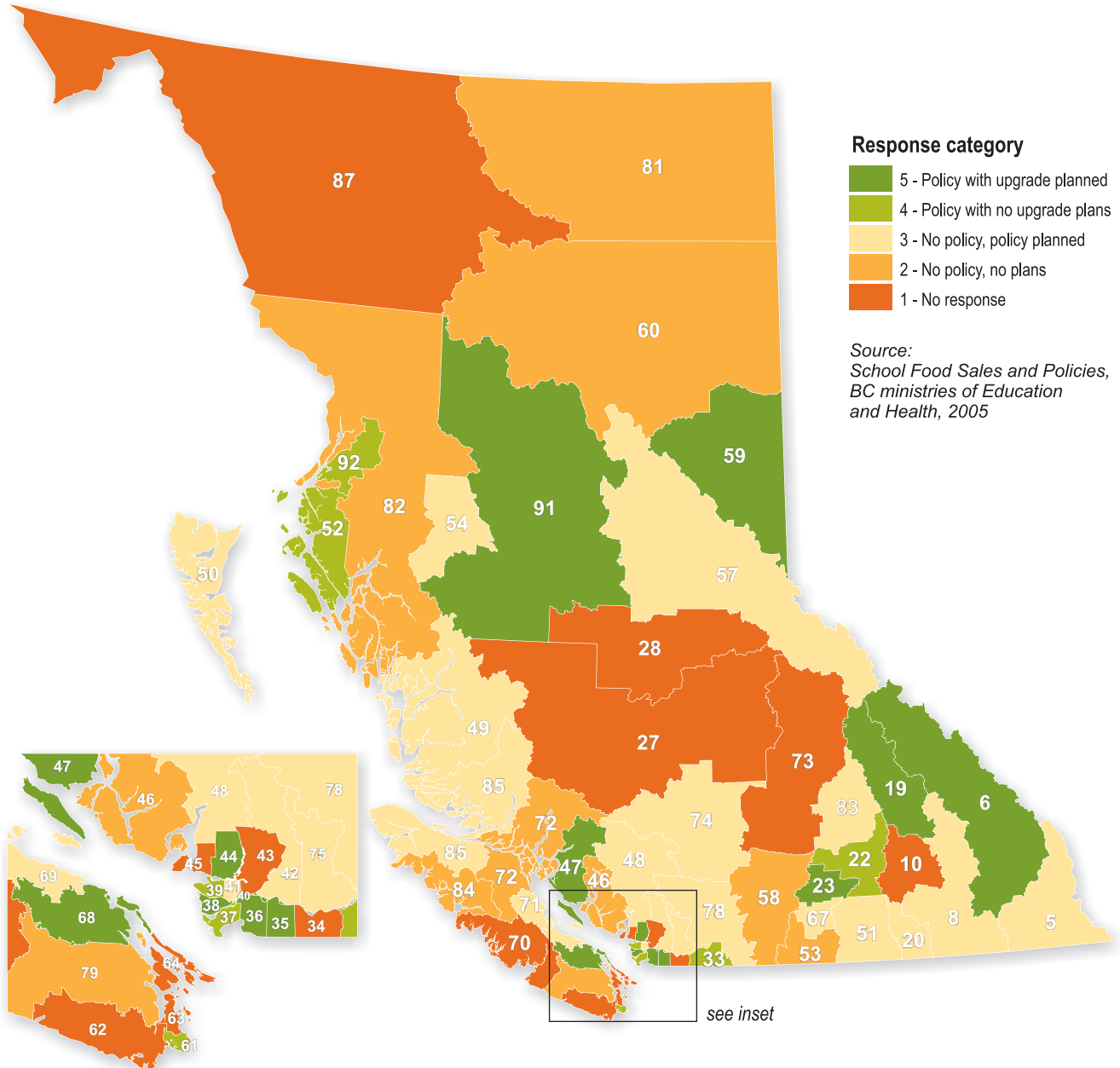
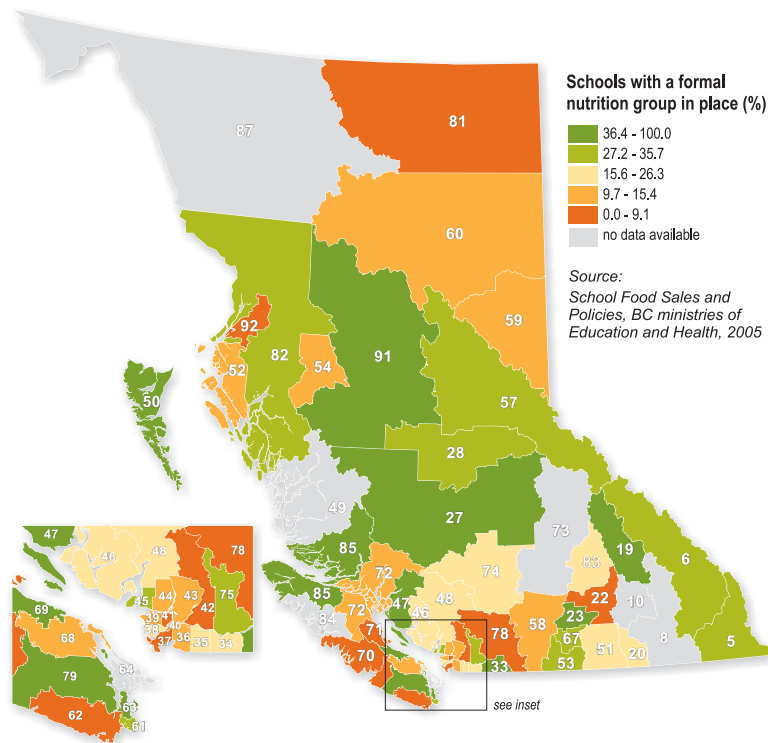


Nutrition policy development at the school district level



Nutrition policy development in the schools



School District	Formal group (%)
085 Vancouver Island North	100.0
023 Central Okanagan	92.3
091 Nechako Lakes	63.2
019 Revelstoke	60.0
050 Haida Gwaii/Queen Charlotte	50.0
063 Saanich	50.0
027 Cariboo-Chilcotin	45.0
079 Cowichan Valley	43.8
069 Qualicum	41.7
047 Powell River	37.5
033 Chilliwack	36.4
006 Rocky Mountain	35.7
005 Southeast Kootenay	35.3
028 Quesnel	33.3
053 Okanagan Similkameen	33.3
075 Mission	33.3
082 Coast Mountains	33.3
067 Okanagan Skaha	31.3
057 Prince George	30.4
061 Greater Victoria	27.5
045 West Vancouver	27.2
083 North Okanagan-Shuswap	26.3
040 New Westminster	22.2
046 Sunshine Coast	22.2
051 Boundary	22.2
048 Howe Sound	21.8
020 Kootenay-Columbia	18.2
034 Abbotsford	18.2
035 Langley	18.2
074 Gold Trail	18.2
038 Richmond	15.6
052 Prince Rupert	15.4
068 Nanaimo-Ladysmith	15.4
054 Bulkley Valley	12.5
059 Peace River South	12.5
072 Campbell River	11.8
036 Surrey	11.4
044 North Vancouver	10.5
060 Peace River North	10.5
058 Nicola-Similkameen	10.0
039 Vancouver	9.7
043 Coquitlam	9.7
078 Fraser-Cascade	9.1
071 Comox Valley	8.3
041 Burnaby	6.4
037 Delta	6.3
022 Vernon	5.9
062 Sooke	4.8
042 Maple Ridge-Pitt Meadows	0.0
070 Alberni	0.0
081 Fort Nelson	0.0
092 Nisga'a	0.0
008 Kootenay Lake	NR
010 Arrow Lakes	NR
049 Central Coast	Msk
064 Gulf Islands	NR
073 Kamloops/Thompson	NR
084 Vancouver Island West	NR
087 Stikine	NR

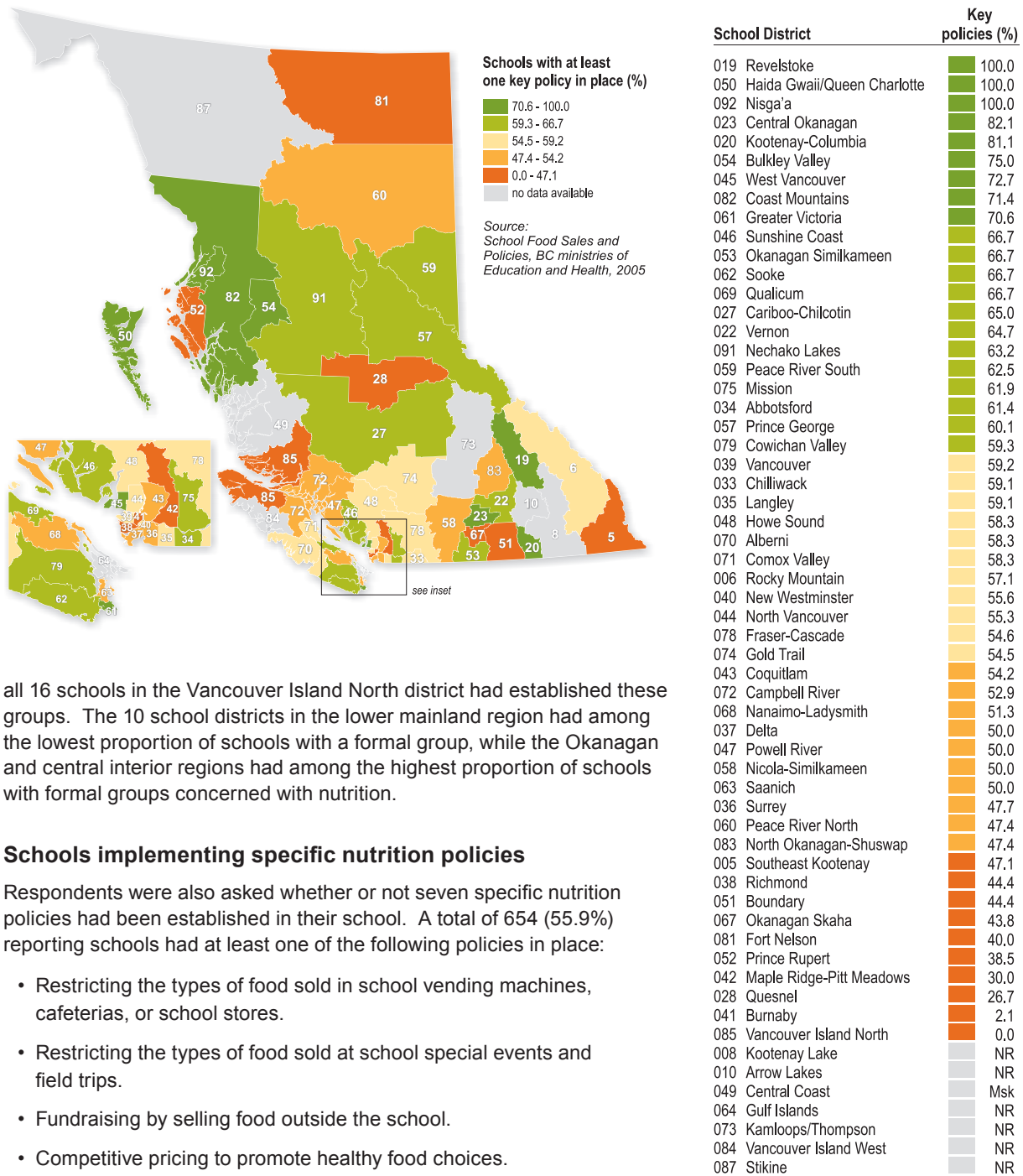
These two maps show the variation in two indicators related to food policy in schools. While some schools have developed formal groups to promote better nutrition among students, other schools have expanded the role of existing groups within their school (e.g., Parent Advisory Committees, Parent Teacher Associations) to take on a more formal role to improve nutritional quality in the school. These groups have undertaken activities including: reducing the presence of vending machines in schools; increasing the number of healthy choice foods and beverages (e.g., low in fat and sugar, high in fibre) in vending machines and for sale in school tuck shops and cafeterias; and limiting cafeteria contracts with fast food and beverage companies, etc.

Formal groups concerned about nutrition

Analyses from the survey of individual schools, referred to on the previous page, show that schools with formal groups concerned about nutrition had a lower potential for food sales from vending machines and a higher proportion of more healthy snack options in their snack vending machines. They were also more likely to have established nutrition policies and guidelines (Ostry et al., 2005; Rideout et al., in press).

Responses were obtained from 1,169 (71.2%) of BC's 1,643 public schools. Of those responding, 256 (21.9%) reported the presence of a formal group in the school that was concerned with improving nutrition among students. These 256 schools were distributed quite evenly across elementary, middle, and secondary schools (Ostry et al., 2005; Rideout et al., in press).

Given that only 21.9% of responding schools had established a formal group concerned with nutrition, the proportion of schools within most school districts with such a group was quite low. As well, the variation was substantial. There were no groups among schools in four school districts—Maple Ridge-Pitt Meadows, Alberni, Fort Nelson, and Nisga'a—but



all 16 schools in the Vancouver Island North district had established these groups. The 10 school districts in the lower mainland region had among the lowest proportion of schools with a formal group, while the Okanagan and central interior regions had among the highest proportion of schools with formal groups concerned with nutrition.

Schools implementing specific nutrition policies

Respondents were also asked whether or not seven specific nutrition policies had been established in their school. A total of 654 (55.9%) reporting schools had at least one of the following policies in place:

- Restricting the types of food sold in school vending machines, cafeterias, or school stores.
- Restricting the types of food sold at school special events and field trips.
- Fundraising by selling food outside the school.
- Competitive pricing to promote healthy food choices.
- Discouraging the use of food as a reward.
- Limiting access to less nutritious foods during school hours.
- Providing adequate time and pleasant spaces to eat.

Responses were aggregated to the school district level, and the proportion of schools with one of the seven nutrition policies in place at the time of survey is shown on the table accompanying the map above.

There was much regional variation; for example, all the schools in Haida Gwaii/Queen Charlotte and Revelstoke school districts had at least one of the seven nutrition policies, while in the Vancouver Island North school district none of the schools had implemented any of these policies. In terms of geographical trends, the proportion of schools in the lower mainland with one of these policies in place was among the lowest in the province, compared to Northwest, North Shore/Coast Garibaldi, Okanagan, and Central Interior. New surveys are underway and these results will likely change.

Always able to afford to eat balanced meals in the past year

The first three maps opposite show the proportion of survey respondents, over age 12, within each HSDA who, with their household, were “always able to afford to eat balanced meals in the past 12 months.” The actual CCHS question asked was: “You and your household members couldn’t afford to eat balanced meals. In the last 12 months was that often true, sometimes true, or never true?” Approximately 9 out of 10 respondents answered “never,” indicating that they were always able to afford a balanced meal.

The results for Aboriginal respondents in BC was lower, with 8 out of every 10 (80.99%) responding “never.” This difference is significant in a statistical sense.

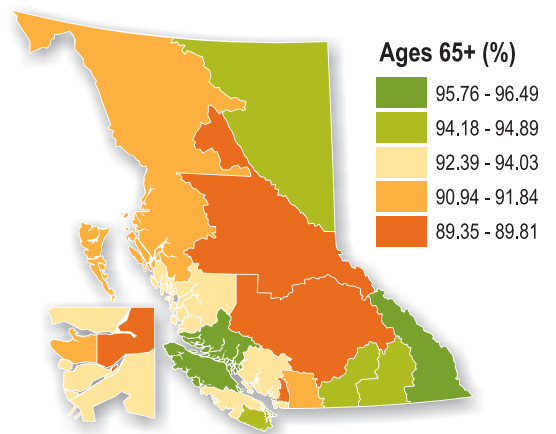
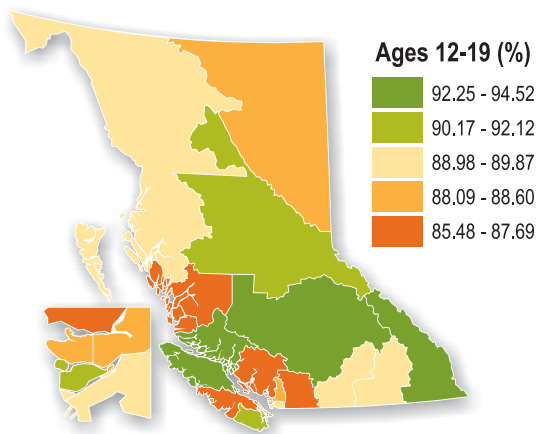
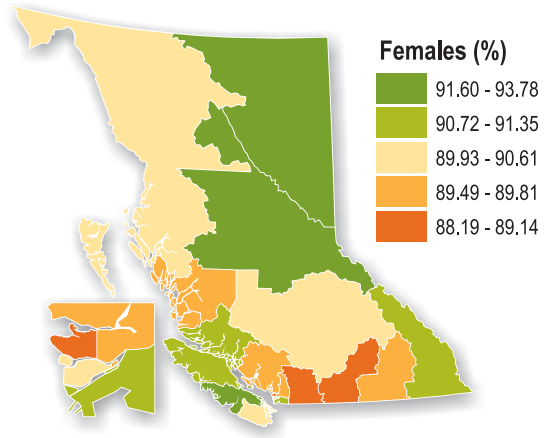
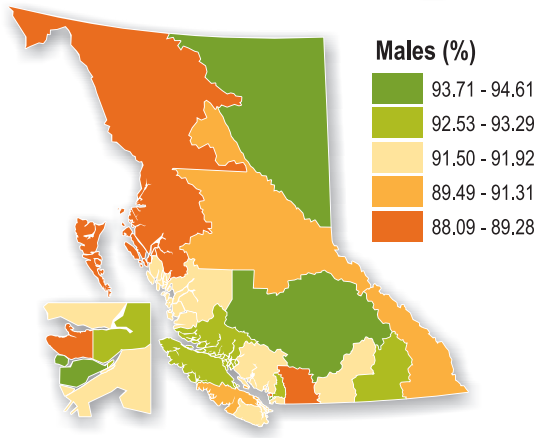
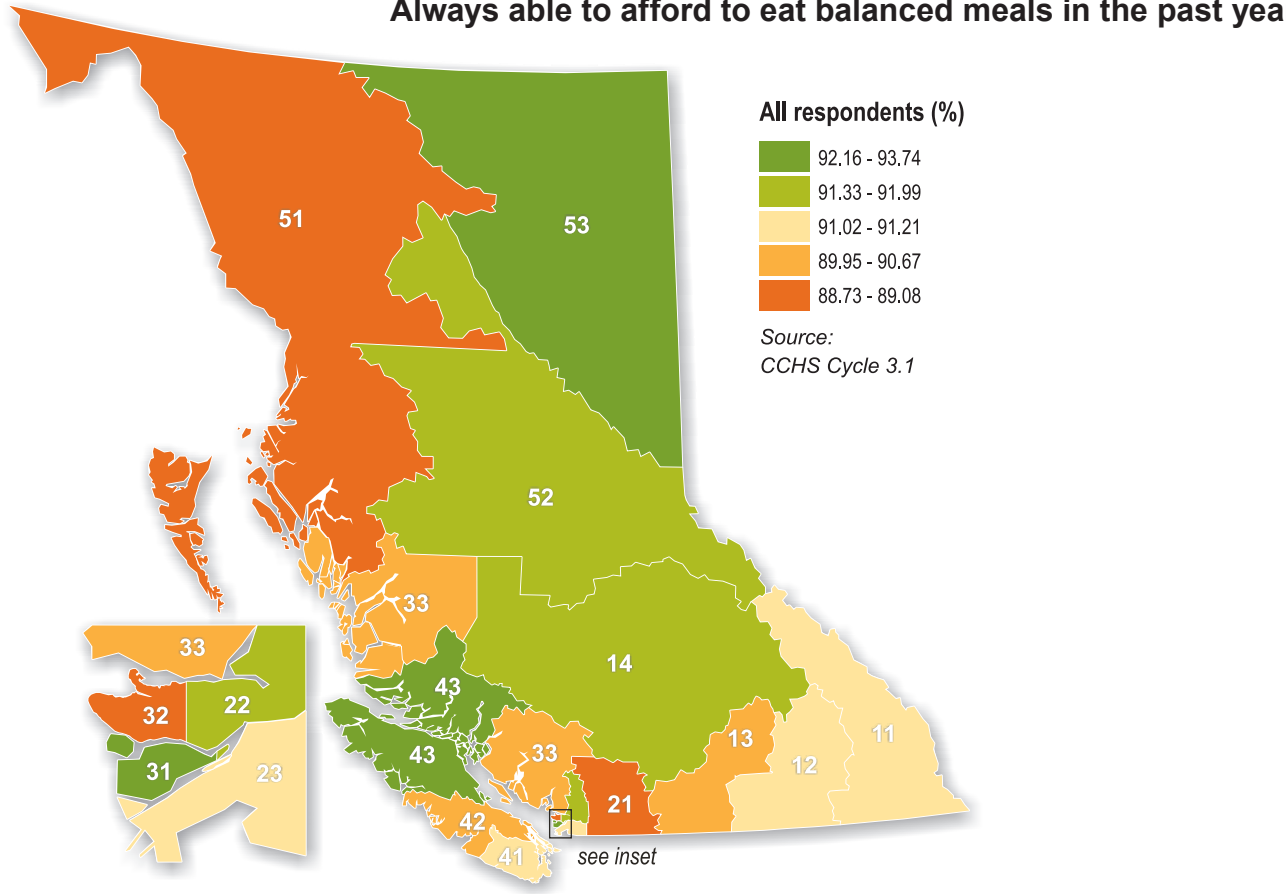
The top map shows results for all respondents, and there was very little difference across regions of the province. For example, a low of 88.73% of respondents in Fraser East were always able to afford balanced meals compared to a high of 93.74% in Northeast. The next two maps show the results for males and females, age 12 and over, separately. Considering each region, little difference is observed between females and males.

The map at lower left, opposite, shows that teens were less able to afford balanced meals in the past year than their older counterparts. However, these differences were small (e.g., a provincial average of 89.32% for 12- to 19-year-olds, and 90.54% for 20- to 64-year-olds, compared to an average of 92.56% of those over 65 who reported being able to afford balanced meals in the past year). There was virtually no variation across regions for teens and seniors, but Northeast at 94.79% was significantly higher (table above) for 20- to 64-year-olds compared to the average for this age group.

In summary, these five maps indicate that approximately 90% of respondents in all regions of the province were always able to afford balanced meals in the year prior to the survey. Within each region, little variation was noted between males and females or across the three age groups, although teens reported being slightly less able to always afford balanced meals compared to the middle age and senior cohorts, and Aboriginal respondents were significantly less able to afford balanced meals.

Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
053 Northeast	93.74	93.71	93.78	88.09	94.79	94.89
031 Richmond	92.54	94.61	90.61	90.65	92.77	92.68
043 North Vancouver Island	92.16	92.98	91.35	94.52	90.74	96.49
014 Thompson Cariboo Shuswap	91.99	94.07	89.93	92.25	92.56	89.35
022 Fraser North	91.44	93.29	89.64	88.60	92.16	89.66
052 Northern Interior	91.33	89.56	93.20	90.17	91.77	89.81
023 Fraser South	91.21	91.67	90.75	89.87	91.24	92.39
012 Kootenay Boundary	91.17	92.53	89.81	89.35	90.54	94.89
041 South Vancouver Island	91.11	91.89	90.41	92.12	90.15	94.18
011 East Kootenay	91.02	91.31	90.72	94.26	89.39	95.76
033 North Shore/Coast Garibaldi	90.67	91.92	89.49	87.69	90.40	94.03
042 Central Vancouver Island	90.57	89.49	91.60	85.97	90.55	93.43
013 Okanagan	89.95	91.50	88.48	88.99	88.70	94.45
051 Northwest	89.08	88.09	90.14	88.98	88.74	91.76
032 Vancouver	88.88	88.63	89.14	88.44	88.40	91.84
021 Fraser East	88.73	89.28	88.19	85.48	88.90	90.94
999 Province	90.70	91.38	90.05	89.32	90.54	92.56

Always able to afford to eat balanced meals in the past year



Always had enough of preferred food in the past year

The CCHS asked the following question: “Which of the following statements best describes the food eaten in your household in the past 12 months? Would you say you always had enough of the kinds of food you wanted to eat, or often you didn’t have enough to eat?” Approximately 85% of all respondents over the age of 12 always had enough of the kinds of foods they wanted to eat in the past 12 months (86.57%). There was no difference from the average of those provinces across Canada that completed this part of the CCHS.

There was little difference across regions of the province, except in Vancouver where the proportion was lower (statistically significantly) than the provincial average. A low of 83.33% of all respondents in Vancouver always had enough preferred foods in the past year compared to a high of 89.36% (virtually next door) in Richmond. The next two maps show little difference in the proportion of males and females who “always had enough preferred foods in the past year.”

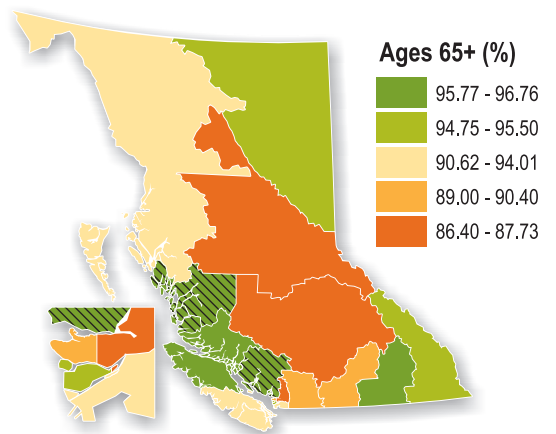
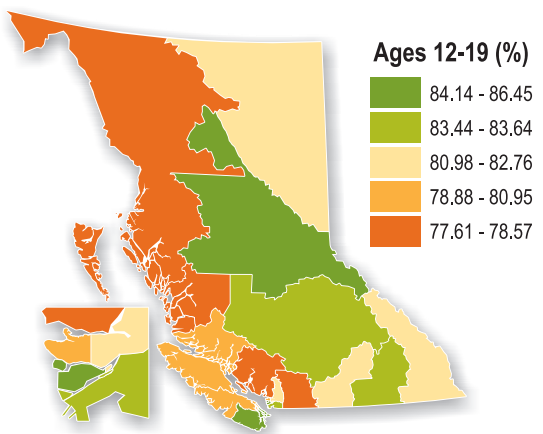
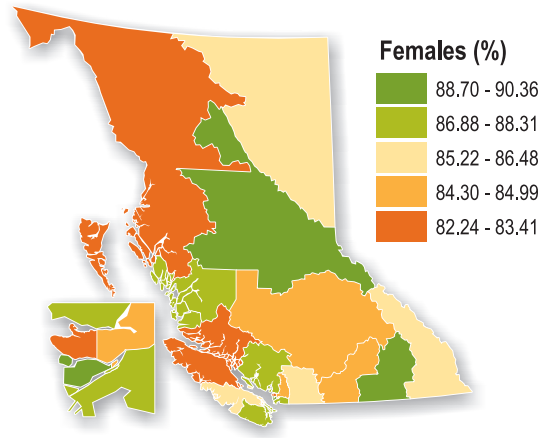
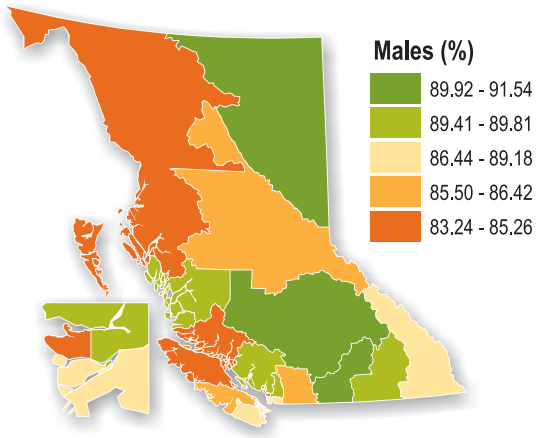
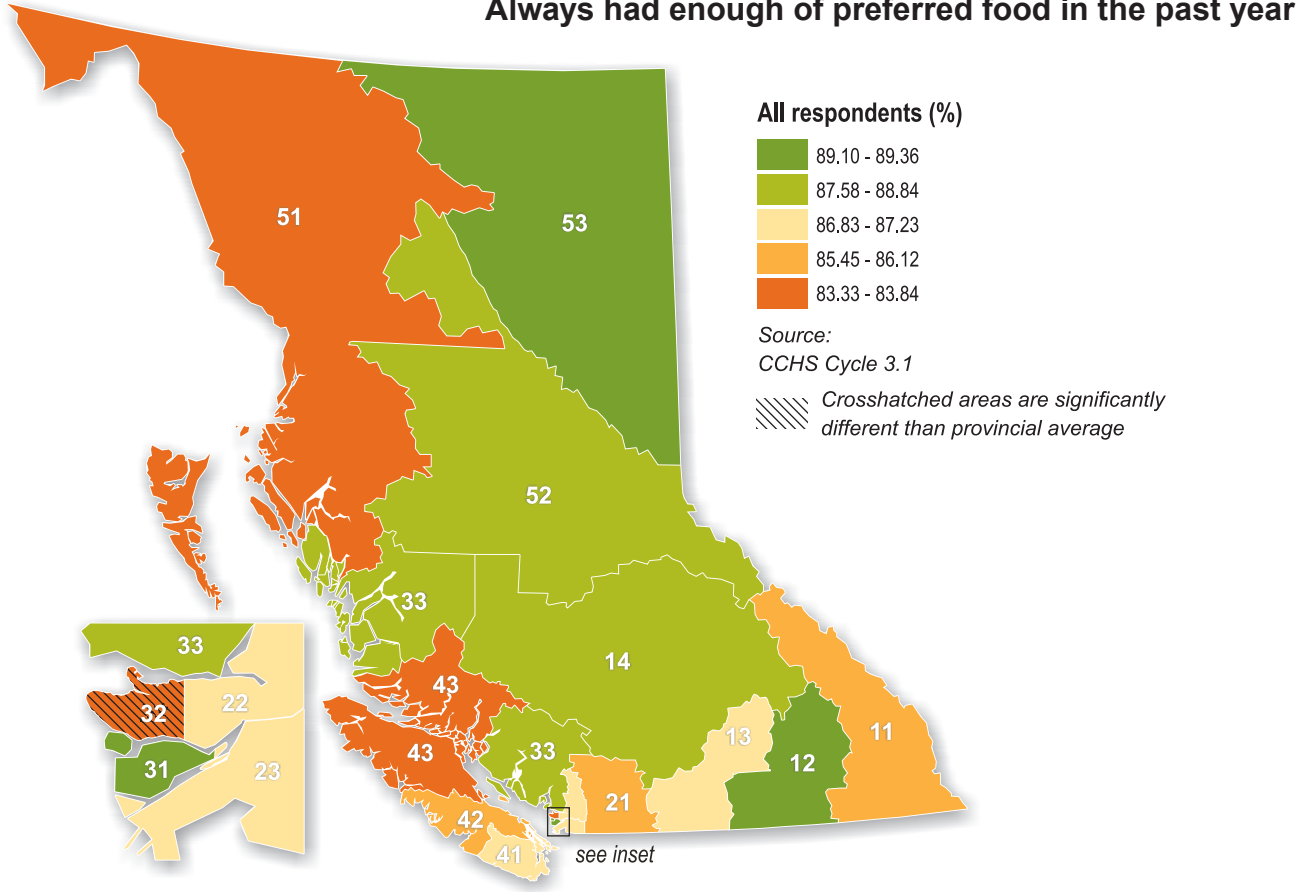
The bottom two maps opposite show that, on average, 81.73% of respondents aged 12 to 19 always had enough preferred foods, compared to 86.42% of 20- to 64-years-olds (see above table) and 91.09% of those over age 65. These differences were statistically significant. The map at the bottom right shows that the proportion of residents in the North Shore/Coast Garibaldi, East Kootenay, Central Vancouver Island, and North Vancouver Island HSDAs who always had enough preferred foods in the past year was higher for seniors than 20- to 64-year-olds living in these same four regions, and the differences were statistically significant. Finally, among seniors, 96.67% of residents of North Shore/Coast Garibaldi reported having enough of their preferred foods. This was significantly higher than the provincial average for seniors (91.09%).

In summary, these five maps and accompanying table indicate that 80% to 90% of the population (with little variation by region, except for Vancouver) always had enough of their preferred food in 2005. Little variation was noted between males and females. On average, seniors had more and youths had less access to preferred foods than the middle age group.

Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
031 Richmond	89.36	89.18	89.53	86.45	88.63	95.21
012 Kootenay Boundary	89.17	89.64	88.70	83.54	88.21	96.76
053 Northeast	89.10	91.54	86.48	82.23	89.79	95.50
033 North Shore/Coast Garibaldi	88.84	89.41	88.31	78.57	88.74	96.67‡
052 Northern Interior	88.34	86.42	90.36	86.19	88.96	86.95
014 Thompson Cariboo Shuswap	87.58	90.19	84.99	83.64	88.58	86.40
022 Fraser North	87.23	89.81	84.72	80.98	88.08	87.73
023 Fraser South	87.19	86.44	87.93	83.44	87.03	91.90
013 Okanagan	87.03	89.92	84.30	82.76	86.73	90.40
041 South Vancouver Island	86.83	86.77	86.88	84.14	86.23	90.62
042 Central Vancouver Island	86.12	86.22	86.03	80.95	84.71	94.01‡
011 East Kootenay	86.08	86.92	85.22	81.81	84.98	94.75‡
021 Fraser East	85.45	85.50	85.41	77.61	86.24	89.14
051 Northwest	83.84	85.26	82.31	77.71	84.17	91.06
043 North Vancouver Island	83.52	84.82	82.24	80.18	81.44	95.77‡
032 Vancouver	83.33	83.24	83.41	78.88	82.78	89.00
999 Province	86.57	87.24	85.93	81.73‡	86.42	91.09‡

‡ Age group differs significantly from 20-64 group.

Always had enough of preferred food in the past year



Eats fruit and vegetables five or more times a day

Approximately 40% of all respondents over the age of 12 ate fruit and vegetables five or more times a day. This was the same percentage for Aboriginal respondents in the province (39.99%).

On average in BC, 46.17% of females compared to 33.74% of males ate fruit and vegetables five or more times daily. In terms of regional differences, a low of 33.87% (statistically significant) of Northern Interior respondents ate fruit and vegetables five or more times a day, as compared to a high of 49.33% of respondents from the East Kootenays (significantly high). South and Central Vancouver Island were also significantly higher than the provincial average.

For males, the range in values was about 20 percentage points. Only in East Kootenay, with the highest value of 48.02%, was the percentage of the population eating fruit and vegetables five or more times a day significantly different than the provincial average. This was an outlier, with a score 10 percentage points higher than the next highest HSDA.

For females, there was some variation across HSDAs, although only South Vancouver Island at 53.88% was significantly different from the provincial average. In Kootenay Boundary, East Kootenay, and all of Vancouver Island, over half the female respondents ate fruit and vegetables five or more times a day, while in Northern Interior and Northeast less than 40% of females did so.

In all 16 regions, the proportion of women eating fruit and vegetables five or more times daily was greater than it was for men. For 8 of the 16 regions these differences were relatively large and statistically significant. The region with the greatest gender difference was Kootenay Boundary, where 53.2% of females compared to 31.1% of males reported eating fruit and vegetables five or more times a day. Interestingly, in East Kootenay (virtually next door to Kootenay Boundary) the differences were quite small: 48.02% for males and 50.67% for females.

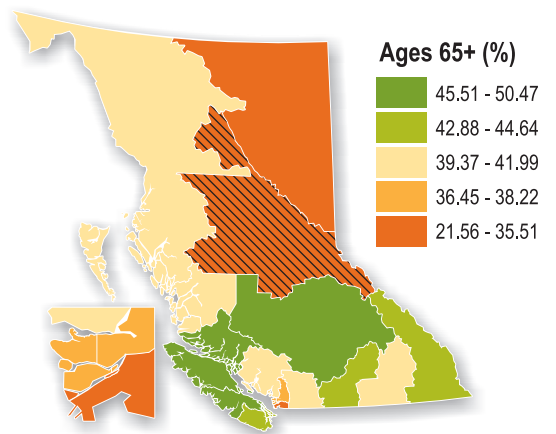
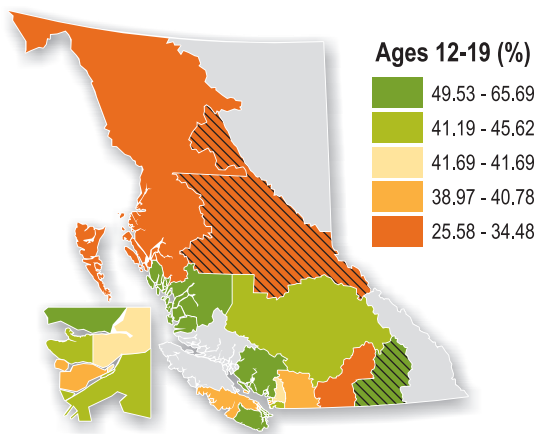
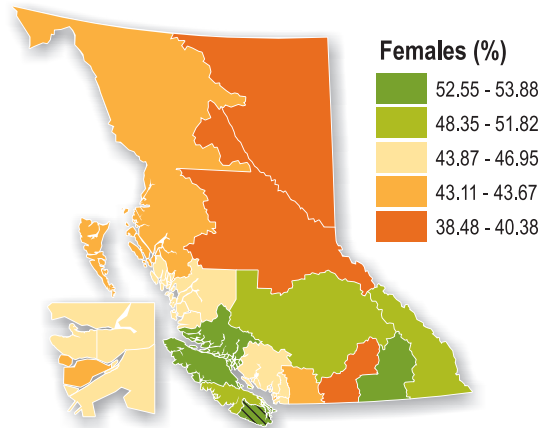
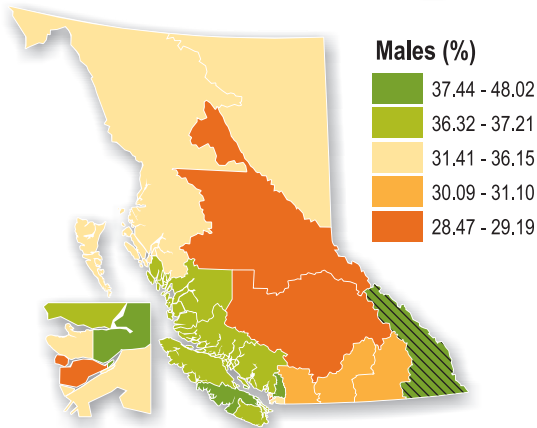
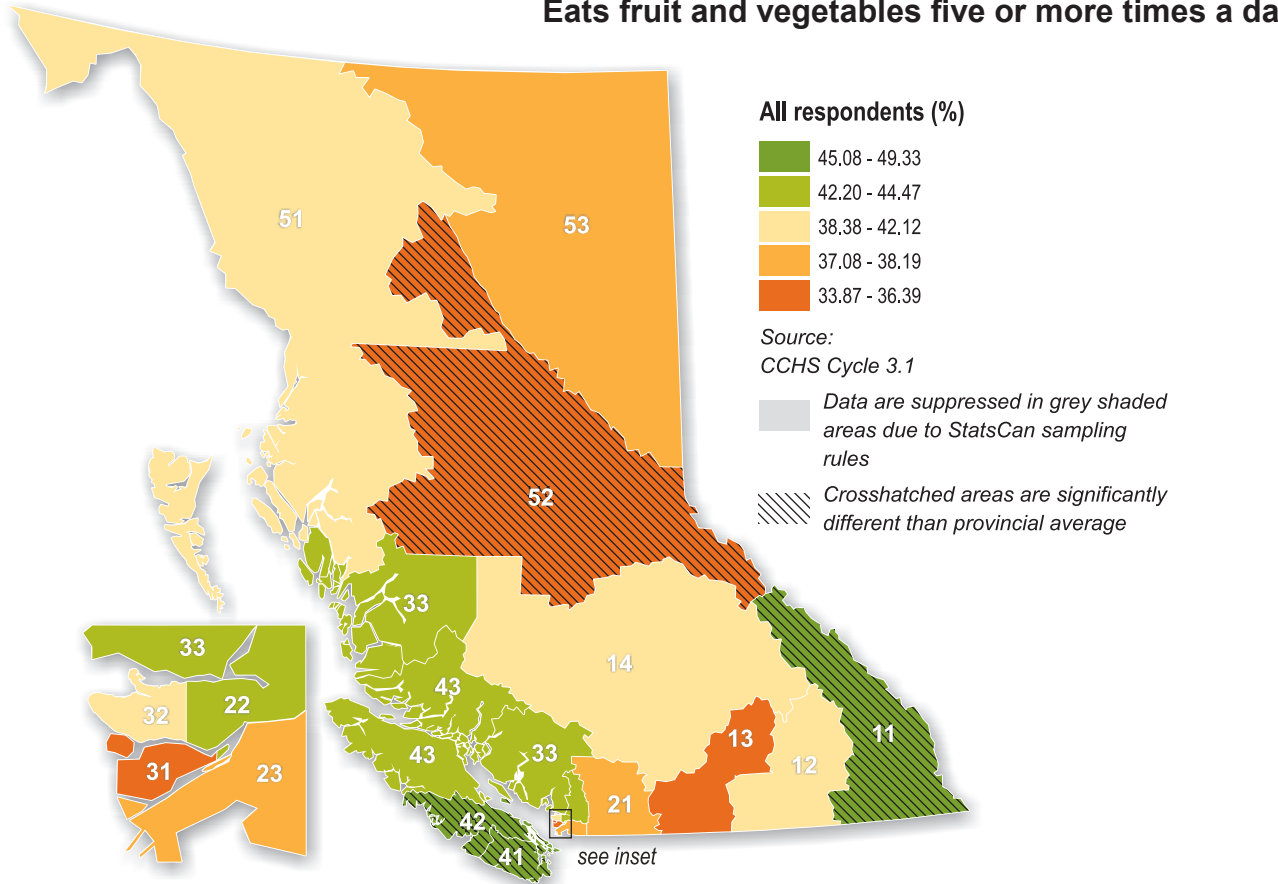
Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
011 East Kootenay	49.33	48.02	50.67	F	53.17	44.64
041 South Vancouver Island	45.77	36.80†	53.88†	49.53	45.64	44.12
042 Central Vancouver Island	45.08	38.06†	51.82†	40.07	45.87	45.51
043 North Vancouver Island	44.47	36.32	52.55	F	43.30	50.47
022 Fraser North	42.21	37.44†	46.87†	41.69	43.09	37.41
033 North Shore/Coast Garibaldi	42.20	37.21	46.95	50.12	41.01	41.99
012 Kootenay Boundary	42.12	31.10†	53.20†	65.69‡	38.15	41.31
014 Thompson Cariboo Shuswap	38.80	29.19†	48.35†	45.62	35.77	46.49
051 Northwest	38.44	33.60	43.67	34.07	39.22	39.42E
032 Vancouver	38.38	32.75†	43.87†	44.13	37.80	38.22
023 Fraser South	38.19	31.41†	44.84†	43.19	37.77	35.51
053 Northeast	37.27	36.15	38.48	F	38.08	31.69E
021 Fraser East	37.08	30.91	43.11	40.78	35.81	39.37
031 Richmond	36.39	28.85†	43.44†	38.97	36.03	36.45
013 Okanagan	35.38	30.09	40.38	34.48	33.19	42.88
052 Northern Interior	33.87	28.47	39.57	25.58E	37.22	21.56E‡
999 Province	40.04	33.74†	46.17†	42.09	39.66	40.27

‡ Age group differs significantly from 20-64 group.
 † Males differ significantly from females.
 E Interpret data with caution (16,77 < coefficient of variation <33,3).
 F Data suppressed due to Statistics Canada sampling rules.

The bottom two maps (and table above) show that approximately 40% of teens, the middle age group, and seniors ate fruit and vegetables five or more times a day. In other words, there was little variation across age groups. However, within the three age groups there was some variation across regions. For example, in Kootenay Boundary, 65.69% of youths ate fruit and vegetables five or more times daily, compared to 25.58% of youths in Northern Interior (both significantly different from the provincial average for teens). And in East Kootenay, a high of 53.17% of 20- to 64-year-olds were in this category, compared to a low of 33.19% in Okanagan. East Kootenay, along with South and Central Vancouver Island, was significantly higher than the average for this age group. Variability across the 16 regions was less for seniors than for those under age 65.

In summary, these five maps and accompanying table indicate that only 40% of BC residents ate fruit and vegetables five or more times a day. On average, across all regions of the province, this proportion was about 12% higher for females than for males. In general, the proportion of people in the north of the province who ate fruit and vegetables five or more times per day was lower than in the south of the province.

Eats fruit and vegetables five or more times a day



Farmers' markets

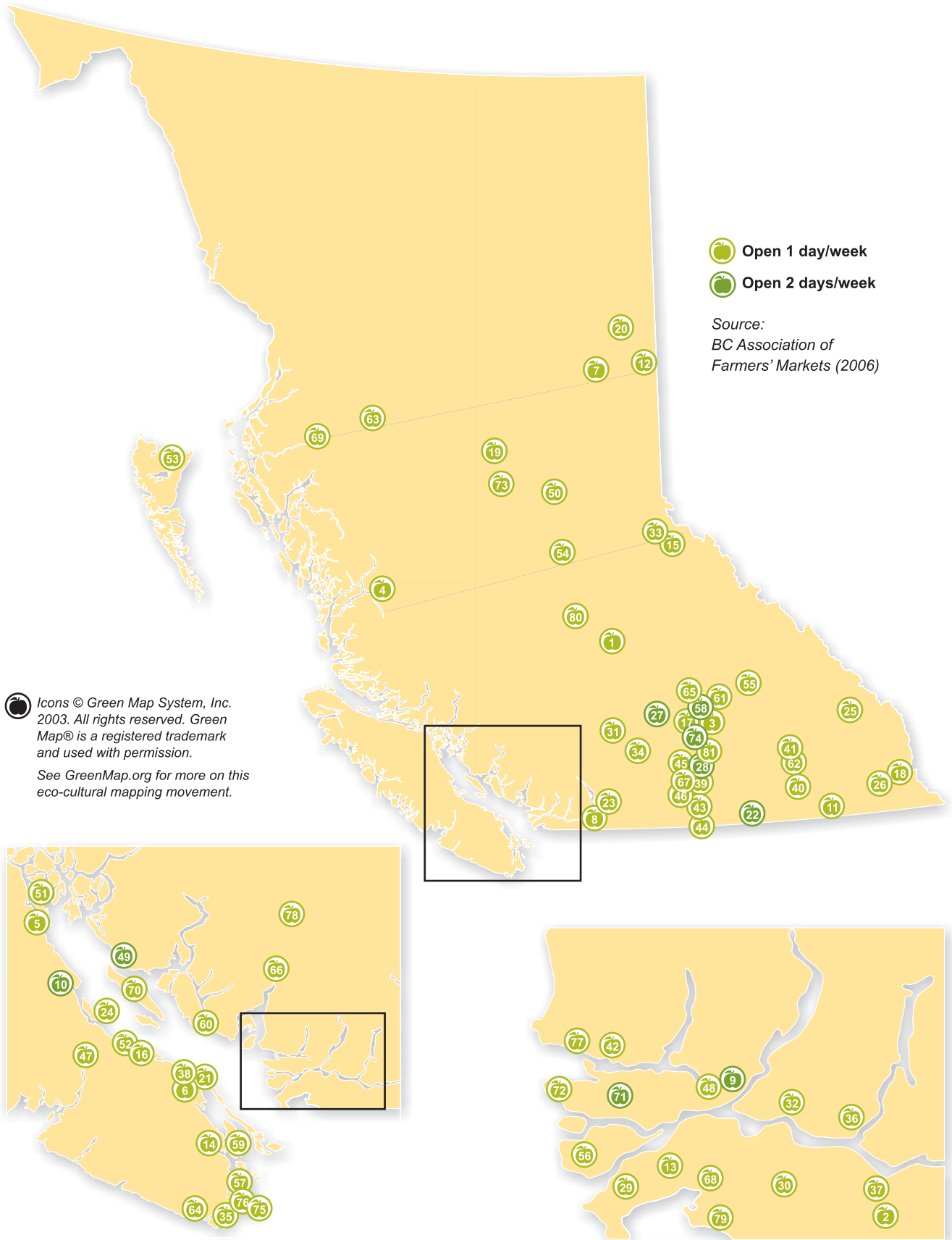
The Kamloops and Salmon Arm farmers' markets decided in late 1999 to sponsor a conference for all farmers' markets in BC. The first such conference occurred in March 2000 and it was decided to form an association that would represent all the province's farmers' markets. At the conference a steering committee was appointed, and over the next several months preliminary work was undertaken. The Association of Farmers' Markets had a potential membership of more than 60 markets. Of these, 33 markets were represented at the first annual conference and growth has been dramatic since then.

Until 2000, farmers' markets in BC had been operating independently. Many markets had been struggling to stay afloat while others had been very successful. Markets are concerned about increasing their sales by attracting consumers in order to support BC producers of agricultural products, food products, and crafts. Many markets feature produce from local organic food growers. Farmers' markets operate in every type of community across BC, including cities, suburbs, and rural communities. As the BC Association of Farmers' Markets notes, they "vary in size and sophistication, from large sheltered public markets to a few farmers with their trucks parked next to each other in a parking lot or farm field" (www.bcfarmersmarket.org). Nine communities have farmers' markets available for more than one day per week.

Listing of Farmers' Markets in BC

1	100 Mile House	41	New Denver
2	Abbotsford	42	North Vancouver
3	Armstrong	43	Oliver
4	Bella Coola	44	Osoyoos
5	Campbell River	45	Peachland
6	Cedar	46	Penticton
7	Chetwynd	47	Port Alberni
8	Chilliwack	48	Port Moody
9	Coquitlam	49	Powell River
10	Courtenay	50	Prince George
11	Creston	51	Quadra Island
12	Dawson Creek	52	Qualicum Beach
13	Delta	53	Queen Charlotte Islands
14	Duncan	54	Quesnel
15	Dunster	55	Revelstoke
16	Errington	56	Richmond
17	Falkland	57	Saanichton
18	Fernie	58	Salmon Arm
19	Fort St. James	59	Saltspring Island
20	Fort St. John	60	Sechelt
21	Gabriola Island	61	Sicamous
22	Grand Forks	62	Silverton
23	Hope	63	Smithers
24	Hornby Island	64	Sooke
25	Invermere	65	Sorrento
26	Jaffray	66	Squamish
27	Kamloops	67	Summerland
28	Kelowna	68	Surrey
29	Ladner	69	Terrace
30	Langley	70	Texada Island
31	Lytton	71	Vancouver
32	Maple Ridge	72	Vancouver (UBC)
33	McBride	73	Vanderhoof
34	Merritt	74	Vernon
35	Metchosin	75	Victoria
36	Mission	76	Victoria (Esquimalt)
37	Mt Lehman	77	West Vancouver
38	Nanaimo	78	Whistler
39	Naramata	79	White Rock
40	Nelson	80	Williams Lake
		81	Winfield

Farmers' markets



Summary

The first part of the nutrition and food section focused on infants and children in BC. The first map indicated that while breastfeeding initiation rates in the province were quite high, they varied, with approximately 10% more women breastfeeding on discharge from hospitals in the urban southwest of the province compared to the north.

The next map showed clearly that high school-aged youth in BC were not eating breakfast regularly and that this trend was found across all parts of the province. These results are cause for concern, and one wonders at what age this trend begins to develop among British Columbian children. Interestingly, according to the School Satisfaction Survey conducted in 2005/06, only about one-half of Grade 3/4 students were learning about healthy eating and exercise at school. Further, there appeared to be small but consistent gender differences, such that girls were more knowledgeable about healthy eating and exercise even at these very young ages. Although in some school districts well over three-quarters of Grade 3/4 students indicated that they were learning about healthy eating and exercise, there is much room for improvement in other school districts.

There are also different levels of commitment to healthy eating at the school district level, as reflected in the leadership taken in developing nutrition guidelines and policy at this level. While 40% had a nutrition policy in place, only about half had plans to upgrade them. The lower mainland, Victoria, and Okanagan school boards were clear leaders. There is room for improvement in other areas of the province, and a survey currently underway may show this in the next edition of the Atlas.

The next survey canvassed schools directly, and these responses were aggregated and mapped at the school district level. Only 21.9% of responding schools had established a formal group concerned with nutrition, so the proportion of schools within most school districts with such a group was quite low. As well, the variation was substantial. In terms of regional patterns, the 10 school districts in the lower mainland region had among the lowest proportion of schools with a group concerned with nutrition, while school districts in the Okanagan and the central interior had a higher proportion.

The proportion of schools in the lower mainland with one of seven specific policies in place was among the lowest compared to the northwest, North Shore/Coast

Garibaldi, the Okanagan, and central interior parts of the province.

Comparing the results from the school districts and the school surveys shows an interesting paradox in the lower mainland and northern Vancouver Island. On the one hand, districts in these areas have taken strong leadership at the school district level, but on the other hand, when it comes to schools within each district implementing policies to improve nutrition, they lag behind other districts. In the future, it will be important to explore this apparent disjunction between leadership taken at the district level and lack of progress at the school level in these districts.

Moving to the maps based on the CCHS, it is clear that approximately 90% of respondents in all regions of the province were always able to afford balanced meals and that approximately 80% to 90% of the population always had enough of their preferred food in 2005. Little variation was noted between males and females or between age groups. Looking at access to preferred foods only, on average, seniors had more and youths had less access to preferred foods than the middle age group.

Major differences across gender and region emerged when considering “eating fruit and vegetables five or more times a day.” For example, on average, across all regions of the province, the proportion of females who ate fruit and vegetables five or more times a day was about 12% higher than for males. Also, a general north-south gradient was observed, with a higher proportion of males and females of all age groups who ate fruit and vegetables five or more times a day in the south compared to the north of the province.

These trends raise questions about why males, across all regions of the province, were much less likely to eat fruit and vegetables compared to females. As well, one wonders about the north-south gradient. While this gradient had exceptions (e.g., among those over age 65), the proportions who ate fruit and vegetables in parts of the lower mainland were quite low and similar to those in the north of the province, raising questions about the availability and price of fruit and vegetables, especially in the north.