

2011 Voters List Quality Measurement

Elections BC

October 2011



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1.0 Introduction

This report presents the findings of the 2011 Voters List Quality Measurement, conducted by BC Stats on behalf of Elections BC. The purpose of the research is to assess the quality of the voters list as of July 22, 2011. Coverage and currency are the two main indicators used by Canadian electoral agencies to assess the overall quality of a voters list at a given point in time. Coverage is a measure of the comprehensiveness of the voters list and is calculated as the percentage of total eligible voters who are registered on the provincial voters list. Currency is a measure of how up-to-date the voters list is and is calculated as the percentage of registered voters who are registered at their current address. This report also presents an indicator of overall list quality, which combines the concepts of coverage and currency to show the percentage of eligible voters in B.C. who are registered on the voters list at their current address.

The most common time for these measurements is in the months preceding a general election, often before and after an enumeration. This quality study followed the referendum on Harmonized Sales Tax (HST), conducted as a mailing to a census of B.C. registered voters during the summer of 2011. The traditional survey methodology used to measure currency was modified in this implementation to utilize information obtained directly from the referendum. The referendum mailing and associated voting yielded currency information for over half of the voter records on the July 22, 2011 list, allowing the survey component of the methodology to focus on a subset of voter records for which no referendum response (vote or undeliverable return) was received.

1.1 Report Outline

The remainder of the report includes the following sections:

- Results, pg. 2
- Appendix 1: Coverage Estimate Methodology, pg. 12
- Appendix 2: Currency Estimate Methodology, pg. 16
- Appendix 3: B.C. Electoral Districts Grouped by Region, pg. 21
- Appendix 4: Telephone Survey Script, pg. 24
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2.0 Results

Estimates of coverage, currency and quality are based on the July 22, 2011 voters list population of 3,056,896 registered voters. Prior to BC Stats beginning work with the voters list file, Elections BC ran a number of data quality checks to resolve duplicates, remove recently deceased voters and voters who were found to not be qualified (e.g., moved out-of-province or not a Canadian citizen), as well as voters who were not assigned to an electoral district. This activity resulted in the removal of 6,509 voter records from the voters list.

2.1 Coverage Estimates

The coverage estimate compares the number of voters registered on Elections BC's voters list as of July 22, 2011 with an estimate of the eligible population of B.C. voters for the same date.¹ BC Stats estimates that 71.3 percent of B.C.'s population of approximately 4.6 million met the citizenship and age eligibility requirements to vote in B.C. Of the total population eligible to vote, 93.6 percent were registered on the B.C. voters list on July 22, 2011. This overall, provincial coverage estimate is one percentage point higher than the estimate produced as of April 6, 2009 (BC Stats, 2009), about one month prior to the last general election in B.C.

Calculation of Provincial Coverage Estimate	
<u>Given</u>	
-	B.C. population: 4,576,387
-	Population of eligible voters: 3,264,381
-	Population of registered voters: 3,056,896
Coverage%	$= \frac{\text{Registered Voters}}{\text{Eligible Voters}} = \frac{3,056,896}{3,264,381} = 93.6\%$

Table 1 provides an overview of coverage statistics at the regional level.² Across regions, there is a nine percentage point spread in coverage values, from a low of 89.2 percent for The North, to a high of 98.2 percent for Richmond Delta. As a general rule, regions with low population density, such as The North, Cariboo Thompson, Okanagan, and the Fraser Valley, tend to have coverage percentages below the provincial average, and those with higher population densities tend to have above-average coverage values. Exceptions to this rule include the North Shore and Vancouver Island South Coast, which have relatively low population densities and coverage estimates of 95.6 and 95.1 percent, respectively. Surrey is also an exception, with a relatively high population density and a lower than average coverage value.

¹ Please see Appendix 1 for a detailed discussion of the methodology used by BC Stats to create the eligible voter population estimate.

² Appendix 3 shows the allocation of electoral districts to regions.

Table 1 Coverage Estimates by Region, July 11, 2011

Regions	Population	Population 18+	Eligible voters	Registered voters	Coverage %	Population Density*
The North	269,240	207,138	194,617	173,654	89.2%	0.3/km ²
Cariboo-Thompson	208,740	169,832	158,917	145,873	91.8%	1.2/km ²
Okanagan	399,997	331,085	310,207	288,674	93.1%	9.0/km ²
Columbia-Kootenay	156,161	127,808	119,639	112,230	93.8%	1.6/km ²
Fraser Valley	519,410	406,779	367,158	334,845	91.2%	25.1/km ²
Tri-Cities	223,625	179,608	152,757	144,608	94.7%	199.2/km ²
Surrey	490,238	383,159	321,480	294,400	91.6%	830.7/km ²
Richmond-Delta	299,760	244,665	203,257	199,649	98.2%	204.9/km ²
Burnaby and New Westminster	298,807	248,645	201,095	190,520	94.7%	1,748.7/km ²
Vancouver	663,466	561,864	449,680	424,528	94.4%	2,708.9/km ²
North Shore	229,611	187,138	157,806	150,902	95.6%	15.6/km ²
Vancouver Island and South Coast	817,332	681,132	627,768	597,013	95.1%	6.8/km ²
Total	4,576,387	3,728,853	3,264,381	3,056,896	93.6%	3.1/km ²

*Density calculated from (British Columbia Electoral Boundaries Commission, 2008).

2.2 Currency Estimates

To prepare the currency estimates, the July 22, 2011 voters list population of 3,056,896 registered voters was divided into two groups: those with known currency as an outcome of the Referendum on HST (58.2%), and those with unknown currency (41.8%). The table below summarizes the criteria used to allocate voter records to each group.

Table 2 Criteria Used to Allocated Voter Records to Groups

Total Voters List, July 22, 2011, n=3,056,896
Known Currency Group: n=1,779,190
Current: n=1,625,328
Voter's ballot package accepted
Voter's registration confirmed, updated or created on or after May 31, 2011
Not Current: n=153,862
Voter's referendum package returned by Canada Post
Unknown Currency Group: n=1,277,706
Voter's ballot not accepted (e.g., received late)
Voter's ballot not returned

Known Currency Group

The Known Currency Group consists of records known to be current *and* records known to not be current as a result of the HST Referendum mailing. Voter records associated with a returned ballot package that was accepted for counting were assumed to be current. Likewise, records that were updated, confirmed, or created on or after May 31, 2011 were assumed to be current as of the reference date of July 22, regardless of participation in the referendum. Of these two groups that were assumed to be current, 99.5 percent had a ballot package accepted in the referendum and the remaining 0.5 percent did not vote in the referendum, but were included due to recent activity on their voter record. Just over 150,000 referendum packages could not be delivered by Canada Post and were

returned unopened to Elections BC; it is assumed that the associated voter records do not have current address information.

Unknown Currency Group

For the remaining 41.8 percent of the July 22 voters list, either no response was received to the referendum, or a ballot package was returned and not accepted for the count. Ballot packages were not accepted for the count for a variety of reasons, including being returned after the deadline of August 5, having an inaccurate date of birth, and/or a failure of the voter to sign the certification envelope and thereby confirm the accuracy of their name, address and birth information. The currency of these records cannot be confidently inferred from the referendum, and therefore they are the focus of the quality survey.

Table 3 shows the distribution of the voter records in the Known and Unknown Currency groups across regions. Some regions are over-represented in the Known Currency group relative to others due to a relatively high voter turnout in the referendum. For example, 61.7 percent of voter records in the Vancouver Island and South Coast region have a known currency from the referendum, leaving 38.3 percent to be estimated through the survey. By contrast, currency is unknown for 48.0 percent of voter records from The North and the survey will be used to estimate a currency rate for these records. All else being equal, the regional currency estimates that are more heavily weighted toward the Unknown Currency group will have a higher margin of error. This is because the margin of error for the Known Currency group is zero, reflecting the fact that these results are based on a census. By contrast, the estimate of currency for the Unknown Currency Group is derived from a sample survey. Final currency estimates are calculated by combining the currency values from the Known Currency Group with currency estimates, based on the survey, for the Unknown Currency Group.

Table 3 Allocation of July 22, 2011 Voter Records to Known and Unknown Currency Groups, by Region

Region	Known Currency Group	Unknown Currency Group	July 22 Voter Records	% of Records with Known Currency	% of Records with Unknown Currency
The North	90,226	83,428	173,654	52.0%	48.0%
Cariboo-Thompson	85,484	60,389	145,873	58.6%	41.4%
Okanagan	172,855	115,819	288,674	59.9%	40.1%
Columbia-Kootenay	66,459	45,771	112,230	59.2%	40.8%
Fraser Valley	192,051	142,794	334,845	57.4%	42.6%
Tri-Cities	84,285	60,323	144,608	58.3%	41.7%
Surrey	166,926	127,474	294,400	56.7%	43.3%
Richmond-Delta	116,417	83,232	199,649	58.3%	41.7%
Burnaby and New Westminster	111,707	78,813	190,520	58.6%	41.4%
Vancouver	234,320	190,208	424,528	55.2%	44.8%
North Shore	90,037	60,865	150,902	59.7%	40.3%
Vancouver Island and South Coast	368,423	228,590	597,013	61.7%	38.3%
Total	1,779,190	1,277,706	3,056,896	58.2%	41.8%

2.2.1 Known Currency Group

The group with known currency accounts for 58.2 percent of the July 22, 2011 voters list. The overall currency of this group is 91.4 percent, ranging from a high of 94.2 percent for the Richmond-Delta region to a low of 86.5 percent for The North. High currency values are expected for this subset of the voters list because it consists mainly of voters who returned a valid ballot package in the referendum.

Table 4 Currency of Known Currency Group, By Region

Region	Current	Not Current	Total	% Current
The North	78,017	12,209	90,226	86.5%
Cariboo-Thompson	77,390	8,094	85,484	90.5%
Okanagan	154,915	17,940	172,855	89.6%
Columbia-Kootenay	58,514	7,945	66,459	88.0%
Fraser Valley	179,470	12,581	192,051	93.4%
Tri-Cities	79,090	5,195	84,285	93.8%
Surrey	156,128	10,798	166,926	93.5%
Richmond-Delta	109,686	6,731	116,417	94.2%
Burnaby and New Westminister	102,433	9,274	111,707	91.7%
Vancouver	209,245	25,075	234,320	89.3%
North Shore	82,942	7,095	90,037	92.1%
Vancouver Island and South Coast	337,498	30,925	368,423	91.6%
Total	1,625,328	153,862	1,779,190	91.4%

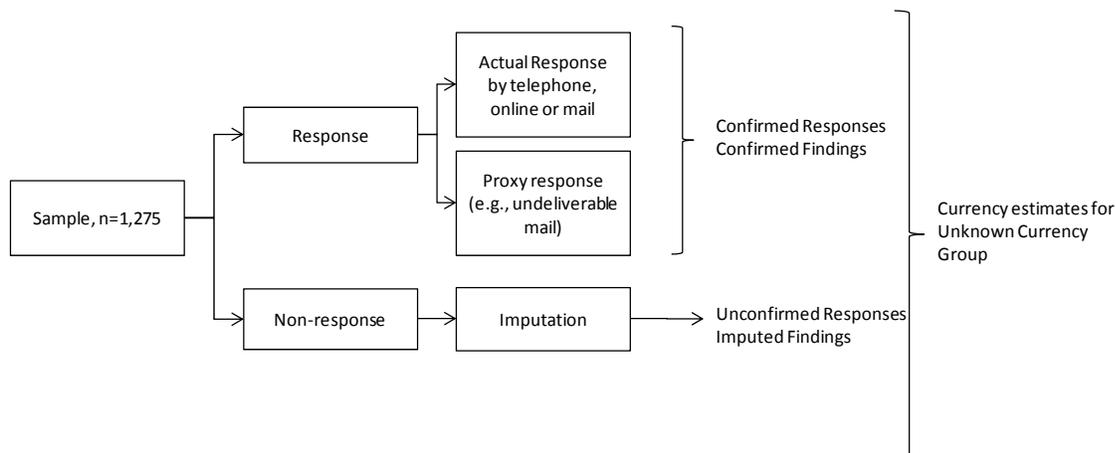
2.2.2 Unknown Currency Group

Currency for the Unknown Currency segment of the July 22 voters list was estimated through a survey of 1,275 voter records selected at random from the 1,277,706 records in the group. Efforts were made to collect information from all sampled voters through one or more of the following data collection streams: telephone interview, online survey and/or mail-in questionnaire during a four-week period from Friday, August 26 to Saturday, September 24, 2011.³

The main goal of the quality survey was to estimate the currency of the home address portion of the voter registration record. Figure 1 illustrates how currency estimates are derived through a combination of actual and proxy responses to the survey and imputed responses.

³ See Appendix 2 for survey and imputation methodology details.

Figure 1 Source of Findings for Currency Estimates



Responses

There are two types of responses: *actual responses* and *proxy responses*. *Actual responses* to any of the three data collection streams are considered the most reliable form of currency information for the sample and are classified as *confirmed responses* upon which *confirmed findings* are based. For some records, it was not possible to attain a direct response to the survey, but in the process of collecting data, information came to light that provided a high degree of confidence regarding the currency of the voter’s home address. These *proxy responses* are also considered *confirmed responses* and contribute to *confirmed findings*. Sources of *proxy responses* include telephone interviews where enough information is collected from a third party to confirm the respondent’s address, return-to-sender mail, and Canada Post’s registered mail tracking information.

Non-Responses

There is a subset of sampled records for which it was not possible to obtain enough information directly from the respondent or from a proxy source to determine whether the home address was current; these records are considered *non-responses*. A statistical process known as imputation was used to estimate the currency of these records, with the imputed results generating *unconfirmed responses*. The imputation procedure estimates currency values for non-response records by comparing the characteristics of the non-response and response voter records on key variables known to be linked to currency (e.g., match to NRoE or match to Drivers License files, gender, multi-unit building, most recent update, etc.).

2.2.2.1 Survey Response

Confirmed responses were received for 76.5 percent of the original sample of 1,275. Over half of the sample (55.6%) yielded a confirmed, current response and a further 20.9 percent yielded a confirmed, not current response (Table 5).

Data from the April, 2009 quality study is provided below in Table 5 for comparison purposes. The raw proportion of the sample confirmed as current is substantially lower for this survey (55.6%), as compared with the April 2009 survey (74.0%). This reflects differences in both the methodologies of the two studies and enumeration activities. The survey for this study focused on a subset of the voters list

that did not respond to the recent referendum on the HST, rather than the entire voters list, as was the case in 2009. As well, Elections BC did not conduct an enumeration before the referendum, as it did in the lead-up to the May 2009 general election.

Table 5 Final Response Rates

Response Type	Currency	Disposition Source		July, 2011		April, 2009**	
				N	% Total	N	% Total
Confirmed Responses	Current	Actual Responses	Telephone	303	23.8%	563	22.5%
			Mail	91	7.1%	392	15.7%
			Web	62	4.9%	66	2.6%
			Multiple modes*	2	0.2%	2	0.1%
			Total	458	35.9%	1,023	40.9%
		Proxy	Total	252	19.8%	827	33.1%
			Total Current Responses	710	55.7%	1,850	74.0%
	Not Current	Actual Responses	Telephone	22	1.7%	29	1.2%
			Mail	32	2.5%	37	1.5%
			Web	11	0.9%	11	0.4%
			Total	65	5.1%	77	3.1%
		Proxy	Total	201	15.8%	175	7.0%
			Total Not Current Responses	266	20.9%	252	10.1%
			Total Confirmed Responses	976	76.5%	2,102	84.1%
Non-Responses	Total Non-Responses		294	23.1%	397	15.9%	
	Total Deceased		5	0.4%	-	-	
Total Responses and Non-Responses			1,275	100.0%	2,499	100.0%	

*Multiple modes includes respondents who completed the survey twice (e.g., telephone interview and self-administered questionnaire).

**April 2009 data is sourced from (BC Stats, 2009).

Confirmed responses were received for each of the 85 electoral districts. Out of a maximum possible 15 confirmed responses per electoral district, the number of confirmed responses ranged from a low of 6 for Shuswap, to a high of 15 for Chilliwack-Hope, Comox Valley, Juan de Fuca, and Vancouver-Point Grey (Figure 2). The average number of confirmed responses at the electoral district level was 11.5 out of 15. Figure 2 shows a frequency distribution of electoral districts by the number of confirmed responses to the survey. The Figure shows that the vast majority of electoral districts (81%) had eleven or more confirmed responses from the survey.

Figure 2 Frequency Distribution: Number of EDs by Number of Confirmed Responses

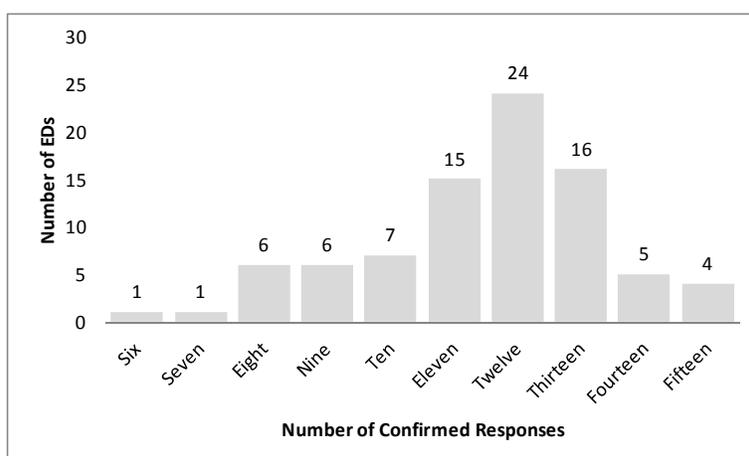


Table 6 shows currency estimates for the Unknown Currency Group at the regional level after imputation. The overall weighted⁴ estimate of currency for the Unknown Currency Group is 72.1 percent (± 2.6 percent, 19 times out of 20). This currency estimate varies at the regional level from a low of 68.7 percent for Vancouver Island and the South Coast, to 79.2 percent for Burnaby and New Westminster. Estimates of currency at the regional level for the Unknown Currency Group have a relatively high margin of error associated with them due to the large number of regions and the relatively small sample size.

Table 6 Currency Estimates for the Unknown Currency Group from the Sample

Region	% Current (after imputation)	Margin of Error (+ or -)	95% Confidence Interval	
			Lower Bound	Upper Bound
The North	72.4%	9.0%	63.4%	81.4%
Cariboo-Thompson	71.0%	11.4%	59.6%	82.3%
Okanagan	70.2%	9.1%	61.1%	79.3%
Columbia-Kootenay	71.3%	12.6%	58.7%	83.9%
Fraser Valley	73.2%	8.4%	64.9%	81.6%
Tri-Cities	71.4%	12.0%	59.4%	83.5%
Surrey	73.8%	8.9%	64.9%	82.7%
Richmond-Delta	76.0%	10.6%	65.5%	86.6%
Burnaby and New Westminster	79.2%	10.0%	69.2%	89.2%
Vancouver	71.7%	8.3%	63.4%	80.0%
North Shore	71.8%	12.3%	59.5%	84.1%
Vancouver Island and South Coast	68.7%	6.9%	61.8%	75.6%
Weighted Currency Estimate for B.C.	72.1%	2.6%	69.5%	74.7%

⁴ The sample weights ensure that each electoral district contributes to the overall estimate of currency for the Unknown Currency Group in proportion to the number of registered voters in those electoral districts on July 22, 2011.

2.2.3 Full Voters List

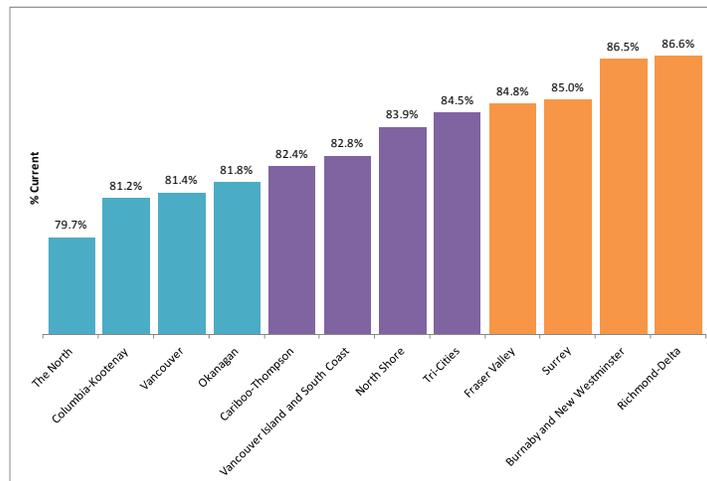
Table 7 shows the currency estimates for the entire voters list as of July 22, 2011 broken down by region. The overall estimate of currency for the voters list is 83.3 percent ($\pm 1.1\%$, 19 times out of 20). The margin of error is reduced to less than half of what it was for the Unknown Currency Group alone (2.6%) because the Known Currency Group has no error associated with it. Thus, when the currency estimates for the two groups are combined, as is the case in the Table 7, the margin of error is substantially reduced to only ± 1.1 percent.

Table 7 Currency Estimates for the Full Voters List, by Region

Region	July 22 Voters List					
	Total Current	Total Registered Voters	% Current	Margin of Error (+ or -)	95% Confidence Level	
					Lower Bound	Upper Bound
The North	138,404	173,654	79.7%	4.3%	75.4%	84.0%
Cariboo-Thompson	120,248	145,873	82.4%	4.7%	77.7%	87.1%
Okanagan	236,183	288,674	81.8%	3.7%	78.2%	85.5%
Columbia-Kootenay	91,139	112,230	81.2%	5.1%	76.1%	86.4%
Fraser Valley	284,041	334,845	84.8%	3.6%	81.3%	88.4%
Tri-Cities	122,187	144,608	84.5%	5.0%	79.5%	89.5%
Surrey	250,193	294,400	85.0%	3.8%	81.1%	88.8%
Richmond-Delta	172,974	199,649	86.6%	4.3%	82.2%	91.0%
Burnaby and New Westminster	164,846	190,520	86.5%	4.1%	82.4%	90.6%
Vancouver	345,606	424,528	81.4%	3.7%	77.7%	85.1%
North Shore	126,664	150,902	83.9%	5.0%	79.0%	88.9%
Vancouver Island and South Coast	494,506	597,013	82.8%	2.6%	80.2%	85.5%
Total	2,546,991	3,056,896	83.3%	1.1%	82.2%	84.4%

Figure 3 shows that, at a regional level, the currency estimates range from a low of 79.7 percent for The North, to a high of 86.6 percent for Richmond-Delta. The bottom one-third of the regions is comprised of a mixture of urban, semi-rural and rural electoral districts: Vancouver, Columbia-Kootenay, Okanagan and the North. The four regions with the highest currency values are Fraser Valley, Surrey, Burnaby and New Westminster and Richmond-Delta.

Figure 3 Currency Estimates by Region



2.2.3.1 Currency Estimates by Selected Voter Characteristics

Certain demographic and other voter record characteristics are related to currency and may be useful to Elections BC when identifying targets for enumeration. For example, Table 8 shows that the currency estimates for males (84.4%) and females (83.1%) are almost the same, but the rate of currency for records with unknown gender is substantially lower, at 75.1 percent. Voters under the age of 40 and those who live in multi-unit dwellings as opposed to single-family dwellings also tend to have lower currency rates. Finally, voter records that are linked to Canada’s national voters list, the National Register of Electors (NRoE), and to BC motor vehicle records, are more likely to be current than records linked to one or the other of these sources, or to neither of them.

Table 8 Currency Estimates for the Full Voters List, Selected Voter Characteristics

Selected Voter Characteristics	July 22 Voters List					
	Total Current	Total Registered Voters	% Current	Margin of Error (+ or -)	95% Confidence Level	
					Lower Bound	Upper Bound
Gender						
Male	1,258,137	1,491,402	84.4%	1.5%	82.8%	85.9%
Female	1,174,501	1,413,078	83.1%	1.6%	81.5%	84.7%
Unknown Gender	114,441	152,416	75.1%	6.2%	68.8%	81.3%
Age Group						
0-29	319,131	437,560	72.9%	3.5%	69.4%	76.5%
30-39	349,210	477,667	73.1%	3.4%	69.7%	76.5%
40-49	481,680	580,885	82.9%	2.7%	80.2%	85.6%
50-59	541,598	626,382	86.5%	2.1%	84.4%	88.6%
60+	851,472	932,381	91.3%	1.5%	89.8%	92.9%
Dwelling Type						
Multi-unit	664,783	833,828	79.7%	2.4%	77.3%	82.1%
Single Family	1,881,161	2,223,068	84.6%	1.2%	83.4%	85.8%
NRoE / DL Linkage						
Linked on Drivers License Only	35,321	57,135	61.8%	8.1%	53.7%	70.0%
Linked on NRoE Only	150,385	218,445	68.8%	5.1%	63.8%	73.9%
Linked on Both	2,347,824	2,760,716	85.0%	1.1%	84.0%	86.1%
Linked on Neither	13,458	20,600	65.3%	14.8%	50.5%	80.2%
Total	2,546,991	3,056,896	83.3%	1.1%	82.2%	84.4%

2.3 Quality Estimates

An estimate of overall list quality of the voters list is calculated as the percentage of eligible voters registered on the voters list at their current address. For the July 22, 2011 voters list, the quality estimate is 78.0 percent ($\pm 1.1\%$, 19 times out of 20). This is about 3 percentage points lower than the April 2009 estimate of 81.3 percent (BC Stats, 2009). A lower quality estimate for 2011 compared with 2009 is to be expected because the 2009 quality study took place immediately before a general election and just following an enumeration.

Calculation of Provincial Quality Estimate	
<u>Given</u>	
- Population of eligible voters: 3,264,381	
- Population of registered voters at correct address (current voters): 2,546,991 $\pm 1.1\%$	
Quality% = $\frac{\text{Current Voters}}{\text{Eligible Voters}}$	$= \frac{2,546,991}{3,264,381} = 78.0\% \pm 1.1\%$

Table 9 provides a summary of coverage, currency and quality estimates at the regional level. The North had the lowest coverage and currency estimates of all regions, and its quality estimate is almost seven percentage points lower than the provincial average. At the other extreme, Richmond Delta had the highest coverage and currency estimates, and its quality estimate indicates that 85.1 percent ($\pm 4.3\%$, 19 times out of 20) of eligible voters are on the voters list at their current address in that region.

Table 9 Summary of Quality Statistics, Full Voters List

	A	B	C	B/A	C/B	C/A	D
	Eligible Voters	Registered Voters	Current Voters	% Coverage	% Currency	% Quality	Margin of Error (+ or -)*
The North	194,617	173,654	138,404	89.2%	79.7%	71.1%	4.3%
Cariboo-Thompson	158,917	145,873	120,248	91.8%	82.4%	75.7%	4.7%
Okanagan	310,207	288,674	236,183	93.1%	81.8%	76.1%	3.7%
Columbia-Kootenay	119,639	112,230	91,139	93.8%	81.2%	76.2%	5.1%
Fraser Valley	367,158	334,845	284,041	91.2%	84.8%	77.4%	3.6%
Tri-Cities	152,757	144,608	122,187	94.7%	84.5%	80.0%	5.0%
Surrey	321,480	294,400	250,193	91.6%	85.0%	77.8%	3.8%
Richmond-Delta	203,257	199,649	172,974	98.2%	86.6%	85.1%	4.3%
Burnaby and New Westminster	201,095	190,520	164,846	94.7%	86.5%	82.0%	4.1%
Vancouver	449,680	424,528	345,606	94.4%	81.4%	76.9%	3.7%
North Shore	157,806	150,902	126,664	95.6%	83.9%	80.3%	5.0%
Vancouver Island and South Coast	627,768	597,013	494,506	95.1%	82.8%	78.8%	2.6%
Total	3,264,381	3,056,896	2,546,991	93.6%	83.3%	78.0%	1.1%

*Note that the margin of error applies to the %Currency and %Quality measures

Appendix 1: Coverage Estimate Methodology

Estimating Eligible Voter Population

The eligible voter population must be estimated on a provincial and sub-provincial (PED) basis. The sub-provincial estimates are made such that they sum to the provincial estimate.

Part A: Provincial

There are four steps to estimating the number of eligible voters in British Columbia. These steps are illustrated in Table 10 and explained below.

Table 10 Approach to Estimating Eligible Voters for British Columbia as of July 22, 2011

Step	Description	Estimates	Source
Step 1	Estimating Total Population		
	BC Population – July 22, 2011	4,576,387	Statistics Canada
Step 2	Removing Population Aged 0 to 17		
	Percent BC Population 18+, July 1 st , 2011 (81.48%)	-847,534	Statistics Canada
		3,728,853	
Step 3	Removing Persons in BC Less Than 6 Months		
	Total BC Inter-Provincial In-Migration-Jan 22, 2011 to July 22, 2011	30,150	Statistics Canada
	Percent 18+ (July 1, 2011)	82.10%	Statistics Canada
		-24,754	
Step 4	Removing Non-Canadian Citizens		
	(a) Total foreign born non-naturalized prior to July 1, 1991	-60,325	2006 Census
	(b) Immigration 18+		
	August 1, 2006-June 30, 2007: 14+	29,446	Statistics Canada
	2007-08: 15+	34,834	Statistics Canada
	2008-09: 16+	33,866	Statistics Canada
	2009-10: 17+	34,372	Statistics Canada
	2010-11: 18+	29,096	Statistics Canada
		-161,614	
	Percent 18+: July 1, 2011	75.47%	Statistics Canada
	Total Immigration: July 2011-July 22, 2011	2,716	Statistics Canada
	Immigrants 18+: July 2011-July 22, 2011	-2,050	
	(c) Estimated number of immigrants 18+ who arrived in Canada between 1991 and August 1, 2006, but are not yet Canadian citizens	-90,687	
	(d) Non permanent residents (stock):		
	July 22, 2011	137,304	Statistics Canada
	Percent 18+: July 1, 2011	91.07%	Statistics Canada
		-125,042	
	Eligible Voters – July 22, 2011	3,264,381	

Step 1: Estimating Total Population

Statistics Canada produces estimates of the total population for Canada, the Provinces and Territories on a quarterly basis, approximately three months after the end of each quarter. The estimates are produced using a component/cohort survival model.

If available, the total population estimated by Statistics Canada is used. However, if the reference date for the eligible voter calculation is outside the published range of Statistics Canada, a forecast of the total provincial population is prepared by BC Stats using a standard component cohort-survival model. As the dates from the model will not match the voting dates, an interpolation between the closest estimated/forecasted quarterly data is performed to produce a total population count for the voting date.

Step 2: Removing the Population Aged 0 to 17

Age specific population estimates are produced annually by Statistics Canada with a reference date of July 1. For dates other than July 1 the proportion of the B.C. population aged 18 and over from the latest Statistics Canada estimate is applied to the total quarterly population to produce an estimate of the population 18 years of age and over.

Step 3: Removing Persons in BC Less Than 6 Months

An estimate of inter-provincial in-migrants aged 18 years and older for a six month period prior to the reference date is removed from the population estimated in Step 1. The estimate of inter-provincial in-migrants is taken from Statistics Canada's most recent quarterly estimates.

Step 4: Removing Non Canadian Citizens

To account for the resident B.C. population that are not Canadian citizens, the following four components are removed from the population estimated in Step 1.

- a. The 18 and over immigrant population that arrived in Canada prior to 19915 who are not citizens. It is assumed that immigrants in Canada for more than 15 years who have not become Canadian citizens will likely never become citizens of Canada.
- b. The 18 and over immigrant population that arrived over the last five years as of the estimate reference date. This citizenship acquisition period estimate is based on Citizenship and Immigration Canada residency requirements and processing times⁶.
- c. The 18 and over immigrant population that arrived in Canada between 1991 and the beginning of the period identified in Step 3b. Citizenship acquisition rates are estimated from results of the latest census and applied to annual immigration estimates.
- d. Non-Permanent Residents aged 18 years and over (i.e. persons in B.C. on a Student Visa, Work or Ministerial Permit, or who are Refugee Claimants).

⁵ As enumerated in the 2006 Census.

⁶ A minimum three-year residency requirement before an application for citizenship is acceptable, (<http://www.cic.gc.ca/english/citizenship/become-eligibility.asp>), and an average processing time of 16 months (<http://www.cic.gc.ca/english/information/times/canada/cit-processing.asp>).

Part B: Sub-Provincial by Age and Sex

The Provincial Electoral District (PED) age and sex estimates are derived from the latest BC Stats small area population projection model, otherwise known as PEOPLE36. These estimates are further developed using data from the 2006 Canadian Census, the Medical Services Plan (MSP) client registry and Statistics Canada estimates of population components. These sources are employed to establish voter eligibility at the lowest level of detail possible. For the purposes of these estimates, all data have been aggregated into 15 age groups: 0-17, 18-24, 25-29, 30-34,..., 80-84, and 85+.

Step 1: Estimating Base Population for Provincial Electoral Districts

Estimates of the population for each PED by age group and gender are obtained via a geographic translation of the PEOPLE36 projection model for BC Local Health Authorities (LHA). These resulting estimates with a reference date of July 1, 2011 provide a base population or a starting point for estimating the eligible voter population of each PED.

Step 2: Removing the Population Aged 0 to 17

After ensuring the population estimates arrived at in Step 1 conform to the provincial level population estimates developed in step 1 of part A, the 0-17 year-old age group is removed.

Step 3: Removing Persons in BC Less Than 6 Months

Mobility data from the 2006 Canadian Census were used to estimate the proportion of BC's interprovincial in-migrants arriving in each PED by age group and gender. This proportioning is based on those citizens who have been identified as having moved in the year prior to the census. The estimated in-migrant level by PED, age group, and gender are then removed from the 18+ population calculated Step 2.

Step 4: Removing Non-Canadian Citizens

Data from the 2006 Census are also used to remove non-Canadian citizens over the age of 18 from the PED population estimated in Step 3. Provincial estimates of past immigrants who have never obtained citizenship, recent immigrants, and non-permanent residents are shared among the PEDs by age group and gender according to the distribution of non-citizens from the 2006 Census. Care is taken to modify the distribution using more recent data, including the MSP client health registry data as well as the July 1, 2011 annual age and sex estimates for BC from Statistics Canada.

The resulting estimates are taken as the number of eligible voters by PED as of July 1, 2011.

Step 5: PED and Provincial Consistency

In order to ensure internal consistency between the sum of the PED's and provincial level population estimates, a final prorating step was introduced. This procedure involves adjusting the sum of the PED age and sex specific population to conform to the provincial level estimate as of July 22, 2011.

User Note:

While every effort is made to produce relevant and reliable estimates, there are limitations to any estimation methodology.

The estimates of eligible voters by PED are based on a series of assumptions regarding the demographic structure of the population. These assumptions in turn are based primarily on data gathered during the 2006 Census of Canada.

BC Stats would like it to be noted that as we move further away from the year 2006, the demographic structure of the population will change and as the process of change is cumulative, the relevance of data collected during the 2006 Census will decrease over time. This limitation is most applicable to detailed population estimates in less populated areas, such as PED's. As a result, the eligible voter estimates by PED have been aggregated into larger regions as the estimates at the PED level may be misleading due to the reasons stated.

Appendix 2: Currency Estimate Methodology

A total of 1,275 records were selected in a stratified, random sample from the 1,277,706 records in the Unknown Currency Group in order to produce currency estimates for this sub-group of the July 22 voters list. A total of 15 records were selected at random from each of the 85 electoral districts in B.C.

Efforts to gather information from sampled records involved three types of surveys: 1) telephone interview, 2) online survey and 3) self-administered, mail-in questionnaires. Upon selection of the sample, the first step in the methodology involved identifying the subset of the sample for which Elections BC provided a phone number, or for which a phone number could be sourced.

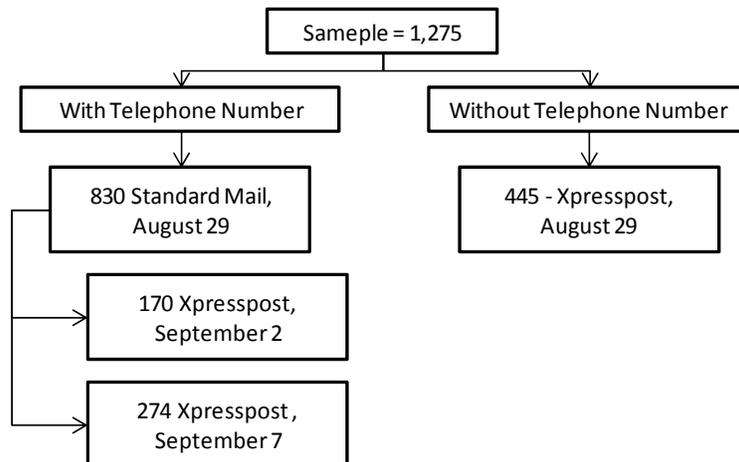
Phone Sourcing

Information available in the voter's list for sampled records, including voter name, home and mailing address, was used to source telephone numbers. Phone numbers were provided by Elections BC for 4.5 percent of the sample. The sampled voter addresses were matched to listed telephone numbers, as well as a database of British Columbia telephone numbers. In total, telephone numbers were sourced for 830 of the original 1,275 sampled voter records, bringing the proportion of the sample with a phone number to 65.1 percent.⁷

Survey Administration

With phone sourcing complete, the sample of 1,275 voters was divided into two groups: voters with a sourced telephone number and voters without a telephone number (Figure 4).

Figure 4 Summary of Mailings



The 830 sampled voters with a telephone number were sent an introductory letter (see Appendix 5) by standard mail on August 29, 2011. The letter provided some background about the study and notified recipients that they would be contacted by telephone to participate in the voters list quality study. The letter also invited these respondents to call the data collection agent on a toll-free line or to access and complete the survey online.

⁷ Telephone numbers were sourced for all 58 voter records that had a telephone number supplied by Elections BC.

The 445 sampled voters for whom a telephone number was not sourced were sent a letter and self-administered questionnaire by Xpresspost on August 29, 2011. These voters were given three options to respond to the survey: calling the toll free number, complete the survey online, or complete the enclosed survey and return it in the postage-paid envelope. Please see Appendix 6 for a copy of the letter and self-administered questionnaire sent by Xpresspost to respondents without a phone number.

From Friday August 26 to Saturday September 24, attempts were made to contact the 830 sampled voters with a phone number to complete the brief quality survey (see Appendix 4). Over half of the records originally identified as having a telephone number were ultimately found to be unreachable by phone. These voters were allocated to sub-lists and sent a letter survey through one of two subsequent Xpresspost mailings on September 2, 2011 and September 7, 2011. The first sub-list consisted of 170 voters identified as not contactable as of August 31. This included cases with call statuses of Not in Service, Fax/Modem Line, Business Number (Not Employed Here), Wrong Number/Respondent Unknown, Moved – No Further Contact, Moved – Toll Free Number Given and Refusal-Unconfirmed. A second sub-list of 274 votes created on September 6 included the same invalid telephone number statuses as listed above, but also included all unresolved call statuses, such as Answering Machine, Busy, Hard Appointment, Soft Appointment, No Answer, Language Case and Left Message.

Telephone interviews accounted for the largest proportion of confirmed responses from non-proxy sources (64%) followed by mail-in surveys (22%) and online surveys (14%). A further 453 confirmed responses came from proxy sources. The interview completion rate for the 889 Xpresspost letters was 27 percent (mail, online or telephone). The number of completed interviews by phone is relatively high for those included in the third Xpresspost mailing (70), reflecting the fact that this subgroup included sampled voters that may have had valid phone numbers, but had not completed an interview as of September 6.

Table 11 Sources of Confirmed Responses, by Mailing

	Mailing Size	Source of Confirmed Response				Total Confirmed Responses	% Confirmed Response
		Telephone Interview	Mail-in Survey	Online survey	Proxy		
Mailing 1, August 29							
Xpresspost	445	14	60	12	207	293	66%
Standard	830	244	0	35	57	336	40%
Mailing 2, September 2							
Xpresspost	170	9	23	7	75	114	67%
Mailing 3, September 7							
Xpresspost	274	*70	30	19	114	233	85%
Total	**1,275	337	113	73	453	976	77%

*Note that two of the telephone interview responses to mailing 3 also submitted a mail-in survey. These are counted in the telephone interview column only.

**The total sample size is shown instead of the total letters (1,719) because mailings 2 and 3 were sent to voters who also received the introductory letter as part of mailing 1 by standard mail.

Proxy Decision Rules

A set of decision rules was developed to guide the analysis of records for which a completed phone, mail or online survey could not be obtained. Listed below are the main proxy rules used through the course of this study. In instances where an inconsistency appeared between an actual survey response and proxy information for the same record, an actual response to a telephone interview, online survey or mail-in questionnaire was given precedence. For example, if a telephone response indicated that the voter's home address was correct, but their introductory letter was returned by Canada Post as moved, the record would be considered current.

Telephone Proxies

Proxy information was gathered by phone whenever possible from:

- 1) respondents who refused to complete the telephone interview;
- 2) current household members, and
- 3) former household members, if the respondent was no longer reachable at the phone number sourced.

Telephone proxies were only applied to records that did not have an actual interview response (telephone, online or mail) by October 7, 2011.

Mail Proxies

Canada Post Xpresspost Mail Proxies: Canada Post requires signature confirmation to successfully deliver an Xpresspost mail item to a home address. This signature can be provided by anyone who is fourteen years of age or older at the address. If the mail carrier is unable to deliver the Xpresspost mail at the address, then a notice is left on the door indicating to the addressee that there is a piece of mail available for pick up at a nearby post office. In order to successfully pick up the Xpresspost mail from the post office, the addressee must provide a piece of photo ID to the Canada Post customer service representative. Acceptable photo ID needs to contain both a name and address that matches the Xpresspost delivery information.

In the majority of cases, a digital copy of the signature was uploaded for viewing to the Canada Post tracking website. Based on this information, it was possible to make two separate proxy decisions.

1. If a survey was successfully delivered to a home address, the presence of a signature match was considered to be a proxy confirmation that the home address of the record was current. A signature match is defined as any instance where at least the first initial and last name of the digital signature matched the fist initial and last name of the voter record.
2. If a survey was successfully picked up from a post office, then due to Canada Post's delivery requirements, this information was considered a proxy confirmation that the home address was current.

Mail Undeliverable Proxies: If the mail was returned by Canada Post as undeliverable, the returns were either taken as proxy information that record was not current, or that the record had an unconfirmed

status. The different treatment of these returned mail items depended on the reason Canada Post provided for the item's return.

Any of the following Canada Post reasons were taken as a proxy indication of a not current home address: no such address, address incomplete, moved / unknown, no such post office, and item was redirected to receiver's new address.

Mail proxies were only applied to records that did not have an actual interview result or telephone proxy by October 7, 2011.

Records were considered as unconfirmed if the mail tracking details stated unclaimed, attempted delivery, but no pick up, item was delivered, but without a recorded signature, and item refused by addressee. Values were ultimately imputed for these records with an unconfirmed status.

Missing Data

In order to estimate voters list currency for non-response survey records, BC Stats made use of a technique known as multiple imputation (MI). Compared to other methods of imputation, the MI method offers several benefits, including the introduction of random variance to the estimate and robustness to violations of normality.

There are two assumptions that need to be made if missing data are to be estimated through MI. First, the data both before and after imputation, are assumed to follow a multivariate normal distribution. The second assumption is that missing data are missing at random (MAR). This does not mean data are missing completely at random (MCAR). Rather, the rate at which data are missing can be predicted, based on the analysis of relationships among other variables throughout the dataset.

With these assumptions in mind, both the confirmed response records and the non-response records were subjected to a range of tests. The results of these diagnostics clearly indicated that the distribution of non-responses throughout the sample was not completely random (MCAR). Rather, non-responses were found to cluster within particular demographic groups and across certain characteristics, indicating that currency information for non-response records was missing at random (MAR). This ensured that reasonable currency values for the non-response records could be estimated through the MI procedure.

There are three distinct steps to multiple imputation. First, the imputation process is repeated m times to generate m complete datasets. Second, the m datasets are analyzed using conventional statistical tools and third, results from the m datasets are combined into a summary set of findings. Typically, as few as three to five imputations are adequate and the end results offer the benefit of introducing uncertainty into the model. This in turn generates valid statistical inferences that correctly reflect this uncertainty due to missing data. As with previous iterations of the Voter's List Quality Measurement, five imputed datasets were generated and then combined to produce the final estimates of currency and quality for the 2011 fielding of the survey.

Building upon the imputation models that were developed for previous iterations of the survey, the 2011 model expanded the total number of predictive variables to 10.

The 10 variables used to impute unconfirmed currency values for non-response voter records consisted of:

- A voter's age
- A binary variable indicating whether a voter lives in a multi-unit or single-unit dwelling
- The difference between a voter's statusdate and the date the imputation was performed
- The difference between a voter's vtrcdate and the date the imputation was performed
- The difference between a voter's radcdate and the date the imputation was performed
- A binary variable indicating if a voter's record has a gender value
- A binary variable indicating if a voter's record has a NROE value
- A binary variable indicating if a voter's record has a BCDL value
- A binary variable indicating if a voter's record has a SIN value
- A binary variable indicating if a voter's mailing address is different from their residential address

The entire analysis, including the missing values diagnostics tests, the MI procedure and the predictive model was performed with SPSS 19's Missing Values and Imputation Module.

Appendix 3: B.C. Electoral Districts Grouped by Region

The North

NEC	Nechako Lakes
NOC	North Coast
PCN	Peace River North
PCS	Peace River South
PRM	Prince George-Mackenzie
PRV	Prince George-Valemount
SKE	Skeena
SKN	Stikine

Cariboo - Thompson

CBC	Cariboo-Chilcotin
CBN	Cariboo North
FRN	Fraser-Nicola
KAN	Kamloops-North Thompson
KAS	Kamloops-South Thompson

Okanagan

BDS	Boundary-Similkameen
KLA	Kelowna-Lake Country
KMI	Kelowna-Mission
PEN	Penticton
SHU	Shuswap
VRM	Vernon-Monashee
WTK	Westside-Kelowna

Columbia - Kootenay

CLR	Columbia River-Revelstoke
KOE	Kootenay East
KOW	Kootenay West
NEL	Nelson-Creston

Fraser Valley

ABM	Abbotsford-Mission
ABS	Abbotsford South
ABW	Abbotsford West
CHC	Chilliwack
CHH	Chilliwack-Hope
FLA	Fort Langley-Aldergrove
LLY	Langley
MRM	Maple Ridge-Mission
MRP	Maple Ridge-Pitt Meadows

Tri-Cities

CQB Coquitlam-Burke Mountain
CQM Coquitlam-Maillardville
POC Port Coquitlam
POM Port Moody-Coquitlam

Surrey

SRC Surrey-Cloverdale
SRF Surrey-Fleetwood
SRG Surrey-Green Timbers
SRN Surrey-Newton
SRP Surrey-Panorama
SRT Surrey-Tynehead
SWH Surrey-Whalley
SWR Surrey-White Rock

Richmond - Delta

DLN Delta North
DLS Delta South
RCC Richmond Centre
RCE Richmond East
RCS Richmond-Steveston

Burnaby and New Westminster

BND Burnaby-Deer Lake
BNE Burnaby-Edmonds
BNL Burnaby-Lougheed
BNN Burnaby North
NEW New Westminster

Vancouver

VFA Vancouver-Fairview
VFC Vancouver-False Creek
VFB Vancouver-Fraserview
VHA Vancouver-Hastings
VKE Vancouver-Kensington
VKI Vancouver-Kingsway
VLA Vancouver-Langara
VMP Vancouver-Mount Pleasant
VNP Vancouver-Point Grey
VNQ Vancouver-Quilchena
VNW Vancouver-West End

North Shore

NVL North Vancouver-Lonsdale

NVS North Vancouver-Seymour
WCA West Vancouver-Capilano
WSS West Vancouver-Sea to Sky

Vancouver Island and South Coast

APR Alberni-Pacific Rim
CMX Comox Valley
CWV Cowichan Valley
ESR Esquimalt-Royal Roads
JDF Juan de Fuca
NAN Nanaimo
NCW Nanaimo-North Cowichan
NOI North Island
OBG Oak Bay-Gordon Head
PAQ Parksville-Qualicum
POR Powell River-Sunshine Coast
SAN Saanich North and the Islands
SAS Saanich South
VTB Victoria-Beacon Hill
VTS Victoria-Swan Lake

Appendix 4: Telephone Survey Script

Hello, may I speak with ?

My name is _____. I am calling on behalf of Elections BC. We are conducting a brief 2 minute survey to improve the quality of the voters list. This survey is important to ensure that voters receive necessary voting information. You were randomly selected from the voters list. The following questions are about you and will be used to confirm your registration details.

Your participation in this survey is voluntary. Since only a limited number of people have been selected, your information is essential in order to produce meaningful results. Elections BC is conducting this survey in collaboration with BC Stats. Information collected from this survey may be shared with Elections Canada, but will not be shared or used for any purposes other than to improve the quality of the voters list.

We would like you to know that responses to this questionnaire will be kept confidential by BC Stats. Under Section 9 of the *Statistics Act*, BC Stats cannot disclose information that could be used to identify an individual response to any person, organization or government agency. May I do the survey with you now?

(SURVEYOR: Read only if necessary: Section 9 of the *Statistics Act* applies despite the provisions of the *Freedom of Information and Protection of Privacy Act (FOIPPA)*, other than Section 44(1)(b)(2) (2.1) and (3) of *FOIPPA*.)

If you choose to share any updated information with Elections BC, the data will be shared under Section 12 of the *BC Statistics Act*.)

[1] Yes, I agree to do the survey

[2] SURVEYOR: Read only if correct respondent refuses by phone:

I understand you do not wish to complete the survey over the phone. Would you prefer to complete the survey online?

Prefer to do the survey online:

To access the survey online, go to: www.electionsbc.malatest.net

Once there, type in your personal and confidential survey password: [telkey]

Thank you for your time!

[3] No (Thank and terminate)

[Probe for proxy information as possible, and assign appropriate call status as required]

Q1 Thank you for agreeing to participate in the survey. To confirm, is your name **GIVEN SURNAME**?

(SURVEYOR: Confirm both the correctness and spelling of the respondent's name)

[1] Yes >> **Q2**

[2] No

[3] Decline to answer >> **Q2**

Q1A You indicated that your name is not AUPLD_GIVEN AUPLD_SURNAME. What is your correct name?

(SURVEYOR: Confirm both the correctness and spelling of the respondent's name)

Given Name:

AQ1AI

Middle Name(s):

AQ1AII

Surname:

AQ1AIII

Q1AREFUSE

[99] Decline to answer

Q2 We would like to verify your home address as of July 22, 2011

IF ANY ARE WRONG THEN CHOOSE "NO"

Is your **home address**:

UNIT BUILD STPRE STREET STTYPE STDIR CITY

(Home address refers to the physical location where you live and may not be the same as postal address)

[1] Yes >> **QSAME_HOME**

[2] No

[3] Decline to answer >> **QSAME_HOME**

Q2A Have you ever lived at this **home address**?

[1] Yes

[2] No

[3] Decline to answer

Q2B You indicated that the home address is incorrect. What was your correct **home address** on July 22, 2011?

Apartment, Unit, Pad Number:

AQ2A_APUNPN

House or Building Number:

AQ2A_HBNU

Street Name:

AQ2A_SN

Street Type (Avenue, Street, etc.):

AQ2A_ST

Street Direction (North, East, etc.):

AQ2A_SD

City or Town:

AQ2A_CITO

Postal Code:

AQ2A_POST

Q2BREFUSE

[99] Decline to answer

(QDATA.NE.1).AND.(Q2.EQ.2)

QSAME_HOME Is your mailing address the same as your home address?

AQ2A_APUNPN AQ2A_HBNU AQ2A_SN AQ2A_ST AQ2A_SD

AQ2A_CITO

AQ2A_POST

[1] Yes it is the same address

[2] No it is a different address

(QDATA.NE.1).AND.(QSAME_HOME.EQ.1).AND.(ISEMPTY(AQ2A_POST))

QPOST_HOME You indicated that your mailing address is the same as your home address:

AQ2A_APUNPN AQ2A_HBNU AQ2A_SN AQ2A_ST AQ2A_SD

AQ2A_CITO

What is your postal code?

AQPOST_HOME_POST

[3] Decline to answer

Q3 We would like to verify your mailing address as of July 22, 2011

IF ANY ARE WRONG THEN CHOOSE "NO"

Is your current **mailing address**:

M_LINE1

M_LINE2

M_CITY

M_POST

[1] Yes >> ~Q4

[2] No

[3] Decline to answer >> ~Q4

Q3A You indicated that the mailing address is incorrect. What was your correct mailing address on July 22, 2011?

Mail Line 1

AQ3A_LINE1

Mail Line 2

AQ3A_LINE2

Mail Line 3

AQ3A_LINE3

Mail City

AQ3A_CITY

Mail Province

AQ3A_PROV

Mail Country

AQ3A_COTRY

Postal / Zip Code

AQ3A_POST

Q3AREFUSE

[99] Decline to answer

Q4 And finally, what is your date of birth?

Please select a day, month and year from the Dropdown boxes below.

Q4_DAY

Q4_MONTH

Q4_YEAR

Q4REFUSE

[99] Decline to answer

(Q1.EQ.2).OR.(Q2.EQ.2).OR.(Q3.EQ.2)

Q5 Information updates contained in your responses will be used by Elections BC to improve voters list quality. Would you like to pass along these updates to Elections BC?

[1] Yes

[2] No

[3] Decline to answer

QINT1 On behalf of Elections BC, I would like to thank you very much for your time today. If you receive a letter in the mail asking you to confirm your voters list information, you can ignore it because you've completed this interview. If you have any further questions about the survey, please contact Elections BC toll-free at 1-800-661-8683 or go online to <http://www3.elections.bc.ca/index.php/resource-centre/surveys/>.

Again, thank you for your time, and have a good afternoon/ evening/ day.

Appendix 5: Introductory Letter – Respondents with Telephone Number

<<vu_given_names>> <vu_surname>>
<<vu_mail_line_1>>
<<vu_mail_line_2>>
<<vu_mail_line_3>>
<<vu_mail_city>>, <<vu_mail_province_state >>
<<vu_mail_postal_code>>,<<vu_mailing_country_code>>

Home Address:
<<unit_number_alpha>>
<<building_number_alpha>>
<<street_dir_prefix>> <<street_name>>
<<street_type>><<street_dir_suffix>>,
<<city_name>>, BC

<<MONTH>> <<DAY>>, 2011

PERSONAL AND CONFIDENTIAL

Dear <<vu_given_names>> <<vu_surname>>:

Elections BC needs your help to ensure the provincial voters list is up-to-date and accurate. Elections BC is working with BC Stats, the Province’s statistical agency, to conduct a survey to determine the quality of the voters list.

Your voter record has been randomly selected for verification. Elections BC has been trying to reach you during the last five days by telephone to complete a brief interview. If you have **not** already completed the telephone interview, your response is needed to confirm that your name, date of birth, home and mailing addresses are accurate on the voters list. Please verify your voters list information by doing *one* of the following:

1. Please call BC Stats at **1-<<TOLLFREENUM>>** during call centre service hours and quote this verification reference number <<VER_REF_NUM>>; OR
2. Complete the on-line survey at <<SURVEY_URL>>, using your confidential password <<VER_REF_NUM>>.

Call centre service hours: Monday to Friday, 9 a.m. to 9 p.m., Saturday, 10 a.m. to 6 p.m. and Sunday, 12 p.m. to 8 p.m.

It is important that you let Elections BC know within the next week whether your voters list information is accurate. If you have already completed the telephone interview, no further action on your part is required and I thank you for your participation in this survey. Please visit <http://www.elections.bc.ca/index.php/resource-center/surveys/> for more information.

Sincerely,



Craig James
Acting Chief Electoral Officer

Appendix 6: Mail Survey Form – Respondents without Telephone Number

<<vu_given_names>> <vu_surname>>
<<vu_mail_line_1>>
<<vu_mail_line_2>>
<<vu_mail_line_3>>
<<vu_mail_city>>, <<vu_mail_province_state >>
<<vu_mail_postal_code>>,<<vu_mailing_country_code>>

<p>Home Address: <<unit_number_alpha>> <<building_number_alpha>> <<street_dir_prefix>> <<street_name>> <<street_type>><<street_dir_suffix>>, <<city_name>>, BC</p>

<<MONTH>> <<DAY>>, 2011

PERSONAL AND CONFIDENTIAL

Dear <<vu_given_names>> <vu_surname>> :

Elections BC needs your help to ensure the provincial voters list is up-to-date and accurate. Elections BC is working with BC Stats, the Province’s statistical agency, to conduct a survey to determine the quality of the voters list.

Your voter record has been randomly selected for verification. Your response is needed to confirm that your name, date of birth, home and mailing addresses are accurate on the voters list. Please verify your voters list information by doing *one* of the following:

1. Call BC Stats at 1-<<TOLLFREENUM>> during call centre service hours and quote this verification reference number <<VER_REF_NUM>>;
2. Complete the on-line survey at <<SURVEY_URL>>, using your confidential survey password <<VER_REF_NUM>>; or
3. Answer the questions in the enclosed survey and return it in the postage-paid envelope.

Call centre service hours: Monday to Friday, 9 a.m. to 9 p.m., Saturday, 10 a.m. to 6 p.m. and Sunday, 12 p.m. to 8 p.m.

It is important that you let Elections BC know before September 20 whether your voters list information is accurate. More information about this survey is available on our website at

<http://www.elections.bc.ca/index.php/resource-center/surveys/>.

Sincerely,



Craig James

Acting Chief Electoral Officer

Important – Please complete and return to BC Stats no later than September 20, 2011

Thank you!

As of July 22, your information on the provincial voters list, is:

Name: <<vu_given_names>> <<vu_surname>>

Date of Birth: <<vu_DOB>>
(yyyy-mm-dd)

Home Address: <<vu_unit_number_alpha >> <<vu_building_number_alpha >>
<<vu_street_dir_prefix>> <<vu_street_name>>
<<vu_street_type>><<vu_street_dir_suffix>> <<vu_city_name>> BC
<<vu_mail_postal_code>>

Mailing Address <<vu_mail_line_1>> <<vu_mail_line_2>> <<vu_mail_line_3>>
<<vu_mail_city>> <<vu_mail_province_state>>
<<vu_mailing_country_code>> <<vu_mail_postal_code>>

1. Is the **name** correct?

Yes No



What is your correct **name**?

First Name: _____

Last Name: _____



2. Is the **date of birth** correct?

Yes No



What is your correct **date of birth**?

Year (YYYY):

Month (MM): _____ Day (DD): _____

Page 1 of 2

3. Is the **home address** correct for where you live, as of July 22, 2011?

Yes No  What is the correct **home address** for where you live?

Please do not provide a postal address



Apartment, Unit, Pad Number: _____

House or Building Number: _____

Street Name: _____

Street Type (Avenue, Street, etc.): _____

Street Direction (North, East, etc.): _____

City or Town: _____

4. Is the **mailing address** correct, as of July 22, 2011?

Yes No  What is the correct **mailing address** for where you live?



Mail Line 1 _____

Mail Line 2 _____

Mail City _____

Postal Code _____

5. Do you give permission for Elections BC to update your voter registration record with information you provided in this survey?

Yes, Elections BC may use information from this survey to update my voter registration record.

No, Elections BC may not use information from this survey to update my voter registration record.

Thank you for completing this survey

Page 2 of 2

Appendix 7: Online Survey Text

Screen 1 - Login

Header: Elections BC 2011 Voters List Quality Survey

Welcome to Elections BC's 2011 Voters List Quality Survey

Please enter your 6-digit confidential password and click on the Login button.

Note: The confidential password was given to you either in a letter from Elections BC or over the phone.

Questions?

- For questions about the voters list or this research, contact Elections BC toll free at 1-800-661-8683 or visit <http://www.elections.bc.ca/index.php/resource-center/surveys/>
- For help with the online survey, or to do the survey over the phone, please call 1-877-813-8388

Confidential Survey Password

Login

Screen 2 - Welcome and Instructions

Header: Elections BC 2011 Voters List Quality Survey

Welcome to Elections BC's 2011 Voters List Quality Survey

Please navigate via the Next button to continue to the next question.

If you wish to review your answers, use the Previous button. Please do not use your web browser's Back and Forward buttons.

Thank you.

Next

For assistance with completing the survey, please call toll free: 1-877-8388.

Screen 3 - Intro to Survey

Header: Elections BC 2011 Voters List Quality Survey

Elections BC needs your help to ensure the provincial voters list is up-to-date and accurate. Elections BC is working with BC Stats, the Province's statistical agency, to conduct a survey to determine the quality of the voters list.

Your voter record has been randomly selected for verification. Your response is needed to confirm that your name, date of birth, home and mailing addresses are accurate on the voters list.

It is important that you respond by September 9, 2011.

The survey will take approximately 5 minutes to complete, depending on your answers.

More information about this survey is available on our website at <http://www.elections.bc.ca/index.php/resource-center/surveys/>.

CONFIDENTIALITY: Your responses to this questionnaire will be kept confidential by BC Stats. Under Section 9 of the Statistics Act, BC Stats cannot disclose information that could be used to identify an individual response to any person, organization or government agency. Section 9 of the Statistics Act applies despite the provisions of the Freedom of Information and Protection of Privacy Act (FOIPPA), other than Section 44(1)(b)(2) (2.1) and (3) of FOIPPA.

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For assistance with completing the survey, please call toll free: 1-877-8388.

Screen 4 - Name Confirmation

Header: Elections BC 2011 Voters List Quality Survey

To confirm, is your name **GivenName1 Surname1**?

Yes

No

Decline to answer

[Previous](#) [Next](#)

For assistance with completing the survey, please call toll free: 1-877-8388.

Yes and Declined to Answer go to Screen 7

Screen 5 - If No to Screen 4 – Name Confirmation

Header: Elections BC 2011 Voters List Quality Survey

What is your correct name?

First Name

Middle Name(s)

Surname

[Previous](#) [Next](#)

For assistance with completing the survey, please call toll free: 1-877-8388.

Screen 6 - Name Correction Confirmation

Header: Elections BC 2011 Voters List Quality Survey

You indicated that your correct name is:

GivenName2 Surname2

If this is **incorrect**, please press the Previous button below, and re-enter your correct name.

Otherwise, click Next to continue.

Previous Next

For assistance with completing the survey, please call toll free: 1-877-8388.

Screen 7 - Residential Address Confirmation

Header: Elections BC 2011 Voters List Quality Survey

On July 22, 2011, was your home address:

<<Unit_number_alpha>>

<<Building_number_alpha>><<street_dir_prefix>><<street_name>><<street_type>><<street_dir_suffix>>, <<city_name>>, BC, <<mail_postal_code>>

(Home address refers to the physical location where you live and may not be the same as postal address)

Yes

No

Declined to answer

Previous Next

For assistance with completing the survey, please call toll free: 1-877-8388.

Yes and Declined to Answer go to Screen 12

Screen 8 - If No to Screen 7 – Residential Address Confirmation

Header: Elections BC 2011 Voters List Quality Survey

What was your correct home address as of July 22, 2011?

(Please provide the physical location where you live. Home address is not the same as postal address)

Apartment, Unit, Pad Number

House or Building Number

Street Name

Street Type (Avenue, Street, etc.)
Street Direction (North, East, etc.)
City or Town
Postal Code

Previous Next

For assistance with completing the survey, please call toll free: 1-877-8388.

Screen 9 - Home Address Correction Confirmation

Header: Elections BC 2011 Voters List Quality Survey

You indicated that your correct home address is:

Show address entered in Screen 8 in bold

If this is **incorrect**, please press the Previous button below, and re-enter your correct home address.

Otherwise, click Next to continue.

Previous Next

For assistance with completing the survey, please call toll free: 1-877-8388.

Screen 10 – Mailing Address Same and Home Address

Header: Elections BC 2011 Voters List Quality Survey

Is your mailing address the same as your home address?

Show address entered in Screen 8 in bold

Yes, it is the same address

No, it is a different address

Previous Next

For assistance with completing the survey, please call toll free: 1-877-8388.

No, skip to screen 12

Screen 11 – Postal Code if Mailing Address=Home Address

Header: Elections BC 2011 Voters List Quality Survey

You indicated that your mailing address is the same as your home address:

Show address entered in Screen 8 in bold

What is your postal code?

Decline to answer

Previous Next

For assistance with completing the survey, please call toll free: 1-877-8388.

Skip to screen 15

Screen 12 - Mailing Address Confirmation

Header: Elections BC 2011 Voters List Quality Survey

On July 22, 2011, was your mailing address:

<<insert mailing address fields>>

Yes

No

Declined to answer

Previous Next

For assistance with completing the survey, please call toll free: 1-877-8388.

Yes and Decline to Answer, skip to Screen 15

Screen 13 - If No to Screen 10 – Mailing Address Confirmation

Header: Elections BC 2011 Voters List Quality Survey

What was your correct mailing address as of July 22, 2011?

Mail Line 1

Mail Line 2

Mail Line 3

Mail City

Mail Province

Mail Country

Postal/Zip

Previous Next

For assistance with completing the survey, please call toll free: 1-877-8388.

Screen 14 - Mailing Address Correction Confirmation

Header: Elections BC 2011 Voters List Quality Survey

You indicated that your correct mailing address is:

Show address entered in Screen 13 in bold

If this is **incorrect**, please press the Previous button below, and re-enter your correct mailing address.

Otherwise, click Next to continue.

Previous Next

For assistance with completing the survey, please call toll free: 1-877-8388.

Screen 15 - Birth date

Header: Elections BC 2011 Voters List Quality Survey

What is your date of birth?

Please select a day, month and year from the Dropdown boxes below.

Day Month Year

Decline to answer

Previous Next

For assistance with completing the survey, please call toll free: 1-877-8388.

Decline to Answer, skip to Screen 17

Screen 16 - Date of Birth Confirmation

Header: Elections BC 2011 Voters List Quality Survey

You indicated that your correct date of birth is:

Show birth date entered in Screen 15 in bold

If this is **incorrect**, please press the Previous button below, and re-enter your correct birth date.

Otherwise, click Next to continue.

Previous Next

For assistance with completing the survey, please call toll free: 1-877-8388.

Screen 17 – Permission

Do you give permission for Elections BC to update your voter registration record with information you provided in this survey?

- Yes, Elections BC may use information from this survey to update my voter registration record.
- No, Elections BC may not use information from this survey to update my voter registration record.

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For assistance with completing the survey, please call toll free: 1-877-8388.

Screen 18 - Thank You

Header: Elections BC 2011 Voters List Quality Survey

Thank you for completing this survey.

If you have any questions or concerns regarding this survey, please contact Elections BC toll-free at 1-800-661-8683 or through Elections BC's website at www.elections.bc.ca/index.php/resource-center/surveys/

[Submit Survey](#)

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For assistance with completing the survey, please call toll free: 1-877-8388.

Screen 19 - Information Submitted Confirmation

Header: Elections BC 2011 Voters List Quality Survey

Information Submitted

Thank you for completing the Elections BC Voters List Quality Survey.

You may now close your browser.

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For assistance with completing the survey, please call toll free: 1-877-8388.

Appendix 8: References

BC Stats (2009). *2009 Post-Enumeration Voters List Quality Measurement, May 2009*.

British Columbia Electoral Boundaries Commission (2008). *Amendments to the Preliminary Report - February 14, 2008*. Retrieved October 25, 2011, from www.elections.bc.ca:
<http://www.elections.bc.ca/docs/rpt/BCEBC-Amendments/Appendix-A.pdf>