

Appendix P

Volumetric Sewer Tariffs

Western Water

Wastewater Tariffs:
Addition of Volumetric Component
Results of Customer Impact Analyses
January 2007

Outline

- Objectives
- Assumptions
- Scenarios modelled
- Results
- Conclusions & policy issues
- Next steps

Objectives

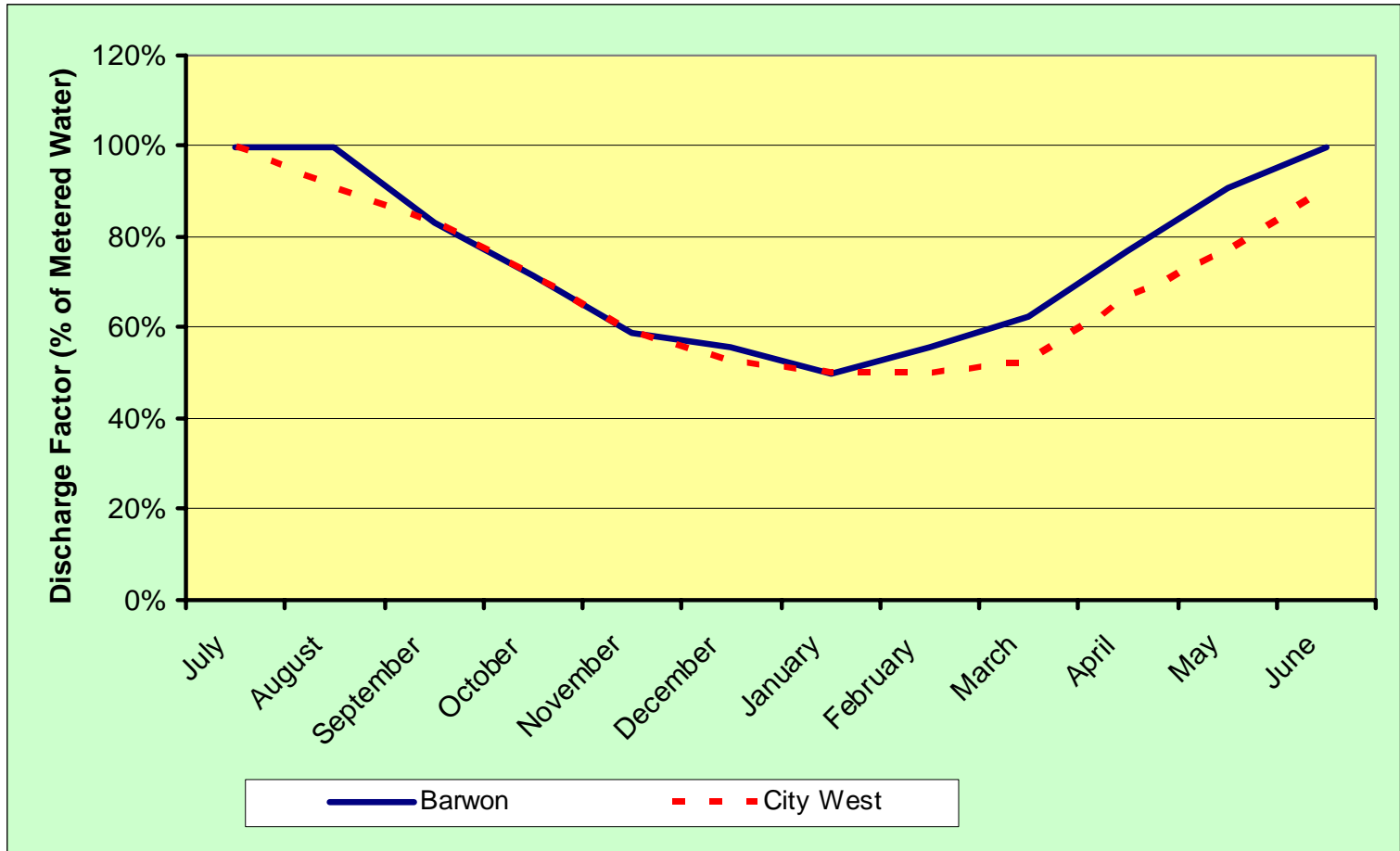
- Overview and agreement on assumptions
- Refinement of tariff parameters
- Understanding of impacts
- Business and customers advantages & disadvantages of changed tariff
- Understanding of policy issues
- Development of timetable

Assumptions - Discharge Volume

- Sewage discharge not metered
 - Proxy therefore required

- Discharge volume = MW x SF x DF
 - Where:
 - MW = metered water
 - SF = seasonal factor
 - DF = discharge factor

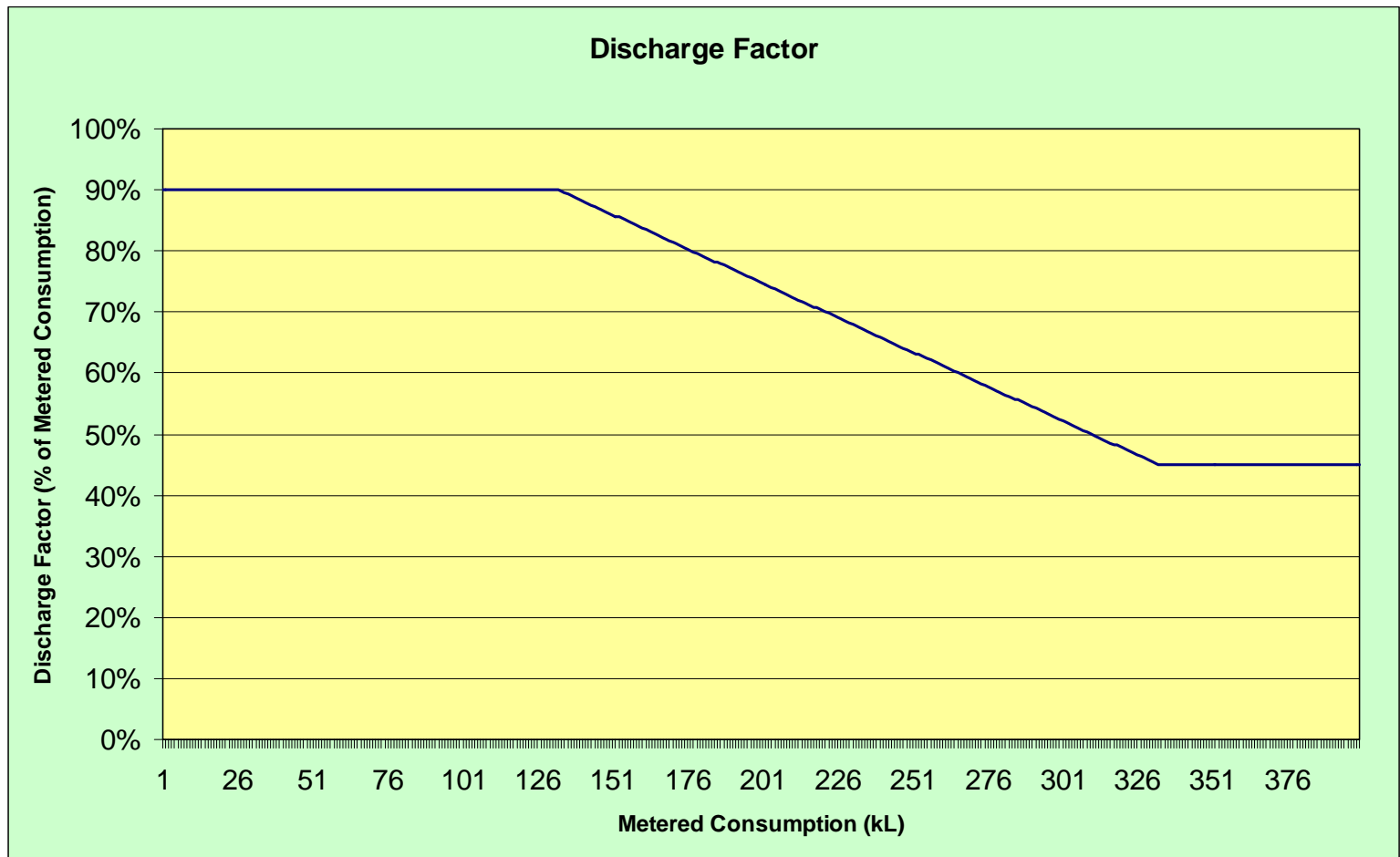
Assumptions - Seasonal Factors



Application of Seasonal Factors to Western Water's Billing Cycle

Billing Cycle	Barwon	City West
November	87%	85%
March	55%	53%
June	80%	69%

Assumptions - Consumption limits



Assumptions - Consumption limits

Consumption Limits	Barwon Water		City West		Western Water	
	Usage (kL)	Factor	Usage (kL)	Factor	Usage (kL)	Factor
Less Than	100	90%	125	90%	133	90%
Greater Than	250	66%	250	45%	333	45%

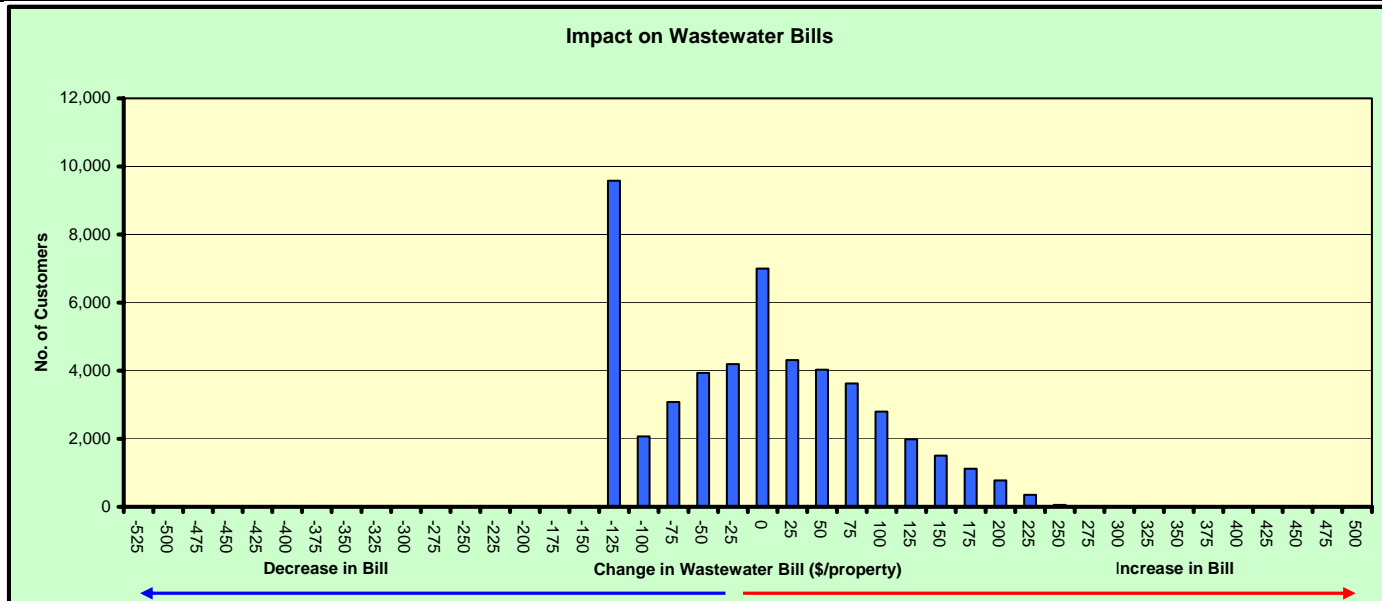
Note: BW and CWW based on quarterly bills and WW based on trimester bills

Uniform Access Charge

- Consistent with Board policy modelling based on uniform wastewater tariff across all districts
- Implicit assumption of revenue neutrality
 - Therefore, any volumetric charge will need to be offset by reduction in uniform charge
 - Reduction achieved by constant factor applied to forecast 2007/08 wastewater charge of \$389.52
 - Three volumetric charges modelled:
 - \$1.00/kL, \$0.75/kL and \$0.50/kL

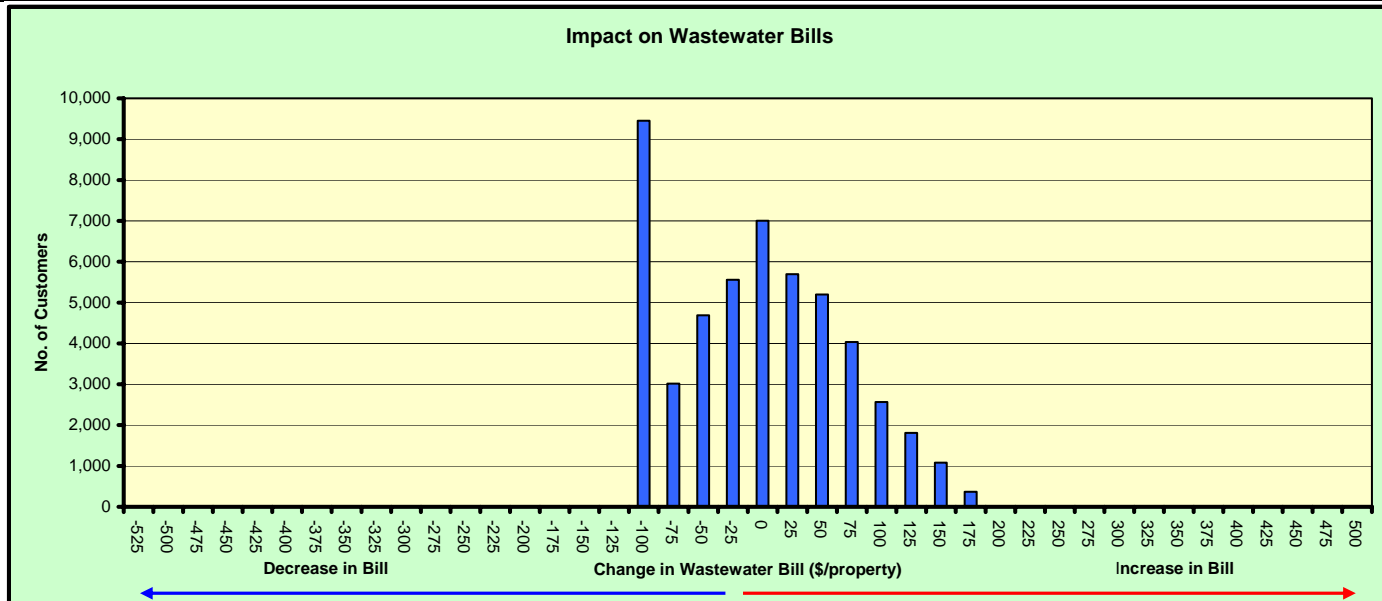
Uniform Access Charge & \$1.00/kL

Seasonal Factor				Fixed Charge		
	Nov	Mar	Jun	Macedon	1	\$285.43
Factor	85%	53%	69%	Bacchus	2	\$285.43
Vol. Charge	\$1.000			Romsey	3	\$285.43
Limits	Discharge Factor			Maximum Change		\$3,241.71
Less than (kL)	133	90%		Minimum Change		-\$104.09
Greater than (kL)	333	45%		Revenue Difference		\$0
Revenue (\$000s)	Fixed	Volumet.	Total			
	12,424	4,531	16,954			



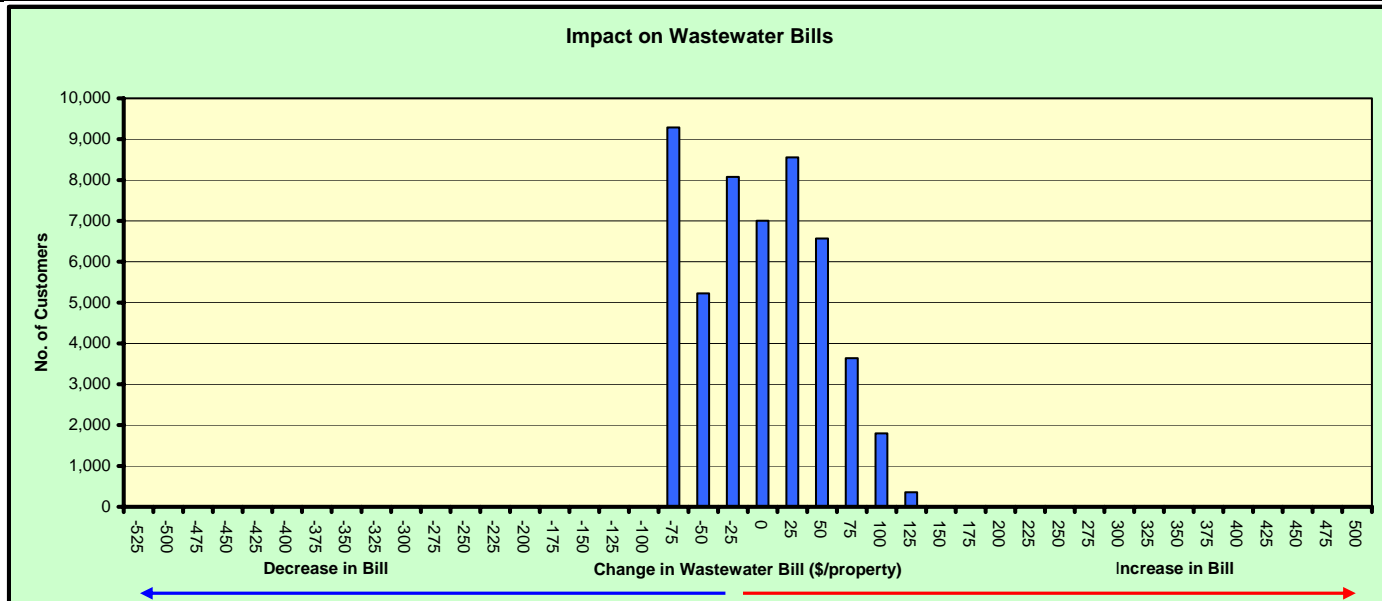
Uniform Access Charge & \$0.75/kL

Seasonal Factor				Fixed Charge		
	Nov	Mar	Jun	Macedon	1	\$312.08
Factor	85%	53%	69%	Bacchus	2	\$312.08
Vol. Charge	\$0.750			Romsey	3	\$312.08
Limits	Discharge Factor			Maximum Change		\$1,804.58
Less than (kL)	133	90%		Minimum Change		-\$77.44
Greater than (kL)	333	45%		Revenue Difference		\$0
Revenue (\$000s)	Fixed	Volumet.	Total			
	13,584	3,370	16,954			



Uniform Access Charge & \$0.50/kL

Seasonal Factor				Fixed Charge		
	Nov	Mar	Jun	Macedon	1	\$338.32
Factor	85%	53%	69%	Bacchus	2	\$338.32
Vol. Charge	\$0.500			Romsey	3	\$338.32
Limits	Discharge Factor			Maximum Change		\$785.25
Less than (kL)	133	90%		Minimum Change		-\$51.20
Greater than (kL)	333	45%		Revenue Difference		-\$0
Revenue (\$000s)	Fixed	Volumet.	Total			
	14,726	2,229	16,954			



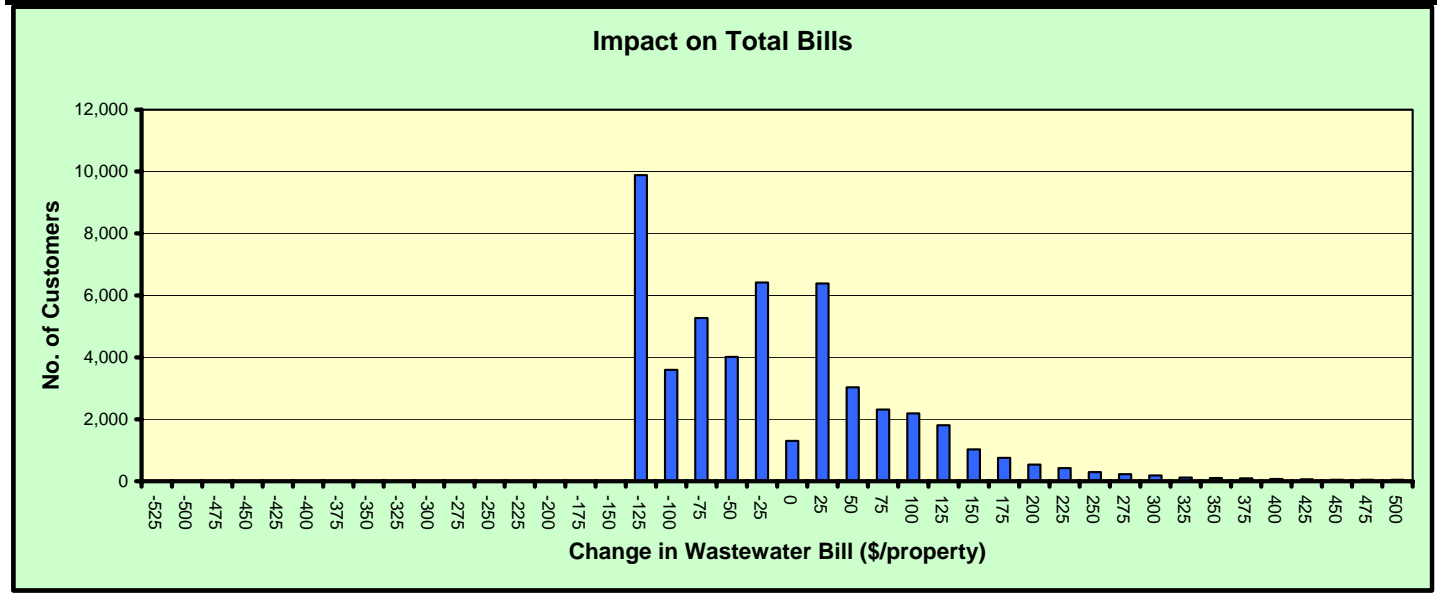
Combined tariff scenarios

- Adjustment to water volumetric charge
 - Additional revenue based on revenue derived from wastewater volumetric charge at:
 - \$0.50/kL - \$2.229M
 - \$0.75/kL - \$3.370M
 - \$1.00/kL - \$4.531M
- Impacts assessed in terms of change in total combined bill

Adjustment to water volumetric charge

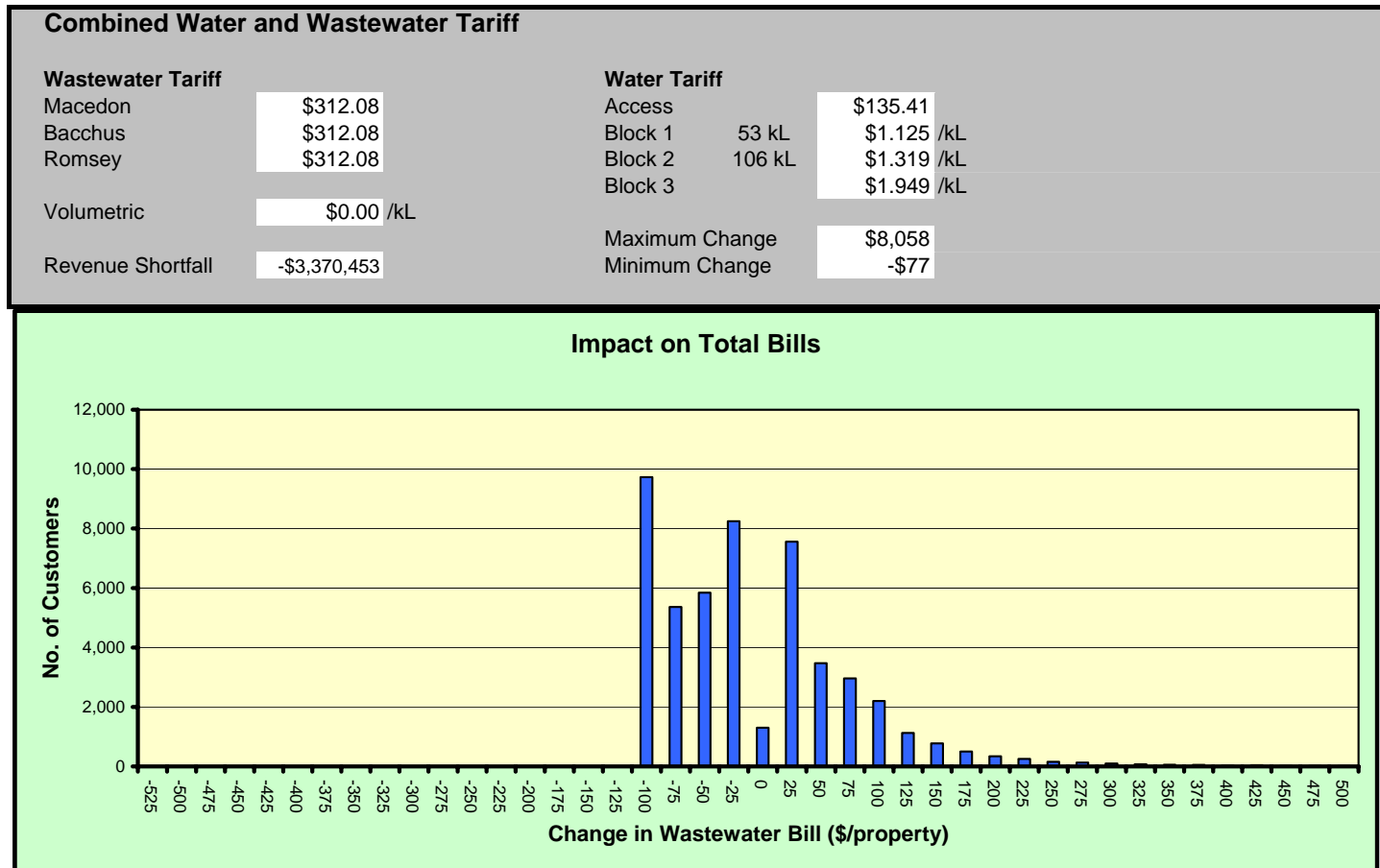
(\$4.53M based on \$1.00/kL on wastewater charge)

Combined Water and Wastewater Tariff			
Wastewater Tariff		Water Tariff	
Macedon	\$285.43	Access	\$135.41
Bacchus	\$285.43	Block 1 53 kL	\$1.225 /kL
Romsey	\$285.43	Block 2 106 kL	\$1.437 /kL
Volumetric	\$0.00 /kL	Block 3	\$2.123 /kL
Revenue Shortfall	-\$4,530,578	Maximum Change	\$10,832
		Minimum Change	-\$104

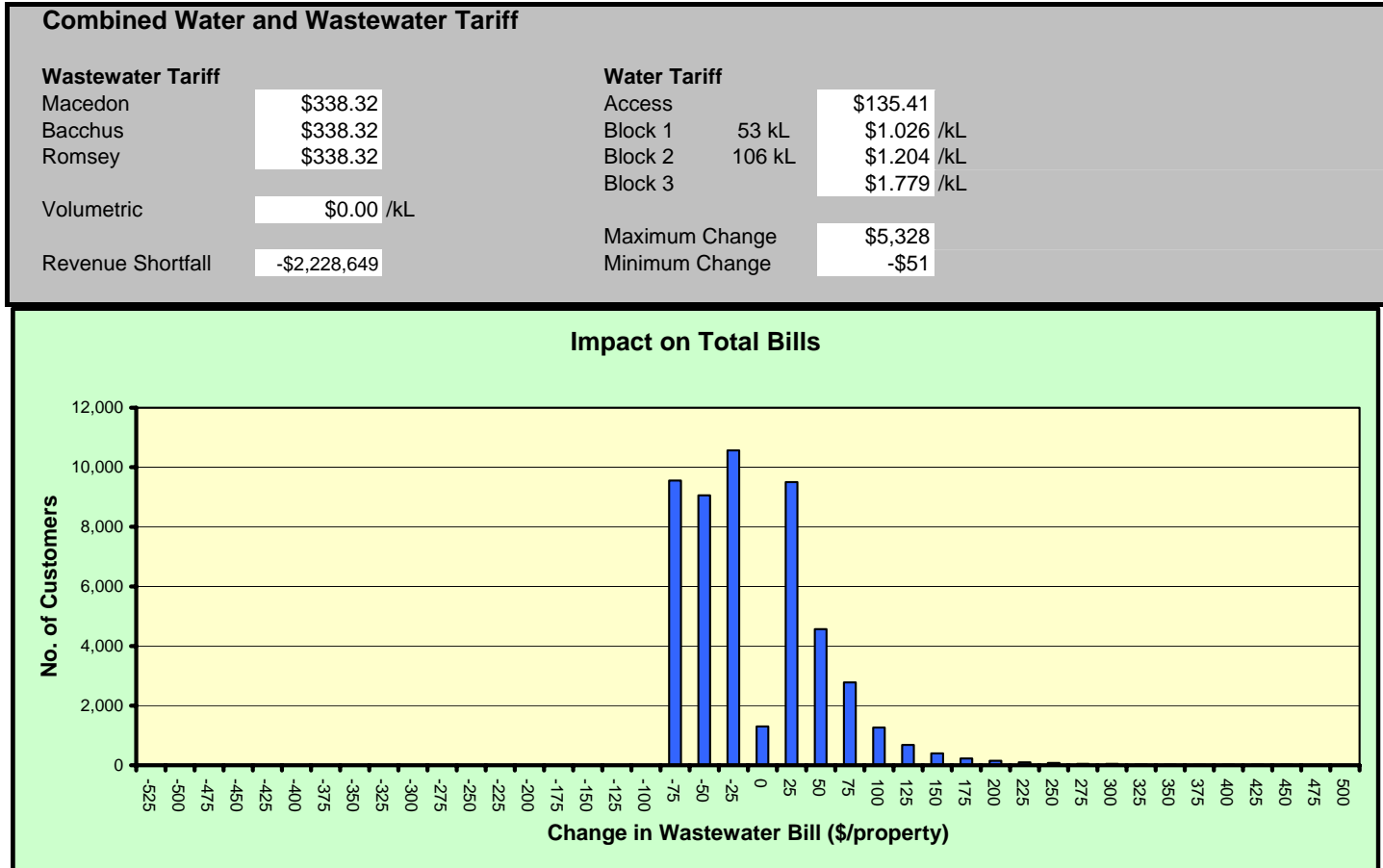


Adjustment to water volumetric charge

(\$3.37M based on \$0.75/kL on wastewater charge)



Adjustment to water volumetric charge (\$2.228M based on \$0.50/kL on wastewater charge)

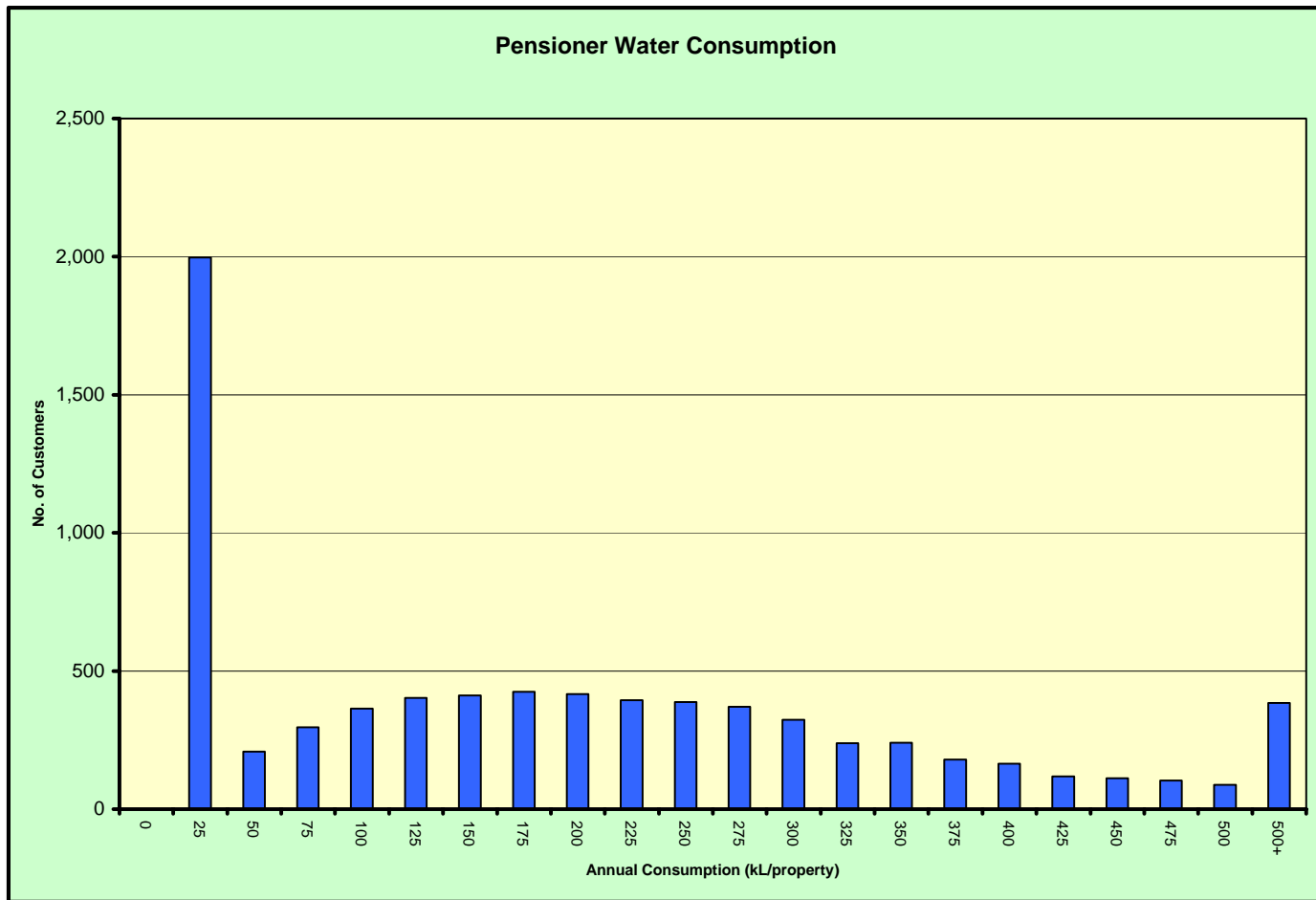


Pensioner Impacts

Scenarios modelled

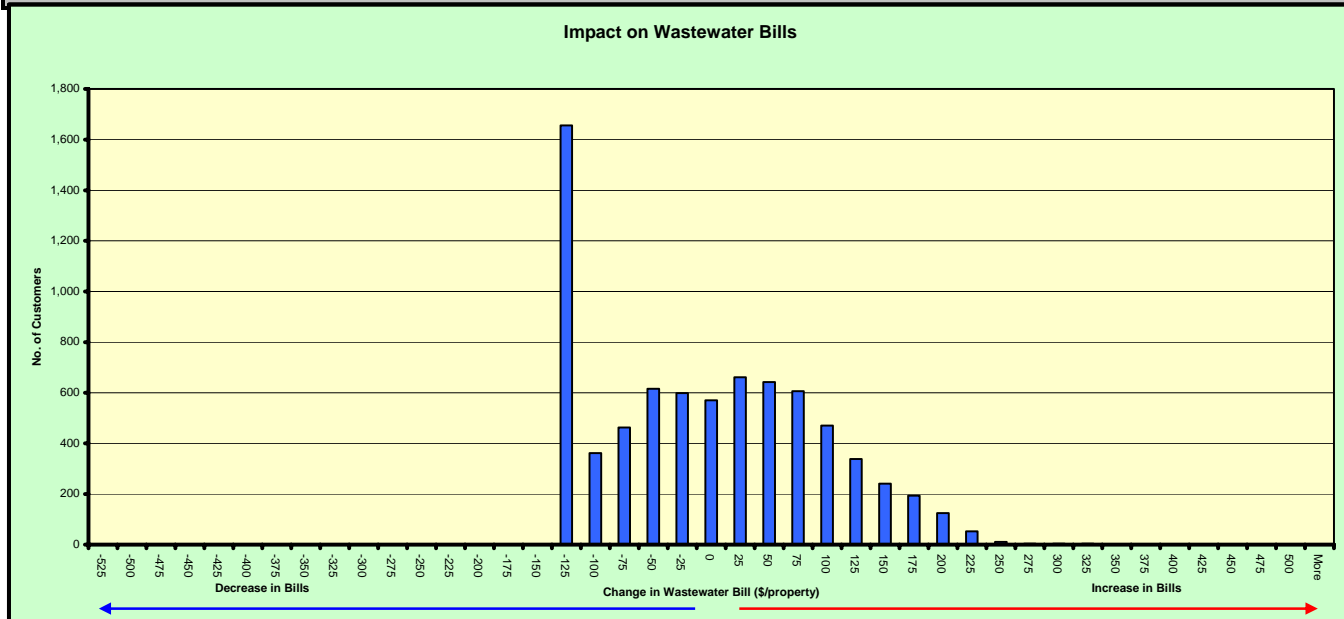
- Impacts Uniform Wastewater tariff @
 - \$1.00/kL
 - \$0.75/kL
 - \$0.50/kL
- Combined bill impacts based on uniform tariff outcomes for whole authority i.e. same tariff parameters as calculated for total business

Pensioner Impacts - Consumption



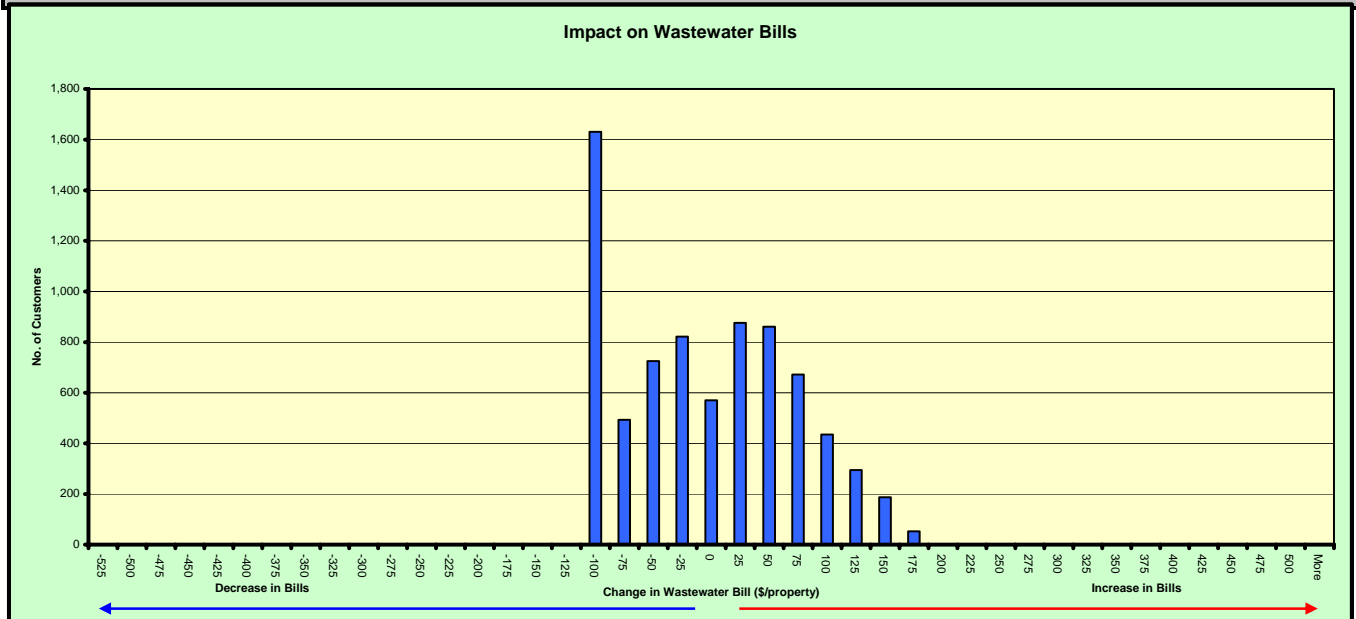
Pensioner Impacts - Wastewater @ \$1.00/kL

Seasonal Factor				Fixed Charge		
	Nov	Mar	Jun	Macedon	1	\$285.43
Factor	85%	53%	69%	Bacchus	2	\$285.43
Vol. Charge	\$1.000			Romsey	3	\$285.43
Limits				Maximum Change		\$3,241.71
Less than (kL)	133	90%		Minimum Change		-\$104.09
Greater than (kL)	333	45%		Revenue Difference		-\$1,773
Discharge Factor						
	Fixed	Volumet.	Total			
Revenue (\$000s)	2,015	733	2,747			



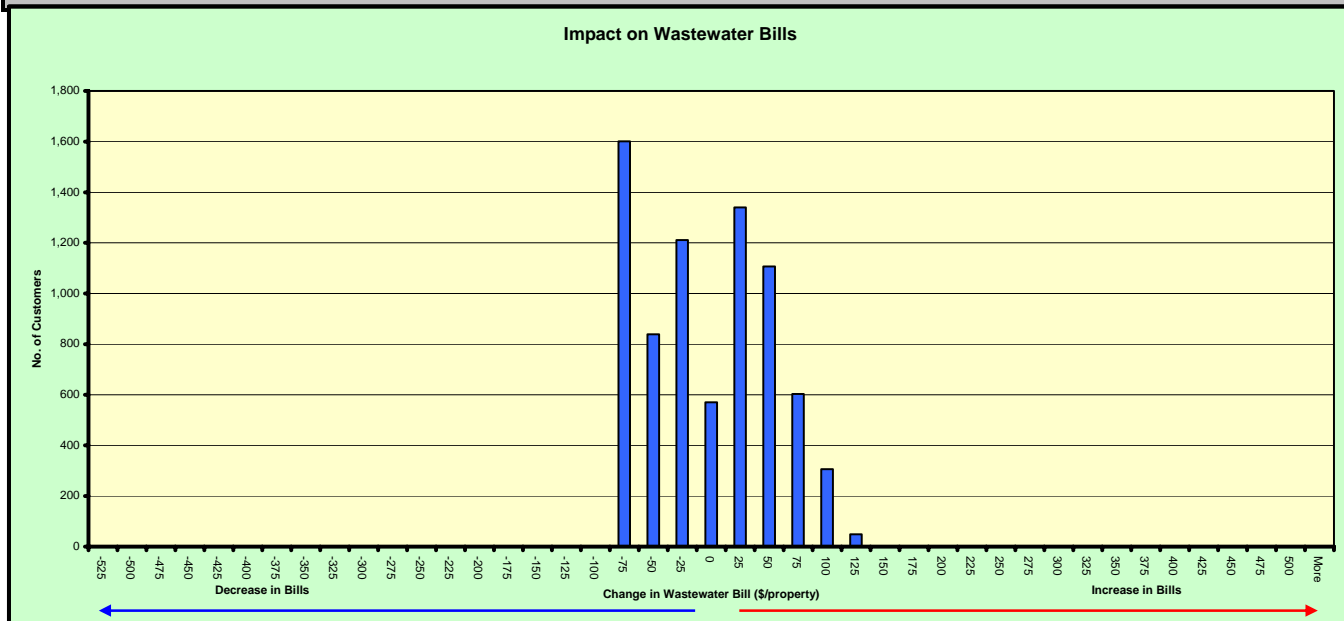
Pensioner Impacts - Wastewater @ \$.75/kL

Seasonal Factor				Fixed Charge		
	Nov	Mar	Jun	Macedon	1	\$312.08
Factor	85%	53%	69%	Bacchus	2	\$312.08
Vol. Charge	\$0.750			Romsey	3	\$312.08
Limits				Discharge Factor		
Less than (kL)	133	90%		Maximum Change		\$1,804.57
Greater than (kL)	333	45%		Minimum Change		-\$77.44
Revenue (\$000s)				Revenue Difference		
	Fixed	Volumet.	Total			-\$2,466
	2,203	544	2,747			

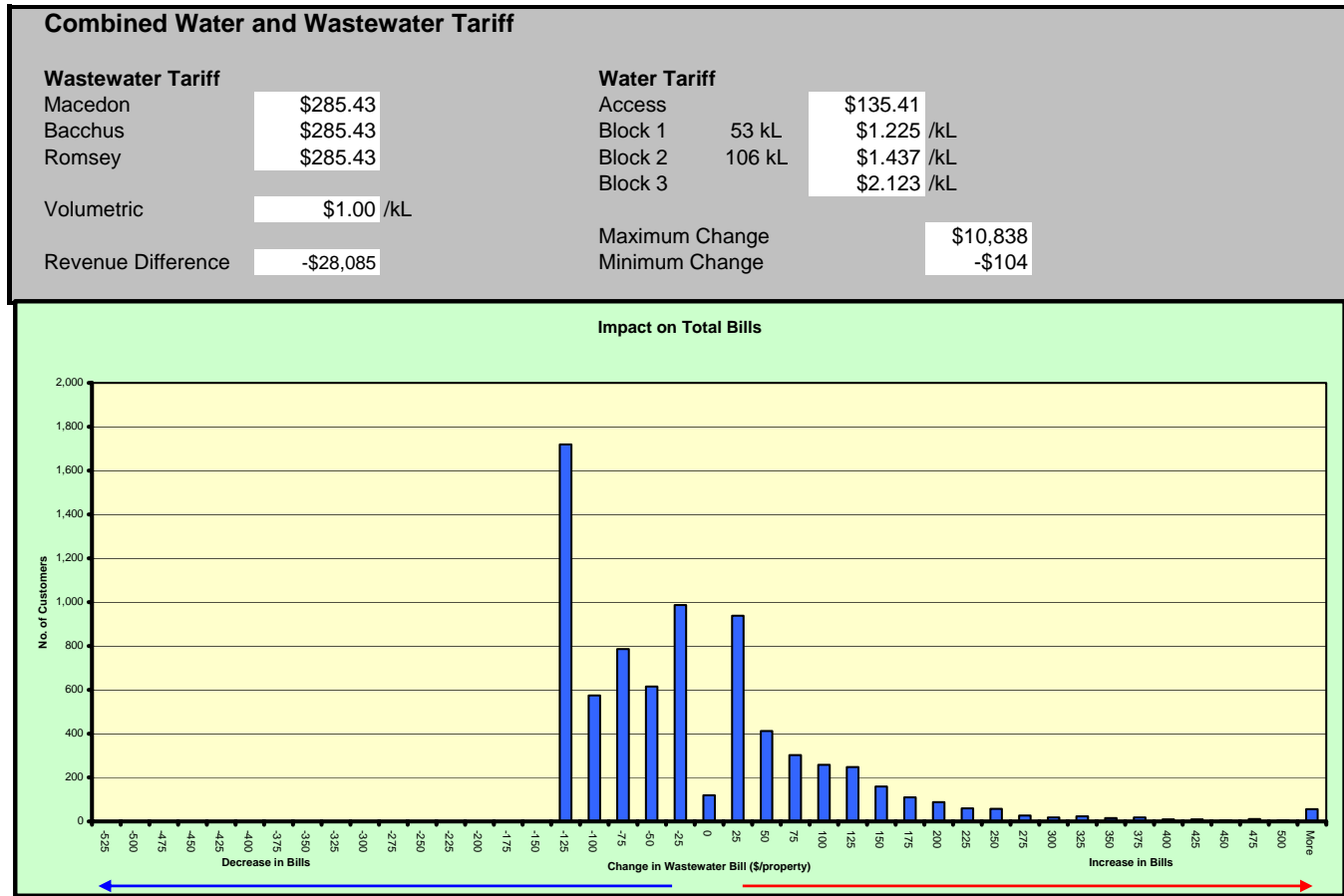


Pensioner Impacts - Wastewater @ \$0.50/kL

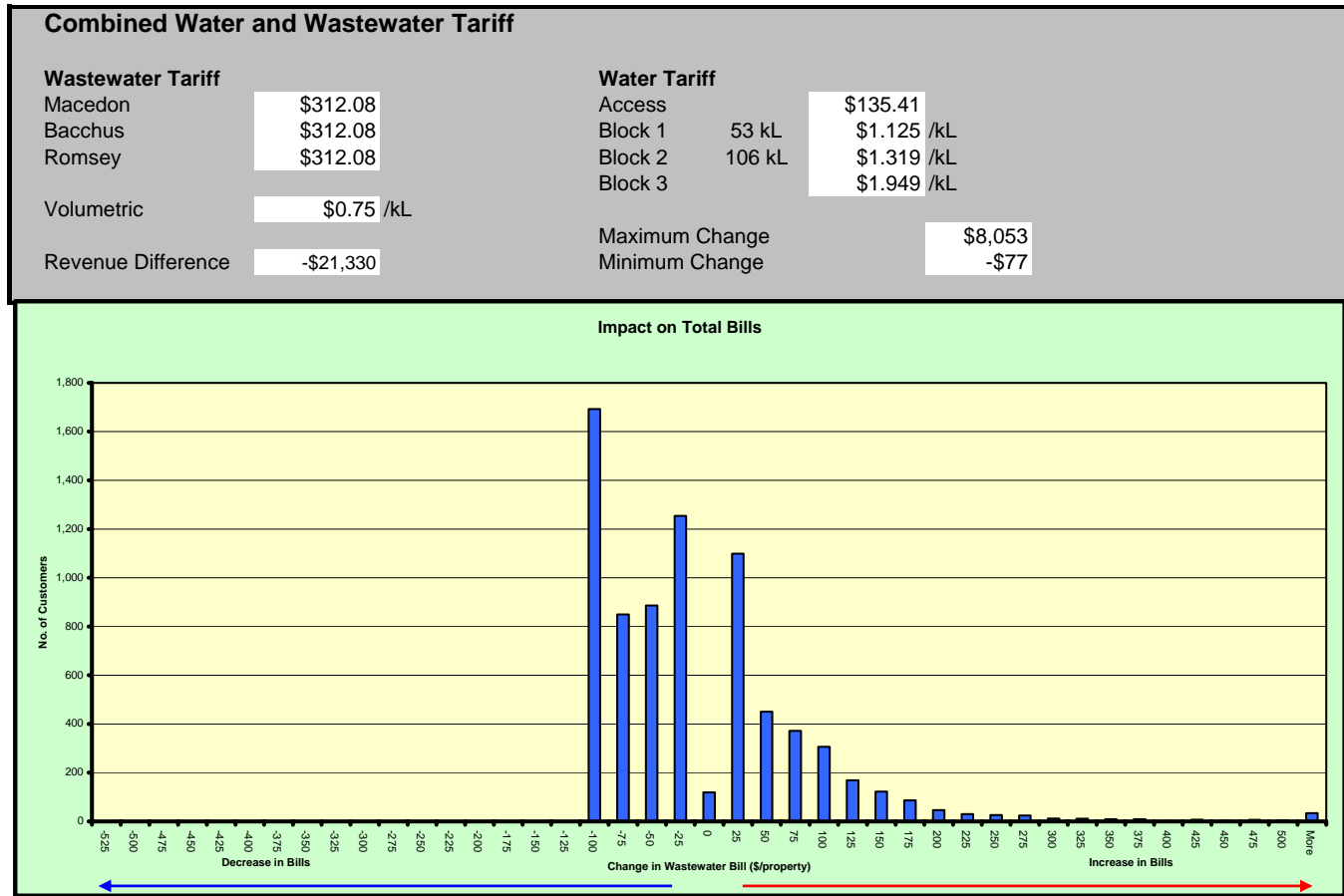
Seasonal Factor				Fixed Charge		
	Nov	Mar	Jun			
Factor	85%	53%	69%	Macedon	1	\$338.32
Vol. Charge	\$0.500			Bacchus	2	\$338.32
				Romsey	3	\$338.32
Limits	Discharge Factor			Maximum Change		\$785.25
Less than (kL)	133	90%		Minimum Change		-\$51.20
Greater than (kL)	333	45%		Revenue Difference		-\$2,343
Revenue (\$000s)	Fixed	Volumet.	Total			
	2,388	359	2,747			



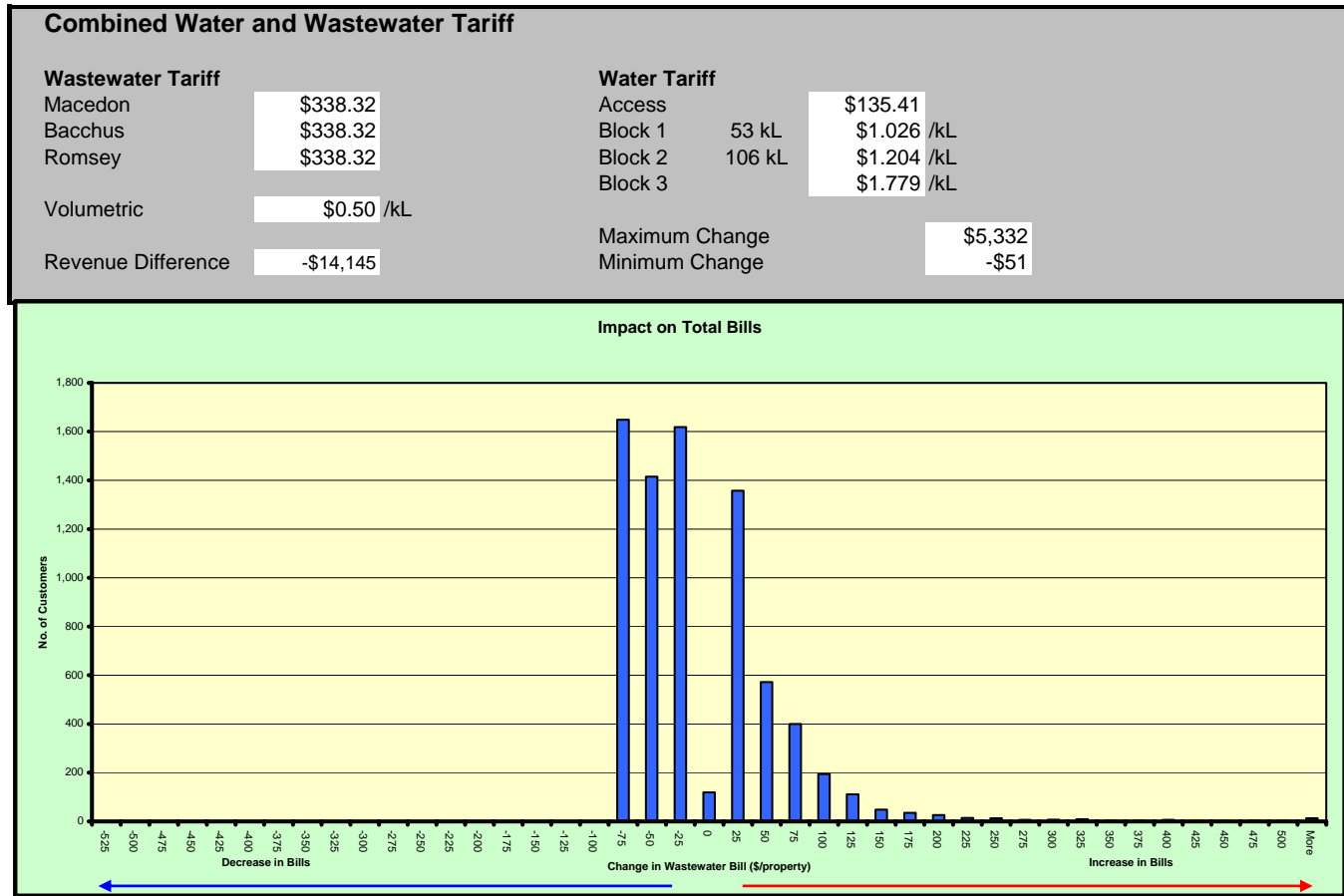
Pensioner Impacts - Combined @ \$1.00/kL



Pensioner Impacts - Combined @ \$0.75/kL



Pensioner Impacts - Combined @ \$0.50/kL



Conclusions

1. Volumetric Wastewater Tariff

- Artificial construct
 - Requires proxy factors – seasonal & discharge
 - Raises issues over customer comprehension and responsiveness
 - Low price elasticity for internal use
- Pensioner impacts significant in number of cases
- Large family impacts

2. Added to Water Bill

- Significant increases in unit volumetric charges
 - 2nd & 3rd tier charges likely to be well above water LRMC
 - Implications for economic efficiency
 - Further work to understand whether above combined LRMC for water and wastewater across whole business
 - Pensioner and large family impacts