



**URBAN WATER EFFICIENCY  
AND CONSERVATION PLAN**

APRIL 2010

## Table of Contents

1	Why Water Conservation.....	3
1.1	Introduction.....	3
1.2	Water Conservation Legislation .....	4
2	Water use and efficiency plan Goals and Objectives.....	6
3	Water System Profile .....	8
3.1	Water Supply Sources.....	8
3.2	Water Production and Distribution System .....	8
3.3	Long-Term Water Supply Planning Efforts.....	10
3.3.1	Recycled Water.....	10
3.3.2	Surface Water.....	11
4	Current Conservation Efforts.....	12
4.1	Smart Landscape Rebate and Controller Program.....	12
4.2	Water Smart Education and Outreach Program.....	13
4.3	System Water Audits .....	13
4.4	Customer Metering .....	14
4.5	Water Conservation Rates.....	15
5	Water Demand Forecasting.....	16
5.1	Forecasting Method .....	16
5.2	Population Forecasts and Housing Growth.....	16
5.3	Water Use.....	17
5.4	Water Use by Season .....	20
5.5	Per Capita Water Use.....	20
5.6	Water Demand Forecast.....	21
6	Planning and Implementation of Water Conservation Measures and Dmms .....	23
6.1	Water Budget Tiered Rate Structure.....	24
6.1.1	Water Budget Rate Structure Design.....	24
6.1.2	Water Budget Tiered Rates Encourages Conservation.....	24
6.2	CUWCC DMM 1 – Residential Surveys .....	26
6.3	CUWCC DMM 2 - Residential Plumbing Retrofits.....	26
6.4	CUWCC DMM 3 - System Audits, Leak Detection, and Repair .....	27
6.5	CUWCC DMM 4 – Water Metering .....	27
6.6	CUWCC DMM 5 - Large Landscape Incentives.....	28
6.7	CUWCC DMM 6 - High Efficiency Clothes Washing Machines.....	29
6.8	CUWCC DMM 7 – Public Information Programs .....	30
6.9	CUWCC DMM 8 – School Education Program.....	31
6.10	CUWCC DMM 9 – Conservation Programs for Commercial, Industrial, and Institutional Accounts .....	31
6.11	CUWCC DMM 10 – Wholesale Incentives.....	32

6.12 CUWCC DMM 11 – Conservation Pricing ..... 32  
6.13 CUWCC DMM 12 – Conservation Coordinator ..... 33  
6.14 CUWCC DMM 13 – Water Waste Prohibition ..... 33  
6.15 CUWCC DMM 14 – ULFT Replacement Programs..... 33  
7 Effect of Water Savings on Projected Demands..... 35  
8 Cost- effectiveness ..... 36  
8.1 Estimated Cost-effectiveness ..... 36  
8.2 Selection of Conservation Measures..... 37  
9 Reporting Plan ..... 38

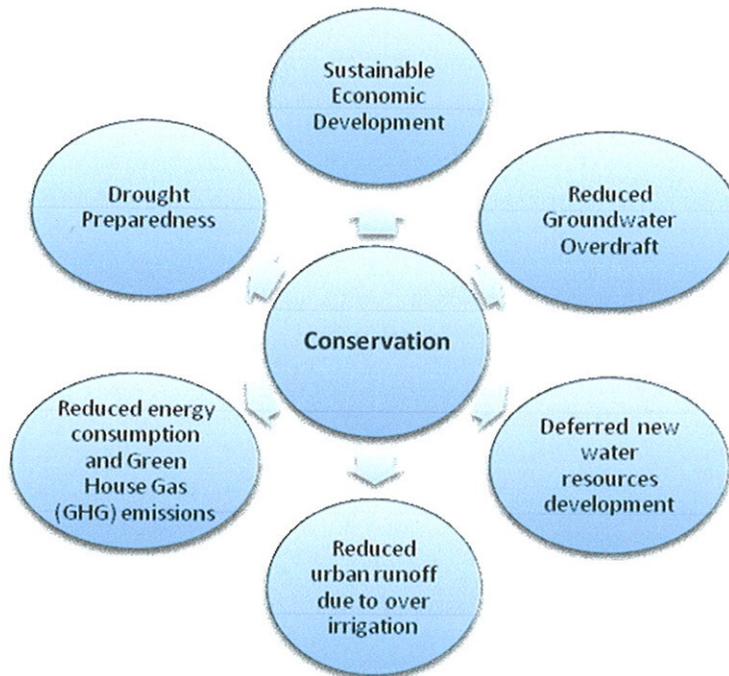
# 1 WHY WATER CONSERVATION

The Indio Water Authority (IWA) is committed to an accountable approach to water conservation and is creating an Urban Water Efficiency and Conservation Plan (Plan) to be implemented over a ten-year period. This plan includes quantifiable water savings and cost-effectiveness goals that will be evaluated on an annual basis.

IWA became a signatory of the California Urban Water Conservation Council (CUWCC) conservation program in 2009 and is committed to implement economically feasible conservation practices. IWA is committed to achieve 20 percent reduction in water use by 2020 with an interim goal to achieve 10 percent reduction by 2016.

## 1.1 Introduction

This Plan is a long-range water conservation plan that incorporates the goal of sustainable water use while safeguarding future economic development and population growth. Benefits of water conservation extend considerably beyond simply extending the availability of a current water supply. Reducing the amount of water used for consumption also reduces, or defers, costs of maintaining and expanding water delivery, storage and treatment systems and, at the same time, reduces energy and maintenance costs for IWA facilities.



## 1.2 Water Conservation Legislation

The State of California has been progressive in legislating water conservation policies and measures to encourage reduced dependence on potable water. State Assembly Bill AB 2175, adopted in 2009, directs the State to reduce per capita urban water use 20 percent by 2020. The Senate Bill, SB X7, partially codifies the 20 percent reduction in per capita water use by the end of 2020. The bill also sets an interim target of 10 percent water reduction for 2015. Most importantly, SB X7 imposes numerical limits on urban per capita water use. Current legislation is summarized in Table 1-1.

**Table 1-1  
Relevant Water Conservation Legislation**

Legislation*	Implementation Date	Entities Impacted	Description
AB 325	1993	Cities and Counties	Imposes irrigation and water use efficiency measures for landscapes greater than 2,500 square feet.
AB 2717	2004	Cities, Counties and Urban Water Retailers	Sets up the Landscape Task Force to examine landscape water issues and formulate recommendations as to best practices and improvements.
AB 566	2010	Cities and Counties	Amends AB 325 by requiring that climate information based on the California Irrigation Management Information System (CIMIS) be used for irrigation scheduling statewide.
AB 715	2010	Manufacturers/ Retail	Sets performance standards for all toilets and urinals installed in the State of California. Sets 1.6 gallons per flush (gpf) toilets and 1 gpf urinals.
AB 1420	2008	Urban Water Retailers	Changes the funding eligibility requirements of Section 10631 of the Water Code (Urban Water Management Planning Act). Requires DMM implementation for grants or loans from DWR, the California State Water Resources Control Board (SWRCB) and the Bay-Delta Authority

Legislation*	Implementation Date	Entities Impacted	Description
AB 1560	2012	Energy Commission	Amends the Warren-Alquist State Energy Resources Conservation and Development Act and directs the California Energy Commission to adopt water efficiency or conservation standards that save energy for residential buildings.
AB 1881	2008	Energy Commission, Cities, Counties and Homeowner's Associations (HOAs)	Sets performance standards for irrigation equipment and prevents the ban of low water using plants/low water demand landscaping.
AB 1061	2009	Local Agencies	Governing documents of a common interest development shall be void and unenforceable if it prohibits the use of low water using plants or if it has the effect of prohibiting or restricting compliance with local water-efficient landscape ordinance.
AB 2175	2009	Cities, Counties and Urban Water Retailers	Directs the State to reduce per capita urban water use 20 percent by 2020. The bill would accelerate water conservation efforts and decrease associated energy use and greenhouse gas (GHG) emissions.
SB X7	2009	Cities, Counties and Urban Water Retailers	Partially codifies directive (AB 2175). The bill also sets an interim, 10% reduction target by 2015 and a numerical limit on urban per capita water use.

AB = Assembly Bill, SB = Senate Bill, GHG = Greenhouse Gas, HOA = Home Owner's Association, gpf = gallons per flush

Water conservation policies are also reflected in state funding guidelines, compliance expectations, as well as directives for local agencies and urban water retailers that support conservation practices throughout the State of California. The primary consequence for urban water districts' failure to meet these water conservation targets is their ineligibility, beginning in 2016, to receive state water grants and loans until they achieve the applicable conservation standards.

## 2 WATER USE AND EFFICIENCY PLAN GOALS AND OBJECTIVES

The overall goal of this Urban Water Efficiency and Conservation Plan is to prevent and reduce wasteful, uneconomical, impractical, or unreasonable use of water resources. The Plan will contribute to a sustainable and healthy resource by providing a common framework for water management activities throughout the City. It advances water as a valuable resource to utilize efficiently, wisely, and cost-effectively; in order to sustain a high quality of social, environmental, and economic well-being, for now and the future.

Following the State's directive, the overall objective of the IWA Urban Water Efficiency and Conservation Plan is to identify and promote supply- and demand-side management measures and demand mitigation measures for use by IWA customers.



Specific objectives of the Plan include:

### Objective 1 – Improve Water-Use Efficiency

- Raise public awareness of water conservation and encourage responsible public behavior by implementing a public education and information program.
- Implement plumbing retrofit incentive programs
- “Lead by example” by assuring efficient use of water in City facilities through water use audits, retrofit projects and site appropriate landscaping.

## **Objective 2 – Reduce the Loss and Waste of Water**

- Limit unaccounted-for water from IWA's system to no more than 5 percent of the volume of water delivered.
- Maintain a program of universal metering (metering of all uses) and meter replacement.
- Reduce unauthorized water use

## **Objective 3 – Comply with Statewide Legislative Criteria and New Initiatives**

- Identify, acknowledge and learn from past and current CUWWC water efficiency initiatives.
- Engage community leaders, agencies, building industry, and the public in addressing water supply issues through partnerships

### **3 WATER SYSTEM PROFILE**

This section of the Urban Water Efficiency and Conservation Plan discusses IWA's water supply sources, water production and distribution facilities, and long-term water supply planning efforts.

#### **3.1 Water Supply Sources**

Groundwater from the Coachella Valley Groundwater Basin is the primary source of water supply for both urban development as well as agricultural uses in the Valley. Other supply sources include:

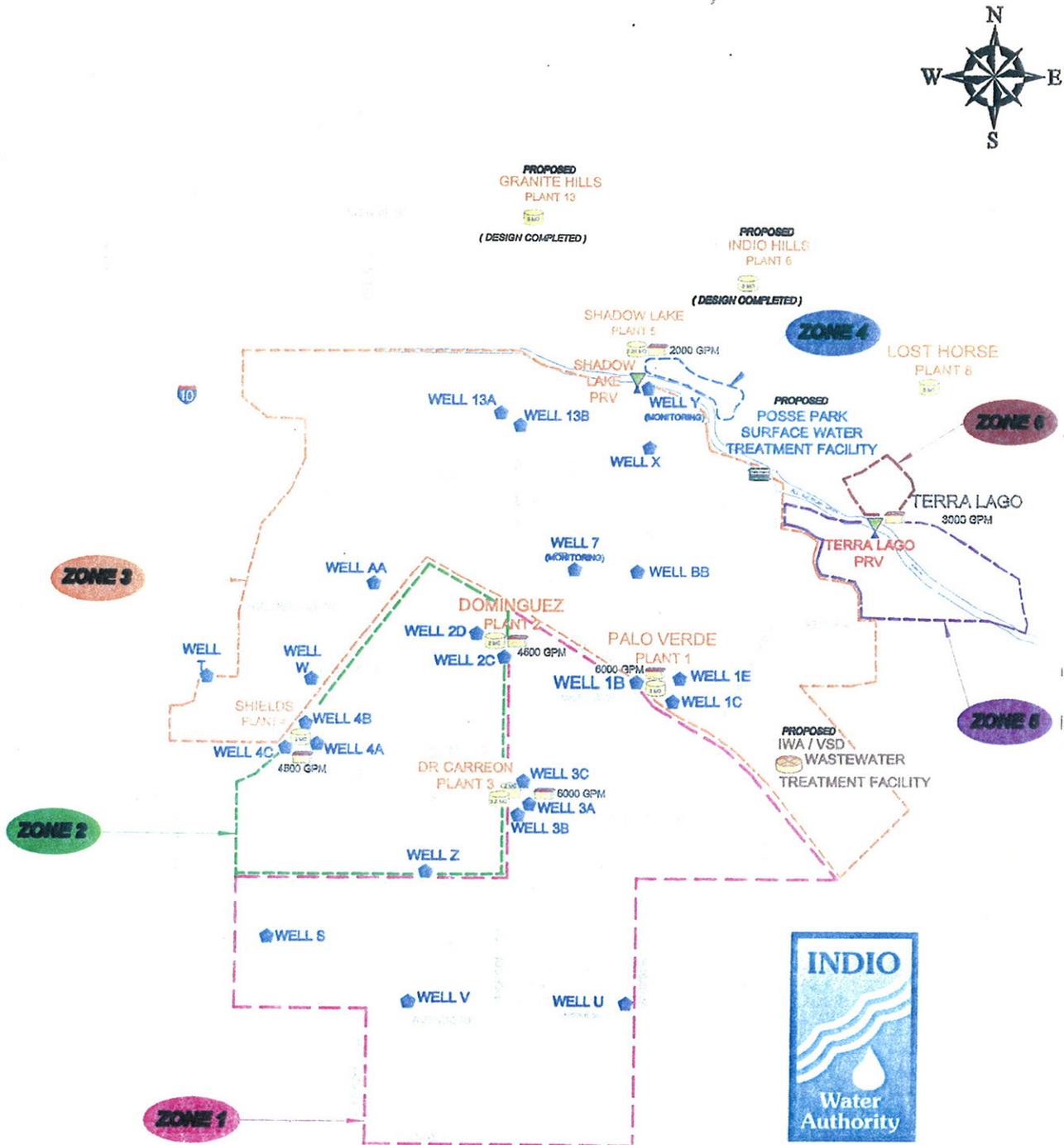
- Imported Colorado River water including direct entitlements and waters exchanged for State Water Project water allocations
- Minimal surface water diverted from local streams
- Limited reuse water obtained from reclamation plants in the Valley

Currently, IWA relies entirely on groundwater from the regional groundwater basin to supply its urban demands. In 2009, IWA withdrew 23,251 acre feet (IWA, 2010), which represented approximately 5.4 percent of the total groundwater pumped in the Valley. The total water pumped annually from the aquifer exceeds natural recharge, and the aquifer is in an overdraft condition (B&V, 2008a).

#### **3.2 Water Production and Distribution System**

IWA's potable water supply is groundwater from the Whitewater River subbasin. Water is delivered via a pressurized distribution system supplied by eighteen wells and six pumping plants, where nine of the wells pump directly to the distribution system. IWA's wells and water production facilities are shown in Figure 3-1. Each pumping plant includes storage reservoir(s), a booster pump station, water chlorination facilities for disinfection and a surge tank to equalize system pressure. The existing water distribution system is divided into three pressure zones, where the main zone supplies the majority of IWA's customers, and the two smaller high pressure zones serve new developments along the northeast edge of IWA's service area. The total above ground water storage capacity is currently 18.2 million gallons (MG).

**Figure 3-1  
IWA's Water Production and Distribution System**



### 3.3 Long-Term Water Supply Planning Efforts

As the City of Indio develops and grows, so will demands for potable water supply. In order to establish a more secure water resources portfolio it is necessary to diversify sources of water. Water resources diversification includes locating new resources, water reuse and conserving existing water resources. IWA's Water Resources Development Plan (2008) identified six water supply programs to diversify its water supply portfolio and are summarized in Table 3-1.

**Table 3-1  
IWA Water Supply Program**

Supply Program	Key Components
Urban Conservation	Public outreach Water use ordinances Demand Mitigation Measures
Agricultural Conservation	Conversion to water efficient irrigation systems Conversion to use of canal water
Recycled Water from VSD WWTP	Use of recycled water for landscape irrigation Use of potential excess flows for groundwater recharge
Treated Canal Water for Domestic Use	Development of agreement with Coachella Valley Water District (CVWD) for Colorado River water supply Site, design, and construct a new water treatment plant
Recycled Water from Remote Recycling Plants	Use of MBR and ultraviolet (UV) technology at localized sites as an alternative to centralized treatment at a WWTP Adoption of ordinance for dual systems in new developments
Groundwater Recharge by Spreading	Use of recycled water from the VSD WWTP Development of recharge basins

IWA is currently developing feasibility studies and environmental documents for the use of recycled water from Valley Sanitary District and for treating and for Colorado River water from the Coachella Canal.

#### 3.3.1 Recycled Water

Currently, there are no recycled water facilities in IWA's service area. The Valley Sanitary District wastewater treatment plant, located on Van Buren Street, Indio, serves approximately 98 percent of the city. The treatment facilities comprise of primary and secondary treatment units and the treated effluent is discharged to the Coachella Valley Stormwater Channel, to constructed wetlands and intermittently also to adjacent tribal lands. Development of a new recycled water supply would require the addition of tertiary treatment facilities and potentially also advanced treatment facilities for groundwater recharge by injection wells.

It is anticipated that the initial uses of recycled water would be for direct non-potable reuse and surface recharge. Direct non-potable reuse would include landscape irrigation of golf courses, parks, roadway medians as well as irrigation for new commercial developments. Installation of dual plumbing in new residential developments for landscape irrigation would further increase future recycled water use. Excess water that cannot be used for landscape irrigation may be used for recharge via surface spreading. Surface spreading of recycled water is allowed using the same quality of water required by the California Department of Public Health Title 22 Standards for landscape irrigation. Advanced treatment processes typically involve membrane technologies such as microfiltration/reverse osmosis for removing hardness and salts followed by ultra violet/advanced oxidation processes to degrade micro constituents.

IWA is currently working with Valley Sanitary District to develop plans for production and distribution of recycled water. A conceptual plan for Phase 1 of Indio's Water Reclamation Program, a 5 MGD Treatment and Distribution Facility for unrestricted landscape irrigation and surface recharge is currently being developed. A program environmental document is also being prepared for compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) and, upon completion, will allow the IWA to pursue State and Federal grant opportunities.

### **3.3.2 Surface Water**

20,000 AFY of new surface water supply is currently being acquired by IWA. This new supply is part of a 120,000 AFY supply made available within California's Sacramento-San Joaquin Delta. The water is a 1922 Appropriative right and will be ready for transfer in early 2011. It is being acquired on a long-term lease through 2035, with an option to extend. This new supply would reach IWA via existing State Water Project and Colorado River Water exchange agreements and coordinated by Coachella Valley Water District and Metropolitan Water District of Southern California.

IWA is currently preparing a Conceptual Design Report for Phase 1 of Indio's Imported Surface Water Supply Program. Phase 1 comprises of a 10 MGD surface water treatment and blending facility. The new water treatment plant would treat Colorado River water and then blended with groundwater to lessen the impact of elevated dissolved solids concentration in the imported water. The Colorado River water would be conveyed to the IWA service area via the Coachella Canal. Depending on IWA's future water demand, the entire imported water supply may be used locally for potable water, groundwater recharge, or a portion could be set aside for a storage and recovery program (i.e., providing a water source to outside agencies in exchange for developing a local storage account and financing capital facilities). Imported water may also be used as a blending source for the proposed recycled water groundwater recharge program.

## 4 CURRENT CONSERVATION EFFORTS

IWA's Water Conservation Program started in 2006 when the City hired an Environmental Program Coordinator. Since then, the water conservation program has evolved and includes many of the fourteen California Urban Water Conservation Council's Demand Management Measures as guidelines.



### 4.1 Smart Landscape Rebate and Controller Program

IWA has an ongoing Water Smart Landscaping Rebate Program to assist residents, business owners, and developers in replacing water intensive landscaping with low water use plants and desert landscapes. The program is advertised on the City of Indio/IWA website and through promotional materials such as brochures distributed at special events, and through occasional inserts in the monthly water bill.

To initiate the program, the applicant contacts IWA and requests an on-site audit. The objective of the audit is to assess the customer's landscape irrigation system efficiency. Once completed, IWA then provides feed back and information to the property owner on how to conserve water with existing landscaping. Options reviewed include installation of smart irrigation controllers, changing to drip irrigators where possible, grouping plants having similar water demands to dedicated valve stations or hydrozones, and replacing old sprinkler heads with new pressure reducing adjustable heads.

When the water audit is completed and recommendations have been made, the option for complete or partial turf removal is discussed. The turf replacement program currently offers rebates of \$1.00 per square foot of turf removed, up to \$750 per residence and up to \$1,500 per commercial property. The auditor measures turf areas that the customer is interested in removing and that qualify for the program. Pictures are taken to record existing conditions. The customer then submits an application to IWA accompanied by the landscape improvement plan and proposed rebate. The application must be approved by IWA prior to starting the work. When the work is complete, the customer contacts IWA to verify completion of the work. Upon verification, the IWA reimburses the customer for the agreed upon rebate.

The Smart Controller Program complements the Smart Landscape Program and offers rebates to customers to replace standard landscape controllers with new smart controllers. The new smart controllers are able to calculate irrigation needs based on actual water plant use, real time local weather data (evapotranspiration rate) where landscape water need is determined by temperature, wind conditions, type of landscaping and soil conditions.

A request by customers to IWA for a smart controller initiates a process of an on-site approval of irrigation system efficiency, scheduling a controller installation and signature of an IWA zero-interest loan payment form. This funding mechanism is used to (1) administer an instant IWA rebate (50% of controller/installation cost), (2) make participation by customers easy with no up-front expenditure, and (3) enables IWA to recoup the customer's portion of the cost (50%) directly on the water bill. A pilot conducted by IWA has verified the effectiveness of the selected smart controller technology (WeatherTRAK®). Pilot program customers have experienced, on average, a 31 percent reduction in water demand and overall savings even when including the cost for the zero interest loan.

## **4.2 Water Smart Education and Outreach Program**

IWA's public information program, Water Smart Education and Outreach Program, was started in 2006. As a part of IWA's cooperative efforts with the Coachella Valley Association of Governments, the Landscape and Water Conservation Ordinance requires that all professional landscape architects and contractors doing business in the City to attend Coachella Valley Association of Governments endorsed workshops on water efficient landscaping and water conservation. In addition, IWA is also an active member in "Water Agencies of the Desert Region", a group of Valley water agencies working together to send a unified message about wise water use and the importance water conservation.

## **4.3 System Water Audits**

IWA's goal is to maintain less than a five percent annual water loss in the distribution system. This goal is measured by reviewing monthly and annual water consumption- and production data. Consistent measurement of distribution system losses is attained by improved metering and leak detection analysis, which in turn allows for a targeted maintenance/replacement program.

Activities that reduce the volume of unaccounted water include the following:

- IWA has changed the way it tests for fire flow compliance, utilizing a calibrated hydraulic computer model to estimate available fire flow without wasting water.
- IWA inspectors monitor water use at construction sites and ensure that all extraneous flows are metered.
- IWA has acquired an electronic leak-detection device as a first step in implementing a leak detection/prevention program.

#### **4.4 Customer Metering**

One hundred percent of IWA's customers are metered and all new water users are required to meter their service connections. Furthermore, to better evaluate the effectiveness of water conservation programs, IWA will require separate meters for landscape irrigation on all commercial, industrial, and multi-family accounts by January 1, 2013. Past experience shows that water meters become worn and slow down over time. Water meter calibration measurements indicate that a meter 10 years and older could register from 4 up to 20 percent less volume than actual water use with a corresponding loss of revenue.

At the end of 2006, IWA had approximately 18,600 metered service connections and approximately 8,100 of these meters were between 12 to 27 years old. Because of the significant number of meters that are considered "old", IWA initiated a water meter replacement program in early 2007. IWA's meter replacement program consists of two phases: Phase 1 work involves replacing all existing direct-read water meters installed prior to 2006 with the newer Neptune T-10 models, which incorporate a wireless automated meter reading system. Once all 2006 and older meters have been replaced with direct-read meters then Phase 2 commences. Phase 2 is a continuous program to systematically replace meters that have the highest probability for failure (typically the oldest meters given the highest priority) with new meters.

Illegal hydrant connections have increased significantly over the past few years, which also increase unaccounted water and reduce revenue. Diligence by field staff, with the assistance of Code Enforcement, is helping to reduce the frequency of illegal connections. IWA has initiated a private hydrant lock-out program to further reduce illegal connections.

## **4.5 Water Conservation Rates**

IWA is currently introducing a water budget tiered rate structure to support IWA's water efficiency and conservation efforts. A water budget rate structure is based upon the premise that water use in excess of an allocated water budget will cost more. A rate structure based on individual water budgets rewards careful use of water resources and encourages customers to implement water conservation measures that are appropriate and best suited for each individual account. It is anticipated that the water budget tiered rate structure is implemented in first quarter of 2011.

## 5 WATER DEMAND FORECASTING

Water demand forecasts are based upon population and housing growth forecasts given the historic water use and water use variability by season and customer class.

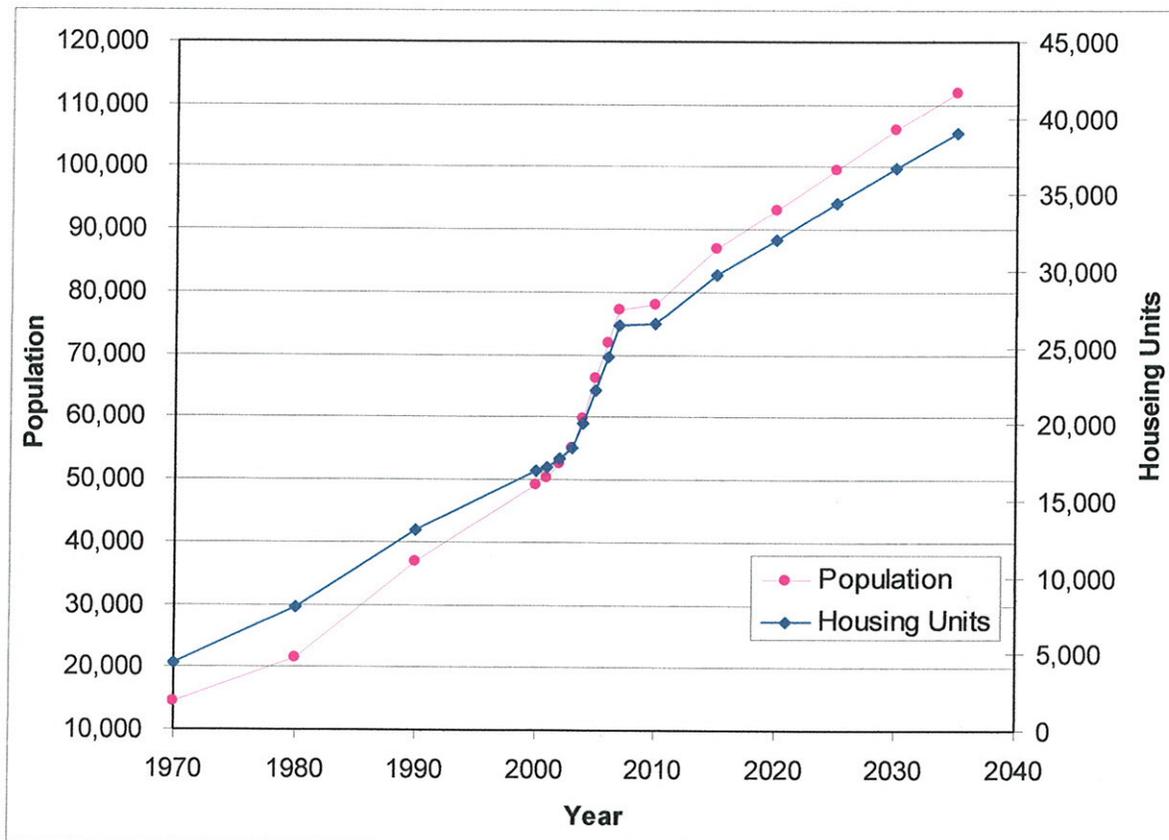
### 5.1 Forecasting Method

Population forecasts and projections used for the City of Indio were developed by Riverside County's Center for Demographic Research (2008).

### 5.2 Population Forecasts and Housing Growth

Like much of Southern California, the City of Indio experienced rapid growth through 2007/2008 when the economy slowed down to a near standstill. According to the 2008 Riverside County projections, housing starts are predicted to increase again in 2010 as shown in Figure 5-1. Projected growth for both population and housing units beyond 2010 are assumed to be similar to historical growth rates prior to year 2000.

**Figure 5-1**  
**Population Projections for the City of Indio (Riverside County, 2008)**



However, projections beyond 2010 may be problematic because of overall uncertainty of economic recovery at local, state and federal levels. If the recovery is slow, with employment lagging behind, then projections for number of housing units will also lag behind Riverside County's 2008 projections.

### 5.3 Water Use

Water use can be enumerated using different matrices, from large scale groupings such as customer class, geographic area, age of buildings or neighborhood, etc. down to the smallest, and the individual household account. Table 5-1 presents water use by customer class for 2002 through 2008 (IWA, 2009).

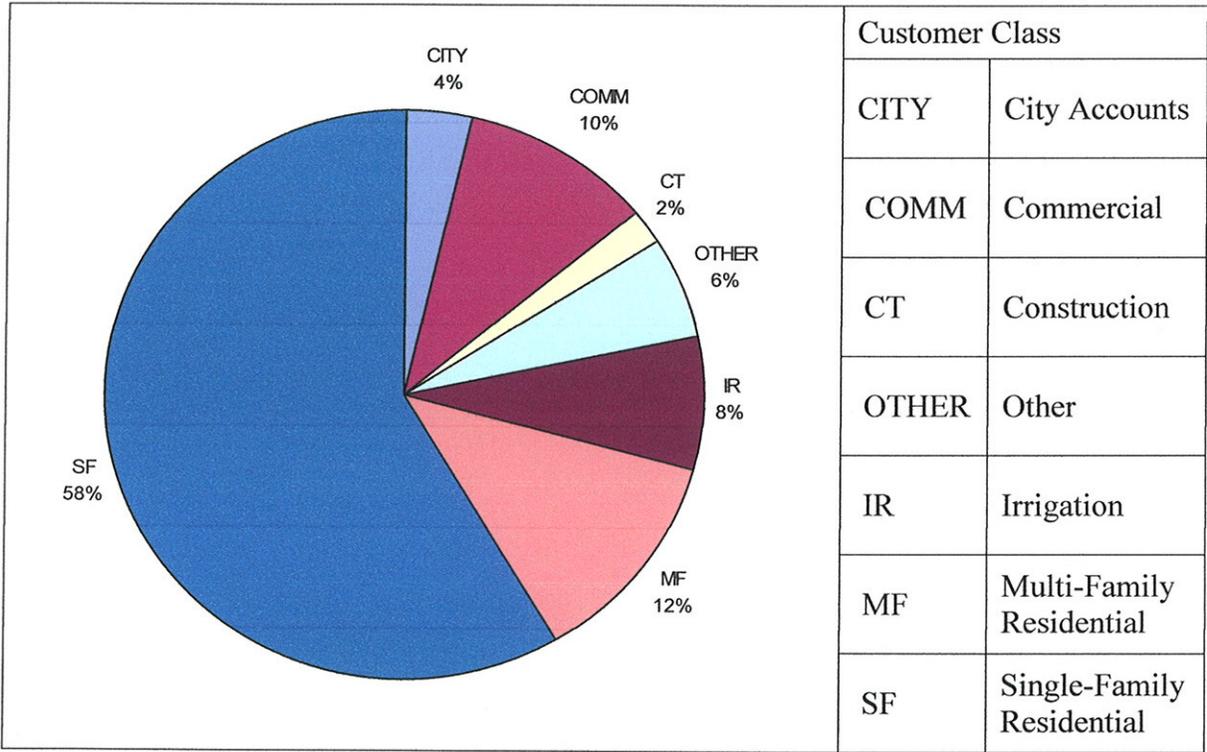
**Table 5-1  
Annual Water Consumption (acre-feet per year) by Customer Class for 2002 through 2008**

Customer Class	Year						
	2002	2003	2004	2005	2006	2007	2008
City Accounts	530	520	560	590	760	710	980
Commercial	2,520	2,780	2,770	2,640	2,610	2,470	1,940
Construction	800	1,620	1,460	840	430	490	430
Other	1,050	1,740	1,100	2,040	1,480	1,470	1,030
Irrigation	700	1,000	1,080	1,190	1,520	1,680	1,950
Multi-Family Residential	2,680	2,780	2,580	2,540	2,650	2,720	2,870
Single-Family Residential	8,630	9,700	10,330	10,980	13,130	13,780	12,970
TOTALS	16,900	20,150	19,880	20,820	22,590	23,320	22,160

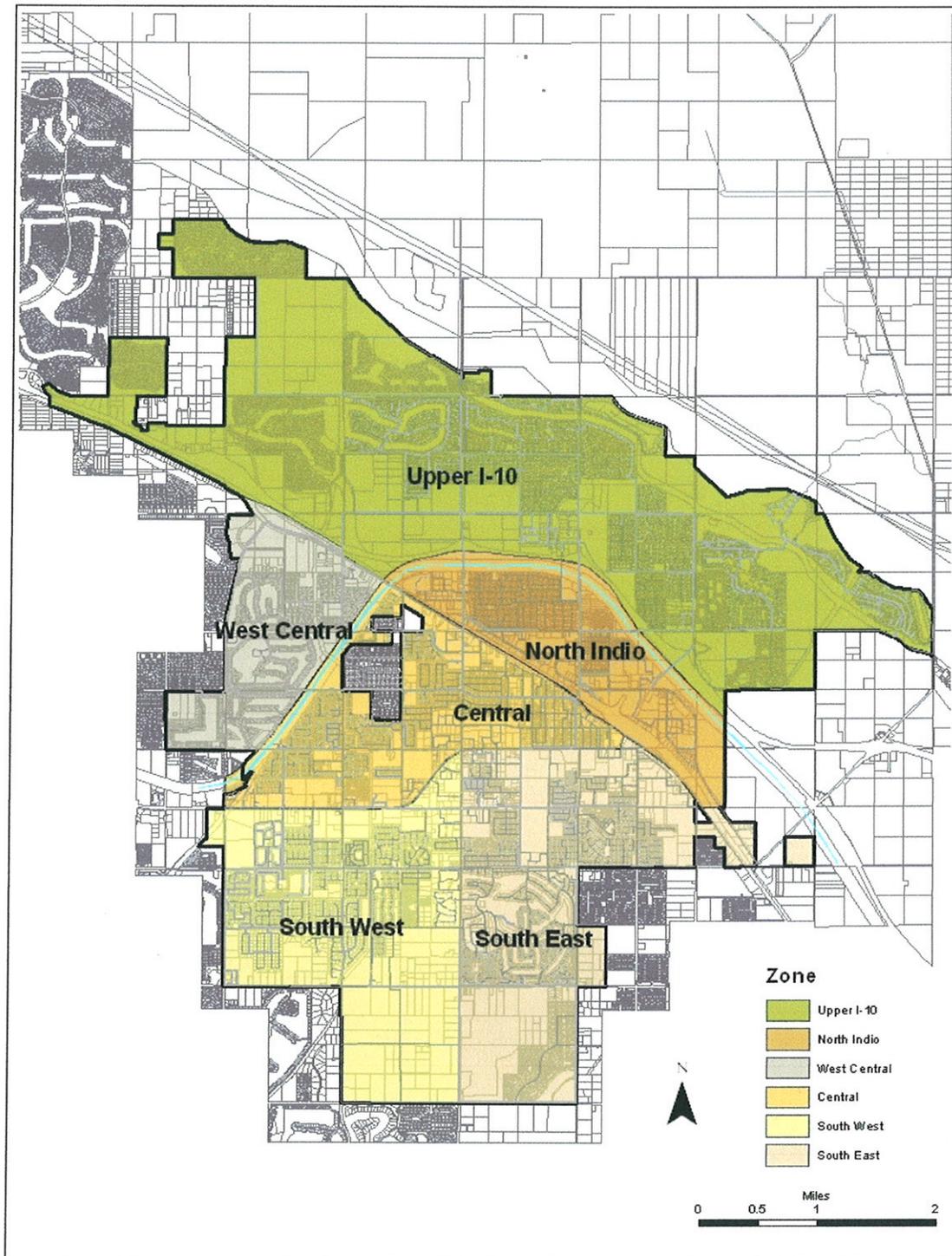
Together the Single- and Multi Family Residential customer classes have the largest water consumption, 70 percent, followed by commercial and landscape irrigation accounts that add an additional 20 percent to the overall water consumption. Together, these four customer classes comprise 90 percent of Indio's water use and are illustrated in Figure 5-2.

Water use can also be analyzed by geographic areas, which, for the City of Indio, correlate well with housing unit age and relative lot size. Based on a zone-parcel analyses, homes in the older areas of the City such as North Indio and Central Indio, are relatively smaller than homes in newly developed areas such as Upper I-10 and West Central, shown in Figure 5-3. Older developments generally have larger lots with potentially more landscaped area and, depending on other socioeconomic factors, may also have higher outdoor water use. These criteria are often used as a targeting strategy when developing conventional outreach and water conservation programs.

**Figure 5-2**  
**Average Annual Water Consumption by Customer Class (2006 – 2008 data)**



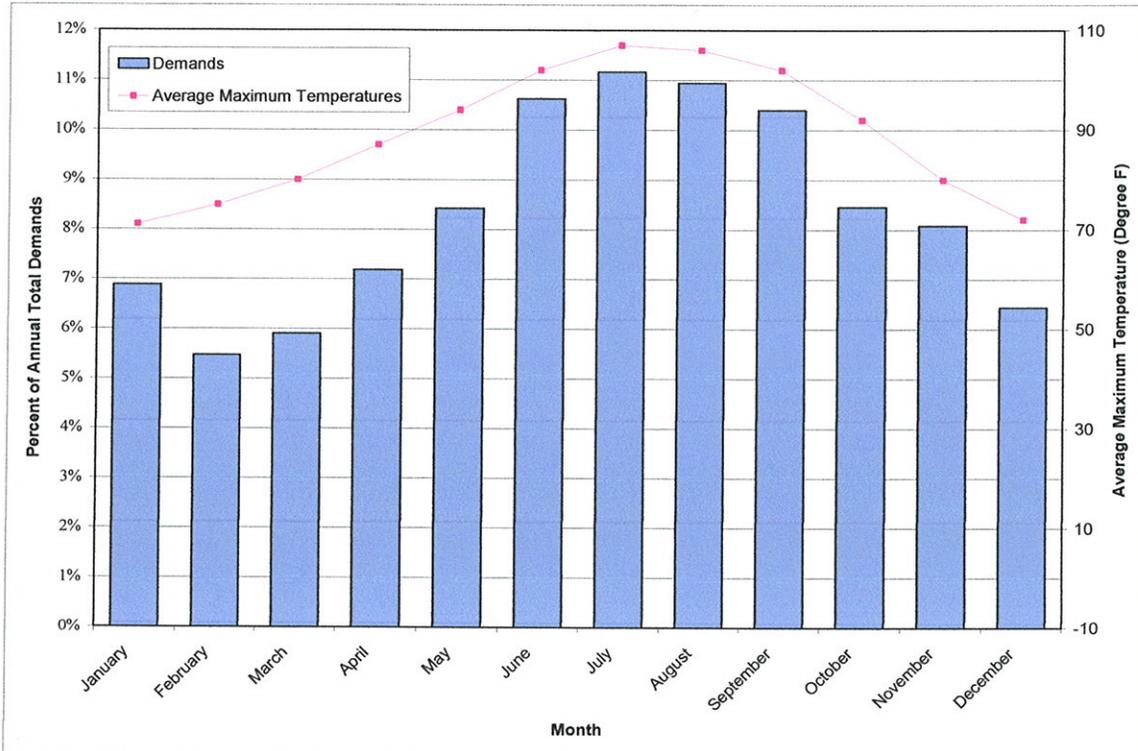
**Figure 5-3**  
**Zones Established for Analyzing Water Consumption in the City of Indio**



## 5.4 Water Use by Season

Water use varies by season as a result of increasing irrigation water demands with increasing summer temperatures. Figure 5-4 shows average monthly water use for 2003 through 2008 within IWA's service area as a percent of annual use.

**Figure 5-4**  
**Average Monthly Water Use**



Outdoor water use is a significant portion of overall water use year round and correlates well with average monthly temperatures. In the arid Coachella Valley, homeowners, businesses, schools and other facilities irrigate their landscapes throughout the winter months and to a certain extent adjust irrigation schedules to account for lower winter temperatures and subsequent lower plant water demands. Water demand for single-family residential outdoor use in Indio is estimated to be approximately 70 percent of the total annual demand (SWRCB, 2009).

## 5.5 Per Capita Water Use

Different methodologies can be used to calculate per capita water use in gallons per capita per day or gpcd and expresses water use as a function of:

- Total water consumption for all Customer Classes.

- Total residential water consumption, or
- Single-family residential water consumption.

Table 5-2 presents IWA's gallons per capita per day values using each approach.

**Table 5-2  
Daily per Capita Water Use (gpcd)**

Description	2002	2003	2004	2005	2006	2007	2008
All Customer Classes	288	327	296	280	280	270	255
Residential Only	193	202	192	182	196	191	183
Single Family Residential Only	287	278	255	242	255	248	226

Based on SWRCB (2009) assumption that 70 percent of total water consumption is for outdoor use, Table 5-3 presents a breakdown of residential water use by indoor and outdoor use in IWA's service area.

**Table 5-3  
Single-family Residential Indoor and Outdoor Water Use (gpcd)**

Residential Water Use (gpcd)	2002	2003	2004	2005	2006	2007	2008
Indoor	86	83	77	73	77	74	68
Outdoor	201	195	178	169	178	174	158

The per capita use has been steadily declining over the past six years. This decline can be explained by a combination of factors including a general shift of water use patterns towards conservation combined with new housing developments having smaller sized lots with water efficient indoor fixtures and desert landscaping.

## 5.6 Water Demand Forecast

Water demands are projected to reach 43,700 AFY (39.0 MGD) at ultimate build-out given that the timing for reaching "ultimate build-out" is currently uncertain (2007 Water Master Plan Update, 2008). Projections are based on the planned developments and metered account projections (2007 Water Master Plan Update, 2008; 2005 Urban Water Management Plan-

Addendum, 2008). Table 5-4 presents the number of accounts in 2008 based on metered data and the projected number of accounts by 2020 and 2030. Growth in years between 2008, 2010, 2020, and 2030 was assumed to be linear.

**Table 5-4**  
**Projected Growth in Number of Accounts for All Customer Classes**

Customer Class	Number of Accounts			
	2008	2010	2020	2030
Single-Family Residential	17,239	18,484	24,710	31,627
Multi-Family Residential	387	407	507	612
Commercial	786	884	1,376	1,789
City	154	173	259	303
Construction	44	44	83	92
Irrigation	363	386	502	612
Government	83	87	113	143
Other	1	1	1	1

New single-family residential developments will increasingly be constructed north of the I-10 corridor as available land for large developments are shrinking elsewhere. The growth of single-family residential accounts can serve as a template for the location of other new accounts including City, Irrigation, and Government customer classes. The rationale was that new single-family developments will likely require additional city and government amenities (parks, schools, etc.). Multi-family residential units are generally projected to be located in central Indio. New commercial accounts are also projected to be developed north of the I-10 corridor where lot sizes are large enough to accommodate big box retailers and large shopping malls with multiple tenants.

IWA's current average per capita water usage rate for all customer classes is approximately 285 gpcd (years 2002 through 2008). To achieve state mandates, this usage rate should reduce to 228 gpcd by 2020. Without a water budget tiered rate structure complemented with a water conservation outreach and implementation program, IWA water demands would double in twenty years and reach approximately 44,000 acre feet per year to meet water supply demands in 2030.

## 6 PLANNING AND IMPLEMENTATION OF WATER CONSERVATION MEASURES AND DMMS

This section includes all water conservation measures or demand mitigation measures (DMMs) that are planned for implementation. Table 6-1 identifies water budget tiered rate structure as a key measure that supports water conservation. IWA is a signatory to the California Urban Water Conservation Council Memorandum of Understanding and is committed to the full range of water conservation programs. The DMMS recommended by the California Urban Water Conservation Council are discussed in the following sections.

**Table 6-1  
IWA Water Conservation Measures and CUWCC DMMS**

Section	Demand Mitigation Measure (DMM)	Description
6.1	Water Budget Tiered Rate Structure	IWA Measure
6.2	Residential Surveys	CUWCC DMM 1
6.3	Residential Plumbing Retrofits	CUWCC DMM 2
6.4	System Audits, Leak Detection, and Repair	CUWCC DMM 3
6.5	Water Metering	CUWCC DMM 4
6.6	Large Landscape Incentives	CUWCC DMM 5
6.7	High Efficiency Clothes Washing Machines	CUWCC DMM 6
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6.10	Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts	CUWCC DMM 9
6.11	Wholesale Incentives	CUWCC DMM 10
6.12	Conservation Pricing	CUWCC DMM 11
6.13	Conservation Coordinator	CUWCC DMM 12
6.14	Water Waste Prohibition	CUWCC DMM 13
6.15	ULFT Replacement Programs	CUWCC DMM 14

## **6.1 Water Budget Tiered Rate Structure**

A water budget tiered rate structure establishes customer water use targets, identifies where water is wasted in the community, helps fund conservation measures to eliminate water waste in the community across all customer groups, and helps meet State water conservation goals. The water budget tiered rate structure is viewed as the key to establishing efficient water use.

### **6.1.1 Water Budget Rate Structure Design**

The IWA budget rate structure utilizes five tiers, with the lowest tiers reserved for the most efficient use and the upper tiers for increasingly inefficient use at a higher cost. All customer groups will have the same five tier system, the same rate per tier, but will have different or individualized water budget allocations. For example, the budget rate structure for single family residences includes an indoor and outdoor water allocation that is calculated based on number of persons per household, lot size and landscape type, and is adjusted on a daily basis based on actual plant water use. Water consumption that exceeds the budgeted allocations costs more and encourages water conservation.

### **6.1.2 Water Budget Tiered Rates Encourages Conservation**

A water budget is an allotment of water at a given unit price based on a customer's expected need during a specific period. The water budget rate structure is an effective tool because it addresses both conservation and equitability goals by providing a price signal, or penalty, for excessive water use. Water budget tiered rate structure has the additional benefit of being particularly adaptable to pricing during drought conditions. Water budgets allow agencies to raise the price for excessive use while not unfairly penalizing customers that already conserve water.

The budget tiered rate structure provides IWA and the customer with a monthly "water efficiency audit". Those customers that fall into the higher water rate tiers will have the economic incentive to seek assistance from the IWA to help lower their water bill. A number of water conservation measures and DMMs are available to assist customers in their efforts to decrease water use and align water consumption with their allocated budget.

### **Implementation Strategy**

IWA will implement a budget tiered rate structure as a response to State of California legislation that regulate all water purveyors to achieve or surpass 20 percent reduction per capita in potable water consumption by 2020. A Rate Study was conducted in 2009/2010 to develop water budgets for all current customers and evaluate billing and financial data.

The budget water tiered rate structure is founded on historical water demand in IWA's service area. Customer water use data was collected for the last five years and coupled with parcel data and direct billing information was used to develop water budget allocations for all customer classes. The budget water tiered rate structure was then designed to be cost neutral where approximately 70 percent of total revenue is generated from variable rates in accordance with California Urban Water Conservation Council's guidelines. A variance and credit system has been developed to allow adjustments of water budget allocations due to extenuating circumstances such as medical needs, larger household than normal, etc.

Implementation of the new rate structure will be in accordance with the legal requirements of Proposition 218 rules and include the proper notifications, public hearings, and handling of any protests.

### **Implementation Schedule**

It is anticipated that the water budget tiered rates will be implemented in the first quarter of 2011. Activities leading up to implementation include:

- External communications and outreach to residential, business and industrial communities via face-to-face meetings, newspaper advertisements, and newsletters (Spring and Summer 2010)
- Proposition 218 Notifications, a 60 day process that encompasses notification of proposed rate changes to all IWA customers and two public hearings (Fall 2010).
- IWA preparations will include programming changes to billing system and staff training (Continuous through implementation first quarter 2011)

### **Implementation Costs**

The cost of switching from a uniform rate structure to a budget tiered water rate structure include costs for reviewing the existing rate structure, develop new water budgets, changes to the billing system, as well as public information campaigns and hearings. Since the billing is an integral part of IWA Operations, no costs is being assigned at this time.

### **Water Savings Rate**

The savings rates directly attributed to the proposed water budget tiered rate structure are conservatively estimated to be 3.58 percent the first year and an additional 2.40 percent and 1.34 percent for years two and three, respectively.

## **6.2 CUWCC DMM 1 – Residential Surveys**

According to California Urban Water Conservation Council guidelines, IWA should implement a residential survey program by July 1, 2011 and provide surveys to at least 15 percent of residential accounts (15 percent each for single-family and multi-family residential accounts) by 2020. The purpose of these audits is to identify and target areas or sectors in which to market water conservation programs.

With a water budget tiered rate structure in place, customers who waste water will become “self-selected” in a sense and show up each month in the billing system data as having a water consumption that is beyond the individual budget allocation. Such customers are readily tracked and will make targeting of conservation programs much more direct. Customers can request IWA staff to visit their homes or place of work and identify opportunities for reducing water waste, as well as identify potential areas where further water savings could be achieved, such as alternate landscaping opportunities that may exist for the customers to reduce overall outdoor consumption.

The water budget rate structure serves as a monthly survey of each and every customer’s water use efficiency and therefore the water budget rate structure enables IWA to meet this DMM without any other efforts. However, IWA also tracks all site visits made by staff in response to customer requests prompted by penalty water bills, landscape irrigation audit, leak repair, etc.

## **6.3 CUWCC DMM 2 - Residential Plumbing Retrofits**

A residential plumbing retrofit program that includes water saving showerheads and faucet aerators will contribute to the overall reduction in indoor water use in the residential Customer Class. A conservation retrofit kit program is a required CUWCC DMM for urban water users and primarily targets residences constructed prior to 1992.

With the water budget rate structure, customers who waste water will show up each month from the billing system data and are automatically targeted for the Residential Plumbing Retrofit Program. This approach for implementation avoids added administrative costs that come with voucher or rebate programs. The IWA plans to implement the retrofit program in conjunction with the introduction of water conservation rates to help offset initial costs for penalty water bills.

### **Implementation Strategy**

IWA will implement this measure as a DMM in the Single Family and Multi Family Customer Classes. The residential plumbing retrofit kit will be provided to customers upon receipt of their old showerhead and service address. It is reasonable to assume that the conserving showerhead (and faucet aerators) will be installed when the customer has provided their old showerhead in exchange for the new showerhead. Before and after water use will be tracked via customer billing. This approach enables IWA to meet this DMM without any other outreach efforts.

### **Implementation Schedule**

According to CUWCC guidelines, IWA should implement this program by July 1, 2011 and should target to provide devices to at least 10 percent of residential connections each reporting period (every two years), resulting in at least 50 percent of pre-1992 homes retrofitted by 2020.

### **Implementation Cost**

Other utilities implement residential plumbing retrofit programs by distributing retrofit kits to their residential customers at no cost to the customers. The kit should include at a minimum one new showerhead and two aerators (one kitchen and one bathroom). The estimated cost for a kit is \$12 and includes costs for tracking.

### **Water Savings Rate**

The savings rates for shower heads and retrofit kits are 35 gpd/showerhead and 12 gpd/kit based on CUWCC's assumptions for water savings.

## **6.4 CUWCC DMM 3 - System Audits, Leak Detection, and Repair**

IWA has already realized the CUWCC's goal of achieving less than 10 percent of unaccounted water in its system. The Water Master Plan (Dudek, 2008) estimates IWA's unaccounted for water loss to be approximately 7.5 percent, and IWA plans to further reduce this further less than five percent over a 10 year period. Such a reduction could result in water savings of approximately 800 to 1,200 AFY based on projected demands without conservation by 2020.

## **6.5 CUWCC DMM 4 – Water Metering**

Currently, all of IWA's customers are metered for water use and meters are required for all new service connections. By metering all accounts IWA has already achieved the CUWCC's goal. The CUWCC estimates that metered accounts along with volume based water rates can result in a 20 percent reduction in demand. IWA has probably already realized the savings associated with metering all accounts. A water budget tiered rate structure is necessary to further reduce water use.

IWA is actively maintaining and upgrading the meter system and has an ongoing meter replacement program that began in 2006. IWA is replacing all existing direct-read meters with new water meters equipped with a wireless automated meter reading system, prioritizing the oldest meters that are more susceptible to failure. IWA has budgeted \$550,000 for this program in 2010 to replace 3,000 meters. Residential meter change-out should be nearly complete by the end of 2010. Once the meter change-out is fully implemented, the program will be part of ongoing operation and maintenance activities where meter replacement is a continuous activity that addresses problems associated with meter age and subsequent slowing. The costs associated with the meter replacement program are covered within IWA's annual operating and maintenance costs. IWA will need to track audit results and attempt to estimate the quantity of unaccounted water on a monthly and annual basis.

## **6.6 CUWCC DMM 5 - Large Landscape Incentives**

The CUWCC require landscape and irrigation evaluations be provided to utility customers with or without rebates. Landscape audits are measures that improve the efficiency of irrigation systems and include services to determine if the irrigation system is operating properly. IWA has already begun to implement a large landscape water conservation program ahead of the CUWCC implementation date of July 1, 2012. The CUWCC guidelines also call for surveys of at least 15 percent of large landscape accounts by 2021

IWA's Landscape Incentives Program provides information and incentives for customers to implement physical changes to their landscape and irrigation systems. Retrofit options include repairing broken irrigation equipment that results in the wasteful use of water, replacing outdated and/or broken irrigation equipment with more efficient equipment, rezoning the automatic irrigation system so that different "hydro zones" are irrigated separately. A Turf Removal Program and a Smart Controller Program has been added to enhance water savings by providing rebates for the replacement of existing turf grass with site appropriate plant materials and advanced controller technology based on actual water demands.

### **Implementation Strategy**

There are several organizations that can assist home and facility owners reduce outdoor irrigation water use by performing audits to evaluate the potential for savings. Another option is to use IWA staff to perform these audits. Regardless of who performs the irrigation audits, the IWA will offer both the Smart Controller and the Turf Removal Programs to customers that wish to implement recommended irrigation or landscape changes.

The Smart Controller Program is based on rebates using a 50/50 cost sharing model with no upfront costs to the customer. Rebates for the Turf Removal Program and changing to a low water demand landscape are also available provided but total annual costs will be capped.

### **Implementation Schedule**

According to CUWCC guidelines, IWA should implement this program by July 1, 2011. This DMM is met by implementing a water budget rate structure that identifies water wasters on a monthly basis through the billing system and are automatically targeted for the Large Landscape Incentives program.

### **Implementation Costs**

Through discussions with potential service providers and IWA staff, the cost to outsource an audit is approximately \$325 per single-family residence. The cost for the non-residential sector audit was estimated to be \$2,250 for a 5-acre parcel, such as a City owned park, athletic facility, or street median.

The IWA and the customer share the cost of the Smart Controller Program, which is estimated to be \$1,180 for the controller, installation and the subscription fee for five years of daily downloading of actual water demand data via satellite. The customer agrees to participate in the Smart Controller Program by paying a monthly "Smart Controller Fee", which is \$9.95/month, for five years. The Turf Removal Program includes a rebate of \$1.00 per square foot of turf replaced with approved landscaping and a rebate for replaced worn or broken irrigation equipment; however, rebates are capped at \$750 per single family residence, with an annual program cap.

### **Water Savings Rate**

The IWA has collected preliminary water savings data from 14 single-family homes sites equipped with Smart Controller. The savings range from 23 percent to 54 percent of total single-family water use. Assuming an average irrigated area of 1/6 acre for Indio homes in the IWA service area, the savings rate would be approximately 600 gpd per home. Using the same per-acre savings rate, evaluation of a 5-acre parcel would lead to savings of 18,000 gpd per parcel. These estimates were developed in coordination with IWA Water Conservation Staff and the IWA intends to use these estimated saving rates in the Plan.

## **6.7 CUWCC DMM 6 - High Efficiency Clothes Washing Machines**

A high-efficiency clothes washing (HECW) machine financial incentive program contributes to the overall reduction in indoor water in the residential customer class. The program is typically based on rebate checks distributed by the utility to help offset the initial purchase cost of the appliance. It is unclear whether this program will generate water savings commensurate with the cost of the program. However, this program may be re-directed to multi-family residential developments and commercial laundromats where financial incentives may be more attractive and water savings more readily achieved.

### **Implementation Strategy**

Information such as water billing data and the number of units and residents will first be evaluated to determine which accounts have the greatest water savings potential.

### **Implementation Schedule**

According to CUWCC guidelines, IWA should implement this program by July 1, 2012 with full implementation within 2.5 years (2014). Given the relative high purchase price for high-efficiency clothes washing machines, the cost effectiveness of this program will be further analyzed by the IWA.

### **Implementation Cost**

The anticipated cost for this DMM is \$300 per washing machine and includes the cost of the rebate only. Project effectiveness will be evaluated after the first year of implementation for cost effectiveness and the feasibility of a credit on the customer's monthly water bill versus a rebate check.

### **Water Savings Rate**

A savings rate of 19 gallons per day per washing machine rebated is assumed (U.S. Department of Energy).

## **6.8 CUWCC DMM 7 – Public Information Programs**

IWA customers are informed of the need to conserve water and available methods for conserving water are conveyed to the public through educational programs. Water conservation public education programs are implemented by IWA Staff and include public information materials, outreach and public exhibitions. This DMM is met by IWA's ongoing public information program which also includes outreach via billing inserts and news articles.

### **Public Information Materials**

The IWA purchases and publishes a variety of brochures and other outreach materials. These materials are available in both English and Spanish to members of the public upon request and are also presented to the public through presentations. Brochures provide information on water conservation issues such as water conservation rebate programs, water waste and nuisance water.

The IWA also maintains a web site that provides the public with water conservation information. In addition, the five Coachella Valley water agencies have a billboard along Interstate 10 that moves to different locations four times a year. The billboard displays a water conservation message or simple water conservation tip and is periodically renewed.

### **Informative Billing**

It is important for IWA to clearly communicate with its customers. Billing inserts are regularly included with water conservation tips. With the introduction of a water budget tiered rate structure, the current bill format will be revised to accommodate detailed information to help IWA customers to fully understand the impact of a water budget tiered rate structure and how they will be charged for water. The goal is to provide information that help customers adopt water conservation measures prior to implementation of the new rates.

### **Outreach and Public Exhibitions**

The IWA is highly visible at many public events held in Indio including the Riverside County & Date Festival, the Tamale Festival and the 4<sup>th</sup> of July Celebration, distributes literature and other promotional items. The display booth, staffed by IWA outreach experts at these events includes information on water savings and various promotional items such as stickers, pens, rulers, calendars and posters. IWA also attends meetings hosted by a wide variety of community groups including homeowners' and condominium associations. Presentations at these meetings include water conservation information and information on available water conservation programs.

### **6.9 CUWCC DMM 8 – School Education Program**

IWA's in-school program is a curriculum-based program that targets young water consumers who will hopefully retain water conservation and an environmental sustainability ethic into their adult lives. The IWA program identifies and discusses urban, agricultural, and environmental issues and conditions of the local watershed. The IWA program is tailored to reach primary, elementary and high school students and meets all State education framework requirements. The program provides instructional assistance, educational materials, and classroom presentations.

In-school presentations are made every year by IWA Staff upon request. According to CUWCC guidelines, IWA has already met this DMM. Even though CUWCC has not established any quantifiable goals or targets for the implementation of this program, IWA tracks and documents all materials that are being distributed as well as the number of presentation made and provides estimates for the number of students reached.

### **6.10 CUWCC DMM 9 – Conservation Programs for Commercial, Industrial, and Institutional Accounts**

This DMM provides water-use evaluations to CII customers. IWA will identify and prioritize commercial, industrial and institutional (CII) customers based on an analysis of how well CII customers meet their individual budgeted water allocations. In some cases, the evaluations are followed up with rebates and/or retrofits. For example, a water use evaluation may result in retrofitting toilets and plumbing fixtures. For this Plan, IWA will provide landscape and irrigation evaluations for City and County owned facilities through the Large Landscape Incentives Program (CUWCC DMM 5). Therefore, water use evaluations for these facilities will consist of all other water uses (cooling, toilet flushing, food preparation, manufacturing/processing, etc.)

### **Implementation Strategy**

IWA will identify commercial, industrial, and institutional customers that exceed their budgeted water allocations on a monthly basis through the billing system. CII customers will be ranked by potential savings and a retrofit program for the facility with the highest water savings potential will be implemented. IWA will assist the City to retrofit their own facilities with water conserving plumbing fixtures and encourage County facilities in IWA's service territory to do the same.

### **Implementation Schedule**

According to CUWCC guidelines, IWA should implement this program by July 1, 2012. With a water budget rate structure in place a monthly survey is automatically obtained through the monthly billing. IWA will begin evaluations upon implementation of a budget tiered rate structure, tentatively scheduled for first quarter 2011.

### **Implementation Costs**

The cost for water use evaluation of CII facilities depends on type of facility. For planning purposes the program is estimated to cost \$450 per site for non-manufacturing/processing facilities.

### **Water Savings Rate**

Water savings rates for an ICC program is highly variable and depends on site-specific parameters such as type of facility, age of piping, cooling equipment, number of employees, operational hours, etc. IWA has estimated savings rates of 200 gpd/account for evaluation and retrofitting an average CII customer.

## **6.11 CUWCC DMM 10 – Wholesale Incentives**

IWA does not receive or provide wholesale water. Consequently, this DMM is not applicable to IWA's service area.

## **6.12 CUWCC DMM 11 – Conservation Pricing**

Retail conservation pricing provides economic incentives to customers to use water efficiently. The goal of this demand management measure is to recover the maximum amount of water sales revenue from volumetric water rates that is consistent with utility costs, financial stability, revenue sufficiency, and customer equality. The California Urban Water Conservation Council estimates that metered accounts along with a uniform water rate can result in a 20 percent reduction in demand. Since all IWA's customers are already metered it is anticipated that IWA has already realized some water savings.

Implementing a budget water rate structure that discourages water waste would further reduce water consumption. It is anticipated that IWA will have a water budget rate structure in place by 1st quarter 2011. The planned water budget rate structure meets this DMM (See Section 6.1)

### **6.13 CUWWC DMM 12 – Conservation Coordinator**

A water conservation coordinator provides oversight of conservation programs and DMM implementation, as well as communicating and promoting water conservation issues to all stakeholders. Since 2007 the IWA has a fulltime Environmental Programs Coordinator that oversees not only water conservation, educational and outreach programs but also other environmental programs for the City of Indio. IWA has already met this DMM. It is anticipated in future restructuring of the IWA, that the Water Conservation Coordinator will be a ½ time position.

### **6.14 CUWCC DMM 13 – Water Waste Prohibition**

The City of Indio has passed an ordinance (1528) prohibiting water waste such as flows onto roadways, adjacent property, or non-irrigated property. In addition, the City has also passed ordinance 257, which states: “Chapter 54.050 It shall be unlawful for any person to willfully or neglectfully waste in any manner, any person having knowledge of any conditions whereby water is being wasted, shall immediately notify the Water Department of that fact.” This DMM is met by current ordinances.

Furthermore, IWA has already established a requirement that separate meters for irrigation be installed on all commercial, industrial, and apartment building properties by January 1, 2013, which will help identify large landscape water use and further help direct customers to water conservation programs. A review of existing rules and regulations is being recommended. The intention of the proposed review is to identify other water conservation measures.

### **6.15 CUWWC DMM 14 – ULFT Replacement Programs**

The City building regulations specify that toilets have a maximum flush volume of 1.6 gal/flush (gpf) when the water pressure is 80 pounds per square inch (psi). The City’s regulations are consistent with the maximum water use allowed under the U.S. Energy Policy Act (EPAct) of 1992, which became effective on January 1, 1994, and required manufacturers to produce water-conserving water plumbing fixtures (i.e. ULF toilets and urinals, low-flow showerheads, and low-flow faucets and aerators). The ULFT replacement program targets pre-1992 accounts because of the EPAct regulations.

#### **Implementation Strategy**

IWA will implement this measure as a DMM in the Single Family, Multi Family and CII Customer Classes. Customers that exceed allotted water budgets are identified via the monthly billing and are pre-1992 accounts will be targeted for toilet retrofits. Single-family homes will receive a water-use evaluation prior to retrofitting the homes.

The ULFT Replacement Program will include a rebate only; however these customers can participate in the Residential Retrofit program (CUWCC DMM-2) at any time. The affected accounts will be tracked because customers will be required to provide their service address upon receipt of a rebate. This approach enables IWA to meet this DMM without any other outreach efforts.

**Implementation Schedule**

IWA plans implement a residential ULFT replacement program by July 1, 2011.

**Implementation Costs**

The retrofit program includes the cost of one toilet and installation which is estimated to be \$250 for Single Family Customer Class installations. The cost of the Single family rebate program is the cost of the rebate (\$150/residence) plus the cost for rebate processing. The ULFT replacement program has an annual cap.

**Water Savings Rates**

Savings rates for the ULFT retrofit program for the Single family Customer Class is estimated 22 gallons per retrofit per day. Before and after water use will be tracked via customer billing

## 7 EFFECT OF WATER SAVINGS ON PROJECTED DEMANDS

Estimated water savings that are planned to occur were applied to demand projections presented in Section 5.6 to show the effect of planned conservation may have. The adjusted demand projections are shown in Table 7-1.

**Table 7-1**  
**IWA Service Area Population and Water Demand Projections Adjusted for**  
**Water Conservation Plan Implementation**

Year	Total Population Served (people)	Annual Demand (AFY)	Water Savings due to Water Conservation Plan Implementation (AFY)*	Total Annual Demand with Plan Implementation (AFY)
2011	83,754	24,211	1,167	18,885
2012	84,527	25,016	2,067	19,513
2013	85,307	25,848	2,713	20,161
2014	86,094	26,707	3,149	20,832
2015	86,889	27,594	3,448	21,523
2020	93,115	34,141	7,511	26,630

AFY=acre feet per year

\* Does not include anticipated reclaimed water projects or potential savings due to policy measures

These demand adjustments do not include potential effects from non-quantifiable water conservation measures including educational and policy type programs (i.e. Residential Surveys (DMM 1, Public Information Programs (DMM 7, School Education Program (DMM 8), and Conservation Coordinator (DMM 12)).

## 8 COST- EFFECTIVENESS

A cost-effectiveness evaluation was conducted for the identified water conservation measures in this Plan. The purpose of the evaluation is to compare the cost to save one unit of water, here expressed in 100 cubic feet, to the cost of treating the same volume of imported Colorado River water. The cost of imported and treated Colorado River water for IWA is estimated to be \$2.28 per unit of water.

### 8.1 Estimated Cost-effectiveness

The estimated cost effectiveness of all water conservation measures in this Plan (Table 8.1) except DMM 6, are below the cost to import, treat and distribute the same amount of water (\$2.28 per unit) and are considered to be cost-effective and therefore appropriate for IWA to implement.

**Table 8.1**  
**Cost-Effectiveness of Water Conservation Measures**

Measure	Description	Sector	Cost per Unit
IWA	Water Budget Tiered Rate Structure	All	Not Included
DMM 1	Residential Surveys	SF	Non Quantifiable
DMM 2	Residential Retrofits	SF	0.070262
DMM 3	System Water Audits	IWA	Non Quantifiable
DMM 4	Metering	IWA	Not Included
DMM 5	Large Landscape Incentives	MF, CII	
	Smart Controller Program		0.140705
	Turf Replacement Program		1.356164
DMM 6	High Efficiency Clothes Washing Machines	SF, MF	4.622515192
DMM 7	Public Information	All	Non Quantifiable
DMM 8	School Education	All	Non Quantifiable
DMM 9	Commercial, Industrial, and Institutional (CII)	CII	0.461096
DMM 10	Wholesale Incentives	Not Applicable	Not Applicable
DMM 11	Conservation Rates	All	Implemented

Measure	Description	Sector	Cost per Unit
DMM 12	Conservation Coordinator	All	Non Quantifiable
DMM 13	Waste Prohibitions	All	Non Quantifiable
DMM 14	Residential Ultra-low Flow Toilet Replacement Programs	SF	1.397260

SF= single-family residence; MF= multi-family residence; NR=non-residential;

CII=commercial, Institutional

Unit= 100 cubic feet of water

Notes

Throughout Plan, costs do not include IWA staff labor

## 8.2 Selection of Conservation Measures

The selection of conservation measures is guided by the California Urban Water Conservation Council, which provide the starting point for expanding existing or selecting additional water conservation programs. Implementation of water budget tiered rates is a prerequisite for implementing water conservation measures. A water budget tiered rate structure provides an automatic survey to where a conservation measure should be directed and, at the same time, prioritizes conservation measures that optimize water savings at least cost. Importantly, a water budget structure is inherently fair because the water budget is assessed on an individual basis, which means that customers that are water wise pay approximately the same as today but customers that far exceed the allotted budget will pay extra.

It is IWA's intention to fund all conservation efforts through the funds collected through the monthly billing. Initial estimates indicate that approximately \$175,000 will be available for conservation programs annually. The water budget tiered rate structure will provide a sustainable conservation funding mechanism for IWA, paid by customers who waste water.

## **9 REPORTING PLAN**

The IWA will provide annual progress reports on meeting goals established in the Plan to the CUWWC. The annual reports will also provide an opportunity to propose alternative DMMs or implementation options to achieve goals. The IWA can adjust its Plan to meet water savings and cost-effectiveness goals during Plan implementation. This allows the IWA to learn from previous years' implementation results and use those lessons to improve upon the following years planned effectiveness. The first planning year is from July 1, 2011 to June 30, 2012.

### **Annual Reports**

About six months after each planning year has ended, IWA will provide an annual report to the CUWCC that confirms continual implementation of DMMs and summarizes the number of measures implemented per DMM and actual dollars spent. The IWA will also report actual savings gained by implementation using proposed savings rates presented in this Plan or proposing new savings rates as additional information becomes available and/or actual savings are measured,.

The Annual Water Use Efficiency Report will compare planned against implemented numbers of measures, water saved/water savings rates, and the cost of implementation with respect to meeting planned goals. The report will also include an explanation of unanticipated delays or issues that modified the implementation schedule or cost effectiveness.

### **Adjustments**

If IWA concludes that adjusting planned implementation will more effectively achieve established goals, the Plan will be adjusted.