



*Information and Technology for Better Decision Making*

# **2012 Post-Election Voting Survey of Department of State Voting Assistance Officers**

## **Statistical Methodology Report**

Additional copies of this report may be obtained from:

Defense Technical Information Center

ATTN: DTIC-BRR

8725 John J. Kingman Rd., Suite #0944

Ft. Belvoir, VA 22060-6218

Or from:

<http://www.dtic.mil/dtic/order.html>

Ask for report by Report ID

**2012 POST-ELECTION VOTING SURVEY OF  
DEPARTMENT OF STATE VOTING ASSISTANCE  
OFFICERS:  
STATISTICAL METHODOLOGY REPORT**

**Defense Manpower Data Center  
Human Resources Strategic Assessment Program  
4800 Mark Center Drive, Suite 04E25-01, Alexandria, VA 22350-4000**

## **Acknowledgments**

Defense Manpower Data Center (DMDC) is indebted to numerous people for their assistance with the *2012 Post-Election Survey of Department of State Voting Assistance Officers 2012 PEV6*, which was conducted on behalf of the Office of the Under Secretary of Defense for Personnel and Readiness (OUSD[P&R]). The survey program is conducted under the leadership of Kristin Williams, Director of *the Human Resources Strategic Assessment Program* (HRSAP).

Federal Voting Assistance Program (FVAP) staff and other FVAP stakeholders contributed to the development of this survey.

DMDC's Statistical Methods Branch, under the guidance of David McGrath, Branch Chief, is responsible for sampling and weighting methods used in the survey program. The lead statistician on this survey was Phil Masui, DMDC, supervised by Eric Falk, DMDC.

# 2012 POST-ELECTION VOTING SURVEY OF DEPARTMENT OF STATE VOTING ASSISTANCE OFFICERS: STATISTICAL METHODOLOGY REPORT

## Executive Summary

The Uniformed and Overseas Citizens Absentee Voting Act of 1986 (UOCAVA), 42 USC 1973ff, and the Military and Overseas Voter Empowerment (MOVE) Act, a subtitle of the National Defense Authorization Act for Fiscal Year 2012, permits members of the Uniformed Services and Merchant Marine, their eligible family members, and all citizens residing outside the United States who are absent from the United States and its territories to vote in the general election for federal offices. These groups include:

- Members of the Uniformed Services (including Army, Navy, Air Force, Marine Corps, Coast Guard)
- U.S. citizens employed by the Federal Government residing outside the U.S., and
- All other private U.S. citizens residing outside the U.S.

The Federal Voting Assistance Program (FVAP), under the guidance of USD(P&R), is charged with implementing and evaluating the effectiveness of UOCAVA and MOVE laws' programs. The FVAP office asked DMDC to design, administer, and analyze post-election surveys on Uniformed Services voter participation and local election officials. Without such surveys, the Department will not be able to assess and improve voter access. In addition, such surveys fulfill 1988 Executive Order 12642 that names the Secretary of Defense as the "Presidential designee" for administering the UOCAVA and requires surveys to evaluate the effectiveness of the program in presidential election years.

The objectives of the 2012 post-election surveys are: (1) to gauge participation in the electoral process by citizens covered by UOCAVA, (2) to assess the impact of the FVAP's efforts to simplify and ease the process of voting absentee, (3) to evaluate other progress made to facilitate voting participation, and (4) to identify any remaining obstacles to voting by these citizens. Surveys were done of military members, spouses of military members, voting assistance personnel, and local election officials in the U.S.

This report focuses on the *2012 PEV6*, which was designed to capture the attitudes and behaviors of Department of State Voting Assistance Officers (DoS VAOs) assigned to Department of State Voting Assistance Offices throughout the world. This report describes the sampling and weighting methodologies used in the *2012 PEV6*. Calculation of response rates is described in the final section.

The *2012 PEV6* was a census of all the posts where DoS VAOs are assigned to U.S. embassies and consulates throughout the world. The total size was 240 DoS VAOs. The survey administration period lasted from November 7 to December 19, 2012. There were 204 usable questionnaires.

After the determination of eligibility for the survey and completion of a survey, analytic weights were created to account for varying response rates among population subgroups. First, the sampling weights (inverse of the selection probabilities) were computed. Since the *2012 PEV6* was a census, the initial weight equals 1.0. The base weights were adjusted to account for survey eligibility and completion (nonresponse).

Location, completion, and response rates are provided in the final section of this report for both the full sample and for population subgroups. These rates were computed according to the recommendation of the Council of American Survey Research Organization (CASRO, 1982) and the American Association for the Public Opinion Research (AAPOR, 2008). The location, completion, and response rates were 98%, 87%, and 86%, respectively.

## Table of Contents

	<u>Page</u>
Introduction.....	7
Sample Design and Selection.....	8
Target Population.....	8
Sampling Frame.....	8
Sample Design.....	8
Contact Issues.....	9
Weighting.....	9
Case Dispositions.....	9
Nonresponse Adjustments and Final Weights.....	11
Variance Estimation.....	11
Location, Completion, and Response Rates.....	11
Ineligibility Rate.....	12
Estimated Ineligible Postal Non-Deliverable/Not Located Rate.....	13
Estimated Ineligible Nonresponse.....	13
Adjusted Location Rate.....	13
Adjusted Completion Rate.....	13
Adjusted Response Rate.....	13
References.....	15

## List of Tables

1.	Voting Assistance Officers by Region.....	8
2.	Case Dispositions for Weighting.....	10
3.	Sample Size by Case Disposition Categories.....	10
4.	Voting Assistance Officers Respondent Counts and Final Weights by Region.....	11
5.	Disposition Codes for CASRO Response Rates.....	12
6.	Rates for Full Sample and Stratification Level.....	13



# 2012 POST-ELECTION VOTING SURVEY OF DEPARTMENT OF STATE VOTING ASSISTANCE OFFICERS: STATISTICAL METHODOLOGY REPORT

## Introduction

The Uniformed and Overseas Citizens Absentee Voting Act of 1986 (UOCAVA), 42 USC 1973ff, and the Military and Overseas Voter Empowerment (MOVE) Act, a subtitle of the National Defense Authorization Act for Fiscal Year 2012, permits members of the Uniformed Services and Merchant Marine, their eligible family members, and all citizens residing outside the United States who are absent from the United States and its territories to vote in the general election for federal offices. These groups include:

- Members of the Uniformed Services (including Army, Navy, Air Force, Marine Corps, Coast Guard)
- U.S. citizens employed by the Federal Government residing outside the U.S., and
- All other private U.S. citizens residing outside the U.S.

The Federal Voting Assistance Program (FVAP), under the guidance of USD(P&R), is charged with implementing and evaluating the effectiveness of UOCAVA and MOVE laws' programs. The FVAP office asked DMDC to design, administer, and analyze post-election surveys on Uniformed Services voter participation and local election officials. Without such surveys, the Department will not be able to assess and improve voter access. In addition, such surveys fulfill 1988 Executive Order 12642 that names the Secretary of Defense as the "Presidential designee" for administering the UOCAVA and requires surveys to evaluate the effectiveness of the program in presidential election years.

The objectives of the 2012 post-election surveys are: (1) to gauge participation in the electoral process by citizens covered by UOCAVA, (2) to assess the impact of the FVAP's efforts to simplify and ease the process of voting absentee, (3) to evaluate other progress made to facilitate voting participation, and (4) to identify any remaining obstacles to voting by these citizens. Surveys were done of military members, spouses of military members, voting assistance personnel, and local election officials in the U.S.

This report describes sampling and weighting methodologies for the *2012 PEV6*. The first section describes the design and the selection of the sample. The second section describes weighting and variance estimation. The final section describes the calculation of response rates, location rates, and completion rates for the full sample and for population subgroups. The design for this survey was based originally on the *2010 Post-Election Voting Survey of Department of State Voting Assistance Officers*. Tabulated results of the survey are reported by DMDC (2013).

## **Sample Design and Selection**

### **Target Population**

The 2012 PEV6 was a census of all the posts where Department of State Voting Assistance Officers (DoS VAOs) are assigned to U.S. embassies and consulates throughout the world. The total size was 240 DoS VAOs.

### **Sampling Frame**

Since the 2012 PEV6 is more precisely a survey of an office or activity and several persons at an embassy or consulate can be assigned VAO duties, it was important to have the survey completed by the most appropriate person. In consultation with the DoS, it was decided that this would most often be the senior American VAO. Therefore, materials were directed to the senior VAO at each embassy or consulate.

It was also realized that, at the time of the survey, the senior VAO could be new to the post and not aware of VAO activities before the presidential election. Therefore, in communications with the DoS VAOs at the 240 embassies and consulates world-wide, DoS emails and other communications, while directed toward the senior VAO, made clear that the most experienced and appropriate person should collaborate in the completion of the survey. Table 1 shows the distribution of DoS VAOs by geographic region.

### **Sample Design**

The 2012 PEV6 was a census of all DoS VAOs at embassies and consulates throughout the world. One population characteristic defined the population region and is defined in Table 1.

**Table 1.**  
***Voting Assistance Officers by Region***

<b>Region</b>	<b>Count</b>	<b>Percent</b>
Africa	47	19.6
East Asia/Pacific	41	17.1
Europe	62	25.8
Near East/South and Central Asia	41	17.1
Western Hemisphere	49	20.4
<b>Total</b>	<b>240</b>	<b>100.0</b>

## **Contact Issues**

During the fielding of the survey, the contractor, on one occasion incorrectly sent an e-mail reminder to an incorrect address. That is, an embassy/consulate that had not responded may have received an e-mail that was intended for another embassy/consulate. The number of e-mails sent to the wrong addresses and the respondents associated with these contact problems were reviewed and corrected when appropriate. In addition, an independent evaluation of the impact of these operational problems on the overall estimates can be found on the FVAP website (<http://www.fvap.gov/>).

## **Weighting**

Analytical weights for the *2012 PEV6* were created to account for varying response rates among population subgroups presented in Table 1. Base sampling weights were computed as the inverse of the selection probabilities and then adjusted for nonresponse. Since the *2012 PEV6* was a census, the initial weight is 1.0.

## **Case Dispositions**

First, case dispositions were assigned for weighting based on eligibility for the survey and completion of the return. Execution of the weighting process and computation of response rates both depend on this classification.

Final case dispositions for weighting were determined using information from the Survey Control System and returned surveys. No single source of information is both complete and correct; inconsistencies among sources were resolved according to the order of precedence shown in Table 2. Final case dispositions for the *2012 PEV6* are shown in Table 3.

**Table 2.**  
**Case Dispositions for Weighting**

Case Disposition (Samp_DC)	Information Source	Conditions
1. Record ineligible	Administrative record	Ineligible on administrative record
2. Ineligible by self- or proxy-report	Survey Control System (SCS)	Reason ineligible OR reason survey returned blank is “deceased”, “incarcerated”, “ill”, “separated from military”, “retired”
3. Ineligible by survey self-report	First survey question	“Not assigned as a Voting Assistance Officer (VAO) for the Department of State (DoS) on November 6, 2012.”
4. Eligible, complete response	Item response rate	Item response is at least 50%.
5. Eligible, incomplete response	Item response rate	Return is not blank AND item response is less than 50%
6. Unknown eligibility, complete response	Admin record, first survey question, item response rate	Admin record is incomplete AND first survey question is missing AND item response is at least 50%
7. Unknown eligibility, incomplete response	Admin record, first survey question, and item response rate	Admin record is incomplete AND first survey question is missing AND return is not blank AND item response is less than 50%
8. Active refusal	SCS	Reason refused is any, OR Reason ineligible is “deployed” or “other”, OR Reason survey is blank is “refused-too long”, “refused-inappropriate/intrusive”, “refused-other”, “ineligible-other”, “refused by current resident”, “concerned about security/confidentiality.”
9. Blank return	SCS	Reason blank is “blank-no reason”
10. PND – Postal Non-Deliverable	SCS	Postal non-delivery (no address remaining, or address remaining at close of field) or original non-locatable
11. Non-respondent	Remainder	Remainder

**Table 3.**  
**Sample Size by Case Disposition Categories**

Case Disposition Category and (Code Value)	Sample Size
Record ineligible	0
Ineligible by self- or proxy-report	0
Ineligible by survey self-report	2
Eligible—complete response	204
Eligible—incomplete response	4
Active refusal—refused, deployed, other	0
Blank return	6
PND—postal non-deliverable	4
Non-respondents	20
<b>Total</b>	<b>240</b>

## **Nonresponse Adjustments and Final Weights**

After the determination of completion of a survey, analytic weights were created to account for varying response rates among population subgroups. The weighting of responses for 2012 PEV6 is relatively straightforward. As the sample was a census, the base weight for all cases is 1.0. Since all DoS VAOs who held that position on November 6, 2012, are eligible, disposition codes are effectively limited to receiving a completed survey vs. did not receive a completed survey. There were two steps involved with the adjustment of the base weights to reflect the sampling frame. First, an adjustment for known eligibility was made meaning that the weights of those with unknown eligibility were distributed across the cases of known eligibility. Then, another adjustment was made to account for completion. Note that two DoS VAOs in Europe were ineligible; thus, they only received the first adjustment for eligibility. Table 4 presents the respondents counts and final weights for all geographic regions.

**Table 4.**  
***Voting Assistance Officers Respondent Counts and Final Weights by Region***

<b>Region</b>	<b>Population</b>	<b>Eligible Respondents</b>	<b>Final Weight</b>	<b>Ineligible Respondents</b>	<b>Final Weight</b>
Africa	47	37	1.270	-	-
East Asia/Pacific	41	34	1.206	-	-
Europe	62	55	1.089	2	1.051
Near East/South and Central Asia	41	34	1.206	-	-
Western Hemisphere	49	44	1.114	-	-
<b>Total</b>	<b>240</b>	<b>204</b>	<b>n/a</b>	<b>2</b>	<b>n/a</b>

## **Variance Estimation**

Analysis of the 2012 PEV6 data requires a variance estimation procedure that accounts for the weighting procedures. The final step of the weighting process was to define strata for variance estimation by Taylor series linearization. The 2012 PEV6 variance estimation strata corresponds to the five geographic regions. It was not necessary to collapse any strata since they were at least 25 cases with non-zero final weights in each stratum. Five variance estimation strata were defined for the 2012 PEV6.

## **Location, Completion, and Response Rates**

Location, completion, and response rates were calculated in accordance with guidelines established by The Council of American Survey Research Organization (CASRO). The procedure is based on recommendation for Sample Type II response rates (Council of American Survey Research Organizations, 1982). This definition corresponds to The American Association for Public Opinion Research (AAPOR) RR3 (AAPOR, 2011), which estimates the proportion of eligible cases among cases of unknown eligibility.

The *location rate* (LR) is defined as

$$LR = \frac{\text{adjusted located sample}}{\text{adjusted eligible sample}} = \frac{N_L}{N_E}.$$

The *completion rate* (CR) is defined as

$$CR = \frac{\text{usable responses}}{\text{adjusted located sample}} = \frac{N_R}{N_L}.$$

The *response rate* (RR) is defined as

$$RR = \frac{\text{usable responses}}{\text{adjusted eligible sample}} = \frac{N_R}{N_E}.$$

where

- $N_L$  = Adjusted located sample
- $N_E$  = Adjusted eligible sample
- $N_R$  = Usable responses.

To identify the cases that contribute to the components of LR, CR, and RR, the disposition codes were grouped as shown in Table 5

**Table 5.**  
***Disposition Codes for CASRO Response Rates***

Case Disposition Category	Code Value
Eligible Sample	4, 5, 8, 9, 10, 11
Located Sample	4, 5, 8, 9, 11
Usable Response	4
Not Returned	11
Eligibility Determined	2, 3, 4, 5, 8, 9
Self Report Ineligible	2, 3

### ***Ineligibility Rate***

The ineligibility rate (IR) is defined as:

$$IR = \text{Self Report Ineligible Eligibility Determined.}$$

### ***Estimated Ineligible Postal Non-Deliverable/Not Located Rate***

The estimated ineligible postal non-deliverable or not located (IPNDR) is defined as:

$$\text{IPNDR} = (\text{Eligible Sample} - \text{Located Sample}) * \text{IR}.$$

### ***Estimated Ineligible Nonresponse***

The estimated ineligible nonresponse (EINR) is defined as:

$$\text{EINR} = (\text{Not Returned}) * \text{IR}.$$

### ***Adjusted Location Rate***

The adjusted location rate (ALR) is defined as:

$$\text{ALR} = (\text{Located Sample} - \text{EINR}) / (\text{Eligible Sample} - \text{IPNDR} - \text{EINR}).$$

### ***Adjusted Completion Rate***

The adjusted completion rate (ACR) is defined as:

$$\text{ACR} = (\text{Usable Response}) / (\text{Located Sample} - \text{EINR}).$$

### ***Adjusted Response Rate***

The adjusted response rate (ARR) is defined as:

$$\text{ARR} = (\text{Usable Response}) / (\text{Eligible Sample} - \text{IPNDR} - \text{EINR}).$$

Weighted location, completion, and response rates by region for 2012 PEV6 are shown in Table 6.

**Table 6.**  
***Rates for Full Sample and Stratification Level***

<b>Domain Variable</b>	<b>Domain</b>	<b>Sample Size</b>	<b>Usable Responses</b>	<b>Sum of Weights</b>	<b>Location Rate</b>	<b>Completion Rate</b>	<b>Response Rate</b>
<b>Sample</b>	Sample	240	204	240	98%	87%	86%
<b>Region</b>	Africa	47	37	47	98%	80%	79%
	East Asia/Pacific	41	34	41	98%	85%	83%
	Europe	62	55	62	100%	92%	92%
	Near East/South and Central Asia	41	34	41	98%	85%	83%
	Western Hemisphere	49	44	49	98%	92%	90%



## References

- American Association for Public Opinion Research. (2011). *Standard definitions: Final dispositions of case codes and outcome rates for surveys*. 7<sup>th</sup> edition, AAPOR.
- Council of American Survey Research Organizations. (1982). *On the definition of response rates* (special report of the CASRO task force on completion rates, Lester R Frankel, Chair). Port Jefferson, NY: Author.
- DMDC. (2013a). *2012 Post-Election Voting Survey of Department of State Voting Assistance Officers (DoSVAOs): Administration, datasets, and codebook* (Report No. 2013-012). Alexandria, VA: Author.
- DMDC. (2013b). *2012 Post-Election Voting Survey of Department of State Voting Assistance Officers: Tabulations of responses* (Report No. 2013-010). Alexandria, VA: Author.



This page is reserved for insertion of Standard Form 298 -- this is best accomplished by replacing this page after the document has been converted to PDF

