other important resource impacts such as infrastructure costs, operating and maintenance cost savings, energy savings, personnel issues, etc. Therefore we believe it is important to recognize the impacts associated with water conservation practices.

### **Public Awareness**

Across Texas there are many water conservation public awareness efforts taking place. Having an effective public awareness campaign with media messaging, outreach events and efforts, and resource tools are all strategies that help achieve a measure of success in water conservation. To achieve long-term water conservation in Texas, it will be essential to involve all water user groups. Within the agricultural arena there are many examples of leadership in water conservation. However, to meet the expected water demands and needs for the next 50 years agricultural water users will need to seek more opportunities to optimize water conservation efforts while maintaining sustainable economic yields.

For additional enhancements, the Council would like to supplement the guide with actual case studies. Case studies will serve to identify those who have achieved a measure of conservation success. These case studies are an example for others to follow and allow other water users to identify possible expertise as a resource for those wishing to implement a water conservation practices.

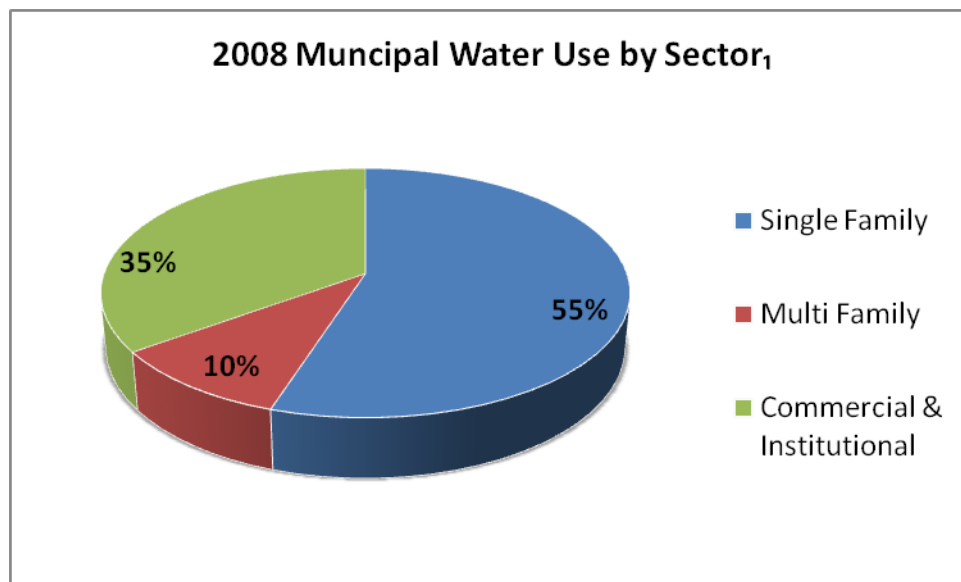


## Municipal Stakeholder Overview

The Water Conservation Advisory Council (Council) is initiating an effort to invite municipal stakeholders to participate in activities and discussions in the following areas:

- Evaluating and defining metrics for municipal water uses,
- Improving resource information such as developing municipal Best Management Practices (BMPs),
- Improving awareness and recognition for municipal water conservation, and
- Identifying case studies and trends in municipal water conservation efforts

The Council would like to engage the municipal sectors that use the greatest volumes of water. Reducing water use benefits municipalities, water users, and creates a more stable economic and natural environment with greater certainty and long term stability. Water conservation and reuse are identified in the 2007 State Water Plan as accounting for nearly one quarter of the State's water supplies by 2060; therefore, it is crucial to build a stakeholder network to provide input on standardizing how water use is measured over time and compared across the State to ensure implementation of successful water conservation strategies.



1. The data presented here represents a 68% response rate of Municipal Water Systems that submitted a Water Uses Survey in 2008 (82% of all systems). Approximately 76% of systems that submitted a survey subdivided water use into these three categories.

### Evaluation of Water Use Metrics

The Council would like to host discussions with municipal stakeholder groups in order to evaluate current metrics for measuring water use. To better understand municipal water use it is necessary to use consistent terminology and methodologies to compute water use data. The single universally used metric for municipal water use is gallons per capita daily (GPCD). The specifics regarding how GPCD should be calculated and compared across the State requires discussion and consensus among stakeholders.

One of the goals of this workgroup is to get various stakeholders involved in municipal water use to help define consistent parameters for GPCD metrics and encourage municipal water users to incorporate this

metric into water conservation programs. Consistency in the application of the metrics will allow for better understanding and reporting of water use which in turn will provide a measure by which water conservation successes can be understood and shared. The Council would like to invite key stakeholder groups to be involved in the discussion of refining metrics and implementing the use of these metrics in water conservation programs across the State.

### **Water Conservation Best Management Practices**

The Texas Best Management Practices Guide<sup>1</sup> currently has 22 municipal BMPs. These BMPs were originally prepared as general examples of how BMPs should be structured. The Council intends to expand the Guide to include other BMPs related to the municipal sector. The Council is currently considering some specific updates and modifications to the BMP Guide that will better provide guidance and information to users.

For example one enhancement that is expected to be made to the guide is to incorporate some information on the ***Determination of the Impact on Other Resources***. Because we have learned that water conservation often has other important resource impacts such as infrastructure costs, operating and maintenance cost savings, energy savings, personnel issues, etc. We believe it is important to recognize the impacts associated with water conservation practices. For additional enhancements, the Council would like to supplement the guide with actual case studies. Case studies will serve to identify and document practices used by water providers to achieve and measure of conservation success. These case studies are an example for others to follow and allow other water users to identify possible expertise as a resource for those wishing to implement a water conservation practices.

### **Public Awareness**

A public awareness campaign that incorporates media, outreach, and resources for water users is a good first step to achieve a measure of success in water conservation. Lasting water conservation will be achieved through the involvement of every person in Texas by helping individuals understand the importance of reducing water use at home and at work to make the most of this precious resource. We must encourage water users to take a close look at their water use by conducting water audits and identifying every opportunity to conserve water through increased efficiency and reduced waste. Every stakeholder group is invited to share information across their sector to educate and engage water users in the statewide effort to conserve water for future generations.

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<sup>1</sup> Water Conservation Implementation Task Force 2004

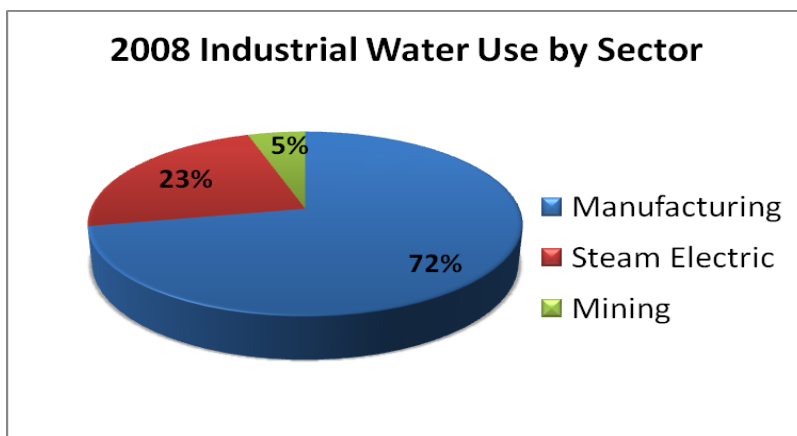
<http://www.twdb.state.tx.us/assistance/conservation/TaskForceDocs/WCITFBMPGuide.pdf>

## Industrial Stakeholder Overview

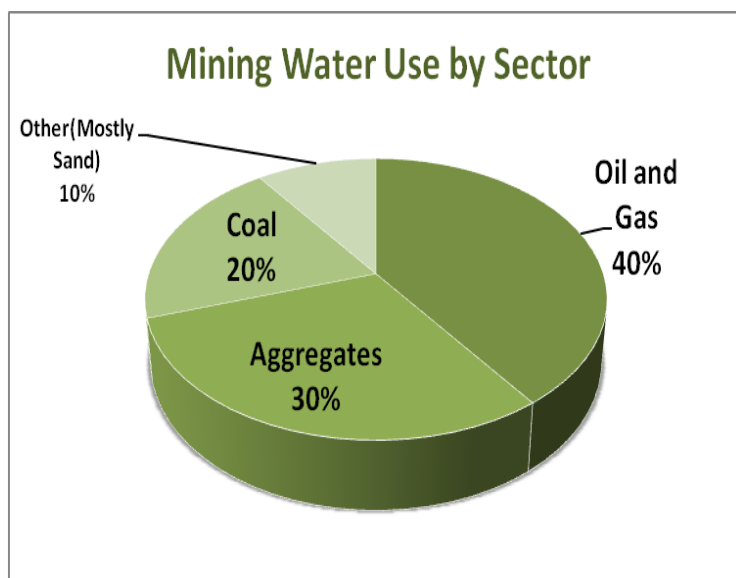
The Water Conservation Advisory Council (Council) seeks to invite industrial stakeholders to participate in activities and discussions in the following areas:

- Evaluating and defining metrics for industrial water uses,
- Improving resource information such as developing industrial Best Management Practices (BMPs),
- Improving awareness and recognition for industrial water conservation, and
- Identifying case studies and trends in industrial water conservation efforts

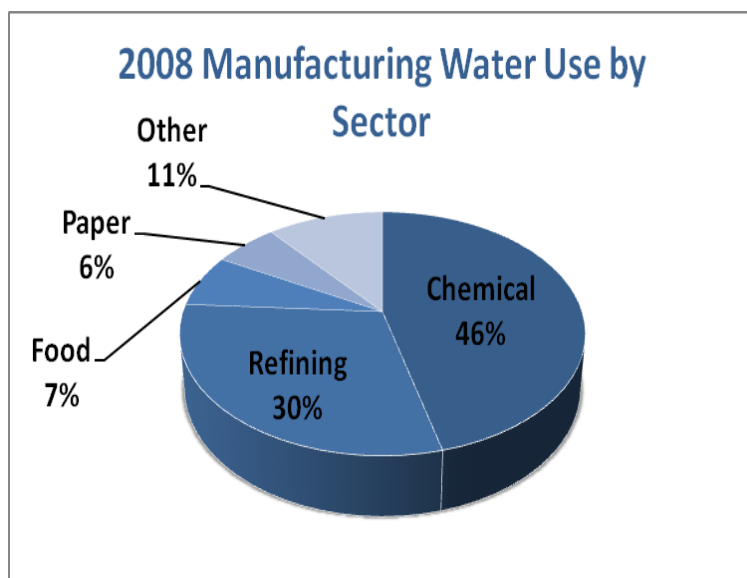
The Council would like to engage the industrial sectors that use the greatest volumes of water. Reducing water use benefits industries and consumers and creates a more stable economic and natural environment with greater certainty and long term sustainability. Water conservation is identified in the 2007 State Water Plan as accounting for nearly one quarter of the State's water supplies by 2060; therefore, it is crucial to build a stakeholder network to provide input on standardizing how water use is measured over time and compared across the State to ensure continued and increased implementation of water conservation.



Texas Water Development Board - 2008 Water Use Survey



Current and Projected Water Use in the Texas Mining and Oil and Gas Industry - prepared by the Bureau of Economic Geology at UT-Austin for TWDB, April 2011 Survey



Texas Water Development Board - 2008 Water Use

## **Evaluation of Water Use Metrics**

The Council would like to host discussions with industrial stakeholder groups in order to evaluate current metrics for measuring water use across various industries. To better understand industrial water use it is necessary to use consistent terminology and methodologies to compute water use data across various industries.

One of the goals of this workgroup is to get various stakeholders involved in discussions on industrial water use to help define consistent parameters for water use metrics and encourage industrial water users to incorporate these metrics into their water conservation programs. Consistency in the application of metrics will allow for better understanding and reporting of water use which in turn will provide a measure by which water conservation successes can be understood and shared

The Council has proposed that industrial water use metrics be based on a unit of production (UOP). That is, the number of gallons required to refine a barrel of crude oil, or the number of gallons required to generate a megawatt of electricity. The Council would like to engage stakeholders in developing metrics for various industrial sectors and encourage industrial water users to develop water conservation programs using these metrics.

## **Water Conservation Best Management Practices**

The Texas Best Management Practices Guide<sup>1</sup> currently includes 15 industrial BMPs. These were originally prepared as general examples of how BMPs should be structured. The Council intends to expand the Guide to include other BMPs related to the Industrial sector. The Council is currently considering some specific updates and modifications to the BMP Guide that will better provide guidance and information to users.

The Council has learned that water conservation often has other important resource impacts such as infrastructure costs, operation and maintenance cost savings, energy savings, personnel issues, etc. As a result of this lesson learned, the Council is recommending an additional section to the BMP Guide titled, ***Determination of the Impact on Other Resources***. We believe it is important to recognize these impacts associated with a conservation program. Further, we would like to supplement the guide with actual case studies that will serve to identify those who have achieved a measure of conservation success both as an example for others to follow and to identify a resource to accelerate the learning curve of those wishing to build a water conservation program.

## **Public Awareness**

A public awareness campaign that incorporates media, outreach, and resources for water users is a good first step to achieve a measure of success in water conservation. Lasting water conservation will be achieved through the involvement of every industry in Texas by ensuring industrial water users take all possible steps to reduce water use. We must encourage industrial water users to look closely at their water use by conducting water audits and identifying every opportunity to conserve water through increased efficiency and reduced waste. Stakeholder groups are invited to share information across their sector to educate and engage water users in the effort of conserving water for future generations.

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<sup>1</sup> Water Conservation Implementation Task Force 2004

<http://www.twdb.state.tx.us/assistance/conservation/TaskForceDocs/WCITFBMPGuide.pdf>

***How we plan to proceed:***

- 1. Develop a list of stakeholder organizations beginning with those groups with the greatest water use. For industry these initial outreach will focus on power generation, mining, and the refining, chemical, food and paper sectors of manufacturing. The initial contact will be through trade associations but can later expand as interest and needs dictate.*
- 2. Establish communications with these groups asking their help in refining metrics, developing and revising BMPs, providing supporting case studies, documenting trends, and providing input to the Council efforts.*
- 3. Hold organized discussions, conference calls or webinars to host effective discussions about water conservation.*