Update to the Municipal Water Efficiency Plan Guidance Document

CWCB Board Meeting
Berthoud, CO
November 15-16, 2011

Overview

- Development Process
- Objectives and Organization
- Changes from the 2005 Document
- Five Planning Steps
- Template

Development Process

Development Process

Planning Document Advisory Group	
Aurora Water	DiNatale Water Consultants
Town of Clifton	City of Boulder
Denver Water	Clear Water Solutions
Great Western Institute	Town of Firestone
City of Grand Junction	Western Resource Advocates
City of Steamboat	Colorado Springs Utilities
City of Westminster	

Development Process

- Pre-Workshop Questionnaire to Planning Document Advisory Group
- Workshop #1 – May 24, 2011
  - Feedback on 2005 Water Conservation Plan Development Guidance Document through questionnaire
- Workshop #2 – June 29, 2011
  - Planning steps, Template and Worksheets
- CWCB Review of Document – September 2011
- WCTAG and Advisory Group Review
- Presentations to CWCB Board
- Public Review

Development Process

1) How would you rank the 2005 Water Conservation Plan Development Guidance Document (2005 Guidance Document) usability?

Score	Description	Response
A	Very Useful	0
B	Moderately Useful	8
C	Not Useful	1
D	N/A – Did not use Guidance Document	2
Total		11

Objectives and Organization

Objectives

- Customize for Colorado
- Format similar to the Drought Guidance Document
- Incorporate Statute requirements
  - 2004 Water Conservation Act (04-1365)
  - Water Conservation Data Reporting Bill (10-1051)
- Incorporate and align recent water conservation initiatives
- Useful to the variety of providers in Colorado
- Clarity on CWCB expectations for approval

Organization of Document

1.0 Introduction
2.0 Overview of Water Efficiency Plan
3.0 Role of the State in Water Efficiency Planning
4.0 Steps to Water Efficiency Planning
5.0 Public Stakeholder Involvement
6.0 Template for a Water Efficiency Plan
7.0 References

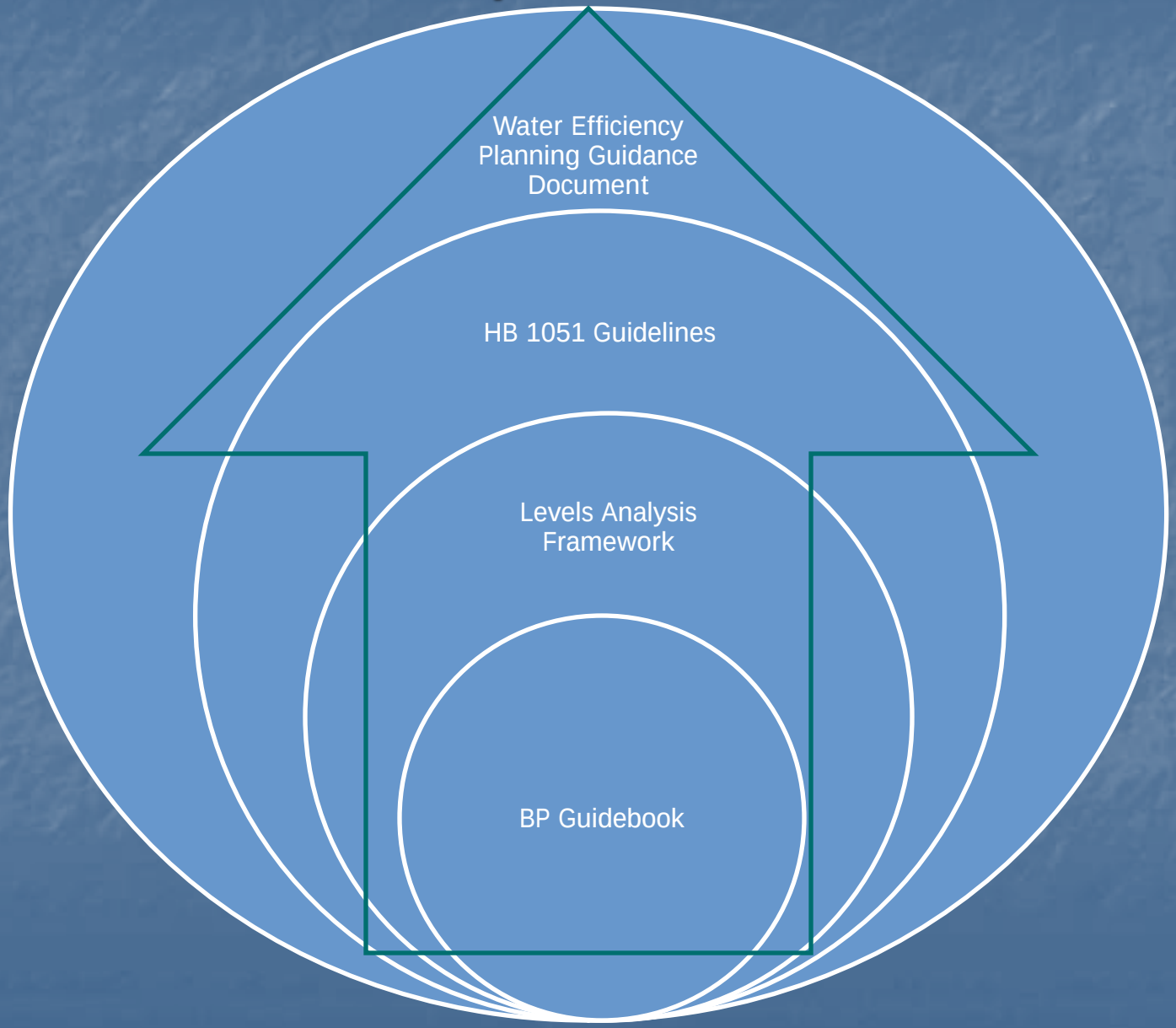
Appendix A – Worksheets
Appendix B – State Policies
Appendix C – HB 10-1051 Outline

Changes from 2005 Document

Summary of Major Changes

- Nine steps to five steps
- Incorporated SWSI Framework Levels into screening and evaluation process
- Aligned with HB 1051 Guidelines
- More emphasis on monitoring and demand tracking
- Emphasized public involvement process
- Format of template changed
- Worksheets were simplified

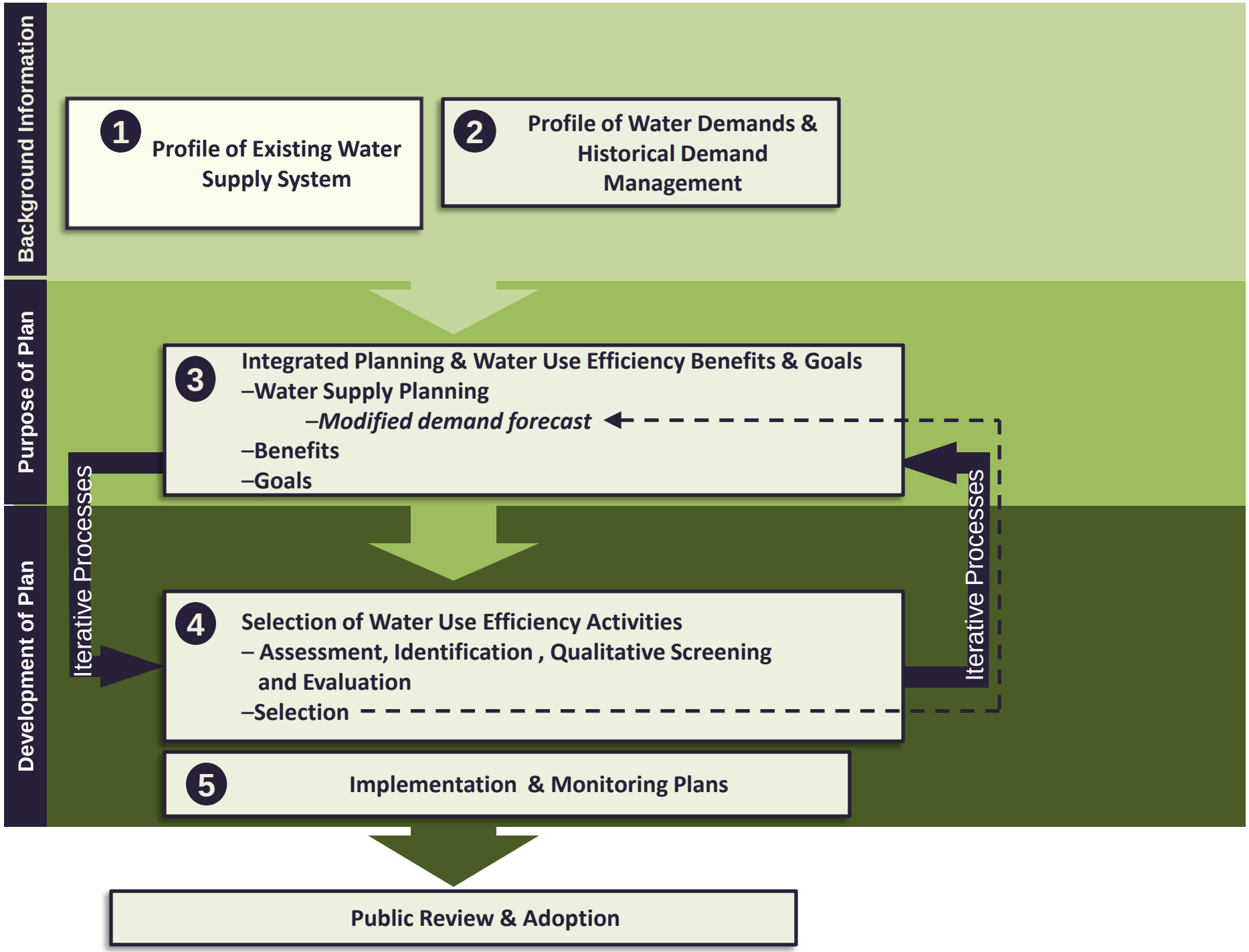
Relationship of Initiatives



Five Planning Steps

Nine Water Conservation Planning Steps

1. Profile Existing Water System (4)
2. Characterize Water Use and Forecast Demand (3)
3. Profile Proposed Facilities (1)
4. Identify Conservation Goals (3)
5. Identify Conservation Measurements and Programs (1)
6. Evaluate and Select Conservation Measures and Programs (6)
7. Integrate Resources and Modify Forecasts (3)
8. Develop Implementation Plan (6)
9. Monitor, Evaluate, and Revise Conservation Activities and the Conservation Plan (1)


Background Information
1
Profile of Existing Water Supply System
2
Profile of Water Demands & Historical Demand Management
Purpose of Plan
3
Integrated Planning & Water Use Efficiency Benefits & Goals
–Water Supply Planning
–Modified demand forecast
–Benefits
–Goals
Development of Plan
Iterative Processes
Iterative Processes
4
Selection of Water Use Efficiency Activities
– Assessment, Identification , Qualitative Screening and Evaluation
–Selection
5
Implementation & Monitoring Plans
Public Review & Adoption

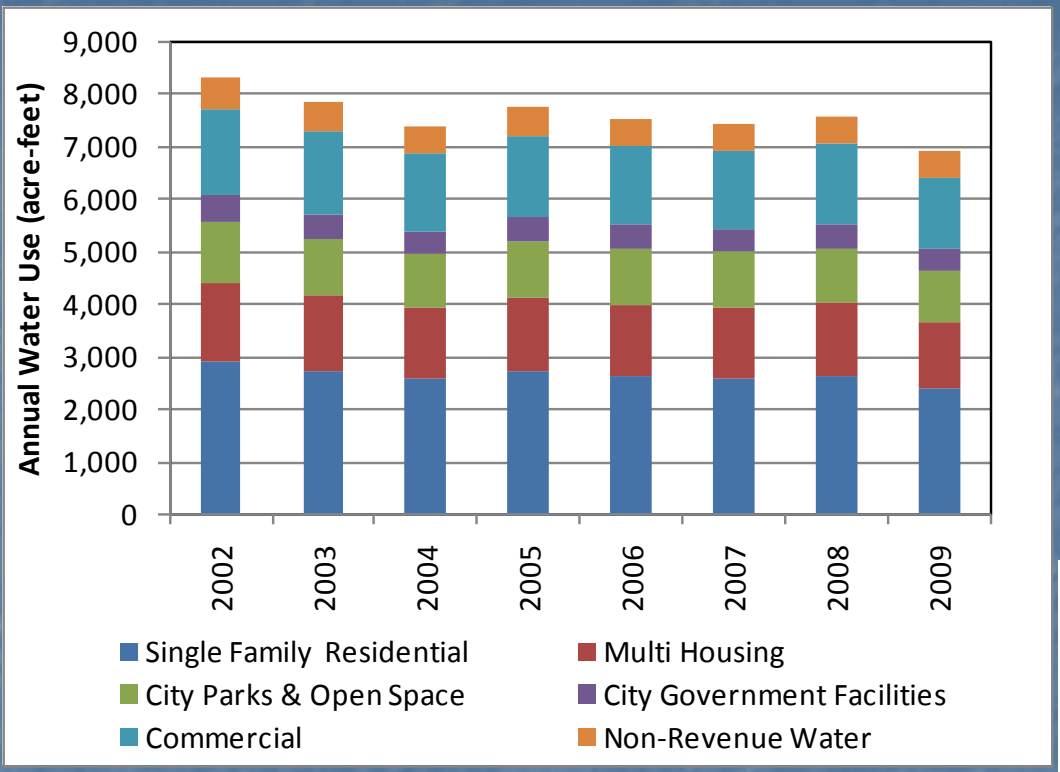
Step 1
Profile of Existing Water Supply System

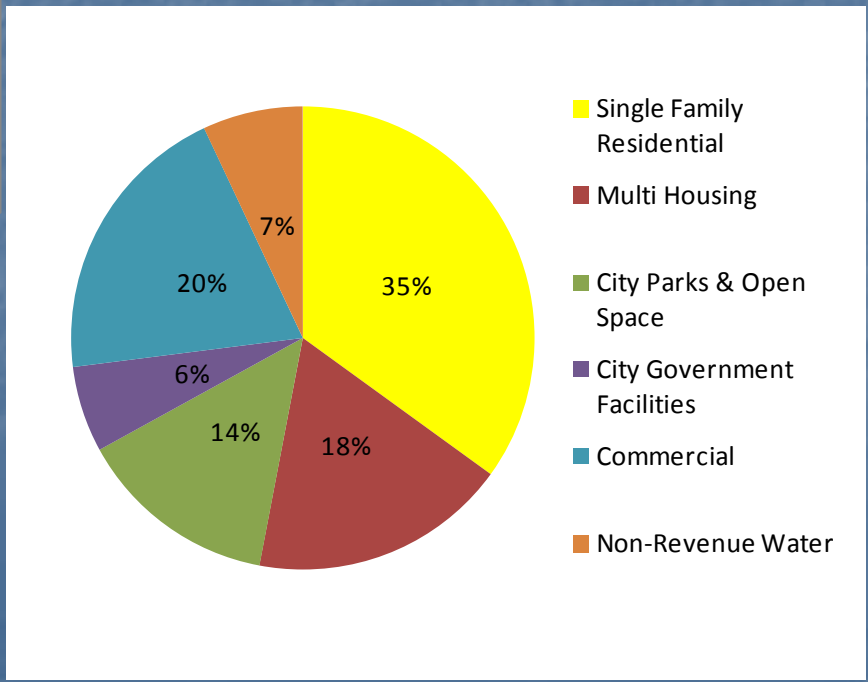
- Overview of Existing Water Supply System
- Water Supply Reliability
- Supply-side Limitations and Future Needs

Step 2
Profile of Water Demands and Historical Demand Management

- Demographics and Key Characteristics of Service Area
- Historical Water Demands
- Past and Current Demand Management and Impacts to Demands
- Demand Forecasts

Historical Water Demands





Past and Current Demand Management Activities

DRAFT WORKSHEET A - HISTORICAL WATER EFFICIENCY ACTIVITIES

Comments/Instructions:

[1] List the current/historical water efficiency activities previously implemend according to the SWSI Levels Framework.

[2] Enter the dates/years the activities have been/were implemented

[3] Enter annual estimated savings for each activity. If water savings are not measureable enter n/a.

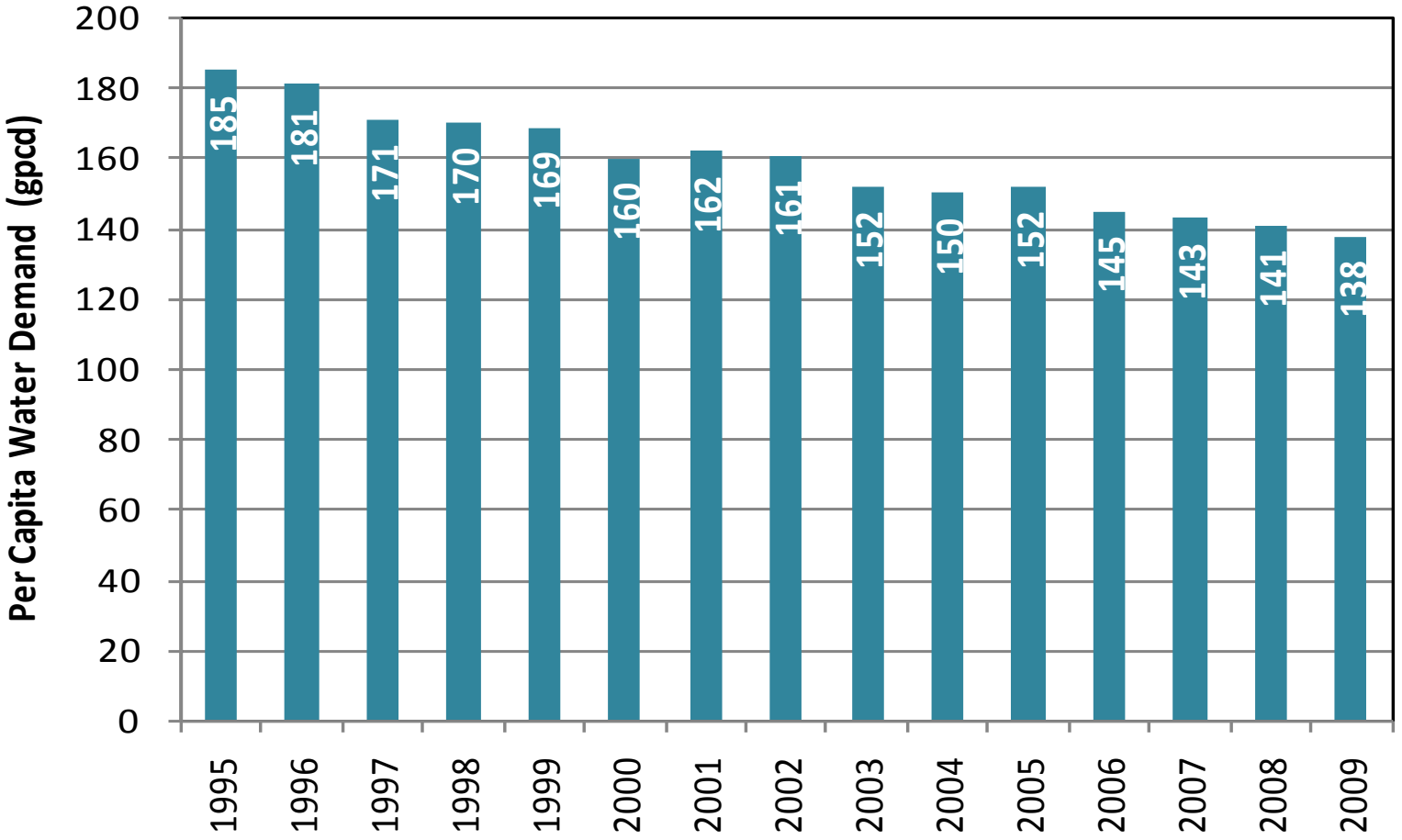
[4] Include total water savings since the ativities have been implemented

[5] Include average annual savings for the current/historical activities

[6] Enter sum of water savings for each individual activity. Note: This may not directly reflect total savings given that water savings for some measures are dififcult to estimate. However, this can provide a means of truth checking.

Water Efficiency Activities [1]	Period of Implementation [2]	Annual Water Savings for Past Five Years (AF or %) [3]					Total Five-Year Water Savings [4]	Average Annual Savings [5]
		Enter Year (i.e. 2007)	*Enter Year (i.e. 2008)*	*Enter Year (i.e. 2009)*	*Enter Year (i.e. 2010)*	*Enter Year (i.e. 2011)*		
Foundational Activities								
List Foundational Activities								
List Foundational Activities								
List Foundational Activities								
Subtotal								
Targeted Technical Assistance and Incentives								
Targeted Technical Assistance and Incentives								
Targeted Technical Assistance and Incentives								
Targeted Technical Assistance and Incentives								
Subtotal								
Ordinances and Regulations								
List Ordinances and Regulations								

Demand Management Impacts

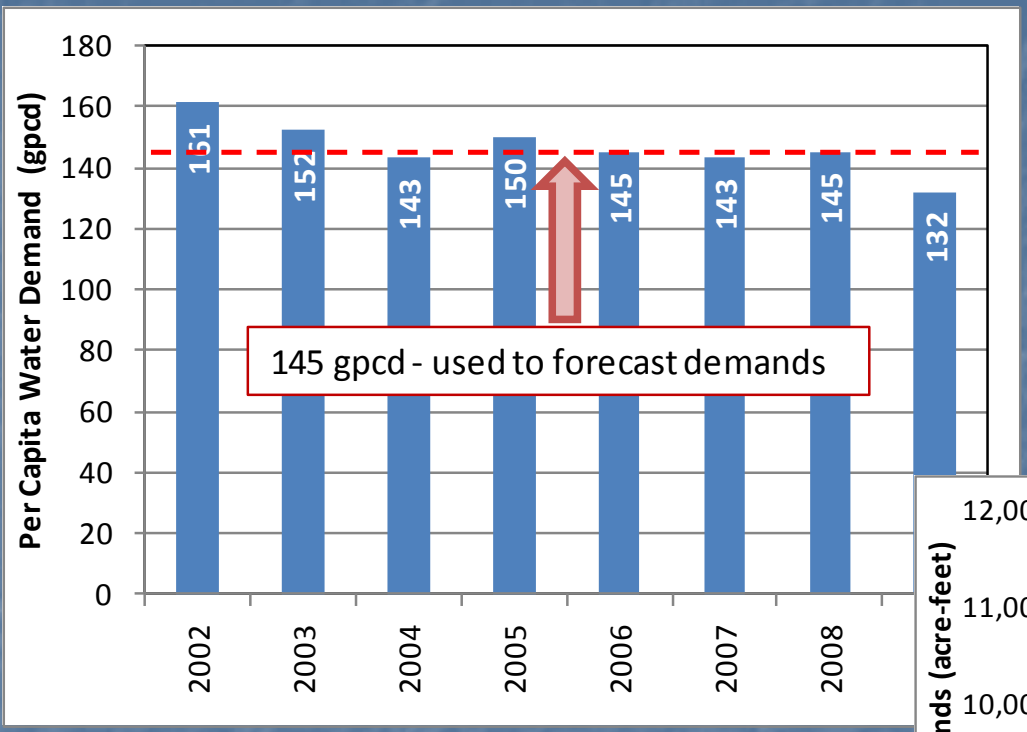


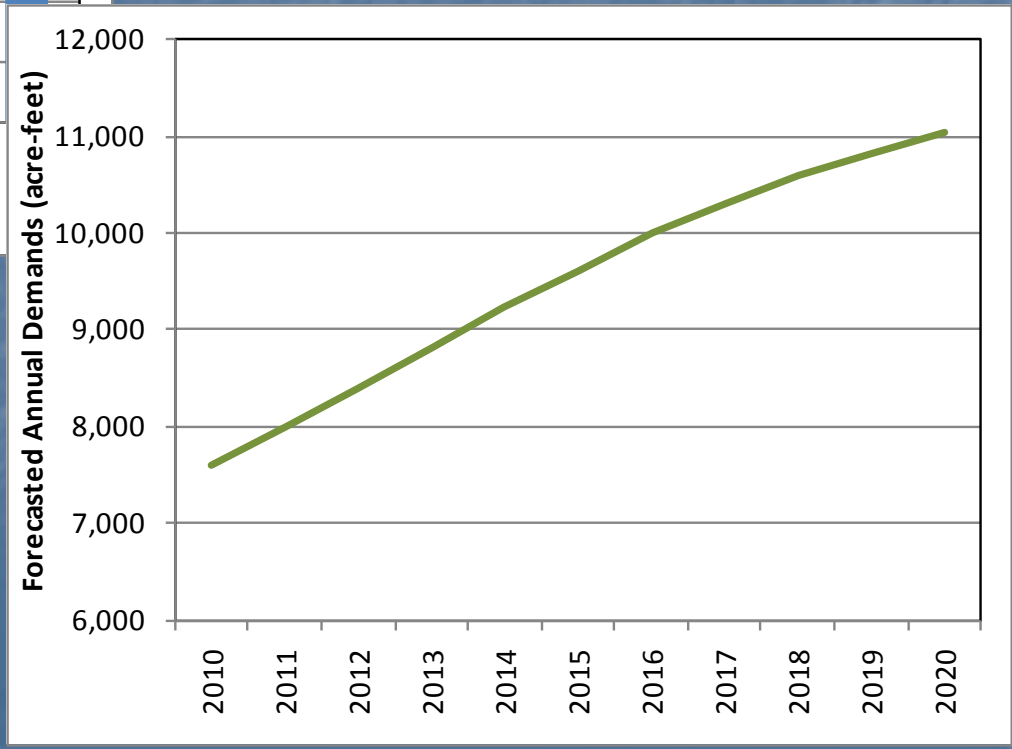
1997 - Meters installed & volume billing

2000 - Block water rate structure

2003 - Public education campaign & other activities implemented

Forecasted Demands





Step 3
Integrated Planning and Water Efficiency Benefits and Goals

- Water Efficiency and Water Supply Planning
- Water Use Efficiency Benefits
- Water Use Efficiency Goals

Water Efficiency and Planning

DRAFT WORKSHEET B - WATER SUPPLY LIMITATIONS AND FUTURE NEEDS

Comments/Instructions:

[1] This column provides a list of limitations/future needs related to planning for and operating the water supply system

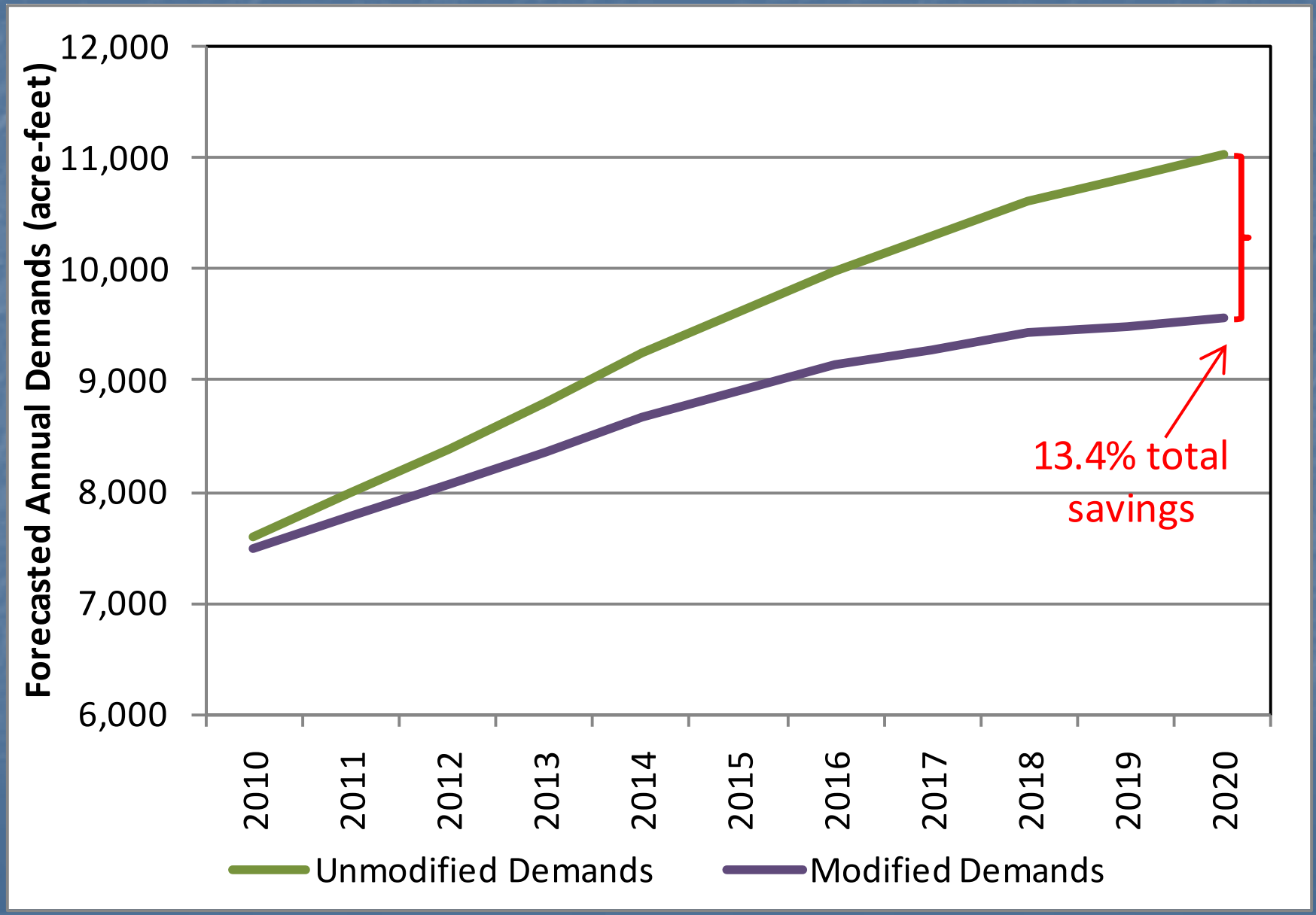
[2] Enter an "X" to show whether or not the system exhibits the limitations/future needs

[3] Include any comments regarding the limitations/future needs that may be useful to consider in the planning process

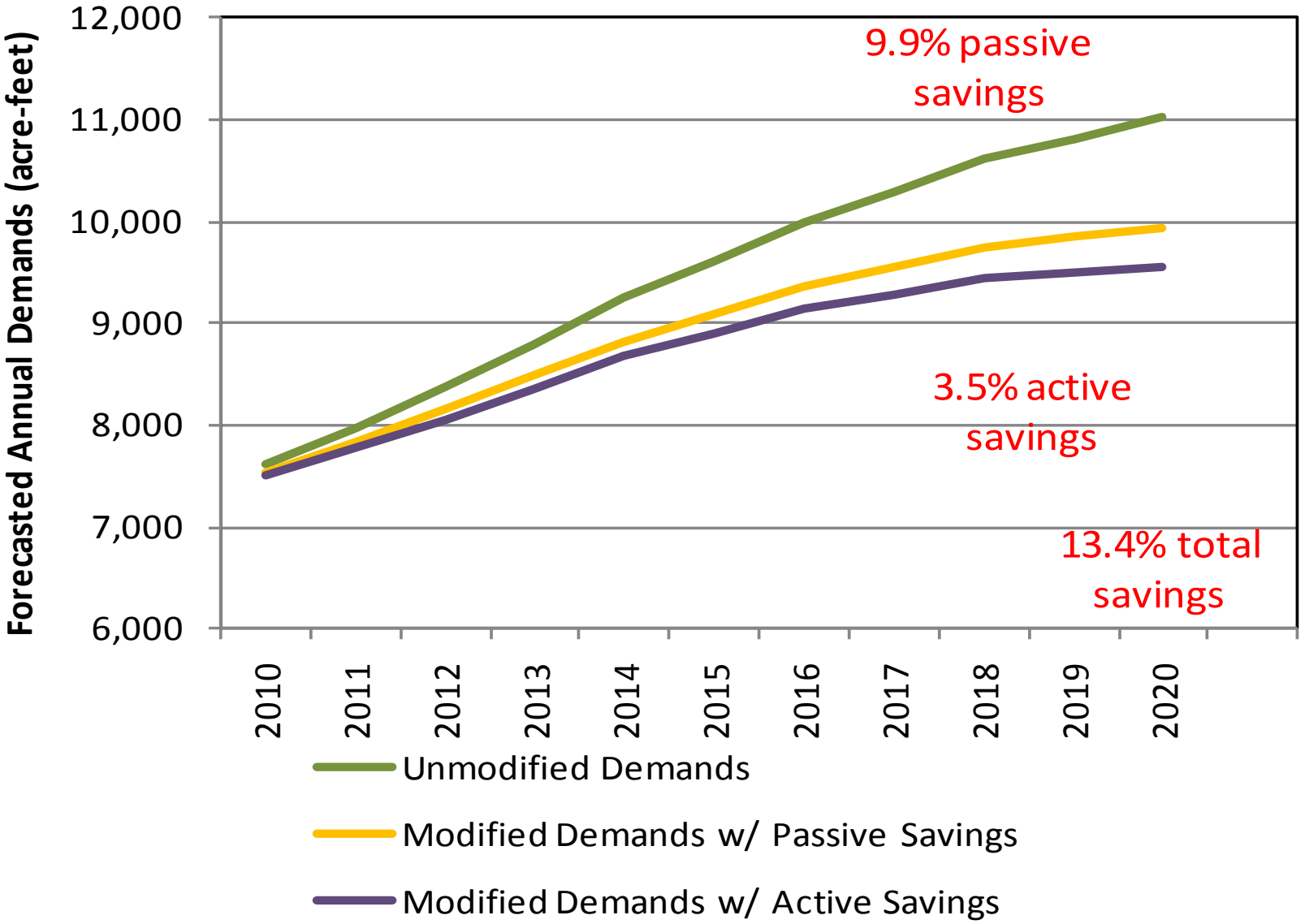
[4] If applicable, include how the limitation/future need is being addressed

Future Need/Challenge [1]	[2] Yes	[2] No	Comments on Limitation/Future Need [3]	How is Limitation/Future Need Being Addressed [4]
System is in a designated critical water supply shortage area				
System experiences frequent water supply shortages and/or emergencies				
System has substantial unaccounted-for and lost water				
Experiencing high rates of population and demand growth				
Planning substantial improvements or additions				
Increases to wastewater system capacity anticipated				
Need additional drought reserves				
Drinking water quality issues				

Water Efficiency and Supply Planning



Water Efficiency and Supply Planning



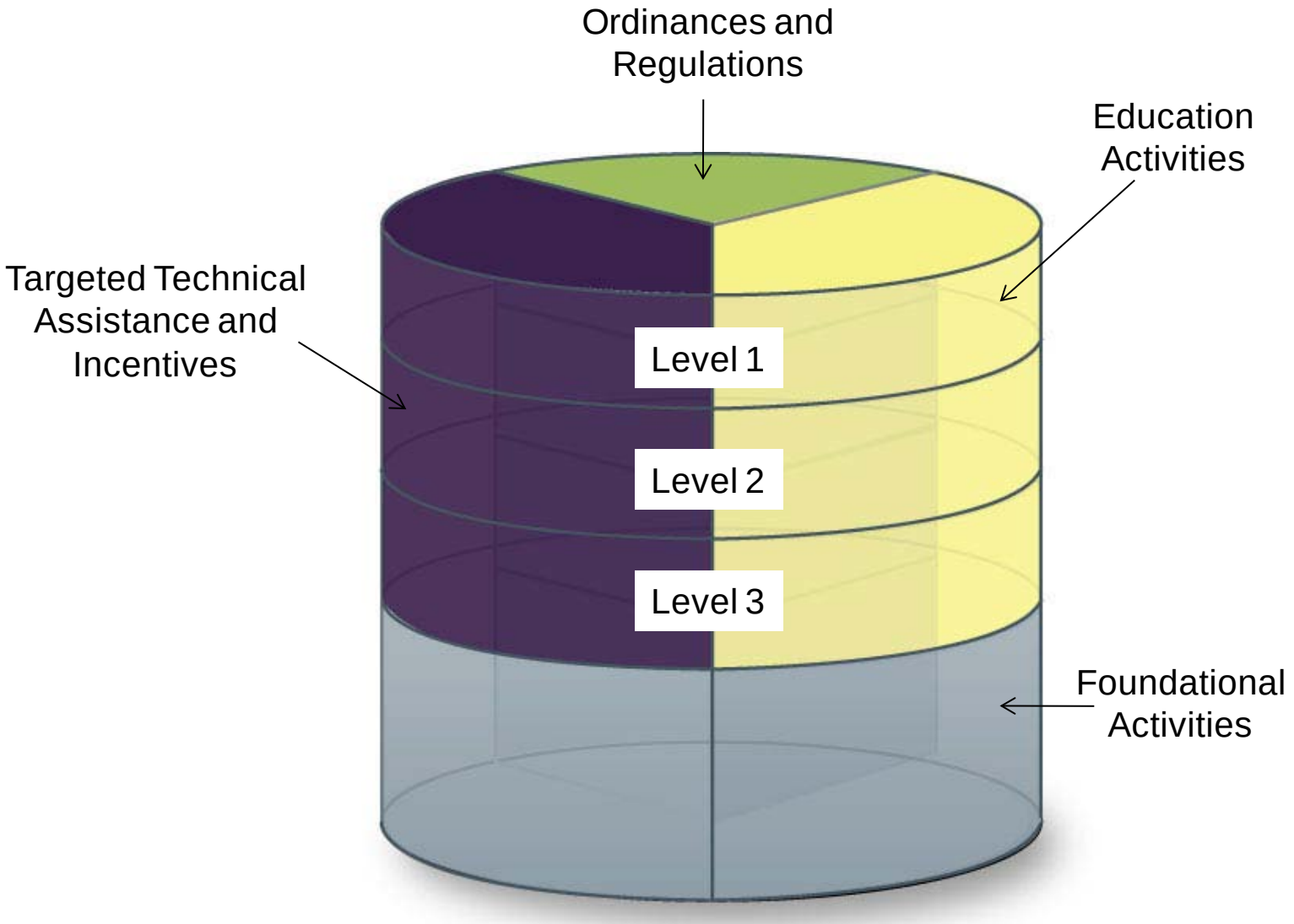
Water Efficiency Goals

- Targeted water savings
- Targeted customer types
- How the successes of the goals are intended to be measured

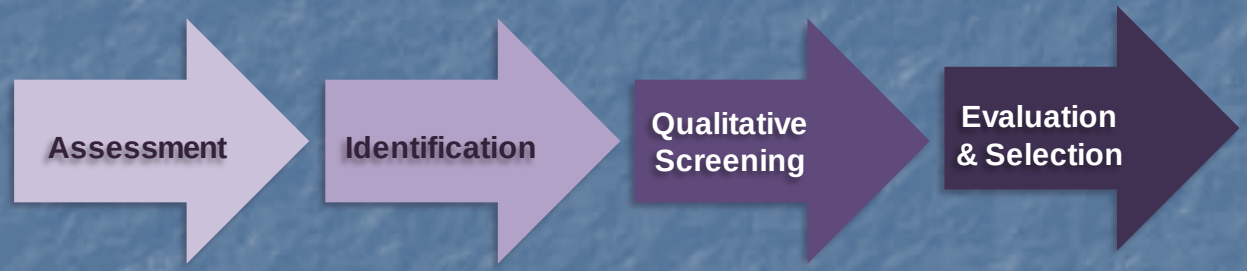
Water Efficiency Goals

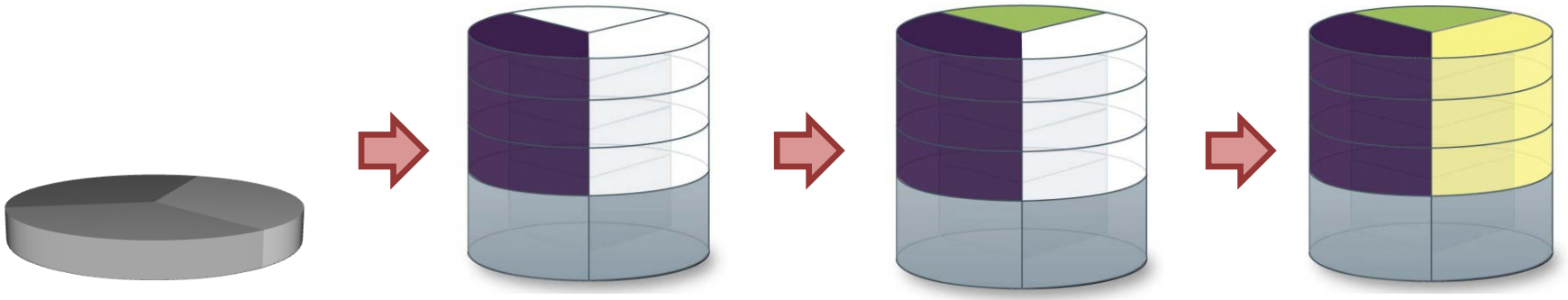
Ideas for Goals	Examples	Measurement of Success
Water saving targets for certain customer type(s)	▪ Reduce residential per capita water usage by 10 gpcd. ▪ Gain a better understanding of how commercial customers use water in order to reduce water use.	▪ Monitor billing data (water demands).
Water saving targets for largest users	▪ Identify largest residential water users and reduce water usage by 10%. ▪ Coordinate efforts with college campus (largest water user) to improve water use efficiency. Achieve 15% water savings.	▪ Monitor billing data (water demands).
Lower peak day use	▪ Reduce summer peak demand water usage By 10%	▪ Daily water treatment plant production data
Improve monitoring	▪ Establish a monitoring system that collects a sufficient amount of data to effectively measure the success of water efficiency activities on an annual basis.	▪ Effectively implement monitoring plan

Step 4
Selection of Water Efficiency Activities



Step 4
Recommended Selection Process





Foundational Activities

1. Assessment
2. Identification
3. Qualitative Screening
4. Evaluation & Selection

Targeted Technical Assistance and Incentives

5. Assessment
6. Identification
7. Qualitative Screening
8. Evaluation & Selection

Ordinances & Regulations

9. Assessment
10 Identification
11. Qualitative Screening
12. Evaluation & Selection

Education Activities

13. Assessment
14. Identification
15. Qualitative Screening
16. Evaluation & Selection

Selection steps

- Assessment
  - Collecting information to identify the needs prior to selecting water efficiency activities for analysis and potential implementation.

- Identification
  - Incorporates information from the assessment phase to identify a list of water efficiency activities that are generally compatible with the provider's system and needs.

Selection steps

- Qualitative Screening
  - Development of qualitative screening criteria used to screen a preliminary list of activities
- Evaluation and Selection
  - Development of the evaluation criteria, evaluation of the activities, and selection of the final activities for implementation

Example Screening Criteria

- Beneficial from a political perspective
- High public acceptance
- Implementable from a staff/resource perspective
- Technically feasible
- Likely to be adopted at a regulatory level
- Likelihood of success
- Sufficiently reflects goals adopted

Step 5
Implementation and Monitoring Plan

- Implementation Plan
- Monitoring Plan

Monitoring Plan

Monitoring

- Data collection
  - Annual costs
  - Lessons learned
  - Water savings estimates
  - Water efficiency activity tracking data
  - Relevant weather data
- Evaluation and communication to decision makers
- Documentation of monitoring results and of adaptive adjustments

Template

Drought Guidance Document Template

Essential	Beneficial	Public	Document	
		□	+	☐ Summary of the Drought Committee planning meetings held during the drought management plan development process.
			+	☐ Appendix containing meeting materials (meeting agendas, minutes, presentations, etc.)

1.2 Objectives of the Drought Management Plan

Objective: Introduce the basic objectives and operating principles of the plan and describe how these objectives are integrated into the broader water management planning efforts. See Section 4.1.2 for more information.

♦			+	☐ List of the objectives and operating principles.
	Δ	□		☐ Discussion of how the objectives and operating principles reflect water use priorities during periods of a drought.
	Δ	□		☐ List of water use priorities (i.e., a) essential water needs, b) social or economic impacts, and c) nonessential uses such as outdoor irrigation).
		□		☐ Discussion of how the operating principles were incorporated into the plan development and how these principles will be considered during implementation (i.e., "The operating principles are reflective of the community's values and will be reviewed prior to implementing mandatory water use reductions.")

2.0 Historical Drought and Impact Assessment

This section provides an overview of historical droughts and corresponding changes to supplies and demands. Drought related impacts and lessons learned from previous droughts are also included. While the availability of historical data will vary among providers, the main objective of this section is to consolidate available data to provide insight for projecting and planning for future drought conditions.

2.1 Historical Assessment of Drought, Available Supplies, and Demands

Objective: Assess historical water supplies and demands from previous droughts.

Water Conservation Plan Template Designations

- Statute
- Essential
- Beneficial
- Public
- Documentation

Water Conservation Plan Template Designations

- Statute
  - Required for State approval through HB 04-1365
- Essential
  - Required for State approval. This information is essential to effective water efficiency planning.
- Beneficial
  - Recommended if it provides added value to the plan.

Water Conservation Plan Template Designations

- Public
  - Could provide added value to a provider's water efficiency efforts and/or enhance the overall readability and usability of the document for public educational purposes.
- Documentation
  - Provides foundational information that can be built on for other studies/future water efficiency plan updates and can increase the overall usability of the document.

Questions?