

Update on Water Conservation in Colorado

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GREAT WESTERN INSTITUTE

JTAC

May 22, 2007

No Plan



No Plan



HB 91-1154

Think about Planning
Consider Measures & Programs
Define Role of Conservation
Utilize Public Process

Incorporate Goal Setting
Establish Monitoring
Mandate Revisions/Updates

No Plan

HB 04-1365



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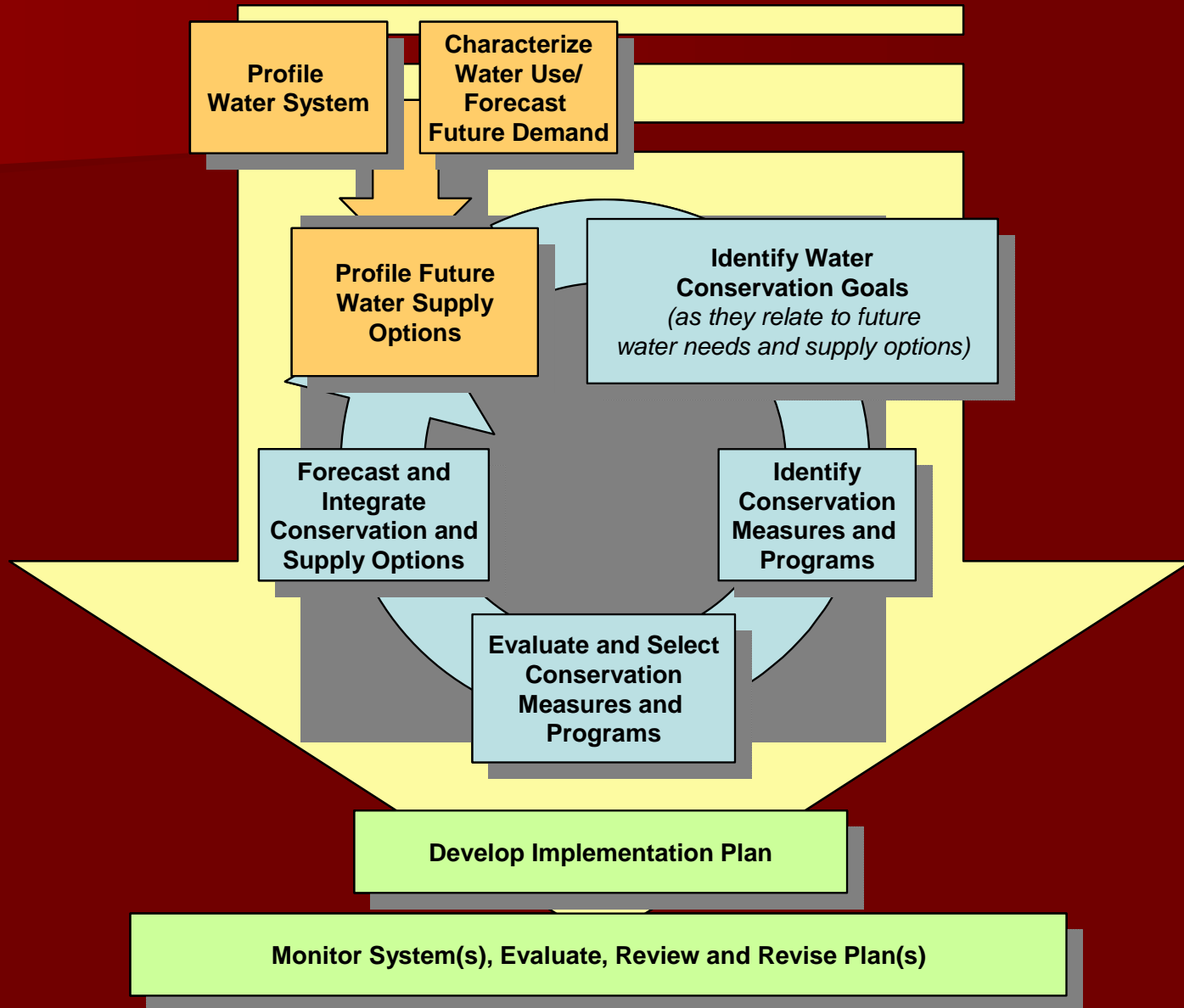
State Requirements

- Consider Nine Sets of Measures and Programs
- Identify Goals - Amount of Saved Water
 - In the past
 - In the future
- Document Role of Water Conservation in Water Supply Planning (Use of Save Water)
- Steps to Implement, Monitor, Review and Revise Water Conservation Plan (7 year update required)

State Measures and Programs

- Water efficient fixtures
- Landscapes
- Commercial, Industrial, Institutional (CII)
- Reuse
- Leak identification and repair
- Education, audits, demonstrations
- Rates
- Regulation
- Incentives

Nine Planning Steps for Water Conservation



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Integrated Water Conservation
Planning and Implementation

Fully Integrated w/ Supply and Demand
Fully Characterized Water Use
Understanding of Customer Behaviors
Right Pricing of Water
Integrated Education, Policy and Engineering

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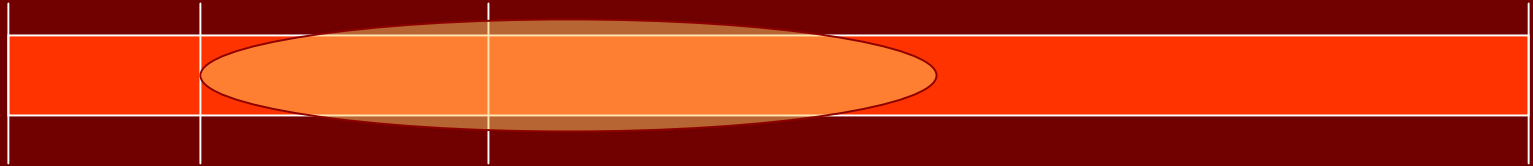
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Who Has Complied?

- Castle Pines North
- Castle Rock
- Arapahoe County Water and Wastewater
- Soon?
 - Fort Lupton
 - Brighton
 - Firestone
 - Denver Water
 - Colorado Springs
 - Fort Collins

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Basic Levels of Water Conservation

- Reduce and Manage Waste
- Utilize Technology to Improve Efficiency
- Enforcement







iNax



Sit different.



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Before

After









Setting Goals

- Establish past water use by segment/water user type
- Determine nature of use and savings potential (audits?)
- Develop per capita water use estimates
- Predict growth by segment
- Identify potential savings by segment

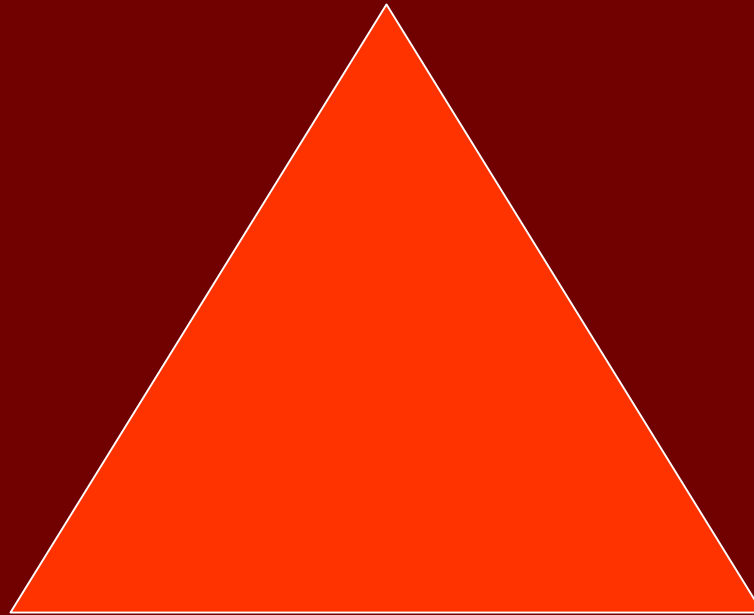
Summary Water Use Data Without Water Conservation

Year	Residential	Commercial	Irrigation	Municipal	Non-Potable Municipal	Other Non-Potable	Other	Total	Population	Per Capita Residential Water Use <i>(gals/day/person)</i>	Per Capita Total Water Use <i>(gals/day/person)</i>
2002	811,707	286,573	45,816	257,954	9,200	455	300	1,412,005	26,628	84	145
2003	698,380	314,891	31,945	181,222	11,937	1,193	296	1,239,864	28,150	68	121
2004	775,811	376,252	57,413	189,002	119,516	1,206	540	1,519,740	29,650	72	140
2005	842,382	422,103	73,843	95,202	106,021	1,607	740	1,541,898	31,490	73	134
2006	963,456	470,666	104,001	115,669	105,647	2,304	384	1,762,127	32,556	81	148
Predicted w/o Additional Water Conservation (@ 3 % residential growth)											
2007	979,154	517,733	119,601	120,000	110,000	3,110	400	1,849,998	33,533	80	151
2008	1,008,529	569,506	137,541	120,000	110,000	4,199	400	1,950,175	34,539	80	155
2009	1,038,785	626,456	158,173	120,000	110,000	5,669	400	2,059,482	35,575	80	159
2010	1,069,948	689,102	181,898	120,000	110,000	7,653	400	2,179,002	36,642	80	163
2011	1,102,047	758,012	209,183	120,000	110,000	10,331	400	2,309,973	37,741	80	168

Summary Water Use Data Without Water Conservation

Year	Residential	Commercial	Irrigation	Municipal	Non-Potable Municipal	Other Non-Potable	Other	Total	Aug Water	Daily Peak	Population
2002	811,707	286,573	45,816	257,954	9,200	455	300	1,412,005			26,628
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2005	842,382	422,103	73,843	95,202	106,021	1,607	740	1,541,898	1,499,110	10,000	31,490
2006	963,456	470,666	104,001	115,669	105,647	2,304	384	1,762,127	1,716,507	9,500	32,556
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2011	1,102,047	758,012	209,183	120,000	110,000	10,331	400	2,309,973	2,206,402	11,077	37,741
2012	1,135,108	833,814	240,561	120,000	110,000	13,947	400	2,453,829	2,343,808	11,409	38,874
2013	1,169,161	917,195	276,645	120,000	110,000	18,829	400	2,612,230	2,495,107	11,752	40,040
2014	1,204,236	1,008,914	318,141	120,000	110,000	25,419	400	2,787,111	2,662,147	12,104	41,241
2015	1,240,363	1,109,806	365,863	120,000	110,000	34,315	400	2,980,747	2,847,101	12,467	42,478
2016	1,277,574	1,220,786	420,742	120,000	110,000	46,326	400	3,195,828	3,052,539	12,841	43,753
2017	1,315,901	1,342,865	483,853	120,000	110,000	62,539	400	3,435,559	3,281,521	13,227	45,065
2018	1,355,378	1,477,152	556,431	120,000	110,000	84,428	400	3,703,790	3,537,725	13,624	46,417
2019	1,396,040	1,624,867	639,896	120,000	110,000	113,978	400	4,005,181	3,825,603	14,032	47,810
2020	1,437,921	1,787,353	735,880	120,000	110,000	153,870	400	4,345,425	4,150,592	14,453	49,244

Education



Incentives

Regulation

Select Measures and Programs

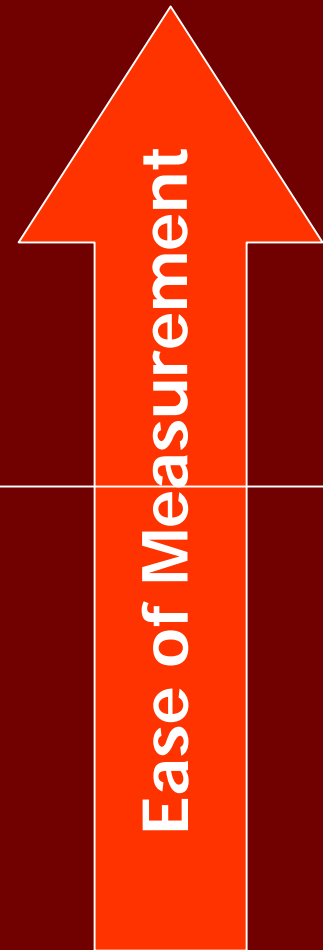
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- Billing
- Leak detection and repair
- Audits

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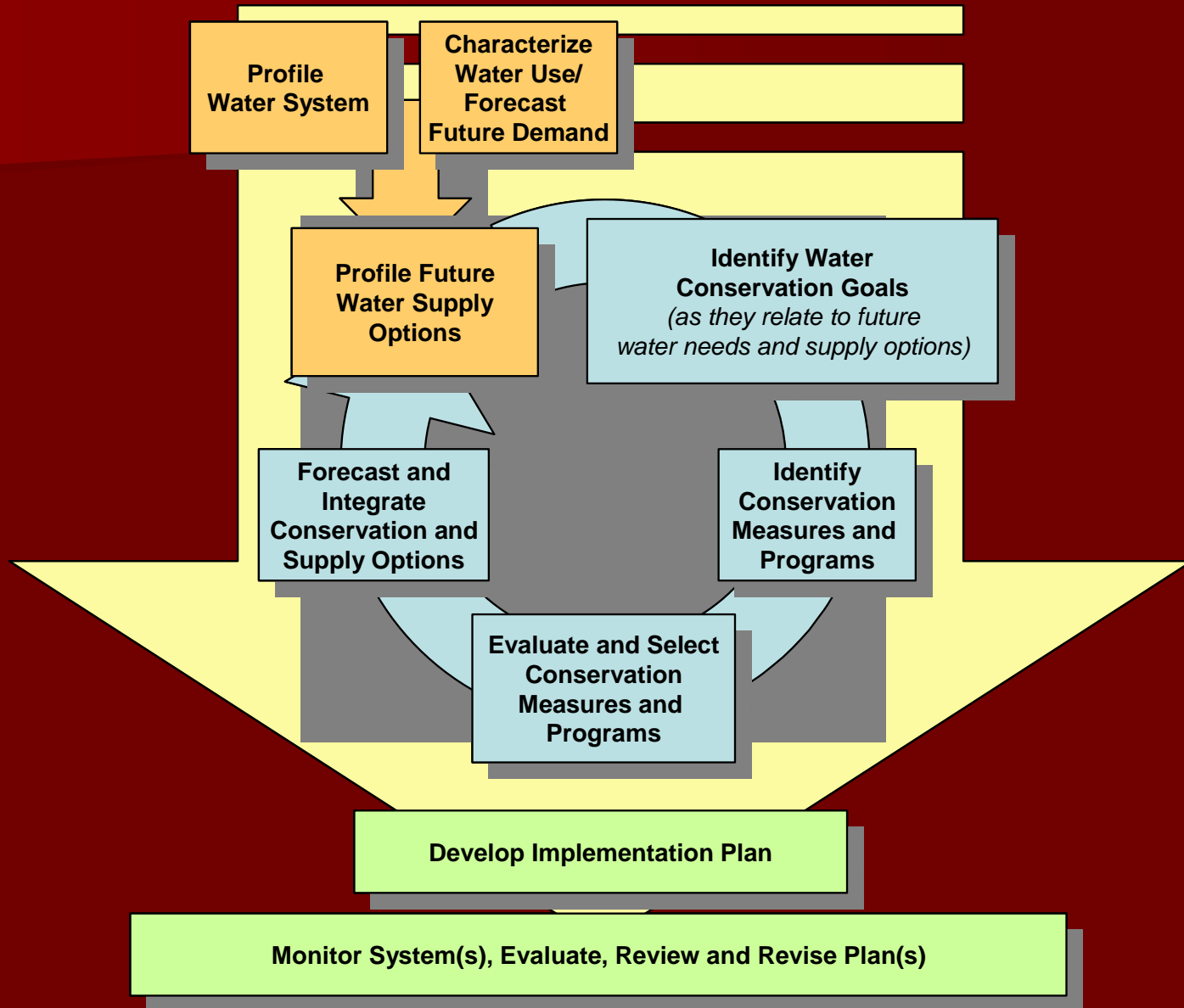
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 - CII Audits
 - Residential Outdoor Audits
 - Landscape

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Nine Planning Steps for Water Conservation



Show me the Money!

- State Grants
 - Water Conservation Planning
 - Water Conservation Implementation
- Covered Entity
- Other Entities/Groups
- \$3 million
- By 2012
- How to get the money?

Next Steps

- Get the money!
- Make the plans meaningful
 - Public process
 - Appointed and elected officials
 - Raise rates
- Get more money!