

## DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

### Board of Directors

*DC Retail Water and Sewer Rates Committee*

*Tuesday September 27, 2011*

*9:00am*

*810 First Street, NE  
11<sup>th</sup> Floor Conference Room*

1. **Call to Order** ..... Howard Gibbs, Acting Chairman
2. **Monthly Update (Attachment A)** ..... Randy Hayman
  - Howard University
  - Soldier's Home
  - Town of Vienna
3. **Discussion on DC Water Customer Segmentation Review (Attachment B)** ..... Yvette Downs
4. **Evaluating Future Strategies for Unbundling Volumetric Rates (Attachment C)** ..... Yvette Downs
5. **FY 2012 Fire Protection Cost of Service Study Update (Attachment D)** ..... Olu Adebo
6. **DC Retail Water and Sewer Rates Committee Workplan** ..... Olu Adebo
  - **FY 2011 DC Retail Water and Sewer Rates Committee Workplan Activities Completed (Attachment E)**
  - **FY 2012 DC Retail Water and Sewer Rates Committee Proposed Workplan (Attachment F)**
7. **Emerging Issues/Other Business** ..... Olu Adebo
8. **Agenda for October 25, 2011 Committee Meeting (Attachment G)** ..... Howard Gibbs
9. **Adjournment**

#### ***FOLLOW-UP ITEMS – Retail Rates Committee Meeting (July 26, 2011)***

1. Provide an example of the updating required and quality controls available to reconcile non-residential data found in the DCGIS 2005 flyover information and a more recent update to the flyover data. This example should be provided at a future Retail Rates Committee meeting (Mr. Bardin) Status: FY 2012.

2. Revise the Committee work plan as noted. (Chairman Bardin) Status: September, 2011
3. Provide specific target dates to the items in the General Counsel monthly report and ensure the monthly report is provided to the Committee in the month of August. (Mr. Bardin) Status: Complete
4. Review of the Potomac Interceptor contracts to see if there are opportunities to modify contracts to be similar to the IMA contracts (Mr. Bardin) Status: TBD

**September 2011 Update on Howard University and Soldiers' Home Delinquent  
Accounts and Town of Vienna Settlement Agreement**

**Howard University**

Without waiving rights to contest, Howard accepted terms of agreement under which they would begin making payments on current bills on the "Exempt Accounts". Check for \$64,000 received on June 24, 2011. Payment of \$95,650.81 was received on August 1, 2011. Howard will continue paying current billings while we work cooperatively on resolving the arrearages. DC Water furnished remainder of invoices for the arrearage amounts not previously delivered.

**NEXT STEPS**

1. Howard provided list of street addresses of its properties regarding the buildings serviced by what was historically referred to as the "exempt accounts" to update our records tying meters to properties served; we have not received that information for Howard properties outside that referenced group of accounts.
2. Some additional accounts have been identified which are being investigated for possible back-billing and are being researched by Customer Service.
3. Provided the parties work in good faith to diligently pursue resolution, DC Water will forbear any further enforcement action.
4. If Howard fails to perform, DC Water's GM shall send notification of intent to lien to HU president.
5. DC Water will place liens on affected HU assets.
6. DC Water will pursue legal remedies to enforce collection against HU.
7. Effective Oct. 1, 2011, DC Water will bill Howard for water services on accounts.
8. Olu will be contacting Howard to confirm whether they have resolved issues regarding the deeds we provided to them documenting purchase of land for McMillan Reservoir for consideration, without including free services in perpetuity, and to discuss payment of the arrearages.

**Soldiers' Home**

The Office of the General Counsel is preparing a legal opinion regarding sewer services, which were not referenced in the 1938 agreement providing for perpetual free water service. The opinion is anticipated to be available by the November Board Meeting to permit sufficient time to complete research on the expansion of services since the date of the original agreement.

**NEXT STEPS**

1. Preliminary pricing for professional appraisal of the value of the Reservoir site (both current and proposed facilities) was considerably higher than anticipated.
2. Discussion has now occurred proposing additional sites for consideration which are located on private property as an alternative to the Soldiers' Home site. The alternative sites also raise issues of whether we should proceed with a single 5 million gallon tank, or one or two elevated tanks, which are limited to a maximum capacity of 3 million gallons, and a possible reconfiguration of the intended service area. A proposal was received by DC Water on September 19, 2011 for consideration and is under review. Another meeting will be scheduled by the end of October.
3. Engage Soldiers' Home in discussions to determine baseline for negotiations including:
  - a. Footprint for planned development
  - b. Metering to track current usage, as well as possible sub-metering to track usage for new facilities brought online through expanded development
4. Write letter from GM to the Soldiers' Home
  - a. Identify issues (reference new OGC legal opinion and Board Resolution 96-27)
  - b. Confirm Soldiers' Home's interest to renegotiate agreement equitably
  - c. Discuss next steps
  - d. Confirm identity of person authorized to negotiate on behalf of the Home

### **Town of Vienna**

The parties have agreed upon a settlement amount. A written agreement memorializing the terms and conditions of the settlement was prepared by the Office of the General Counsel, in conjunction with the Chief Financial Officer. Following a meeting on September 19, 2011, it is being revised. It should be ready for execution by September 30, 2011.



# DC WATER

## Class Segmentation Status Report



Attachment B

## Customer Class Segmentation Study

# Background

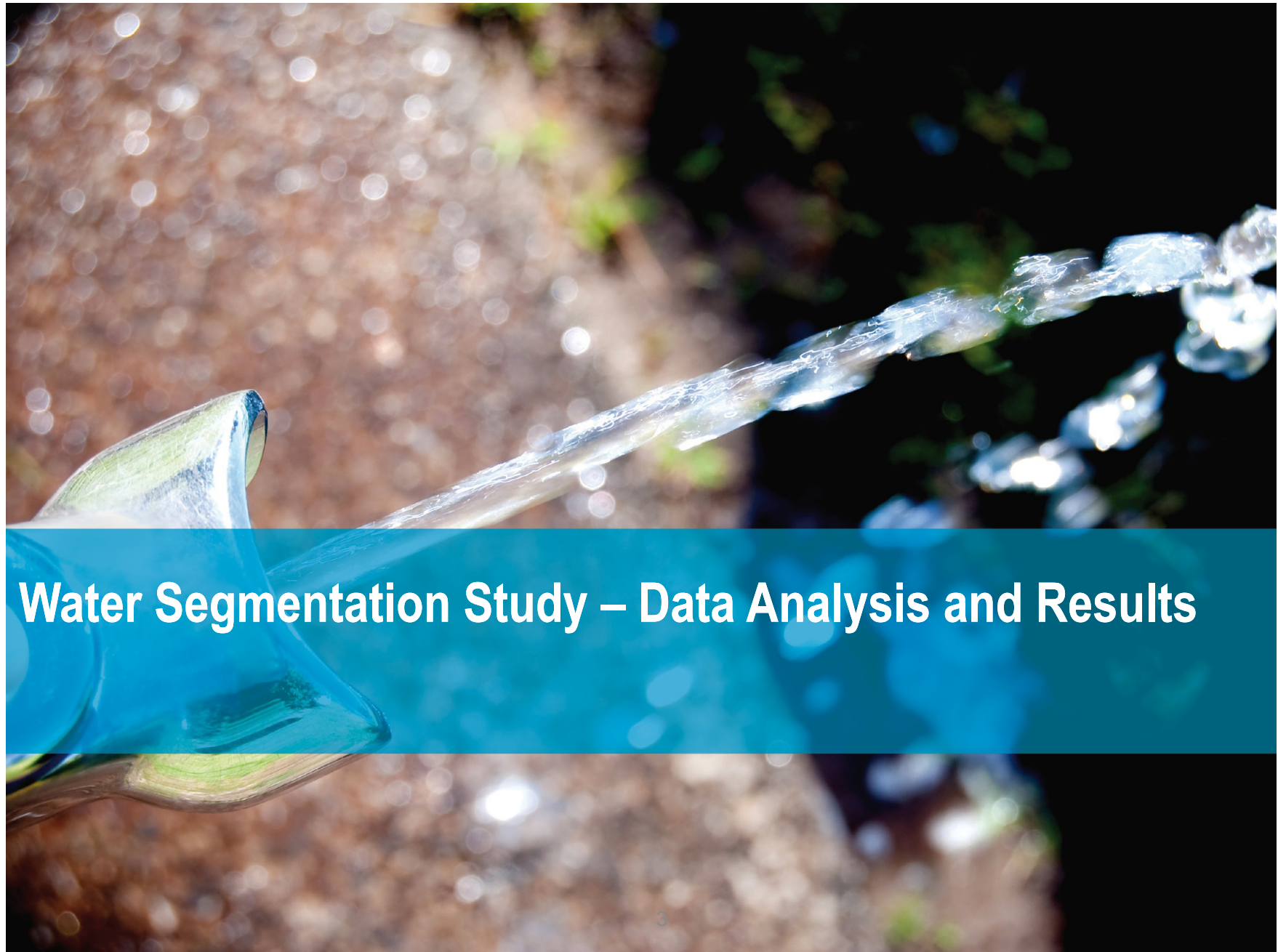
- A 2009 Cost of Service (COS) Study performed by Raftelis Financial Consultants (RFC) identified several long range rate issues to be explored by DC Water, including:
  - a detailed review and understanding of DC Water's customer demographic for the purpose of determining whether additional customer segmentation opportunities exist
- In FY 2011, DC Water Retail Rates committee included this review in its workplan and DC Water engaged RFC to undertake the study
- In July, staff with RFC briefed the committee on preliminary results of the study
- Review of 12 months of data (May 2010 to April 2011) revealed that:
  - High peaking patterns were most common in the summer months for all classes; and
  - identified three different demand characteristics
    - Federal customers had the highest peaking factor
    - Commercial and Exempt customers had the next highest peaking factor
    - Housing, Municipal, Residential and Multi-Family customers had the lowest peaking factor

## Customer Class Segmentation Study

# Background

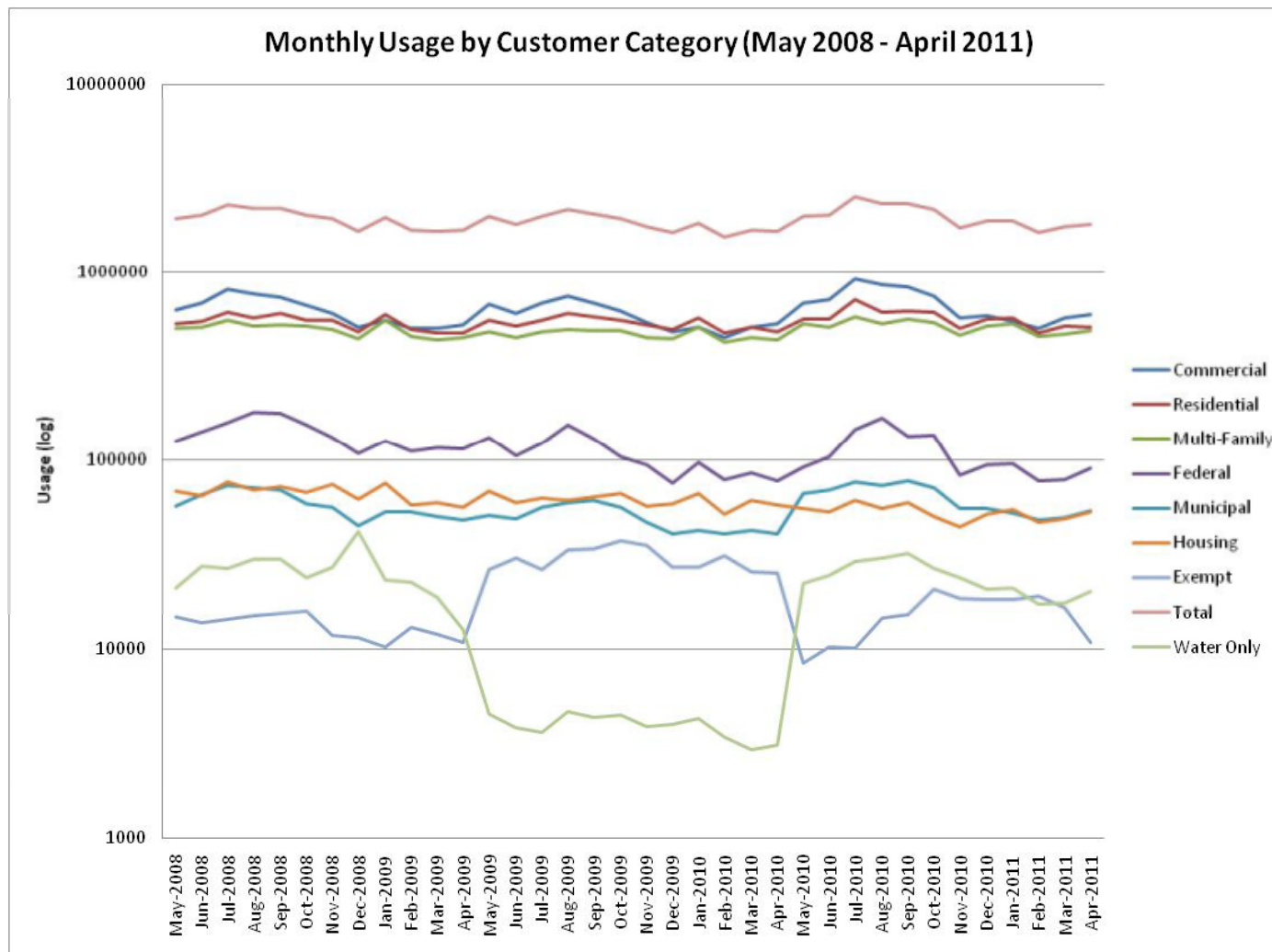
- Follow-up work included
  - Examination of two additional years of data
    - Validation and confirmation of pattern in sample year data
  - Deep dive within data set to confirm root cause of demand characteristic
    - Analyze peak day data
    - Analyze impact of seasonal demand on peak day
  - Explore water segmentation options
- Update committee on the findings in September



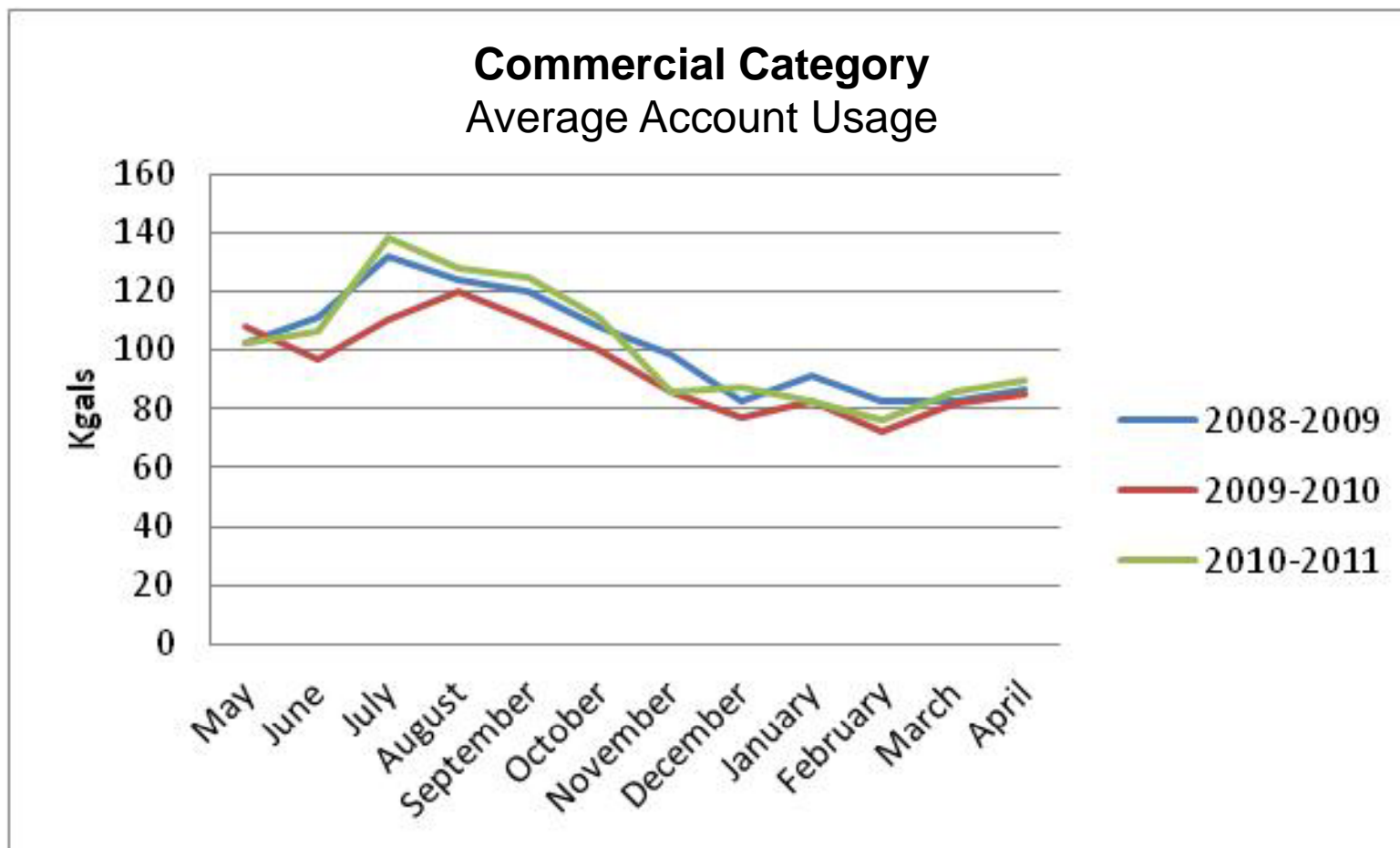




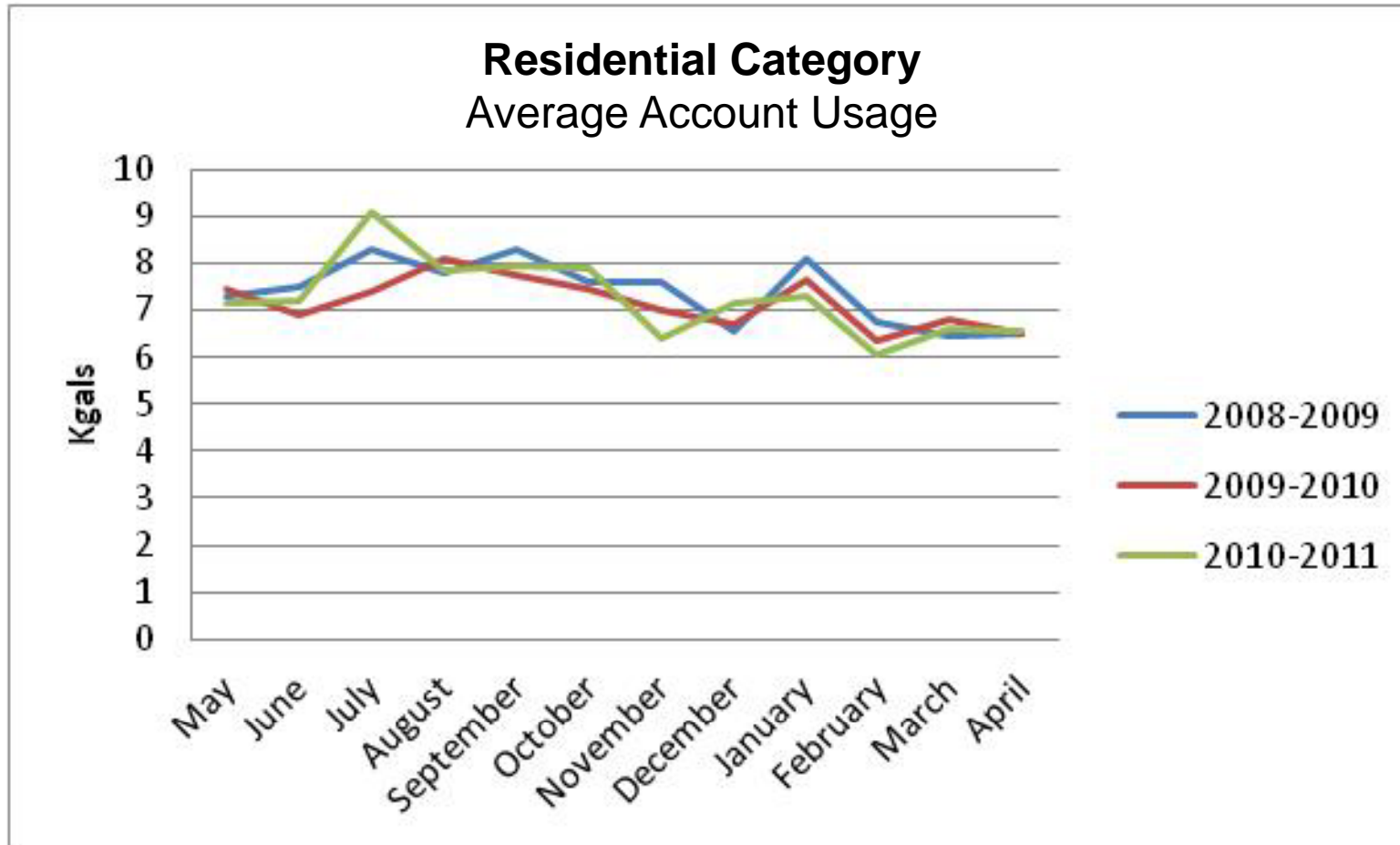
## Customer Class Segmentation Study



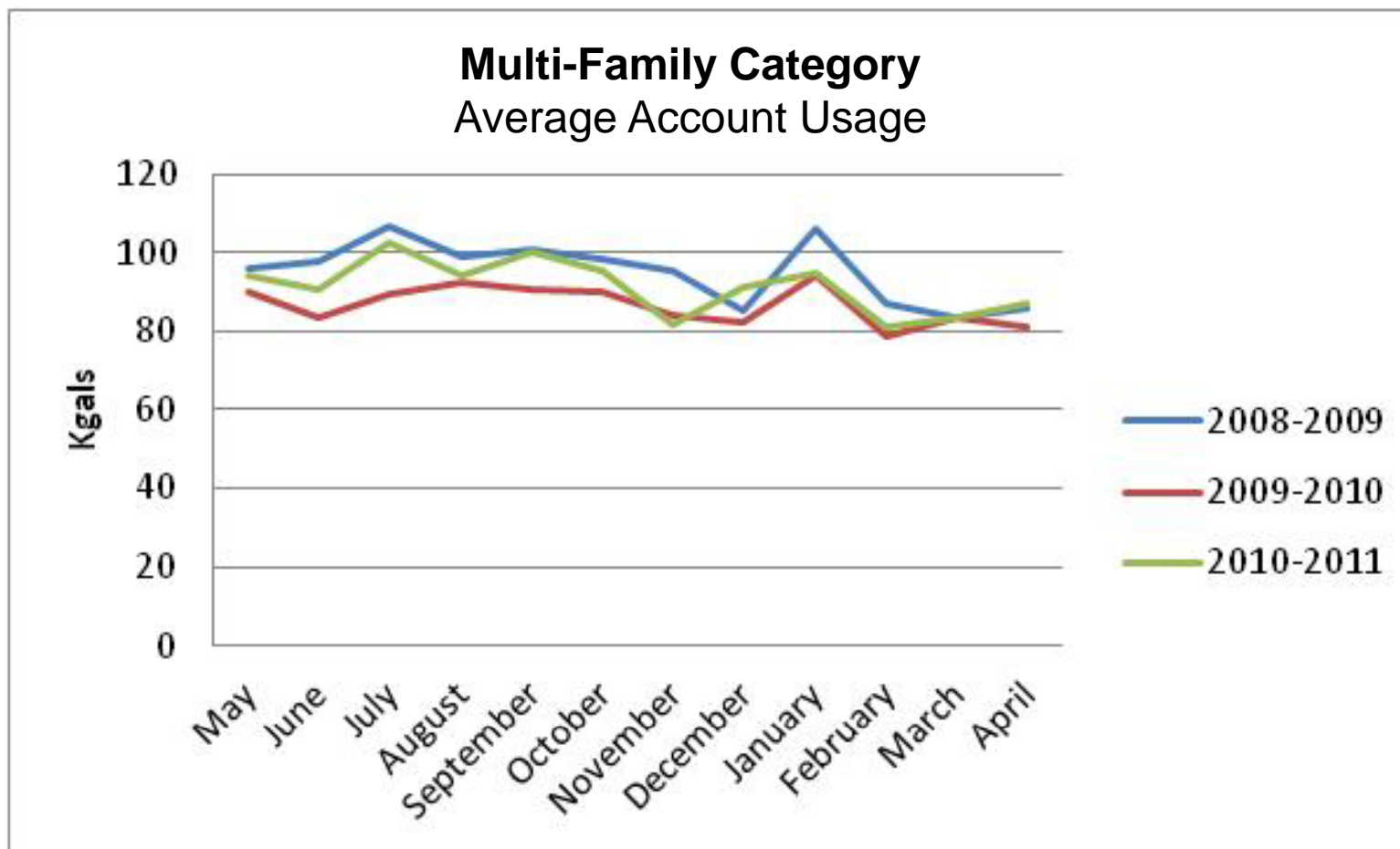
## Customer Class Segmentation Study



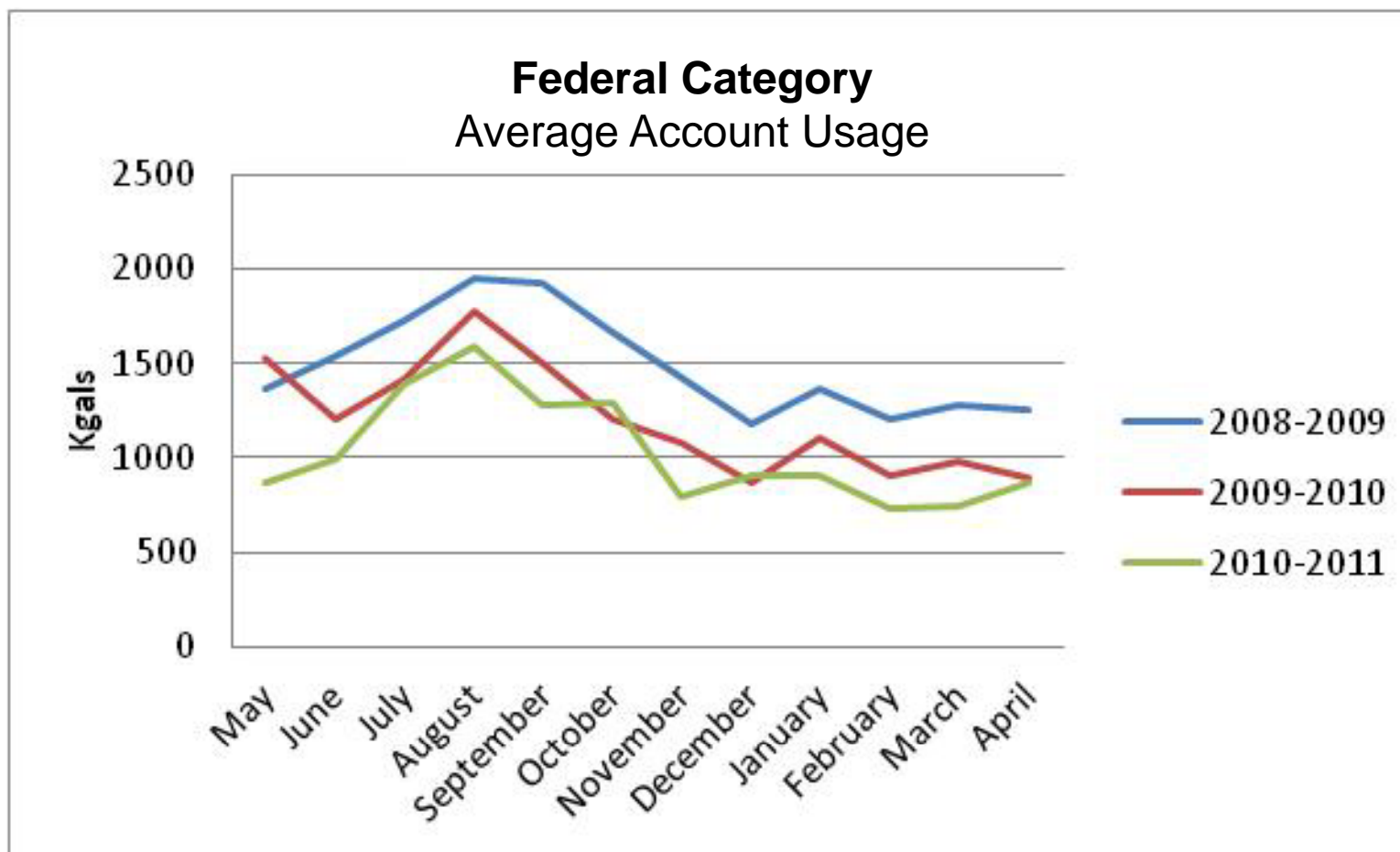
## Customer Class Segmentation Study



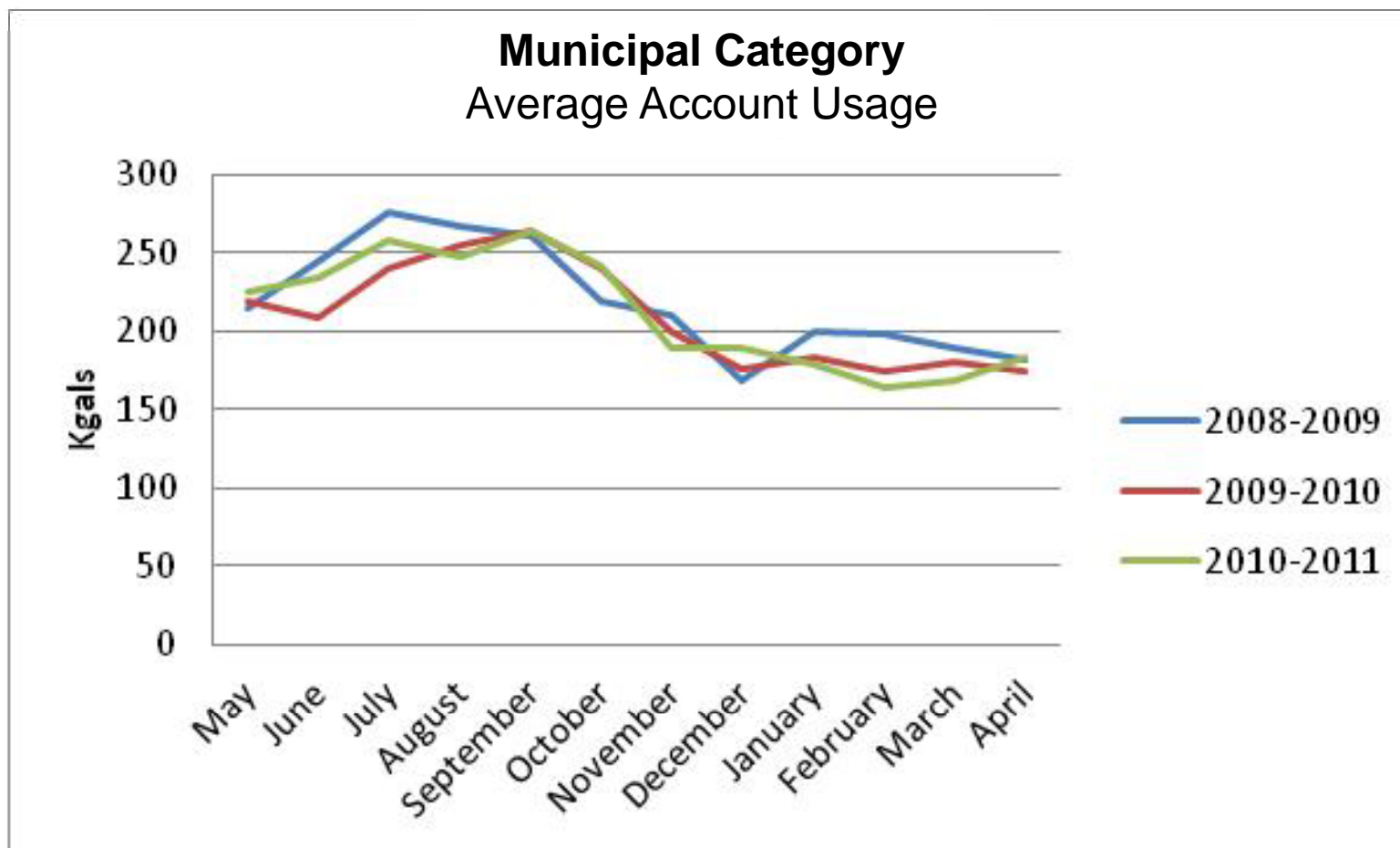
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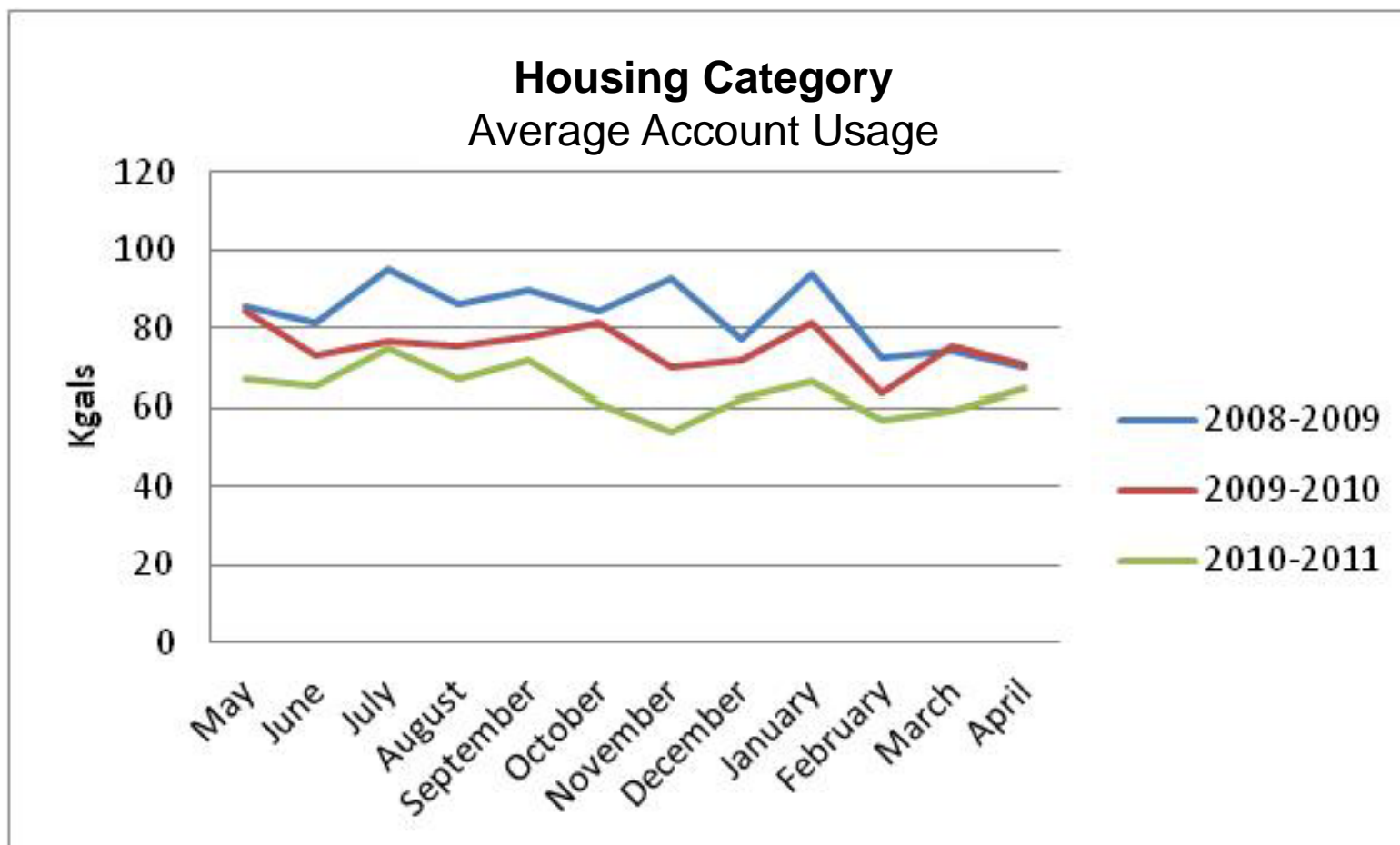


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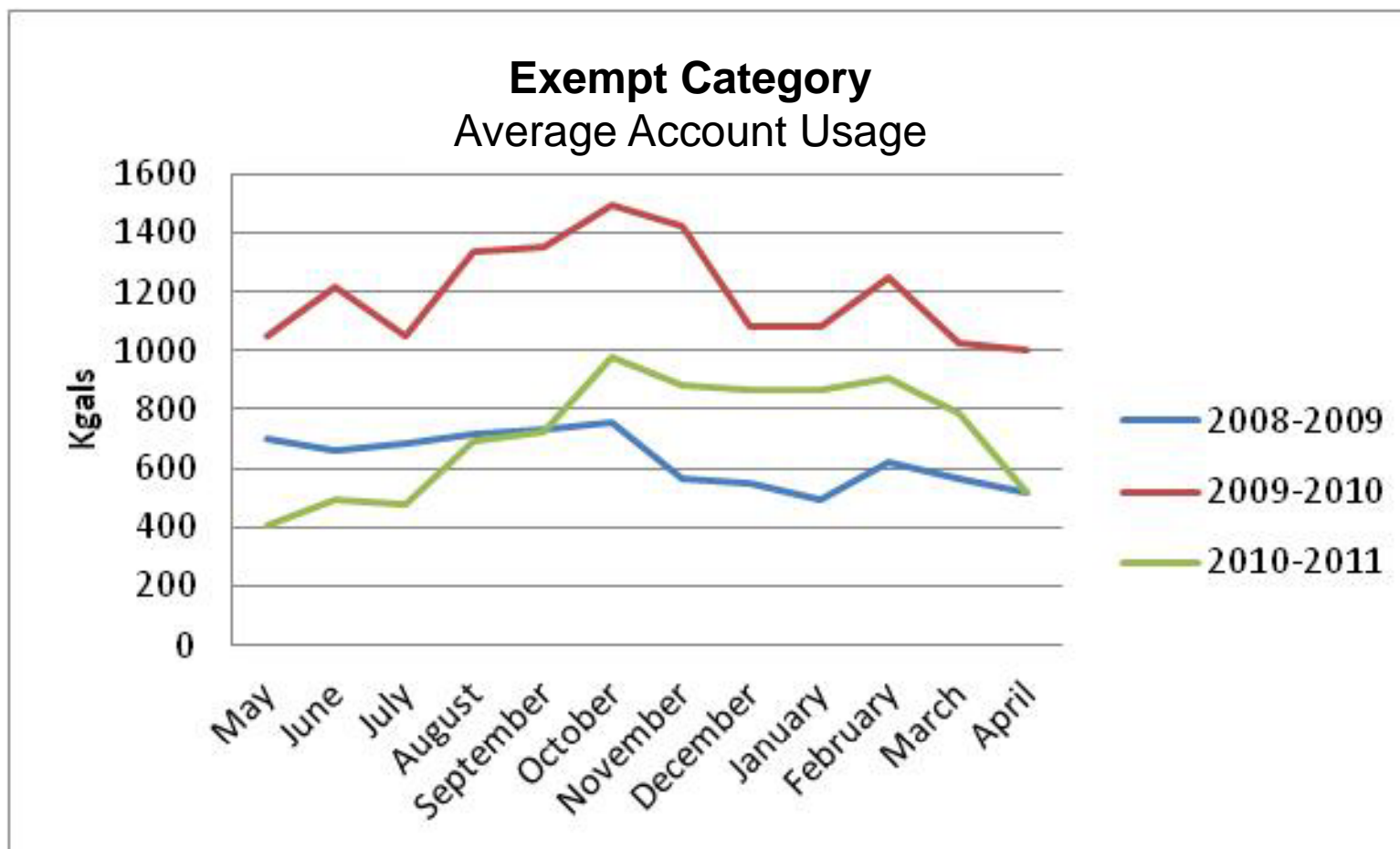




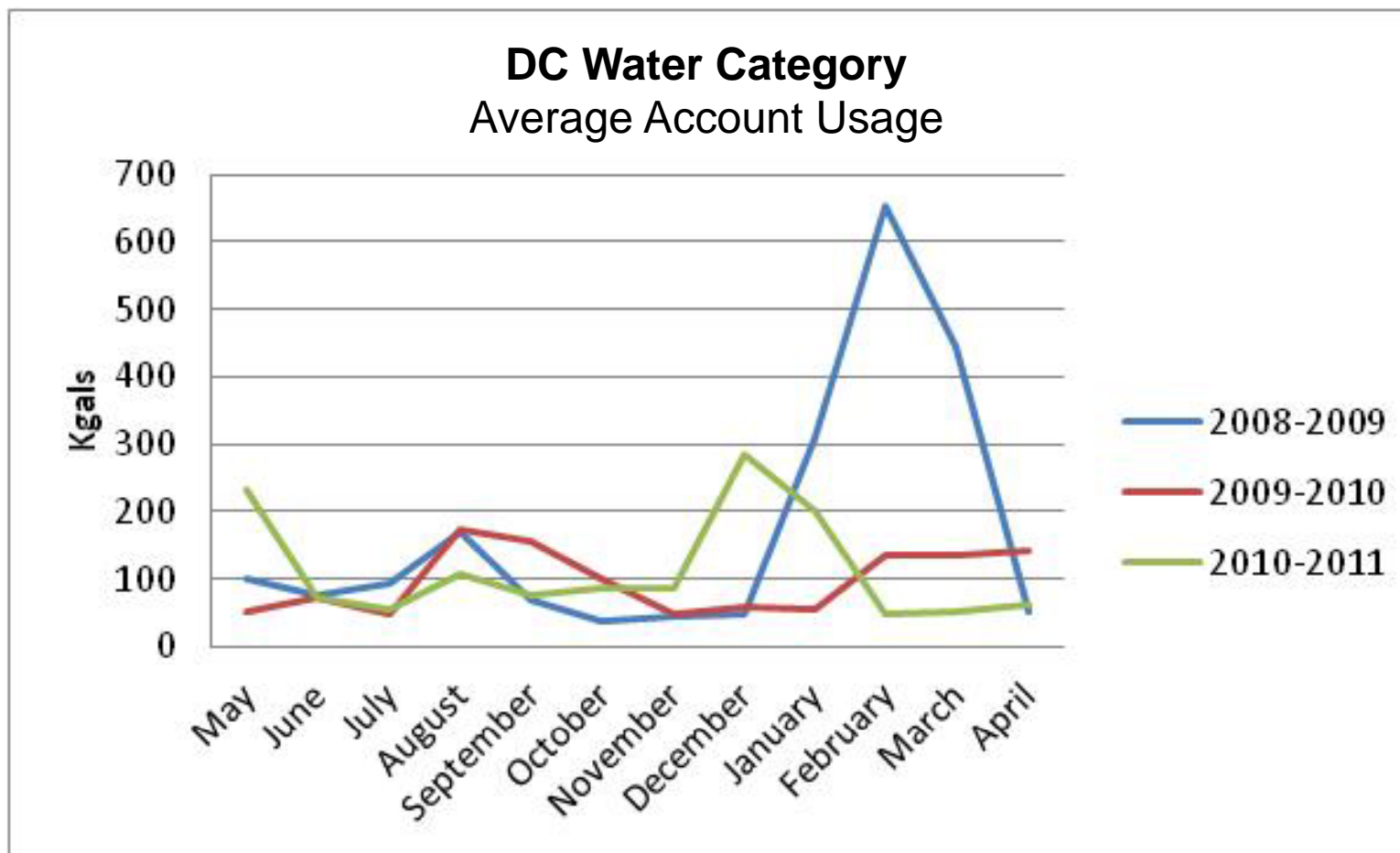
## Customer Class Segmentation Study



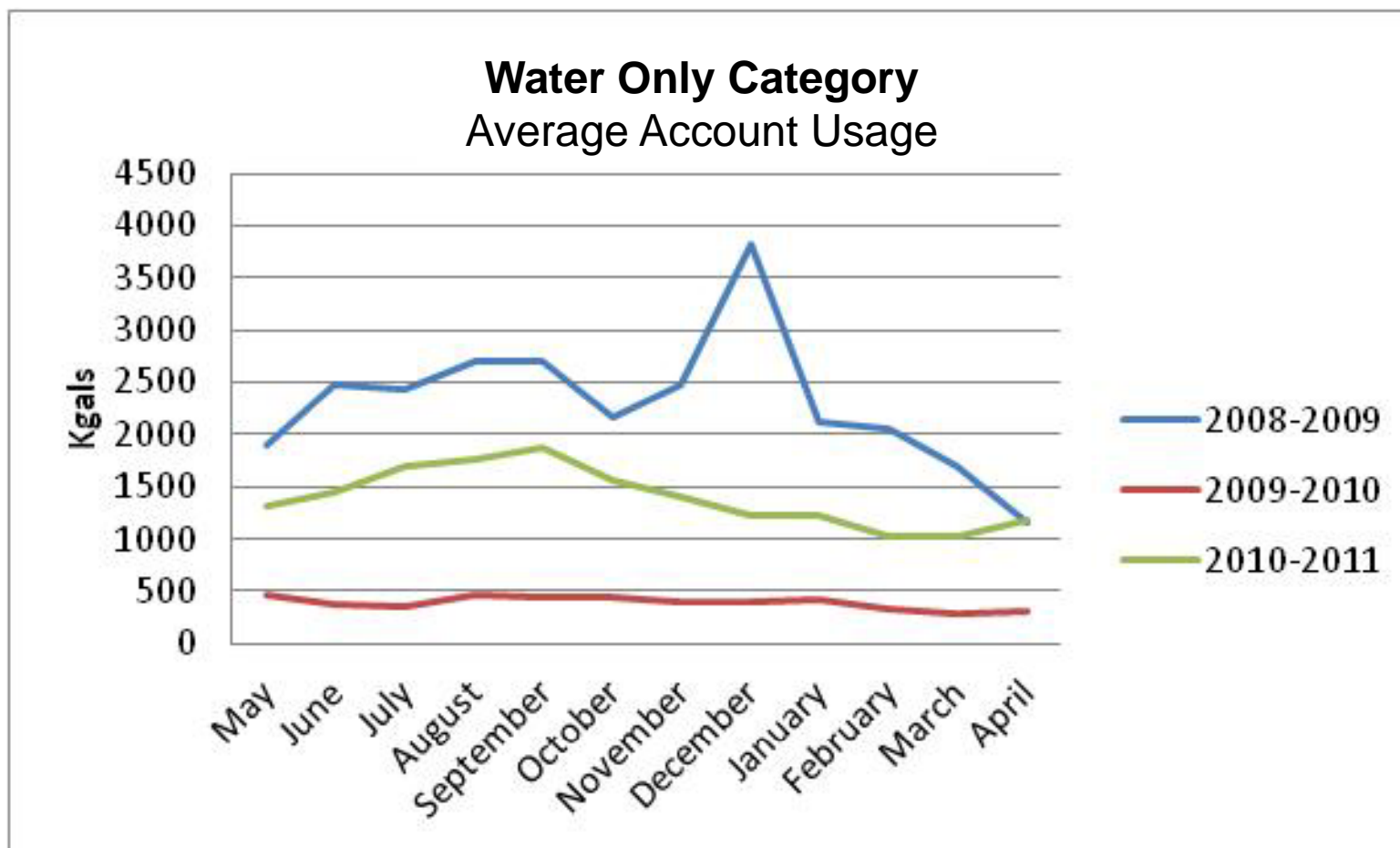
## Customer Class Segmentation Study



## Customer Class Segmentation Study



## Customer Class Segmentation Study



## Customer Class Segmentation Study

# Consumption Analysis by Customer Category (May 2008 – April 2011)

Customer Category	Max Month Peaking Factor (2008-2009)	Max Month Peaking Factor (2009-2010)	Max Month Peaking Factor (2010-2011)	Average Max Month Peaking Factor	Highest Max Month Peaking Factor	Most Frequent Peak Month
Commercial	1.29	1.27	1.36	1.31	1.36	July
Residential	1.12	1.13	1.25	1.17	1.25	July
Multi-Family	1.12	1.08	1.12	1.11	1.12	July
Federal	1.31	1.47	1.55	1.44	1.55	August
Housing	1.14	1.12	1.17	1.14	1.17	July
Municipal	1.26	1.26	1.24	1.25	1.26	July
Exempt	1.20	1.25	1.37	1.27	1.37	August
Water-Only	1.65	1.19	1.34	1.39	1.65	September
DC Water	3.73	1.77	2.52	2.67	3.73	June

## Customer Class Segmentation Study

# Data Analysis Findings

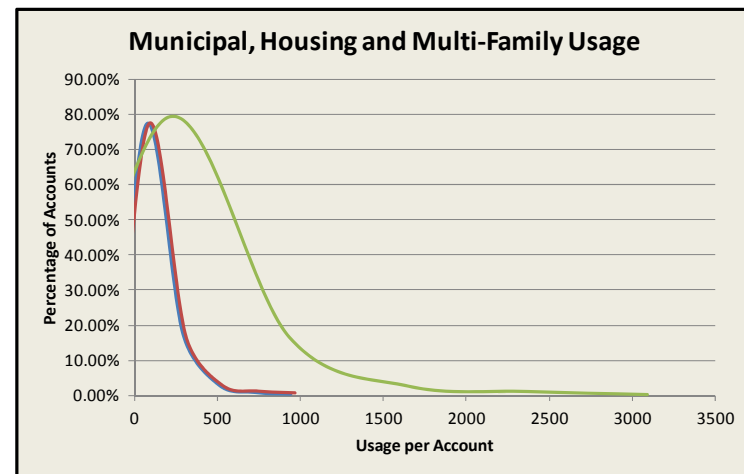
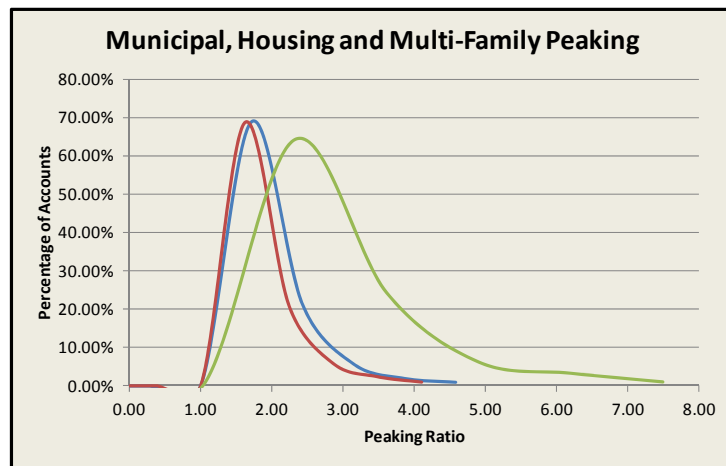
- ♦ Additional Class Segmentation Opportunities
  - “Multi-family”, “Housing” and “Municipal” categories are currently in the non-residential customer class
  - All are similar in peaking ratio characteristics
  - However, Multi-family and Housing have consistent peaking variation and usage per account
  - Municipal accounts tend to have more variation both in peaking ratios and in usage per account



## Customer Class Segmentation Study

# Housing & Multi-Family Similarities

- Our analysis suggest Housing and Multi-family (red and blue) should be combined into a new customer class
- Municipal (green) customers would stay in the Non-Residential Class



## Customer Class Segmentation Study

# Data Analysis Findings

- ◆ Housing and Multi-family classes have lower peaking factors
- ◆ Non-residential customer categories, led by “Federal”, “Exempt”, and “Commercial” have higher peaking factors
- ◆ “Municipal” customers have lower peaking but usage characteristics do not fit with either the Residential or Multi-family Classes
- ◆ Each non-residential category is comprised of a diverse group of customers with variations in average use and peaking
- ◆ “Water Only” customers, primarily comprised of irrigation, sprinkler systems, and some seasonal cooling, have some of the highest peaking factors

## Customer Class Segmentation Study

# Customer Segmentation Rate Structure Alternatives

- Individualized demand management rates based on each customer's winter average use
- Class-based rate differentials based on class (or category) peaking characteristics
- Creation of a "Water Only" customer class with a rate differential to reflect high peaking
- Status quo (maintain existing uniform rate structure)

## Customer Class Segmentation Study

# Individualized Demand Management Rates

### PROS

- Incentivizes efficient use of resources
- Equitably distributes system peaking costs

### CONS

- Resource efficiency is not a high DC Water priority
- Difficult to implement
- Reduces revenue stability

**Conclusion:** Individualized demand management rates do not provide a balanced solution based on DC Water's priority pricing objectives

## Customer Class Segmentation Study

# Class-Based Rate Differentials

### PROS

- Reduces rate burden on residential and multi-family customers based on their lower peaking
- Data could support rate differentials by category

### CONS

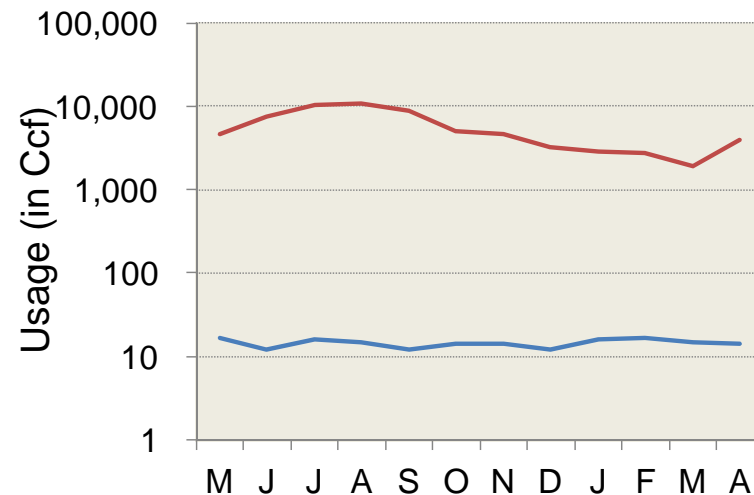
- Does not equitably distribute peaking costs as all customers do not have the same account usage and peaking characteristics

**Conclusion:** Class-based rate differentials remain a viable option if the Board determines this rate structure supports its policy direction

## Customer Class Segmentation Study

# Variation In The Commercial Category

Is it equitable to assign a class-based rate if all customers in the class do not fit the high peaking pattern?



- Customer A uses 5,500 Ccf/month and has a peaking ratio of 1.96
- Customer B uses 15 Ccf/month and has a peaking ratio of 1.17



## Customer Class Segmentation Study

# Water Only Class Differential

### PROS

- Assigns higher cost to those customers with the highest peaking
- Data could support differential

### CONS

- Water Only customers represent minimal usage that does not drive overall system costs
- Small number of accounts can skew class peaking

**Conclusion:** A Water Only rate differential merits further study and remains a viable option if the Board determines this rate structure supports its policy direction

## Customer Class Segmentation Study

# Status Quo (Uniform Rates)

### PROS

- Ease of Implementation
- No one-time impacts of cost redistribution
- Data analysis does not clearly point to the need for a change at this time

### CONS

- Does not recover system peaking costs from the customers with high peak usage

**Conclusion:** The data analysis does not show a compelling reason to change DC Water's uniform water rate structure at this time



## Customer Class Segmentation Study

# Water Customer Segmentation

- Customer segmentation is used in the water industry to identify classes of customers for purposes of rate-setting, planning, supply management and cost analyses. Typically this classification is based on:
  - General service characteristics; and
  - Demand Patterns
- Each class is assumed to have somewhat different needs and progressively higher demands than the previous class
- Most water utilities typically have three principal classes of customers:
  - Residential;
  - Multi-family
  - Commercial; and
  - Industrial

## Customer Class Segmentation Study

# Water Customer Segmentation

- Demand patterns of various customers differ depending on their peak use characteristics
  - Peak-day relative to average demand
  - Peak-hour relative to average demand
- Classes with higher peaking are allocated more of the system peaking costs (primarily driven by electricity and system capacity costs)
- DC Water currently has two customer classes:
  - Residential; and
  - Non-Residential (including Commercial, Multi-family, Federal, Housing, Municipal, and Exempt)

## Customer Class Segmentation Study

# DC Water Review

- A study of DC Water customer demand characteristics was undertaken to determine if additional customer classes should be defined for the purpose of cost allocation
- DC Water data review
  - Existing CIS class identification is adequate for segmentation analysis
  - Compiled customer usage data for 3 years
    - Daily usage is available through meter reading database
    - Monthly usage is available through billing database
- Analyzed said customer data (including “Water Only” customers) to determine demand patterns throughout a 3 year period



## Customer Class Segmentation Study

# Consumption Analysis by Customer Category (May 2008 – April 2009)

Customer Category	Average Monthly Usage (kgals)	Avg. Monthly Usage as a % of Total Usage	Max Monthly Usage (kgals)	Max Month Peaking Factor	Most Frequent Peak Month
Commercial	620,622	31.72%	802,151	1.29	July
Residential	539,548	27.58%	605,728	1.12	January
Multi-Family	494,268	25.26%	553,658	1.12	January
Federal	137,089	7.01%	179,631	1.31	August
Housing	66,897	3.42%	76,329	1.14	July
Municipal	58,264	2.98%	73,325	1.26	July
Water-Only	25,390	1.30%	42,010	1.65	September
Exempt	13,227	0.68%	15,839	1.20	January
DC Water	1,053	0.05%	3,930	3.73	February

## Customer Class Segmentation Study

# Consumption Analysis by Customer Category (May 2009 – April 2010)

Customer Category	Average Monthly Usage (kgals)	Avg. Monthly Usage as a % of Total Usage	Max Monthly Usage (kgals)	Max Month Peaking Factor	Most Frequent Peak Month
Commercial	583,962	31.89%	744,437	1.27	May
Residential	532,519	29.08%	601,365	1.13	May
Multi-Family	465,074	25.40%	504,290	1.08	January
Federal	104,811	5.72%	154,208	1.47	August
Housing	61,098	3.34%	68,618	1.12	May
Municipal	48,808	2.67%	61,331	1.26	May
Exempt	29,949	1.64%	37,382	1.25	February
Water-Only	3,937	0.22%	4,695	1.19	August
DC Water	778	0.04%	1,378	1.77	September

## Customer Class Segmentation Study

# Consumption Analysis by Customer Category (May 2010 – April 2011)

Customer Category	Average Monthly Usage (kgals)	Avg. Monthly Usage as a % of Total Usage	Max Monthly Usage (kgals)	Max Month Peaking Factor	Most Frequent Peak Month
Commercial	674,384	33.48%	920,060	1.36	July
Residential	564,568	28.03%	706,863	1.25	July
Multi-Family	512,721	25.45%	576,409	1.12	July
Federal	108,239	5.37%	167,342	1.55	August
Municipal	62,252	3.09%	77,321	1.24	August
Housing	52,687	2.62%	61,424	1.17	August
Water-Only	23,769	1.18%	31,952	1.34	September
Exempt	15,059	0.75%	20,605	1.37	August
DC Water	682	0.03%	1,718	2.52	June



# DC WATER

## Evaluating Future Strategies for Unbundling Volumetric rates



Attachment C

## Fixed Vs. Variable Charge Analysis

- It is the policy of DC Water, to strive to achieve rates that yield a reliable and predictable stream of revenues, taking into account trends in costs and in units of service
- Like most utilities, costs are predominantly fixed, while revenues are predominantly recovered via variable rates
  - recent volatility in water demand (consumption) has resulted in increased risk to revenue reliability
- Increasing the fixed bill components could stabilize revenue and enhance financial planning capabilities.

# Background: Expenditure & Revenue Projections

# Fixed vs. Variable Costs

<b>EXPENDITURES</b>	<b>FY 2011</b>		
	<b>Fixed</b>	<b>Variable</b>	<b>Total</b>
Personnel Services	\$ 91,842,000	\$ -	\$ 91,842,000
Contractual Services	57,922,417	16,888,583	74,811,000
Water Purchases	17,505,600	11,670,400	29,176,000
Chemicals & Supplies	-	28,213,000	28,213,000
Utilities & Rent (1)	-	32,614,000	32,614,000
Small Equipment	852,000	-	852,000
PILOT / Right of Way Fee	30,748,430	-	30,748,430
Debt Service	92,189,217	-	92,189,217
<b>Total Expenditures</b>	<b>\$ 291,059,664</b>	<b>\$ 89,385,983</b>	<b>\$ 380,445,647</b>
Percentage of Fixed Vs Variable	76.5%	23.5%	100.0%

<b>REVENUES</b>	<b>FY 2011</b>		
	<b>Fixed</b>	<b>Variable</b>	<b>Total</b>
Retail Water and Sewer - Non Federal	\$ -	\$ 203,246,008	\$ 203,246,008
Retail Water and Sewer - Federal Only	-	42,310,560	42,310,560
Metering Fee	9,771,000	-	9,771,000
IAC/LTCP	15,469,424	-	15,469,424
<b>Non-operating Revenue</b>			
PILOT / Right of Way Fee	-	21,610,000	21,610,000
Interest Earnings	-	628,000	628,000
Northern Virginia Debt Service	313,345	-	313,345
Other Revenue	1,200,434	22,808,239	24,008,673
<b>Rate Stabilization Fund</b>	9,500,000	-	9,500,000
<b>Wholesale</b>	69,260,227	-	69,260,227
	-	-	-
<b>Total Revenues</b>	<b>\$ 105,514,429</b>	<b>\$ 290,602,807</b>	<b>\$ 396,117,236</b>
Percentage of Fixed Vs Variable	26.6%	73.4%	100.0%

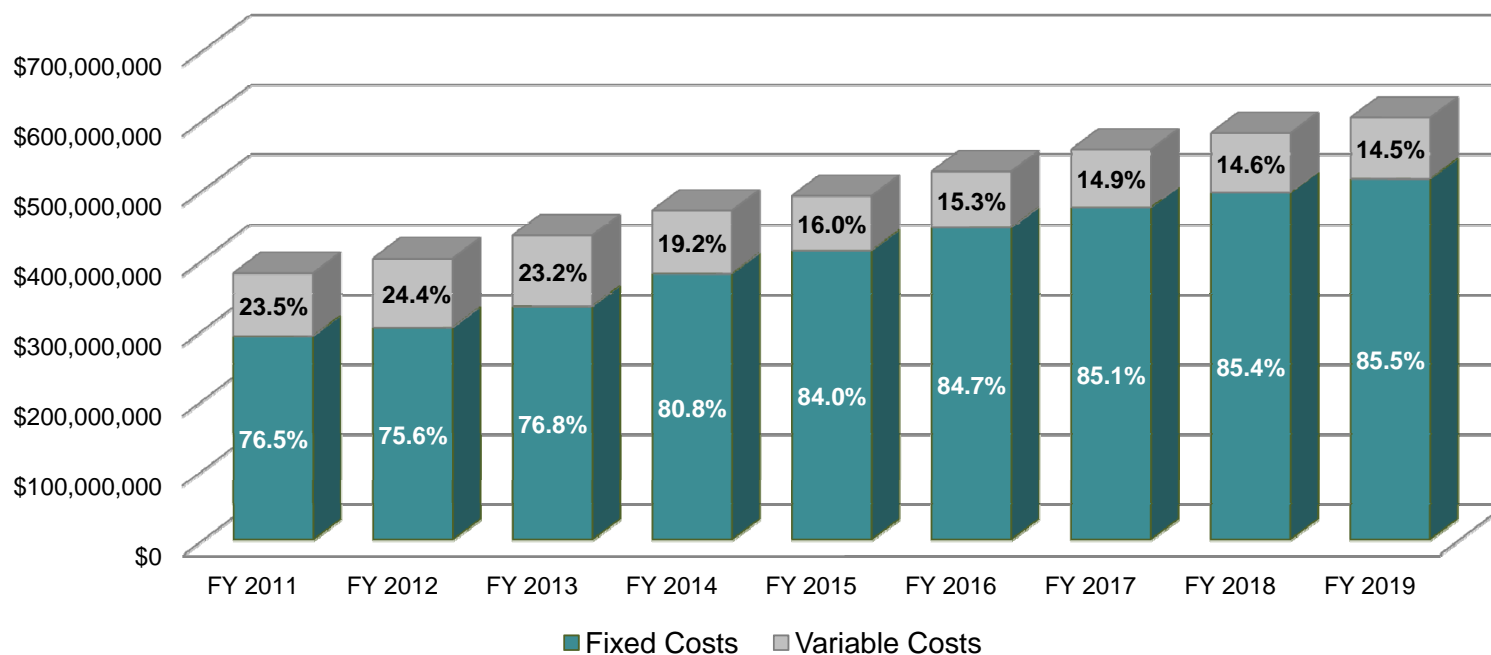
- 76.5 percent of FY 2011 expenditures are projected to be fixed.

- Only 26.6 percent of FY 2011 total revenues are projected to be fixed

- This mismatch in percentage of fixed expenditures to fixed revenues persist through out the financial planning window

# Fixed vs. Variable Costs

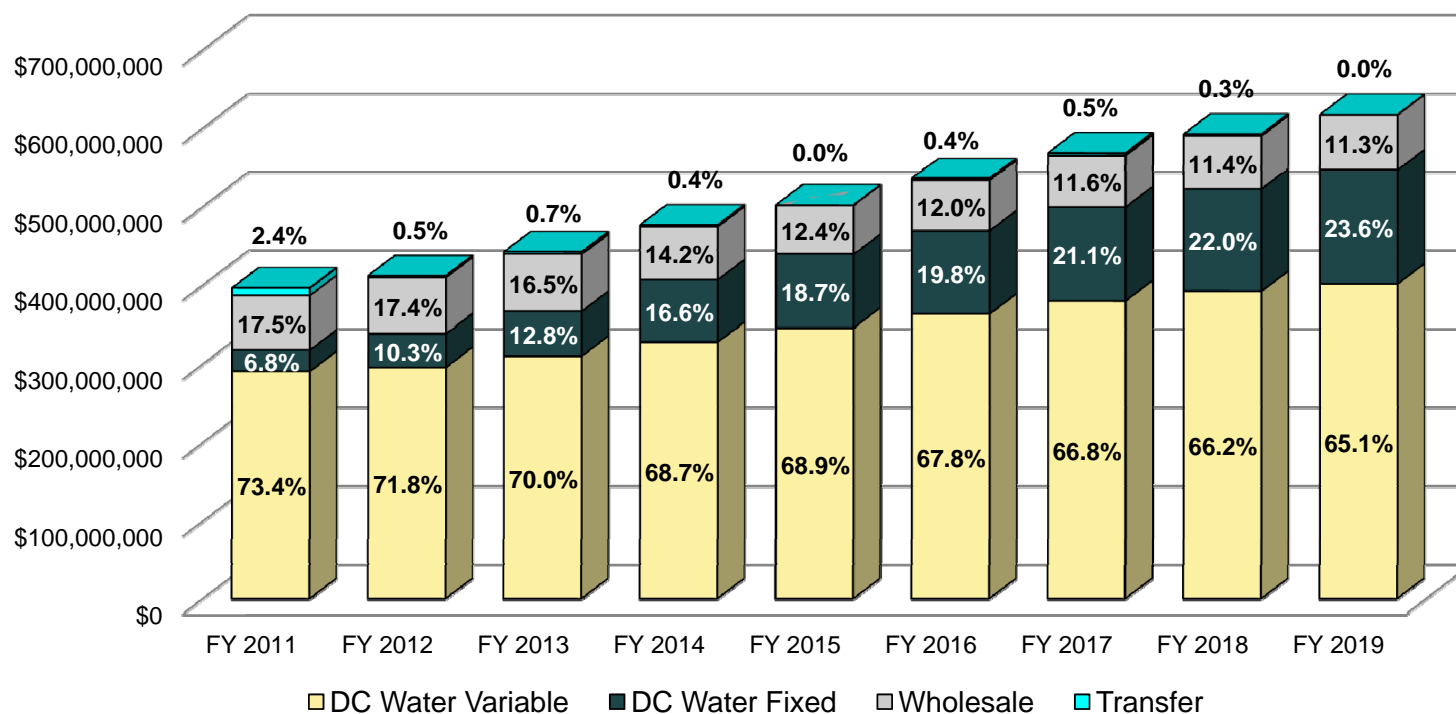
## Expenditure Projections





# Fixed vs. Variable Revenue

Revenue Projections



# DC Water Bill Fixed vs. Variable Analysis

# DC Water Rate Structure

	Customer Meter Sizes				
	5/8"	1"	2"	4"	6"
<b>Fixed Charges</b>					
Metering Fee	\$3.86	\$4.56	\$7.54	\$137.37	\$268.14
IAC	3.45	3.45	3.45	3.45	3.45
Stormwater fee	2.67	2.67	2.67	2.67	2.67
Subtotal per Account	\$9.98	\$10.68	\$13.66	\$143.49	\$274.26
<b>Variable Charges</b>					
Water	\$3.10	\$3.10	\$3.10	\$3.10	\$3.10
Sewer	3.79	3.79	3.79	3.79	3.79
Row	0.14	0.14	0.14	0.14	0.14
PILOT	0.49	0.49	0.49	0.49	0.49
Subtotal per Ccf	\$7.52	\$7.52	\$7.52	\$7.52	\$7.52

# DC Water Total Monthly Bill

Consumption (Ccf)	Customer Meter Sizes				
	5/8"	1"	2"	4"	6"
0	\$9.98	\$10.68	\$13.66	\$143.49	\$274.26
3	\$32.54	\$33.24	\$36.22	\$166.05	\$296.82
5	\$47.58	\$48.28	\$51.26	\$181.09	\$311.86
8	\$70.14	\$70.84	\$73.82	\$203.65	\$334.42
10	\$85.18	\$85.88	\$88.86	\$218.69	\$349.46
15	\$122.78	\$123.48	\$126.46	\$256.29	\$387.06
30	\$235.58	\$236.28	\$239.26	\$369.09	\$499.86
50	\$385.98	\$386.68	\$389.66	\$519.49	\$650.26
100	\$761.98	\$762.68	\$765.66	\$895.49	\$1,026.26
500	\$3,769.98	\$3,770.68	\$3,773.66	\$3,903.49	\$4,034.26
1,000	\$7,529.98	\$7,530.68	\$7,533.66	\$7,663.49	\$7,794.26
10,000	\$75,209.98	\$75,210.68	\$75,213.66	\$75,343.49	\$75,474.26

# Monthly Bill Breakdown

Consumption (Ccf)	Customer Meter Sizes									
	5/8"		1"		2"		4"		6"	
	FIXED	VARIABLE	FIXED	VARIABLE	FIXED	VARIABLE	FIXED	VARIABLE	FIXED	VARIABLE
0	\$9.98	\$0.00	\$10.68	\$0.00	\$13.66	\$0.00	\$143.49	\$0.00	\$274.26	\$0.00
3	9.98	22.56	10.68	22.56	13.66	22.56	143.49	22.56	274.26	22.56
5	9.98	37.60	10.68	37.60	13.66	37.60	143.49	37.60	274.26	37.60
8	9.98	60.16	10.68	60.16	13.66	60.16	143.49	60.16	274.26	60.16
10	9.98	75.20	10.68	75.20	13.66	75.20	143.49	75.20	274.26	75.20
15	9.98	112.80	10.68	112.80	13.66	112.80	143.49	112.80	274.26	112.80
30	9.98	225.60	10.68	225.60	13.66	225.60	143.49	225.60	274.26	225.60
50	9.98	376.00	10.68	376.00	13.66	376.00	143.49	376.00	274.26	376.00
100	9.98	752.00	10.68	752.00	13.66	752.00	143.49	752.00	274.26	752.00
500	9.98	3,760.00	10.68	3,760.00	13.66	3,760.00	143.49	3,760.00	274.26	3,760.00
1,000	9.98	7,520.00	10.68	7,520.00	13.66	7,520.00	143.49	7,520.00	274.26	7,520.00
10,000	9.98	75,200.00	10.68	75,200.00	13.66	75,200.00	143.49	75,200.00	274.26	75,200.00

# Monthly Bill Breakdown

Consumption (Ccf)	Customer Meter Sizes									
	5/8"		1"		2"		4"		6"	
	FIXED	VARIABLE	FIXED	VARIABLE	FIXED	VARIABLE	FIXED	VARIABLE	FIXED	VARIABLE
0	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
3	30.7%	69.3%	32.1%	67.9%	37.7%	62.3%	86.4%	13.6%	92.4%	7.6%
5	21.0%	79.0%	22.1%	77.9%	26.6%	73.4%	79.2%	20.8%	87.9%	12.1%
8	14.2%	85.8%	15.1%	84.9%	18.5%	81.5%	70.5%	29.5%	82.0%	18.0%
10	11.7%	88.3%	12.4%	87.6%	15.4%	84.6%	65.6%	34.4%	78.5%	21.5%
15	8.1%	91.9%	8.6%	91.4%	10.8%	89.2%	56.0%	44.0%	70.9%	29.1%
30	4.2%	95.8%	4.5%	95.5%	5.7%	94.3%	38.9%	61.1%	54.9%	45.1%
50	2.6%	97.4%	2.8%	97.2%	3.5%	96.5%	27.6%	72.4%	42.2%	57.8%
100	1.3%	98.7%	1.4%	98.6%	1.8%	98.2%	16.0%	84.0%	26.7%	73.3%
500	0.3%	99.7%	0.3%	99.7%	0.4%	99.6%	3.7%	96.3%	6.8%	93.2%
1,000	0.1%	99.9%	0.1%	99.9%	0.2%	99.8%	1.9%	98.1%	3.5%	96.5%
10,000	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.2%	99.8%	0.4%	99.6%

# National and Regional Benchmarking Results

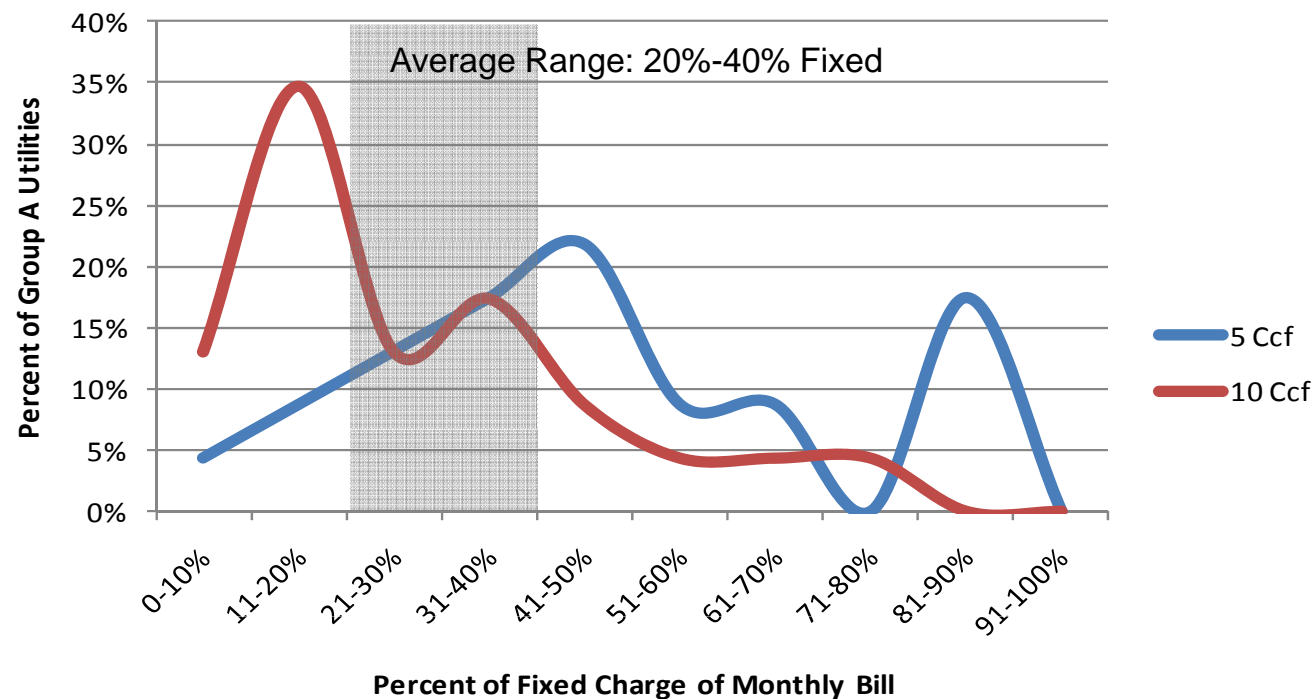
# National Benchmarking

<i>Residential</i>		DC Water					Group A Average <sup>2</sup>						
Meter Size	Demand	Fixed			Variable		Base		Volume				
5/8"	0 Ccf	\$	7.31	100.0%	\$	-	0.0%	\$	13.08	100.0%	\$	-	0.0%
5/8"	5 Ccf		7.31	17.5%		34.45	82.5%		13.03	38.2%		21.08	61.8%
5/8"	6.69 Ccf <sup>1</sup>		7.31	13.7%		46.09	86.3%						
5/8"	10 Ccf		7.31	9.6%		68.90	90.4%		13.08	21.5%		47.71	78.5%
5/8"	15 Ccf		7.31	6.6%		103.35	93.4%		13.08	14.6%		76.29	85.4%
5/8"	30 Ccf		7.31	3.4%		206.70	96.6%		13.08	7.5%		161.33	92.5%
<i>Non-residential</i>													
5/8"	30 Ccf	\$	7.31	3.4%	\$	206.70	96.6%	\$	14.75	8.6%	\$	157.66	91.4%
2"	500 Ccf		10.99	0.3%		3,445.00	99.7%		76.91	2.9%		2,609.83	97.1%
4"	10,000 Ccf		140.82	0.2%		68,900.00	99.8%		246.04	0.5%		51,397.71	99.5%
8"	15,000 Ccf		326.74	0.3%		103,350.00	99.7%		772.21	1.0%		76,849.80	99.0%

1. The average monthly consumption for a DC Water Residential Customer.
2. The Group A Average monthly base and volume bills are calculated from the 2010 AWWA/RFC Water and Wastewater Rate Survey, Group A utilities, which sell more than 75 MGD of water.



# National Benchmarking



- The Group A Average monthly base and volume bills are calculated from the 2010 AWWA/RFC Water and Wastewater Rate Survey, Group A utilities.

# Regional Benchmarking

## Residential Customer's Monthly Charges at 6.69 Ccf

Utility	Fixed	Variable	Fixed	Variable
Boston Water and Sewer	\$ -	\$ 62.16	0%	100%
New York City	\$ -	\$ 54.93	0%	100%
Washington Suburban Sanitary Commission	\$ 3.67	\$ 45.20	8%	92%
<b>DC Water (Current Rates)</b>	\$ 7.31	\$ 46.09	14%	86%
City of Raleigh	\$ 10.29	\$ 38.81	21%	79%
Philadelphia Water Department	\$ 10.78	\$ 36.79	23%	77%
Charlotte-Mecklenburg Utilities	\$ 11.35	\$ 36.89	24%	76%
<b>DC Water (projected 2015 Rates)</b>	\$ 21.52	\$ 57.64	27%	73%
City of Baltimore	\$ 22.93	\$ 22.93	50%	50%
City of Richmond	\$ 47.03	\$ 27.88	63%	37%

- Bills are calculated based on average usage of 6.69 Ccf and current water and wastewater rates only, excluding additional charges on the utility bill.
- By 2019, the average customer's bill will be approximately 32% fixed.

## Conclusions

- A 2010 National Survey of Water and Wastewater utilities revealed that the median fixed charge for similar sized utilities comprises between 20 – 30 percent of the total customer bill
  - DC Water's fixed charge component has historically been below the national median and is currently at 14%
- Changes to the Metering Fee in 2009 coupled with programmed increased in the Impervious Area Charge are expected to increase the fixed component of retail customer bills over time
- National and regional benchmarking shows there is no consensus on the level of a customer bill that should be fixed
- By 2015, DC Water's average customer bill will be 27% fixed, within the median range for large national utilities
- Existing strategies being implemented by DC Water are appropriate and no changes are currently recommended



**Attachment D**

# **FY 2012 Fire Protection Cost of Service Study: AN UPDATE**

**Presented to the DC Retail Rates  
Committee**

**September 27, 2011**





## Background

- ☐ DC Water provides fire protection services and assesses a fee to the District of Columbia based on Title 21 DCMR, Chapter 21, Section 4103 Fire Protection Service Fee (since April 1, 2000).
  - ☐ Current fee (effective as of 4/9/10) is \$680 per hydrant annually resulting in charges of \$6.2 million per year
- ☐ The rate assessed for this service is re-evaluated every three years through an independent cost of service (COS) study:
  - ☐ The last COS was performed in 2008 using the AWWA recommended Fire Hydrant Rate Guidance and covered FY 200-2011
- ☐ A current COS is underway in FY 2011 and projects costs and fees for the period FY 2012-2014 (the study also includes a reconciliation of actual costs for the period FY 2008 – 2011)
  - ☐ A draft has been received and is under review by staff





## FY 2012 Cost of Service

### Scope

- ☐ Review the cost of service and rate methodology
- ☐ Compute historical DC Water fire service costs, including costs incurred under the MOU
- ☐ Assess the appropriate level of cost recovery required from the District government for fire protection services

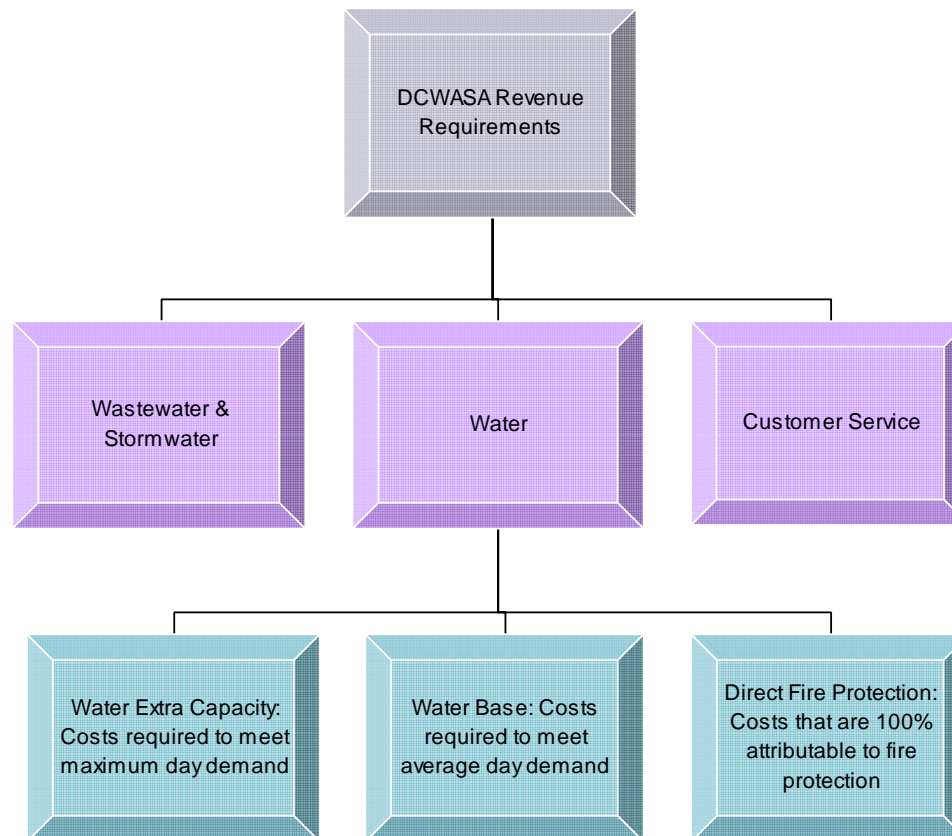
### Methodology

- ☐ Reviewed and tabulated historical fire service costs to DC Water from FY 2008-2011
  - ☐ 2008 actuals were estimated and have been trued-up
  - ☐ 2011 costs are estimated
- ☐ Projected costs under the MOU (FY 2012-14)
- ☐ Computed fire service costs using the most recent data and operations assumptions
- ☐ Developed cost recovery options





# Cost Allocation Methodology





## Status / Next Steps

- ☐ The FY 2011 Fire Protection Fee Cost of Service Study (COS) draft is under review internally
- ☐ Draft COS results will be scheduled for presentation to the Retail Rates Committee in October 2011 and to the Board in November
- ☐ Draft report will be transmitted to the DC Chief Financial Officer and City Administrator in November
  - ☐ Meetings will be scheduled with each office to review and answer questions, if any
- ☐ Report will be finalized in December, after all stakeholder input
- ☐ If Required, rate making process will commence in January

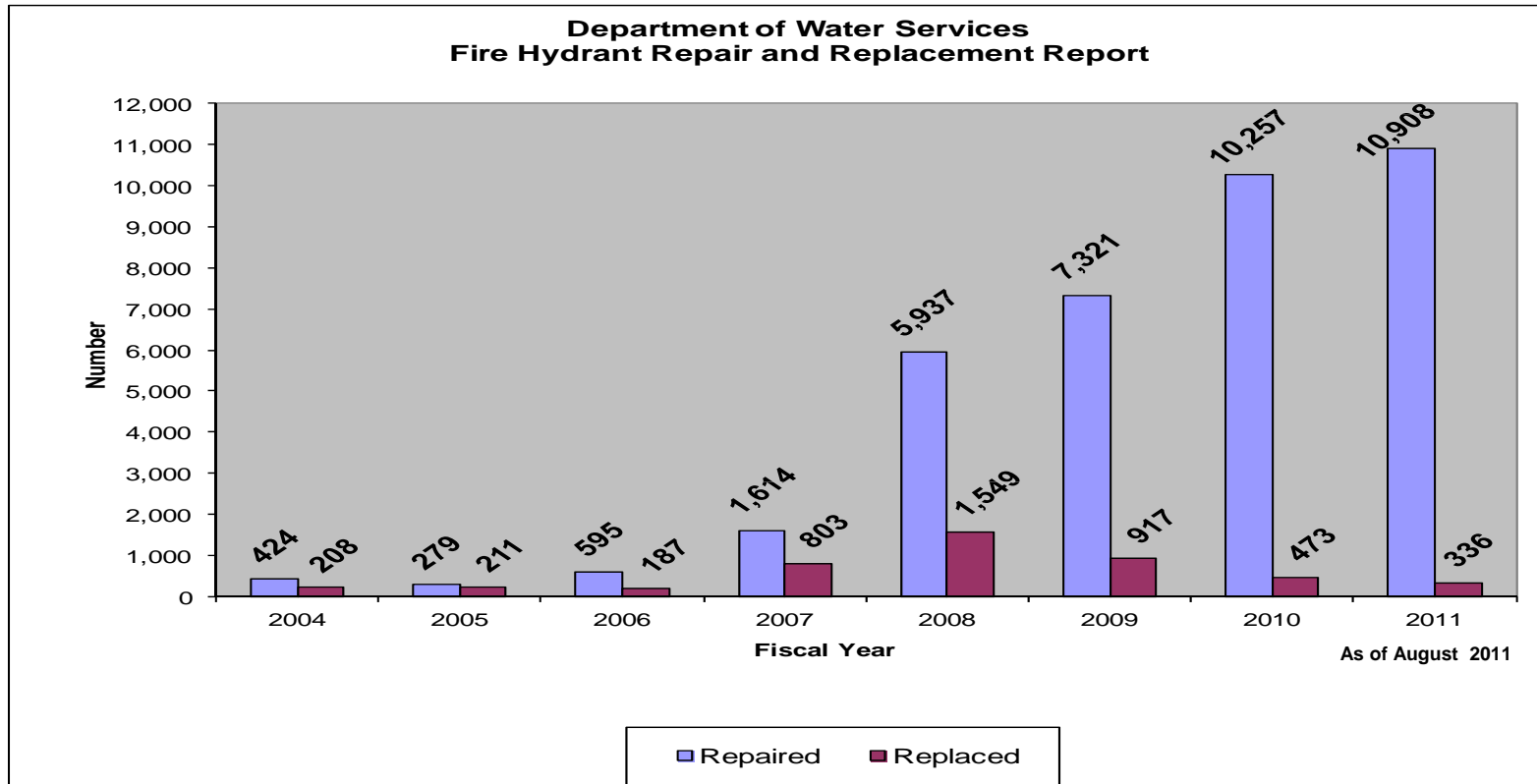






water is life

## Fire Hydrants Repaired/Replaced



\*May represent multiple service calls to same hydrants

•Public Fire Hydrants Out of Service:

As of August 31, 2011

\* Public - 139

\* Defective - 66, Others - 73

As of September 30, 2010

\* Public - 142

\* Defective – 88, Other - 54



## Attachment – E

**FY 2011 DC Retail Water and Sewer Rates Committee Workplan Activities Completed**

Committee Activity	Committee Calendar	Completed
1. FY 2012 Retail Rate Activities <ul style="list-style-type: none"> <li>a. Rate Proposal to committee</li> <li>b. Committee recommendation</li> <li>c. Public Outreach</li> <li>d. Public Hearing</li> <li>e. Committee recommendation on FY 2012 rates</li> </ul>	October 2010 December 2010 March/April 2011 May 2011 June 2011	√ √ √ √ √
2. Review and Update BOD Resolution for Rate Setting <ul style="list-style-type: none"> <li>a. Last reviewed in 1997</li> <li>b. Ways to Minimize Customer Impacts from Rate Increases</li> </ul>	January 6, 2011, Board approved resolutions	√
3. Implemented LID Incentive Program for Clean Rivers IAC in conjunction with DDOE	Overview presented December 15, 2010 DDOE program posted for rulemaking August 2011. DC Water comments submitted 9/15/2011	√
4. Review and Update Committee on long-range rate issues, including follow-up on FY 2009 Cost of Service Study results, prior to next cost of service study <ul style="list-style-type: none"> <li>a. Review and understand customer demographics</li> <li>b. Consider/Review Other Misc Charges/Fees</li> <li>c. Evaluate future strategies for unbundling volumetric rates (Fixed/Volumetric rates)</li> </ul>	April - July, 2011 March - April, 2011 March 22, 2011: Management update on items 4b for FY 2012 implementation April 26, 2011: Retail Rate Committee to approve and recommend to Board implementation of items 4b in FY 2012 May 5, 2011: Board to adopt Retail Rates Committee proposal of items 4b for FY 2012 April - September, 2011	√ √ √ √ √ √

## Attachment – E

d. Preliminary understanding of revenue subtractions, discounts, exemptions	April, 2011	√
5. Effectively Communicate Rates/Charges		
a. Determine appropriate benchmark	March, 2011	√
i. Typical Residential Customer & Non – Residential Customer		
ii. Utility and City Peer Comparison		
b. Consider changing from Ccf to Gallons	January, 2011	√
c. Review names/titles of certain bill line items	March, 2011	√
d. Howard University and Soldier's Home Negotiations Update	Monthly	√
e. Improving cost allocations communications with Board (e.g., NMC Outfall Sewer Rehab D2)	March 2011	√

## Attachment – F

**FY 2012 DC Retail Water and Sewer Rates Committee Proposed Workplan**

Committee Activity	Committee Calendar	Completed
1. FY 2013 Retail Rate Activities <ul style="list-style-type: none"> <li>a. Rate Proposal to committee</li> <li>b. Committee recommendation</li> <li>c. Public Outreach</li> <li>d. Public Hearing</li> <li>e. Committee recommendation on FY 2013 rates</li> </ul>	October 2011 December 2011 March/April 2012 May 2012 June 2012	
2. Implement LID Incentive Program for customers who utilize Best Management Practice in conjunction with DDOE <ul style="list-style-type: none"> <li>a. Legal evaluation of the DDOE proposed program; and</li> <li>b. Evaluate alternatives for the Clean Rivers IAC discounts</li> <li>c. Prepare revenue impact analysis</li> <li>d. Propose IAC Discount Program               <ul style="list-style-type: none"> <li>i. IAC Discount Program Proposal to committee</li> <li>ii. Committee recommendation</li> <li>iii. Public Outreach</li> <li>iv. Public Hearing</li> <li>v. Committee recommendation on FY 2013 IAC Discount Program</li> </ul> </li> </ul>	Ongoing-Coordinating with DDOE on program planning  October 2011 November 2011 November 2011 November 2011 December 2011 March/April 2012 May 2012 June 2012	
3. Review and Update Committee on long-range rate issues, including follow-up on FY 2009 Cost of Service Study results, prior to next cost of service study <ul style="list-style-type: none"> <li>a. Consider Implementation of Developer/Impact Fees</li> <li>b. Revisit CAP program and possible modifications (Expansion and or methodology)</li> </ul>	FY 2012 FY 2012	

## Attachment – F

4. FY 2012 Cost of Service Study i. Notice to Proceed ii. Receive Draft Report iii. Present to the Retail Rates Committee iv. Final Report	October 2011 February 2012 March 2012 April 2012 July 2012	
5. Review of charges/rates for specific customers a. Howard University, Soldier's Home Negotiations and Town of Vienna Update	Monthly	
6. "PILOT" evaluation – In coordination with District Government Review and Propose replacement for assessing PILOT and related issues.	To be determined	
7. IAC Program Evaluation	February 2012	
8. Fire Protection Fee Cost of Service Study	October 2011	



Attachment G

D.C. WATER AND SEWER AUTHORITY  
BOARD OF DIRECTORS  
RETAIL WATER & SEWER RATES  
COMMITTEE MEETING

TUESDAY, October 25, 2011; 9:00 a.m.  
AGENDA

<b>Call to Order</b>	Committee Chairman
<b>Monthly Updates</b>	Chief Financial Officer
<b>Committee Workplan</b>	Chief Financial Officer
<b>Emerging Issues/Other Business</b>	Chief Financial Officer
<b>Agenda for November 25, 2011 Committee Meeting</b>	Chief Financial Officer
<b>Adjournment</b>	Committee Chairman

\*Detailed agenda can be found on DC Water's website at [www.dewater.com/about/board\\_agendas.cfm](http://www.dewater.com/about/board_agendas.cfm)