

SALT SPRING ISLAND: COMMUNITY WATER SYSTEMS DATA										Mar.22, 2010
System	Source	Connections (SFEs)		Current	Current	Average	Peak Day	Build-Out	Peak Day*	Annual*
		Current	Build-out	Production	Use	use/ capita	Demand	Production	Maximum	Maximum
		#	#	m3/yr	m3/yr	(@2/hsl d)	m3/day	m3/yr	Withdrawal	Withdrawal
						lcd			m3/day	m3/yr
Surface Water										
NSSWD	St. Mary Lake/ Maxwell Lake	2515	4070	777,366 (dry year)	660,761 (dry year)	360		1,258,004	6,560	1,198,000
Beddis (CRD)	Cusheon Lake	127	138	33,327	24,839	268	144	36,214	282	54,400
Fernwood(CRD)**	St. Mary Lake	<i>100</i>	<i>120</i>	<i>23,724</i>	<i>15,605</i>	<i>214</i>	<i>382</i>	<i>28,469</i>	<i>341</i>	<i>62,223</i>
Fulford Harbour(CRD)	Weston Lake	109	130	34,884	24,419	307		41,605	318	58,200
Highlands(CRD)**	St. Mary Lake	<i>257</i>	<i>280</i>	<i>103,370</i>	<i>47,768</i>	<i>255</i>		<i>112,621</i>	<i>518</i>	<i>94,580</i>
Sub-total		3108	4738	972,671	773,392	281		1,476,912	8,019	1,467,403
						(Average)				
Groundwater										
Cedar Lane(CRD)	2 wells (meters)	44	46	n/a	4,616	144	n/a	4,865	n/a	n/a
Cedars of Tuam(CRD)	1 well (meters)	16	16	n/a	1,643	141	n/a	2,864	1,293	2,387
Erskine Heights	2 wells (meters)	31	40	3,873	3,873	171	n/a	4,997	n/a	25,719
Harbour View	3 wells (meters)	21	22	2,270	2,270	148	n/a	2,500	n/a	n/a
High Hill (2007)	3 wells (meters)	7	9	1,560	1,283	251	n/a	2,273	n/a	n/a
Maracaibo Estates	4/7 wells(meters)	73	91	10,296	10,296	193	97	12,835	n/a	78,028
Mount Belcher	7 wells (meters)	45	55	8,174	8,174	249	105	11,353	n/a	10,910
Reginald Hill		20	24	3,273	3,273	224	n/a	3,864	n/a	n/a
Scott Point	3 wells (meters)	60	62	5,110	5,110	117	n/a	7,274	n/a	n/a
Swan Point	1 well (meters)	<i>4</i>	<i>5</i>	<i>436</i>	<i>436</i>	<i>149</i>	n/a	<i>727</i>	<i>n/a</i>	<i>n/a</i>
Sub-total		321	370	34,992	40,974	179		45,823		
						(Average)				
TOTAL		3,429	5,108	1,007,663	814,366			1,522,735		
* Licenced amounts for surface water sources; actual/estimated well capacity for groundwater sources										
** Annual withdrawal limited to 157,000 m3 by peak day licence.										
Figures in italics not confirmed										

										APPENDIX 3
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APPENDIX 5

POTABLE WATER SUPPLY and DEMAND: St. Mary Lake & Maxwell Lake

(March 21,2010)

	Maximum Day m3/day	Annual Supply m3/yr	2009	Build-Out
Licensed Supply				
NSSWD - St.Mary Lake	4,289	783,000		
NSSWD - Maxwell Lake	<u>2,273</u>	<u>415,000</u>		
	6,562	1,198,000		
CRD (Fernwood/Highland)*	859	157,000		
SML direct users (licences)	159	29,000		
Agricultural (irrigation licences)**	680	102,000		
Fisheries use (Minimum flow)	<u>770</u>	<u>281,000</u>		
Total supply	9,030	1,767,000		
* Annual supply limited by maximum day volume				
** Assumes 150 day period for maximum day				
Connections				
<i>NSSWD</i>				
Connections			1,732	
Tax Roll			2,058	
CRD Fernwood/Highland			338	
Single Family Equivalents				
NSSWD			2,515	4,070
CRD (Fernwood/Highland)			357	400
Demand (m3)				
NSSWD (Dry Year)			780,000	1,262,000
CRD (Fernwood/Highland)			127,000	142,000
SML direct users (licences)			29,000	29,000 (At max.)
Agricultural (irrigation licences)			102,000	102,000 (At max.)
Fisheries use (Minimum flow)			<u>281,000</u>	<u>281,000</u> (At max.)
Total Demand			1,319,000	1,816,000
Average demand (m3/yr/SFE)				
NSSWD			310	
CRD (Fernwood/Highland)			356	
Average demand (litres/capita/day)				
NSSWD*			340	
CRD (Fernwood/Highland)**			292	

* Assumes 2/SFE and 20% system losses

** Assumes 2/SFE and 40% system losses

WATER SUPPLY and DEMAND on St. Mary Lake & Maxwell Lake

APPENDIX 9

	Build-Out	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
Estimated SSI Population				10,030					10,500				10,900	12,000	13,200	14,500
Estimated SSI Households				4,860	4,980	5,100	5,230	5,360	5,500	5,590	5,680	5,770	5,860	6,400	7,000	7,640
NSSWD SFEs	4070	2,515	2,555	2,626	2,689	2,753	2,822	2,891	2,965	3,013	3,060	3,058	3,106	3,392	3,710	4,049
Fernwood/Highlands SFEs	<u>400</u>	357	362	367	372	377	382	387	392	397	400	400	400	400	400	400
Total SFEs	4470	2872	2,917	2,993	3,061	3,130	3,204	3,278	3,357	3,410	3,460	3,458	3,506	3,792	4,110	4,449
LICENSED SUPPLY (thous.m3)																
NSSWD		1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198
Fernwood/Highlands SFEs		157	157	157	157	157	157	157	157	157	157	157	157	157	157	157
SML direct users (licences)		29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
Agricultural (irrigation licences)		102	102	102	102	102	102	102	102	102	102	102	102	102	102	102
Fisheries use		<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>	<u>280</u>
Total annual supply		1,766	1,766	1,766	1,766	1,766	1,766	1,766	1,766	1,766	1,766	1,766	1,766	1,766	1,766	1,766
Peak day licence capacity (th.m3)		9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
PROJECTED DEMAND (thous.m3)																
	Aver.hshld															
NSSWD	310	780	792	814	834	853	875	896	919	934	949	948	963	1,052	1,150	1,255
CRD Fernwood/Highland (SFEs)	356	127	129	131	132	134	136	138	140	141	142	142	142	142	142	142
Other licencees		<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>	<u>412</u>
Total annual water demand		1,319	1,333	1,357	1,378	1,400	1,423	1,446	1,471	1,487	1,503	1,502	1,517	1,606	1,704	1,810
Estimated peak day demand (th.m3)	Ratio 2:1	7.23	7.3	7.43	7.55	7.67	7.8	7.92	8.06	8.15	8.24	8.23	8.31	8.8	9.34	9.92
Projected Annual Surplus (Deficit)		448	433	410	388	367	344	320	296	279	263	264	249	160	62	-43
Projected Peak Day Surplus(Deficit)		1.77	1.70	1.57	1.45	1.33	1.20	1.08	0.94	0.85	0.76	0.77	0.69	0.20	-0.34	-0.92
Potential increases in demand																
	Aver.hshld	Number	Period(yrs)													
Affordable housing units (SFEs)	260	200	30		1.7	3.5	5.2	6.9	8.7	10.4	12.1	13.9	15.6	17.3	34.7	52
Density Transfer units (SFEs)	260	20	20		0.3	0.5	0.8	1	1.3	1.6	1.8	2.1	2.3	2.6	2.9	2.9
Amenity Zoning units (SFEs)	260	20	10		0.5	1	1.6	2.1	2.6	3.1	3.6	4.2	4.7	5.2	5.2	5.2
Legalised suites & cottages (net)		0														
Groundwater replacement (SFEs)	310	600	50		4	7	11	15	19	22	26	30	33	37	41	45
Increased food production		77 th.m3/yr			20	25	30	35	40	45	50	55	60	65	70	77
Climate change (irrigation)		268 th.m3/yr			<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>90</u>	<u>100</u>	<u>110</u>	<u>120</u>	<u>130</u>	<u>140</u>	<u>150</u>	<u>268</u>
Sub-total		0	74	95	116	137	159	180	201	222	244	265	286	432	453	457
Projected Annual Surplus (Deficit) with potential increased demand		448	360	315	272	229	185	141	95	57	20	-1	-37	-272	-392	-500
Projected Peak Day Surplus (Deficit) with potential increased demand		1.77	1.29	1.05	0.81	0.58	0.34	0.09	-0.16	-0.37	-0.57	-0.68	-0.88	-2.17	-2.82	-3.42
Potential decreases in demand																
	Thous.m3/yr															
Waterworks improvements		80		53	54	55	56	58	59	60	61	62	62	63	68	74
Ganges recycled water		130	5	26	52	78	104	130	130	130	130	130	130	130	130	130
Increased water rates/structure		0														
Rainwater harvesting		0														
Appliance efficiency savings	20% in-house use			<u>151</u>	<u>155</u>	<u>158</u>	<u>162</u>	<u>165</u>	<u>169</u>	<u>172</u>	<u>175</u>	<u>174</u>	<u>177</u>	<u>191</u>	<u>207</u>	<u>224</u>
Sub-total		0	79	257	288	318	349	354	360	363	367	367	370	389	411	434

Projected Annual Surplus (Deficit) with potential decreased demand	448	438	572	560	548	534	495	454	420	387	366	333	117	19	-67
Projected Peak Day Surplus (Deficit) with potential decreased demand	1.77	1.72	2.46	2.39	2.32	2.25	2.03	1.81	1.62	1.44	1.33	1.15	-0.03	-0.57	-1.04