2009 NAIP Survey:
Summary Report

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Section 1 – Executive Summary

The 2009 National Agriculture Imagery Program (NAIP) Survey was initiated as a means to assess NAIP based on feedback from the Farm Service Agency's (FSA) primary customers, the FSA State and County Offices. Per Notice AP-13, the 2009 NAIP Survey was distributed through a web-based medium to each FSA County Service Center via the State Geographic Information System (GIS) Specialists/Coordinators. Each State and County Office receiving 2009 NAIP (AL, AR, CA, CO, DE, GA, ID, IL, IA, LA, ME, MD, MI, MN, MS, MO, MT, NE, NH, NM, NY, NC, ND, OH, OR, SC, UT, VT, VA, WA, WV, and WY) imagery was directed to complete the survey.

The survey:

• establishes a standardized feedback mechanism for NAIP acquisition and delivery
• allows for adjustment of program strategy as necessary based on survey analysis
• will allow for analysis of previous, current, and future year feedback to ensure continued program improvement and development.

The following is a brief summary of survey responses:

Total Survey Responses = 2225

- 81% of respondents were either very satisfied or satisfied with 2009 NAIP overall acquisition and delivery.
- 87% of respondents were either very satisfied or satisfied with the timeliness of receipt of the imagery (to use for acreage compliance work).
- 91% of respondents were either very satisfied or satisfied with the dates the imagery was flown (based on what is visible on the imagery) for acreage compliance work.
- 92% of respondents were either very satisfied or satisfied with the quality of the imagery (for compliance work).
- Approximately 65% of offices receive 6-20 customer requests for NAIP per month; 13% of offices receive over 20 requests per month. Requests for NAIP hard or soft copy slightly increased or stayed the same in each category for 2009 compared to 2008.

The following general conclusions may be drawn:

1. There was a slight decrease in the overall satisfaction of 2009 NAIP; illustrating that there is still room for program improvement.
2. As was the case last year, improvement on the speed of delivery to the FSA State and County Offices from the time of acquisition may yield the greatest overall improvement to the program.
3. Users are becoming slightly more familiar with the Web Mapping Services from the Geospatial Data Warehouse and the data that is available for download on the Geospatial Data Gateway. There could still be significant improvements in this area, such as training

in the use of web services. In the summer of 2010 about 1000 service centers will be moving to a thin client environment, which will necessitate the use of web-based services for CLU maintenance and other work. The thin client transition will change the delivery paradigm and in turn facilitate the increased use of Web Mapping Services.

4. Image quality ratings decreased somewhat for 2009 across all categories including color, contrast and lightness/darkness.

5. According to the responses, customer satisfaction with the quality of the imagery has slightly decreased from 2008. This slight decrease brought the satisfaction ranking to just over 80%.

6. Most users are not aware of the time and date information available in the Seamline shapefiles, but most of the users that are aware of it find it more useful than the previous index shapefiles. An improvement would be to provide information concerning what uses and advantages the Seamline shapefiles offer. 2009 is the first year that this product has been available for all of the imagery provided.

Section 2 - Overview

In 2009, FSA completed the 8th year of acquiring NAIP. The USDA-FSA Aerial Photography Field Office (APFO) is responsible for the acquisition, quality assessment, data delivery, and archiving of the NAIP imagery. FSA continues to adjust and modify NAIP processes to keep pace with technological advances in geospatial data acquisition and delivery as well as to meet the needs of FSA Service Centers and State Offices, their primary NAIP customers.

Feedback from NAIP users is vital for program improvement. To facilitate this, APFO prepared a survey for FSA State and County Office response. This is the fifth year for the NAIP Survey, which differs only slightly from the 2006 NAIP Survey. The 2005 NAIP Survey was administered using email and spreadsheets, whereas the 2006, 2007, 2008 & 2009 NAIP surveys were completed utilizing a web survey engine. This helped alleviate human error in survey scoring and analysis.

Per AP-13, FSA State Offices were to take one survey per State Office, and County Service Centers were to take one survey per county administered. This instruction was not always adhered to and as a result based on analysis of the data, multiple responses from the same County can skew the survey result significantly (approximately 14-15% in any given rating category).

Surveys were taken over a 39-day period, between January 19 and February 26, 2010.

The format of the survey varied to include the following types of questions: multiple choice, open ended, select all that apply, and numerically rated. After the close of the survey, responses were downloaded from the survey website in a variety of formats, including a survey summary, raw answers, and parsed answers as needed. While analysis of survey returns could be performed endlessly, it is understood that the results herein only scratch the surface of potential analysis.

APFO hopes to keep the current survey format stable for future years, streamlining questions and tightening user inputs as necessary. This will allow for a quality comparison of past and future survey results, enhancing feedback for program improvement.

2009 Completed Surveys
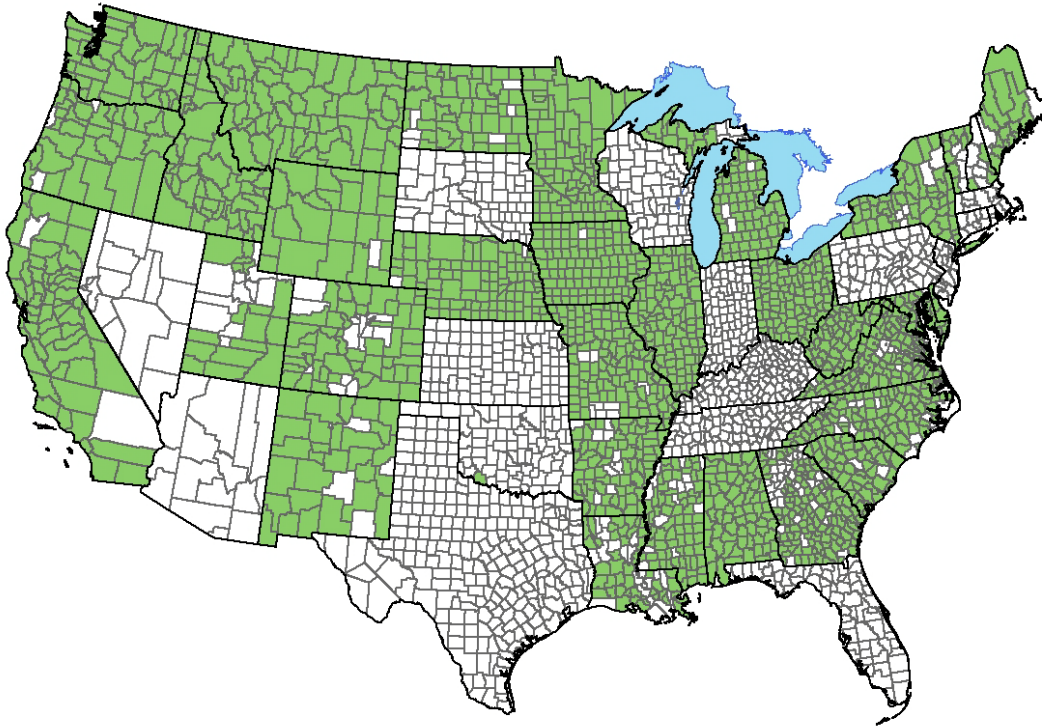
Map 1 – Completed Surveys

Map 1 depicts the 2009 NAIP Surveys that were completed via the web survey engine as of the closing date of the survey. Identification of counties that completed the survey was based on answers to question #5: "What is your 5-digit state and county FIPS code?" Answers to this question were joined to the CONUS counties database via the STATECTY field and all non-null values were mapped. Most states were very close to 100% completion. A few respondents (6) marked incorrect County FIPS codes and a few respondents (110) did not put any FIPS code in the survey so these survey results are unable to be mapped.

Section 3 – Summary of Survey Results

The following section is a statistical breakdown of the survey on a question by question basis. At the end of this section there are a few examples of additional analysis, performed by comparing responses to multiple questions.

Questions with numerically rated answers had a range of 1-5, where
1 = Very Unsatisfied/Unusable,
2 = Unsatisfied/Poor,
3 = Neither/Fair(neutral),
4 = Satisfied/Good,
5 = Very Satisfied/Excellent.
NA/Unsure answers were also accepted.

Question 1. Name: Responses varied.

Question 2. Position:

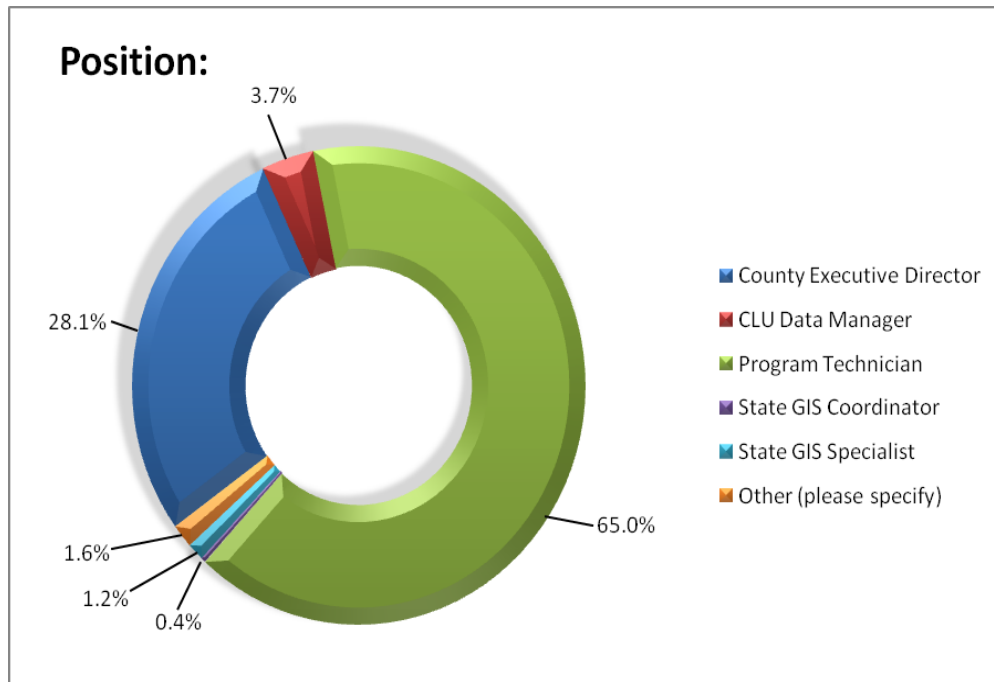*Chart 1 – Question 2*

Question 3. Today's Date: Responses ranged between Jan 19th and Feb 27th, 2010.

Question 4

Where do you work?
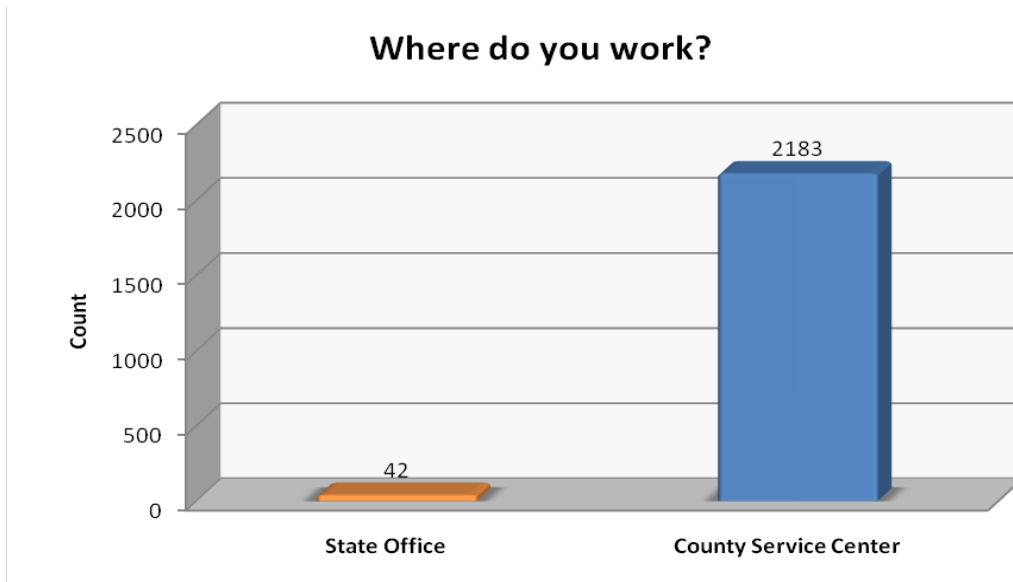
Chart 2 – Question 4

Question 5. What is your 5-digit State and County FIPS Code? Responses varied.

Question 6. What is your 2-digit State FIPS Code? Responses varied.

Question 7.

Did you use 2009 NAIP imagery for compliance purposes?

Yes
49.5%

No
29.2%

Did not receive imagery in time to use it
21.3%

Chart 3 – Question 7

Did you use 2009 NAIP Imagery for compliance purposes?

Did not receive imagery in time to use it
No
Yes

Map 2 – Compliance Usage of NAIP Imagery

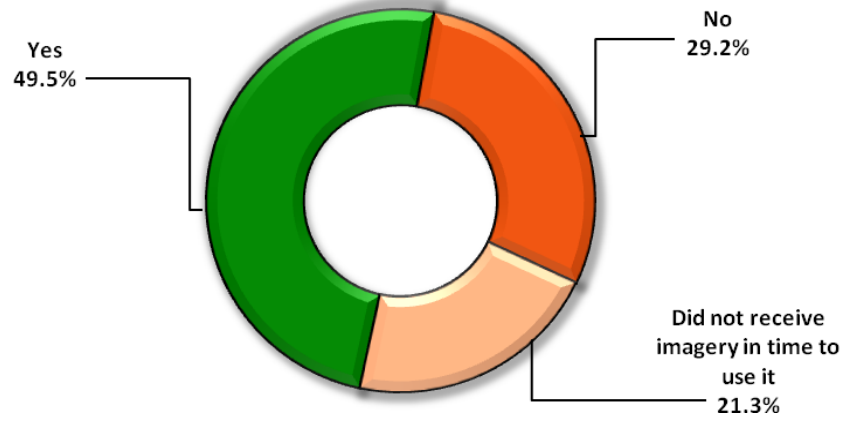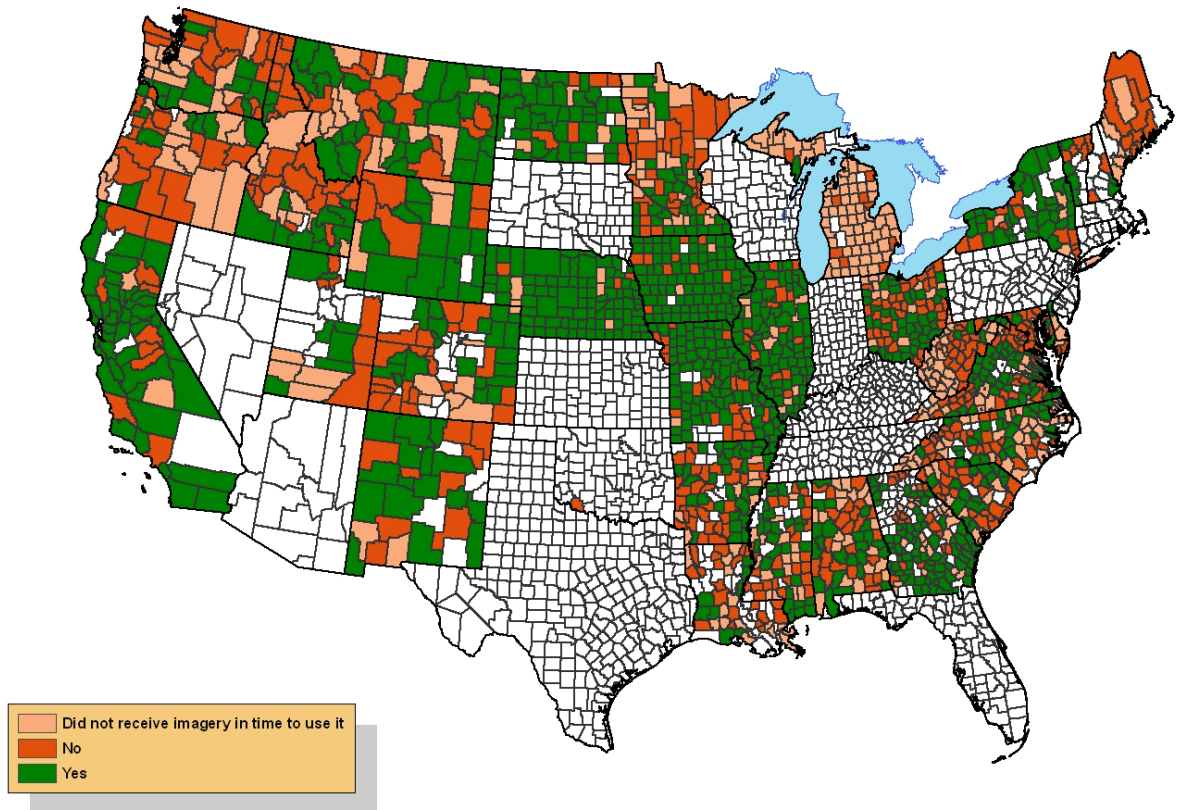Map 2 graphically depicts the 2009 NAIP Survey answers to the question: "Did you use 2009 NAIP imagery for compliance purposes?" This graphic shows that most of the counties in several of the Midwest and Western states did use NAIP imagery for compliance purposes, while the majority of counties in the other states did not use it or it was not available in time to use it. It should be noted that due to changes in policy regarding compliance checks, using imagery was not required in 2007, 2008 and 2009, according to Notice CP-617. However, the policy does not say that imagery could not be used where applicable. In fact, it states…"accuracy of the information on all FSA-578s associated with the producer will be determined by measuring the acreage (unless imagery is available) on all farms", which infers that imagery is still valid for compliance activities.

Questions 8, 9, and 10 were only available to answer if the individual taking the survey selected "yes" to Question 7, "Did you use 2009 NAIP imagery for compliance purposes?" If they selected "no" or "did not receive imagery in time to use it", skip logic was used in the survey engine to jump to Question 11.
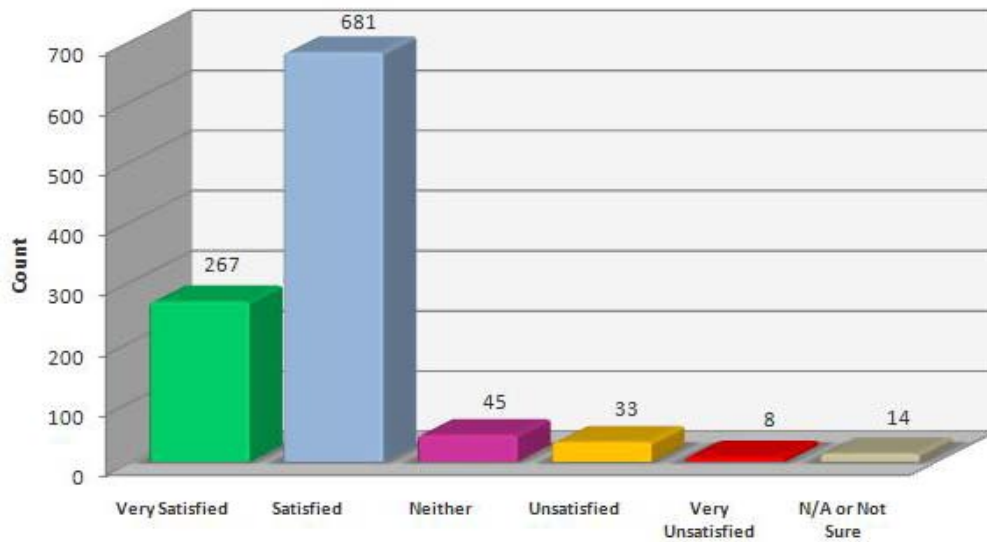
Question 8. 2009 Mean Score = 4.0, 2008 Mean Score = 4.04, 2007 Mean Score = 3.91, 2006 Mean Score = 3.24

Chart 4 – Question 8

Question 9. 2009 Mean Score = 4.13, 2008 Mean Score = 4.05, 2007 Mean Score = 4.02, 2006 Mean Score = 3.53

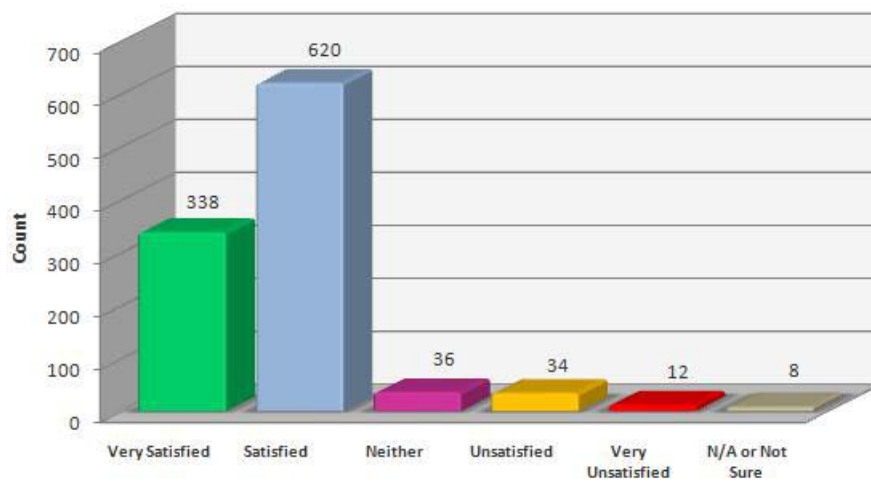**Based on what is visible on the imagery for acreage compliance work, how satisfied are you with the dates the imagery was flown?**

Chart 5 – Question 9

Question 10. 2009 Mean Score = 4.19, 2008 Mean Score = 4.18, 2007 Mean Score = 4.00, 2006 Mean Score = 3.69

How satisfied are you with the overall quality of the imagery for acreage compliance work?

Chart 6 – Question 10

11

How satisfied are you with the overall quality of the imagery for acreage compliance work?
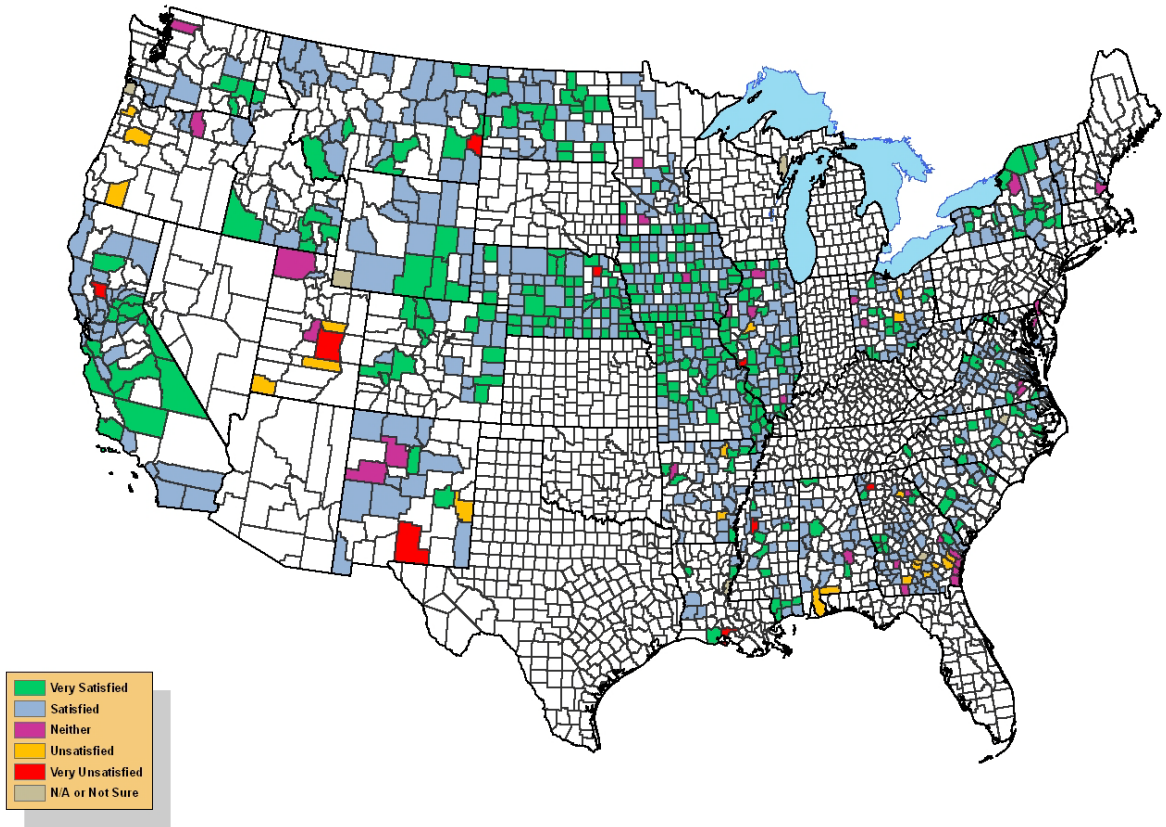
Map 3 – Overall Quality of Imagery for Acreage Compliance Work

Question 11. On what date did you receive your 2009 NAIP imagery? Most respondents received their imagery from September through early December.
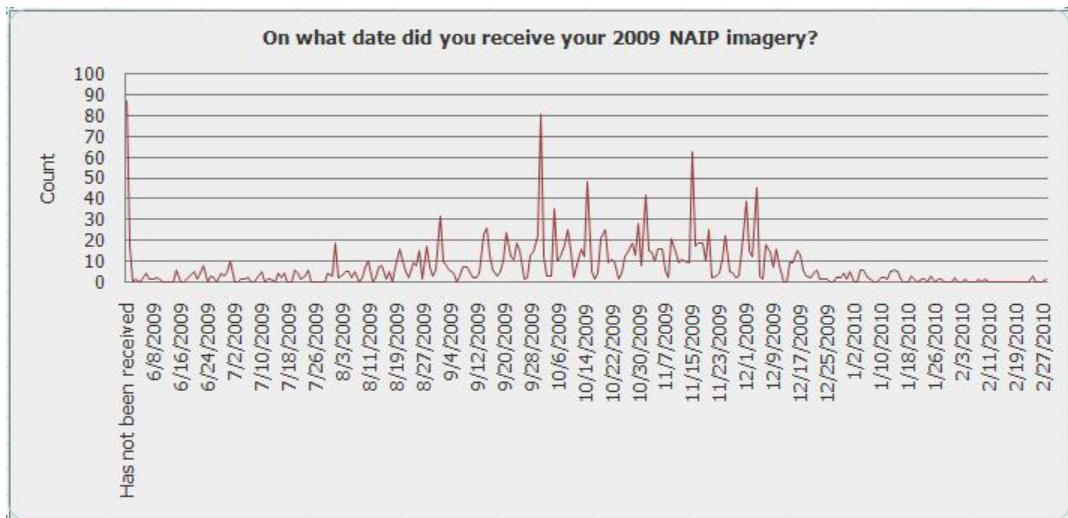
Chart 7 – Question 11

Month 2009 Imagery Was Received By Counties
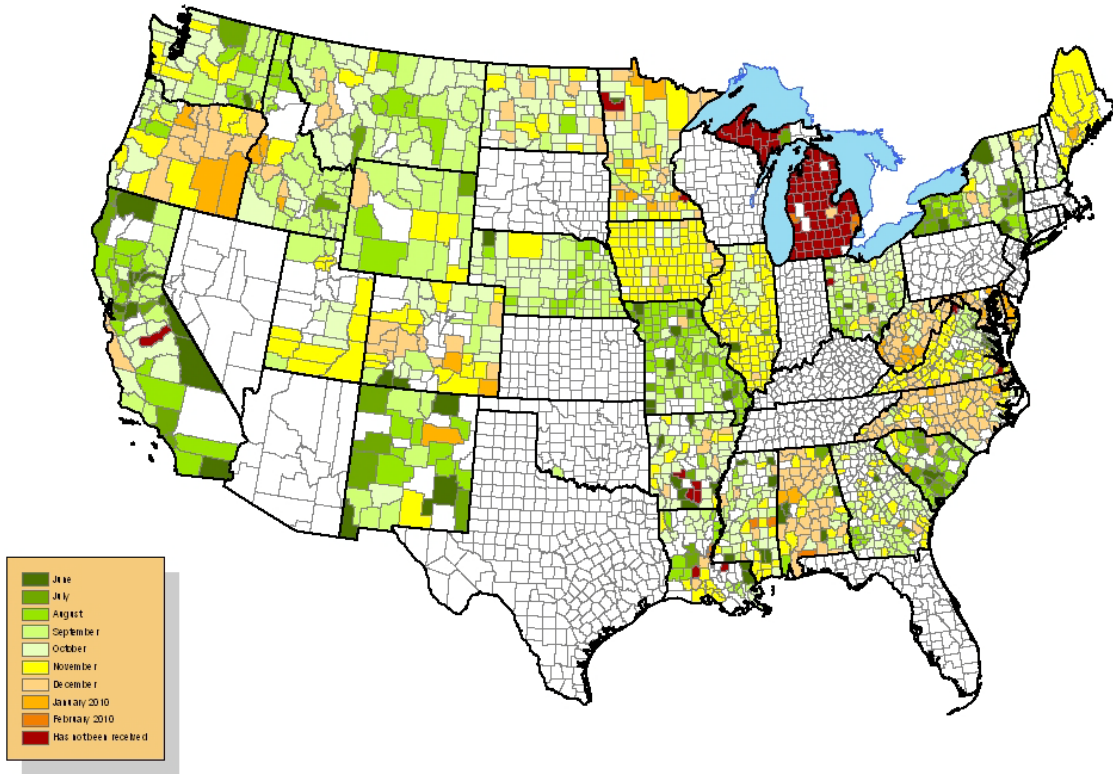
Map 4 – Month Imagery was Received by Counties

Question 12. If 2009 NAIP imagery for your entire area could have been collected on a single day, what day would have been ideal? The first or middle day of the month was selected by respondents more often than other dates, but the chart does depict, in general, July-August as the crucial time frame for acquisition.
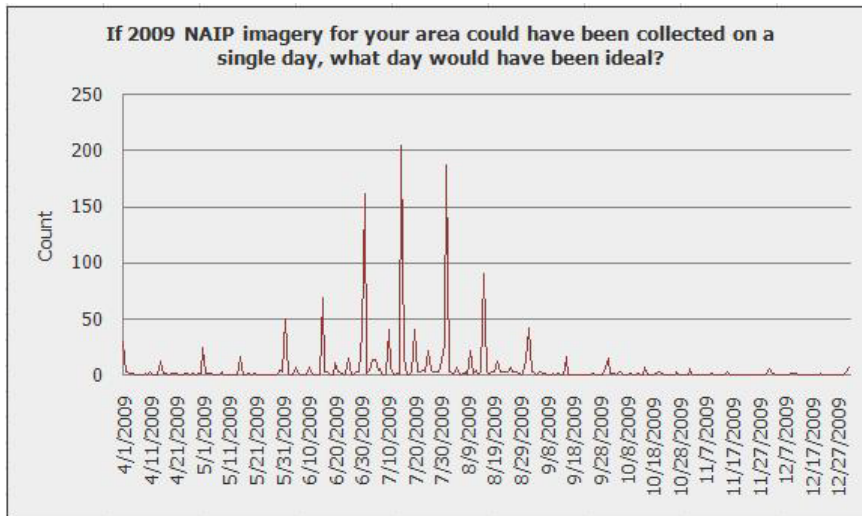
Chart 8 – Question 12

Question 13. Given that a single date is not possible, what flying season do you feel would have been acceptable to meet your compliance needs? The chart below depicts the answers to this question graphically by identifying the ideal flying season start and end month responses.
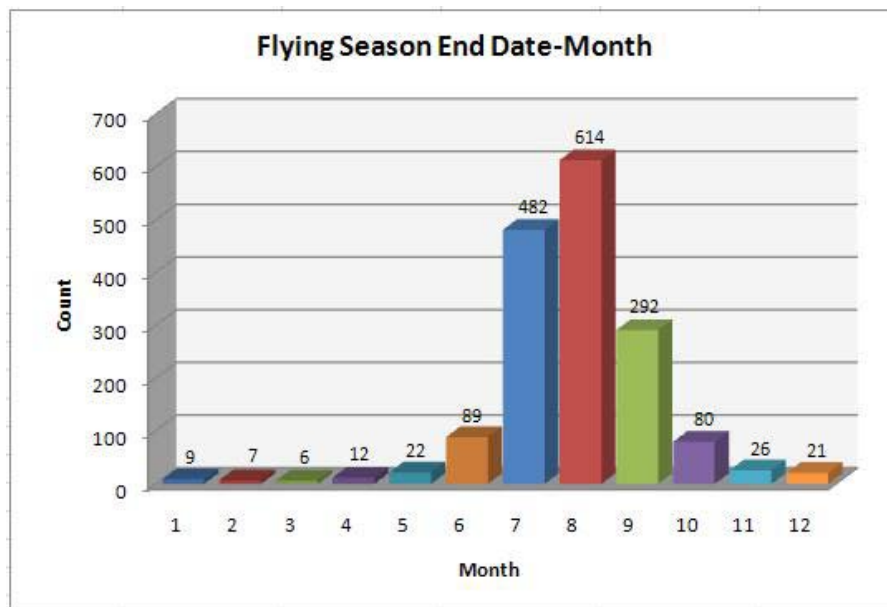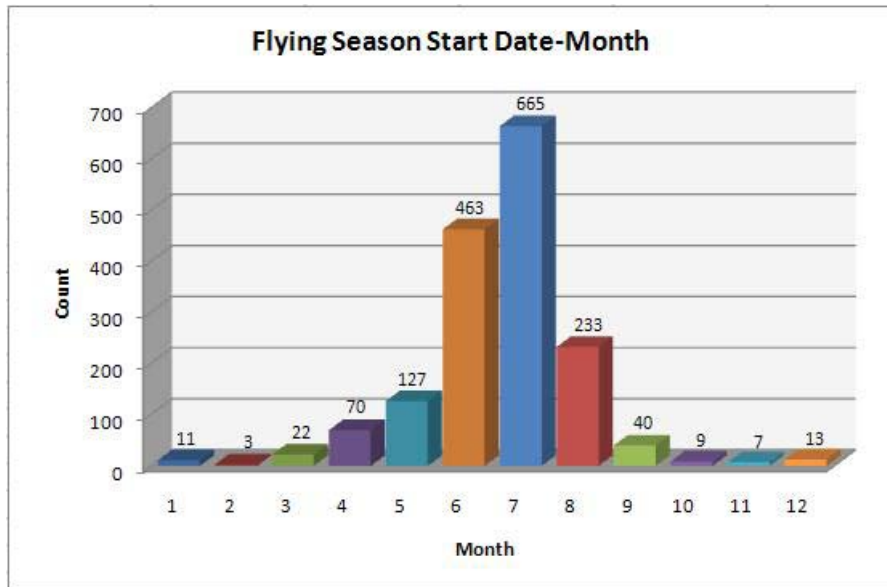
Charts 9 – Question 13

2009 Preferred Flying Season Start Date - Month
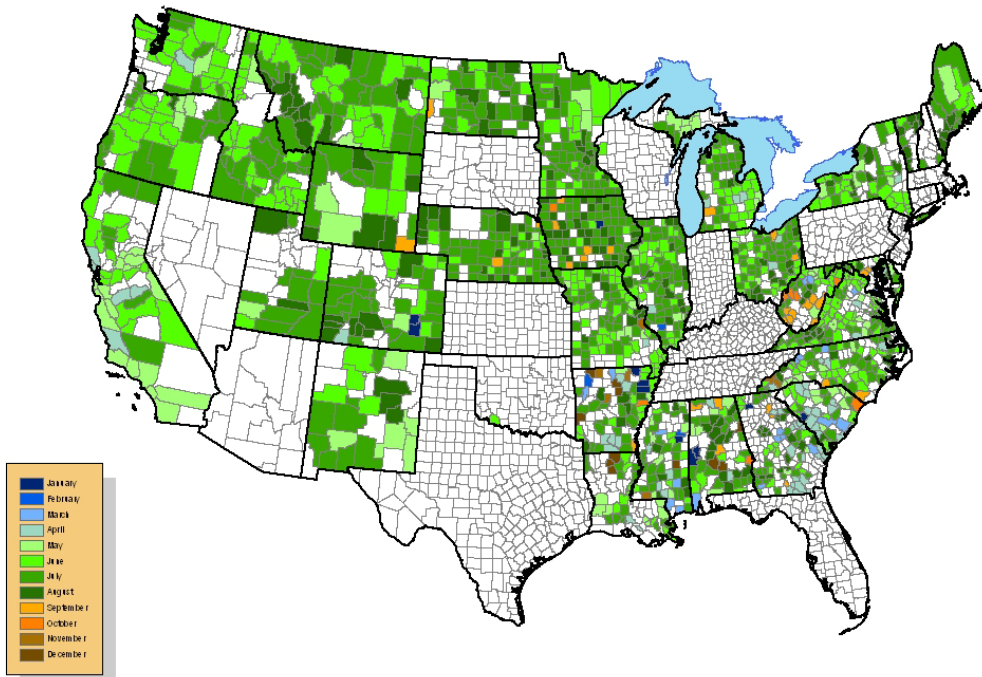
2009 Preferred Flying Season End Date - Month
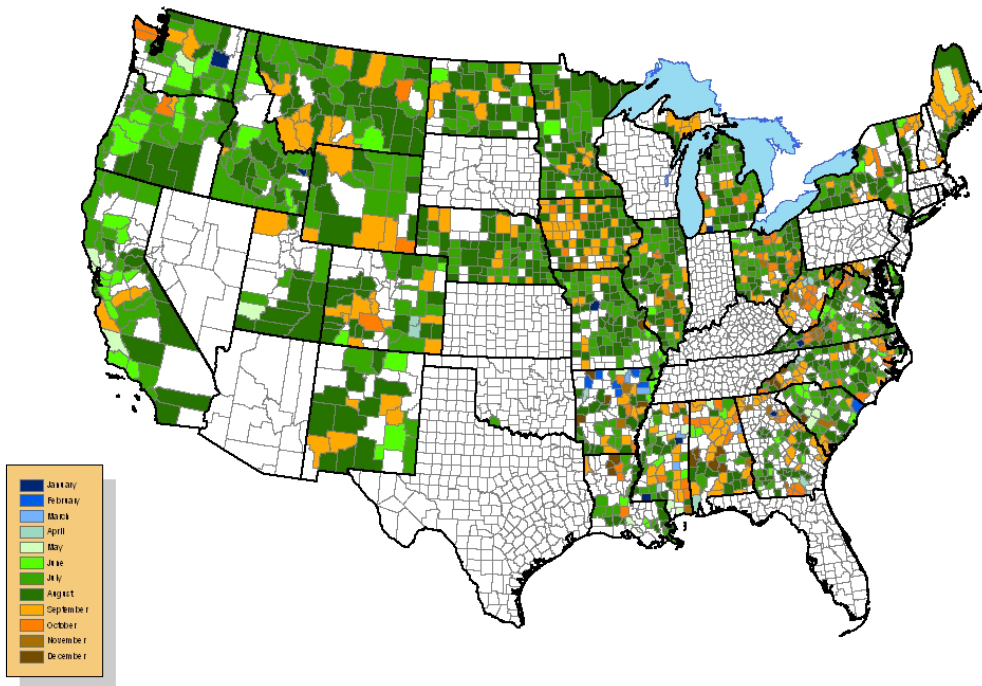
Maps 5 – 2009 Preferred Flying Season Start and End Date - Month

Question 14. 2009 Mean Score = 3.98, 2008 Mean Score = 4.06, 2007 Mean Score = 3.90, 2006 Mean Score = 3.60

Rate the image quality in terms of darkness/lightness:
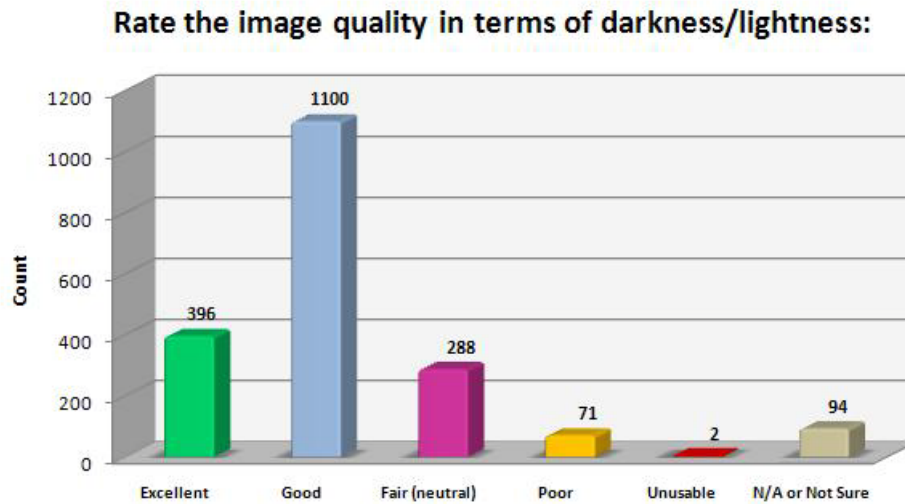
Chart 10 – Question 14

Question 15. 2009 Mean Score = 3.92, 2008 Mean Score = 4.03, 2007 Mean Score = 3.87, 2006 Mean Score = 3.56

Rate the image quality in terms of contrast:
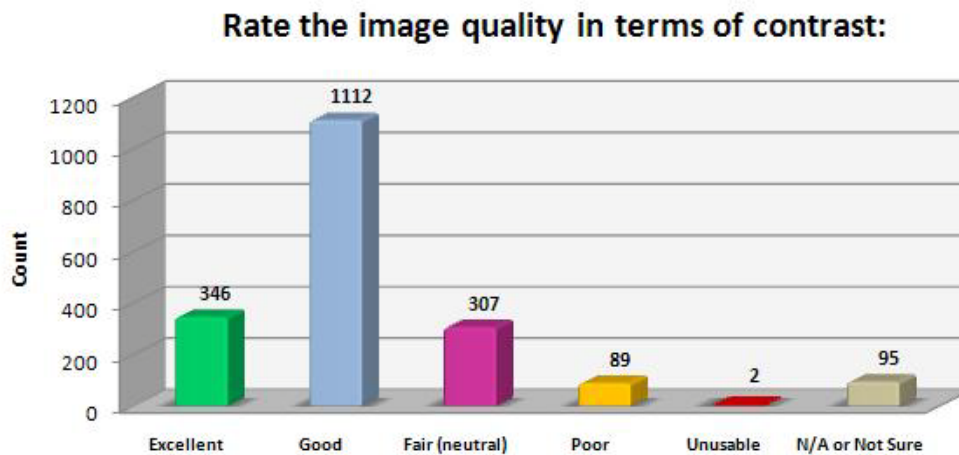
Chart 11 – Question 15

Question 16. 2009 Mean Score = 3.92, 2008 Mean Score = 4.05, 2007 Mean Score = 3.86, 2006 Mean Score = 3.58

Rate the image quality in terms of color:
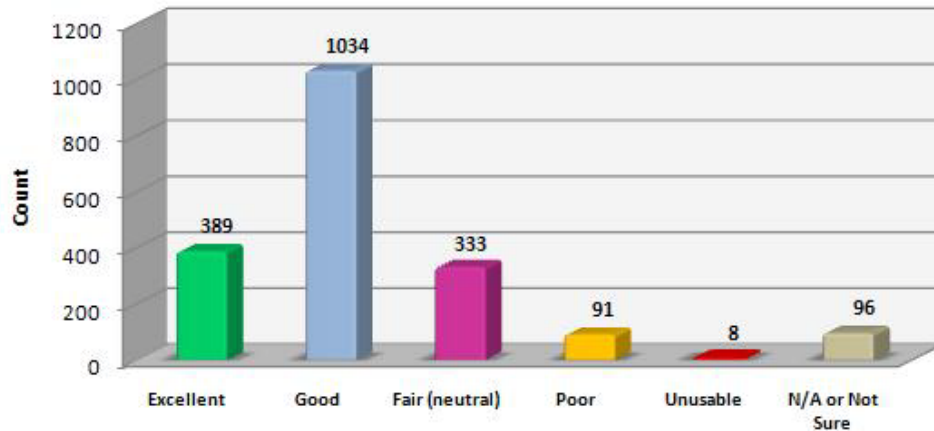
Chart 12 – Question 16

Question 17. 2009 Mean Score = 4.02, 2008 Mean Score = 4.08, 2007 Mean Score = 3.97, 2006 Mean Score = 3.41

Overall, how satisfied are you with 2009 NAIP acquisition and delivery in your County/State?
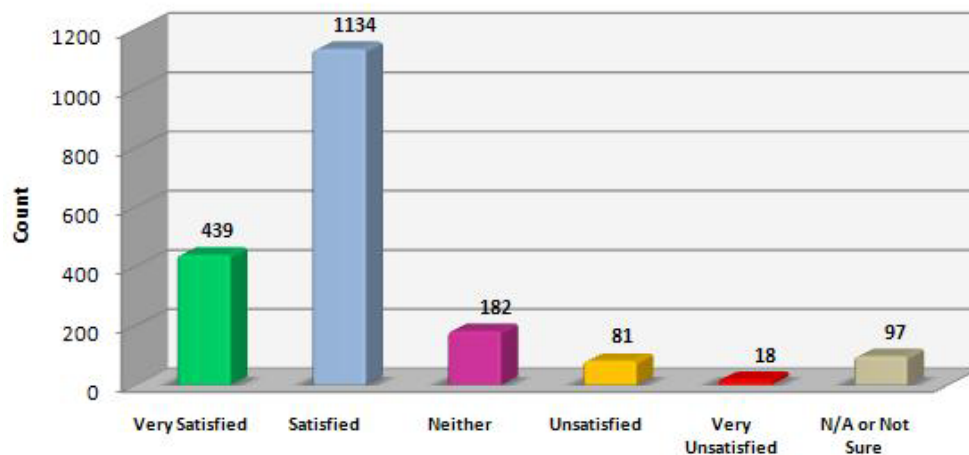
Chart 13 – Question 17

Overall Satisfaction of 2009 Imagery Acquisition and Delivery

Very Satisfied
Satisfied
Neither
Unsatisfied
Very Unsatisfied
N/A or Not Sure
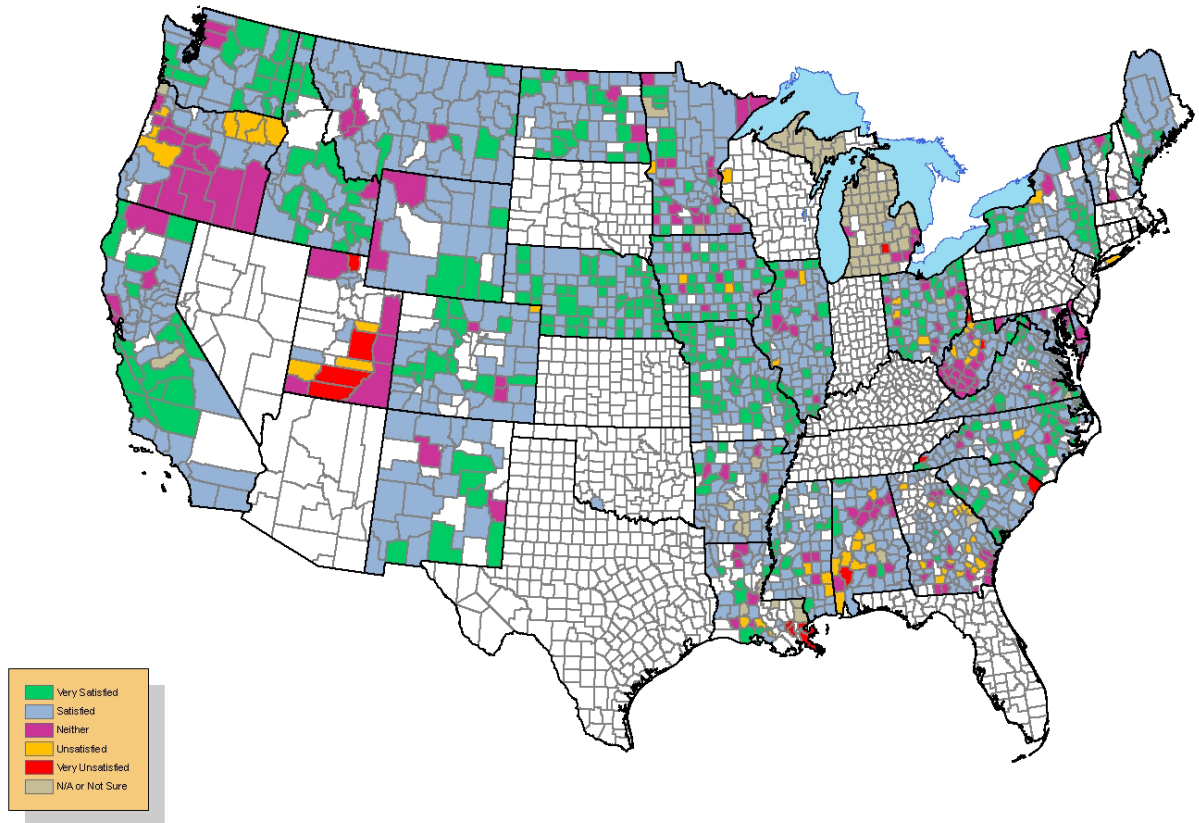
Map6 – Overall Satisfaction of 2009 Imagery Acquisition and Delivery

Question 18. Does CLU need to be edited to match the 2009 NAIP imagery?
This is the second year this question was asked. A = Yes, in locations of land use change. B = Yes, due to shifts in the imagery from previous base imagery. This question was added to gauge if CLU needed to be edited with the arrival of new NAIP imagery and for what reasons.

Does CLU need to be edited to match the 2009 NAIP Imagery?
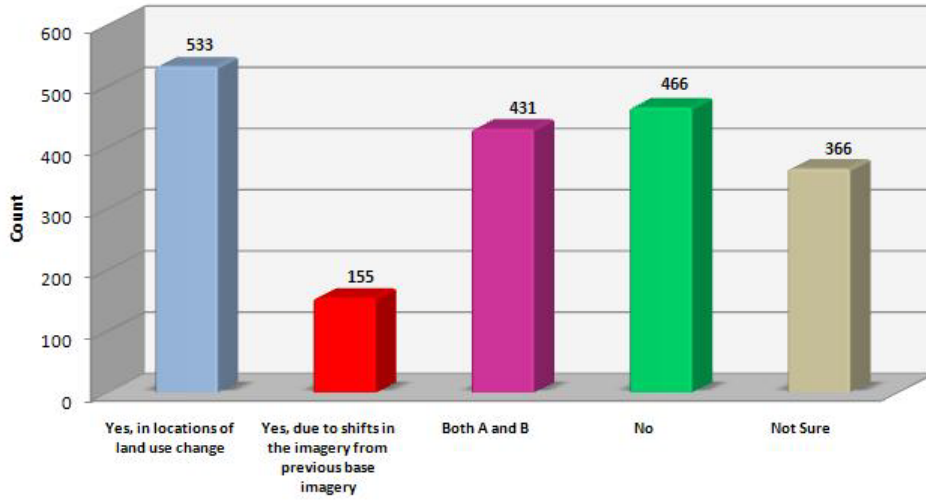
Chart 14 – Question 18

Does CLU Need to be Edited to Match the 2009 NAIP Imagery?
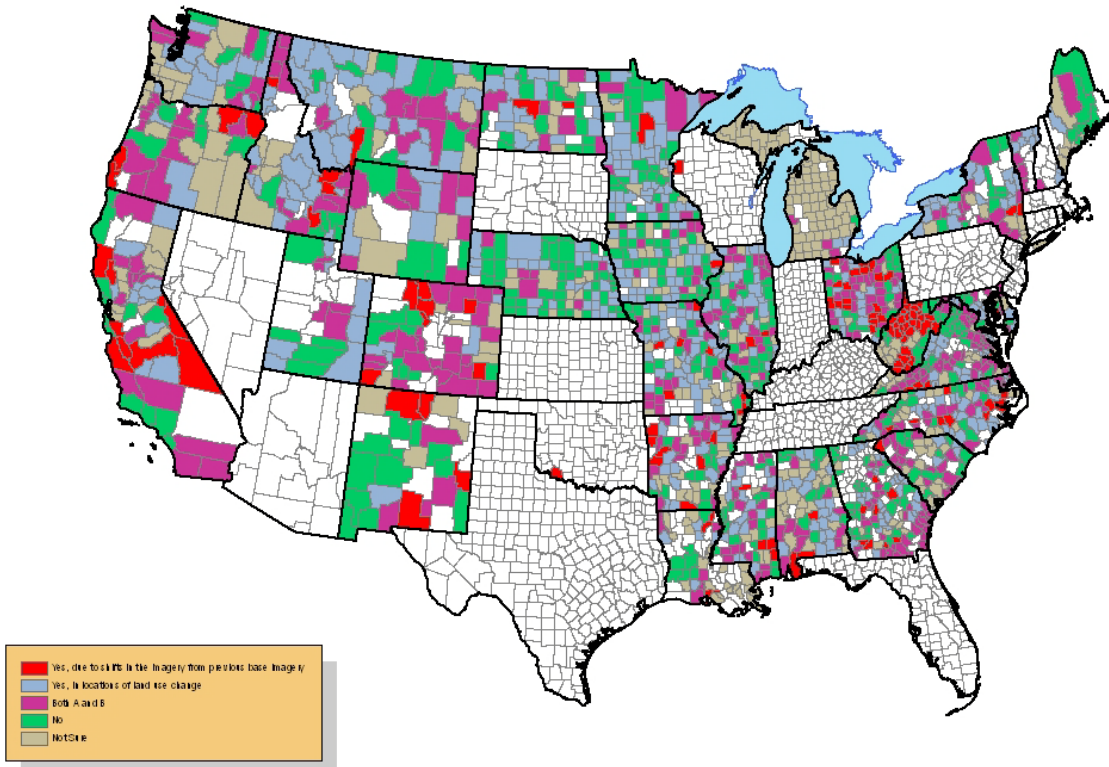
Map 7- Does CLU Need to be Edited to Match the 2009 NAIP Imagery?

Question 19. Responses varied

The crop type of primary importance in your area in terms of largest amount of acreage is:
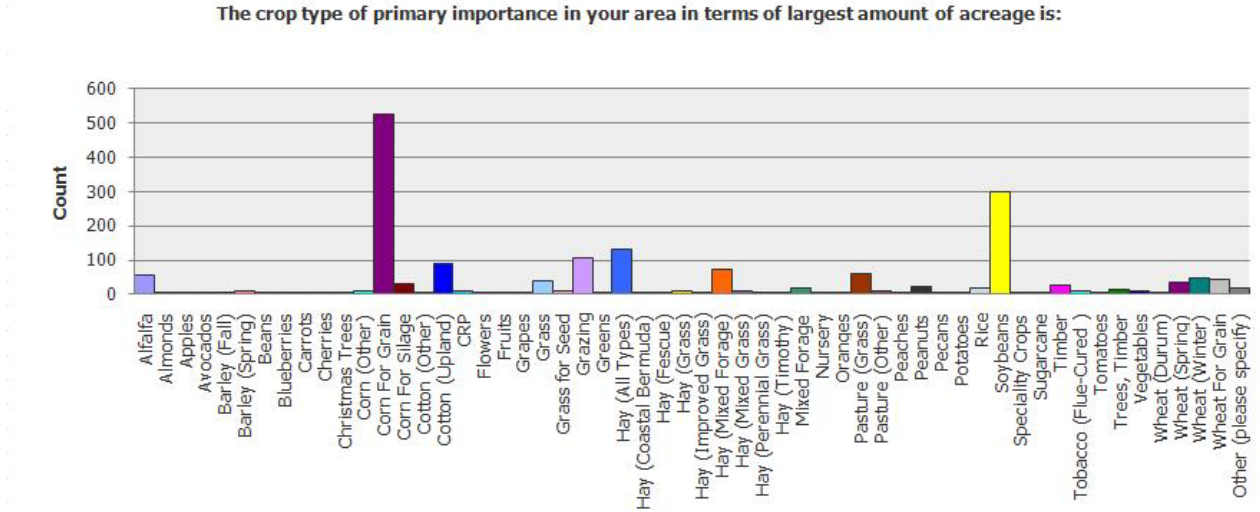
Chart 15 – Question 19

Question 20. Responses varied

The crop type of primary importance in your area in terms of highest dollar value is:
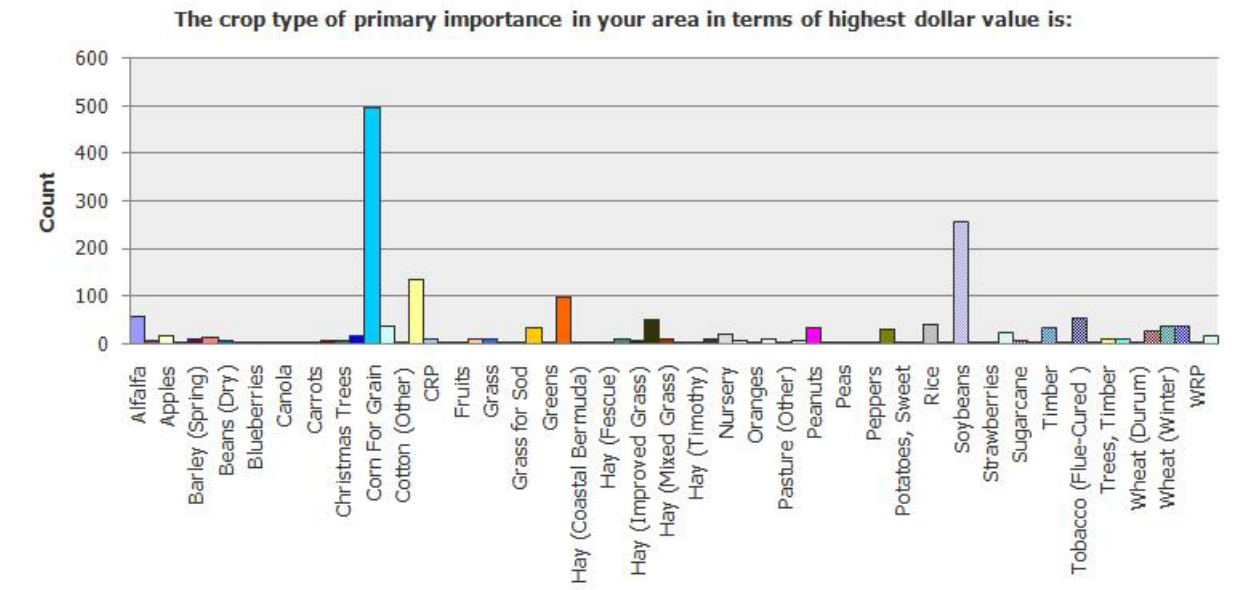
Chart 16 – Question 20

Questions 21 & 22. The crop type of secondary importance in your area in terms of acreage and in terms of dollar value is: Responses varied for each question.

Question 23.
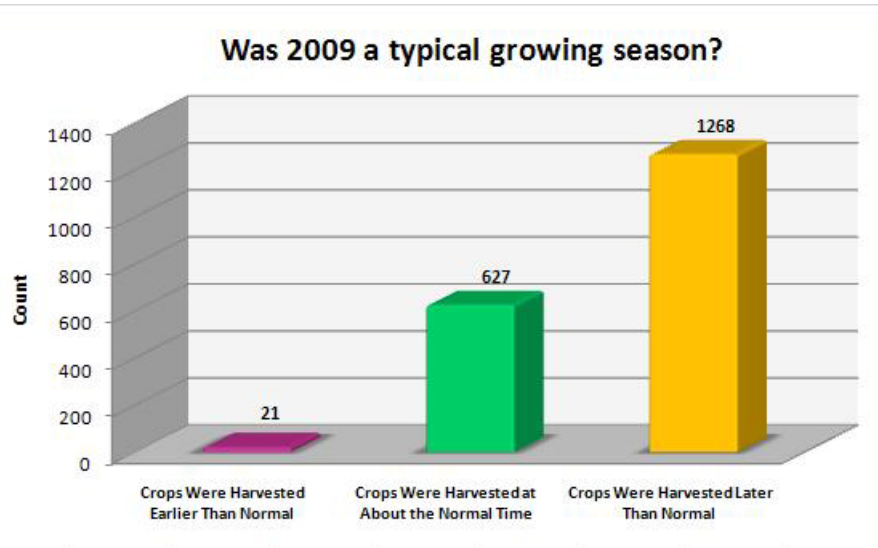
Chart 17 – Question 23

Was 2009 a Typical Growing Season?

Crops Were Harvested Earlier Than Normal
Crops Were Harvested at About the Normal Time
Crops Were Harvested Later Than Normal
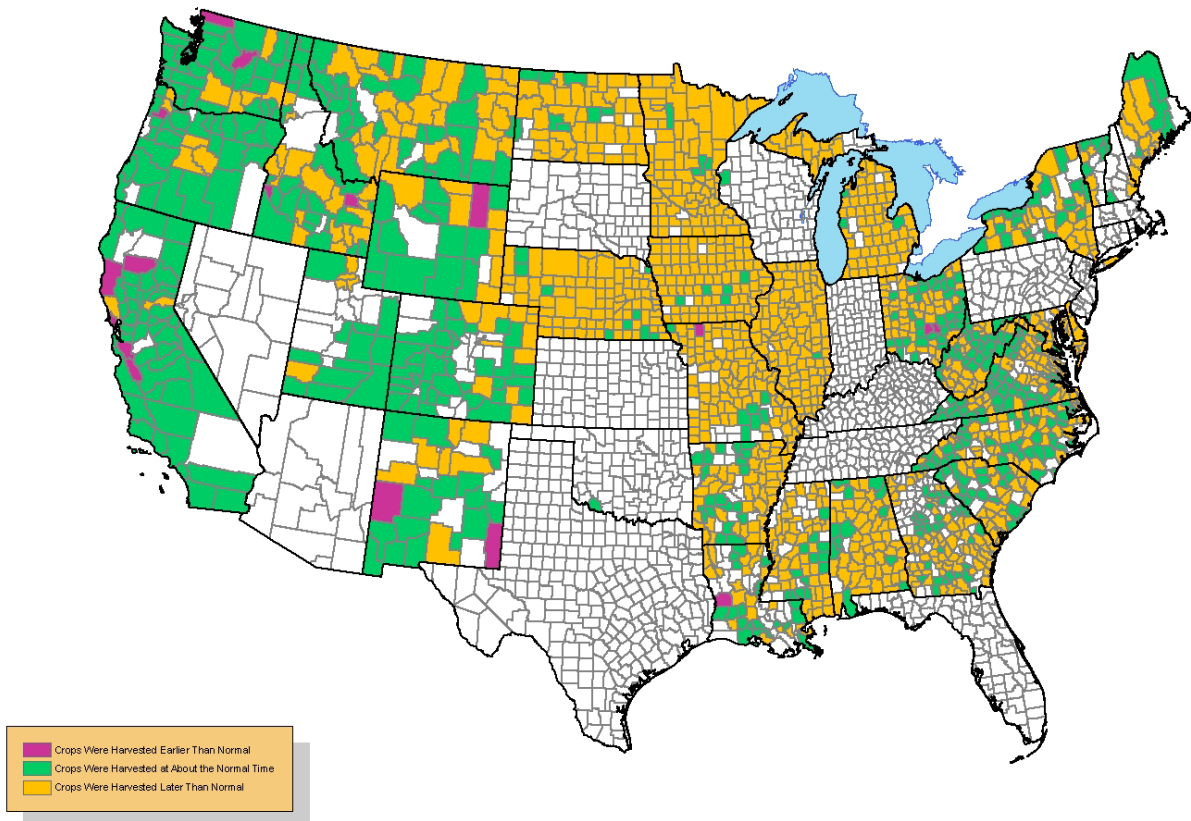
Map 8 – Typical Growing Season

Question 24. Mark the following activities that the 2009 NAIP imagery is useful for. This question allowed for a select all that apply response, including a category for other, allowing for open ended responses. A summary of open ended responses to this question can be found in Appendix A.

Mark the following activities that the 2009 NAIP imagery is useful for.

Count

Activity	Count
Disaster preparedness or response	846
General planning activities	1144
Measurement services (area/distance)	1703
Government coordination and communications with other Federal, State, or local agencies	823
Historical purposes (prior year crop disaster measurements, change detection, etc.)	1276
Other (please specify)	317

Chart 18 – Question 24

Question 25.

Web Mapping Services (WMS) using Geospatial Data Warehouse (GDW) data are available to you by adding the Image Web Service to your ArcMap Session. Do you use these services?

Count

Response	Count
Yes	194
No	526
I would, but imagery for my area is not loaded	47
I am not familiar with this service	1120
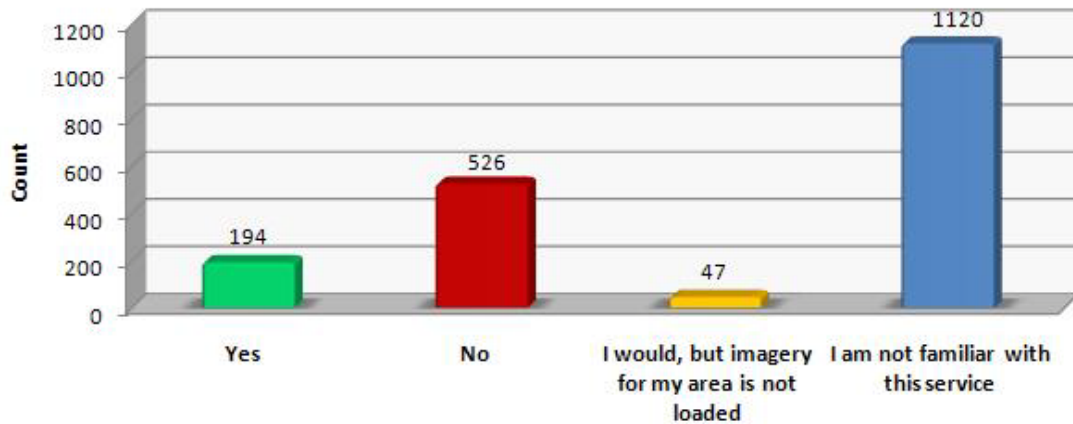
Chart 19 – Question 25

Question 26.

If you do use the WMS associated with the GDW, how useful is it?
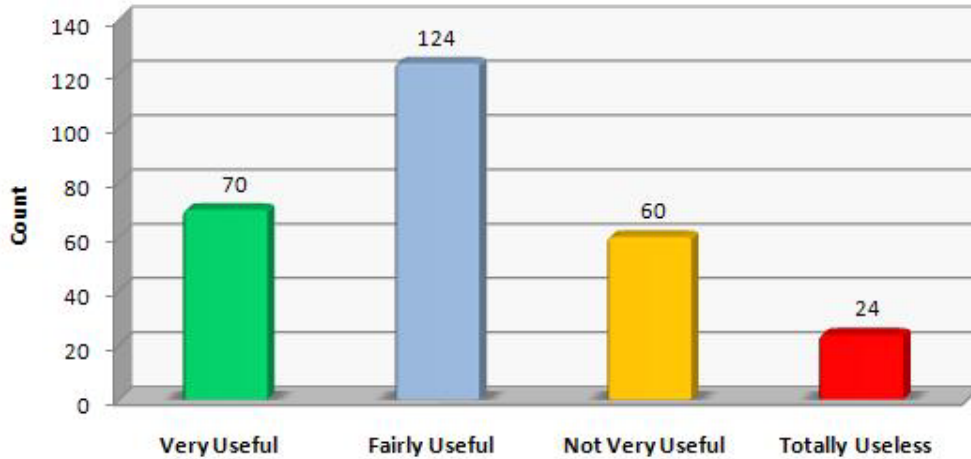
Chart 20 – Question 26

Question 27.

Do you use the USDA Resource Data Gateway?
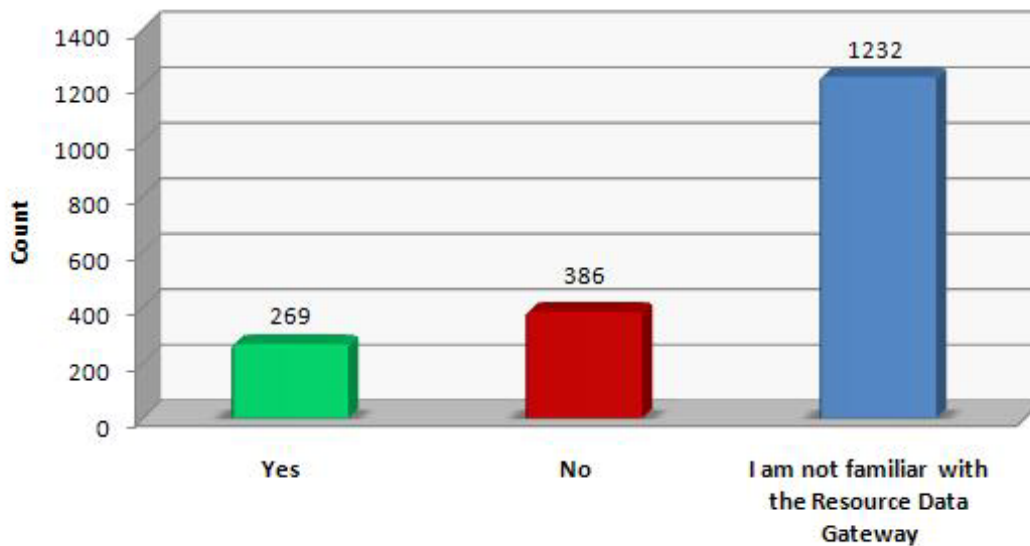
Chart 21 – Question 27

Question 28.

If you do use the USDA Resource Data Gateway, how useful is it?
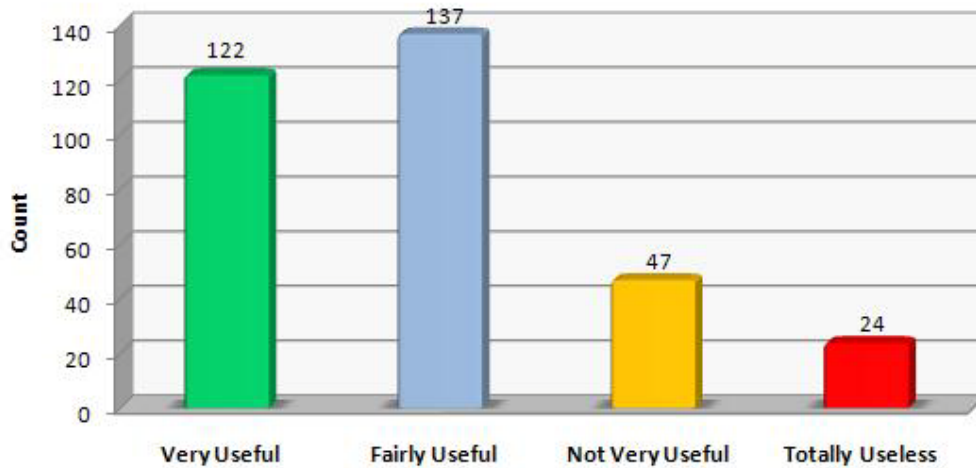
Chart 22 – Question 28

Question 29.

How many requests for copies of the NAIP imagery, either hard copy or softcopy does your office receive?
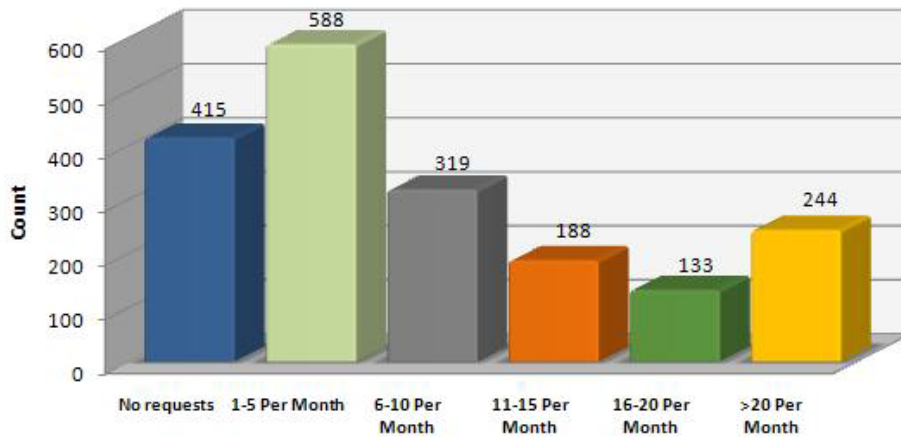
Chart 23 – Question 29

Question 30. This question was new to the 2009 NAIP survey. The Seamline shapefile has now replaced the index shapefile for all states. Based on responses most respondents are still unfamiliar with this new product.

A Seamline Shapefile is delivered with each Compressed County Mosaic. Are you aware that this shapefile contains acquisition time and date information for each camera exposure used to create the Compressed County Mosaic?
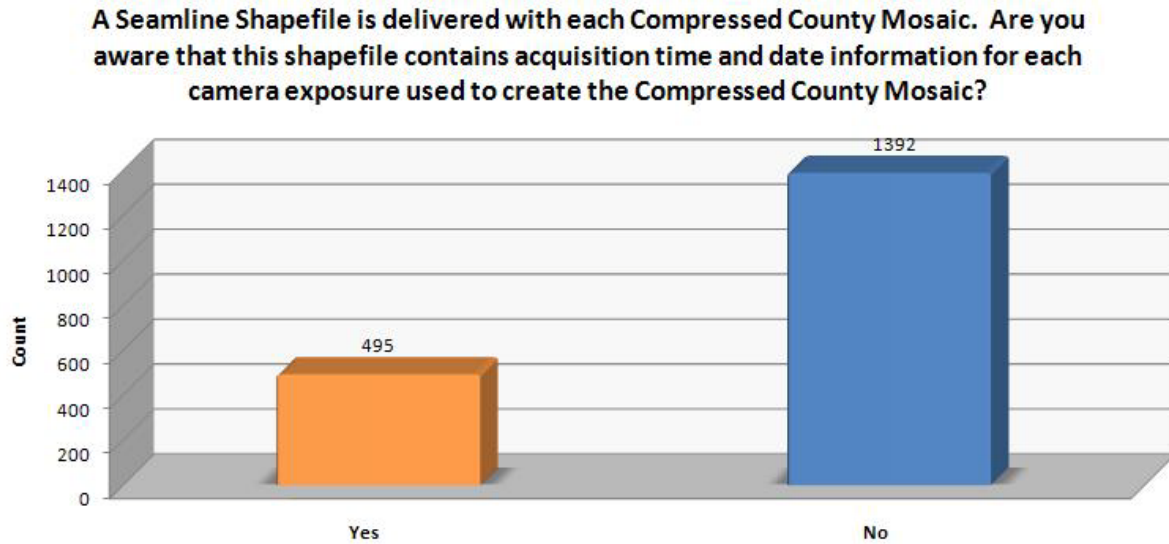
Chart 24 – Question 30

Question 31. Is the Seamline shapefile index more useful than the previously provided county digital ortho quarter quad index?

Is the Seamline shapefile index more useful than the previously provided county digital ortho quarter quad index?
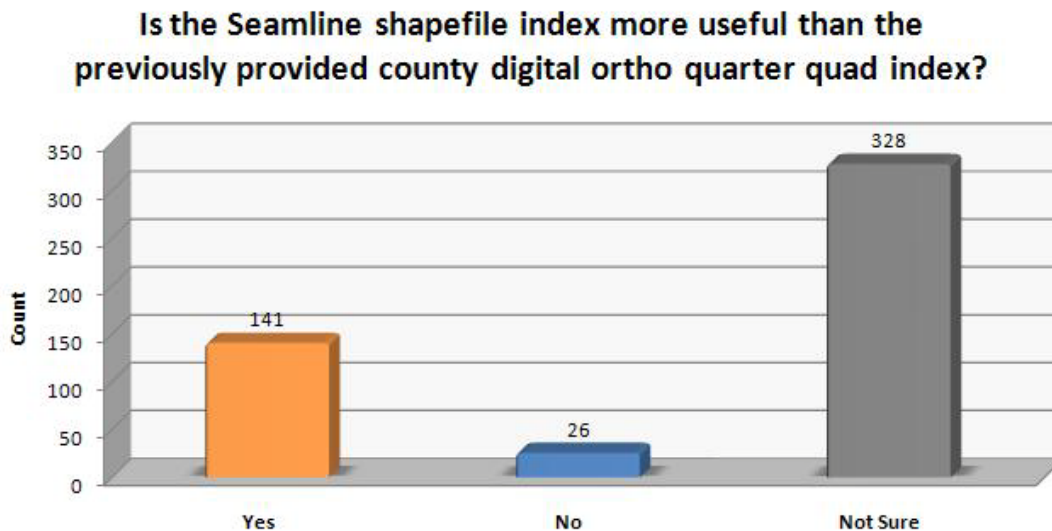
Chart 25 – Question 31

Question 32. Do you have any recommendations to improve the NAIP program? This question allowed for open ended responses. A summary of these responses can be found in Appendix B.

Section 4 – Comparing 2009 to 2005 - 2008 Survey Results

Three questions from the 2009 NAIP Survey were essentially identical to questions asked in the 2005, 2006, 2007 & 2008 NAIP Surveys. The questions were:

Question 8: How satisfied are you with the delivery time of the 2009 NAIP imagery in order to be useful for acreage compliance work?

Question 9: Based on what is visible on the imagery for acreage compliance work, how satisfied are you with the dates the imagery was flown?

Question 17: Overall, how satisfied are you with 2009 NAIP acquisition and delivery in your County/State?

The following chart depicts the survey responses as percentages with regards to the numerical ratings (ratings scale outlined at the beginning of Section 3). Note that categories may not add up exactly to 100%, as NA/Unsure answers in the 2005 survey were omitted, and NA/Unsure answers in the 2006, 2007, 2008 & 2009 survey were NOT omitted, but left off this chart for purposes of comparison. Values are also rounded to the nearest percent.

Q8	2005	2006	2007	2008	2009	Q9	2005	2006	2007	2008	2009	Q17	2005	2006	2007	2008	2009
1	14%	14%	1%	1%	1%	1	8%	6%	1%	1%	1%	1	8%	8%	1%	1%	1%
2	17%	14%	7%	7%	5%	2	12%	10%	4%	2%	3%	2	13%	11%	4%	4%	4%
3	22%	22%	7%	7%	6%	3	21%	25%	5%	3%	4%	3	23%	26%	9%	7%	9%
4	20%	28%	67%	62%	67%	4	35%	38%	70%	65%	65%	4	33%	40%	71%	60%	58%
5	26%	19%	16%	22%	20%	5	24%	17%	18%	26%	26%	5	23%	13%	15%	27%	23%

Table 1 – Survey Results Comparison

In comparing the survey for the past 5 years, percentages in the 2009 very satisfied rating category (5) were slightly down from 2008 but went up substantially compared to the 2006 and 2007 ratings, and compare favorably to the 2005 ratings. The rating category of satisfied (4) went up slightly in 2009 from 2008 were down from 2007 and was up substantially from the 2005 and 2006 surveys. Neutral answers (3) increased slightly from 2008 but decreased compared to 2007, 2006 and 2005. Unsatisfied responses (2) as well as the very unsatisfied rating (1) stayed level at 1% with 2008 and 2007 responses.

The charts below graphically depict the percentages from the table above.

Comparison of Question 8 Between Survey Years
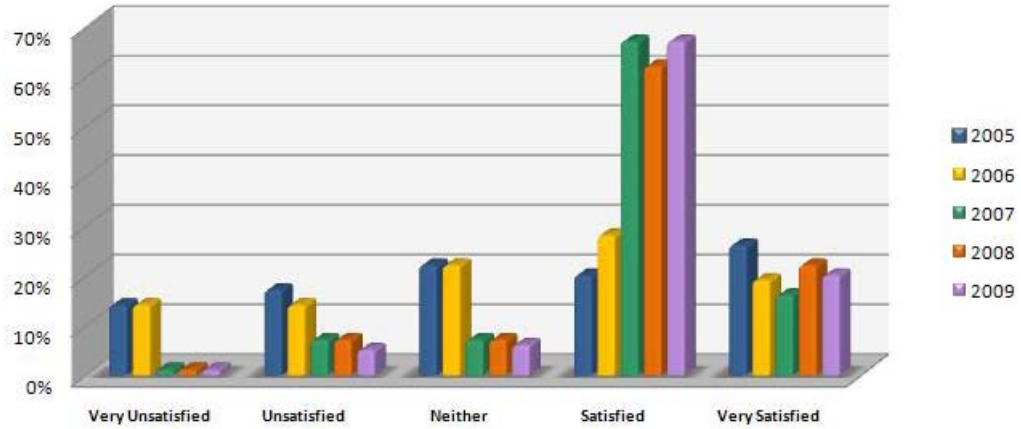
Chart 26 – Comparison of Question 8 Over 5 Years

Comparison of Question 9 Between Survey Years
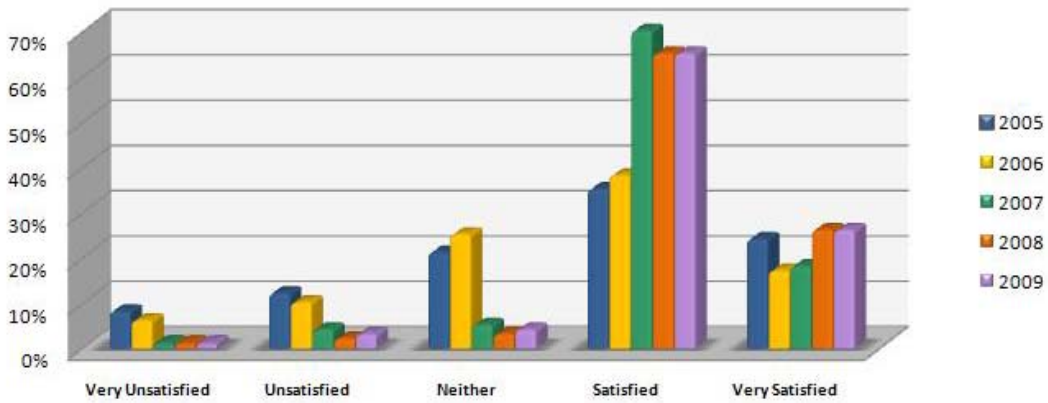
Chart 27 – Comparison of Question 9 Over 5 Years

Comparison of Question 17 Between Survey Years
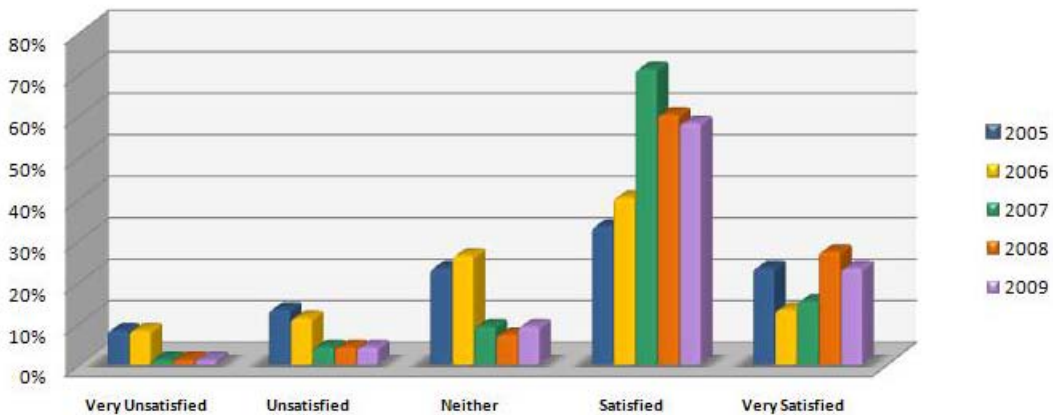
Chart 28 – Comparison of Question 17 Over 5 Years

Overall, How Satisfied Are You With 2009 NAIP Acquisition and Delivery in Your County/State?
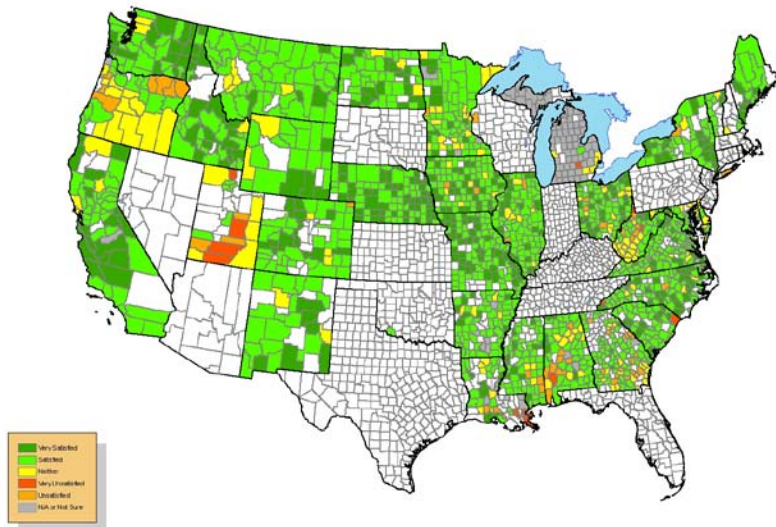
Overall, How Satisfied Are You With 2008 NAIP Acquisition and Delivery in Your County/State?
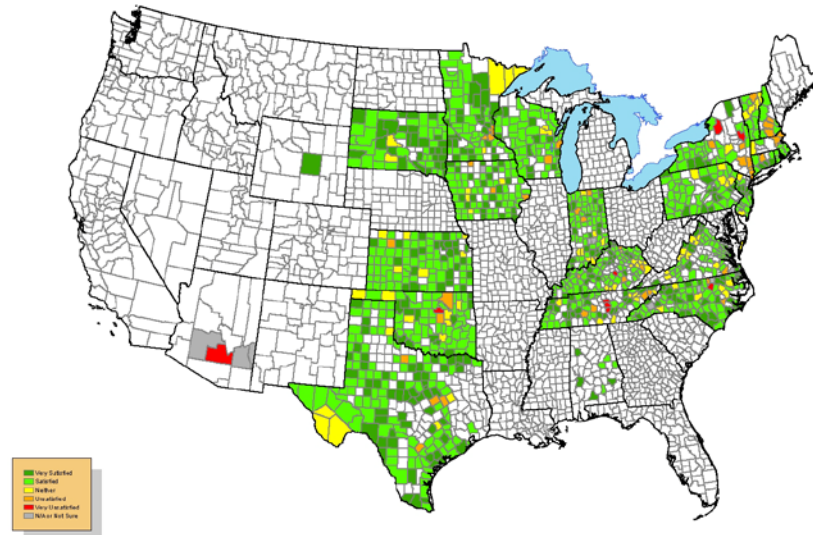
Overall, How Satisfied Are You With 2007 NAIP Acquisition and Delivery in Your County/State?

Overall, How Satisfied Are You With 2006 NAIP Acquisition and Delivery in Your County/State?

Maps 9-Comparison of Question 17 over 4 years

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Comparing 2009 to 2006 - 2008 Survey Results

In 2009, respondents were asked if 2009 was a typical growing season and how many requests they receive for NAIP each month. The same two questions were included in the 2006 – 2008 surveys. The following charts show the changes in crop growing conditions and the trends for NAIP requests in county service centers. Question 23 - There was a large increase in responses indicating that 2009 was a year in which crops were harvested later then normal compared to all three previous years. Question 29 – In 2006 there was not a choice of "No Requests" but "1-5" category total compares favorably to the total of "No Requests" and "1-5" combined. The 2008 responses for Q29 are similar to the 2006 responses in that both years had less frequent requests for NAIP compared to 2007. In 2009, there was a slight increase in requests for NAIP from 2008 especially in the 11-15 Per Month and 16-20 Per Month categories. In the >20 Per Month category 2009 had less requests than either 2008 or 2007 and more requests in this category than 2006.

Question 11 asks the respondents when they received NAIP imagery. This question was included on surveys from 2007 – 2009. Even though the answers may be affected by what states were acquired each year, varying state flying seasons and contractor extensions due to weather conditions there are similarities from year to year. Most imagery is received from the end of August through the beginning of December. In 2009, there was a significant increase in the "Have not received yet" category indicating a delay in delivery to a number of County Offices.

Questions 14, 15, and 16 all showed continued improvement in color, contrast, and lightness/darkness quality from 2007 to 2008. In 2009 there was a slight decline in the excellent and good ratings of color, contrast, and lightness/darkness from 2008. The unusable rating was significantly better in 2009 than all previous years.

Questions 25 and 27 address the usage of web based services associated with the NAIP program. The questions regard usage of web mapping services (WMS) via the Geospatial Data Warehouse (GDW) and the USDA Resource Data Gateway. Usage of the GDW web services has increased significantly since 2006 and 2007, but has also declined in 2009 from the high of 12.3% in 2008. There is still a significant percentage of users (59.4%) in 2009 who are still unfamiliar with these services. Respondents usage of the USDA Resource Data Gateway has increased since 2006 slightly but has remained constant from 2007 – 2009. In addition, 65.3% of respondents in 2009 are not familiar with these services.

Question 23 Comparison: Was 2009 a typical growing season?

Was 2006 a typical growing season?

Crops Were Harvested Earlier Than Normal
12.3%

Crops Were Harvested at About the Normal Time
72.3%

Crops Were Harvested Later Than Normal
15.4%

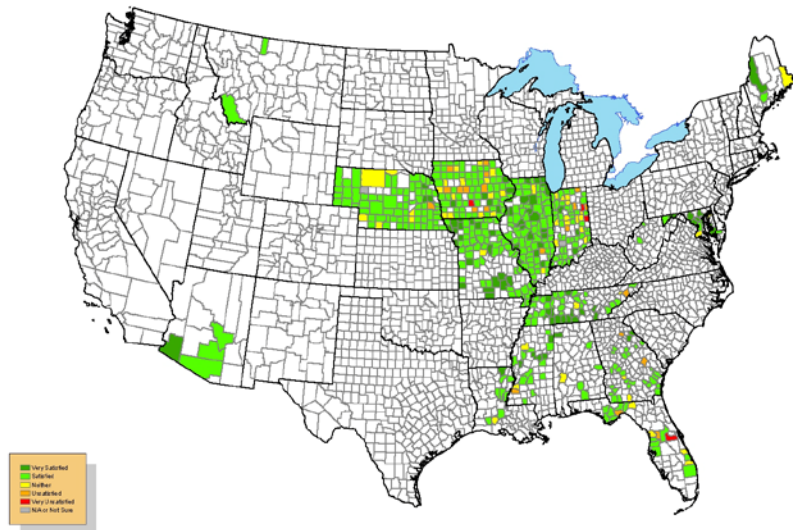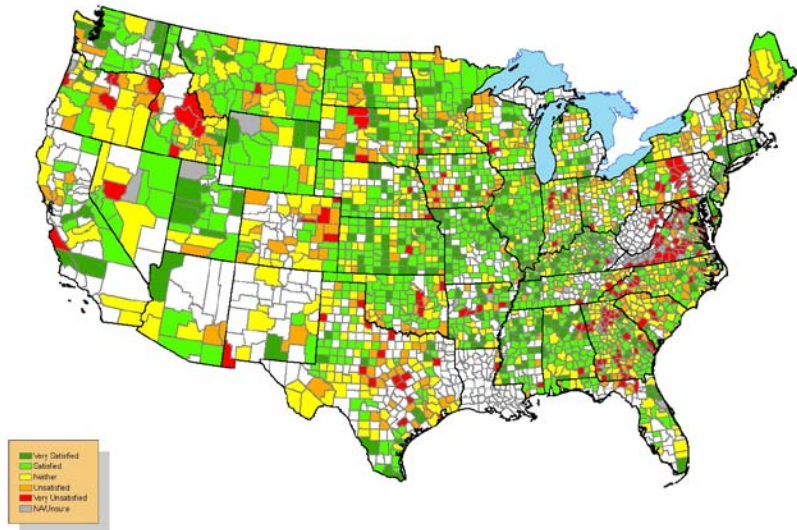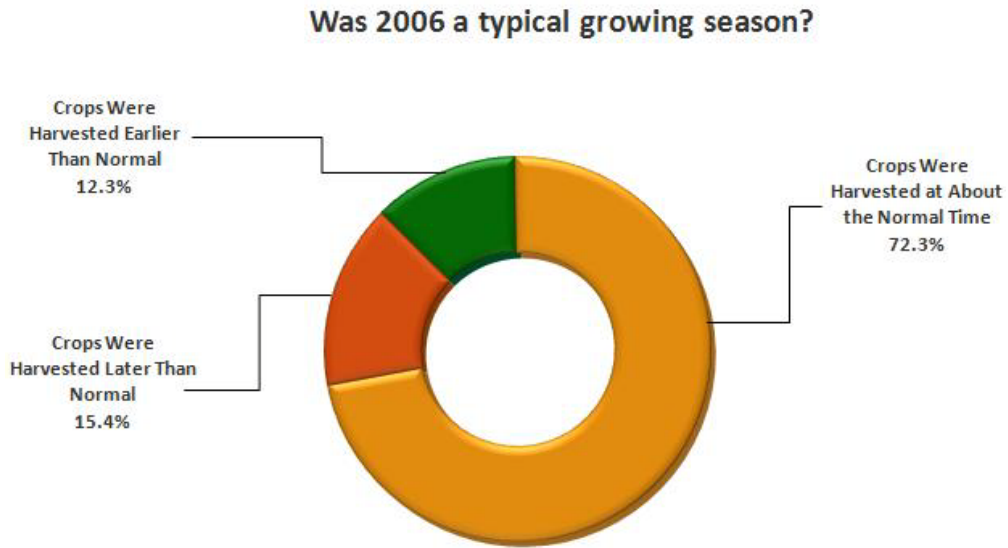*Chart 29 – Comparison of Question 23 Over 4 Years*

Was 2007 a typical growing season?

Crops Were Harvested Earlier Than Normal
21.3%

Crops Were Harvested at About the Normal Time
63.6%

Crops Were Harvested Later Than Normal
15.1%
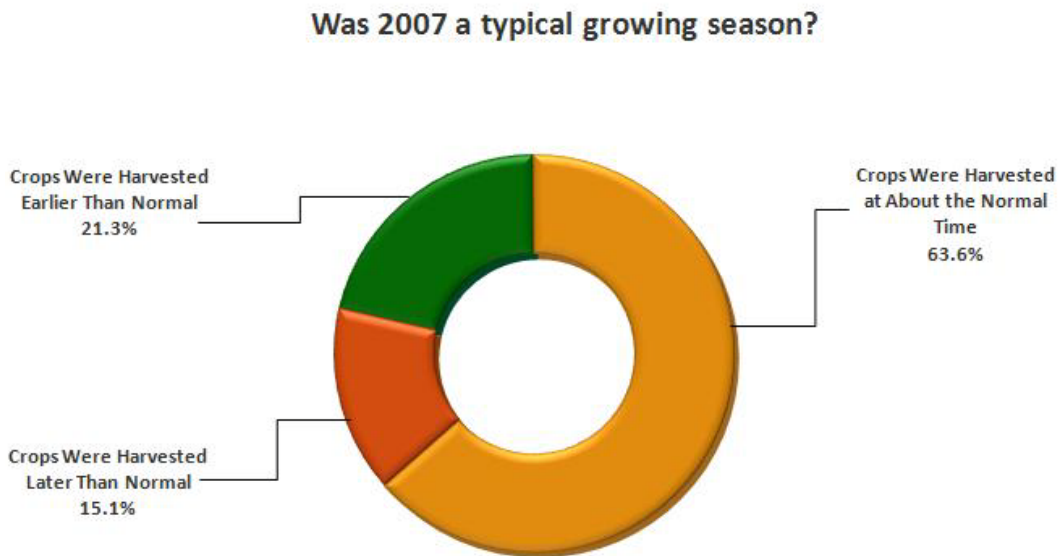
Chart 30 – Comparison of Question 23 Over 4 Years

Was 2008 a typical growing season?

Crops Were
Harvested Earlier
Than Normal
4.4%

Crops Were
Harvested at About
the Normal Time
61.9%

Crops Were
Harvested Later Than
Normal
33.7%
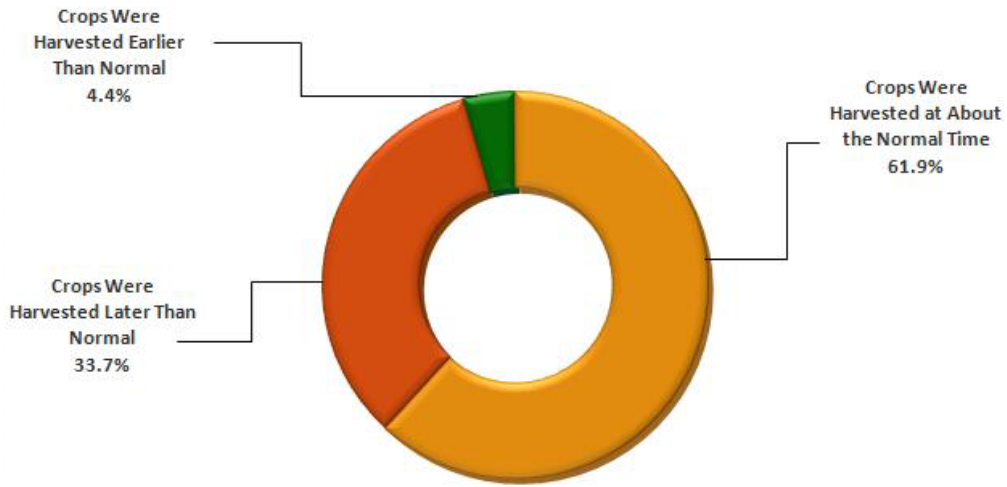
Chart 31 – Comparison of Question 23 Over 4 Years

Was 2009 a typical growing season?

Crops Were Harvested
Earlier Than Normal
1.1%

Crops Were Harvested
at About the Normal
Time
32.7%

Crops Were Harvested
Later Than Normal
66.2%
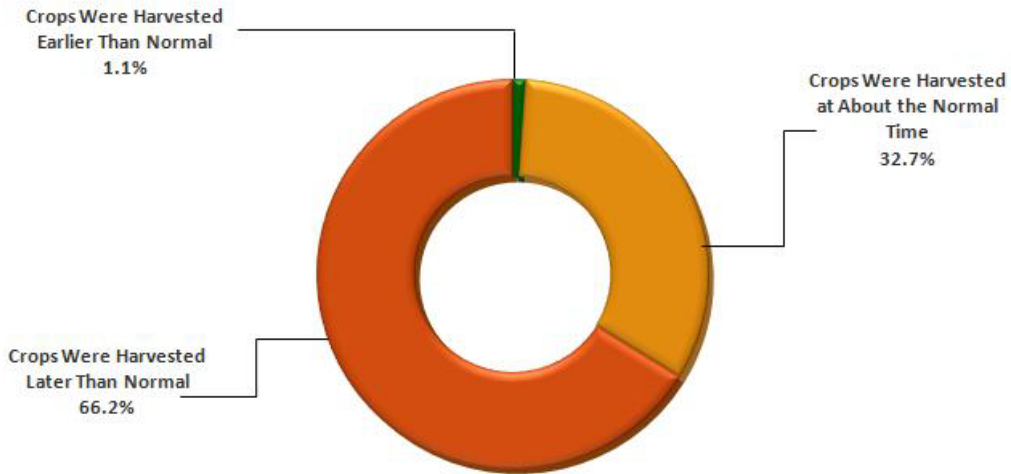
Chart 32 – Comparison of Question 23 Over 4 Years

Question 11:
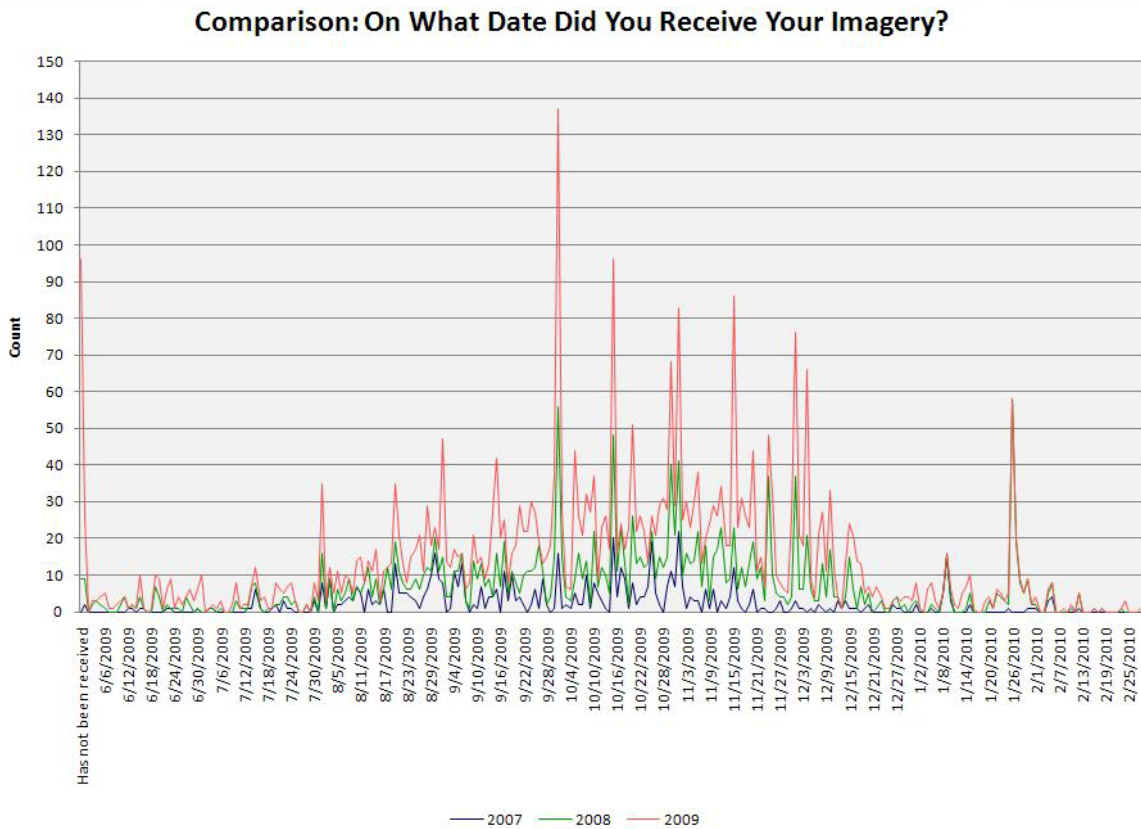
Chart 33 – Comparison of Question 11 over 3 years

Question 14:

Chart 34 – Comparison of Question 14 Over 4 Years

Question 15:

Comparison: Rate the image quality in terms of contrast
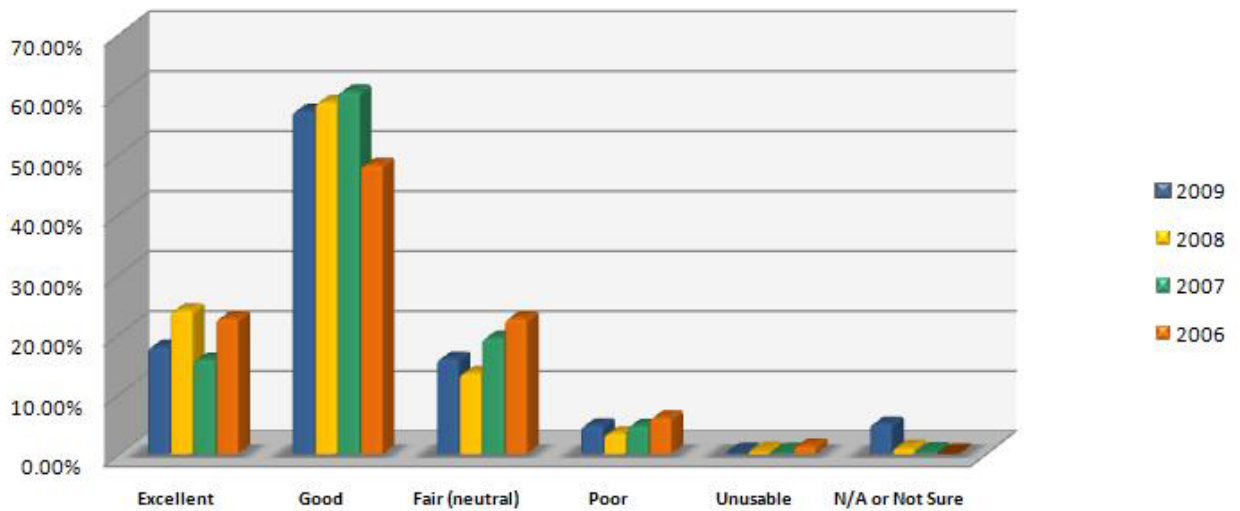
Chart 35 – Comparison of Question 15 Over 3 Years

Question 16:

Comparison: Rate the image quality in terms of color
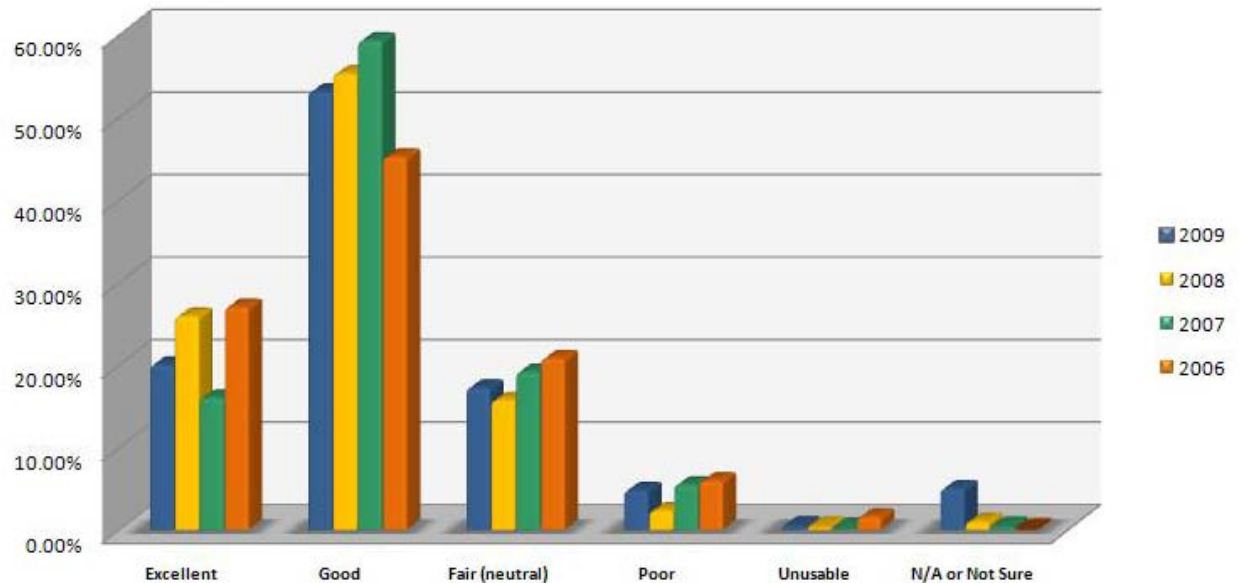
Chart 36 – Comparison of Question 16 Over 3 Years

Question 29:

Comparison: How many requests for copies of the NAIP imagery, either hard copy or softcopy does your office receive?
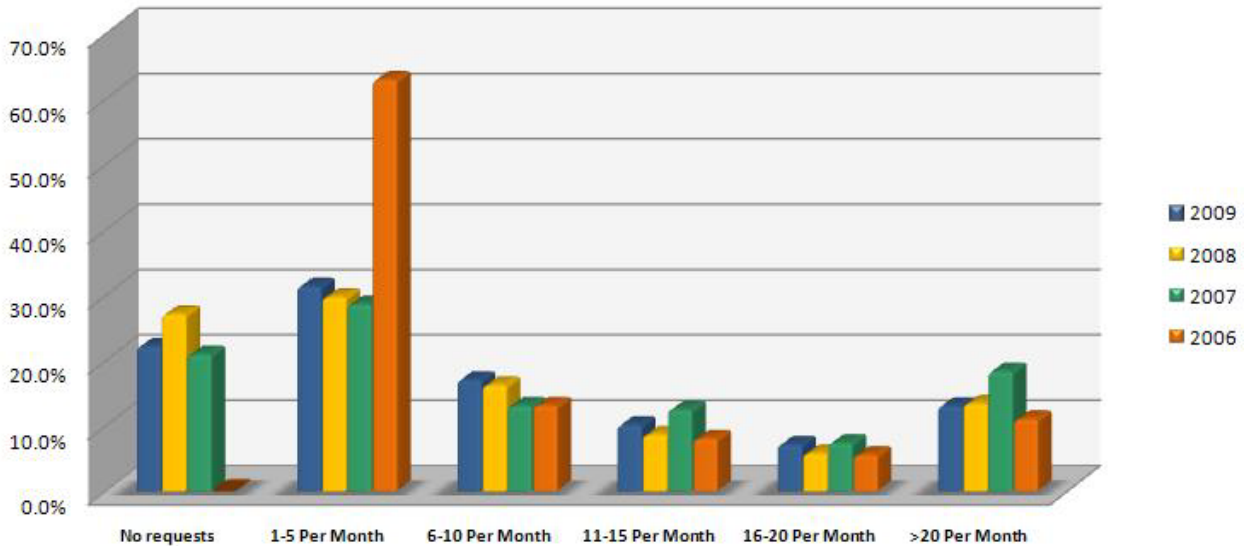
Chart 37 – Comparison of Question 29 Over 4 Years

Question 25:

Comparison: Web Mapping Services (WMS) using Geospatial Data Warehouse (GDW) data are available to you by adding the Image Web Service to your ArcMap Session. Do you use these services?
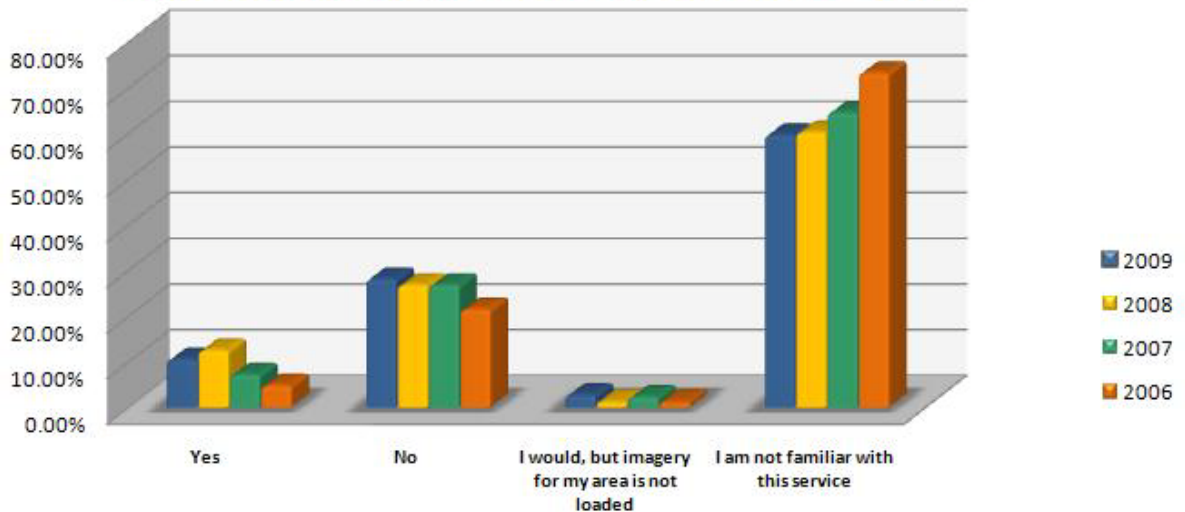
Chart 38- Comparison of Question 25 Over 4 Years

Question 27:

Comparison: Do you use the USDA Resource Data Gateway?
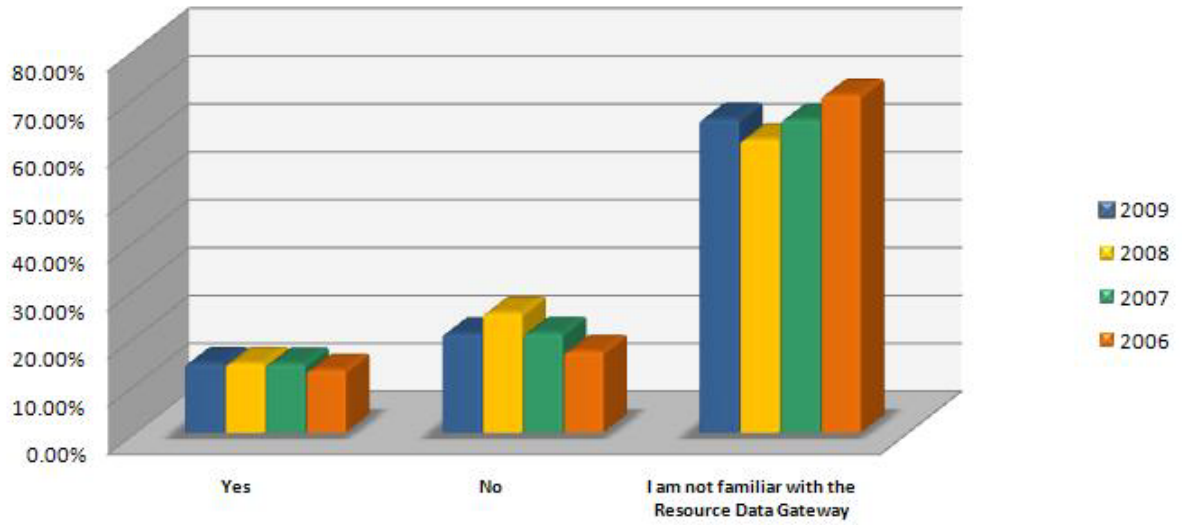
Chart 39 – Comparison of Question 27 Over 4 Years

Section 5 – Recommendations for NAIP Based on Survey Results

The purpose of the NAIP survey is to help assess and improve the program from year to year. Many conclusions may be drawn from the results of the 2009 NAIP Survey. As discussed in the previous year's survey results, improvements to NAIP could be calculated in a purely statistical manner, where customer satisfaction is assessed each year, with a goal of 100% satisfaction. However, due to factors out of our control, such as weather, early and late crop harvest dates, fires, crop types, processing and equipment issues, the technology curve, and so forth, 100% satisfaction is by no means a realistic goal for NAIP. A more realistic measurement of success is in looking at the trends from year to year.

Program improvement should be based on an increase in satisfaction of the primary customer (FSA State and County Offices). NAIP is one method by which FSA compliance activities may take place, and is currently accepted as a means to update a State's official FSA ortho base for GIS. This year did not maintain the marked improvement in the overall satisfaction of imagery received by the County and State Offices shown in 2007. Overall satisfaction in 2009 was slightly down from previous years. Overall satisfaction is based on the combined percentage of respondents indicating that they were either very satisfied or satisfied with overall acquisition and delivery of NAIP imagery. In 2009, overall satisfaction was 81% compared to 86% in 2007 and 87% in 2008.

Specifically, suggestions to improve NAIP based on survey results include:

1. Based on a recommendation from the 2006 survey, notify the states as early as possible regarding counties or areas that could not be flown. Notification is extremely important in order to complete compliance activities in a timely manner; however, this is also based on compliance activity policy. In 2007, a pilot Web Mapping Service, which identifies what areas have been acquired in "real time", was developed. This service has been enhanced as an ArcGIS Server map service. This map service should be continually improved and maintained each year.
2. Again this year, based on comments from respondents, improving the speed of delivery from the time of acquisition to the FSA State and County Offices could yield significant improvement to the program. Tracking data from the vendor to the FSA County Office would help APFO assess all aspects of delivery time. Consider posting imagery in a web service immediately upon receipt for use in county offices to alleviate some of the delivery delays.
3. Question 18 – Does CLU need to be edited to match the 2009 NAIP Imagery? This question should be monitored in future years to see how responses change once all states have moved to the absolute horizontal accuracy specification. This question will be particularly useful once a state has been acquired twice using the absolute horizontal accuracy specification.
4. Continue to improve the color/contrast/light/dark specifications in combination with the monitor calibration procedures to increase quality ratings of questions 14 thru 17.
5. Because of the increased use of web-based image and mapping services and the future use of thin client architecture, FSA needs to provide users with instruction and training regarding the use of web services that are available. In 2009, less than half of respondents are familiar with existing services.

6. Based on answers from users to question 30 – More instruction should be provided to the county and state offices regarding the Seamline shapefiles. The respondents were mostly unaware of the information provided by this new product; 73.8% are unaware that the Seamline shapefile provides date and camera exposure information used to create the compressed county mosaics. Of the users who are aware of the Seamline shapefile information 28.5% think it is more useful than the DOQQ index, 66.3% are unsure if it is more useful and only 5.3% think it is less useful.

Section 6 – Recommendations for Changes to Survey for 2010

The subscription service for the web survey engine was renewed last year, and most likely will be renewed each year as long as APFO continues to conduct the survey. A 2010 NAIP Survey can be issued some time near the beginning of 2011, with an approved notice from FSA. Using the same survey medium would allow for comparative analysis of multi-year survey data, as the method and many of the questions would remain consistent.

Several minor changes to the survey, based on errors or oversights discovered in the 2009 NAIP Survey, are outlined below:

1. Additional questions about enhancements to NAIP, such as absolute horizontal accuracy, various compression formats, and timeliness of delivery.
2. Consider adding a message or other logic to question 5 to eliminate or decrease duplicate survey responses for each county FIPS code.
3. Consider adding logic to question 5 when response of other is given so that a value has to be filled in. Over 100 respondents left this answer blank.
4. Consider a separate survey or separate questions in the survey for those states that did not receive imagery to see how those states are affected.
5. Consider asking a question to rate the importance of the quality of imagery versus the timeliness of acquisition.
6. Consider asking what type of imagery, such as natural color, CIR, or both, would be best for most farm program purposes.

Appendix A – Alternative Uses of NAIP

Question 24 of the 2009 NAIP Survey asked the respondents to list the activities for which FSA County and State Offices use NAIP. This question was a 'select all that apply' type of question, and was accompanied by the additional option for an open ended response.

Of the 'select all that apply' categories, the following is a list of the standard responses (shown in Section 3) with percentages of the total number of customers responding. There was a substantial increase in percentages for measurement services, historical purposes and general planning activities from previous year's surveys.

- 94% of respondents find NAIP useful for measurement services
- 70% of respondents find NAIP useful for historical purposes
- 63% of respondents find NAIP useful for general planning activities
- 46% of respondents find NAIP useful for disaster preparation
- 45% of respondents find NAIP useful for government coordination

From the open ended response portion of this question, many additional FSA uses of NAIP were identified by the state and county users. In general, alternative uses included but were by no means limited to:

- Acreage reporting and map changes
- Support federal farm programs
- Conservation practices
- Compliance
- Crop Identification
- Education
- Irrigation determinations
- Land classification
- General monitoring
- Agricultural certification
- Program eligibility
- Real estate/land sales
- Construction and development
- General mapping activities
- Providing customers maps
- Environmental issues
- Drought determinations
- Flooded area determinations
- Public health and safety
- Water rights
- Rangeland assessment
- Forest management plans
- Appeals
- Activities involving Conservation Reserve Program (CRP)
- Activities involving Common Land Unit (CLU)

- Monitoring urban sprawl
- Customer Service
- Sod Busting
- Wind farms green technology

Appendix B – Recommendations to Improve NAIP

Question 31 of the 2009 NAIP Survey asked what recommendations customers may have to improve the NAIP program? Open ended responses varied greatly, but general trends noted the following:

- Deliver the imagery in a more timely manner
- Fly the imagery in a more timely manner
- Fly more often
- Fly twice a year
- Fly complete county and state coverage every year
- Improve quality
- Improve image clarity
- Increase resolution
- Overcome infrastructure, hardware, and software issues
- Increase training
- Post imagery on the Gateway