

NASS CASIC Survey Administration System

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1. Background

Since 1998, when the National Agricultural Statistics Service (NASS) opened its first Data Collection Center (DCC) specifically designed for consolidated calling, demand for DCC services has increased dramatically. Over the past several years, NASS has seen much of its data collection responsibilities fall upon its DCCs. With this increased burden and responsibility being placed on NASS's DCCs, one of the highest priorities of NASS has been to develop and improve survey administration capabilities for its DCCs concerning costs, response rates, case management, and interviewer performance. In response to that priority, the CASIC Section in Washington, D.C., is developing a Survey Administration System that will bring data together from the Blaise CATI history file, survey response data, NASS Blaise Interviewer database, and the National Association of State Departments of Agriculture (NASDA) cost data in order to give NASS DCC coordinators and NASDA supervisors the information they need on a daily basis to manage and evaluate their data collection efforts more efficiently and effectively.

1.1. Data Collection Center, Serviced State Relationship¹

Over the last several years, the National Agricultural Statistics Service (NASS) has begun to have difficulty hiring CATI interviewers in several of our field offices. The wages that we can offer to prospective interviewers in cities like Denver, Colorado; Minneapolis, Minnesota; Lincoln, Nebraska; and Nashville, Tennessee are not competitive. As a result, the use of CATI has dwindled to virtually nothing in those and other field offices. On the other hand, in offices located in smaller cities with lower costs of living, hiring interviewers is not a problem. Therefore, NASS has opened five Data Collection Centers in Louisville, Kentucky; Little Rock, Arkansas; Oklahoma City, Oklahoma; Cheyenne, Wyoming; and Helena, Montana. The CATI workstation capacity of each center is shown below.

<u>DCC Capacity</u>	
Arkansas	25
Kentucky	29
Montana	34
Oklahoma	16
Wyoming	24

NASS will open another official Data Collection Center in Richmond, Virginia in March of 2006.

In a typical NASS field office, the CATI interviewers use the regular office staff's computers. There may be a few older computers dedicated to daytime interviewers. During the evening hours, interviewers are scattered throughout an office, sharing the desk space and computers of the professional staff. The interviewers are part-time employees and only work when the state is conducting larger surveys. In contrast to the typical state office, our official Data Collection Centers have and will have computers dedicated to CATI data collection. They are all in one general area, making supervision much easier. Although the interviewers are still employed on a part-time basis, they have steadier work because they are not dependent on one state's survey load. They are conducting surveys for multiple states. Since the workload is steadier, the level of expertise of the interviewers increases yielding higher quality data.

The field office with little or no CATI capacity is known as the Serviced State (SS). Once the SS analyzes their survey sample, they transfer cases selected for CATI to the DCC. The DCC collects the data for these cases and returns them to the SS. Staff in the SS then interactively edit the cases using Blaise. By returning the case to the SS for editing, we assure that all data in the state is edited in the same manner.

2. CASIC Survey Administration System Overview

The CASIC Survey Administration System is a Microsoft Access database in which data from several sources is populated and used to generate various charts and reports. The sources of data for the system include the Blaise CATI History file, the NASS Blaise Interviewer database, the Blaise survey dataset office use fields, and in the near future, actual cost data from the NASDA electronic time sheet system.

2.1. CATI History File

The CATI History file is an ascii comma separated text file in which every case treatment by an interviewer is tracked. Fifteen default fields are available in the file with the ability to add more by the user if desired. The fifteen default fields include the Primary Key, the Internal Key, Dial Date, Dial Time, Call Number, Dial Number, Who Phoned, Entry Priority, Dial Result, Exit Priority, Dial Line Number, Appointment Type, Exit Time, Dial Time in Seconds, and Interview Time in Seconds.

There is a wealth of information that can be gleaned from the Blaise CATI History file. The CASIC Survey Administration system uses the information contained in the CATI History file to generate a number of charts and reports to aid Data Collection Center Coordinators in monitoring survey activities and interviewer performance.

2.2. NASS Blaise Interviewer Database

A Blaise dataset stores information on each interviewer. This information includes the login name, the full name, the employee number, an indicator of office interviewer, field interviewer, or office staff, up to five CATI group memberships, and the supervisor's employee number. A ManiPlus setup is used to access this data to create an .IGL file for any survey. This data will also be used by the CASIC Survey Administration system by using the employee number and login name to provide a link between information in the CATI History file, Blaise survey dataset, and NASDA cost data.

A ManiPlus setup gives the Data Collection Center Coordinator access to this Blaise dataset, allowing them to add, delete, and edit information that is stored for each interviewer (see Figure 1).

Figure 1. Maniplus Table for Managing Interviewers in the Interviewer Dataset

Login	Full Name	ID	Enum Type	Grps	Group 1	Group 2	Group 3	Group 4	Group 5
bearyo	YOGI BEAR	746	OfficeEnum	2	ENUM	REFUSALS			
bunmbu	BUGS BUNNY	166	OfficeEnum	1	ENUM				
fuddel	ELMER FUDD	499	OfficeEnum	2	ENUM	SPANISH			
hawkju	JUDY HAWKINS	564	OfficeEnum	2	ENUM	SPANISH			
jetsge	GEORGE JETSON	631	FieldEnum	0					
kentcl	CLARK KENT	799	OfficeStaff	0					
mannas	ASA MANNING	123	OfficeStaff	0					
olbeev	EVERETT OLBERT	346	OfficeEnum	2	ENUM	REFUSALS			
schoro	ROGER SCHOU	651	OfficeStaff	0					
searju	JULIE SEARLE	896	FieldEnum	0					

This table may be sorted by login name (Login), interviewer type (EnumType), employee number (ID), or descending number of CATI groups (Grps).

2.3. Blaise Survey Dataset Office Use Fields

On nearly all of the surveys NASS conducts using the Blaise software, standard office use codes are utilized. These codes store information on Interviewer Employee Number, Interviewer Evaluation, Response Code, Respondent Code, Mode Code and Collection FIPS. Examples of these variables are shown below.

Interviewer Employee Number: ranges from 200-999

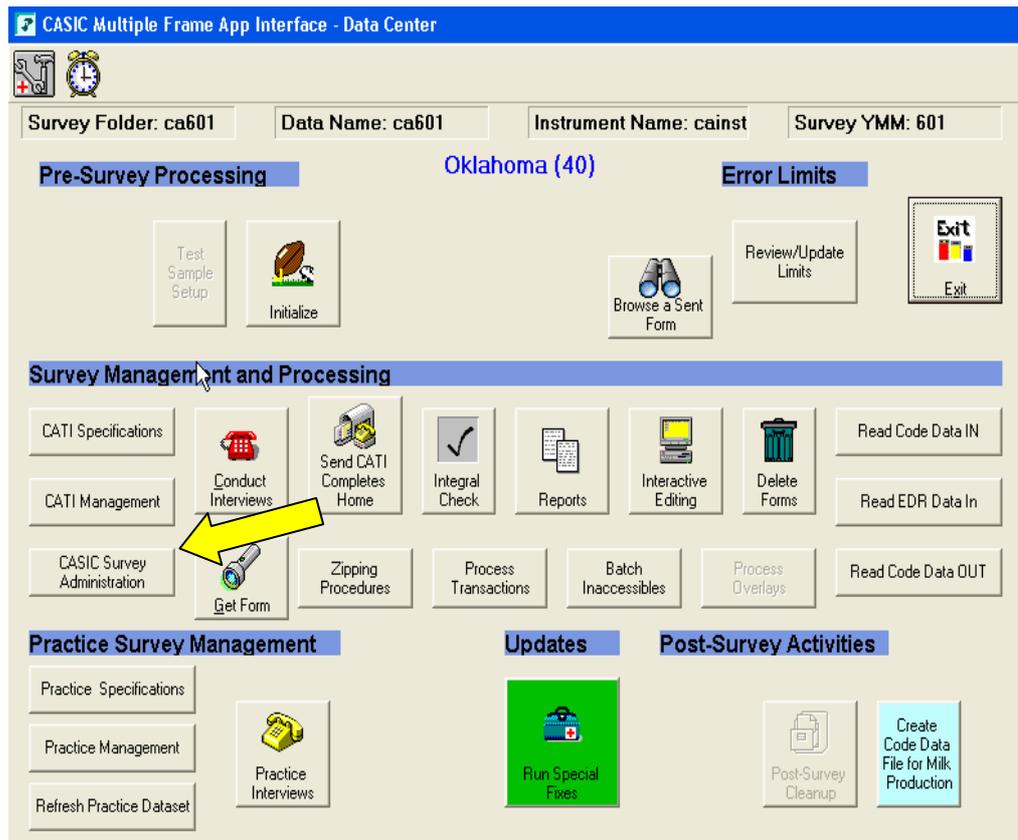
Response Code:

- 1 = Complete
- 2 = Refusal
- 3 = Inaccessible
- 4 = Office Hold
- 5 = Estimated Refusal
- 6 = Estimated Inaccessible
- 7 = Estimated Office Hold
- 8 = Known Zero

Respondent Code:

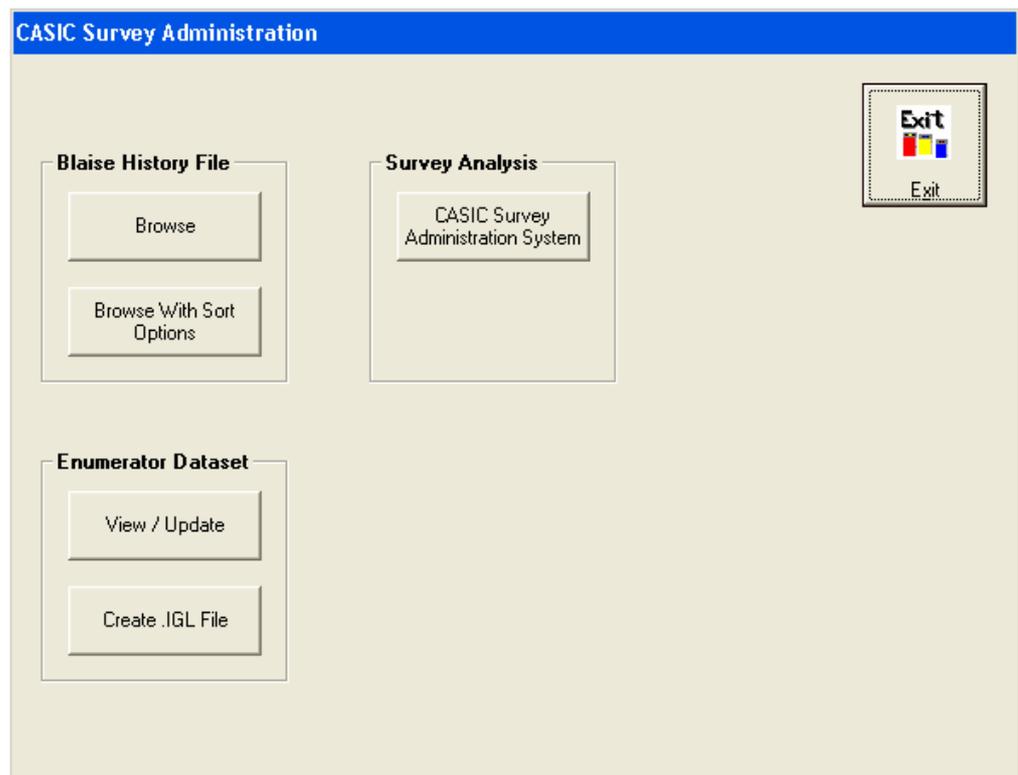
- 1 = Operator or Manger
- 2 = Spouse
- 3 = Accountant or Bookkeeper
- 4 = Partner
- 9 = Other

Figure 2. Standard CASIC Visual Basic Menu For Data Collection Center



After clicking on the CASIC Survey Administration button, the form in Figure 3 is presented to the user:

Figure 3. CASIC Survey Administration Form



3.1. Blaise History File

From this form, the user can execute traditional Blaise History functions. By clicking on the BROWSE button the user can browse the History file using the History Viewer application (bthist.exe). BROWSE WITH SORT OPTIONS opens the History file into the Blaise Data Browser and gives the user the ability to sort the History data. The instrument used to view the data has the following three secondary keys upon which to sort: 1) record id, dial date, dial time; 2) interviewer login, record id, dial date, dial time; and; 3) dial date, interviewer login, dial time. Both these options have been a standard part of the CASIC Visual Basic Menu system for many years.

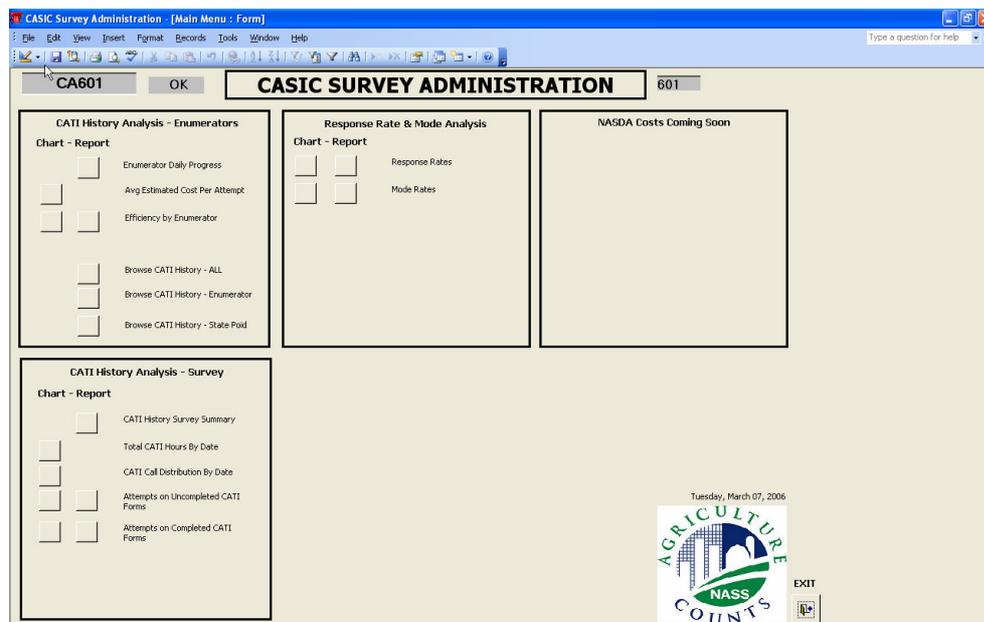
3.2. Interviewer (Enumerator Dataset)

The VIEW/UPDATE button gives the user access to the Interviewer Dataset already discussed in section 2.2 above. From this form, the user can also click on CREATE .IGL FILE and an .IGL file will be created from information contained in the Interviewer Dataset for population into the CATI Specification file for the survey.

3.3. Populating and Launching the CASIC Survey Administration System

When the Data Collection Center Coordinator is ready to launch the CASIC Survey Administration system, they do this by clicking on the CASIC SURVEY ADMINISTRATION SYSTEM button. Once executed, the following events take place. The Interviewer Dataset is queried and required information is written to a temporary file, a copy of the CATI History file is made, and the Blaise survey office use data is queried for the survey of interest and written to a temporary file. A SAS program is executed which takes the information from all 3 sources, merges data where necessary, creates new variables, summarizes data, and populates all data into the Microsoft Access database. Once the Microsoft Access database has been populated, the following interface is presented to the user:

Figure 4. CASIC Survey Administration System



From this interface, the Data Collection Center Coordinator can run a variety of reports and charts to monitor and evaluate survey progress and interviewer performance. Some of these charts and reports are presented in more detail in the next section.

4. CASIC Survey Administration System Analysis (Charts and Reports)

Providing a quality data product to Serviced States is a priority of each Data Collection Center. Maintaining high response rates is a goal and objective of each DCC in order to ensure that quality data is being delivered to Serviced States. The CASIC Survey Administration system will provide reports such as the CATI History Daily Progress Report and Survey Response Rate report on a real time basis as well as post survey final reports which can be sent to the Survey Administrator in Headquarters, Washington, D.C.

4.1. CATI History Daily Progress Report

The CATI History Daily Progress Report is broken down by Date, Crew Time (Day or Night), and Interviewer. It shows the number of dial attempts, number of completes, number of non responses, number of appointments made, number of answering machines, number of busy signals, and number of disconnects. It also shows the total number of CATI Hours registered by the Blaise system, and currently, an estimate of NASDA cost expenditures.

The report also gives totals and averages for each Crew Time (Day and Night) and finally totals and averages for the entire crew for the dates queried. This gives the Data Collection Center Coordinator the ability to evaluate not only individual interviewers but also the Day Crew and the Night Crew as separate entities. A new column just recently added shows Completes per Hour, and soon, actual NASDA costs and hours will be incorporated.

Figure 5. CATI History Daily Progress Report

CATI History Daily Progress Report													
Date	Crew Time	Enum	Attempts	Completes	Non Response	Appointments	Answer Machines	Busy	No Answer	Disconnects	CATI Hours	Estimated Costs	Completes Per Hour
2/24/2006	DAY	THORTO	265	72	2	2	1	4	62	1	2.7	\$28.12	0.7
		BENNT	708	75	3	2	5	2	60	3	4.4	\$46.81	0.7
		MARCFR		107	9		2	5	89	2	5.7	\$60.03	1.6
		LEFLJO		10	1			1	8		0.4	\$3.77	2.8
		TRAYSA	792	3					3		0.2	\$2.16	
		BURDNA	702	46	4	1	5	4	31		3.5	\$36.46	1.2
		FAULIE		56	6	1	3	15	2	29	5.5	\$57.72	1.1
		KDMOW		151	8	2	1		5	133	2	\$52.35	1.6
		KNOLAN		186	9	4	3	96	7	65	2	\$59.99	1.6
		LDOKAL	746	83	8		3		2	68	2	\$42.75	2.0
		FENCAB		27	3	1	2	11	2	8	3.9	\$40.80	0.8
		DOSSAN	554	118	5	2	4	8	6	88	4	\$46.32	1.4
		OWENJ	768	89	14				2	67	6	\$41.44	3.5
		HALLBE	730	76	9	3	5		1	57	1	\$34.66	2.7
		SADLMA		127	6	5	4	2	3	100	7	\$19.39	3.2
		MONTLI		95	9	3	9		4	67	3	\$50.46	1.9
		GORDMI		26			1		2	23		\$13.33	
		HUMEJE		106	8		2		3	89	4	\$57.77	1.5
		CUNNDE	712	35	2		2		1	30		\$18.78	1.1
		MCOISH		38	5	1	4	1	1	24	2	\$13.15	4.0
		AUSTNA	703	98	8	1	2		2	85		\$45.84	1.8
		STEPKE		57	2	2			5	48		\$38.71	0.5
		STRARU		101	3			35	9	53	1	\$32.01	1.0

Date	Crew Time	Enum	Attempts	Completes	Non Response	Appointments	Answer Machines	Busy	No Answer	Disconnects	CATI Hours	Estimated Costs	Completes Per Hour	
2/24/2006	DAY	JOHNMA	6						6		0.2	\$2.30		
		NEDBMA	762	54	5		4		1	42	2	2.8	\$29.00	1.8
		HUNTBI	737	104	10		5		6	76	7	3.9	\$40.03	2.6
Summary for 'CrewTime' = DAY (26 enumerators)														
		Sum	1945	140	30	66	169	80	1411	49	87.1	\$914.28		
		Avg	74.8	5.4	1.2	2.5	6.5	3.1	54.3	1.9	3.3	\$35.16	1.6	
2/24/2006	NIGHT	LEFLJO	40	2		2		1	34	1	3.8	\$39.06	0.5	
		BAAYRD	804	54	3	1	4	4	41	1	2.1	\$21.85	1.4	
		USLAL	744	55			6	4	46		2.0	\$20.52		
		TRAYSA	792	67	4		3	5	55		3.2	\$33.85	1.2	
		CUNNDE	712	4	1		2		1		0.2	\$1.81	5.8	
		HOLLJA	735	65	6	2	1	2	54		1.4	\$15.04	4.2	
		PETTLA	773	48			2	1	45		1.4	\$14.00		
		GORDMI		61	3	1	2	3	51	1	3.0	\$31.39	1.0	
		MINTRA		115	8	1	8		11	83	4	3.0	\$31.92	2.6
		THORTD	265	25	6		3		16		0.6	\$6.65	9.5	
		AGHR		23					23		0.4	\$4.50		
		SPRIND	788	38			1		1	33	3	1.2	\$12.19	
		WITHRH	801	134	8	1	5		3	110	7	1.7	\$18.02	4.7
		GDRDR		31	3		3		25		1.8	\$19.07	1.7	
		JOHNMA		100	8		1		7	83	1	3.3	\$34.43	2.4
		SMITVI	786	28	4		5		1	17	1	0.7	\$7.60	5.5

Monday, February 27, 2006

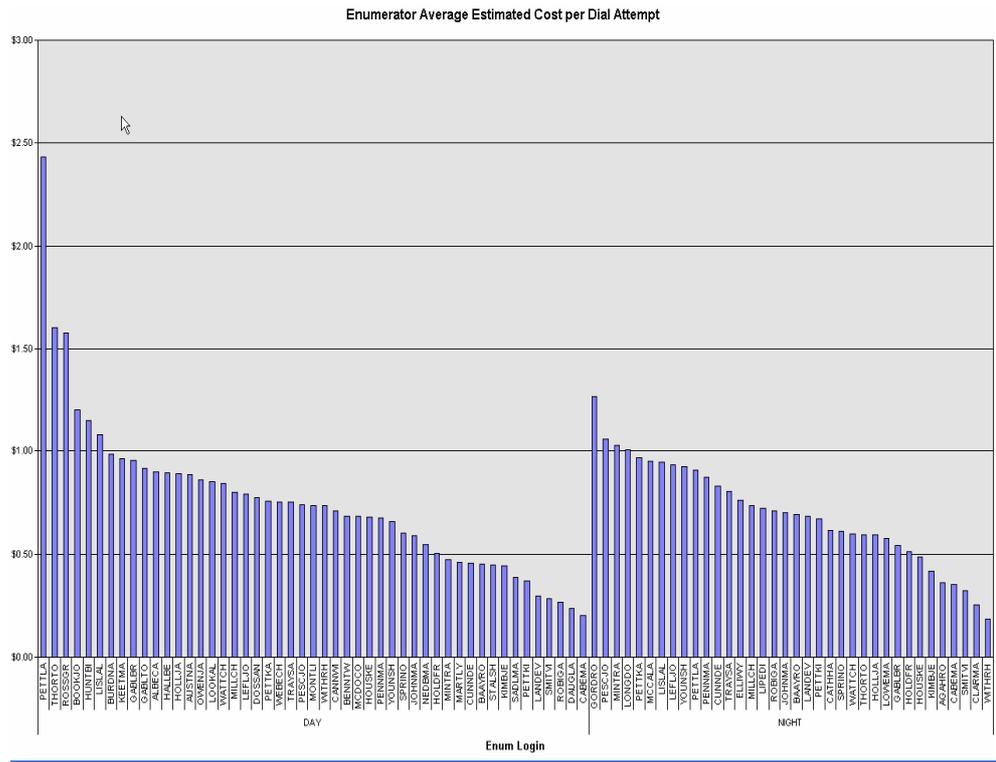
Page 183 of 184

Date	Crew Time	Enum	Attempts	Completes	Non Response	Appointments	Answer Machines	Busy	No Answer	Disconnects	CATI Hours	Estimated Costs	Completes Per Hour
Summary for 'CrewTime' = NIGHT (16 enumerators)													
		Sum	888	56	6	48		43	716	19	29.8	\$313.02	
		Avg	55.5	3.5	0.4	3.0		2.7	44.8	1.2	1.9	\$19.56	1.9
Summary for 'DialDate' = 2/24/2006 (42 enumerators)													
		Sum	2833	196	36	114	169	123	2127	68	116.9	\$1,227.30	
		Avg	67.5	4.7	0.9	2.7	4.0	2.9	50.6	1.6	2.8	\$29.22	1.7
Grand Total			204,438	30,388	5,217	14,627	19,655	9,907	109,763	14,881	9,082.8	\$95,369.14	3.3

4.2. Interviewer Average Estimated Cost per Dial Attempt

An example of one of the charts that is available in the CASIC Survey Administration system to evaluate interviewer performance is shown in Figure 6 below. The chart shows the average estimated NASDA cost per dial attempt for all dial results. The chart is divided into the Day Crew on the left and the Night Crew on the right. Interviewers with a high cost per dial attempt can be identified and proper training or other action can be taken as necessary.

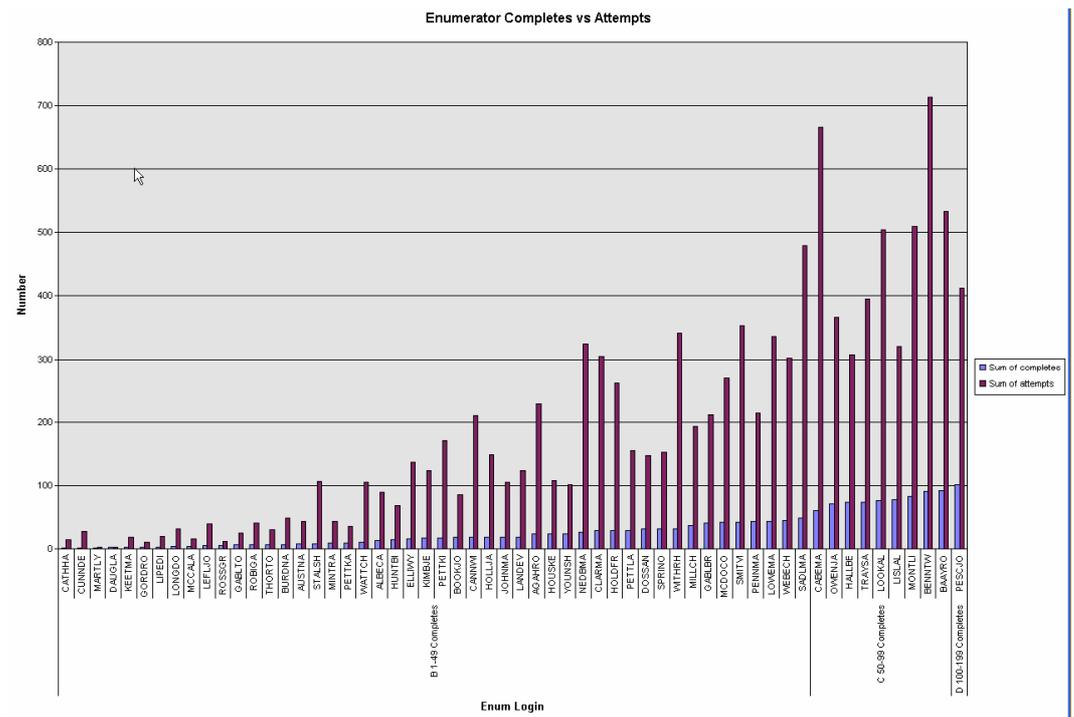
Figure 6. Interviewer Average Estimated Cost Per Dial Attempt



4.3. Interviewer Completes vs Attempts

Another chart available to Coordinators is the Interviewer Completes vs. Attempts. This chart shows the sum of completes next to the sum of attempts for each interviewer grouped by the number of completes. From this chart, interviewers with high attempt rates and low completes can be identified and extra training and guidance can be given.

Figure 7. Interviewer Completes vs. Attempts



4.4. Query the CATI History File

As charts or reports show potential issues with an interviewer, it may become necessary to drill down into the data. The CASIC Survey Administration system has 3 options for querying the CATI History data. The data can be queried by providing the specific interviewer, by providing the primary key of the sampled unit, or the entire history file can be viewed. Figure 8 below shows the History file queried for a specific interviewer.

This current report shows the Interviewer Login Name, Employee Id, State the sampled unit belongs to, Primary Key, Dial Date, Hour (Time Slice) in which the dial attempt was made, Dial Result, Dial Minutes, and Estimated NASDA Dial Cost.

Figure 8. CATI History File for Specific Interviewer

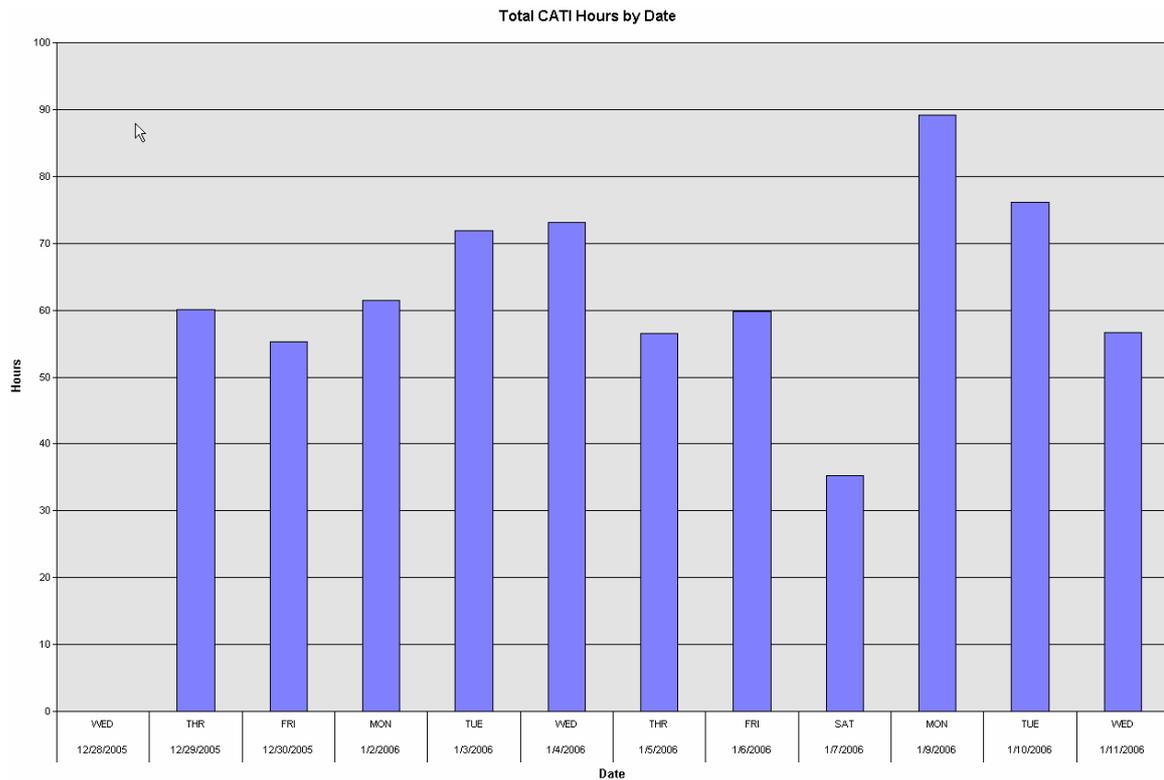
Enum	EnumId	StAlpha	StPoidTrSubTr	Dial Date	Time Slice	Dial Result	Dial Minutes	Dial Est Cost	
ALBECA	802	TX	4882078929011	Tuesday, January 10, 2006	B 7am - 7:59am	Appointment	22.8	\$3.99	
	802	TX	4882078929011	Tuesday, January 10, 2006	C 8am - 8:59am	Appointment	20.3	\$3.55	
	802	OK	4094700586011	Tuesday, January 10, 2006	C 8am - 8:59am	No Answer	0.7	\$0.11	
	802	OK	4095705812011	Tuesday, January 10, 2006	C 8am - 8:59am	No Answer	0.2	\$0.04	
	802	TX	4830075669011	Tuesday, January 10, 2006	C 8am - 8:59am	Appointment	23.9	\$4.18	
	802	TX	4830075669011	Tuesday, January 10, 2006	C 8am - 8:59am	Appointment	0.2	\$0.04	
	802	TX	4830075669011	Tuesday, January 10, 2006	D 9am - 9:59am	Usable Complete	10.4	\$1.82	
	802	TX	4895702418011	Tuesday, January 10, 2006	D 9am - 9:59am	Usable Complete	18.5	\$3.23	
	802	TX	4810048029011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	1.4	\$0.25	
	802	TX	4882001306011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	1.1	\$0.19	
	802	OK	4030013446011	Tuesday, January 10, 2006	E 10am-10:59am	Appointment	3.8	\$0.66	
	802	OK	4095701243011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	5.0	\$0.87	
	802	OK	4030054341011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	1.4	\$0.25	
	802	OK	4091703893011	Tuesday, January 10, 2006	E 10am-10:59am	Usable Complete	17.8	\$3.11	
	802	TX	4830079621011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	1.0	\$0.17	
	802	TX	4810032354011	Tuesday, January 10, 2006	E 10am-10:59am	Appointment	0.6	\$0.11	
	802	TX	4830058547011	Tuesday, January 10, 2006	E 10am-10:59am	Busy	0.5	\$0.08	
	802	TX	4882039487011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	1.2	\$0.21	
	802	TX	4889701782011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	2.6	\$0.46	
	802	TX	4882038910011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	1.3	\$0.23	
	802	OK	4030003328011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	1.2	\$0.21	
	802	TX	4830325669011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	1.1	\$0.20	
	802	TX	4888736519011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	3.0	\$0.52	
	802	OK	4093702176011	Tuesday, January 10, 2006	E 10am-10:59am	No Answer	1.3	\$0.22	
	802	TX	4887721598011	Tuesday, January 10, 2006	E 10am-10:59am	Appointment	15.2	\$2.66	
	802	OK	4030037409011	Tuesday, January 10, 2006	F 11am-11:59am	Disconnect	4.4	\$0.78	
	802	TX	4891714317011	Tuesday, January 10, 2006	F 11am-11:59am	No Answer	0.7	\$0.13	
							Sum	457.1	\$79.99
							Avg	5.1	\$0.90

Summary for 'Enum' = ALBECA (89 detail records)

4.5. Total CATI Hours by Date

Sometimes it is necessary for Data Collection Center Coordinators to review the number of hours they spent on CATI operations for a project. The CASIC Survey Administration system can give them a very strong estimate of the number of hours spent calling with CATI by date. By using the information contained in the CATI History file, the following chart can be generated (a report can also be generated). The chart shows, by date, the total number of CATI hours registered by the Blaise system.

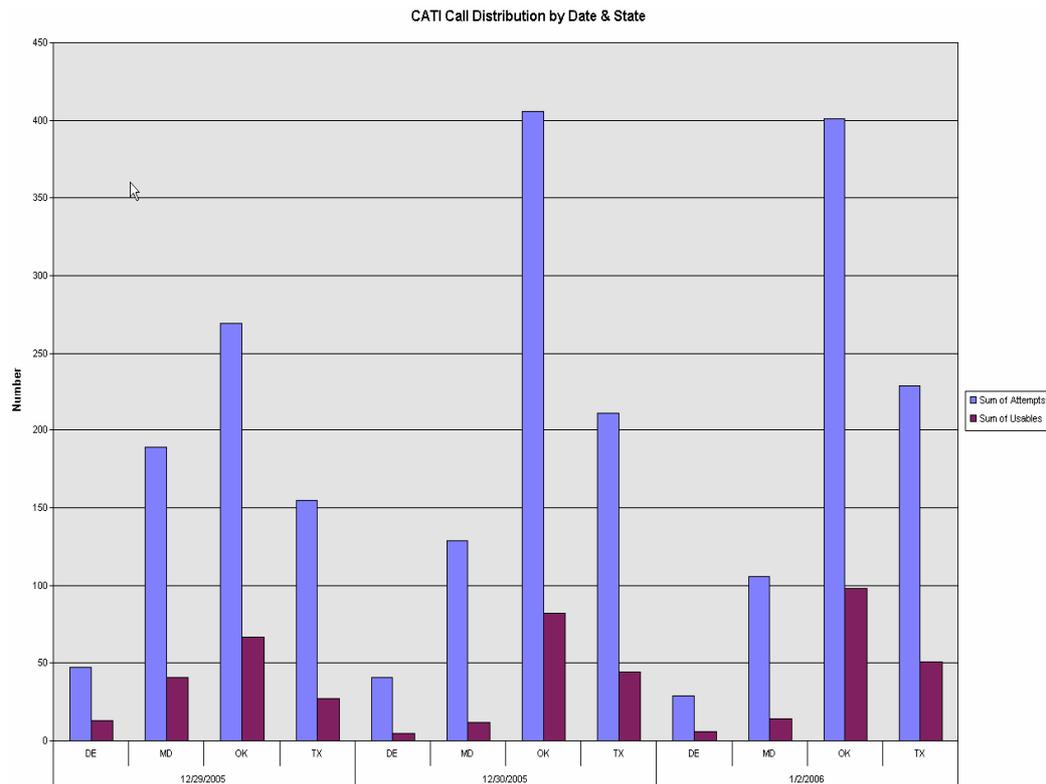
Figure 9. Total CATI Hours by Date



4.6. CATI Call Distribution by Data and State

Data Collection Centers call for themselves and typically 3 or 4 other states. It becomes necessary for the Data Collection Center Coordinator to make sure that calling resources are distributed equitably between all states being serviced. Currently, the Blaise CATI Management system does not offer any counts grouped by geographical region and therefore makes it somewhat difficult to make sure all states being serviced are receiving their fair share of the calling resources. The chart below can be used by the Coordinator to monitor the number of dial attempts and completes by date and state to ensure that states are being treated equitably. As inequalities in calling distribution are noted in the chart below, the Data Collection Center Coordinator can make adjustments to the day batch by excluding certain states for periods of time. If interviewer groups are being used, then adjustments to the number of interviewers in each state's group can be made to affect the number of calls being routed to that state.

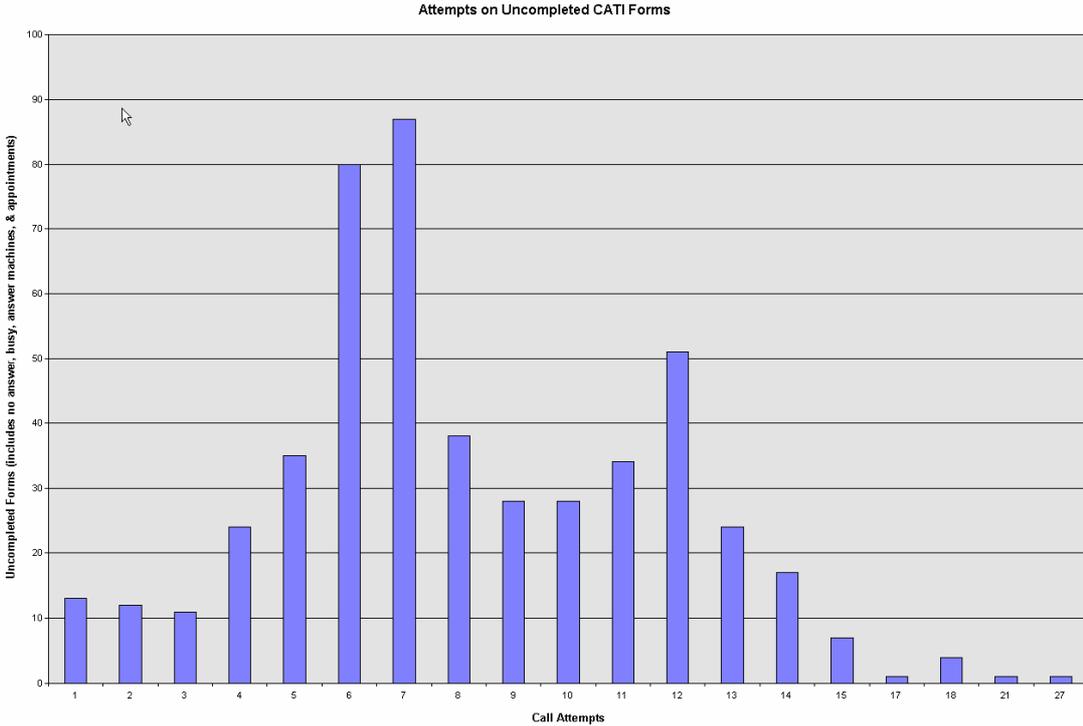
Figure 10. CATI Call Distribution by Date and State



4.7. Attempts on Uncompleted CATI Forms and Attempts on Completed CATI Forms

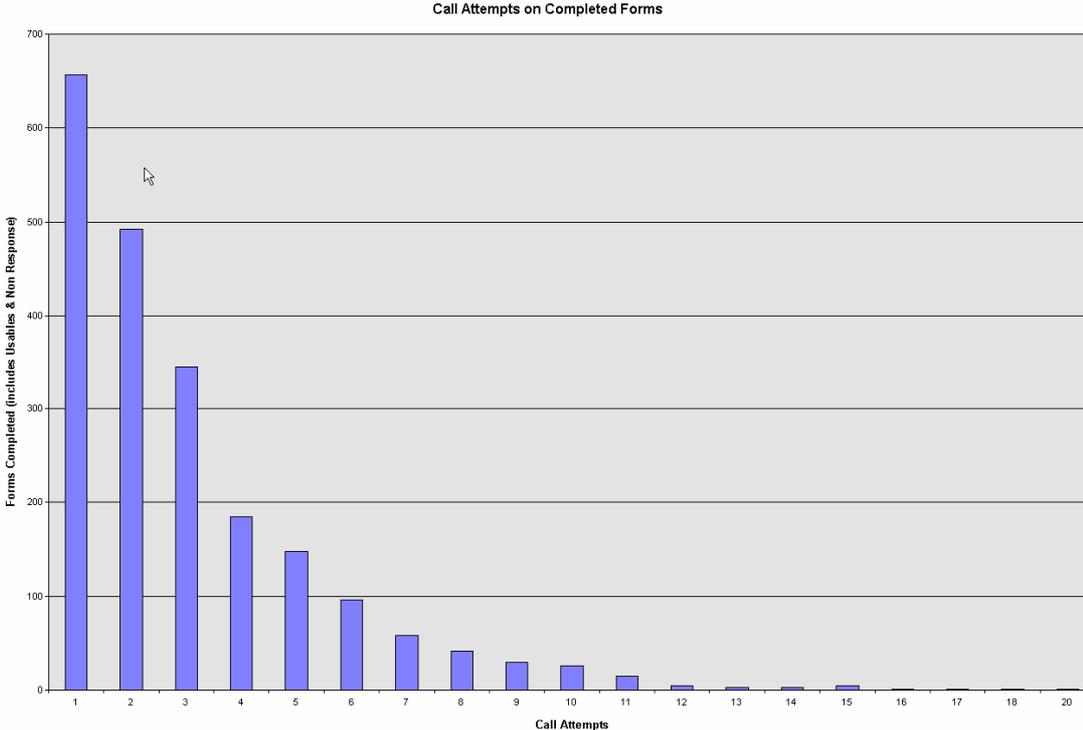
Although the Blaise CATI Management system does a good job of showing counts of records with up to 5 dial attempts, it doesn't present the full picture. The chart in Figure 11 below shows the Attempts on Uncompleted CATI forms. In this example, a good portion of our forms still available to be called have had 4 or more dial attempts. As resources for data collection efforts become more and more scarce, it may become necessary for Data Collection Center Coordinators to take information such as is presented in this chart and turn off cases that have had X number of dial attempts and stop spending resources on those cases. However, before, cases are turned off it must be guaranteed that they have been attempted over a sufficient number of time slices.

Figure 11. Attempts on Uncompleted CATI Forms



The next chart shown in Figure 12 below represents the number of Dial Attempts on Completed CATI Forms. In this example, most of our CATI completes were completed with 11 or fewer attempts. Examining the data that makes up the chart shows that 99% of CATI completes were completed with 11 dial attempts or fewer. In some NASS surveys it has been shown that 99% of CATI completes are completed with 5 or fewer attempts and that only 1% of completes are completed after 5 attempts.

Figure 12. Attempts on Completed CATI Forms



4.8. Survey Response Rates

Good response rates have always been important to NASS and the work it does; however, in recent years NASS management has taken a renewed interest in strengthening response rates. In fact, response rates in the NASS Field Offices are now tied to the performance appraisals of the management staff in those Field Offices.

In many cases, Data Collection Center Coordinators do not have easy access to response rates for the surveys they conduct unless they write special adhoc programs to summarize this data. Many times, they must wait until the final summary is executed, which is at the very end of the survey cycle, before they see any indication of response rates. Now, the new CASIC Survey Administration system will give them real time response rates at the click of a button so that they can monitor this very important statistic on a daily basis. The chart in Figure 13 and the report in Figure 14 show the response rates for the Montana Data Collection Center collecting data for Arizona, California, Colorado, Iowa, and Montana.

Figure 13. Response Rates

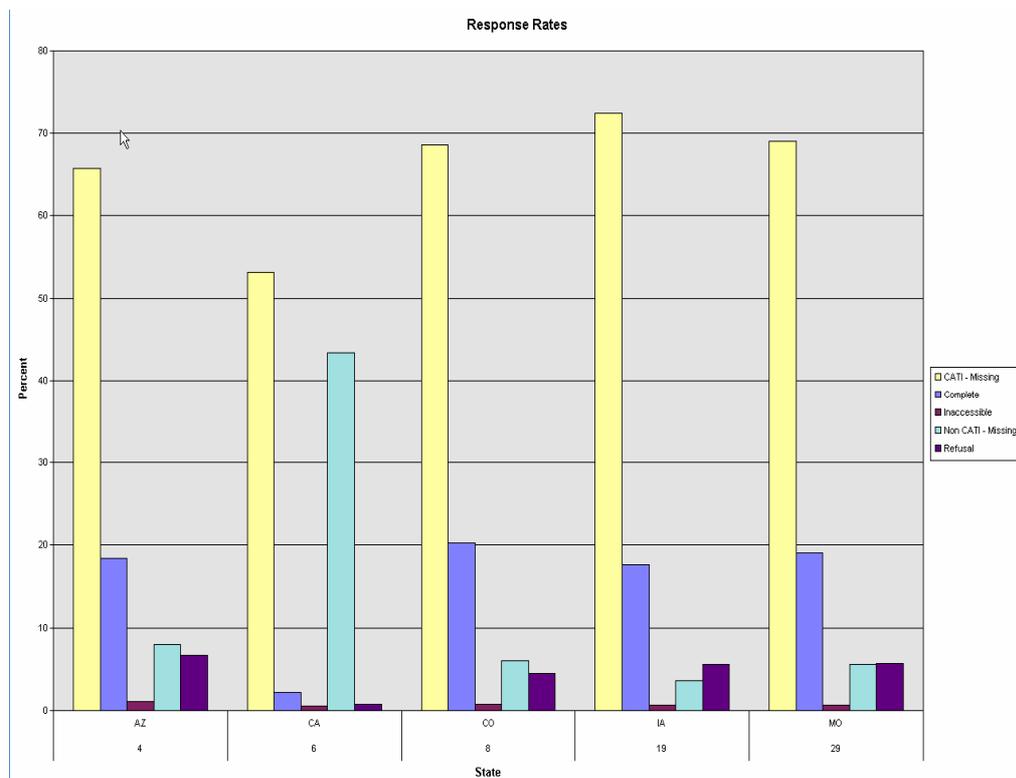


Figure 14. Response Rates

<i>Response Rates</i>						
STATE	AZ	<i>Total Sample</i>	435	<i>Response</i>	<i>Count</i>	<i>Percent</i>
				CATI - Missing	286	65.7
				Complete	80	18.4
				Inaccessible	5	1.1
				Non CATI - Missing	35	8.0
				Refusal	29	6.7
STATE	CA	<i>Total Sample</i>	4902	<i>Response</i>	<i>Count</i>	<i>Percent</i>
				CATI - Missing	2605	53.1
				Complete	105	2.1
				Inaccessible	26	0.5
				Non CATI - Missing	2127	43.4
				Refusal	39	0.8

Saturday, February 25, 2006

Page 1 of 3

5. Future Direction

Currently, Data Collection Center Coordinators calculate costs on a weekly basis by hand which is very inefficient and time consuming. Coordinators need the ability and tools to run cost reports on a daily basis to prevent cost overruns. The CASIC Survey Administration system currently gives an estimate of NASDA expenditures based on the time registered in the Blaise CATI History file. However, with the recent deployment of the NASDA Electronic Time Sheet system, the CASIC Survey Administration system will be programmed to retrieve data from the electronic time sheet system and combine it with other data already present in the system to provide up-to-date actual NASDA cost expenditures to Data Collection Center Coordinators and NASDA Supervisors.

NASS has a Data Warehouse where all survey data is stored once final summaries are executed. In the future, it would be beneficial to NASS to also store Blaise CATI History files and NASDA cost expenditure data in its Data Warehouse. With this administrative data located in a central database, many of the charts and reports presented in this paper could be generated by anyone in NASS for any number of reasons including planning, budgeting, and research.

6. Conclusion

With more and more burden and responsibility being put on NASS's five Data Collection Centers to collect its data using CATI, it falls upon the CASIC Section in Headquarters to provide them with the tools they need to successfully fulfill their mission. The CASIC Survey Administration system is one step in that direction. By bringing information together from several sources, the CASIC Survey Administration system gives Data Collection Center Coordinators the

monitoring and evaluation tools necessary to successfully collect data and maintain a strong, efficient NASDA interviewing crew.

7. References

Schou, Roger, *Integrating the use of Data Centers into the NASS CAI Structure*, National Agricultural Statistics Service, USA, IBUC 2001 7th International Blaise Users Conference, 2001