Inmate Population Projections 2014/15 to 2024/25

PREPARED FOR BC CORRECTIONS BY BC STATS – APRIL 2015



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1. Introduction

This document presents projections of the number of inmates that will be held in B.C.'s provincial corrections facilities for fiscal years 2014/15 through 2024/25. The inmate population projection model was designed by BC Stats using BC Stats population estimates and projections and historical inmate counts supplied by the BC Corrections Branch of the Ministry of Justice (hereafter referred to as BC Corrections). Conducted with funding from BC Corrections, the purpose of this project is to assist BC Corrections with determining future capacity requirements of provincial corrections facilities. The projections are intended to assist with long-term planning and should be interpreted in this context.

It is important to note that the inmate population projection model employs a number of assumptions that, in terms of predicting future growth of the inmate population, are considered conservative by BC Stats. The model is driven largely by changes in the size and demographic composition of British Columbia's population, and does not attempt to predict changes in crime rates, enforcement and policing activities, policy, legislation, or judiciary environments. Previous inmate population projections incorporated a small adjustment for the effect of Bill C-25.2 However, it is assumed that the actual effect of this bill has already been incorporated in the inmate population estimates since its initial enactment in 2010. As such, no adjustment will be made for this bill. The impact of Bill C-103 is also excluded from the projection.

1.1. Report Outline

The remainder of this report includes the following sections:

BACKGROUND: UNDERSTANDING THE MODEL: Provides an overview of the methodology used in the model and explains how to interpret the projections

ESTIMATES: 2008/09 TO 2013/14: Presents estimates of historical inmate populations for fiscal years 2008/09 through 2013/14

PROJECTIONS: 2014/15 TO 2024/25: Presents the inmate population projections for fiscal years 2014/15 through 2024/25

^a Bill C-25 (*Truth in Sentencing Act*), an Act to amend the Criminal Code, was enacted on February 23 2010. The Act limits credit for time spent in pre-sentencing custody.

³ Bill C-10 (Safe Streets and Communities Act), an omnibus bill of nine separate measures proposing that would increase sentences for certain offences, introduce new offences and make certain offences ineligible for record suspensions (previously referred to a "pardons").

RESULTS: INCARCERATION RATES 2008/09 TO 2013/14: Presents age and gender-specific incarceration rates; illustrating how incarceration rates have changed over the past decade and the relationship between incarceration rates and age

APPENDIXA: DETAILED METHODOLOGY: Presents the detailed methodology used to derive the inmate population projections

APPENDIX B: DATA SOURCES: Provides an overview of the data sources used in the model and highlights data limitations

1.2. Definitions of terms used throughout this report

The following terms are used to classify inmates held in provincial corrections facilities:

Remand: Inmates held in custody while they await trial

Sentence: Inmates who are convicted and serving time for one or more offenses

Dual: Inmates who are convicted and serving time for one or more offenses and awaiting trial for one or more other offenses

Inmates may be held in custody on a continuous or intermittent basis:

Continuous: No lapse in custody until inmate is released

Intermittent: Sentenced inmates who alternate between periods of custody and periods of being free until their total sentence is served and they are released.

2. Background: Understanding the Model

2.1. Recent changes in the inmate population

Between 2008/09 and 2013/14, the average annual number of inmates held in provincial corrections facilities declined by approximately 13%, from an estimated 2,802 inmates in 2008/09 to 2,427 in 2013/14.

Changes in the age composition of the underlying population may be attributable to the decline in the inmate population. However, other factors have played a contributing role. The following section describes possible sources of inmate population change and explains how these sources are incorporated into the inmate population projection model.

2.2. Sources of inmate population change

We classify possible sources of inmate population change into two major categories: structural and demographic. Structural changes may result from a number of factors, including: changes in crime rates, changes in policing and enforcement activities, and changes to policy, legislation, and judiciary environments. Demographic change results from an increasing population base and/or changing composition of the population.

Analysis of age and gender-specific incarceration rates (presented in detail in the Results section) demonstrates that incarceration rates have decreased steadily in recent years, particularly among women. The extent to which incarceration rates have decreased exceeds the probable impact of demographic change, clearly indicating that structural factors have played a key role in the overall decline of the inmate population over this period.

For the purposes of producing this inmate population projection, the model focuses only on demographic sources of growth. The impact of Bill C-10 is excluded from the projection. Manual adjustments for Bill C-25 (performed as part of a previous projection) are also excluded from the projection as changes resulting from its enactment

^{*} See Tables 1& 2. Statistics are based on adding together annual average counts for each component of the immate population projection model, and as a result, may vary slightly from figures available from B.C. Corrections.

in 2010 would already be incorporated in the inmate population estimates. While it is likely that other structural factors will continue to contribute to overall inmate population change, it would not be prudent to make assumptions concerning structural factors that, in many cases, are beyond the control of the Province. Instead, a conservative approach is adopted and it is assumed that structural factors remain static, with future inmate population change driven primarily by demographic change.

2.3. Components of the model

The inmate population projection model is comprised of three major components:

2.3.1. Provincial inmates on remand, sentence, or dual status held on a continuous basis (*Core inmate population*)

The first component of the inmate projection model forecasts the number of provincial inmates on remand, sentence, or dual status held on a continuous basis (hereafter referred to as the *core immate population*) using derived age and gender-specific incarceration rates and population projections.

The model generates age group and gender-specific projections for the core inmate population. The preliminary output of the model yields annual average counts. However, provincial corrections facilities must have capacity that exceeds annual average counts, as inmate populations vary over the course of any given year. To reflect this additional capacity requirement, the model adjusts the annual average forecast to project a *sustained peak* inmate count. Sustained peak inmate populations persist at above average counts for at least one month of every year.

A more detailed description of the methodology used to derive the core inmate population is provided in Appendix A.

2.3.2. Other inmates held in provincial corrections facilities

The second component of the inmate projection model generates forecasts for the following groups also held in provincial corrections facilities:

Intermittent inmate population: Provincial inmates on sentence or dual status serving intermittent time

- Federal inmate population: Federal inmates on sentence or dual status held in provincial facilities
- Immigrant inmate population: Immigrants (provincial or federal jurisdiction) held in provincial facilities

Projections for each of these inmates groups are derived using the methodologies described in Appendix Λ .

3. Estimates: 2008/09 to 2013/14

3.1. Core Inmate Population

Table 1 presents historical estimates of annual average inmate counts for the core inmate population, by gender.

Fiscal year	Males	Females	Total
2008/09	2/495	230	2,705
2009/-0	2,457	205	2,8413
2010/11	2/408	184	2,613
2011 2	2,591	175	2,541
2012/13	2,763	169	2,432
2013/-4	2, 32	179	2,343

3.2. Total inmate population

Historical estimates of the total inmate population are determined by adding together annual average estimates for each component of the inmate population projection model. This methodology highlights distinct trends for each component of the model, but results in estimates that will differ slightly from statistics available from BC Corrections. The resulting estimates are provided in Table 2.

⁸ Most of the difference between the estimates reported in Table 2 and statistics available from BC Correctionsis attributable to the treatment of the intermittent inmate population. In Table 2, the annual average intermittent inmate population is based on weekend counts only (Friday and Saturday nights). The remaining difference is attributable to the difference in methodology (i.e., calculating separate annual averages and adding them together rather than taking an annual average based on all inmates).

Fiscal year	Core	Federal	Immigrant	Intermittent	Total
2008/09	2,725	34	29	28	2,816
2009/10	2,662	28	44	2 5	2,756
2010/11	2,612	24	172	32	2,840
2011/12	2,561	24	37	29	2,651
2012/13	2,432	25	28	35	2,520
2013/14	2,362	24	25	48	2,459

4. Projections: 2014/15 to 2024/25

This section presents the output of the inmate projection model. The model is designed to assist BC Correctionswith long-term planning and does not attempt to forecast short-term fluctuations in inmate populations. Given the design of the model, users should interpret the following projections in the context of long-term planning and not place undue emphasis on short-term variation in projected inmate counts.

4.1. Core inmate population

Table 3 presents the annual average and sustained peak inmate projections for the core inmate population, by gender.

	M	ales	Fen	nales	To	tal
Fiscal year	Annual	Sustained	Annual	Sustained	Annual	Sustained
riscai yeai	average	peak	average	peak	average	peak
2014/15	2,319	2,374	172	181	2,491	2,555
2015/16	2,352	2,407	174	183	2,526	2,590
2016/17	2,389	2,445	176	185	2,565	2,630
2017/18	2,426	2,483	179	188	2,605	2,671
2018/19	2,460	2,518	181	190	2,641	2,708
2019/20	2,490	2,549	183	193	2,673	2,742
2020/21	2,516	2,575	185	195	2,701	2,770
2021/22	2,539	2,599	187	196	2,726	2,795
2022/23	2,564	2,624	189	198	2,753	2,822
2023/24	2,587	2,648	190	200	2,777	2,848
2024/25	2,610	2,671	192	202	2,802	2,873

4.2. Total inmate population

To obtain an overall inmate projection and determine capacity requirements of provincial corrections facilities, each component of the inmate projection model is added together. The resulting projections are provided in Table 4.

		Inc	nate populatio	1	
Fiscal year	Core (Sustained peak)	Federal	lmmigrant	Intermittent	Total
2014/15	2,555	24	30	38	2,647
2015/16	2,590	25	30	38	2,683
2016/17	2,630	25	30	38	2,723
2017/18	2,671	25	30	39	2,765
2018/19	2,708	26	30	39	2,803
2019/20	2,742	26	30	40	2,838
2020/21	2,770	26	30	40	2,866
2021/22	2,795	27	30	40	2,892
2022/23	2,822	27	30	41	2,920
2023/24	2,848	27	30	41	2,946
2024/25	2,873	27	30	41	2,971

5. Results: Incarceration Rates, 2008/09 to 2013/14

This section presents age and gender-specific incarceration rates for the period 2008/09 through 2013/14. Incarceration rates were calculated based on the core provincial inmate population (provincial inmates on remand, sentence or dual status serving continuous time) and do not include other types of inmates (i.e., intermittent, federal, or immigrant). The rates were calculated using historical inmate data supplied by BC Corrections and BC Stats population estimates (these data sources are described further in Appendix B).

Note that age and gender-specific incarceration rates are presented twice in this section. First, colour coding is used to illustrate how incarceration rates have changed over time, and next, colour coding is used to illustrate how incarceration rates vary across age groups. The rates presented in the first set of tables (5 & 6) are identical to those in the second set of tables (7 & 8)—the data is repeated for illustrative purposes.

5.1. Incarceration rates have declined in recent years

Tables 5 and 6 present incarceration rates (based on the core inmate population only) since 2008/09, by age group and gender. The inmate population projection model uses a three year average, based on fiscal years 2011/12 through 2013/14 for the purposes of forecasting the core inmate population.

In Tables 5 and 6, a red-yellow formatting is applied to each *column*, to illustrate how age-specific incarceration rates have varied over time. In each column, red cells indicate higher incarceration rates, and yellow cells indicate lower incarceration rates.

Table 5 reveals that incarceration rates have increased over time among the youngest age groups (18-24), but have declined steadily among all other age groups from 25-49.

					Age grou	р			
Fiscal year	18-19	20-21	22-24	25-29	30-34	35-39	40-49	50+	Total
2008/09	0.9	17.5	102.7	297.7	340.4	272.2	206.2	48.2	144.5
2009/10	1.0	32.2	157.1	290.7	336.9	26 8 .1	187.2	42.2	139.8
2010/11	3.2	41.0	192.7	282.9	318.0	255.2	185.0	39.4	136.2
2011/12	6.8	58.8	218.1	271.9	300.8	251.3	180.3	38.0	132.7
2012/13	2.9	92.6	1 99 .0	271.8	282.1	240.6	163.0	33.6	123.9
2013/14	18.4	114.5	198.7	263.2	256.3	229.4	157.2	31.6	118.5
3-year avg	9.4	88.6	205.3	269.0	279.7	240.4	166.8	34.4	125.0

Table 6 reveals that incarceration rates have for female age groups have followed similar trends to those of males. However, due to smaller sample sizes, the female rates exhibit greater variability than the male rates, particularly among the youngest (aged 18-24) and oldest (aged 50 and over) age groups.

					Age group	p			
Fiscal year	18-19	20-21	22-24	25-29	30-34	35-39	40-49	50+	Total
2008/09	0.3	2.5	12.4	29.8	29.8	26.6	18.6	3.2	12.9
2009/10	0.2	4.2	12.2	26.2	26.5	22.2	16.7	2.6	11.3
2010/11	0.5	5.4	12.3	21.2	22.4	18.4	15.6	2.5	10.0
2011/12	0.6	6.1	11.5	17.0	24.1	18.4	13.2	2.3	9.1
2012/13	1.0	6.8	14.8	18.0	21.1	18.3	12.7	2.2	9.0
2013/14	1.4	11.8	15.8	21.6	20.4	19.1	10.3	2.1	8.9
3-year avg	1.0	8.2	14.0	18.9	21.9	18.6	12.1	2.2	9.0

Note that changes in age-specific incarceration rates over time may be caused in part, by cohort effects – i.e., varying propensities of different birth cohorts (e.g., 1965 to 1969, 1970 to 1974) to engage in criminal behaviour. However, it is assumed that changes in structural factors (sentencing, enforcement, etc.) explain most of the change in age-specific incarceration rates over time. Given the limited duration of the data time series (a little over a decade) and ever-changing structural factors, it is not possible to accurately determine cohort effects.

5.2. There is a strong relationship between incarceration rates and age

In Tables 7 and 8, a red-yellow formatting is applied to each *row*, to illustrate how incarceration rates vary across age groups. In each row, red cells indicate higher incarceration rates, and yellow cells indicate lower incarceration rates.

Table 7 illustrates a clear relationship between age and incarceration rates among males. This relationship has remained remarkably stable over the recent past, with incarceration rates first climbing with age and then declining steadily. Most recently, the highest rates were observed among the 25-29 age group, although in the past, the highest rates were among the age group 30-34.

					Age group	1			
Fiscal year	18-19	20-21	22-24	25-29	30-34	35-39	40-49	50+	Total
2008/09	0.9	17.5	102.7	297.7	340.4	272.2	206.2	48.2	144.5
2009/10	1.0	32.2	157.1	290.7	336.9	268.1	187.2	42.2	139.8
2010/11	3.2	41.0	192.7	282.9	318.0	255.2	185.0	39.4	136.2
2011/12	6.8	58.8	21 8.1	271.9	300.8	251.3	180.3	38.0	132.7
2012/13	2.9	92.6	199.0	271.8	282.1	240.6	163.0	33.6	123.9
2013/14	18.4	114.5	198.7	263.2	256.3	22 9 .4	157.2	31.6	118.5
3-year avg	9.4	88.6	205.3	269.0	279.7	240.4	166.8	34.4	125.0

Table 8 illustrates a similar relationship among females: incarceration rates among females first increase with age, peaking among the 25-34 age group, and then decline steadily. Again, this relationship has remained remarkably stable over time, despite more variability among the female rates due to smaller sample sizes.

					Age group				
Fiscal year	18-19	20-21	22-24	25-29	30-34	35-39	40-49	50+	Total
2008/09	0.3	2.5	12.4	29.8	29.8	26.6	18.6	3.2	12.9
2009/10	0.2	4.2	12.2	26.2	26.5	22.2	16.7	2.6	11.3
2010/11	0.5	5.4	12.3	21.2	22.4	18.4	15.6	2.5	10.0
2011/12	0.6	6.1	11.5	17.0	24.1	18.4	13.2	2.3	9.1
2012/13	1.0	6.8	14.8	18.0	21.1	18.3	12.7	2.2	9.0
2013/14	1.4	11.8	15.8	21.6	20.4	19.1	10.3	2.1	8.9
3-year avg	1.0	8.2	14.0	18.9	21.9	18.6	12.1	2.2	9.0

6. Appendix A Detailed Methodology

As discussed earlier in this report, the inmate population projection model utilizes separate forecast methodologies for each of the following types of inmates held in provincial corrections facilities:

- Core inmate population: Provincial inmates on remand, sentence, or dual status held on a continuous basis
- Intermittent inmate population: Provincial inmates on sentence or dual status serving intermittent time
- Federal inmate population: Federal inmates on sentence or dual status held in provincial facilities
- Immigrant inmate population: Immigrants (provincial or federal jurisdiction) held in provincial facilities

This section outlines the detailed methodology employed to produce projections for each of the above inmate groups.

6.1. Methodology: Core inmate population

Provincial inmates on remand, sentence, or dual status held on a continuous basis represent the vast majority of total inmates held in provincial corrections facilities, and the forecast methodology for this group is the most complex.

As illustrated in the Results section, incarceration rates (core inmates per 100,000 population) vary significantly by age and gender. Rather than assuming that the rate of change (growth or decline) of the core inmate population parallels that of the overall population, the use of age and gender-specific incarceration rates allows changes in the demographic composition of the overall population to mitigate or amplify inmate population growth resulting from overall population growth.

The model assumes that the structural factors affecting age and gender-specific incarceration rates will remain static. To reduce variability, the model utilizes estimated incarceration rates from the past three years (as opposed to the most recent fiscal year

BC Stats: Inmate Population Projections 2014/15 to 2024/25

⁴ For example, omitting the age component of the model results in a sustained peak projection for 2024/25 that is approximately 4% higher than the figure in Table 3.

only).¹⁰ Future age and gender-specific incarceration rates are projected to remain at an average of the annual average levels observed in 2011/12 through 2013/14.

The key steps in deriving projections for the core inmate population were:

- Calculate annual average counts by gender and age group from BC Correctionsdata extract.
- 2. Compute historical incarceration rates by gender and age group using annual average counts and population estimates.
- 3. Calculate three year moving average incarceration rates by gender and age group based on the results for the three most recent fiscal years.
- Use the incarceration rates computed in step 3, together with population projections, to project inmate counts by gender and age group for the next ten years.
- 5. Aggregate projected inmate counts by gender and age group to obtain overall projected inmate counts by gender.

Annual average projections were adjusted to sustained peaks¹¹ by multiplying the annual averages by gender-specific peak factors. These factors were determined by comparing historical monthly average counts to historical annual average counts. Among males, the sustained peak in each of the past three fiscal years was, on average, 2.4% higher than the annual average for that year. Among females, the sustained peak in each of the past three fiscal years was, on average 5.2% higher than the annual average for that year.

6.2. Methodology: Intermittent inmate population

Some provincial inmates who are sentenced serve their time on an intermittent basis (i.e., they alternate between periods of serving time in a correctional facility and being free). Counts of intermittent inmates are consistently higher on Friday and Saturday nights compared to other days of the week. Because these counts follow a known pattern and this pattern repeats at least four times each month and in every month of the year, only Friday and Saturday nights are considered in determining capacity needs. In other words, Friday and Saturday nights represent sustained peak counts among the intermittent inmate population.

¹⁰ This methodology is designed to reduce variability with minimal expected impact on the overall results. For example, if based on the most recent fiscal year only, the resulting sustained peak projection for 2024/25 is within five percent of the figure in Table 3.

¹¹ Sustained peak inmate populations persist at above average counts for at least one month of very year.

Based on Friday and Saturday counts only, annual average counts of intermittent inmates were calculated. The annual average number of intermittent inmates has fluctuated considerably over the past decade, most likely as a result of trends in sentencing. The model assumes that the structural factors affecting the size of the intermittent inmate population will remain static, but to reduce variability, utilizes estimates from the past three years (as opposed to the most recent fiscal year only). In 2014/15, the intermittent inmate population is projected to equal the average of the annual average levels observed in 2011/12 through 2013/14. In subsequent years, the intermittent inmate population is forecast to grow at the same rate as the core inmate population, as a result of general population growth.

6.3. Methodology: Federal inmate population

The average number of federal inmates on sentence or dual status held in provincial facilities has decreased markedly in recent years. The model assumes that this decline is a result of structural factors and that these structural factors will remain static over the projection period. In 2014/15, the federal inmate population is projected to equal the annual average level observed between 2011/12 to 2013/14. In subsequent years, the federal inmate population is forecast to grow at the same rate as the core inmate population, as a result of general population growth.

Note that for this group, no adjustment is made to obtain a sustained peak. This is because the federal inmate population is relatively small, and the calendar month in which the federal inmate population peaks may not occur in the same month in which the core inmate population peaks.

6.4. Methodology: Immigrant inmate population

The average number of immigrants held in provincial facilities fluctuates considerably over time. Sudden, unpredictable inflows of immigrants can cause temporary increases in the immigrant inmate population, but as the influx of immigrants is processed, immigrant inmate population counts slowly revert back to lower levels. In order to provide a conservative estimate of the number of immigrants held in provincial facilities on a typical day, the model considers historical data only for those time periods in which there was no major influx. Future immigrant inmate populations are projected to remain constant at the average annual level observed in 2011/12 through 2013/14. (This

reference period excludes 2010/11 when a large influx of immigrants in late 2010 was observed.)

Note that for this group, no adjustment is made to obtain a sustained peak. This is because the immigrant inmate population is relatively small, and the calendar month in which the immigrant inmate population peaks may not occur in the same month in which the core inmate population peaks.

7. Appendix B: Data Sources

Two principal data sources were used to build the inmate population projection model:

7.1. Source 1: BC Stats population estimates and projections

The model uses BC Stats population estimates (up to 2013) and projections (2014 onward) from the PEOPLE 2014 population projections released by BC Stats in September 2014. Population figures were adjusted from a July 1 (calendar year) reference date to fiscal year (e.g., 2004/05) population average to coincide with the data supplied by B.C. Corrections.

7.2. Source 2: BC Correctionshistorical inmate counts

The model uses historical inmate data supplied by B.C. Corrections, Ministry of Public Safety and Solicitor General. BC Corrections supplied BC Stats with inmate data for the period June, 2007 through December 31, 2014. Two different sets were provided and referenced different aspects of the inmate history. One data set contained inmate counts by different categories of classification, while another captured movements of inmates between provincial jurisdictions (including admissions and releases). The latter data set was used to estimate the intermittent inmate population as a subset of the former.

Note also that the source data file included inmates held on lockup (i.e., persons going to court within 72 hours). Inmates in lockup are no longer held in provincial facilities and therefore, these records were excluded in the calculation of historical inmate counts, incarceration rates, and future inmate projections.



BC Stats is the provincial government's central statistics agency and has the government's largest concentration of statistical products, services and expertise. As a branch of the Ministry of Technology, Innovation and Citizens' Services, the organization is in the business of providing government with statistical information and analytical services to support informed decision-making and policy development.

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B.C. CORRECTIONS INMATE POPULATION PROJECTIONS 2011/12 to 2021/22

May 29, 2012

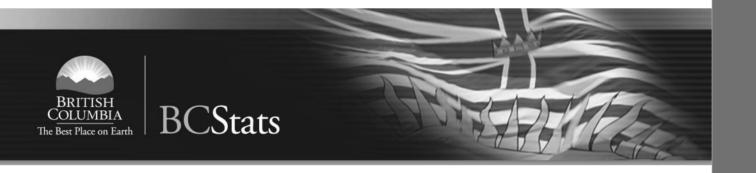


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Introduction

This document presents projections of the number of inmates that will be held in B.C.'s provincial corrections facilities for fiscal years 2011/12 through 2021/22. The inmate population projection model was designed by BC Stats using BC Stats population estimates and projections and historical inmate counts supplied by B.C. Corrections. Conducted with funding from B.C. Corrections, the purpose of this project is to assist B.C. Corrections with determining future capacity requirements of provincial corrections facilities. The projections are intended to assist with long-term planning and should be interpreted in this context.

It is important to note that the inmate population projection model employs a number of assumptions that, in terms of predicting future growth of the inmate population, are considered conservative by BC Stats. The model is driven largely by changes in the size and demographic composition of British Columbia's population, and does not attempt to predict changes in crime rates, enforcement and policing activities, policy, legislation, or judiciary environments. Although the model makes a small adjustment for the effect of the recently enacted Bill C-25,1 the actual effect of Bill C-25 is uncertain and may or may not have a significant impact on future provincial inmate counts. The impact of Bill C-10² is excluded from the projection.

Report Outline

The remainder of this report includes the following sections:

- DEFINITIONS: Describes some of the basic terminology used throughout this report
- BACKGROUND: UNDERSTANDING THE MODEL: Provides an overview of the methodology used in the model and explains how to interpret the projections
- ESTIMATES: 2000/01 TO 2010/11: Presents estimates of historical inmate populations for fiscal years 2000/01 through 2010/11
- PROJECTIONS: 2011/12 TO 2021/22: Presents the inmate population projections for fiscal years 2011/12 through 2021/22
- RESULTS: INCARCERATION RATES, 2000/01 to 2010/11: Presents age and gender-specific incarceration rates; illustrating how incarceration rates have changed over the past decade and the relationship between incarceration rates and age

¹ Bill C-25 (*Truth in Sentencing Act*), an Act to amend the Criminal Code, was enacted on February 23 2010. The Act limits credit for time spent in pre-sentencing custody.

² Bill C-10 (Safe Streets and Communities Act), an omnibus bill of nine separate measures proposing that would increase sentences for certain offences, introduce new offences and make certain offences ineligible for record suspensions (previously referred to a "pardons").

- APPENDIX A: DETAILED METHODOLOGY: Presents the detailed methodology used to derive the inmate population projections
- APPENDIX B: DATA SOURCES: Provides an overview of the data sources used in the model and highlights data limitations

DEFINITIONS: TERMS USED THROUGHOUT THIS REPORT

The following terms are used to classify inmates held in provincial corrections facilities:

Remand: Inmates held in custody while they await trial

Sentence: Inmates who are convicted and serving time for one or more offenses

Dual: Inmates who are convicted and serving time for one or more offenses and awaiting trial for one or more other offenses

Inmates may be held in custody on a continuous or intermittent basis:

Continuous: No lapse in custody until inmate is released

Intermittent: Sentenced inmates who alternate between periods of custody and periods of being free until their total sentence is served and they are released

BACKGROUND: UNDERSTANDING THE MODEL

Recent growth in the inmate population

Between 2003/04 and 2010/11, the average annual number of inmates held in provincial corrections facilities grew by approximately 52%, from an estimated 1,849 inmates in 2003/04 to 2,818 in 2010/11.³

Part of the increase in the inmate population is attributable to overall population growth: between 2003/04 and 2010/11, the adult population (aged 18 and over) in B.C. grew by roughly 13%. However, this population growth explains about one-quarter of the rise in the inmate population, and clearly, other factors have played a contributing role. The following section describes possible sources of inmate population growth and explains how these sources are incorporated into the inmate population projection model.

Sources of inmate population growth

We classify possible sources of inmate population growth into two major categories: structural and demographic. Structural growth may result from a number of factors, including: changes in crime rates, changes in policing and enforcement activities, and changes to policy, legislation, and judiciary environments. Demographic growth results from an increasing population base and/or changing composition of the population.

Analysis of age and gender-specific incarceration rates (presented in detail in the Results section) demonstrates that incarceration rates have increased markedly over the past decade, particularly among women. The extent to which incarceration rates have increased far exceeds the probable impact of demographic change, clearly indicating that structural factors have played a key role in the overall growth of the inmate population over this period.

For the purposes of producing this inmate population projection, the model focuses primarily on demographic sources of growth, incorporating only one structural factor — the expected impact of Bill C-25, *Truth in Sentencing Act*. The impact of Bill C-10 is excluded from the projection. While it is likely that other structural factors will continue to contribute to overall growth of the inmate population, it would not be prudent to make assumptions concerning structural factors that, in many cases, are beyond the control of the Province. Instead, a conservative approach is adopted and it is assumed that structural factors remain static, with future inmate population growth driven primarily by demographic change.

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³ See Tables 1& 2. Statistics are based on adding together annual average counts for each component of the inmate population projection model, and as a result, may vary slightly from figures available from B.C. Corrections.

Components of the model

The inmate population projection model is comprised of three major components:

1. Provincial inmates on remand, sentence, or dual status held on a continuous basis (*Core inmate population*)

The first component of the inmate projection model forecasts the number of provincial inmates on remand, sentence, or dual status held on a continuous basis (hereafter referred to as the *core inmate population*) using derived age and gender-specific incarceration rates and population projections.

The model generates age group and gender-specific projections for the core inmate population. The preliminary output of the model yields annual average counts. However, provincial corrections facilities must have capacity that exceeds annual average counts, as inmate populations vary over the course of any given year. To reflect this additional capacity requirement, the model adjusts the annual average forecast to project a sustained peak inmate count. Sustained peak inmate populations persist at above average counts for at least one month of every year.

A more detailed description of the methodology used to derive the core inmate population is provided in Appendix A.

2. Other inmates held in provincial corrections facilities

The second component of the inmate projection model generates forecasts for the following groups also held in provincial corrections facilities:

- Intermittent inmate population: Provincial inmates on sentence or dual status serving intermittent time
- Federal inmate population: Federal inmates on sentence or dual status held in provincial facilities
- *Immigrant inmate population*: Immigrants (provincial or federal jurisdiction) held in provincial facilities

Projections for each of these inmates groups are derived using the methodologies described in Appendix A.

3. Adjustment for Bill C-25 (Truth in Sentencing Act)

The final component of the inmate projection model is an adjustment for the expected impact of Bill C-25 (*Truth in Sentencing Act*), an Act to amend the Criminal Code. This

Act, enacted on February 23, 2010, limits credit for time spent in pre-sentencing custody.⁴

The Office of the Parliamentary Budget Officer has identified three expected impacts of this legislation:⁵

- An increased amount of time that the inmates will spend in provincial and federal sentenced custody respectively due to removal of additional credit for time served in remand;
- A new flow of inmates from provincial into federal facilities due to the increase in time to be spent in a facility due to removal of additional credit for time served in remand; and,
- 3. A new inflow of inmates into the provincial and federal facilities which normally would not have happened due to credit for time served they could have been directly released from remand into community supervision.

Based on these impacts, it is anticipated that the Bill C-25 will increase the average daily inmate population in provincial corrections facilities, although the magnitude of this increase is uncertain. The inmate population projection model incorporates an adjustment for the Act by incorporating a one-time increase of 70 inmates housed in B.C. correctional facilities that is sustained over the ten-year projection period. Having been in place since 2010, the increase is expected to have a full impact in 2011/12. In subsequent years, the increase is adjusted to reflect general population growth and is projected to grow at the same rate as the core inmate population. The initial impact of 70 inmates is a conservative estimate based upon analysis conducted by B.C. Corrections. The actual impact, however, is uncertain due to unknown mitigating influences that may be applied by the defence, crown, and judiciary.⁶

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⁴ Before Bill C-25 was enacted sentenced criminals typically received two or three days credit for every one day served in pre-sentencing custody. The Act reduces this ratio from 3:1 or 2:1 down to 1:1, allowing a maximum credit of 1.5:1 in some circumstances.

⁵ See *The Funding Requirement and Impact of the "Truth in Sentencing Act"*, Ottawa, Canada, June 22, 2010 (available at http://www2.parl.gc.ca/Sites/PBO-DPB/documents/TISA_C-25.pdf)

⁶ Analysis conducted by B.C. Corrections suggests that Bill C-25 may result in a net increase of more than 270 inmates. However, due to uncertain mitigating factors, B.C. Corrections, has adopted a considerably more conservative estimate of only 70 inmates (annualized) in place since 2011/12.

ESTIMATES

ESTIMATES: 2000/01 TO 2010/11

Core inmate population

Table 1 presents historical estimates of annual average inmate counts for the core inmate population, by gender.

Table 1: Estimated core inmate population, by gender

	Core Inmate	Population (Annu	ıal Average)
Fiscal Year	Males	Females	Total
2000/2001	2,134	153	2,287
2001/2002	1,846	146	1,992
2002/2003	1,640	143	1,783
2003/2004	1,626	134	1,760
2004/2005	1,782	111	1,893
2005/2006	1,931	145	2,076
2006/2007	2,121	170	2,291
2007/2008	2,326	199	2,525
2008/2009	2,509	232	2,741
2009/2010	2,465	205	2,670
2010/2011	2,436	184	2,620

Total inmate population

Historical estimates of the total inmate population are determined by adding together annual average estimates for each component of the inmate population projection model. This methodology highlights distinct trends for each component of the model, but results in estimates that will differ slightly from statistics available from B.C. Corrections.⁷ The resulting estimates are provided in Table 2.

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⁷ Most of the difference between the estimates reported in Table 2 and statistics available from B.C. Corrections is attributable to the treatment of the intermittent inmate population. In Table 2, the annual average intermittent inmate population is based on weekend counts only (Friday and Saturday nights). The remaining difference is attributable to the difference in methodology (i.e., calculating separate annual averages and adding them together rather than taking an annual average based on all inmates).

Table 2: Estimated total inmates held in provincial corrections facilities

	Inmate Population (Annual Average)							
Fiscal Year	Core	Federal	Immigrant	Intermittent	Total			
2000/2001	2,287	х	х	Х	3,184			
2001/2002	1,992	x	x	X	2,152			
2002/2003	1,783	x	x	x	1,926			
2003/2004	1,760	X	х	10	1,910			
2004/2005	1,893	x	х	15	2,053			
2005/2006	2,076	X	X	15	2,199			
2006/2007	2,291	x	х	15	2,393			
2007/2008	2,525	45	23	18	2,610			
2008/2009	2,741	34	29	25	2,830			
2009/2010	2,670	28	44	23	2,765			
2010/2011	2,620	24	172	30	2,846			

Missing data for 2000/2001 to 2006/2007 is due to different categorizations of inmates in three different data sets provided by B.C. Corrections. However, total inmate counts are void of any classifications, and therefore spans the entire period of estimation.

PROJECTIONS: 2011/12 TO 2021/22

This section presents the output of the inmate projection model. The model is designed to assist B.C. Corrections with long-term planning and does not attempt to forecast short-term fluctuations in inmate populations. Given the design of the model, users should interpret the following projections in the context of long-term planning and not place undue emphasis on short-term variation in projected inmate counts.

Core inmate population

Table 3 presents the annual average and sustained peak inmate projections for the core inmate population, by gender.

Table 3: Projected core inmate population, by gender

	Males		Fen	nales	To	otal
	Annual	Sustained	Annual	Sustained	Annual	Sustained
Fiscal Year	Average	Peak	Average	Peak	Average	Peak
2011/2012	2,538	2,626	213	228	2,751	2,854
2012/2013	2,569	2,658	216	231	2,785	2,889
2013/2014	2,603	2,693	219	234	2,822	2,927
2014/2015	2,639	2,730	222	237	2,861	2,967
2015/2016	2,675	2,768	225	240	2,900	3,008
2016/2017	2,712	2,806	228	244	2,940	3,050
2017/2018	2,748	2,844	231	247	2,979	3,091
2018/2019	2,785	2,882	235	251	3,020	3,133
2019/2020	2,822	2,920	238	254	3,060	3,174
2020/2021	2,858	2,958	241	258	3,099	3,216
2021/2022	2,895	2,995	244	261	3,139	3,256

Total inmate population

To obtain an overall inmate projection and determine capacity requirements of provincial corrections facilities, each component of the inmate projection model is added together. The resulting projections are provided in Table 4.

Table 4: Projected total inmates held in provincial corrections facilities

	Inmate Population										
	Core				Adjustment,						
Fiscal Year	(Sustained Peak)	Federal	Immigrant	Intermittent	Bill C-25	Total					
2011/2012	2,854	29	36	27	70	3,016					
2012/2013	2,889	29	36	27	71	3,052					
2013/2014	2,927	29	36	28	72	3,092					
2014/2015	2,967	30	36	28	73	3,134					
2015/2016	3,008	30	36	28	74	3,176					
2016/2017	3,050	31	36	29	75	3,221					
2017/2018	3,091	31	36	29	76	3,263					
2018/2019	3,133	31	36	29	77	3,306					
2019/2020	3,174	32	36	30	78	3,350					
2020/2021	3,216	32	36	30	79	3,393					
2021/2022	3,256	32	36	30	80	3,434					

RESULTS: INCARCERATION RATES, 2000/01 TO 2010/11

This section presents age and gender-specific incarceration rates for the period 2000/01 through 2010/11. Incarceration rates were calculated based on the core provincial inmate population (provincial inmates on remand, sentence or dual status serving continuous time) and do not include other types of inmates (i.e., intermittent, federal, or immigrant). The rates were calculated using historical inmate data supplied by B.C. Corrections and BC Stats population estimates (these data sources are described further in Appendix B).

Note that age and gender-specific incarceration rates are presented twice in this section. First, colour coding is used to illustrate how incarceration rates have changed over time, and next, colour coding is used to illustrate how incarceration rates vary across age groups. The rates presented in the first set of tables (5 & 6) are identical to those in the second set of tables (7 & 8)—the data is repeated for illustrative purposes.

Illustration: Incarceration rates have increased since the turn of the century

Tables 5 and 6 present incarceration rates (based on the core inmate population only) since 2000/01, by age group and gender. The inmate population projection model uses a three year average, based on fiscal years 2008/09 through 2010/11 for the purposes of forecasting the core inmate population.

In Tables 5 and 6, a red-yellow formatting is applied to each *column*, to illustrate how age-specific incarceration rates have varied over time. In each column, red cells indicate higher incarceration rates, and yellow cells indicate lower incarceration rates.

Table 5 reveals that incarceration rates have declined over time among the youngest male age groups (18-24), but have clearly increased among all age groups from 25-49. Amongst the group aged 50 and over, the change observed has been more modest.

Note that while incarceration rates for most age group have generally increased over the last decade, between 2000/01 and 2003/04 rates were actually declining somewhat. The decline observed during this period can be explained by the lingering effects of the introduction of Conditional Sentence Orders (CSOs) in late 1996. This legislation allowed judges to give custodial sentences (served in the community) to less serious offenders. Up until 2003/04, the number of offenders serving CSOs continued to grow and as a result, the number of sentenced offenders in custody declined. By 2003/04, the number of offenders serving CSOs flattened out and incarceration rates began increasing.

Table 5: Male incarceration rates (core inmates per 100,000 population) by age group

	Age Group								
Fiscal Year	18-19	20-21	22-24	25-29	30-34	35-39	40-49	50+	18+
2000/2001	255.1	322.9	298.9	272.7	256.2	204.5	98.8	23.2	137.8
2001/2002	172.6	273.6	265.5	233.8	231.9	176.7	93.8	17.4	117.7
2002/2003	145.0	238.8	247.7	215.4	210.4	156.4	80.7	14.9	103.6
2003/2004	143.6	228.7	248.8	226.0	192.3	153.9	86.3	13.9	101.6
2004/2005	145.2	254.2	275.1	250.9	205.1	171.6	95.4	15.1	110.1
2005/2006	143.6	227.7	284.4	259.1	229.2	208.6	107.3	16.5	117.7
2006/2007	121.2	245.6	276.6	302.7	261.3	225.8	121.0	17.9	127.2
2007/2008	142.2	244.3	309.9	320.6	262.5	243.5	133.1	21.9	136.5
2008/2009	140.1	253.0	281.7	332.9	284.0	261.7	152.2	23.8	144.0
2009/2010	137.5	253.7	265.2	314.7	297.5	238.4	142.1	24.0	138.4
2010/2011	118.0	221.7	245.2	302.1	278.0	236.9	151.1	25.0	134.2
3 Year Avg	131.9	242.8	264.0	316.5	286.5	245.6	148.5	24.3	138.9

Table 6 reveals that incarceration rates have increased dramatically since the turn of the century for most female age groups. However, due to smaller sample sizes, the female rates exhibit greater variability than the male rates, particularly among the youngest (aged 18-24) and oldest (aged 50 and over) age groups.

Table 6: Female incarceration rates (core inmates per 100,000 population) by age group

	Age Group								
Fiscal Year	18-19	20-21	22-24	25-29	30-34	35-39	40-49	50+	18+
2000/2001	15.1	16.8	28.9	24.2	19.1	12.3	7.3	1.0	9.6
2001/2002	7.0	12.0	24.6	22.1	24.2	13.7	5.6	1.3	9.0
2002/2003	9.6	9.4	21.0	20.4	19.4	16.8	6.6	1.4	8.7
2003/2004	7.6	10.6	18.9	16.7	17.2	15.3	7.6	1.5	8.1
2004/2005	8.2	14.5	17.4	17.0	13.3	10.9	6.3	0.4	6.6
2005/2006	5.0	19.5	26.5	22.5	16.4	16.4	6.4	1.0	8.5
2006/2007	7.7	20.3	23.3	26.1	21.0	18.3	8.7	1.4	9.8
2007/2008	12.1	20.9	30.7	27.7	21.7	24.1	9.9	1.4	11.2
2008/2009	12.6	23.8	31.7	31.4	28.2	23.9	13.1	1.5	12.8
2009/2010	12.4	13.6	25.9	29.5	24.0	20.6	12.4	1.2	11.1
2010/2011	9.7	14.0	20.9	22.2	20.3	17.0	13.3	1.4	9.8
3 Year Avg	11.5	17.1	26.2	27.7	24.2	20.5	12.9	1.4	11.2

Note that changes in age-specific incarceration rates over time may be caused in part, by cohort effects – i.e., varying propensities of different birth cohorts (e.g., 1965 to 1969, 1970 to 1974) to engage in criminal behaviour. However, given the magnitude of the overall rise in incarceration rates over the past ten years, it is assumed that changes in structural factors (sentencing, enforcement, etc.) explain most of the change in age-specific incarceration rates over time. Given the limited duration of the data time series

(a little over a decade) and ever-changing structural factors, it is not possible to accurately determine cohort effects.

Illustration: There is a strong relationship between incarceration rates and age

In Tables 7 and 8, a red-yellow formatting is applied to each *row*, to illustrate how incarceration rates vary across age groups. In each row, red cells indicate higher incarceration rates, and yellow cells indicate lower incarceration rates.

Table 7 illustrates a clear relationship between age and incarceration rates among males. This relationship has remained remarkably stable over the past decade, with incarceration rates first climbing with age and then declining steadily. In recent years, the highest rates were observed among the 25-29 age group, although in the past, the highest rates were among the lower age groups.

Table 7: Male incarceration rates (core inmates per 100,000 population) by age group

	Age Group								
Fiscal Year	18-19	20-21	22-24	25-29	30-34	35-39	40-49	50+	18+
2000/2001	255.1	322.9	298.9	272.7	256.2	204.5	98.8	23.2	137.8
2001/2002	172.6	273.6	265.5	233.8	231.9	176.7	93.8	17.4	117.7
2002/2003	145.0	238.8	247.7	215.4	210.4	156.4	80.7	14.9	103.6
2003/2004	143.6	228.7	248.8	226.0	192.3	153.9	86.3	13.9	101.6
2004/2005	145.2	254.2	275.1	250.9	205.1	171.6	95.4	15.1	110.1
2005/2006	143.6	227.7	284.4	259.1	229.2	208.6	107.3	16.5	117.7
2006/2007	121.2	245.6	276.6	302.7	261.3	225.8	121.0	17.9	127.2
2007/2008	142.2	244.3	309.9	320.6	262.5	243.5	133.1	21.9	136.5
2008/2009	140.1	253.0	281.7	332.9	284.0	261.7	152.2	23.8	144.0
2009/2010	137.5	253.7	265.2	314.7	297.5	238.4	142.1	24.0	138.4
2010/2011	118.0	221.7	245.2	302.1	278.0	236.9	151.1	25.0	134.2
3 Year Avg	131.9	242.8	264.0	316.5	286.5	245.6	148.5	24.3	138.9

Table 8 illustrates a similar relationship among females: incarceration rates among females first increase with age, peaking among the 25-29 age group, and then decline steadily. Again, this relationship has remained remarkably stable over time, despite more variability among the female rates due to smaller sample sizes.

Table 8: Female incarceration rates (core inmates per 100,000 population) by age group

	Age Group								
Fiscal Year	18-19	20-21	22-24	25-29	30-34	35-39	40-49	50+	18+
2000/2001	15.1	16.8	28.9	24.2	19.1	12.3	7.3	1.0	9.6
2001/2002	7.0	12.0	24.6	22.1	24.2	13.7	5.6	1.3	9.0
2002/2003	9.6	9.4	21.0	20.4	19.4	16.8	6.6	1.4	8.7
2003/2004	7.6	10.6	18.9	16.7	17.2	15.3	7.6	1.5	8.1
2004/2005	8.2	14.5	17.4	17.0	13.3	10.9	6.3	0.4	6.6
2005/2006	5.0	19.5	26.5	22.5	16.4	16.4	6.4	1.0	8.5
2006/2007	7.7	20.3	23.3	26.1	21.0	18.3	8.7	1.4	9.8
2007/2008	12.1	20.9	30.7	27.7	21.7	24.1	9.9	1.4	11.2
2008/2009	12.6	23.8	31.7	31.4	28.2	23.9	13.1	1.5	12.8
2009/2010	12.4	13.6	25.9	29.5	24.0	20.6	12.4	1.2	11.1
2010/2011	9.7	14.0	20.9	22.2	20.3	17.0	13.3	1.4	9.8
3 Year Avg	11.5	17.1	26.2	27.7	24.2	20.5	12.9	1.4	11.2

APPENDIX A: DETAILED METHODOLOGY

As discussed earlier in this report, the inmate population projection model utilizes separate forecast methodologies for each of the following types of inmates held in provincial corrections facilities:

- **Core inmate population:** Provincial inmates on remand, sentence, or dual status held on a continuous basis
- **Intermittent inmate population:** Provincial inmates on sentence or dual status serving intermittent time
- Federal inmate population: Federal inmates on sentence or dual status held in provincial facilities
- **Immigrant inmate population:** Immigrants (provincial or federal jurisdiction) held in provincial facilities

This section outlines the detailed methodology employed to produce projections for each of the above inmate groups.

Methodology: Core inmate population

Provincial inmates on remand, sentence, or dual status held on a continuous basis represent the vast majority of total inmates held in provincial corrections facilities, and the forecast methodology for this group is the most complex.

As illustrated in the Results section, incarceration rates (core inmates per 100,000 population) vary significantly by age and gender. Rather than assuming that the growth rate of the core inmate population parallels that of the overall population, the use of age and gender-specific incarceration rates allows changes in the demographic composition of the overall population to mitigate or amplify inmate population growth resulting from overall population growth.⁸

The model assumes that the structural factors affecting age and gender-specific incarceration rates will remain static. To reduce variability, the model utilizes estimated incarceration rates from the past three years (as opposed to the most recent fiscal year only). Future age and gender-specific incarceration rates are projected to remain at an average of the annual average levels observed in 2007/08 through 2009/10.

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⁸ For example, omitting the age component of the model results in a sustained peak projection for 2021/22 that is approximately 2% higher than the figure in Table 3.

⁹ This methodology is designed to reduce variability with minimal expected impact on the overall results. For example, if based on the most recent fiscal year only, the resulting sustained peak projection for 2019/20 is within four percent of the figure in Table 3.

The key steps in deriving projections for the core inmate population were:

- Calculate annual average counts by gender and age group from B.C. Corrections data extract.
- 2. Compute historical incarceration rates by gender and age group using annual average counts and population estimates.
- 3. Calculate three year moving average incarceration rates by gender and age group based on the results for the three most recent fiscal years.
- 4. Use the incarceration rates computed in step 3, together with population projections, to project inmate counts by gender and age group for the next ten years.
- 5. Aggregate projected inmate counts by gender and age group to obtain overall projected inmate counts by gender.

Annual average projections were adjusted to sustained peaks¹⁰ by multiplying the annual averages by gender-specific peak factors. These factors were determined by comparing historical monthly average counts to historical annual average counts. Among males, the sustained peak in each of the past three fiscal years was, on average, 3.5% higher than the annual average for that year. Among females, the sustained peak in each of the past three fiscal years was, on average 6.9% higher than the annual average for that year.

Methodology: Intermittent inmate population

Some provincial inmates who are sentenced serve their time on an intermittent basis (i.e., they alternate between periods of serving time in a correctional facility and being free). Counts of intermittent inmates are consistently higher on Friday and Saturday nights compared to other days of the week. Because these counts follow a known pattern and this pattern repeats at least four times each month and in every month of the year, only Friday and Saturday nights are considered in determining capacity needs. In other words, Friday and Saturday nights represent sustained peak counts among the intermittent inmate population.

Based on Friday and Saturday counts only, annual average counts of intermittent inmates were calculated. The annual average number of intermittent inmates has fluctuated considerably over the past decade, most likely as a result of trends in sentencing. The model assumes that the structural factors affecting the size of the intermittent inmate population will remain static, but to reduce variability, utilizes estimates from the past three years (as opposed to the most recent fiscal year only). In 2011/12, the intermittent inmate population is projected to equal the average of the annual average levels observed in 2008/09 through 2010/11. In subsequent years, the intermittent inmate

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¹⁰ Sustained peak inmate populations persist at above average counts for at least one month of very year.

population is forecast to grow at the same rate as the core inmate population, as a result of general population growth.

Methodology: Federal inmate population

The average number of federal inmates on sentence or dual status held in provincial facilities has decreased markedly in recent years. The model assumes that this decline is a result of structural factors and that these structural factors will remain static over the projection period. In 2011/12, the federal inmate population is projected to equal the annual average level observed between 2008/09 to 2010/11. In subsequent years, the federal inmate population is forecast to grow at the same rate as the core inmate population, as a result of general population growth.

Note that for this group, no adjustment is made to obtain a sustained peak. This is because the federal inmate population is relatively small, and the calendar month in which the federal inmate population peaks may not occur in the same month in which the core inmate population peaks.

Methodology: Immigrant inmate population

The average number of immigrants held in provincial facilities fluctuates considerably over time. Sudden, unpredictable inflows of immigrants can cause temporary increases in the immigrant inmate population, but as the influx of immigrants is processed, immigrant inmate population counts slowly revert back to lower levels. In order to provide a conservative estimate of the number of immigrants held in provincial facilities on a typical day, the model considers historical data only for those time periods in which there was no major influx. Future immigrant inmate populations are projected to remain constant at the average annual level observed in 2008/09 through 2009/10. (Note that the reference period does not include 2010/11 due to a large influx of immigrants in late 2010.)

Note that for this group, no adjustment is made to obtain a sustained peak. This is because the immigrant inmate population is relatively small, and the calendar month in which the immigrant inmate population peaks may not occur in the same month in which the core inmate population peaks.

APPENDIX B: DATA SOURCES

Two principal data sources were used to build the inmate population projection model:

Source 1: BC Stats population estimates and projections

The model uses BC Stats population estimates (up to 2010) and projections (2011 onward) from the PEOPLE 36 population projections released by BC Stats in September 2011. Population figures were adjusted from a July 1 reference date to an October 1 reference date by BC Stats. Population figures as of October 1 of each calendar year (e.g., 2004) were then used to represent the corresponding fiscal year (e.g., 2004/05) population averages.

Source 2: B.C. Corrections historical inmate counts

The model uses historical inmate data supplied by B.C. Corrections, Ministry of Public Safety and Solicitor General. B.C. Corrections supplied BC Stats with inmate data for the period June, 1999 through December 31, 2011. The datasets contained monthly administrative data up to 2007 with a continuation in another dataset up to 2011 – the break was caused by a transition in systems and the reporting structure at the database entry level. In both systems, demographic information on age and gender was available. The final data set used captured movements of inmates within provincial correctional institutions.

Note also that the source data file included inmates held on lockup (i.e., persons going to court within 72 hours). Inmates in lockup are no longer held in provincial facilities and therefore, these records were excluded in the calculation of historical inmate counts, incarceration rates, and future inmate projections.