

## SUPPORTING STATEMENT

### **B. Statistical Methods**

#### 1. Universe and Respondent Selection

##### **Annual Survey of Jails (ASJ)**

The universe for the current ASJ survey includes all county or city jail jurisdictions that administer at least one local jail and all regional jails in the country. The frame for the survey is the 2,960 jail jurisdictions nationwide identified in BJS's 2005 Census of Jail Inmates. There were 2,897 non regional jails in the frame; of these 2,855 were public jails and 42 were private jails. Twenty-one of the private jails matched to a county or city jail jurisdiction and the remaining 21 were jail jurisdictions. For sampling purposes there were 2,880 possible sampling units, 2,817 non regional jail jurisdictions plus 63 regional jails that were present in the 2005 Census of Jail Inmates. The ASJ frame is assessed annually, through the annual Deaths in Custody Reporting Program and through other literature review, to determine eligibility of new regional or other certainty jails to be included in the sample survey.

The sample for the ASJ was drawn from the 2005 Census of Jail Inmates by the Census Bureau's Economic Programming Division (EPD) during 2006, based on BJS specifications. The sample was designed to produce national estimates of the jail inmate population and its characteristics as well as estimates by jail size. Of particular interest to BJS in designing the sample were: a capacity to estimate the number of juveniles (persons under 18 years of age) held in jails; a capacity to track consolidation and expansion of regional jails; and a jail jurisdiction-based sample that would produce inmate population estimates while allowing for openings and closings of jail facilities within jail jurisdictions. For BJS, a jail jurisdiction is a county (parish in Louisiana) or municipal government that administers one or more local jails and represents the entity that is responsible for managing the jail facilities under its authority. Jail jurisdictions may contain multiple facilities and/or multiple facility operators (i.e., both county and privately operated facilities). In the Annual Survey of Jails, BJS obtains data from jails responding or reporting units. For example, four reporting units in Allegheny County (PA) represent a single jail jurisdiction. BJS collapses the reporting units into the appropriate single jail jurisdiction for sampling and statistical reporting purposes.

Given the comparatively small number of juveniles held in jails, facilities housing juveniles were oversampled, all regional jails were included with certainty to allow the sample to expand as new regional jails came on line, and the largest jail jurisdictions were included with certainty because they hold the majority of jail inmates. The sample that EPD drew in 2006 (from the 2005 Census of Jail Inmates) has been used through 2012, and BJS plans to use it during the next cycle until the next Census collection planned for 2014 is conducted. Included in the data collection (from 2013 onward), but excluded from the sample frame and the national jail population estimate, are the 21 respondents from the California jail jurisdictions that were not originally selected for the sample survey. *See the Needs and Uses section in the Part A supporting statement for more detail on the California jail inclusion.*

The sample is a stratified random sample of jail jurisdictions identified through the 2005 Census of Jail inmates. When a jail jurisdiction is included in the sample, all jails within the jail jurisdiction are accounted for in the survey. The 2012 Annual Survey of Jails sample included all jails in 873 selected jail jurisdictions, 26 selected privately contracted jails within their selected jurisdictions, and 67 regional jails. A regional jail is one in which two or more jurisdictions have a formal agreement to operate the facility. BJS requested that all regional jails be included in the sample with certainty. The response rate is expected to be nearly 100% for critical items such as, average daily population, the number of inmates confined at midyear, rated capacity, and admissions to jail.

All regional jail jurisdictions were selected into the sample with certainty, allowing BJS to track changes in openings and closings of these jails.

Non-regional jail jurisdictions were selected with certainty if either:

- 1) The non-regional jail jurisdiction held at least one juvenile on Census Day and had an average daily population of 500 or more; or
- 2) The non-regional jail jurisdiction held adults only on Census Day and had an average daily population of 750 or more.

There were 200 nonregional jail jurisdictions that held at least one juvenile on the Census Day and had an average daily population of 500 or more. Additionally, there were 68 nonregional jail jurisdictions that held adults only on the census day and had an average daily population of 750 or more. These conditions include all large jail jurisdictions, which account for the majority of the jail inmate population.

The 2005 Average Daily Population (ADP) was used to stratify the sample, with allocation to the strata based on the 2005 one-day count, 1999 one-day count, and 1999 ADP. Other 2005 variables considered in the final allocation were number of: confined adult males, confined adult females, confined Whites, confined Blacks, confined Hispanics, confined males, confined females, and confined adults.

A Neyman (or optimum) sample allocation to the strata was calculated for each of the variables listed above. Neyman allocation minimizes the variance for a fixed total sample size. The formula for Neyman allocation is

$$n_h = n \frac{N_h S_h}{\sum N_h S_h}$$

where  $n_h$  is the sample size in the given stratum,  $n$  is the total sample size,  $N_h$  is the total (or in the population) number of units in stratum  $h$ , and  $S_h$  is the square root of the variance in stratum  $h$

A compromise allocation was used based on the average of the allocations for 2005 one-day count, 1999 one-day count, and 1999 ADP. Estimates were included from the 1999 Census of Jails in the compromise allocation because that gives idea of how the sample may deteriorate

over time.

Given knowledge of the number of units to select in each strata, PROC SURVEYSELECT was used to select a systematic random sample within each noncertainty strata. PROC SURVEYSELECT performed a serpentine sort on jail type, region, and 2005 ADP within each strata.

The six categories of jail type are:

- nonregional jurisdiction held at least one juvenile on Census Day, at least one female, and none (0) nonconfined,
- nonregional jurisdiction held at least one juvenile on Census Day, at least one female, at least one nonconfined,
- nonregional jurisdiction held at least one juvenile on Census Day, all males,
- nonregional jurisdiction held only adults on Census Day, at least one female, and zero (0) nonconfined,
- nonregional jurisdiction held only adults on Census Day, at least one female, at least one nonconfined,
- nonregional jurisdiction held only adult males on Census Day.

Nonregional jurisdictions that held no persons on Census Day were automatically defaulted to a jail type of “nonregional jurisdiction held only adult males on Census Day.”

### **Census review of the universe file**

#### *Changes made to the sample since 2006*

Periodically there are non-impacting changes to the sample universe. Among them are adding unknown certainly jurisdictions to the sample when discovered and removing facilities from the sampling frame based on closings.

- 2006: One jail jurisdiction should have been in sample with certainty but was not selected. Consequently, there are now 269 jail jurisdiction certainties based on ADP, and 877 units in sample; four jail jurisdictions were out-of-scope and thus removed from the sample; and one new regional jail was added to the sample.
- 2007: No jail jurisdictions were removed or added to the sample.
- 2008: One jail jurisdiction was out-of-scope and removed from the sample and two new regional jails were added to the sample.
- 2009: Two jail jurisdictions were out-of-scope and thus removed from the sample; one facility was converted from a county jail to a privately operated facility, but still remains in the stratum; and one new regional jail was added to the sample.
- 2010: One jail jurisdiction was out-of-scope and removed from the sample; one regional jail was misclassified in stratum 01 and was reclassified as stratum 12.
- 2011: Two individual reporting units were classified as permanently closed and thus removed from the sample; two individual reporting units were classified as temporarily

closed and will remain in the sample. Each of the four were part of multi-reporting unit jail jurisdictions, therefore these jail jurisdictions remain active.

The ASJ frame is assessed annually, through the annual Deaths in Custody Reporting Program and through other literature review, to determine out-of-scope facilities. In 2014, BJS plans include a Census of Jails. The Census will include a roster of facilities in county and city jail jurisdictions.

The current sample design layout is described in the table below:

| Sample Design for the 2011 Annual Survey of Jails (ASJ)   |  |                         |                             |           |         |
|---|--|-------------------------|-----------------------------|-----------|---------|
| Stratum   | Description                                  |                         | 2005 Census of Jail Inmates | ASJ, 2011 | Weight  |
| 1   | Jails jurisdiction certainties based on ADP* |                         | 269                         | 264       | 1.0000  |
| 2   | Holding at least                             | ADP between 264 and 499 | 87                          | 36        | 2.4167  |
| 3   | one juvenile on                              | ADP between 141 and 263 | 103                         | 24        | 4.2917  |
| 4   | Census day                                   | ADP between 69 and 140  | 121                         | 14        | 7.5625  |
| 5   |  | ADP between 0 and 68    | 125                         | 11        | 11.3636 |
| 7   | Holding adults                               | ADP between 227 and 749 | 229                         | 153       | 1.4136  |
| 8   | only on Census                               | ADP between 103 and 226 | 354                         | 122       | 2.7519  |
| 9   | day  | ADP between 40 and 102  | 587                         | 97        | 5.5377  |
| 10  |  | ADP between 0 and 39    | 942                         | 54        | 15.7    |
| 12  | Regional jail certainties                    |                         | 64                          | 64        | 1.0000  |
| <b>TOTALS</b>   |  |                         | 2,881                       | 839       |         |
| *A jail jurisdiction is a certainty if either (1) the nonregional jurisdiction held at least one juvenile on Census day and had an average daily population (ADP) of 500 or more, or (2) the nonregional jurisdiction held adults only on Census day and had an ADP of 750 or more inmates. |  |                         |                             |           |         |

BJS has obtained nearly a 100% response rate from sampled survey participants and 100% item response rate on the items related to jail inmate populations and rated capacity. On other items, item nonresponse rate has ranged between 5% and 10%. For example, on admissions and releases, conviction status, and race item nonresponse over the past three years has not exceeded 7%. BJS currently uses ratio adjustment methods to account for item nonresponse and post-weight adjustment procedures to estimate for survey nonresponse.

***Post-weight Adjustment Procedure:***

In 2010, BJS implemented nonresponse weight adjustment procedures to account for non-respondents to the Annual Survey of Jails. This method allows BJS to produce national estimates despite survey non-response, reduction in survey time to completion, and to reduce survey operating cost that typically result in limited benefit.

2010: The 2010 ASJ sampling frame comprised of 930 active reporting units/respondents. Eight jail reporting units did not respond. The sampling frame initially comprised 936 units. However, two jail facilities were determined to be out-of-scope for the 2009 ASJ and remained

out-of-scope for 2010. Four were out-of-scope for the 2010 data collection because they closed permanently, leaving 930 active respondents

In 2010 nonresponse weight adjustment procedures were implemented to account for missing data. However, prior to implementing the plan, data were estimated for 3 of the 8 survey non respondents. For the confined population and average daily population (ADP), the estimation method included applying the average annual change from 2007-2009 to estimate the 2010 data. The rated capacity for 2010 is the same as in 2009 because of the stability of these numbers.

After October, 21, 2010, BJS implemented the nonresponse weight adjustment procedure to account for the other five respondents that did not participate. Detail procedures are available in the methodology of Jail Inmates at Midyear 2010-Statistical Tables.<sup>1</sup>

2011: The 2011 ASJ sampling frame comprised of 926 active reporting units/respondents. Ninety-six percent (or 888) of the 926 individual reporting units responded to the 2011 data collection, and 38 individual reporting units did not respond to the survey. The sampling frame initially comprised 930 units. However, four units were out-of-scope for the 2011 data collection because they had closed, either permanently or temporarily, which resulted in the sampling frame of 926 active respondents.

BJS implemented nonresponse weight adjustment procedures to account for missing data from survey non respondents, as it did in 2010. However, prior to implementing the plan, data were estimated for four non respondents. After November 2, 2011, BJS implemented the nonresponse weight adjustment procedure to account for 34 respondents that did not participate. Detail procedures are available in the methodology of Jail Inmates at Midyear 2011-Statistical Tables.<sup>2</sup>

### *Sampling error and redesigning the ASJ Sample*

BJS estimates variances directly from the sample design information in ASJ and annually publishes standard errors for its estimates from ASJ in its annual bulletins based on ASJ data.

During the upcoming collection period, BJS and Census Bureau staff plans to review the ASJ sample and explore the feasibility of alternative sample designs and reducing the sample size, while maintaining a desired low standard error. The current ASJ sample yields comparatively small standard errors. For example, the estimated sampling error for the total number of jail inmates at midyear 2011 (735,601) was 6,168 and a relative standard error of 0.84%. A 95% confidence interval for any of the estimates provided is obtained by adding and subtracting from the estimate in question the product of the standard error for the estimate by the 97.5% standard normal quantile (z-score 1.96). For example, by taking the estimate midyear 2011 inmate population 735,601 +/- (1.96 x 6,168), the 95% confidence interval is given by (723,512 to 747,690). This result shows the range of values the sample estimate would take 95 times out of 100 if different samples were drawn. Similar intervals may be constructed for other quantities of

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1 Minton, Todd D. (2011) *Jail Inmates at Midyear 2010-Statistical Tables*, Bureau of Justice Statistics, Washington, DC. Available at: <http://bjs.ojp.usdoj.gov/content/pub/pdf/jim10st.pdf>

2 Minton, Todd D. (2011) *Jail Inmates at Midyear 2011-Statistical Tables*, Bureau of Justice Statistics, Washington, DC. Available at: <http://bjs.ojp.usdoj.gov/content/pub/pdf/jim11st.pdf>

interest.

## **Survey of Jails in Indian Country (SJIC)**

### *Universe*

The universe for SJIC is all known of Indian country correctional facilities. Currently, BJS' universe of jails in Indian country consists of 88 facilities. Prior to the survey collection, six facilities were closed, not operating, or out of scope, resulting in a survey universe of 82 facilities. During the survey collection, BJS determined that three additional facilities were holding cells and were out of scope, and one facility was added to the list, resulting in a final universe of 80 Indian country jails. BJS received responses from all 80 facility administrators in 2011. Year-to-year comparison of the SJIC universe is available in the methodology in *Jails in Indian Country, 2011*.<sup>3</sup>

Sampling from this universe would not be practical, as to arrive at acceptable degrees of precision for estimates for each tribe, the sample size would converge to the universe. Tribal distinctions are an important element of the SJIC, as the tribes can differ in culture, tradition, and in the administration of justice in Indian country.

## 2. Procedures for Collecting Information

### **Annual Survey of Jails**

The CJ-5/5A and CJ-5D/5DA forms are mailed (see attachment 11 for sample letter) to the jurisdictions in the second week of June. The reference date of the Annual Survey of Jails is the last weekday in June. Respondents are asked to mail, fax, or submit the survey by internet to the Census Bureau by July 31 of the collection year. Two weeks prior to the ASJ due date, respondents will receive a fax via Paperless Fax Image Retrieval System (PFIRS) (see attachments 12 for the PFIRS example). The PFIRS reminder informs non-respondents of the importance of providing complete and accurate data.

Typically, most facilities respond to the survey by July 31 of the collection year. However, facilities that have not responded by the deadline are first contacted by PFIRS, which netted 256 (28%) nonrespondents in 2011, and second by Census Bureau staff phone calls, which netted 271 (29%) nonrespondents. Nonresponse follow-up phone calls are conducted after the PFIRS and completed as necessary until September 30 of the collection year (see attachment 13 for the nonresponse followup telephone call instructions.).

Data collection will be completed by September 30 of each year. The final report *Jail Inmates at Midyear*, will be issued annually in February/March.

### **Survey of Jails in Indian Country**

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33 Minton, Todd D. (2012) *Jails in Indian Country, 2011*, Bureau of Justice Statistics, Washington, DC. Available at: <http://bjs.ojp.usdoj.gov/content/pub/pdf/jic11.pdf>

The reference date for the SJIC is the last weekday in June of each year. Prior to the survey administration by fax (see attachment 14 for example), the respondents receive a pre-notification letter by mail explaining the survey collection and thanking them for their commitment to the survey (see attachment 15 for example). Respondents are asked to fax the completed survey within 30 days after receipt of the survey collection. After the deadline passes, Westat begins an intensive effort to encourage response, including repeated faxes (see attachment 16 for example), and telephone contacts to nonresponding facilities. Faxes often include a new copy of the survey or ask the contact to call the SJIC hotline to talk about completing the survey. Comparisons of response timing between in previous collection years indicate that the faxes were far more effective at receiving quick response than telephone contacts. The final report *Jails in Indian Country at Midyear*, will be issued annually in June/July of the following year.

### 3. Methods to Maximize Response

#### **Annual Survey of Jails:**

BJS has consistently maintained a high survey (nearly 100%) and item (90%-100%) response rate for the ASJ. In an effort to minimize respondent burden, the data collection plan allows the jail respondents to submit data by mailing their response in a postage-paid envelope or by faxing their completed form, in addition to the internet-based reporting system (which BJS implemented in 2000). To maximize the accuracy of the survey, at the direction of BJS, Census Bureau staff conducts out-of-range analysis of critical items and uses the results from this analysis to prioritize follow-up contacts.

The data collection forms submitted for this collection involve data that are available from the current record-keeping practices of correctional systems. To minimize burden the data collection forms contain only those items that may be known to the jail administrators.

Follow-up telephone calls and faxes to nonrespondents are used to encourage high response rates. These methods have proved effective in reaching the nearly 100% response rate in 2011, while minimizing missing data.

#### **Survey of Jails in Indian Country:**

BJS has consistently maintained high rates of response to the SJIC, typically between 90% and 100% survey response and item response rate. It should be noted that Indian country jails are under no obligation to respond to the survey. BJS believes that our efforts to minimize the reporting burden have been integral to achieving high rates of voluntary response. In an effort to minimize respondent burden, the data collection plan allows for the jail respondents to submit data by mailing their reply in a postage-paid envelope, by fax, or by telephone response. To maximize the accuracy of survey response, at the direction of BJS Westat conducts out-of-range analysis of critical items. Upon completion, respondents are contacted for data verification.

The data collection forms submitted for this collection involve data that are available from the

current record-keeping practices of correctional systems. To minimize burden the data collection forms contain only those items that may be known to the jail administrators

Follow-up telephone calls and faxes to non-respondents are planned to encourage a 100 percent response rate. The response rate for the SJIC in 2011 was 100%.

#### 4. Testing Procedures

BJS obtains feedback from local and tribal jail administrators and other experts when significant changes to the survey are implemented and when a new survey instrument is introduced to the field. BJS is concerned about placing any additional burden on respondents while simultaneously understanding how important it is to collect and disseminate current and critical information on jail and jail inmates.

**The Annual Survey of Jails (ASJ):** The 2013 survey instrument did not change from the 2010-2012 version.

**The Survey of Jails in Indian County (SJIC):** The SJIC was last revised in 2004. The current SJIC was tested in 2004 and revised based on comments received during that OMB process. Since then the survey was successfully administered and completed in 2011 without significant difficulty for most items.

Through discussions with the varied stakeholders for SJIC, BJS has found that there is general satisfaction with the current survey, in that the questions cover important topics and the accompanying instructions for completing the survey are clear.

#### 5. Contacts for Statistical Aspects and Data Collection

The Corrections Statistics Unit of BJS takes responsibility for the overall design and management of the activities described in this submission, including data collection procedures, development of the questionnaires, and analysis of the data. BJS contacts include the following:

**BJS contacts include:**

Lead agency: Bureau of Justice Statistics  
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U.S. Department of Justice

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**Contractor contacts for the Annual Survey of Jails include:**

Contractor (CJ-5, CJ-5A, CJ-5D, & CJ-5DA only)  
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**C. Attachments**

1. BJS authorizing legislation, Omnibus Crime Control and Safe Street Act of 1968, as amended (42 U.S.C. 3732)
2. The Violent Crime Control and Law Enforcement Act of 1994

3. The Violent Crime Control and Law Enforcement Act of 1994, Title II, Subtitle A, Public Law 103-322, as amended, 42 U.S.C. § 13709
4. Data Collection Instrument (CJ-5)
5. Data Collection Instrument (CJ-5A)
6. Data Collection Instrument (CJ-5D)
7. Data Collection Instrument (CJ-5DA)
8. Data Collection Instrument (CJ-5B)
9. Previous Data Collection Instrument (CJ-5B)
10. 42 U.S.C. 3735 Section 304
11. ASJ-Sample cover letter announcing data collection
12. ASJ-Sample Paperless Fax Image Retrieval System (PFIRS)
13. ASJ-Nonresponse follow-up instructions
14. SJIC-Sample cover letter announcing data collection
15. SJIC-Sample pre-notification cover letter
16. SJIC-Sample nonresponse fax follow-up