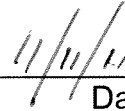


**NOVEMBER 16, 2011 CITY COUNCIL BRIEFING AGENDA
CERTIFICATION**

This certification is given pursuant to Chapter XI, Section 9 of the City Charter for the City Council Briefing Agenda dated November 16, 2011. We hereby certify, as to those contracts, agreements, or other obligations on this Agenda authorized by the City Council for which expenditures of money by the City are required, that all of the money required for those contracts, agreements, and other obligations is in the City treasury to the credit of the fund or funds from which the money is to be drawn, as required and permitted by the City Charter, and that the money is not appropriated for any other purpose.



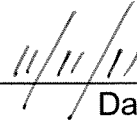
Mary K. Suhm
City Manager



Date



Edward Scott
City Controller



Date

RECEIVED

2011 NOV 11 PM 4:41

CITY SECRETARY
DALLAS, TEXAS



COUNCIL BRIEFING AGENDA

November 16, 2011

DATE

(FOR GENERAL INFORMATION AND RULES OF COURTESY PLEASE SEE OPPOSITE SIDE.)

(LA INFORMACIÓN GENERAL Y REGLAS DE CORTESÍA QUE DEBEN OBSERVARSE
DURANTE LAS ASAMBLEAS DEL CONSEJO MUNICIPAL APARECEN EN EL LADO OPUESTO, FAVOR DE LEERLAS.)

General Information

The Dallas City Council regularly meets on Wednesdays beginning at 9:00 a.m. in the Council Chambers, 6th floor, City Hall, 1500 Marilla. Council agenda meetings are broadcast live on WRR-FM radio (101.1 FM) and on Time Warner City Cable Channel 16. Briefing meetings are held the first and third Wednesdays of each month. Council agenda (voting) meetings are held on the second and fourth Wednesdays. Anyone wishing to speak at a meeting should sign up with the City Secretary's Office by calling (214) 670-3738 before 9:00 a.m. on the meeting date. Citizens can find out the name of their representative and their voting district by calling the City Secretary's Office.

Sign interpreters are available upon request with a 48-hour advance notice by calling (214) 670-5208 V/TDD. The City of Dallas is committed to compliance with the Americans with Disabilities Act. **The Council agenda is available in alternative formats upon request.**

If you have any questions about this agenda or comments or complaints about city services, call 311.

Rules of Courtesy

City Council meetings bring together citizens of many varied interests and ideas. To insure fairness and orderly meetings, the Council has adopted rules of courtesy which apply to all members of the Council, administrative staff, news media, citizens and visitors. These procedures provide:

- That no one shall delay or interrupt the proceedings, or refuse to obey the orders of the presiding officer.
- All persons should refrain from private conversation, eating, drinking and smoking while in the Council Chamber.
- Posters or placards must remain outside the Council Chamber.
- No cellular phones or audible beepers allowed in Council Chamber while City Council is in session.

"Citizens and other visitors attending City Council meetings shall observe the same rules of propriety, decorum and good conduct applicable to members of the City Council. Any person making personal, impertinent, profane or slanderous remarks or who becomes boisterous while addressing the City Council or while attending the City Council meeting shall be removed from the room if the sergeant-at-arms is so directed by the presiding officer, and the person shall be barred from further audience before the City Council during that session of the City Council. If the presiding officer fails to act, any member of the City Council may move to require enforcement of the rules, and the affirmative vote of a majority of the City Council shall require the presiding officer to act." Section 3.3(c) of the City Council Rules of Procedure.

Informacion General

El Ayuntamiento de la Ciudad de Dallas se reúne regularmente los miércoles en la Cámara del Ayuntamiento en el sexto piso de la Alcaidía, 1500 Marilla, a las 9 de la mañana. Las reuniones informativas se llevan a cabo el primer y tercer miércoles del mes. Estas audiencias se transmiten en vivo por la estación de radio WRR-FM 101.1 y por cablevisión en la estación *Time Warner CityCable* Canal 16. El Ayuntamiento Municipal se reúne el segundo y cuarto miércoles del mes para tratar asuntos presentados de manera oficial en la agenda para su aprobación. Toda persona que desee hablar durante la asamblea del Ayuntamiento, debe inscribirse llamando a la Secretaría Municipal al teléfono (214) 670-3738, antes de las 9 de la mañana del día de la asamblea. Para enterarse del nombre de su representante en el Ayuntamiento Municipal y el distrito donde usted puede votar, favor de llamar a la Secretaría Municipal.

Intérpretes para personas con impedimentos auditivos están disponibles si lo solicita con 48 horas de anticipación llamando al (214) 670-5208 (aparato auditivo V/TDD). La Ciudad de Dallas se esfuerza por cumplir con el decreto que protege a las personas con impedimentos, *Americans with Disabilities Act*. **La agenda del Ayuntamiento está disponible en formatos alternos si lo solicita.**

Si tiene preguntas sobre esta agenda, o si desea hacer comentarios o presentar quejas con respecto a servicios de la Ciudad, llame al 311.

Reglas de Cortesia

Las asambleas del Ayuntamiento Municipal reúnen a ciudadanos de diversos intereses e ideologías. Para asegurar la imparcialidad y el orden durante las asambleas, el Ayuntamiento ha adoptado ciertas reglas de cortesía que aplican a todos los miembros del Ayuntamiento, al personal administrativo, personal de los medios de comunicación, a los ciudadanos, y a visitantes. Estos reglamentos establecen lo siguiente:

- Ninguna persona retrasará o interrumpirá los procedimientos, o se negará a obedecer las órdenes del oficial que preside la asamblea.
- Todas las personas deben abstenerse de entablar conversaciones, comer, beber y fumar dentro de la cámara del Ayuntamiento.
- Anuncios y pancartas deben permanecer fuera de la cámara del Ayuntamiento.
- No se permite usar teléfonos celulares o enlaces electrónicos (*paggers*) audibles en la cámara del Ayuntamiento durante audiencias del Ayuntamiento Municipal.

"Los ciudadanos y visitantes presentes durante las asambleas del Ayuntamiento Municipal deben obedecer las mismas reglas de comportamiento, decoro y buena conducta que se aplican a los miembros del Ayuntamiento Municipal. Cualquier persona que haga comentarios impertinentes, utilice vocabulario obsceno o difamatorio, o que al dirigirse al Ayuntamiento lo haga en forma escandalosa, o si causa disturbio durante la asamblea del Ayuntamiento Municipal, será expulsada de la cámara si el oficial que esté presidiendo la asamblea así lo ordena. Además, se le prohibirá continuar participando en la audiencia ante el Ayuntamiento Municipal. Si el oficial que preside la asamblea no toma acción, cualquier otro miembro del Ayuntamiento Municipal puede tomar medidas para hacer cumplir las reglas establecidas, y el voto afirmativo de la mayoría del Ayuntamiento Municipal precisará al oficial que esté presidiendo la sesión a tomar acción." Según la sección 3.3(c) de las reglas de procedimientos del Ayuntamiento.

AGENDA
CITY COUNCIL BRIEFING MEETING
WEDNESDAY, NOVEMBER 16, 2011
CITY HALL
1500 MARILLA
DALLAS, TEXAS 75201
9:00 A.M.

9:00 am Invocation and Pledge of Allegiance 6ES

Special Presentations

Open Microphone Speakers

VOTING AGENDA 6ES

1. Approval of Minutes of the November 2, 2011 City Council Meeting
2. Consideration of appointments to boards and commissions and the evaluation and duties of board and commission members (List of nominees is available in the City Secretary's Office)

ITEMS FOR INDIVIDUAL CONSIDERATION

City Secretary's Office

3. Authorize a resolution establishing the process for selecting individuals to serve on the Dallas/Fort Worth International Airport Board of Directors - Financing: No cost consideration to the City

Briefings 6ES

- A. Proposed Revisions to Section 6.3 (Public Speakers) of the City Council Rules of Procedure
- B. Dallas' Approach to Water Conservation
- C. Dallas Water Utilities' Drought Update and Impact

Lunch

AGENDA
CITY COUNCIL BRIEFING MEETING
WEDNESDAY, NOVEMBER 16, 2011

ITEMS FOR INDIVIDUAL CONSIDERATION (Continued)

Council Chambers

Mayor and City Council

4. Suspend City Council Rules of Procedure 6.2(a) and 7.6(a) to allow reconsideration of the Districting Plan previously approved on October 5, 2011 - Financing: No cost consideration to the City

Closed Session

6ES

Attorney Briefings (Sec. 551.071 T.O.M.A.)

- Legal issues regarding zoning applications by schools.

Open Microphone Speakers

6ES

The above schedule represents an estimate of the order for the indicated briefings and is subject to change at any time. Current agenda information may be obtained by calling (214) 670-3100 during working hours.

Note: An expression of preference or a preliminary vote may be taken by the Council on any of the briefing items.

A closed executive session may be held if the discussion of any of the above agenda items concerns one of the following:

1. Contemplated or pending litigation, or matters where legal advice is requested of the City Attorney. Section 551.071 of the Texas Open Meetings Act.
2. The purchase, exchange, lease or value of real property, if the deliberation in an open meeting would have a detrimental effect on the position of the City in negotiations with a third person. Section 551.072 of the Texas Open Meetings Act.
3. A contract for a prospective gift or donation to the City, if the deliberation in an open meeting would have a detrimental effect on the position of the City in negotiations with a third person. Section 551.073 of the Texas Open Meetings Act.
4. Personnel matters involving the appointment, employment, evaluation, reassignment, duties, discipline or dismissal of a public officer or employee or to hear a complaint against an officer or employee. Section 551.074 of the Texas Open Meetings Act.
5. The deployment, or specific occasions for implementation of security personnel or devices. Section 551.076 of the Texas Open Meetings Act.
6. Deliberations regarding economic development negotiations. Section 551.087 of the Texas Open Meetings Act.

Memorandum

DATE **NOVEMBER 11, 2011**

TO **HONORABLE MAYOR AND
MEMBERS OF THE CITY COUNCIL**

SUBJECT **BOARDS AND COMMISSIONS NOMINEES/RENOMINEES**

The following Board and Commission nominees/renominees will be considered on Wednesday, November 16, 2011 for appointment.

The lists represent the following categories for your consideration:

- Individual Nominees/Renominees
- Full Council Nominees/Renominees (applications attached)

The nominees meet all qualifications for service on these boards.

If you need additional information, please advise.

A handwritten signature in blue ink, appearing to read 'Rosa A. Rios'.

Rosa A. Rios
Acting City Secretary

c: Mary K. Suhm, City Manager
Thomas P. Perkins, Jr., City Attorney

**CITY OF DALLAS BOARDS AND COMMISSIONS
NOMINEES FOR INDIVIDUAL APPOINTMENTS
CLEARED FOR COUNCIL ACTION**

CPC CITY PLAN AND ZONING COMMISSION

07	ANN BAGLEY	RENOMINATED REC 09/29/2011		
W F 03	Appointed by DAVIS	Member since: 12/15/2005	Terms served: 3	
15	JOE ALCANTAR	RENOMINATED REC 10/10/2011		
H M 14	Appointed by RAWLINGS	Member since: 11/07/2007	Terms served: 1	

LMC LANDMARK COMMISSION

10	ROBIN MOSS NORCROSS	RENOMINATED REC 10/04/2011		
W F 10	Appointed by ALLEN	Member since: 11/20/2007	Terms served: 2	
	Citizen At Large			

**CITY OF DALLAS BOARDS AND COMMISSIONS
NOMINEES FOR FULL COUNCIL APPOINTMENT
CLEARED FOR COUNCIL ACTION**

11 5033

BOX BOARD OF ADJUSTMENT ALTERNATE MEMBERS

04 JOHN "SCOTT" JACKSON RENOMINATED
W M 09 C Member since: 06/26/2009 Terms served: 1
Nominated by: KADANE

HFC HOUSING FINANCE CORPORATION BOARD

09 BEN BROWN NOMINATED REC 09/14/2011
B M 08 C
Nominated by: ATKINS

RZ02 REINVESTMENT ZONE TWO BOARD (CITYPLACE AREA)

01 ROBERT W. IVEY RENOMINATED REC 09/27/2011
W M 14 C Member since: 01/30/2009 Terms served: 1
Reg. Voter
Nominated by: HUNT

RZ12 REINVESTMENT ZONE TWELVE BOARD (DEEP ELLUM)

02 BRIAN BARTON RENOMINATED REC 09/01/2011
W M 09 C Member since: 10/03/2005 Terms served: 2
Reg. Voter
Nominated by: MEDRANO

AGENDA ITEM # 3

KEY FOCUS AREA: Make Government More Efficient, Effective and Economical

AGENDA DATE: November 16, 2011

COUNCIL DISTRICT(S): All

DEPARTMENT: City Secretary

CMO: Rosa A. Rios, 670-0653

MAPSCO: N/A

SUBJECT

Authorize a resolution establishing the process for selecting individuals to serve on the Dallas/Fort Worth International Airport Board of Directors - Financing: No cost consideration to the City

BACKGROUND

The Dallas/Fort Worth (D/FW) International Airport Board was created by agreement between the City of Dallas and the City of Fort Worth. The Dallas City Council is authorized to appoint six (6) members to the Dallas/Fort Worth International Airport Board (Place Nos. 1, 4, 5, 6, 9 and 11). The terms for Places 1, 5 and 6 expire on January 31st of odd-numbered years; and the terms for Places 4, 6 and 9 expire on January 31st of even-numbered years. Per City Council Resolution No. 76-1888, the “duly elected Mayor of the City of Dallas is automatically appointed to fill Place 10.”

The City Council has used various methods for selecting individuals to serve on the Dallas/Fort Worth International Airport Board. On November 2, 2011, the City Council was briefed on a recommended process and the consensus of the City Council was to formalize this new process in resolution form. The resolution will be distributed on the day of the meeting.

PRIOR ACTION/REVIEW (COUNCIL, BOARDS, COMMISSIONS)

On November 2, 2011, the City Council was briefed on the proposed, formalized process.

FISCAL INFORMATION

No cost consideration to the City.

AGENDA ITEM # 4

KEY FOCUS AREA: Make Government More Efficient, Effective and Economical

AGENDA DATE: November 16, 2011

COUNCIL DISTRICT(S): All

DEPARTMENT: Mayor and City Council

CMO: N/A

MAPSCO: N/A

SUBJECT

Suspend City Council Rules of Procedure 6.2(a) and 7.6(a) to allow reconsideration of the Districting Plan previously approved on October 5, 2011 - Financing: No cost consideration to the City

PRIOR ACTION/REVIEW (COUNCIL, BOARDS, COMMISSIONS)

Redistricting Commission appointments were unanimously approved by the City Council on December 8, 2010 (10-5293), January 5, 2011 (11-0124), January 12, 2011 (11-0191), January 19, 2011 (11-0236), February 9, 2011 (11-0420), and February 23, 2011 (11-0582).

Redistricting Guidelines were unanimously approved by the Redistricting Commission on March 8, 2011, and unanimously approved by the City Council on April 13, 2011, by Resolution No. 11-0921.

Recommended Districting Plan, cPlan16d, was approved by a vote of 11 to 4 of the Redistricting Commission on August 23, 2011.

Districting Plan was approved by a vote of 9 to 6 on October 5, 2011, by Resolution No. 11-2706.

FISCAL INFORMATION

No cost consideration to the City.

Memorandum



DATE November 11, 2011

TO Honorable Mayor and
Members of the City Council

SUBJECT **City Council Rules of Procedure Changes Briefing – November 16, 2011**

On Wednesday, November 16, 2011, you will be briefed on recommended changes to the City Council Rules of Procedure regarding public speakers. A copy of the briefing material is attached.

Please contact me if you have questions.



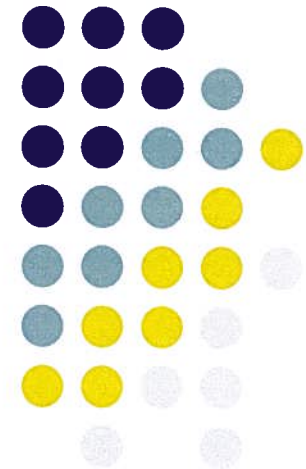
Rosa A. Rios
Acting City Secretary

C: Mary K. Suhm, City Manager
Thomas P. Perkins, City Attorney
Craig D. Kinton, City Auditor
Helena Stevens-Thompson, Assistant to the City Manager/MCC

**CITY COUNCIL RULES OF PROCEDURE
PUBLIC SPEAKER REGISTRATION
RECOMMENDED CHANGES**

ROSA A. RIOS
ACTING CITY SECRETARY

November 16, 2011



PURPOSE OF THE BRIEFING



The purpose of this briefing is to propose changes to Section 6.3 of the City Council Rules of Procedures, which addresses citizen speakers

Note: None of these changes affect the public's right to speak during city council meetings/briefings.

CURRENT RULE/PROPOSED CHANGE

City Council Rules of Procedure

Section 6.3(a)



- Proposed Change #1

Current Rule

- City Council Rules of Procedure, Section 6.3(a): “A person wishing to address the city council must first register with the city secretary and provide the following information: Name, residence address, daytime telephone number, the subject matter to be presented, and whether the subject is on the current city council meeting agenda. A person may register either in person or by telephone. The earliest a person may register for an upcoming city council meeting is 8:15 a.m. of the next regular business day following the previous city council meeting. The deadline for registering to address the council is 9:00 a.m. of the day of the meeting.”

Proposed Change

- “A person wishing to address the city council must first register with the city secretary and provide the following information: Name, residence address, daytime telephone number, the subject matter to be presented, and whether the subject is on the current city council meeting agenda. A person may register in person, by electronic mail or telephone. The earliest a person may register for an upcoming city council meeting is 8:15 a.m. of the next regular business day following the previous city council meeting. The deadline for registering to address the council is 5:00 p.m. of the business day prior to the meeting.”

CURRENT RULE/PROPOSED CHANGE

City Council Rules of Procedure

Section 6.3(c)(7)



- Proposed Change #2

Current Rule

- “Any person who has addressed the city council at either a briefing meeting or a voting agenda meeting in the preceding 30 days, excluding speaking at a public hearing, may only speak during the open microphone period at the end of the city council meeting.”

Proposed Change

- “Any person who has addressed the city council at either a briefing meeting or a voting agenda meeting in the preceding 30 days, excluding speaking at a public hearing, may only speak during the open microphone period at the end of the city council meeting and will be limited to one minute.”

WHY THE CHANGES?



- City Councilmembers would have the most up-to-date speakers' list at the beginning of each City Council meeting
- City Manager's Office staff would have more time to prepare to respond to citizens' concerns and requests for information/service and have appropriate staff available at meetings
- City Secretary's staff would have more time to assist citizens on the morning of city council meetings/briefings
- Citizens are currently allowed to register to speak by email and this change formalizes this practice

TIMELINE



- 11/16/11 – Briefing to City Council
- 11/17/11 – Begin public notification of changes
(SEC Website/Handouts)
- 12/14/11 – Consideration for approval by City Council
- 01/04/12 – Effective date of new public speaker rules

Memorandum



CITY OF DALLAS

DATE November 11, 2011

TO Honorable Mayor and Members of the City Council

SUBJECT Dallas' Approach to Water Conservation Briefing

On Wednesday, November 16, 2011 you will be briefed on Dallas' Approach to Water Conservation. The briefing material is attached for your review.

If you have questions or need additional information, please let me know.

A handwritten signature in black ink, appearing to read 'Forest E. Turner'.

Forest E. Turner
Assistant City Manager

Attachment

c: Mary K. Suhm, City Manager
Thomas P. Perkins, Jr., City Attorney
Rosa A. Rios, Acting City Secretary
Craig D. Kinton, City Auditor
Judge C. Victor Lander, Administrative Judge
A.C. Gonzalez, First Assistant City Manager
Ryan S. Evans, Assistant City Manager
Jill A. Jordan, P.E., Assistant City Manager
Joey Zapata, Interim Assistant City Manager
Jeanne Chipperfield, Chief Financial Officer
Frank Libro, Public Information Officer
Helena Stevens-Thompson, Assistant to the City Manager – Council Office

Dallas' Approach to Water Conservation

Dallas Water Utilities

November 16, 2011



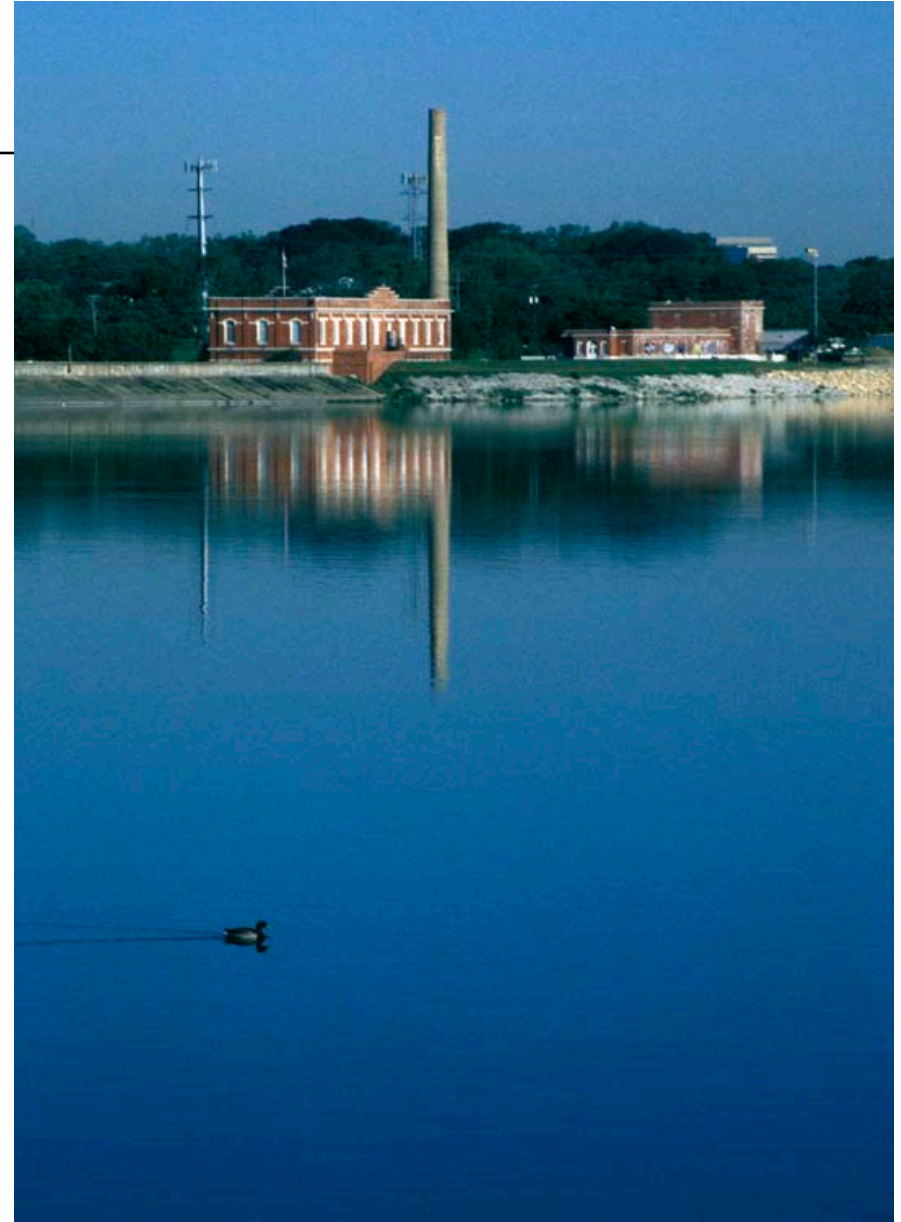


Purpose

This briefing provides an overview of
Dallas' water conservation efforts

Outline

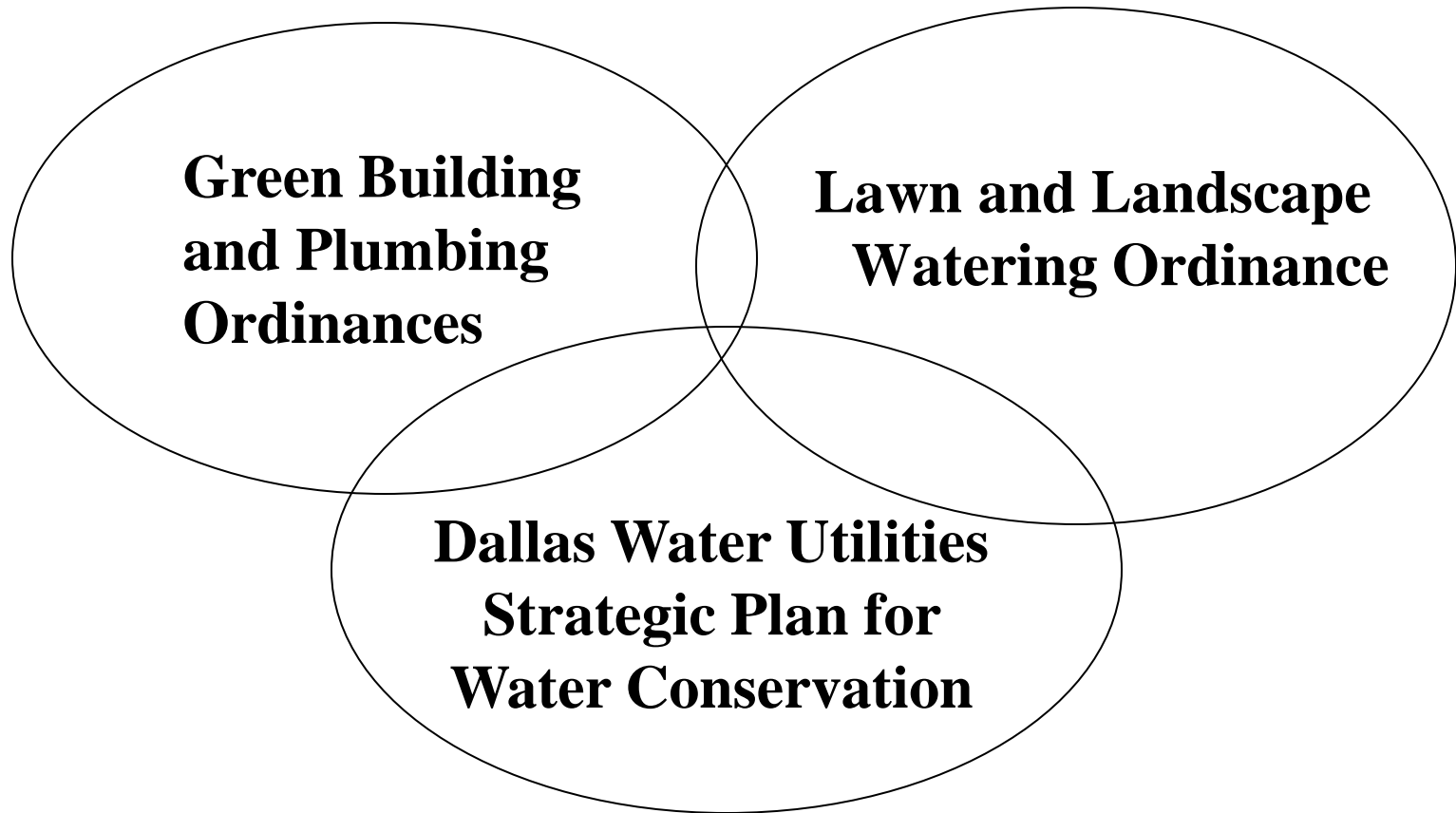
- Executive Summary
- City of Dallas Water Conservation Efforts
 - Green Building, Plumbing, and Lawn and Landscape Watering Ordinances
 - Dallas Water Utilities Strategic Plan for Water Conservation
- Additional Conservation Approaches
- Summary and Future Activities
- Appendix
 - Water Loss Management Program
 - Water use



Executive Summary

- Dallas has made great strides in reducing its per capita water demand through the use of conservation and efficiency programs
 - A 13 percent decrease in annual usage since FY 2001-02 when the City adopted stricter conservation measures
 - Ongoing water conservation efforts and implementation of the Water Conservation Five-Year Strategic Plan have helped Dallas save approximately 146 BG or 40 MGD
- City of Dallas has migrated to a more holistic approach to conserving water by the adoption of
 - Green Building ordinances (including current building code requirements for efficient fixtures)
 - Lawn and Landscape watering ordinances
 - Water conservation strategic plans
- Current water conservation goal is to reduce per capita water use by 1.5 percent per year

City of Dallas Water Conservation Efforts



Green Building and Plumbing, and Lawn and Landscape Watering Ordinances

Background - Ordinances

- Dallas currently operates under the 2006 International Plumbing Code (IPC) with adopted NTCOG and city amendments
- A primary objective of the 2006 IPC is to protect the potable water supply from contamination
- The use of gray water and other non-potable water is allowed with this primary consideration in mind
- 2006 IPC provides for the minimum code requirements for potable water fixture use
- Dallas code amendments allow for the use of water efficient fixtures and non-potable water systems for reuse

Green Building Ordinance

- The purpose of the Green Building Ordinance is to:
 - Reduce the use of natural resources
 - Create healthier and more sustainable living environments
 - Minimize the negative environmental impacts of development in Dallas
- Ordinance adopted in April 2008
- Phase I became effective October 2009
- September 28, 2011 amendment strengthened the water conservation provisions of Phase I

Green Building Ordinance – Phase I and II

- Phase I effective October 2009 and applies to all new construction
 - Water requirements: All projects must demonstrate a 20% reduction in water use from the baseline calculated for the total water fixtures determined under the 2006 IPC
 - 20% water reduction may be met by compliance with Greenbuilt Texas, LEED or LEED equivalent acceptable methods
- Phase II applies to all new construction
 - In order to accommodate the new IGCC, Phase II of Green Building Ordinance was delayed until October 2012

International Green Construction Code

- International Green Construction Code (IGCC) is undergoing final revisions and is slated for adoption by the International Code Council (ICC) in April 2012
- North Central Texas Council of Governments (NCTCOG) will convene a regional Green and Energy Code Advisory Board in November 2011 to establish a process for reviewing and approving the new IGCC
- Dallas participates on the NCTCOG Advisory Board and has already begun a review of some provisions of the IGCC
- Staff will begin the adoption process for the new IGCC by the City as soon as the final version is passed by the NCTCOG
- Staff anticipates further water reduction requirements as part of the new code

Lawn and Landscape Watering Ordinance

- Purpose of ordinance is to mandate that lawn and landscape irrigation water be used in a manner that prevents waste, conserves water resources for their most beneficial and vital uses, and protects public health and safety
 - Implemented in 2001 and amended in 2007
- Major components of the ordinance prohibit:
 - The irrigation of lawns and landscapes from 10:00 a.m. to 6:00 p.m. from April 1 through October 31
 - The use of irrigation systems with faulty pipes or systems with broken or missing sprinkler heads
 - The use of irrigation systems during rain events
 - Excessive runoff of water from lawns as a result of overwatering
 - The watering of impervious areas such as sidewalks and streets

Dallas Water Utilities Strategic Plan for Water Conservation



Water Conservation Plans – State Requirements

- Water Conservation Plans must be submitted to the TCEQ every five years to coincide with the regional water planning process
- Specific, quantified five and ten year targets for water savings must be included in the plans
- An entity applying for a new or amended water right must prepare and implement a water conservation/ drought contingency plan, and submit that plan with the application

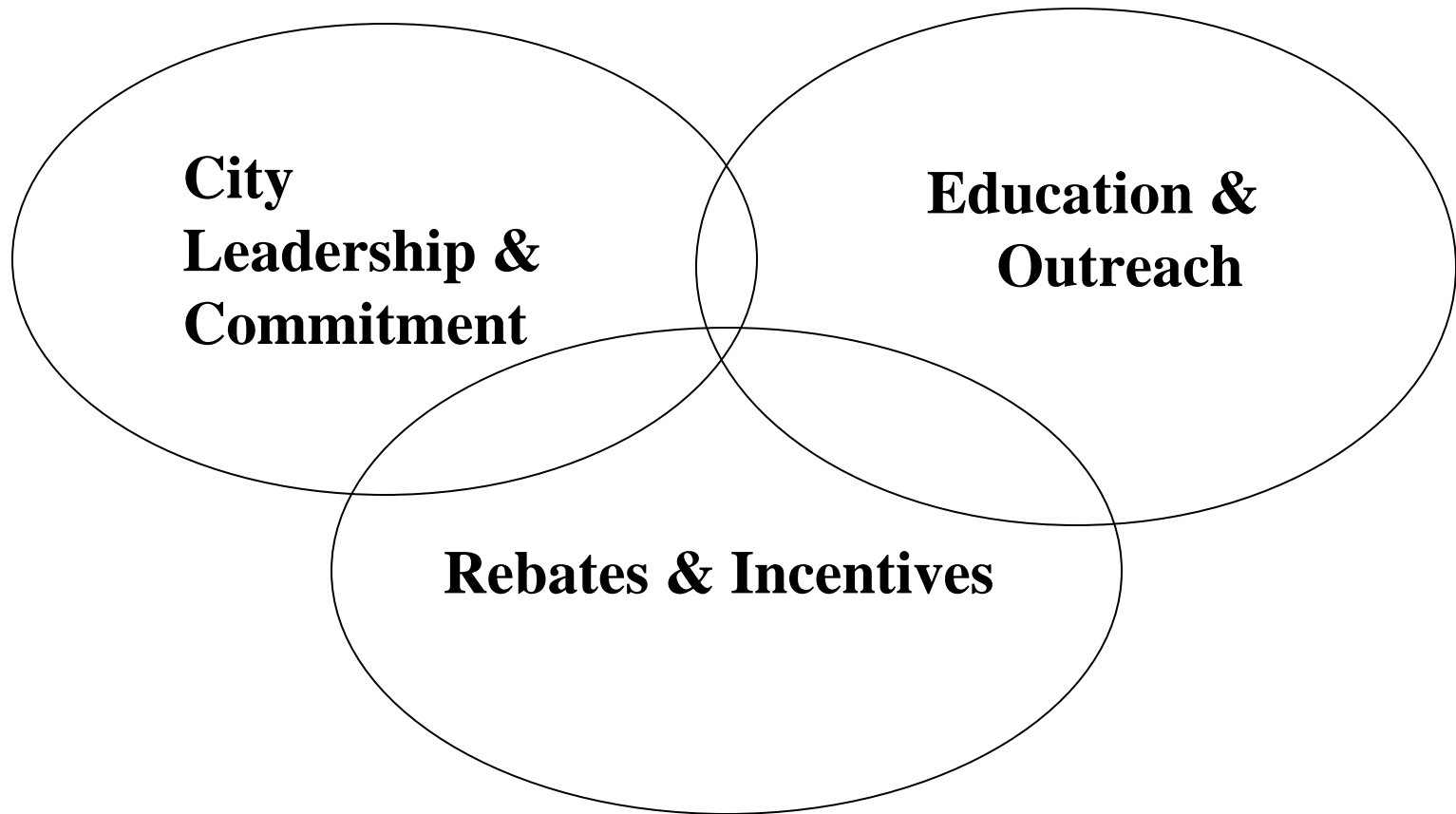
Background: DWU Water Conservation Program Chronology

- 1980s
 - City of Dallas water conservation program consisted primarily of public education and outreach
- 2001
 - Council passed an ordinance prohibiting lawn and landscape water waste; adding time of day watering; and added additional rate tiers
 - Rain sensor rebate program established
- 2005
 - City Council adopted first Five-Year Water Conservation Strategic Plan including incentives
- 2007
 - Time of day watering restrictions expanded to April through October annually
- 2010
 - Council adopted an updated Five-Year Strategic Plan in June 2010

Background: Water Conservation Strategic Planning

- Dallas Water Utilities first Strategic Plan was adopted by City Council in 2005
 - Defined water conservation goals for a five year period ending in FY 2009
 - Plan included programs and budgets to achieve the goals
 - Strategic Plan was updated and adopted in 2010, building on the accomplishments from the original plan and setting new goals and programs for period ending FY 2015

Three Major Elements of 2010 Water Conservation Five-Year Strategic Plan



How We Chose Programs to Pursue

- In the development of the Water Conservation Five-Year Strategic Plan, screening criteria were developed to determine the most effective programs
- Programs chosen were based on:
 - Water savings
 - Cost /Benefits
 - Application to a broad range of customers and water uses
 - Feedback from stakeholders and customer cities
- 14 programs were recommended for implementation in the 2010 Water Conservation Five-Year Strategic Plan
 - Budgets to be submitted annually

Methodology for Cost Benefit Analysis of Water Conservation Programs

- Each water conservation program increases our available water supply
- Average cost of new water supply from 2005 Long Range Water Supply Plan including treatment costs is estimated at \$550 per acre-feet
- Cost benefit analysis compared unit cost of new water supply to cost of each program which produces water in dollars per acre-feet
 - Acre-feet (ac-ft) is a water supply term and is equal to 325,851 gallons of water

Example of Analysis – Single Family Household Showerhead and Aerator Replacement Kit

Assumptions:

SF Household Size	2.77	people per household
Water Savings	20.775	gal/day per kit
Water Savings (2.77 x 20.775 / 325,851)	0.023	ac-ft/yr per kit
Total Water Savings over 15 years (.023 x 15)	0.349	ac-ft per life of kit
Cost per Kit	\$ 27.53	
Cost Benefit per ac-ft (\$27.53/.349)	\$ 78.86	

Using this program, the cost of water produced is \$78.86 per ac-ft which is cheaper than the average cost of a new water supply (\$78.86 vs. \$550 per ac-ft)

Cost Benefit Results for Programs

	Cost per ac-ft
Industrial Commerical Institutional (ICI) Grant	\$ 33.92
Single Family (SF) Showerhead and Aerator Replacement	\$ 78.86
Multi-Family (MF) Showerhead and Aerator Replacement	\$ 108.14
Combined Cost for Public Awareness & School Education	\$ 170.67
Pre-Rinse Spray Nozzle	\$ 228.98
Water Efficient Toilet Replacement	\$ 422.58
Single Family Water Audit	\$ 482.91
Evapotranspiration (ET) Based Controller System	\$ 558.19
Residential Clothes Washer	\$ 648.33
Residential Landscape Replacement	\$ 1,096.52
Rain Barrel	\$ 1,606.14
Gray Water	\$ 1,927.25
Rainwater Harvesting System	\$ 2,244.20

Water conservation measures were considered “cost-effective” when their unit cost was less than the unit cost of expanding the water supply.

Status of Conservation Strategic Plan

Programs – City Leadership & Commitment

1. Reduce water loss through additional leak detection
 - Enhance efforts to reduce system leak run times by adding more crews
 - Enhanced efforts commenced in FY11
 - Current budget of \$1.8M for FY12
 - Proposed full year funding of approximately \$2.3M for FY13, FY14, and FY15

 - For benefits from existing main replacement program and automated flushing, see additional information in Appendix

Source: City of Dallas Water Conservation Five-Year Strategic Plan June 2010

Status of Conservation Strategic Plan

Programs – City Leadership & Commitment

2. Reduce water loss through improved metering accuracy
 - Refine meter/billing data by identifying and correcting zero reads, erroneous reads, and unauthorized uses
 - Meter replacement program
 - Enhanced efforts commenced in FY 2011
 - Annual budget of \$1.1M

 - For more detail, see additional information in the Appendix

Status of Conservation Strategic Plan

Programs– City Leadership & Commitment

3. Voluntary twice weekly watering
 - Encourages all customers to limit irrigation to a maximum of two days per week from April 1 through October 31
 - Outreach efforts commenced in FY 2010/ 2011 with Lawn Whisperer campaign
 - Regional effort in Save North Texas Water between Dallas and Tarrant Regional Water District has maximized outreach and leveraged an additional \$1.5M in advertising
 - Projected budget: included in annual \$1.38M appropriation for advertising campaign and media placement

Status of Conservation Strategic Plan

Programs– City Leadership & Commitment

4. Industrial, Commercial and Institutional (ICI) Water-efficient Equipment Rule
 - Ordinance requirements to expand minimum water efficiency standards for commercial equipment in new and newly occupied ICI establishments
 - Scheduled for FY 2014
 - No cost consideration

5. Water-wise landscape design requirements
 - Expand ordinance requirements to limit turf areas in all new landscapes and require low water-use landscaping in other areas
 - Scheduled for FY 2014
 - No cost consideration

Status of Conservation Strategic Plan

Programs– City Leadership & Commitment

6. Texas High Efficiency Toilet (HET) Law

- New TX HET Law phasing in 1.28 gallons per flush (gpf) requirement
- Effective date is 2014
- No cost consideration

Status of Conservation Strategic Plan

Programs– Education and Outreach Initiatives

7. ICI Hospitality Program

- Engage hotels, motels and restaurants in the city's water conservation program and train hospitality staff on methods to reduce water use and waste
- Commenced in FY2011
- Budget of \$50k per year

8. ICI Customer Water Audits

- Review all end-uses of water and help customers identify potential water-efficiency improvements
- Scheduled for FY2012
- Budget of \$220k per year

Status of Conservation Strategic Plan

Programs– Education and Outreach Initiatives

9. ICI Training Programs

- Training programs for facility managers for premise types that use the most water and licensed irrigators with a focus on the EPA Water Sense program
- Scheduled for FY2012
- Budget of \$25k per year

10. ICI Business Partnership/Stakeholders

- Business leaders who represent top water using industries. Ongoing dialogue on new programs, what's working, what's not working
- Scheduled for FY2012
- No cost consideration

Status of Conservation Strategic Plan

Programs – Rebates and Incentives

11. Enhanced residential toilet incentives

- Expand “New Throne for Your Home” by offering free toilets to qualified applicants; increase distribution from 8K to 14K toilets annually
- Enhanced program began in FY2011
- Budget of \$850k per year

12. ICI Financial Incentive Program

- Project specific program to promote water efficient equipment installation and upgrades
 - Cooling processes, plumbing fixtures, laundry processing, medical/dental, and landscape irrigation
- Scheduled for FY 2012
- FY12 budget of \$2.0M and projected \$2.3M for FY13, FY14, and FY15

Status of Conservation Strategic Plan

Programs – Rebates and Incentives

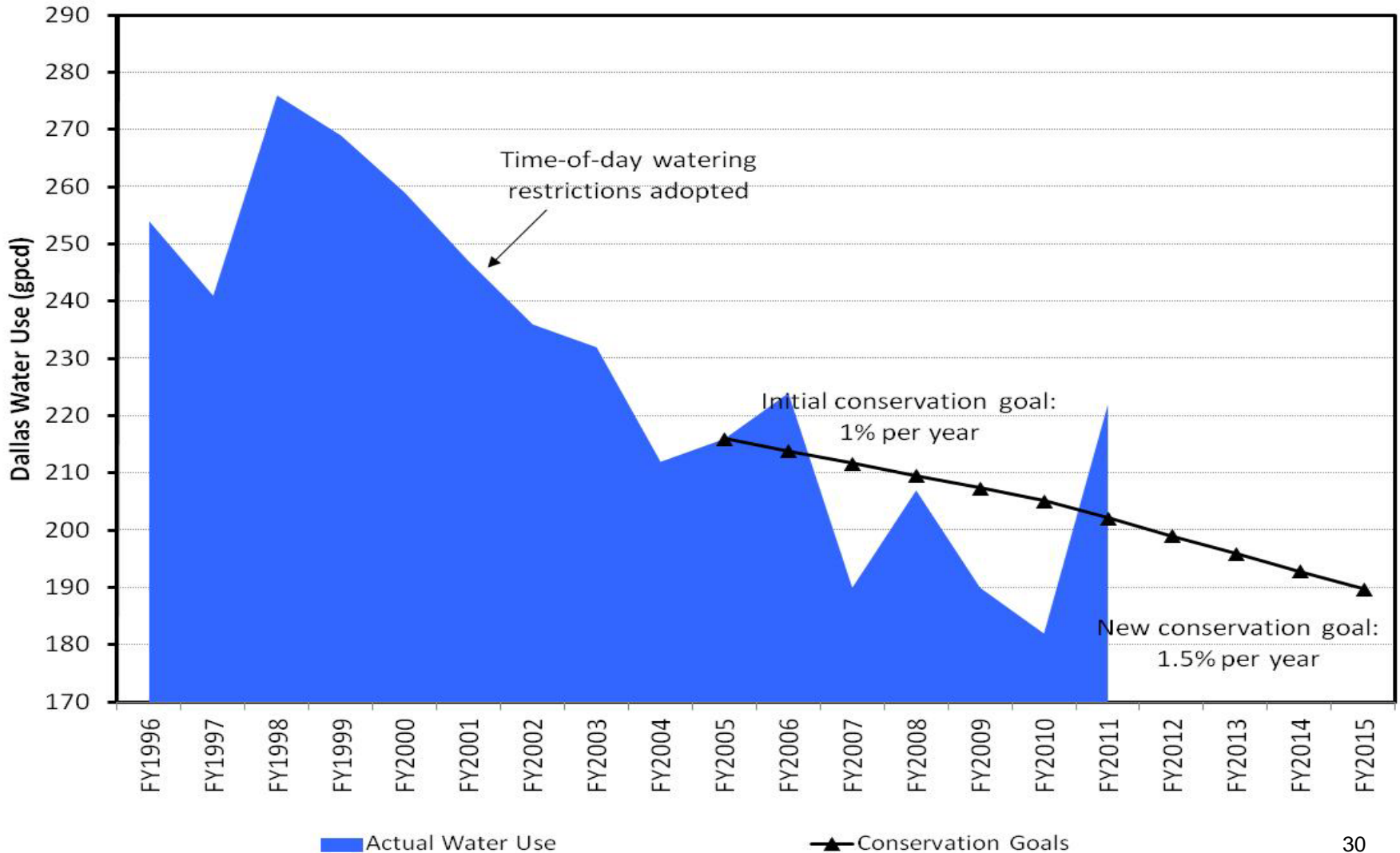
13. Residential Irrigation Incentive Program

- Financial rebates for customers to retrofit their existing irrigation systems with water-conserving equipment
- Scheduled for FY 2013
- Projected budget of \$100k for FY13; \$700k for FY14 and \$1.6M for FY15

14. Residential clothes washer rebate

- Rebates offered to residential customers to replace older inefficient clothes washers with high-efficiency models
- Scheduled for FY2013
- Projected budget of \$150k for FY13; \$200k for FY14 and \$0.5M for FY15

Water Consumption Trend



Additional Conservation Approaches

Additional Conservation Approaches

- The following water conservation approaches are permitted under current building and plumbing codes
 - Gray Water
 - Rainwater Harvesting System
 - Rain Barrels
 - Evapotranspiration (ET) Based Controller System
- These were not incentivized in the 2010 Water Conservation Five-Year Strategic Plan because analysis did not show them to be cost effective compared to other strategies chosen
- Various classes and seminars provided through our education and outreach include information or training on these topics
- Mandatory maximum twice a week watering – currently included as Stage 1 in the Drought Contingency Plan

Additional Conservation Approaches - Gray Water

- ❑ Gray water is defined in Texas as wastewater from clothes washers, showers, bathtubs, and sinks not used for the disposal of hazardous or toxic ingredients
- ❑ Allowed per the Dallas plumbing code, and must be identified (typically with different color pipes) and designed to prohibit cross connection to the potable public water supply system
- ❑ Gray water may need treatment
- ❑ May be used for irrigation or for toilets and urinals
- ❑ Not generally efficient for single family homes, due to a high cost to retrofit existing homes and buildings and long payback period
- ❑ The quantity of gray water is declining due to water conserving showerheads, faucets and clothes washers
- ❑ Better suited for commercial use and new construction

Additional Conservation Approaches - Rainwater Harvesting and Rain Barrels

- A typical system collects rainwater from the roof or pavement
- Rainwater harvesting is allowed per the Dallas Plumbing Code and considered to be a private non-potable water source similar to domestic water wells
 - Must be identified (typically with different color pipes) and designed to prohibit cross connection to the potable public water supply system
- Stored in underground or above-ground tanks and barrels
- The tank or barrel should have a tight cover to prevent algae and mosquito growth
- Various materials of tank construction are available such as concrete, steel, fiberglass, plastic, etc.
- Pumping system needed to provide adequate pressure for an irrigation system
- Generally not efficient for single family homes, since these don't hold enough water for lawn watering and have a very long payback period

Additional Conservation Approaches - Rain Barrel Examples

- Allen, Texas
 - Program established in 2005
 - \$25 per barrel with 2 barrel limit
 - 137 rebates issued for 168 barrels
- Fairview, Texas
 - Program established in 2005
 - \$50 per barrel with 2 barrel limit
 - Estimate 50 rebates issued
- Plano, Texas
 - Program established in 2010
 - \$25 per barrel with 2 barrel limit
 - Estimate 300 rebates issued
- Rain barrel classes are also offered in other Metroplex cities



Additional Conservation Approaches – Commercial Example

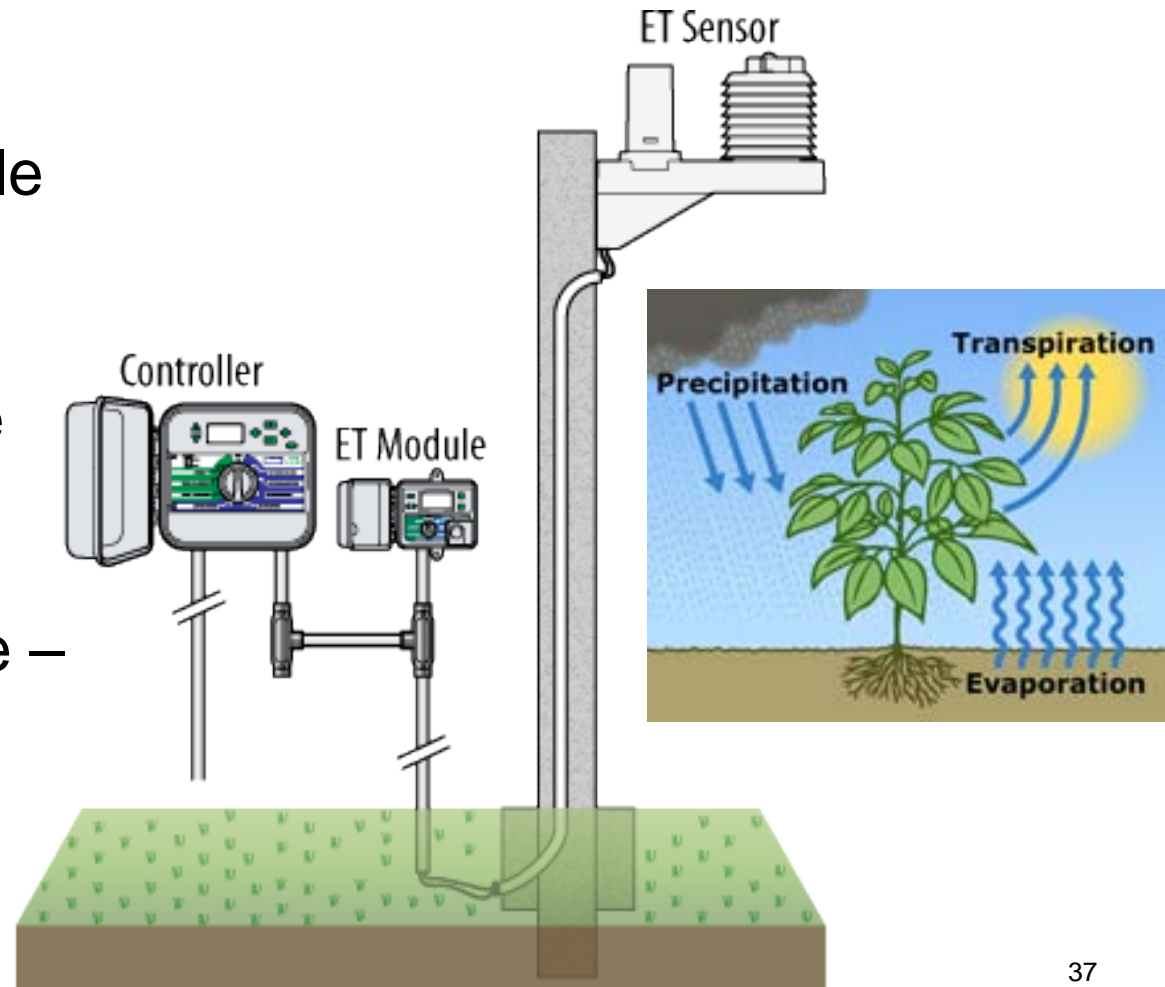
- ❑ Hotel to complete projects to achieve a LEED Silver certification in keeping with City policy
- ❑ Designed to reduce stormwater run-off through turf and rain garden
- ❑ A 25,000 gallon cistern will capture condensate water for irrigation instead of potable water
- ❑ Low flow water fixtures utilized as water saving technology



Omni Dallas Convention Center Hotel

Additional Conservation Approaches - Evapotranspiration (ET) Based Controller System

- Irrigation devices use soil water balance to schedule irrigation amounts and timing
- Some results have indicated these devices may increase water use – additional industry research is underway



Other Options for Additional Water Conservation Programs

- ❑ Toilet Flapper Retrofits
- ❑ Hot Water on Demand- Loop Point of Use
- ❑ Residential Dishwasher Replacement Incentives
- ❑ Residential Swimming Pool Covers
- ❑ Athletic Field Conversions
- ❑ Golf Course Conversions
- ❑ Wholesale Agency Financial Incentive Assistance
- ❑ Condensate Reuse
- ❑ Park Conversions
- ❑ Industrial Sub-metering
- ❑ Swimming Pools and Zoos
- ❑ Water Fountains
- ❑ Industrial Water Treatment
- ❑ Desalination
- ❑ Energy and Water Conservation Financial Incentives
- ❑ HOA Rules
- ❑ Performance Contracting
- ❑ Process Water
- ❑ Waterless Urinals

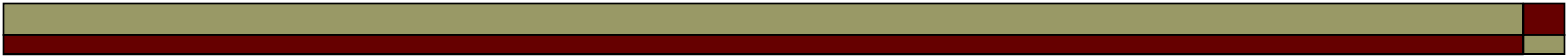
Summary and Future Activities

Summary

- Dallas has reduced its per capita water demand through the use of conservation and efficiency programs
 - A 13 percent decrease in annual usage since FY 2001-02 when the City adopted stricter conservation measures
 - Ongoing water conservation efforts and implementation of the Strategic Plan have helped Dallas save approximately 146 BG or 40 MGD
- Dallas' 5-year Water Conservation Strategic Plan is focused on obtaining the maximum water reduction at the least cost
- Reuse and conservation are an integral part of Dallas' future water supply, equaling 25% of our future need
- Current Water Conservation Five-Year Strategic Plan is aimed at reducing gallons per capita water use by 1.5 percent per year

Activities Planned for 2012

- January 2012 - Green Building Ordinance Task Force to reconvene
- February 2012 - Brief Council on review of current retail rate structure
- First Quarter 2012- Award contract for ICI Audits and Training Programs
- Third Quarter 2012- Authorize funding for ICI incentive program
- Review current and additional water conservation incentive programs in preparation for FY 2012-13 budget



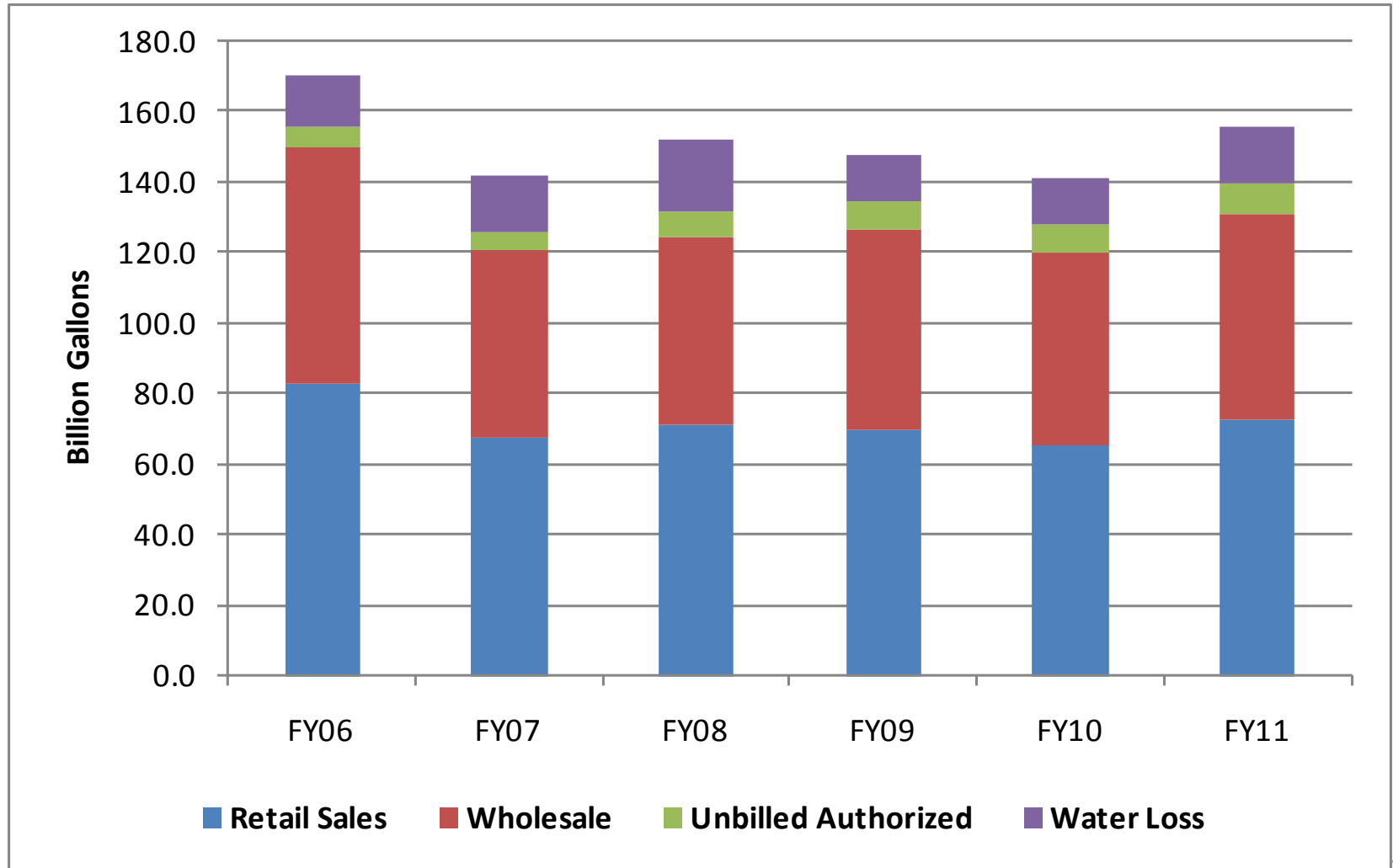
Appendix

Water Loss Management Program

Water Loss Reduction

- Dallas Water Utilities has several programs underway to minimize our unbilled water loss
- Industry standards set a goal of 10% for unaccounted water
- Dallas water loss programs include:
 - Main Replacement
 - Leak Detection
 - Meter Replacement
 - Flushing Activities
- Dallas' FY11 water loss was 10.3 percent

Dallas Total Treated Water Production



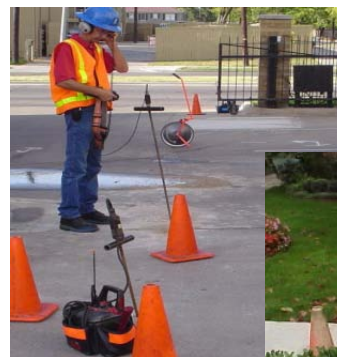
Main Replacement Program

- Dallas Water Utilities has approximately 5,000 miles of water pipelines
- There is a needs inventory of approximately 366 miles of water pipelines that have been identified and prioritized based on maintenance history
- Pipe size, type of pipe material, soil condition, break frequency, regulatory requirements, system overflows, and system demands are used in the replacement process
- Once identified, the pipe segments are prioritized and placed in the pipeline inventory database for replacement
- Annual costs for water main replacements average approximately \$67.0M



Leak Detection

- Council approved current program in FY05
 - Acoustic Correlation used to locate leaks
- City Council Approved Enhancements in FY07, FY09, and FY11
 - Increased staff and equipment – now have 6 survey crews
 - Frequency of system survey every 2.5 years
- Goals and Benefits
 - Efficient use of water supply
 - Recovers production capacity and costs
 - Reduced liability and damage to property
 - Improved environmental quality
- Accomplishments
 - FY11 Leak Detection Program
 - Surveyed 2,982 miles of pipeline
 - Identified 291 unknown leaks
 - Since FY05 inception:
 - Surveyed 9,400 miles of pipeline
 - Located 1,603 unknown leaks
 - Saved an estimated 952 MG treated water
- Annual costs approximately \$1.8M



Meter Replacement Program

- Meter accuracy ensures water usage is accurately billed
- Dallas Water Utilities has approximately 300,000 active water meters
- Vendors warranty meters as follows: 5/8" for 15 years, 3/4" to 2" for 10 years, 3" and greater for 1 year
- Dallas Water Utilities averages 20,000 meter exchanges annually or approximately 1,600 per month
- Generally, we replace meters on the following schedule:
 - 5/8" Meters - 15 years
 - 3/4" to 2" Meters - 10 years
 - 3" and 4" Meters - 2 years
- Large meters 6" and greater are categorized by and tested according to annual consumption:
 - Category I - 15 million gallons (MG) or greater – tested every 6 months
 - Category II - 0.5MG to 14.9 MG – tested annually
 - Category III - Less than 0.5 MG – tested every two years
- Annual costs approximately \$1.0M

Flushing Activities

- Generally we flush for 3 reasons
 - Customer generated (Water Quality)
 - Aesthetic problems such as taste, odor or color
 - Chlorine Residual Maintenance
 - Monthly dead-end (2,300 total)
 - Newly installed pipelines (~300)
 - Operational
 - Maintenance and repairs
 - Fire flow testing
- Automated flushing at 30 sites
 - Saves crew time and water
- Currently testing new technology
 - Solar powered auto-flushing
 - Controlled practice
 - Minimizes water loss
- Annual costs approximately \$0.7M



Water Use

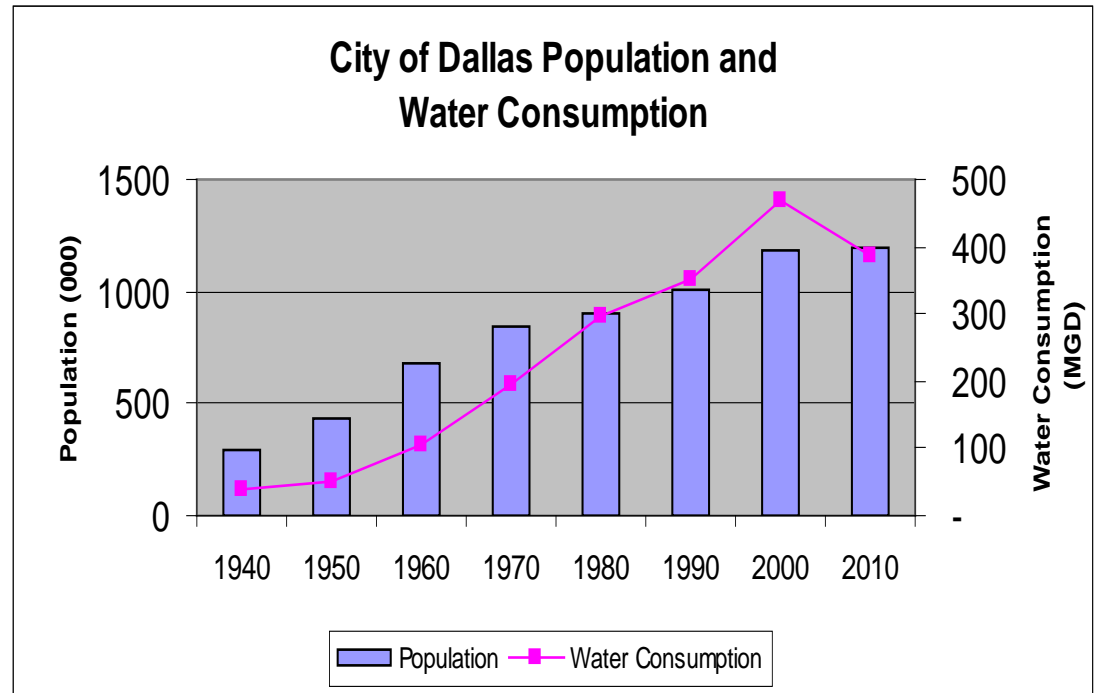


Measures of Water Use

- Population growth
- Gallons Per Capita Daily – a measure of water use
- Economic conditions (jobs, new businesses, etc.)
- System water uses

Population Growth

- New water use estimates will utilize new 2010 census data
- Project population estimates for future years in 10 year increments (2020, 2030, 2040, 2050, 2060, and 2070)
- Population estimates and gallons per capita daily (GPCD) will then be used to project future and water demand projections for Dallas and customer cities



Gallons Per Capita Daily (GPCD)

- Gallons per capita daily (GPCD) is the amount of water that one person consumes in one day
 - Useful as a benchmark for a city to compare against itself how efficiently it is using water
 - Not a good benchmark to compare cities against one another as each city has its own unique characteristics
 - Dallas has a population of 1.2M people, with an additional 500K employed people from outside the City which increases our GPCD
- The Texas Water Development Board indicates in the 2012 Draft Water Plan that there are valid reasons that cities have differing per capita use values:
 - Climatic conditions
 - Amount of commercial and institutional customers
 - Construction activities
 - Price of water
 - Income of customers
 - Number of daily or seasonal residents
 - Age of infrastructure
- The passage of SB 181 calls for a standard methodology for measuring water usage⁵³ throughout the State of Texas

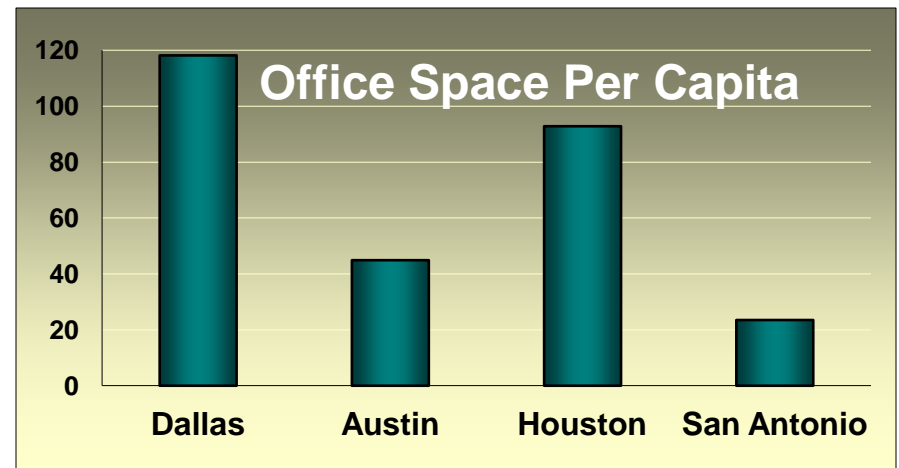
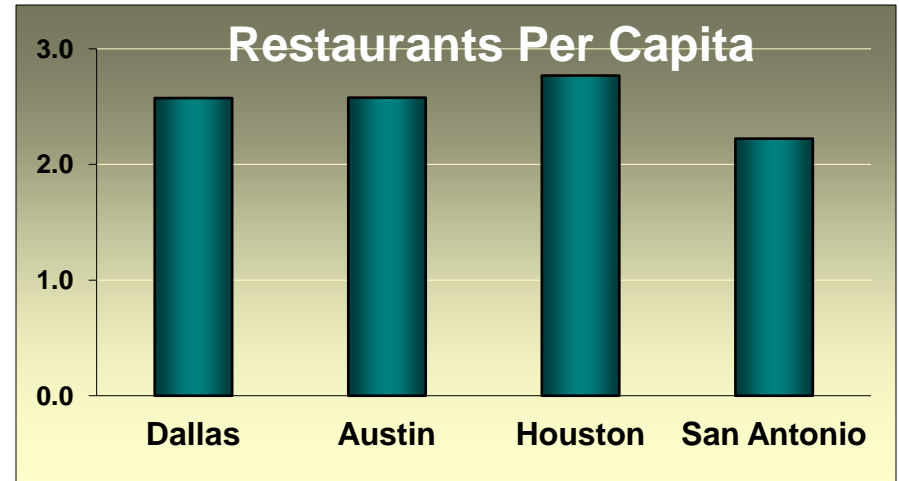
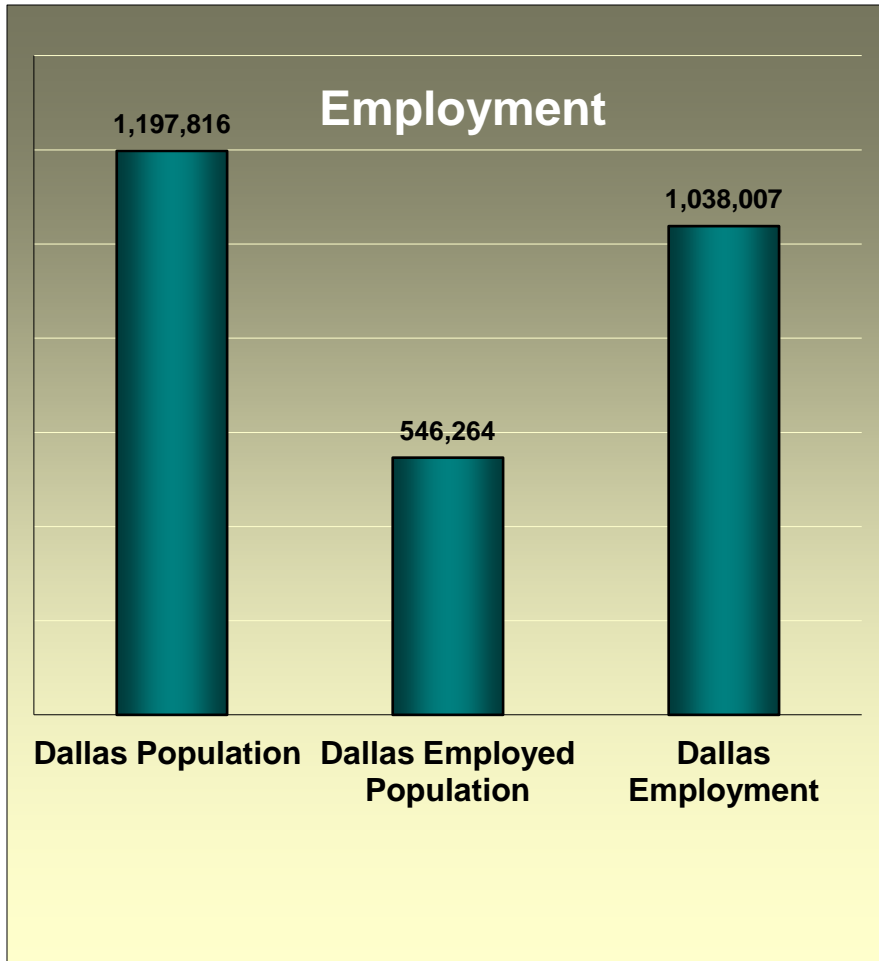
GPCD Comparisons

Comparing Apples to Oranges

City	2008 Gallons per Capita per Day (GPCD)	2008 Residential GPCD
Houston	134	65
San Antonio	149	92
Dallas	213	95
Austin	171	102
Fort Worth	192	75

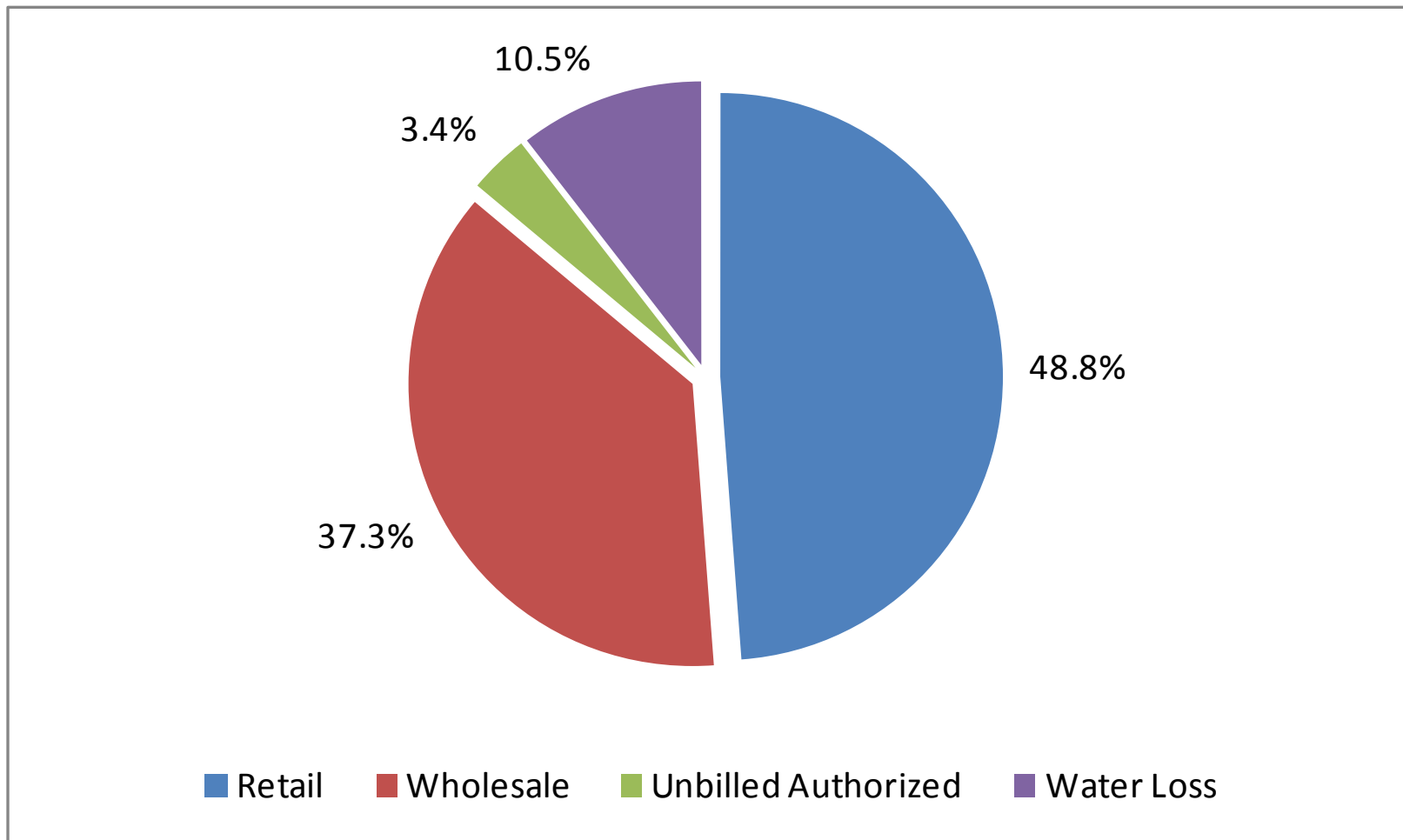
Total GPCD does not tell the whole story

Economic Conditions - Dallas Commercial Demographics



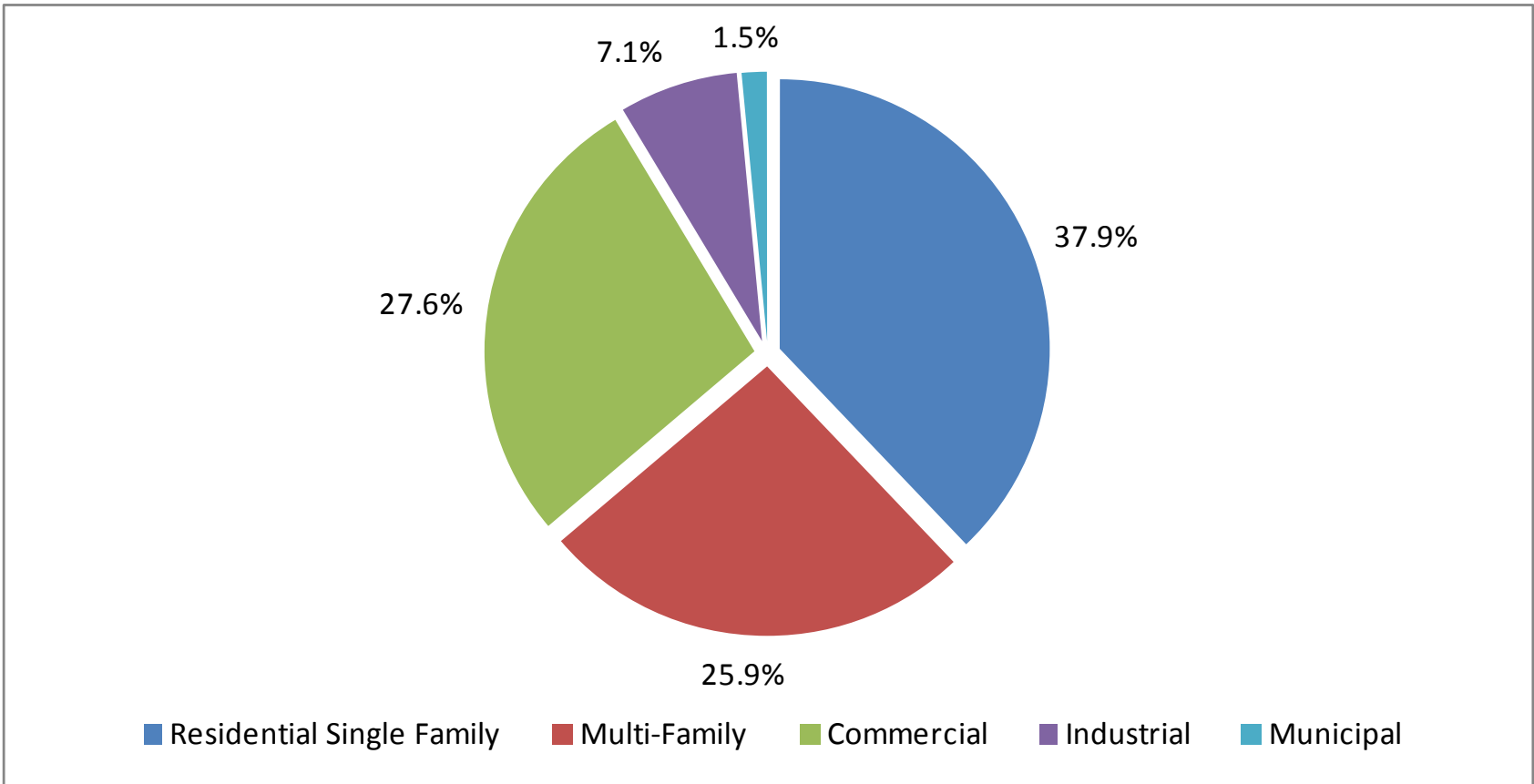
Sources: 2010 Census Data; Texas Workforce Commission
D & B Business Data 2011; Selected Office Submarkets – CoStar 2011
City of Dallas Economic Development Department

How Dallas' System Water is Used



Represents Total Water Use for FY04 – FY08; Dallas serves a total population of 2.3M people
Source: City of Dallas Water Conservation Five-Year Strategic Plan Updated June 2010

City of Dallas Retail Water Use



Represents Total Water Use for FY04 – FY08; Dallas serves a retail population of 1.2M people
Source: City of Dallas Water Conservation Five-Year Strategic Plan Updated June 2010

Memorandum



DATE November 11, 2011

TO Honorable Mayor and Members of the City Council

SUBJECT Dallas Water Utilities' Drought Update and Impact Briefing

On Wednesday, November 16, 2011 you will be briefed on Dallas Water Utilities' Drought Update and Impact. The briefing material is attached for your review.

If you have questions or need additional information, please let me know.



Forest E. Turner
Assistant City Manager

Attachment

c: Mary K. Suhm, City Manager
Thomas P. Perkins, Jr., City Attorney
Rosa A. Rios, Acting City Secretary
Craig D. Kinton, City Auditor
Judge C. Victor Lander, Administrative Judge
A.C. Gonzalez, First Assistant City Manager
Ryan S. Evans, Assistant City Manager
Jill A. Jordan, P.E., Assistant City Manager
Joey Zapata, Interim Assistant City Manager
Jeanne Chipperfield, Chief Financial Officer
Frank Libro, Public Information Officer
Helena Stevens-Thompson, Assistant to the City Manager – Council Office

Dallas Water Utilities' Drought Update and Impact

Dallas Water Utilities
November 16, 2011

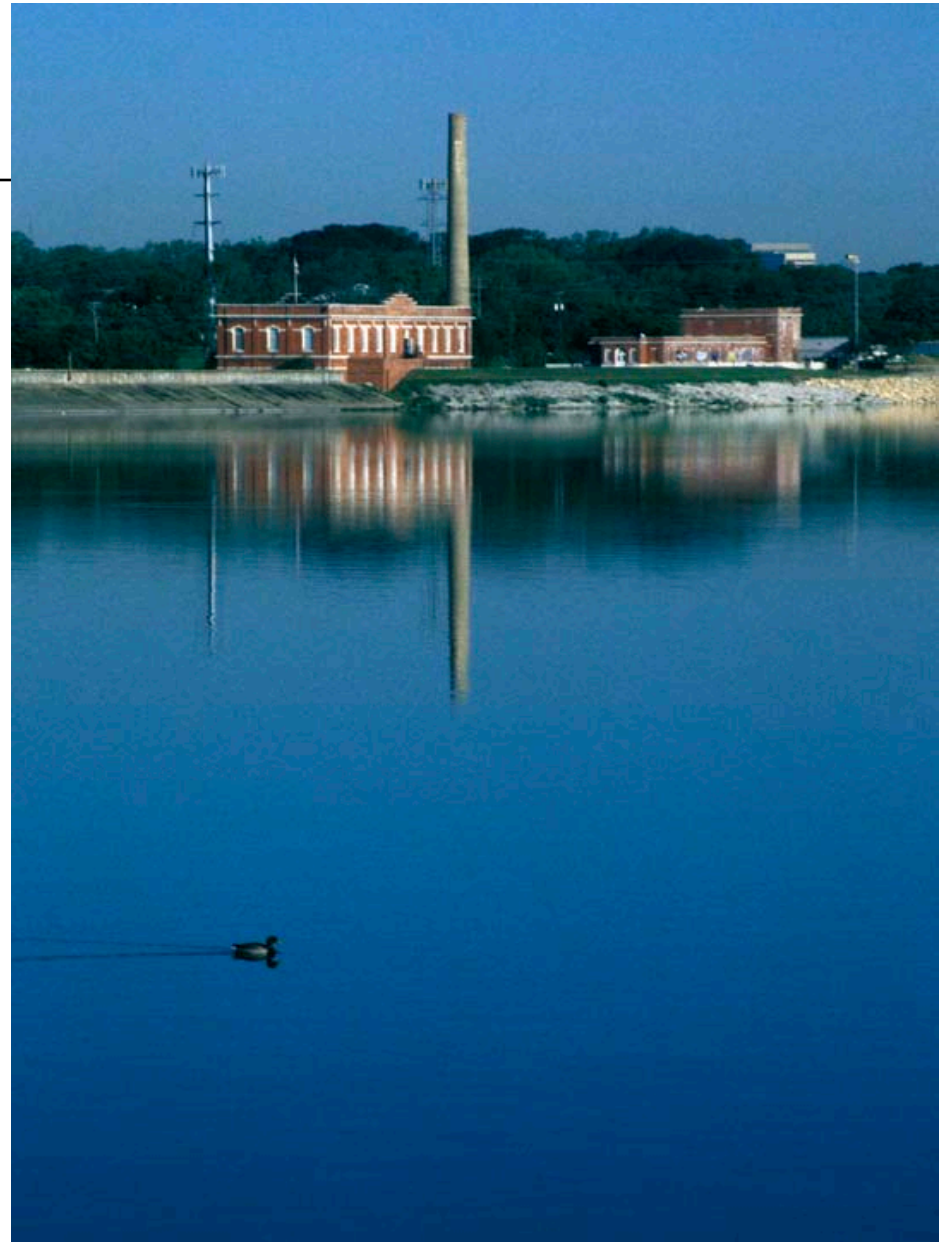


Purpose

- This briefing provides an overview of:
 - Ongoing drought weather conditions and its impact on Dallas water supply
 - Water treatment capacity restrictions
 - Probable water sales to other area water providers
- Communication plan for the implementation of drought stages, and enforcement actions
- Provides recommendations and next steps for Council consideration

Outline

- Background
- Drought Conditions
- Dallas' 2012 Water System Treatment Capacity Restrictions
- Probable Water Sales
- Communication Plan, Steps, and Enforcement
- Actions and Next Steps
- Appendix

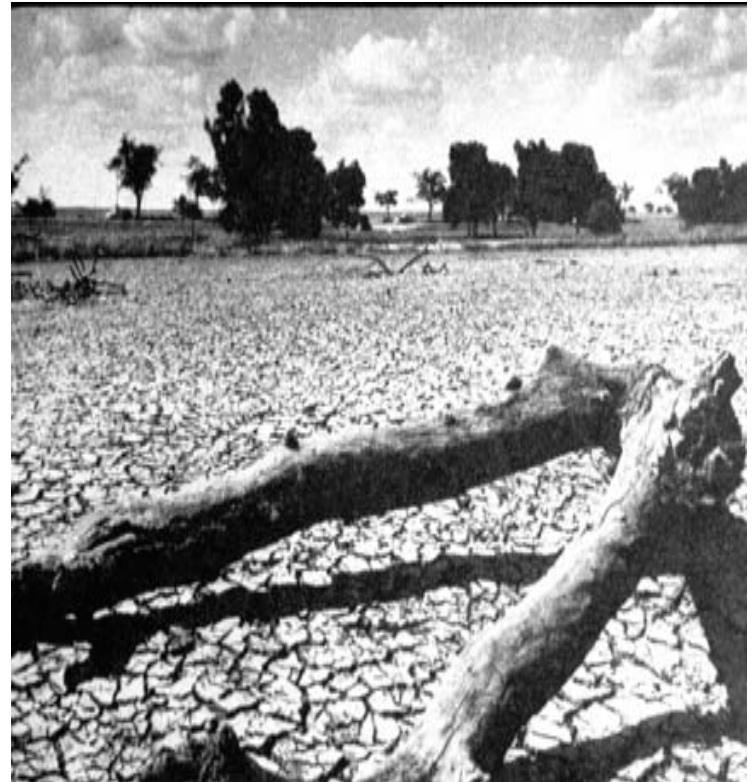




Background

Background: Historical Drought & Drought-like Conditions

- Since 1822, at least one drought has hit somewhere in Texas every decade
- A drought can be generally defined as a period of relatively little or no rainfall
- Severe drought from 1951 - 57
 - Salty water diverted from Red River
 - City leaders vowed "never again"
- Dallas' water supply now planned to provide water through the drought of record
- Drought conditions experienced in the Dallas area in 1996, 2000, 2006 and since May 2010



White Rock Lake – 1950's

State of Texas Drought Requirements

- Since droughts are a frequent and inevitable factor in the climate of Texas, the State requires **drought contingency plans**
 - Because of the range of conditions that affected the more than 4,000 water utilities throughout the state in 1997, the Texas Legislature directed the Texas Commission on Environmental Quality (TCEQ) to adopt rules establishing common drought plan requirements for water suppliers
 - As a result, the TCEQ requires all wholesale public water suppliers, retail public water suppliers serving 3,300 connections or more, and irrigation districts to submit drought contingency plans
- Water utilities throughout Texas have enacted a variety of measures to reduce peak demands and to extend their water supplies
- Drought plans for water utilities such as Dallas are required to be updated every 5 years

Dallas' Water Rights and Supply

- Surface water is owned by the State of Texas
- Dallas has been granted extensive water rights by the State in return for Dallas' promise to serve a defined area approved by Council and included in the State water plan which includes customer cities
- Dallas has yet to enter Stage 1, but has requested that citizens and customers voluntarily adopt a maximum of twice a week watering
- If weather conditions persist, Dallas' Drought Plan Stage 1 criteria related to lake levels (i.e., lakes 35% depleted) could occur as early as March 2012
- Stage 1 projections depend on:
 - Future precipitation amounts
 - Long range forecasts
 - Water supply demands, and
 - Drought vulnerability of other suppliers in the Upper Trinity Basin

Background: Dallas' Water Supply

- Safe and sufficient water supply is critical to the economic success of Dallas and its service area
- Existing reservoirs were constructed as a result of planning actions from the 1950s
- Dallas initiated a series of long range water supply plans in 1959, 1979, 1990, 2000, and 2005
- Dallas' plan is to have enough reservoir firm yield to meet water demands throughout a drought equal to the 1950s drought of record
- Dallas' ranking for planned new water supply sources has been based on:
 - Costs – capital construction and power
 - Efficiency
 - Environmental impact
 - Likelihood for development

Dallas' Drought Contingency Plan

- Plan based on a simulation of 1950s drought of record conditions
- Simulation is a monthly time step using inflows, evaporation rates, water demands, lake capacities, and priorities for meeting water demands (where more than one entity is taking water from the lake)
- According to the drought plan, Dallas' lakes during a drought equivalent to the drought of record
 - Should be 75 percent full in approximately 1.5 years
 - Should be 50 percent full in approximately 3.5 years
- Currently we are on track with the Drought Plan as Dallas' current connected supply is 75% full (25% depleted), 1.5 years later

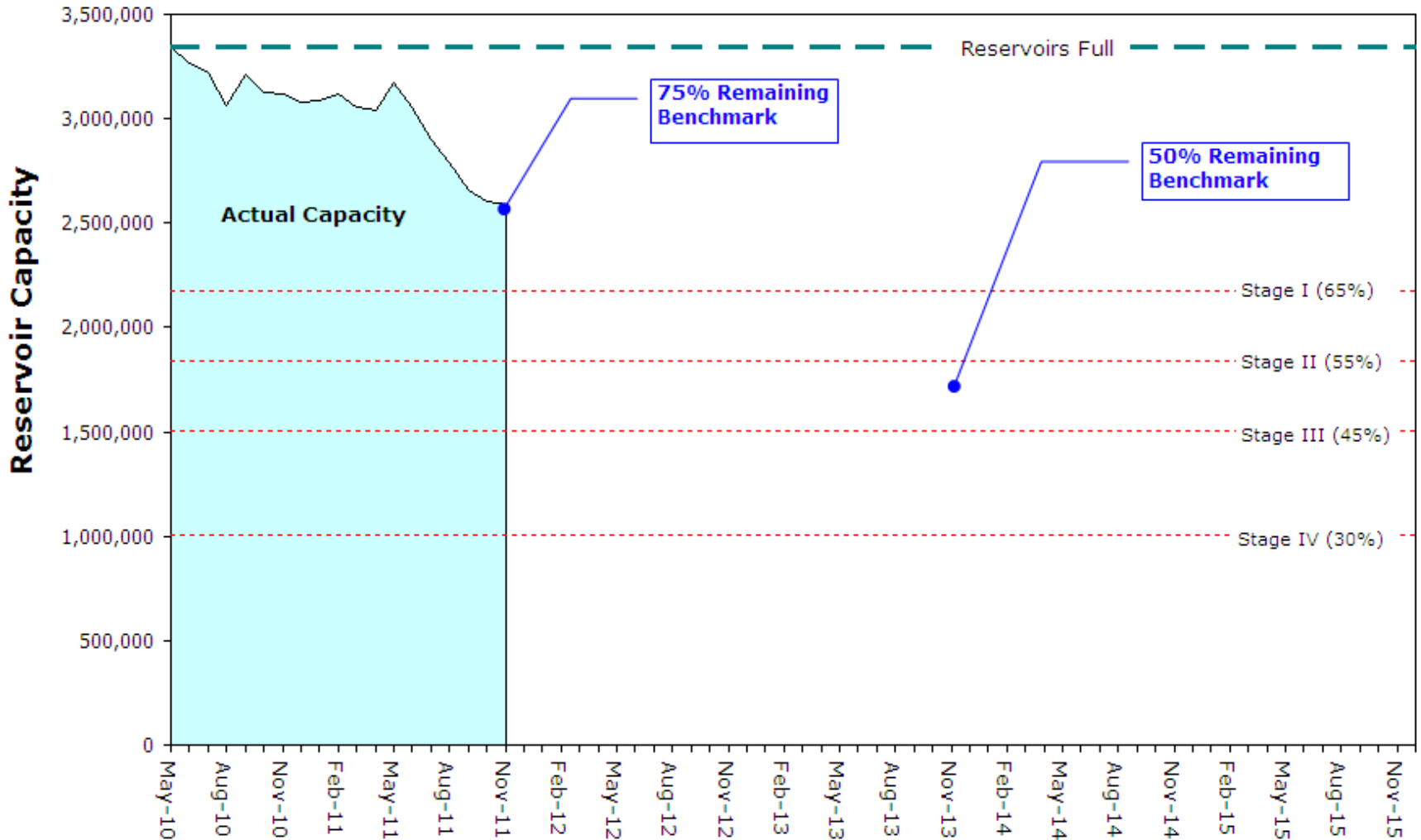
Dallas' Drought Contingency Plan

(continued)

- The heat and lack of rainfall in 2011 was the worst one year drought on record
- Also, ongoing construction at Dallas' East Side Water Treatment Plant will result in water treatment restrictions in June 2012
- A prudent approach is to move forward with watering restrictions early, with a call for mandatory restrictions on December 12, 2011

Total Reservoir System Condition and Analysis

(Lakes Ray Roberts, Lewisville, Grapevine, Ray Hubbard, Tawakoni and Fork)



Graph shows the depletion of Dallas' reservoirs, and when the lakes should be 75% and 50% depleted.

Drought Conditions

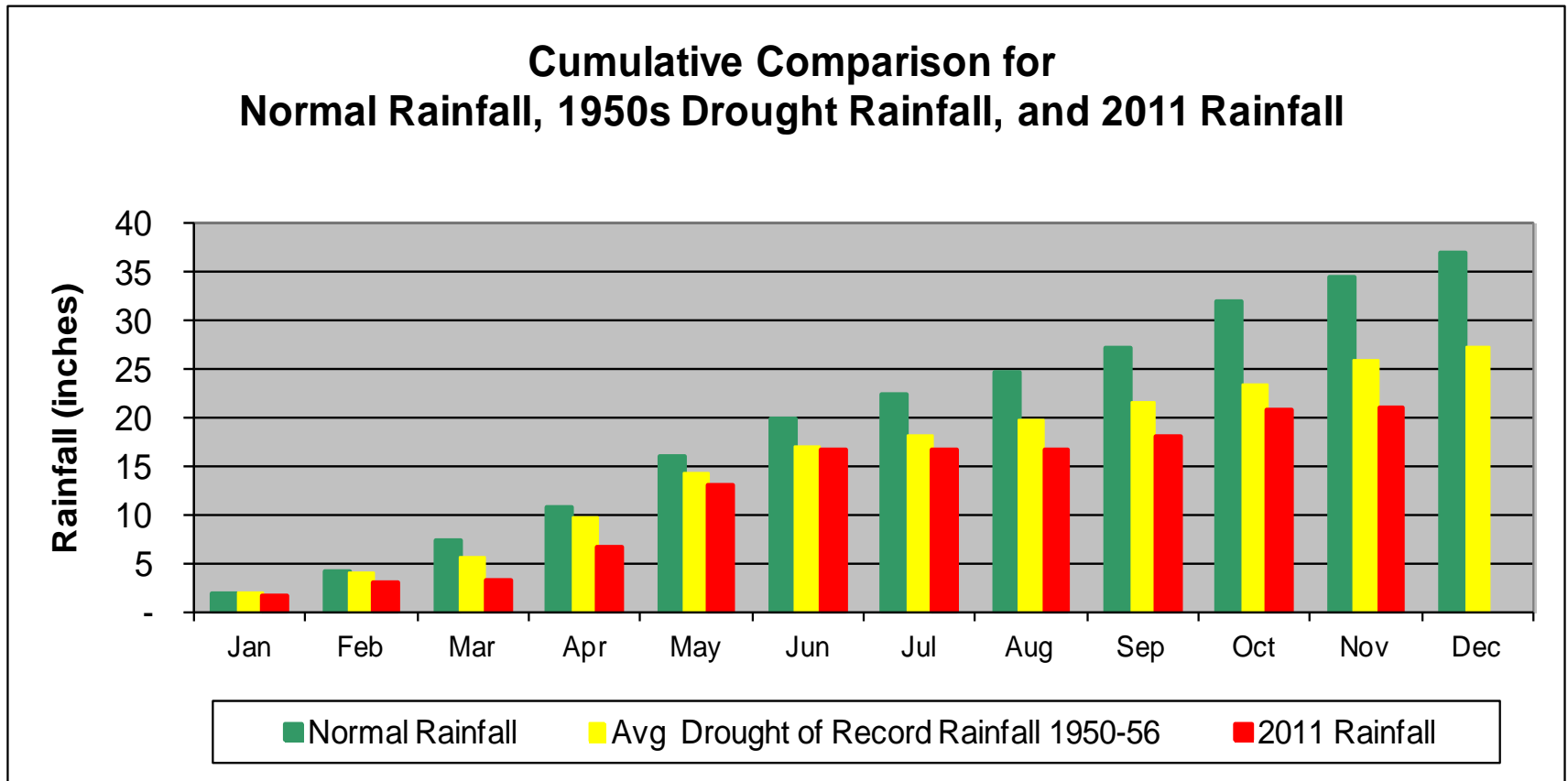
2011 Drought Observations

- “The state climatologist for Texas says the record drought of 2011 could be only the beginning of a dry spell that could last until 2020” - *Austin American-Statesman*
- “Triple-digit temperatures will be the norm in Texas within a few decades...according to the state climatologist” *Dallas Morning News*
- “Texas is now in the midst of its most severe one-year drought on record, according to the State Climatologist” – *The Texas Tribune*
- “At this point, all I can say is that we’re in a period of frequent Texas drought until further notice,” he said. “This period, with both the Pacific and Atlantic working against us, might be over in a couple of years, or it might last another 15 or 20 years. It seems likely to last another decade.” State Climatologist *Southwest Farm Press*

Drought Conditions: Current Situation

- 2011 has been the driest year on record in the State since 1895, when the State began keeping rainfall records
- The past summer was also the hottest on record
- Estimated costs are more than \$5.2 billion in agricultural losses and \$250 million in wildfire devastation
- Texas state climatologist has indicated that the drought may be similar to the 1950s drought and this weather pattern may continue until 2020
- As shown on the next slide, 2011 rainfall is less than the average during the 1950s drought of record

Drought Conditions: Rainfall Comparison



Note: 2011 rainfall data is through 11/9/11

Monitoring Drought Conditions - Dallas

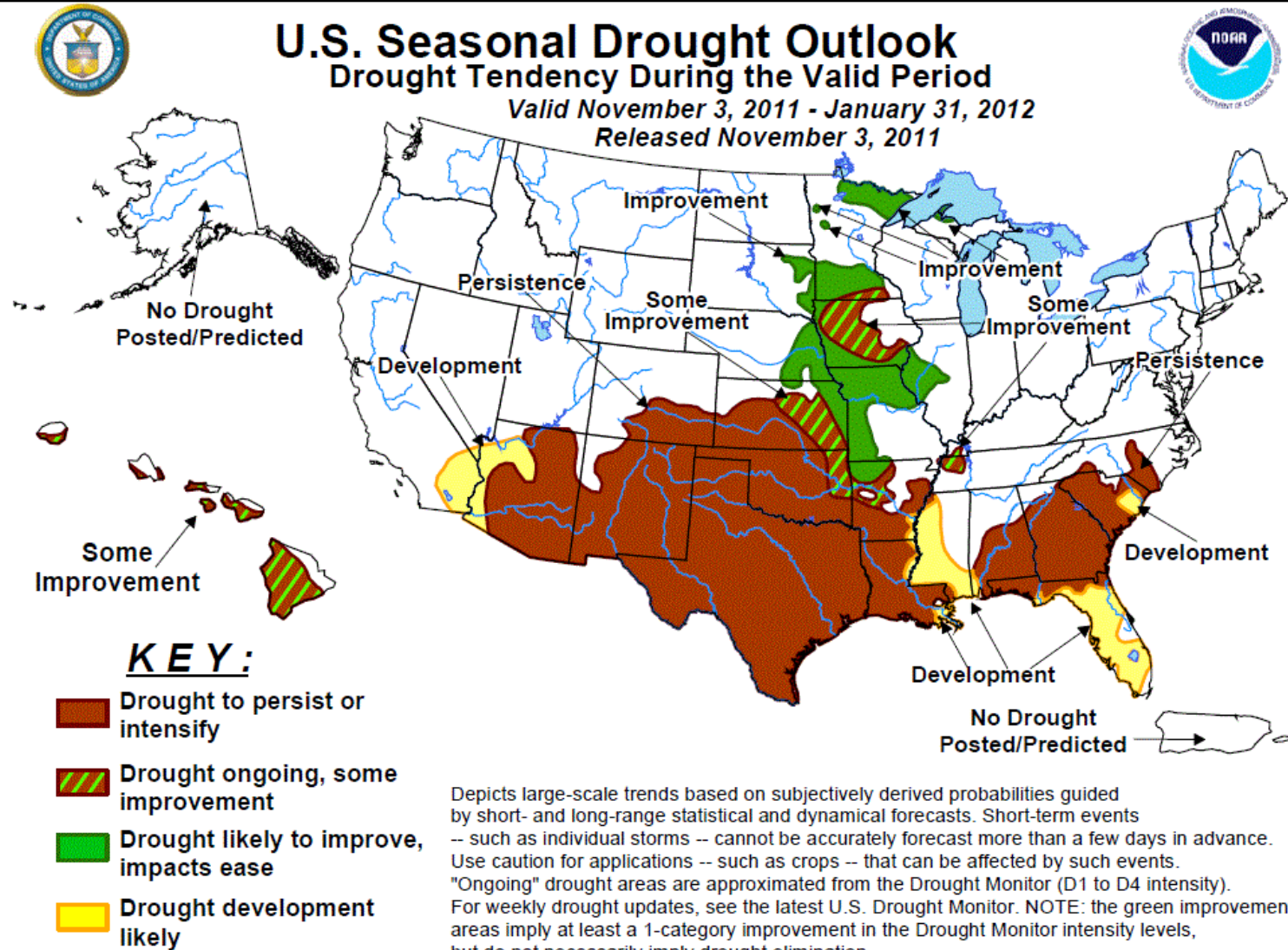
- Perform Computerized Drought Simulations
 - Prior to drought
 - During drought
- Water Supply and Drought Monitoring
 - Lake Levels
 - Reservoir Capacity
 - Long Range Weather Forecasts
 - Palmer Drought Index
- Initiate drought plan stages as appropriate



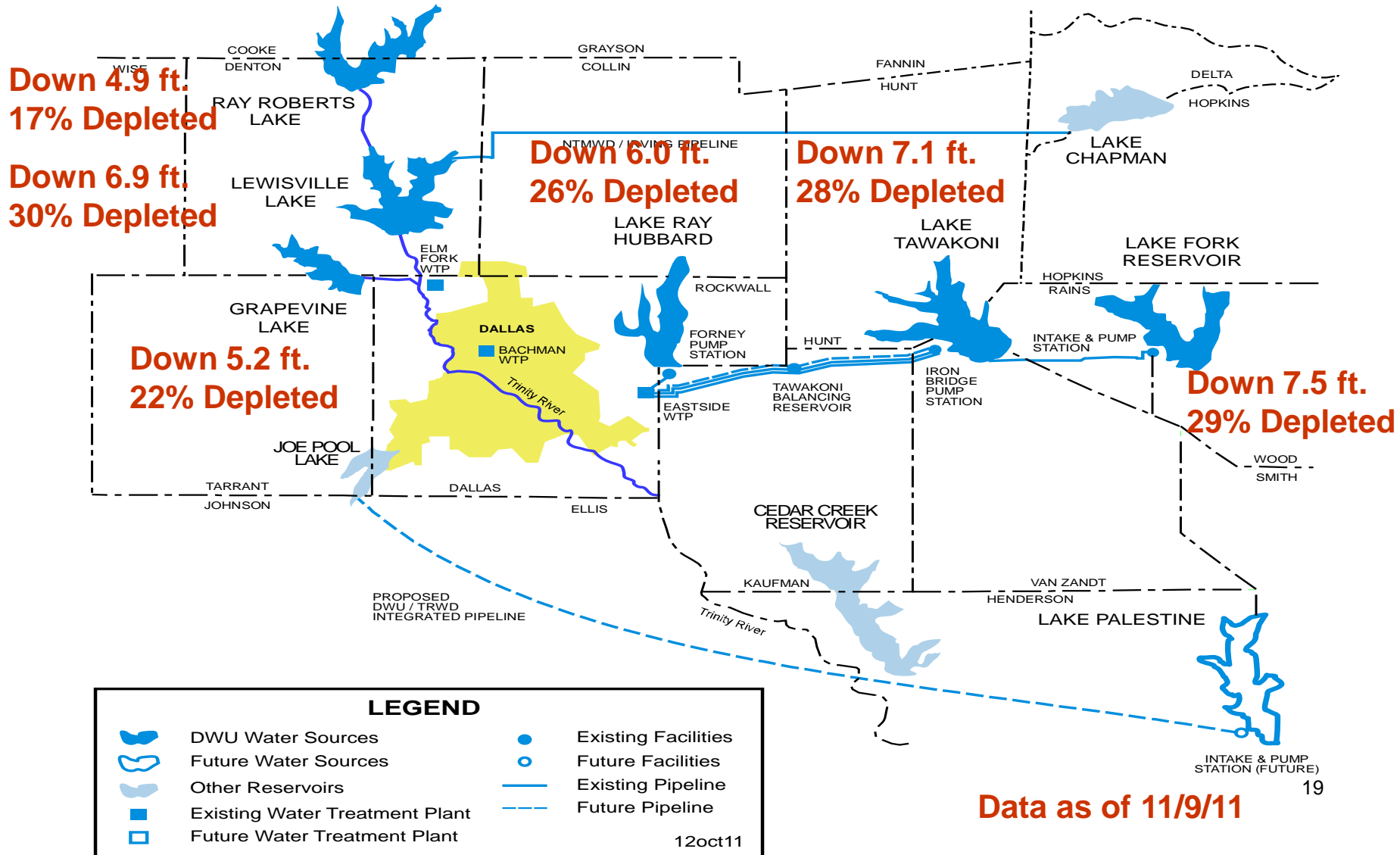
Dallas' Staff Drought Related Actions

- Briefed the Council on August 17, 2011 on the Water Operations Management Plan
 - Provided update on the ongoing drought conditions
 - Provided information regarding possible treatment capacity limitations in 2012
- Sent drought memo to Council in August 2011 and press release asking the public to voluntarily restrict outside watering to no more than two time per week
- Media campaign with other area providers, including the Lawn Whisperer campaign
- Provided drought update memos to the Council in September and October 2012
- Had discussions with other area water providers regarding the impact of the drought on their operations and their responses to the drought

Drought Conditions: Future Outlook



Status of Dallas Water Supply Reservoirs



Drought Conditions and Contingency Plan

- Drought Contingency Plan Updated June 2010
- Drought Triggers are based on either supply capacity, system capacity or contamination issues
- Dallas' current connected supply is approximately 75% full (25% depleted)

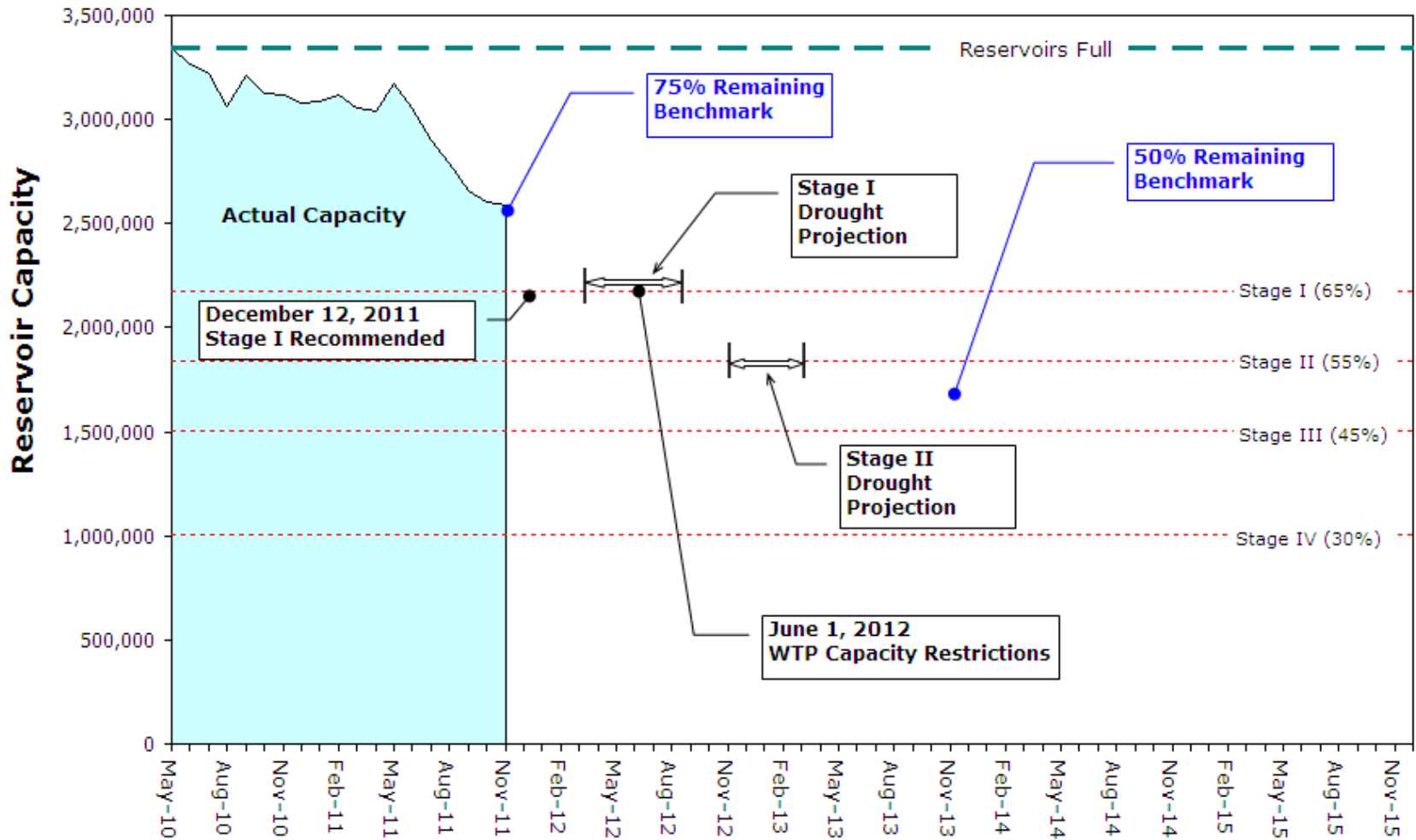
Drought Stage	Supply Capacity % full - (% depleted)	System Capacity % of delivery capacity for consecutive days
1	65% - (35%)	85% for 4 days
2	55% - (45%)	90% for 3 days
3	45% - (55%)	95% for 2 days
4	30% - (70%)	98% for 1 day

Drought Stages and Responses

- Even though Stage 1 (where Dallas' connected lakes are 35% depleted) is forecasted as early as March 2012, to be more cautious the recommendation is to enact Stage 1 effective December 12, 2011
- Primary impact to customers from Stage 1 is mandatory maximum of twice weekly outdoor watering
- In addition, Stage 2 restrictions may occur as early as November 2012 due to:
 - Lake depletion
 - In response to system treatment capacity limitations
 - In response to sales of raw water to other entities (discussed later)
- Primary impact to customers from Stage 2 is mandatory maximum of once a week outdoor watering
- Additional information on Dallas' drought stages is located in the Appendix

Total Reservoir System Condition and Analysis

(Lakes Ray Roberts, Lewisville, Grapevine, Ray Hubbard, Tawakoni and Fork)



Graph shows how Dallas' reservoirs should be depleted over time, and the projected drought stages related to weather and water treatment plant restrictions. 22

Drought Conditions for Other Area Providers in 2011

- Other area water providers are experiencing restrictions due to lack of rainfall, reservoir location, and other drought related factors

Stage	Dallas	North Texas Municipal Water District (NTMWD)	Tarrant Regional Water District (TRWD)	Upper Trinity Regional Water District (UTRWD)
Stage 1	December 12, 2011	April 19, 2011	August 29, 2011	July 13, 2011
Stage 2		August 11, 2011		
Stage 3		November 1, 2011		
Stage 4				

Comparison of Drought Plans for Dallas and Other Area Water Providers – Stage 1

- Selected actions for Dallas, North Texas Municipal Water District (NTMWD), Tarrant Regional Water District (TRWD), and Upper Trinity Regional Water District (UTRWD)

Stage 1	Dallas	NTMWD	TRWD	UTRWD
Reduction Goal	5%	2%	5%	1%
Supply Triggers	35% depleted	35% depleted	25% depleted	35% depleted
Major Actions	Landscape watering restricted to 2X per week	Voluntary water conservation	Landscape watering restricted to 2X per week	Voluntary water conservation

Comparison of Drought Plans for Dallas and Other Area Water Providers – Stage 2

Stage 2	Dallas	NTMWD	TRWD	UTRWD
Reduction Goal	15%	5%	10%	5%
Supply Triggers	45% depleted	45% depleted	40% depleted	45% depleted
Major Actions	Stage 1 efforts continue and:	Stage 1 efforts continue and:	Stage 1 restrictions continue and:	Stage 1 efforts/restrictions continue and:
	Landscape watering restricted to 1X per week	Landscape watering restricted to 2X per week	Landscape watering restricted to 1X per week	Mandatory watering schedule required*, no watering between 10 a.m. and 6 p.m. from June 1 through Sept. 30
	Hosing of paved areas, buildings or windows prohibited. Recreational use of water prohibited	Prohibit planting of cool season grasses	Ornamental fountain use and filling of swimming pools with automatic valves prohibited.	Recreational use of water prohibited
			Wet street sweeping prohibited	

Comparison of Drought Plans for Dallas and Other Area Water Providers – Stage 3

Stage 3	Dallas	NTMWD	TRWD	UTRWD
Reduction Goal	20%	10%	20%	15%
Supply Triggers	70% depleted	55% depleted	55% depleted	55% depleted
Major Actions	Stage 1 & 2 restrictions continue and:	Stage 1 & 2 restrictions continue and:	Stage 1 & 2 restrictions continue and:	Stage 1 & 2 restrictions continue and:
	Landscape watering restricted to 1X per week by means of soaker hoses, hand held hoses and buckets only. Foundations may be watered for 2 hours on scheduled day.	Landscape watering restricted to 1x every seven days from April 1 - Oct. 31; Landscape watering restricted to 1x every two weeks from Nov. 1 - Mar. 31	All landscape watering prohibited except for foundations and trees	Landscape watering restricted to 1X per week
	Watering golf courses prohibited except for greens and tee boxes. Municipal watering prohibited except for golf course greens and tee boxes.	Hosing of paved areas, buildings or windows prohibited	Golf course greens may only be watered by hand before 10 a.m. and after 6 p.m.	Use of soaker hoses, hand watering or drip irrigation of foundations and landscaped areas may used be any day, limited to 6 p.m. to midnight.
	Wet street sweeping prohibited	No hydroseeding, hydromulching or sprigging	Establishment of new landscaping prohibited.	
	Operation of ornamental fountains and ponds prohibited. Draining, filling or refilling or permitting pools, hot tubs, ornamental ponds and fountains prohibited.	Ornamental fountain use prohibited. Existing swimming pools cannot be drained/refilled.	Operation of ornamental fountains and ponds prohibited. Draining, filling or refilling or permitting pools, hot tubs, ornamental ponds and fountains prohibited.	Permitting of new swimming pools, hot tubs, spas and ornamental fountains suspended
	Vehicle washing prohibited except as needed for health, sanitation or safety reasons and vehicles may only be washed at a commercial car wash	Washing or rinsing of vehicles prohibited unless using hose end cut off nozzle.	Vehicle washing prohibited except as needed for health, sanitation or safety reasons and vehicles must be washed at a commercial car wash.	Vehicle washing restricted to commercial car washes.
	10% rate increase for high water demand users (greater than 10,000 gallons per month).	Initiate rate surcharge for use over certain level	Commercial users required to reduce consumption by a set percentage TBD by Water Utilities Director	Initiate rate surcharge on retail usage
	No new applications for water service connections or facilities will be approved		Hotels required to encourage linen and towel reuse. Restaurants required to serve water only on demand.	

Comparison of Drought Plans for Dallas and Other Area Water Providers – Stage 4

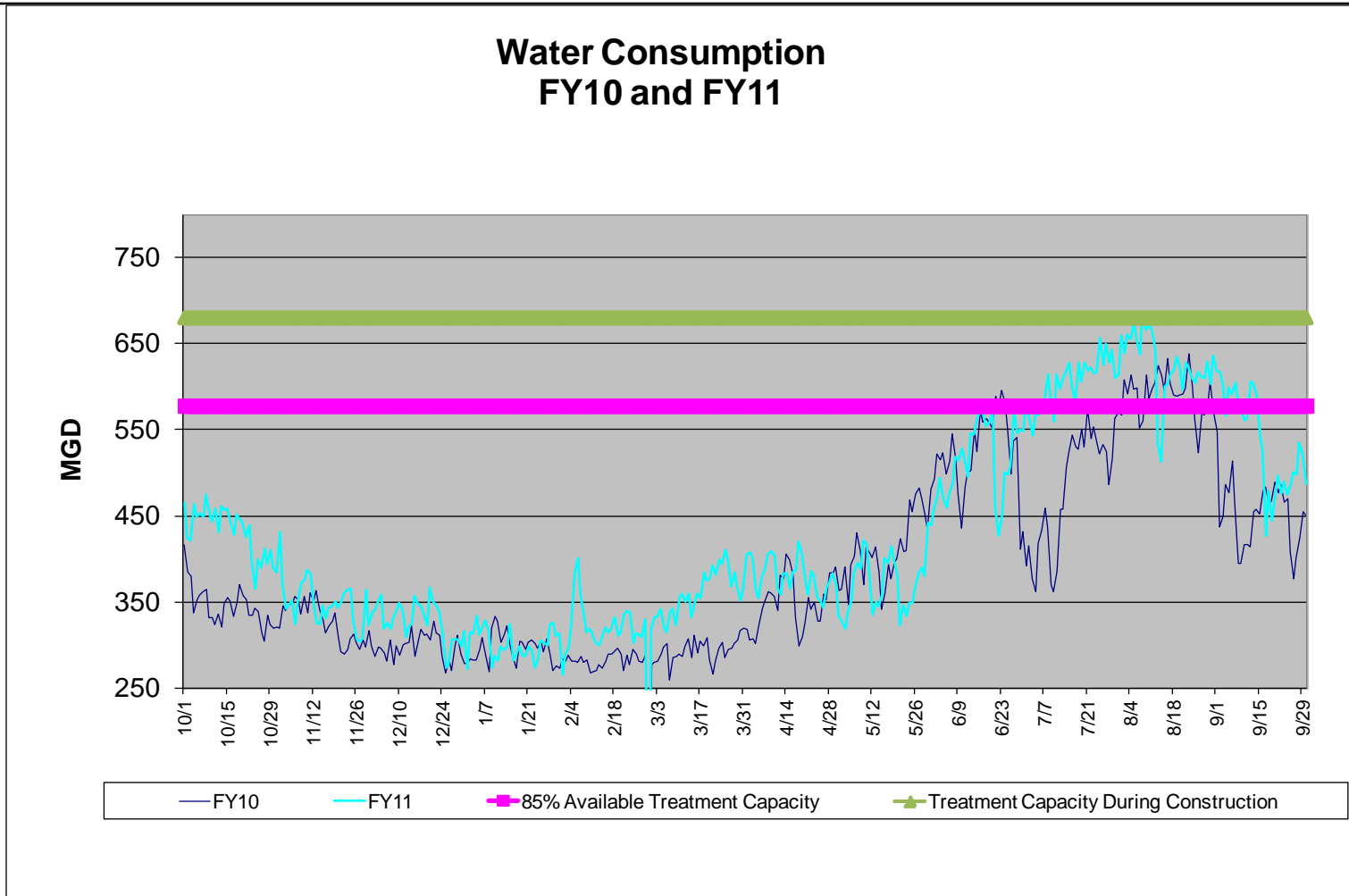
Stage 4	Dallas	NTMWD	TRWD	UTRWD
Reduction Goal	25%	TBD by official designee	No Stage 4	25%
Supply Triggers	70% depleted	65% depleted		70% depleted
Actions	Stage 1, 2 & 3 restrictions continue and:	Stage 1, 2 & 3 restrictions continue and:		Stage 1, 2 & 3 restrictions continue and:
	All landscape irrigation absolutely prohibited (foundations may be watered per conditions under Stage 3)	Commercial and Residential landscape watering prohibited (except for foundations and trees which can be watered with hand held hose, soaker or drip irrigation for 2 hours of any day)		Landscape watering prohibited (except for foundations and trees which can be watered with hand held hose, bucket, soaker or drip irrigation for 2 hours of any day)
	Washing of vehicles absolutely prohibited	Washing of vehicles prohibited (except for health, sanitation and safety). Irrigation of golf courses prohibited except for greens and tees. Initiate rate surcharge for all water use over normal rates.		Washing of vehicles prohibited
	Water allocation actions may be taken by Director to discourage water use.	Permits for private pools suspended. Water may be added to maintain pool level but draining and refilling prohibited.		Increase rate surcharge to retail customers

Dallas' 2012 Water System Treatment Capacity Restrictions

Water System Treatment Capacity

- Ongoing construction at the East Side Water Treatment Plant will provide water quality improvements, rehabilitation and increased plant capacity for future demand
- This construction will result in a temporary water treatment capacity restriction of 680 MGD (a 25% reduction in treatment capacity) for Dallas' treated water system during the Spring/Summer of 2012
- As a result of this limitation, along with drought weather conditions, service restrictions to customers are anticipated
- Stage 1 would be triggered when customer demand reaches 85% (578 MGD) of the 680 MGD delivery capacity for 4 consecutive days
- The following chart shows that restrictions would be needed in both FY10 (a relatively wet year) and FY11 (a dry year)

Water Use and 2012 Water System Restriction



Note: Graph shows that water restrictions would be needed in FY10 and FY11. FY10 was a relatively wet year; FY11 was hot and dry.

Probable Water Sales

State of Texas Rules

- Surface water is owned and permitted by the State of Texas
- House Bill 2694, passed in 2011, allows the State to suspend or adjust water rights during drought or emergency water shortage
- In addition, Texas Water Code, § 11.139 allows the commission to grant an emergency permit, order, or amendment to an existing permit, certified filing, or certificate of adjudication for a period of 120 days
 - May be renewed for an additional 60 days
 - For conditions which present an imminent threat to the public health and safety

Probable Water Sales

- Dallas has been approached by other entities to purchase water from us
 - Luminant, North Texas Municipal Water District (NTMWD), and City of Irving
- Other area cities and entities may also request the sale of water from Dallas
- Water sales, assuming drought conditions continue as forecasted may have the following impact:
 - Sales of water to others may require Dallas to implement stronger drought measures, i.e., Stages 2-4
 - Sales of water may also change DWU's budget assumptions



Probable Water Sales - Process

- We have received preliminary information regarding probable sales
- We will be working with the entities to negotiate the terms and conditions
- Details will be finalized over the next six months including length of contract, volume of water, conditions of service, pricing and other considerations

Probable Water Sales - Luminant

- Current Luminant raw water contracts
 - Lake Fork - 12,000 ac-ft for Martin Lake thru 2050
 - Lake Fork – 6,000 ac-ft short term contract for Martin Lake thru 2011
 - Elm Fork of the Trinity River – 9,550 ac-ft for North Lake thru 2018
- Martin Lake used to cool its power generating units
 - Additional water needed to keep lake level high enough for intake and water temperature necessary for cooling
- Luminant power generation facilities at North Lake have been decommissioned
- Contract request for additional water
 - Lake Fork - 8,000 ac-ft for Martin Lake for a two year term
 - Elm Fork of the Trinity River – release 9,550 ac-ft contract as a term of the new contract (reduces demand on the western water supply system)
 - Contract anticipated by Spring 2012

Probable Water Sales - NTMWD

- NTMWD is not currently a water customer of Dallas
- NTMWD water supply sources
 - Lavon – 49% full
 - Chapman – 27% full
 - Texoma – 0% available (due to Zebra mussels)
- Potential raw water purchase amounts from Dallas - 27 MGD to 60 MGD
- Contract requested by NTMWD to be completed in the Spring 2012 timeframe

Probable Water Sales – City of Irving

- ❑ Irving has a treatment services contract with Dallas to treat 40 MGD of their Lake Chapman water
- ❑ Irving also purchases a small amount of treated water from Dallas (approx. 15%)
- ❑ Lake Chapman is 69% depleted
- ❑ Depending on future rain and weather conditions, Irving's water supply in Chapman may be at risk
- ❑ At Irving's request, Dallas staff has met to discuss possible water sales to Irving
- ❑ At this time, a formal water sale request has not been made to Dallas

Communication Plan, Steps, and Enforcement

Communication Plan – City Government and Other Agencies

- Director recommends drought stage to City Manager
- City Manager calls for implementation of drought stage and notifies City Council
 - Drought stage is effective for 60 days (for example December 12, 2011 - February 9, 2012)
 - Council resolution required to extend drought stage beyond 60 days
 - Council may authorize extensions in 120 day increments (for example February 10, 2012 - June 8, 2012)
- City Manager sends memo copy to department heads
- DWU submits Stage 1 notification to Executive Director of TCEQ within required 5 business days
- DWU submits Stage 1 notification to other area agencies – hospitals, hotels, commercial businesses, etc.

Communication Plan – Retail Customers

- ❑ City Manager orders Stage 1 by public announcement (press release)
- ❑ Stage 1 order published in newspaper within 24 hours after public announcement
- ❑ Prepare and mail drought water bill insert
- ❑ Update dallascityhall.com and savedallaswater.com websites with drought message to include mandatory watering schedule
- ❑ Submit mail notifications to City announcement lists (internal and external)
- ❑ Use social media drought messaging through City of Dallas and Lawn Whisperer Campaign



Communication Plan – Wholesale Customers

- Fax and email copies of press release and CMO memo to wholesale customer cities contacts
- Mail certified mail packet announcing initiation of Stage 1 within 24 hours after public announcement
- Require implementation of "like" procedures by wholesale water customers

Drought Plan Restrictions Enforcement

- Enforcement will be accomplished using Code Enforcement and Dallas Water Utilities personnel
- Any person who violates this Plan is guilty of a misdemeanor and, upon conviction, shall be punished by a fine of not less than \$250 and not more than \$2,000
- Each day that one or more of the provisions in this Plan is violated shall constitute a separate offense
- If a person is convicted of two or more distinct violations of this Plan, upon due notice to the customer, DWU may:
 - Install a flow restrictor to limit the amount of water that will pass through the meter in a 24-hour period; or
 - Discontinue water served to the premises

Actions and Next Steps

Actions and Next Steps

- City Manager will be enacting Stage 1 watering restrictions effective Monday, December 12, 2011
- Staff will implement customer communication plan and increase role of enforcement specifically related to water use compliance
- Recommendations on sales of water will be brought to Council by Spring 2012
- Dallas may need to consider additional restrictions (Stage 2) in Spring 2012
 - Timing of Stage 2 restrictions dependent on water sales to other entities, continuation of drought conditions, and water system treatment capacity limitations



Appendix

Water Operations Management Plan

- The Management Operations Plan establishes standard operating policies, procedures, methods and processes for the operation of the City's water system
- As part of this plan, the City Council adopted drought contingency and emergency water procedures on June 9, 2010
- The contingency and emergency procedures describe the conditions that require short-term water demand management and establish policies and procedures that offer strategies for a timely response

POSSIBLE TRIGGERING CRITERIA
Reduction in Available Water Supplies
Treatment or Distribution System Capacity Limitations
System Vulnerability
System Failures
Other

Dallas' 2010 Drought Contingency Plan

Triggers

- Council adopted current plan in June 2010
- Previous plan was dated 2005
- Triggers for each Stage set for:
 - Drought
 - Capacity constraints
 - Natural or man-made contamination
- Stage 1 response calls for mandatory watering restrictions (2 day a week maximum)
- Stage 2 calls for mandatory 1 day a week watering
- Stages and responses are shown in the Appendix

Water Demand Management Triggers

- Treated Water Capacity Management Plan Triggers
 - Stage 1 - Exceeds 85% of delivery capacity for 4 consecutive days
 - Stage 2 - Exceeds 90% of delivery capacity for 3 consecutive days
 - Stage 3 - Exceeds 95% of delivery capacity for 2 consecutive days
 - Stage 4 - Exceeds 98% of delivery capacity for 1 consecutive day

- Raw Water Supply Management Plan Triggers
 - Stage 1 – 35% of supplies depleted
 - Stage 2 – 45% of supplies depleted
 - Stage 3 – 55% of supplies depleted
 - Stage 4 – 70% of supplies depleted

Process to Implement Contingency and Emergency Measures

- Utility Director responsible for ongoing monitoring of water system
- Director is responsible for recommending implementation of contingency and emergency procedures to City Manager
- City Manager may enact the measures for up to 60 days
- City Council may extend the measures beyond original 60 days for additional time periods, not to exceed 120 days each
- To be effective, measures must be published in a local newspaper within 24 hours of announcement

Comparison of Drought and Conservation Measures

- Conservation measures are used to achieve more efficient use of water resources
- Conservation examples include:
 - Water Wise landscaping (Xeriscape)
 - Time of Day Watering
 - Low Flow Showerheads
 - Repairing leaking faucets
 - Reducing the frequency of watering lawns
- Drought measures are restrictions used to ensure that water is available to meet public health, welfare, and safety needs
- Drought examples include
 - Restricting lawn watering
 - Prohibiting permitting or filling of swimming pools
 - Prohibiting operation of ornamental fountains
 - Prohibiting recreational water use

Drought Triggers and Action Measures

(City of Dallas Drought Contingency Plan adopted June 9, 2010)

Stage 1	Stage 2	Stage 3	Stage 4
35% Depleted	45% Depleted	55% Depleted	70% Depleted
Mandatory	Mandatory	Mandatory	Mandatory
<ul style="list-style-type: none"> □ Target 5% reduction in total Gallons Per Capita per Day (GPCD) □ Restrict operation of ornamental fountains and ponds to initial filling and to support aquatic life □ Encourage reduction in draining and refilling of swimming pools □ Prohibit recreation water use of faucets hoses and hydrants which use water in such a manner as to allow run-off □ Restrict washing of vehicles to hand held bucket (does not affect commercial car washes) □ Mandatory maximum 2 day a week landscape irrigation 	<ul style="list-style-type: none"> □ Target 15% reduction in total GPCD □ Prohibit hosing off paved areas, buildings, windows or other surfaces □ Restrict op of ornamental fountains/ponds to initial filling or support aquatic life □ Encourage further reduction in draining and refilling of swimming pools □ Prohibit recreation water use of faucets hoses and hydrants which use water to allow run-off □ Restrict washing of vehicles to hand held bucket (but not commercial car washes) □ Mandatory maximum 1 day a week landscape irrigation □ Foundations may be watered any day during allowed watering hours with soaker or hand held hoses 	<ul style="list-style-type: none"> □ Target 20% reduction in total GPCD □ No approval for new, additional, expanded, or increased-in-size water service connections, meters, service lines, pipeline extensions, mains, or water service facilities □ 10% rate increase for high water demand users (greater than 10,000 gallons per month) □ Prohibit the filling/refilling of swimming pools, wading pools and Jacuzzi pools, Existing pools may add water for proper operation; no permitting of new pools □ Prohibit washing of vehicles (does not affect commercial car washes between 6:00 a.m. and 10:00 a.m. or 6:00 p.m. to 10:00 p.m.) □ Mandatory maximum 1 day a week landscape irrigation with hand held hoses and hand held buckets only □ Foundations may be watered for a 2 –hour period (off-peak) with soaker hose or hand held hose. 	<ul style="list-style-type: none"> □ Target 25% reduction in total GPCD □ Prohibit washing of vehicles □ Prohibit landscape irrigation □ Foundations may be watered for a 2 –hour period (off-peak) with soaker hose or hand held hose.

Twice Weekly Watering Or Less

Observations

- “Fewer but heavier lawn watering encourages deeper roots that withstand dry weather better. A deeply watered lawn should be able to go 5 to 8 days between watering.”

AgriLife Extension, Texas A&M System

- “Most lawns receive twice as much water as they require for a healthy appearance... Most gardeners can readily recognize lawn stresses due to lack of water, such as wilting and yellowing. The key to watering lawns is to apply the water as infrequently as possible, yet thoroughly.”

Texas AgriLife Extension Service -*EarthKind: Watering Landscapes*

- “This illustrates why it is so important to make sure the irrigation system is applying water as efficiently as possible. Ideally, you would apply this amount of water in one or two applications per week.” **James A. McAfee, Ph.D., Extension Turfgrass Specialist Texas AgriLife Extension** *2011 Drought Stress Problems*

Twice Weekly Watering Or Less

Observations (continued)

- “With careful observation and experience, one can determine the correct number of days between waterings.
 - Common bermuda grass lawns can go 5 to 7 days or longer between waterings without loss of quality.
 - It takes about 1/2 inch of water to achieve the desired wetting depth if the soil is high in sand, and about 3/4 inch of water if the soil is a loam.
 - For soils high in clay, an inch of water is usually necessary to wet the soil to the desired depth.” **Larry Stein and Doug Welsh, Horticulturists Texas AgriLife Extension Service**
- “...during the hot summer weather aim to water no more often than every 4 or 5 days (3 or 4 days if temperatures exceed 100°).”
Neil Sperry - *Neil Sperry's Gardens - The Definitive Word in Texas Horticulture*
- “Adjust schedule seasonally to allow for deep, infrequent watering in order to maintain an even moisture level. About 1" of water per week in the summer is a good starting point.”
Howard Garrett - *The Dirt Doctor*