

B. Statistical Methods

1. Universe and Respondent Selection

Annual Survey of Jails (ASJ)

The sample for the ASJ was drawn by the Census Bureau's Economic Statistical Methods and Programming Division (ESMPD) during 2006, based on BJS specifications. The sample was designed to produce national-level estimates of the jail inmate population and its characteristics as well as estimates by jail size categories. 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 jurisdiction-based sample that would produce inmate population estimates while allowing for openings and closings of jail facilities within jurisdictions. Given the comparatively small number of juveniles held in jails, facilities housing juveniles were oversampled, 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 ESMPD drew in 2006 has been used through 2009, and BJS plans to use to during the 2010-2012 cycle of AJS. In the past, BJS has reviewed the ASJ sample design every 5 or 6 years after it completes a jail census. During this three-year cycle for the ASJ, BJS will again review the sample design. This time it will incorporate additional information from its Deaths in Custody Reporting Program (DCRP) about the jail frame into this work. BJS will undertake the work related to the sample redesign during 2011 after it completes the 2010 DCRP jail collection.

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 2005 Census of Jail Inmates. The sample is designed to produce national-level estimates of jail populations and the characteristics of the jail inmate population. There were 2,897 nonregional jail jurisdictions 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; the remaining 21 were jail jurisdictions. For sampling purposes, there were 2,880 possible sampling units: 2,817 nonregional jails plus 63 regional jails that were present in the 2005 Census of Jail Inmates.

The sample is a stratified random sample of jail jurisdictions (i.e., counties, municipalities, boroughs, etc.) identified through the 2005 Census of Jail inmates. A jurisdiction is a county (parish in Louisiana) or municipal government that administers one or more local jails. When a jurisdiction is included in the sample, all jails within the jurisdiction are surveyed. The 2009 Annual Survey of Jails sample included all jails in 874 selected jail jurisdictions, 42 selected privately contracted jails within their selected jurisdictions, and all 66 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. With the exception of one facility that did not respond to the survey in 2008 and 2009, the response rate is expected to be 100%, as it was for the 1994-1998 and 2000-2006 survey cycles for critical items such as rated capacity, average daily population, and the number of inmates confined.

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

Non-regional jurisdictions were selected with certainty if either

- The non-regional jurisdiction held at least one juvenile on Census day and had an average daily population of 500 or more; or
- the non-regional jurisdiction held adults only on Census day and had an average daily population of 750 or more.

There were 200 nonregional jurisdictions that held at least one juvenile on the census day and had an average daily population of 500 or more, and there were 68 nonregional 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 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 were also considered in the final allocation: confined adult males, confined adult females, confined Whites, confined Blacks, confined Hispanics, confined males, confined females, and confined adults.

An optimum allocation (Neyman allocation) to the strata was calculated for each of the variables listed above. Neyman allocation minimizes the variance for a fixed total

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

sample size. The formula for Neyman allocation is

where n_h is the sample size in the given stratum, n is the total sample size, N_h is the total 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. Post-weighting is not applied to the ASJ universe. Below is a general description of changes in the annual scope of the collection:

2006: One jurisdiction should have been in sample with certainty but was not selected, so there are now 269 jurisdiction certainties based on ADP, and 877 units in sample; four jurisdictions were out-of-scope and thus removed from the sample; and one new regional jail was added to the sample.

2007: No jurisdictions were removed or added to the sample.

2008: One jurisdiction is out-of-scope and thus removed from the sample and two new regional jails were added to the sample.

2009: Two 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.

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

Sample Design for the 2009 Annual Survey of Jails (ASJ)
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Stratum	Description	2005 Census of Jail Inmates	ASJ, 2009	Weight	
1	Jurisdiction certainties based on ADP*	269	269	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	16	7.5625
5		ADP between 0 and 68	125	11	11.3636
7	Holding adults	ADP between 227 and 749	229	162	1.4136
8	only on Census	ADP between 103 and 226	354	128	2.7519
9	day	ADP between 40 and 102	587	105	5.5377
10		ADP between 0 and 39	942	57	15.7000
12	Regional jail certainties	64	66	1.0000	
	TOTALS	2,881	874		

*A 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 the Census data and had an ADP of 750 or more.

BJS has been able to obtain 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. BJS and the Governments Division of the U.S. Census Bureau (BJS' data collection agent for ASJ) plan during the upcoming collection cycle to examine the tradeoffs associated with various imputation methods to address item nonresponse.

Sampling error

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.¹

Redesigning the ASJ Sample

During the upcoming collection period, BJS and Census Bureau staff plan to review the ASJ sample and explore the feasibility of alternative sample designs. The current ASJ sample yields with comparatively small relative standard errors. For example, the

¹ Minton, Todd D. and William J. Sabol, *Jail Inmates at Midyear 2008-Statistical Tables*, Bureau of Justice Statistics, Washington, DC. Available at: <http://bjs.ojp.usdoj.gov/content/pub/pdf/jim08st.pdf>

estimated relative sampling error for the total number of jail inmates on June 30, 2008 (785,556) was 0.54% and for the number of jail inmates that were convicted (291,300) was 1.11%.

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 85 jails managed by 65 different tribal authorities. 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.

BJS did not collect this survey in 2005 and 2006. In 2007, BJS' roster of Indian country jails consisted of 86 facilities; BJS obtained responses from administrators in 79 of these facilities and found that 3 of the facilities in its roster were not in operation. For 2008, BJS' roster of Indian country jails consisted of 85 facilities; BJS received responses from 82 facility administrators; there were no nonrespondents; and 3 facilities were non-operational.

2. Procedures for Collecting Information

Annual Survey of Jails

The reference date for the ASJ is the last weekday in June of each year. The survey is administered by mail (see attachment 11 for sample letter). Respondents are asked to fax or complete the survey by internet web form to the Census Bureau by July 31 of the collection year. Two weeks prior to due date, respondents will receive a fax reminder. A second fax reminder or PFIRS (Paperless Fax Image Retrieval System) takes place within the first week after the requested completion date (see attachment 12 for PFIRS instructions). The PFIRS status and reminder informs non-respondents of the overall response rate for the collection and describes the importance of providing complete data and where the respondent can find the most recent BJS jail report (see attachment 13 for PFIRS example).

Typically most facilities respond to the survey by July 31 of the collection year. However, the non-respondents are first contacted by PFIRS, which netted 176 (19%) nonrespondents in 2009, and second by Census Bureau staff phone calls, which netted the remaining 195 (or 21%) nonrespondents. Nonresponse follow-up phone calls are conducted after the PFIRS and completed as necessary until September 30 of the collection year (see attachment 14 for the nonresponse followup telephone call instructions.)

Survey of Jails in Indian Country

The reference date for the SJIC is the last weekday in June of each year. Prior to the survey administration by fax (see attachment 15 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 16 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 17 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 2007 and 2008 indicate that the faxes were far more effective at receiving quick response than telephone contacts in either 2007 or 2008. In addition, BJS contacted BIA asking them to follow-up with non-responders. This proved to be effective as Westat received direct faxes from BIA with surveys and also received faxes that contained copies of the fax sent to them by BIA encouraging participation.

3. Methods to Maximize Response

Annual Survey of Jails:

BJS has consistently maintained high rates of response to the ASJ, typically 100% survey response rate and between 90%-100% item response rate. 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 or by fax, in addition to the internet-based reporting system (which BJS implemented in 2000). To maximize the accuracy of survey, at the direction of BJS, Census Bureau staff conduct out-of-range analysis of critical items and use the results from this analysis to prioritize followup 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 non-respondents are used to encourage high response rates. These methods have proved effective in reaching the 100% response rate 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 2008 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 proposed 2010 survey instrument contains the first modifications to the form in over a decade. As documented, BJS has worked with stakeholders from local jails and county associations to discuss the new items included in the survey form. As with other items in the ASJ, the items on the distribution of time served and staffing are items that can be drawn from the ongoing jail management information systems. Items on the distribution of time served were tested and fielded during the 2004 Survey of Large Jails (OMB No. 1121-0094). Items on staffing were tested and fielded during BJS' 2006 Census of Jail Facilities (OMB No. 1121-0305).

In an effort to address the prevailing concerns in jails, BJS enhanced the ASJ survey instruments to incorporate a variety of question to address the flow of inmates, expanded conviction status, inmate length of stay, staff safety and security, and enhanced capacity measurements to better understand the jails dynamics.

The Survey of Jails in Indian County (SJIC) and addendum: The SJIC and Addendum was last revised in 2004. The current SJIC and Addendum was tested in 2004 and revised based on comments received during that OMB process. Since then the survey was successfully administered and completed in 2007 without significant difficulty.

Through discussions with the varied stakeholders for SJIC, BJS has found that there is general satisfaction with the current survey and its Addendum, 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:

Lead agency: Bureau of Justice Statistics
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Contractor contacts 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. Data Collection Instrument (CJ-5B Addendum)
10. 42 U.S.C. 3735 Section 304
11. ASJ-Sample cover letter announcing data collection
12. ASJ-Instructions for Paperless Fax Image Retrieval System (PFIRS)
13. ASJ-Sample Paperless Fax Image Retrieval System (PFIRS)
14. ASJ-Nonresponse follow-up instructions
15. SJIC-Sample cover letter announcing data collection
16. SJIC-Sample pre-notification cover letter
17. SJIC-Sample nonresponse fax follow-up