Stemming the Rising Tide of Nonresponse

NASS RESPONSE RATE RESEARCH TEAM

FCSM 2018 Research and Policy Conference
March 8, 2018

Gerald Tillman
Census and Survey Division
Chief, Survey Administration Branch
Business Council Sponsor
Todays Objectives

- Research and Review of Nonresponse Literature
- Development of RRRT Work Plan
- Most Notable & Noteworthy Accomplishments
- Lessons Learned
- Q&A
Nonresponse Literature Review

- A report from the American Academy of Political & Social Science - January 2013 edition:
  - Article: Explaining Rising Nonresponse Rates in Cross-Sectional Surveys (Brick and Williams)

- The common practice in surveys is to group the reasons for nonresponse into 3 major categories:
  - Noncontact (inaccessible), refusals, and other reasons

- “Other reasons” category typically are: (Consistent w/Groves & Couper 1998)
  - Language problems
  - Being away during data collection
  - Poor health

- More recent research on cell phones shows growth in cell-phone only population may effect the extent of coverage and nonresponse (Brick et al. 2006)
Six reasons for nonresponse:

(1) Failure of the data collector to locate or identify the sample unit
(2) Failure to make contact with the sample unit
(3) Refusal of the sample unit to participate
(4) Inability of the sample unit to participate
(5) Inability of the data collector and sample unit to communicate
(6) Accidental loss of the data or questionnaire

(Lynn, 2008)
The Nonresponse Tidal Wave

Crops APS Non-Response, 2002-2017, by quarter
Our Goal

We are working to improve response rates by:

- Strengthening survey processes
- Decreasing respondent burden
- Leveraging relationships
- Improving enumerator training
- Communicating more accurately and consistently with all stakeholders
- Adding value by listening to producers and stakeholders

Team Membership

The team has been in existence since 2016. All NASS Divisions are represented on the team.
Where to Start

RRRT created a survey with 13 questions related to response rate:

- 85 pages of **feedback** from our 12 Regional Field Offices (RFOs)

- 588 pages of **feedback** from 158 (NASDA) National Association State Departments of Agriculture - Field & Phone Supervisor Enumerators

- 41 pages of **feedback** from 62 NASS Headquarters and National Operations Division staff

- Completed 6 Farmer Feedback Listening Sessions (CA, ID, MI, MO, ND, & MO)
13 Sub-Teams

- Undeliverable As Addressed (UAA)/Disconnect Team
- Stakeholder Relations Team
- NASDA Training Team
- Survey Timeline Team
- Respondent Burden Index Team
- Deadwood Team
- Sample Review Team
- Callout Review Team
- Strategic Optimized Sample Selection Team
- Enhanced Data Collection Team
- Increasing Cooperation & Engagement (ICE) Team
- Farmer’s Feedback Team
- Inaccessible Investigative Team
Most Notable Accomplishments

**Deadwood Sub-Team**
Deadwood – Records on our sample frame that are active, but in reality there is some evidence they could be out of business or scope.

Approved Operational Decision – DM-02-18, Decision Memorandum from NASS Administrator, January 24, 2018.

**UAA/Disconnect Sub-Team**
Investigating the Effect of Distributing a Brochure to Boost Response Rates
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Stakeholder Relation Sub-Team Split-Plot Sample Design

- Mailed a brochure title “Why They Matter” with survey questionnaires for half the sample
- Rated the previous year’s response rates levels (low, medium, high) as a block factor
- States within each level were randomized to either receive a brochure or not
- The response variable focus is the current year’s total useable response rate
- The predicator variables: (Brochure: 1 = Yes, 0 = No), % response rate comparison, and capture differences of brochure use comparison to 2016
- Data analysis: (1) A random intercept logistic model fitted for the 2017 total useable response rate; (2) A regression model fitted for the difference in response rates between 2016 and 2017
Investigating the Effect of Distributing a Brochure to Boost Response Rates

Figure 1: Plots of least-squares means from the random intercept logistic regression model

Figure 2: Plots of residuals from the regression model

2017 March Prospective Acreage Planting Survey
Sample Review Sub-Team

- Developed and streamlined aggregate and detail level response history data

  \[
  HR_{PCT\_Xyr} = \% \text{ of complete responses for 1 year, 3 year, and 5 years respectively}
  \]

- \[
  HR_{Surveys\_Xyr} = \text{Total number of surveys for 1 year, 3 year, and 5 years respectively}
  \]

- \[
  HR_{Mode\_Xyr} = \text{Preferred mode of completion for 1 year, 3 year, and 5 years respectively}
  \]

- The team is working on new propensity score models:
  - Model #1 – Identify records most likely to be completed via field enumeration
  - Model #2 – Identify records most likely to be completed via Mail/CATI

- Discovering ways to incorporate impact: quantiles, variables/strata, breakpoints

- Benefit: Provides a clear cutoff for potential high impact operations
• Review the old Joint Burden Index process
• Implemented and integrated an RBI calculation
• A high burden indicator will be loaded in Survey Management Service
• This will reduce staff time to determine best data collection strategy
• The burden is indicated with the use of these variables x1 (number of surveys), x2 (number of contacts), x3 (total OMB survey time)
• Based on level of burden, surveys involved, and response history the best data collection strategy can be planned
• Other possible things that could help in the decision process:
  – Create a profile of your high burden records
  – Ask field supervisors/ enumerators what they know about these operations
  – Review existing record level comments
Stemming the Rising Tide of Nonresponse

Crops APS Useable Response, 2002-2017, by quarter
Stemming the Rising Tide of Nonresponse

Useable Response March 2002-2017

Useable Response June 2002-2017
Stemming the Rising Tide of Nonresponse
“Routine is the enemy of instinct. So break the mold! While it’s important to establish routines, schedules, and systems of operation, it’s just as important to know when to change them. Routines without ongoing assessment lead to stagnation and mediocrity. Most individuals, teams, and organizations rise to a challenge or fall to the familiar. It’s better to change and fail than to settle for the status quo.”

(Bishop TD Jakes, 2014)
RRRT Team Members

Jill Bishop          Barbara Rater
Valbona Bejleri     Shirley Samson
Andrew Dau          Jamila Sani
Gail Gregory        Marcella Simmons*
Andy Higgins        Jodie Sprague
John Hilton          Gerald Tillman
Greg Lemmons        Shareefah Williams
Dan Lofthus         Tyler Wilson
Beckie McCracken*    Linda Young

Over 150 NASS employees participated as Members of the 13 RRRT Sub-Teams

*NASDA Supervisors (Field & Phone)
Selected References


Stemming The Rising Tide of Nonresponse