

Aerial Photography Field Office

A Division of Deputy Administrator for Farm Programs



**2010
Annual Report**





Office of the Director	3
Organization Chart	5
Contracting	6
Operations Branch	11
Customer Service	13
Quality Assurance Branch	20
Ortho Imagery Inspection	22
Resource Imagery Inspection	24
Production Services Branch	28
Geospatial Services Branch	
Geospatial Services	32
Service Center Support	34
Technological Services Branch	40

OFFICE OF THE DIRECTOR



The mission of APFO is to ...”ensure data quality, utility, objectivity, and integrity by collecting, organizing, and disseminating geospatial data to stakeholders.” The mission focus is on supporting the use of GIS within FSA and other USDA Agencies by acquiring and delivering digital ortho imagery, and for extending those services to other USDA agencies through coordination, partnerships, and the management of reimbursable contracts. 2010 was significant in that it marked supporting FSA in a more centralized GIS environment. 2010 also marked the beginning of leveraging powerful

GIS analytical tools and the historical archive of imagery collected by APFO to support the agency into the future.

Imagery Coordination and Planning

- ◆ Fostered and maintained cost share partnerships at the federal and state level that led to cost share amounting to 26% of total costs for 2010 NAIP contracts.
- ◆ Successfully managed the acquisition of aerial imagery to support NRCS and USDA Forest Service mission requirements. Supported both agencies in transitioning to digital imagery.

Geospatial Services to Support FSA

- ◆ Completed several “proof of concept” projects to demonstrate the value of regular cycle of digital imagery and GIS analytical tools in identifying and analyzing critical agricultural land use issues.
- ◆ Working with GISD, implemented prototype web services for CLU. The CLU web service will support the Disaster Reporting Application sponsored by DAFP.

Supporting FSA “Thin Client” GIS Platform

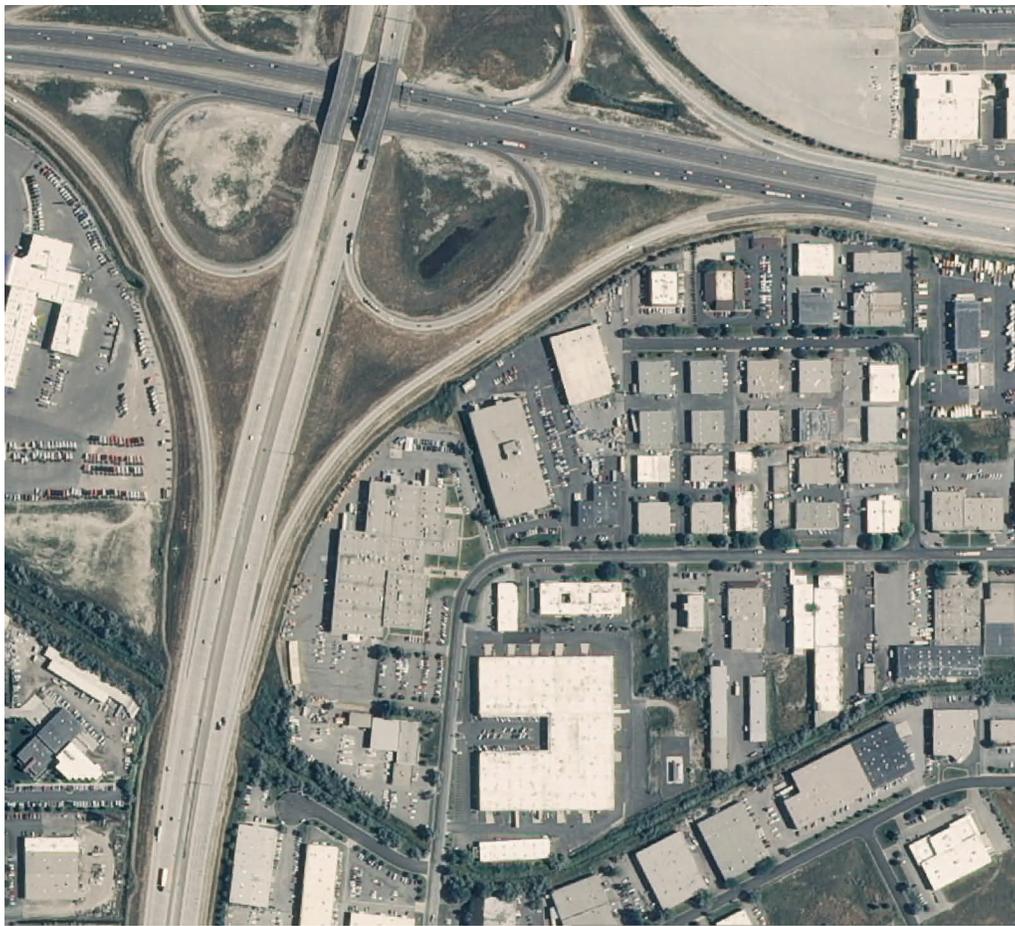
- ◆ Implemented imagery web services that provide access to at least 2 years of ortho imagery for FSA state offices and Field Service Centers in the “Thin Client” environment.

Geospatial Analysis to Support FSA

- ◆ Provided digitizing and analysis services for water surface coverage on historical and current imagery within the Devil's Lake, ND area in response to CLU and resource issues in the region.

National Agriculture Imagery Program

- ◆ Managed the planning and execution of 2010 NAIP projects that resulted in the update of 30 states with coverage of 1 meter ortho imagery. With 2010 NAIP, all states in the continental US have base imagery that is no older than 2 years.
- ◆ Maintained focus on of NAIP on meeting FSA requirements, validated by annual FSA user surveys indicating a high level of satisfaction with overall product quality, and with acquisition/delivery parameters.



Aerial Photography Field Office

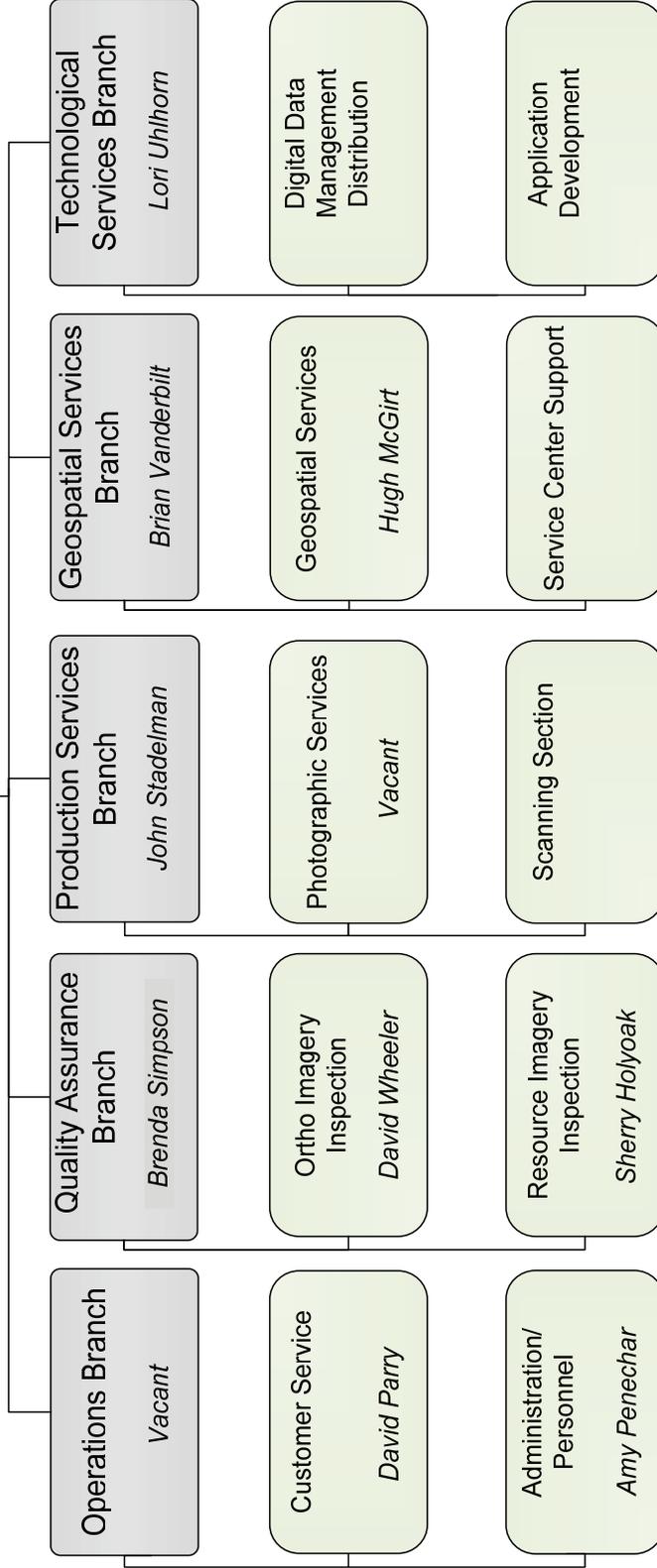


USDA – FSA Aerial Photography Field Office Salt Lake City, UT

Office of the Director
Ronald B. Nicholls
Kent Williams
Jeannie Hughes



Contracting
Geoffrey Gabbott



CONTRACTING BRANCH

Mission Statement: *To provide quality procurement services which exceed customer expectations by promoting cooperative partnerships and excellence in customer service and products.*

Fiscal Year 2010 Procurement Achievements Summary:

- ◆ **37 Aerial Photography Contracts Awarded - Total \$39.90M**
 - 23 NRI-WRP Contracts (NRCS) - **\$8.82M**
 - 8 Resource Contracts (USFS, NRCS, BIA - 5 Digital & 3 Film) **\$0.91M**
 - 6 NAIP Contracts (FSA & Partners) **\$30.17M**
 - Total Coverage Contracted **2,153,566 Square Miles**
- ◆ Multiple IT product and support contracts – **\$1.29M**
- ◆ Administrative Charge Revenue – **\$337,506**
- ◆ Grand Total Contract Value – **\$41,187,151**

1. National Agriculture Imagery Program (NAIP):

Provided contracting services to FSA and other contributing partners for one meter digital ortho imagery covering 2,353 counties (2,041,237 square miles) in 30 states. Awarded NAIP contract task orders for a total value of \$30,168,473.39. Approximately \$6.21 million was contributed by state and federal agencies through partnership agreements, and the balance of \$23.96 million was funded by FSA. All 2010 NAIP imagery was acquired using precision large format digital mapping cameras with additional satellite imagery acquired through prime contractors for difficult acquisition areas in California and Nevada. FSA's budget of \$24M was reduced by \$40K to provide NAIP support funding. Also initiated an investigation for contracting a ½ meter resolution pilot project for FY2011.

2. Resource Aerial Photography Contracts:

Provided contracting services for a total of 21,633 square miles of aerial photography for the Forest Service (USFS), Natural Resources Conservation Service (NRCS), and Bureau of Indian Affairs (BIA) for a total value of \$908,063.60. A combined total administrative charge of \$72,768.17 was assessed. Contracted 2 Alaska project areas covering 1,510 square miles (Tongass NF for 30cm 4-band ortho & stereo, and Yukon Flats – 50cm 8-band satellite). Contracted 4 project areas covering 13,971 square miles of digital aerial photography for the National Forest System (Ottawa, Pike-San Isabel, Rio Grande, and Uinta-Wasatch-Cache NFs), and 3 project areas covering 6,152 square miles of film based resource aerial photography (Kiabab-Paiute Ind.Res., AZ, Santa Fe NF, NM, and Los Padres NF, CA). Developed new standard specifications for digital flight plan numbering system and continued to support and assist in development of other digital acquisition requirements and specifications.

3. NRI and WRP Contracts:



NRI and WRP Contractor Aircraft

Provided contracting services to NRCS to acquire the National Resource Inventory (NRI) and Wetland Reserve Program (WRP) aerial photography and related services for 90,696 sites in the 48 CONUS states, Hawaii, and Puerto Rico & Virgin Islands. Contracted additional services and products for the digital acquisition study and film ortho-rectification projects to aid in determining future directions of the program

This was an “interim” single year contract in preparation for a longer term IDIQ contract with a FY2010 total contract value of \$8,824,584.66. A combined total administrative charge of \$264,737.54 was assessed.



NRI and WRP Contract Imagery

4. Information Technology (IT) Contracts:

Provided contract authority and procurement services for the purchase of computer hardware, software and other related equipment, and maintenance agreements. APFO IT contracts amounted to \$1,220,359.19. WDC FSA requested \$65,670.00 in IT and related purchases to support the FSA programs. The total amount expended was \$1,286,029.19.

5. Small Business Concerns Program

The contracting section solicited sources for program requirements under a 100% Set-aside for Small Business Concerns where applicable. This resulted in Small Business Concerns receiving 23% of the overall total contract dollar amount, with Large Business Concerns receiving 64% and Canadian (NAFTA) Business Concerns receiving 13%.

Contract Program	Small Business	Large Business	NAFTA Business	Program Totals
NAIP Contracts	6%	54%	13%	73%
Resource Contracts	1%	1%	N/A	2%
NRI-WRP Contracts	14%	7%	N/A	21%
IT/Other Contracts	2%	2%	N/A	4%
ALL CONTRACTS	23%	64%	13%	100%

6. National Support Activities

In FY2010 Contracting Personnel participated in leadership roles in national programs including Chair of the Acquisition Management Subcommittee for the National Digital Orthoimagery Program (NDOP), Co-Chair of the Imagery for the Nation (IFTN) Contract Working Group, and the FSA/APFO representative for the [Inter-Agency Digital Imagery Working Group \(IADIWG\)](#). Successfully responded to and resolved two legal issues regarding photogrammetric license issues from Florida Board of Professional Surveyors & Mappers (March 2010), and a Freedom of Information (FOIA) request for IFTN procurement method decisions for MAPPS (Feb 2010).

7. Accomplishments in Direct Digital Acquisition and other Geospatial Procurements

In FY2010 the Forest Service requested APFO's contracting section to acquire the Ottawa NF, MI resource project utilizing a new medium format digital camera to provide a more versatile product. The Ottawa project was successful in providing the Forest Service a digital product very similar to film derived products which was well received by the customer. Through continued research and experience, the contracting section has improved the digital imagery procurement program by providing standard digital specifications and products to satisfy a variety of customer requirements.



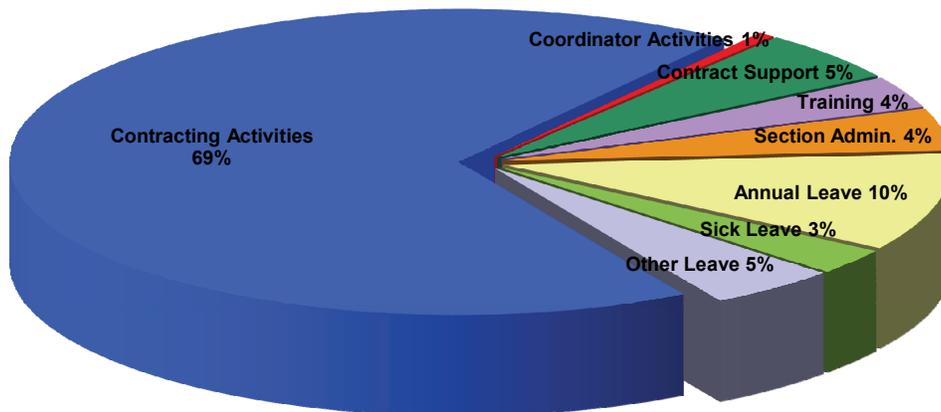
Sample image from Ottawa NF, MI



Zeiss DMC II Direct Digital 4 Band Sensor

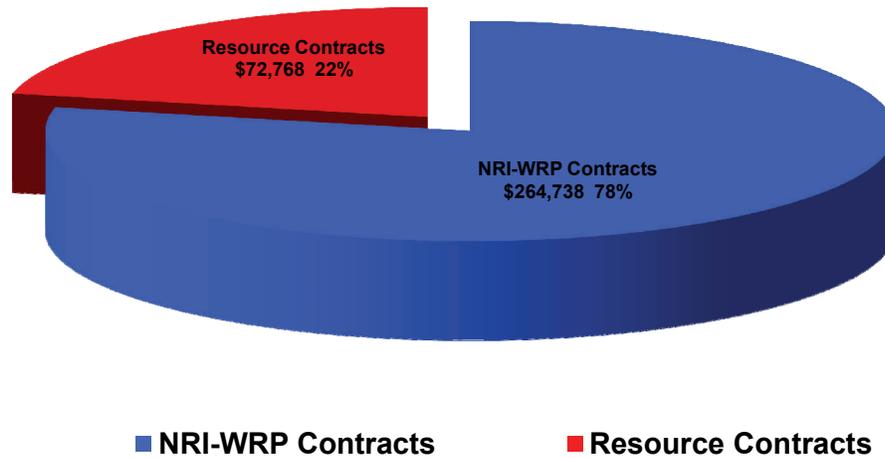
The APFO contracting section is making progress toward developing additional procurement services for elevation data (LiDAR), satellite imagery, and emergency/disaster imagery services.

FY2010 Contracting Section Activity Report



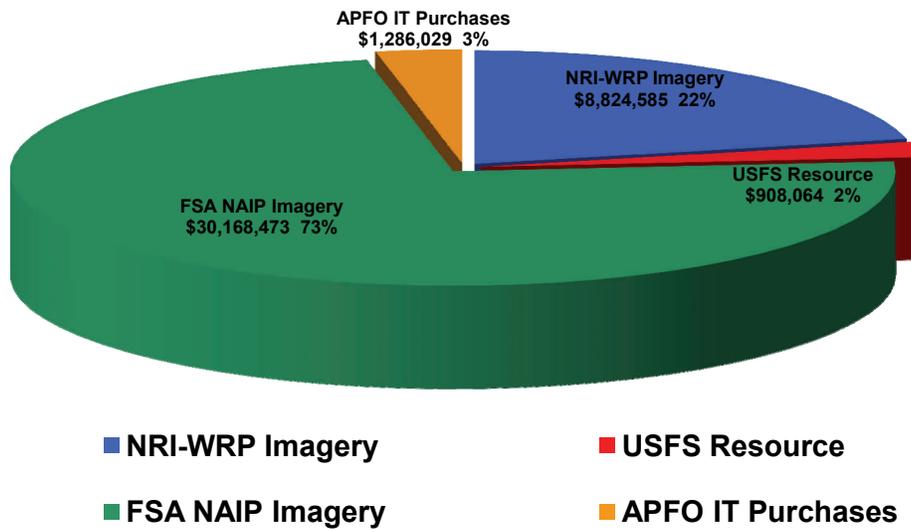
APFO Administrative Charges

FY 2010 TOTAL ADMIN. FEES: \$337,505.71



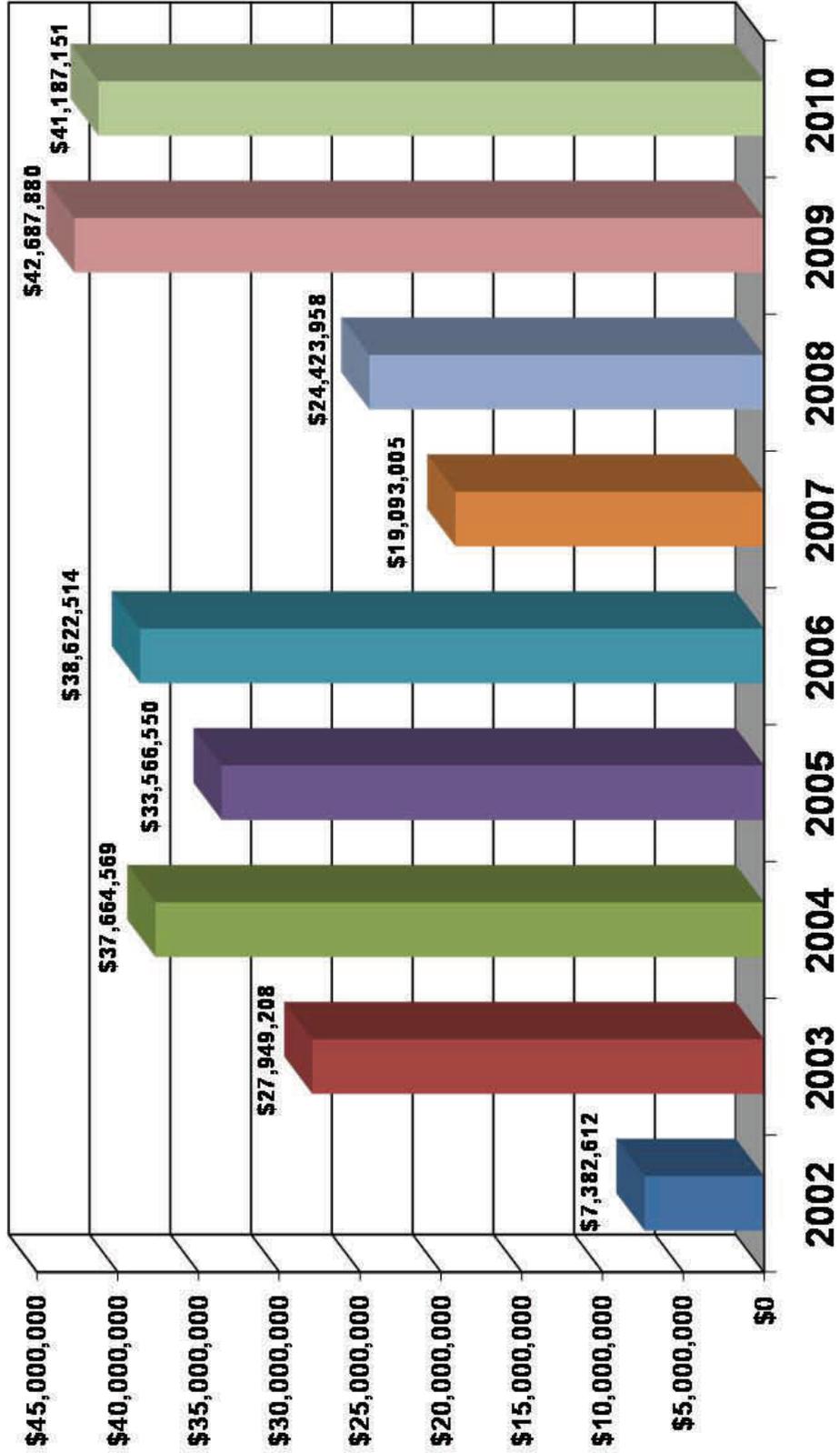
Fiscal Year 2010 Contracts

Total Amount Awarded: \$41,187,151



History of APFO Contract Awards

Total Annual Contract Awards



Operations Branch

Mission Statement: *To insure the Aerial Photography Field Office operates in an efficient, cost effective manner by providing resources necessary for the production of aerial imagery products*

It is difficult, if not impossible to report on FY10 without noting the passing, in May, of Management Operations Chief, Ken Koehler. It has been an immense challenge to cover the gaps left by someone so dedicated to accomplishing APFO's goals and objectives.



Customer Service

Implementation of a new shipping system allows real time updates to internal tracking of customer orders and also enables email notification to shipment recipients.

Human Resources

Personnel and HR Management worked closely with the Kansas City Human Resource (KCHR) staff to provide a wide variety of personnel services to APFO employees, including the following:

Personnel Actions	28
Recruitment	9
Promotions	7
Resignation	4
Retirement	2
Training requests	25

Procurement

Administrative staff processed approximately 165 procurement requests; maximizing acquisition opportunities to small, small disadvantaged, woman and veteran owned businesses.

Safety

Safety and emergency response training was conducted during the year resulting in the following certifications:

CERT	8 employees
First Aid	7 employees
CPR	16 employees

Security

APFO continues to serve as a federal credentialing center for the intermountain west for a majority of Departments and Agencies. During FY10 approximately 2,400 credentialing actions were processed.

Sustainability

Contributions to sustainability initiatives include diverting nearly 40,000 pounds or roughly 200 cubic yards of recyclables from the landfill. Additionally, nearly 25% of the workforce use alternative transportation methods such as mass transit and carpooling for their commute.

Facility Lease

Extensive research has been conducted in preparation of the 2012 expiration of our facility lease. GSA's requirement to compete this lease after 35 years began with the compilation of a Space Management Plan and Workplace Recommendation Report specific to APFO. Much more work lies ahead to successfully navigate this process to its conclusion.



Customer Service Section

Mission Statement: *Serve each customer as their primary source of technical information concerning USDA related aerial photography, digital imagery, and common land unit data of the United States and its territories. Account and reconcile funds from all government agencies and the public.*

As part of the Operations Branch, the Customer Service Section (CSS) is responsible for the receipt, preparation, and releasing of work orders and coverage requests for aerial photography, digital imagery, and common land unit products and services. CSS is the liaison for the Aerial Photography Field Office (APFO) to other government agencies and the public. Maintains and monitors all fiscal activity dealing with the sale of aerial photography and digital imagery.

Coverage research is performed utilizing Geographic Information System (GIS) tools to identify historical imagery and attributes needed for traditional and custom digital photographs. The CSS assists customers with and updates GIS content for maintaining the National Agriculture Imagery Program (NAIP) Coverage Viewer, Interactive Coverage Status Map and downloadable quarter quad and film center shape files on the APFO website.

Major Work Activities Performed

Activity	Number of Activities
Work Orders Processed	1,633
APFO Internal Work Orders Processed	326
Coverage Requests	1,351
Walk-In Customers	306
Telephone Calls	2,693
Catalog Registers	1,282
Billings and Refunds	166
Written Correspondence	6,124
GIS Projects/Searches	515
Total	18,156

Accomplishments & Noteworthy Activities

NAIP Coverage Viewer & Web Service – Added “About NAIP” and “Order Online” links for user reference and referral. Coming Fall 2010: Inclusion of film center point data from the National Aerial Photography Program (NAPP) and National High Altitude Program (NHAP).

Addition of FSA Forms 441B and 441C – OMB approved two new forms that are now included with the APFO order form and price list.

441B or Custom Digital Print Form is used to order custom digital aerial photographs which provide geographic layers such as public land survey, transportation, and topography.

441C or APFO Service Quality Survey is used for customers to provide feedback concerning their ordering experience and comments. Customers are encouraged and given the opportunity to complete the survey online. This form is included with each order shipment.

APFO Service Quality Survey Results – A total of 282 surveys were collected from 2,060 customer opportunities for an overall response rate of 13.7%.

132 of 427 from direct e-mail requests (31% response rate)

105 of 1,633 from order shipments (6.4% response rate)

46 referred from APFO website.

Customer Satisfaction: Communication 94%, Research/Assistance 94%, Coverage/Quality 91%, and Delivery Time 93%.

NAIP Distribution Report – A report titled “Quantifying the Distribution of NAIP Imagery to End Users” has been completed showing FY09 NAIP imagery distribution. Data was collected from the USDA Geospatial Data Gateway, APFO, and some state agencies. Information includes distribution and web services related to NAIP. This report will be continued on at least an annual basis with format changes anticipated as the document matures.

Interactive NAIP Status Map – Updated map to include redefinition of “C” (Color Infrared) format which now represents 3 band only color infrared QQ’s and CCM’s. Added format “i” to accommodate Texas 3 band color infrared CCM’s with 4 band QQ’s. Added revision date to middle bottom of document. Included web service directory path of NAIP Coverage to the ArcGIS server connection address for ArcMap users. Added link to the Customer Online Entry System (COES).

Quantity Discounts Now Available – Discount are now available from our higher volume products for 10x10 BW Paper and BW/CIR/Color Scans. The APFO provides the opportunity for customers to purchase in larger quantities at lower price ranges. This gives the customer an incentive, who would otherwise not order large areas such as entire counties or states, to take advantage of more cost effective large scale production. Two orders completed. One from NETR (historical aerials/property research) for 2,235 BW Scans and one from Univ. of Iowa Map Library for 1,355 BW Paper. Several more orders are expected in the next fiscal year.

Leaflet 571 – APFO brochure updated June 2010. Available at APFO’s website under Support Documents/Information Sheets.

Public Information Campaign (PIC) – Is an attempt to inform the public about APFO and some of the products and services it provides. While a few individuals and professionals are aware of the APFO, there seems to be a large segment of the public that is unaware of the existence of the APFO and its holdings. This campaign aims to place information about the APFO’s historic imagery in places where the American public is likely to find it when they need it. They include tax assessor’s office, county recorder’s office, and state university map libraries. We distribute a document by email and request that the offices display copies for public access.

Utah Historical Film Scan Project –The goal of the historical film scan project of five Utah counties is to eliminate hands on use and to prevent possible damage or scratching of the original film by walk-in customers. Digital imagery will replace viewing of film. Update: Completed 4,932 scans out of 7,735; completed 240 georeferenced scans, created 35 quarter quads and 2 compressed county mosaics.

USDA Data Gateway Media Orders – Received 21 orders for \$3,450.00

GIS Processes – CSS utilizes EarthWhere, a Spatial Data Provisioning (SDP) tool, to conduct NAIP QQ searches and order processing. A dual SDP and Work Order Entry System (WOES) are used for order processing and delivering QQ's and CCM's on media. EarthWhere will be used to provision the upcoming new version of the Customer Online Entry System (COES).

NAIP Coverage Maps and Shape Files – Maps now contain NAIP film photo center coverage (where available). Updated available quarter quad and film photo center shape files for download from the APFO website.

GIS Research Tools - A more extensive version of the NAIP Coverage Viewer is used internally for detailed coverage selections. With the addition of NAPP and NHAP photo center information, we are able to automate research coverage back to 1980. This reduces our research time considerably for sites that require all years available. Total GIS Project Searches: 515

Detailed Activity – One employee involved with the Photo Index Scan inspection. One employee involved with EEO Advisory Committee, Aerial Observer Newsletter, and Awards Committee activities. One employee participates in the APFO Employee Association.

Training – No formal training this fiscal year.

Community Outreach – Provided multiple time sensitive research and imagery requests for the National Center for Missing & Exploited Children.

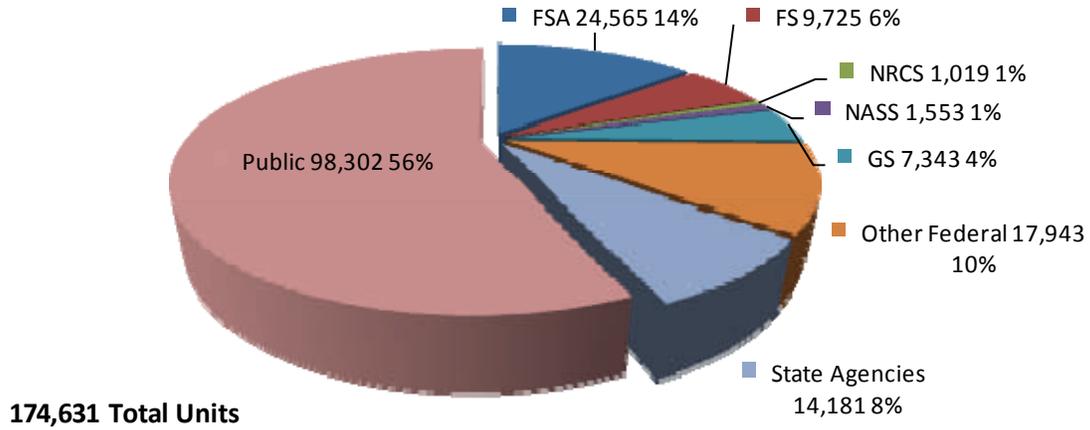
Total Dollar Volume \$905,569.68 - Includes all fiscal activity associated with the sale of aerial photography and digital imagery.

Major Categories	Amount
Collections Receipts	\$226,925.00
Credit Cards Receipts	\$267,622.00
Federal Bills	\$195,754.00
Flying Contracts/Products	\$ 93,804.00
Non-Federal Bills	\$ 61,381.00
Miscellaneous	\$ 5,405.00

Fiscal Year Statistical Comparison

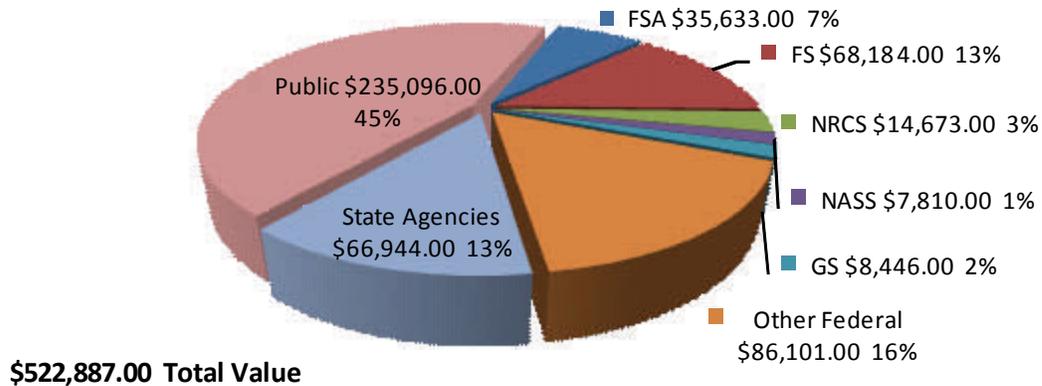
Fiscal Year 2010	470 Units per Order
Fiscal Year 2009	303 Units per Order

Digital Products by Unit FY10

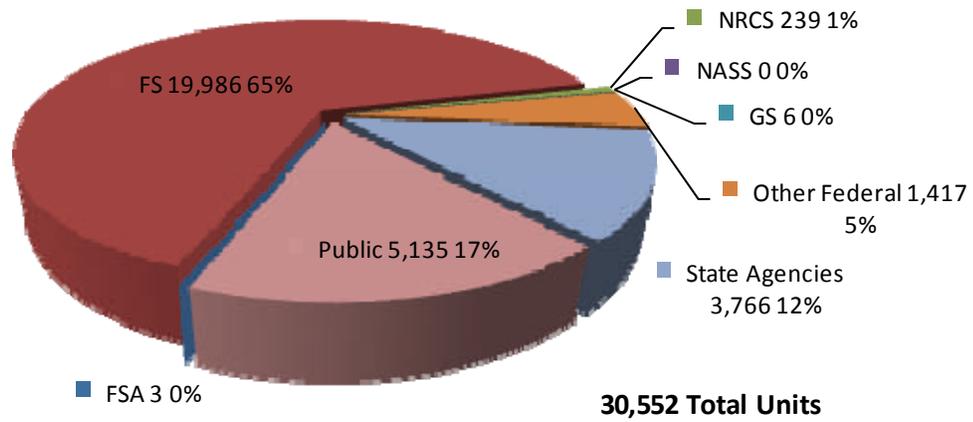


Agency	% of Requests	Units	% of Revenue	Dollar Value
FSA	14	24,565	7	35,633.00
FS	6	9,725	13	68,184.00
NRCS	1	1,019	3	14,673.00
NASS	1	1,553	1	7,810.00
GS	4	7,343	2	8,446.00
Other Federal	10	17,943	16	86,101.00
State Agencies	8	14,181	13	66,944.00
Public	56	98,302	45	235,096.00
Totals	100	174,631	100	522,887.00

Digital Products by Dollar Value FY10

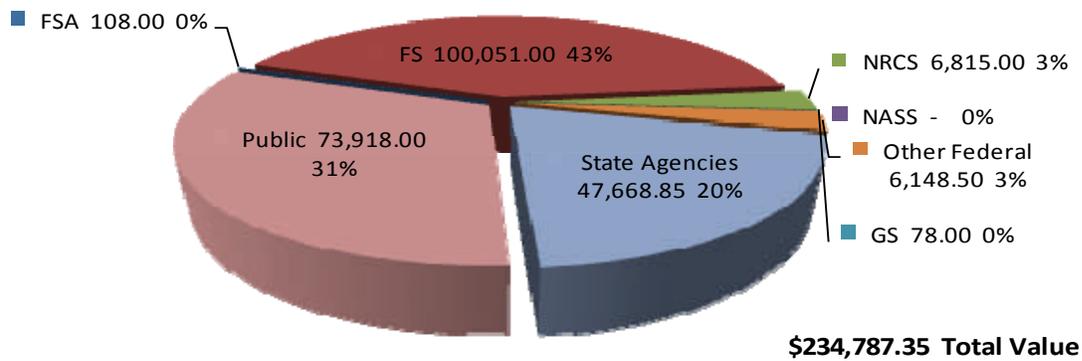


Film Products by Unit FY10



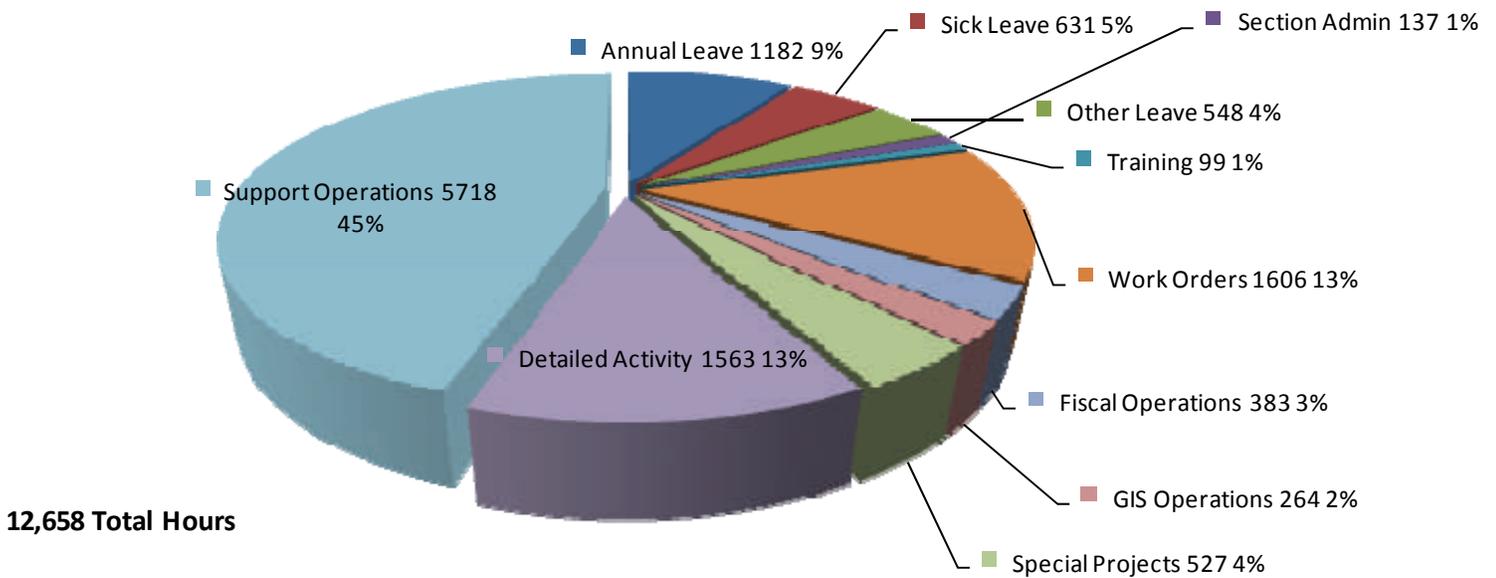
Agency	% of Requests	Units	% of Revenue	Dollar Value
FSA	0	3	0	108.00
FS	65	19,986	43	100,051.00
NRCS	1	239	3	6,815.00
NASS	0	0	0	-
GS	0	6	0	78.00
Other Federal	5	1,417	3	6,148.50
State Agencies	12	3,766	20	47,668.85
Public	17	5,135	31	73,918.00
Totals	100	30,552	100	234,787.35

Film Products by Dollar Value FY10



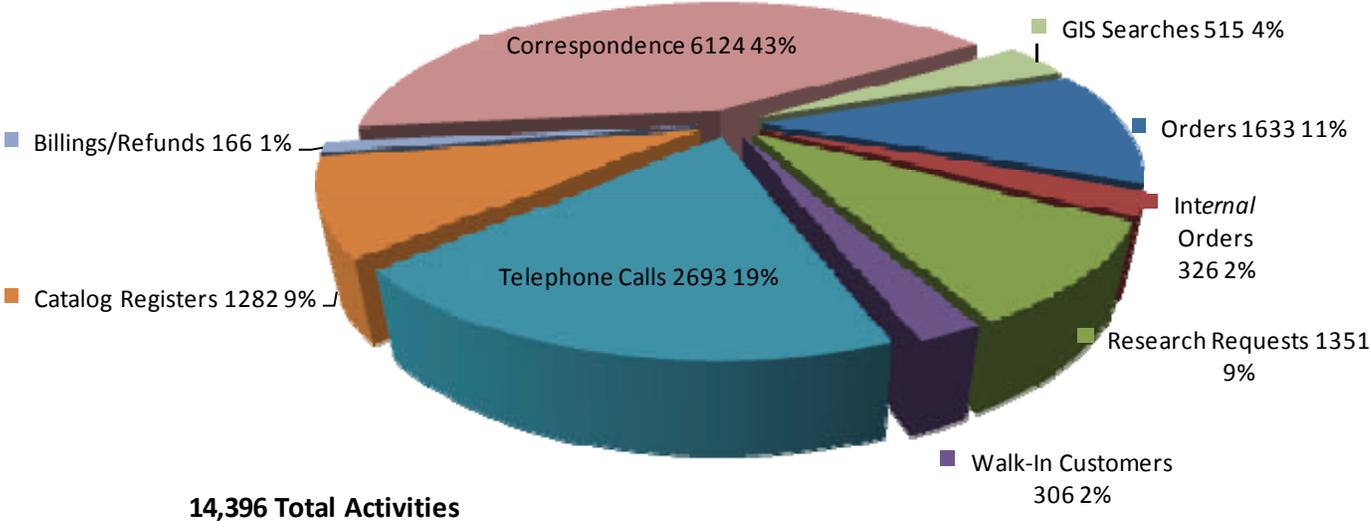
Customer Service Activity	Hours	% of Time
Annual Leave	1182	9%
Sick Leave	631	5%
Other Leave	548	4%
Section Admin	137	1%
Training	99	1%
Work Orders	1606	13%
Fiscal Operations	383	3%
GIS Operations	264	2%
Special Projects	527	4%
Detailed Activity	1563	12%
Support Operations	5718	45%
	12658	100%

Customer Service Activity FY10



Major Work Activity	Number of Activities
Orders	1633
Internal Orders	326
Research Requests	1351
Walk-In Customers	306
Telephone Calls	2693
Catalog Registers	1282
Billings/Refunds	166
Correspondence	6124
GIS Searches	515
	14396

Major Work Activities



QUALITY ASSURANCE BRANCH

The Quality Assurance Branch is comprised of two inspection areas directly responsible for the quality assurance inspection, monitoring, and disseminating of imagery and geospatial data for all aerial film programs contracted. These include the National Agriculture Imagery Program (NAIP), Resource Aerial Photography, Common Land Unit (CLU) updates, National Resources Inventory (NRI) and Stewardship Lands imagery, as well as APFO website update information including status maps and data for these programs. This branch also maintains the Service Center GIS priority (SCIT) and Catalog Listings.

The Branch is responsible for the Aerial Imagery film archive (Vault), and monitor's the use of aerial film and digital products taken from the vault. We are in the process of evaluating the products delivered from the vault index project to facilitate making them available for use.

Monitored the delivery of 22,864 units of updated CLU from FSA County offices and released to IT for upload to the Data Gateway.

Inspected, cataloged and archived 168 rolls of original film for the NAIP program and archived 49 Forest Service rolls. Inspected 35 rolls of loaned film for temporary use in the production area.

Project management provided for the Vault Index Project. The primary goal of this project is to accomplish the scanning of specified photo, line, and point index reference maps in their varied formats for purposes of preservation. Through this preservation effort, greater visibility of, and access to, historical imagery products will result. Inspection of 9,158 tiff, geo-tiff and enhanced shapefiles from scanned indexes was accomplished during the fiscal year. We have taken delivery of 109,346 products to date for this project.

The branch is transitioning in the Resource Imagery area to inspection of digital imagery projects which include digital stereo coverage. An inspection process is being developed for inspection of resource stereo imagery and new monitors were purchased which allow for viewing of stereo imagery.

The branch is responsible for recording and disseminating all quality issues for the NAIP program and monitoring all NRCS Gateway customer problems. We continue to track and monitor problems for all quality issues concerning the NAIP imagery.

One employee served on the Equal Employment Opportunity Advisory Committee during FY10 as Federal Women's Program Manager.

QUALITY ASURANCE BRANCH ACTIVITY REPORT

<u>Activity</u>	<u>Hours</u>	<u>% of Time</u>
Film Inspection	118	3
CLU Inspection	379.5	10
Vault Product Retrieval	192.75	5
Vault Product Filing	157	4
Vault Data Entry	429	11
Vault Maintenance	779.75	21
Support Activities	266	7
Admin/Training	58.25	2
Annual Leave	508	13
Sick Leave	245.5	6
Other Leave	220.25	6
Supervision	446.25	12
Total	3800.25	100%

Ortho Imagery Inspection Section

The strategic plan for the Quality Assurance Branch states that its emphasis is “Directly responsible for the oversight and management for inspection, monitoring, and dissemination of imagery inspection results related to the National Agriculture Imagery Program (NAIP)”.

The Ortho Imagery inspection (OIS) group has provided value to Quality Assurance strategic plan through the successfully completion of all day-to-day operation as well as the accomplishment of several major initiatives designed to improve image inspection workflow and task efficiency.

- ◆ OIS performed the quality evaluation of 33 states equaling 2,065 Compressed County Mosaics (CCM) and 148,138 Quarter Quads, along with the accomplishment of 5 major project initiatives
 - ◇ Project 1. Enhanced the ability to track imagery inspection results from ingestion through re-submittal process resulting in full defect accountability in all stages of imagery life cycle.
 - ◇ Project 2. Continued to prepare for changes in NAIP image delivery to its customers through web based services. Combined phases 1 and 2 inspection tools along with the data management tables in the Oracle database.
 - ◇ Project 3. Designed an innovative vendor performance matrix; allowed for normalization by state and aligned assessment by degree of defect severity. Results utilized as part of the vendor past performance element used to determine future NAIP contract awards.
 - ◇ Project 4. Implemented then directed the training of employees on the newly designed gray point inspection tool. Eliminated judgment bias during the color evaluation portion of the NAIP imagery inspection.
 - ◇ Project 5. Provided superior customer service by conducting multiple face-to-face discussions with vendors concerning vendor approach to quality performance. Demonstrated APFO imagery inspection procedures, discussed performance issues that assisted in the overall imagery quality improvement unilaterally through-out the program.

ORTHO IMAGERY INSPECTION SECTION ACTIVITY REPORT

<u>Activity</u>	<u>Hours</u>	<u>% of Time</u>
NAIP Inspection	12907.75	55.20%
NAIP Research & Development	1689.5	7.25%
Section Administration	1152	4.93%
Other Section Activities	680.50	2.91%
Training	870	3.72%
Annual Leave	2010.50	8.60%
Sick Leave	1061	4.54%
Other Leave	903	3.86%
Supervision	2108	9.02%
Total	23382.25	

Resource Imagery Inspection Section

Mission Statement: *To assure customer needs are met by providing quality assurance inspection, monitoring, and disseminating of imagery and geospatial data for the Resource Aerial Photography, National Resources Inventory (NRI), Wetland Reserve Program (WRP).*

Resource Aerial Photography

In FY2010 the section provided flight planning for four (4) film-based resource aerial photography projects covering 8,560 square miles, 17,795 NRCS WRP sites and prepared three (3) digital imagery based projects that covered 13,502 square miles, including the inspection of contractor submitted flight plans.

The section inspected four (4) film-based resource projects covering 7,107 square miles to 100% completion and 204 DOQQ's of Alaska imagery.

Digital Imagery inspection of eight (8) Forest Service projects covering 34,863 square miles consisting of 12,328 images and 746 DOQQ's.

Inspected 18 rolls of original film for Forest Service Projects.

National Resources Inventory (NRI) inspection

2010 NRI CONUS sites/scans inspected: 65,530 sites and 56,453 scans

2009 NRI CONUS sites/scans inspected: 4,868 sites and 9,581 scans

2010 Hawaii sites/scans inspected: 270

2010 Puerto Rico sites/scans inspected: 450

2010 NRI CONUS Digital Site Study inspected: 977

2010 NRI CONUS Film Ortho inspected: 1,045

Wetland Reserve Program (WRP) inspection

2010 WRP CONUS sites/scans inspected: 14,571 sites and 12,942 scans

2009 WRP CONUS sites/scans inspected: 1,118 sites and 1,449 scans

Other Section Accomplishments

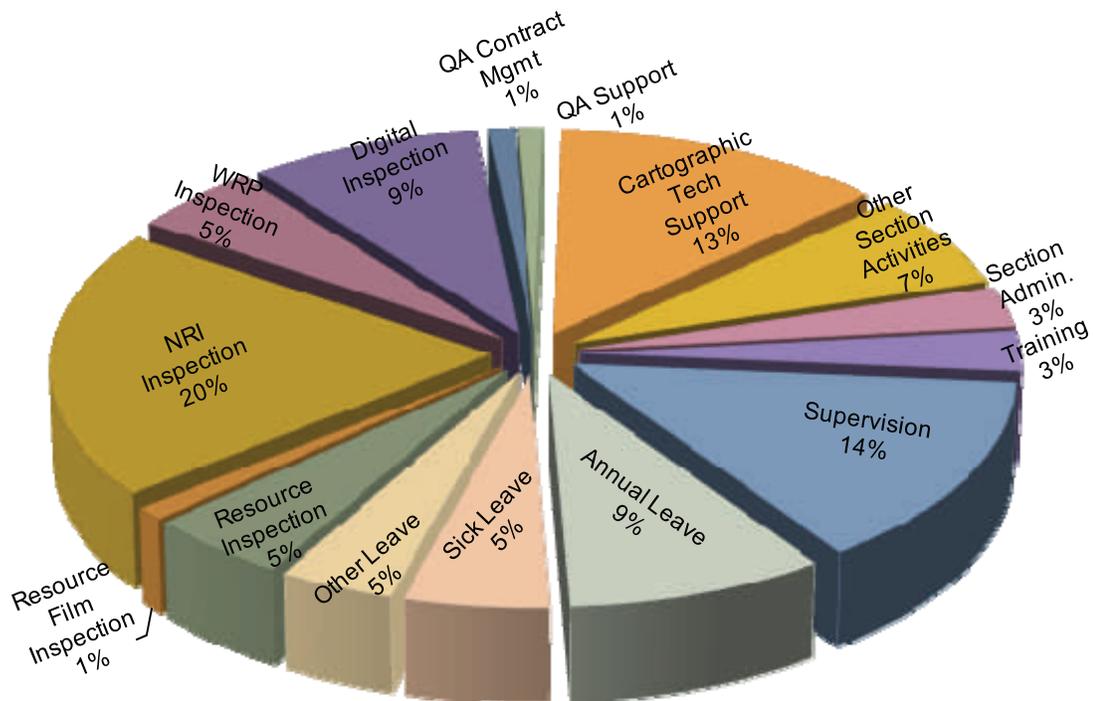
- ◆ This section processed 581 Common Land Units (CLU) and released to IT for upload to Data Gateway.
- ◆ Inspection of the Vault Index Scans, 118 hours were used to inspect 774 indexes from this project.
- ◆ Inspection of NAIP09, 19 hours were used to inspect 345 Quarter Quads.
- ◆ One employee served on the Equal Employment Opportunity Advisory Committee during FY10. Jeanette Tolliver – Chairperson

RESOURCE IMAGERY INSPECTION SECTION ACTIVITY REPORT

<u>Activity</u>	<u>Hours</u>	<u>% of Time</u>
Resource Inspection	529	5
Resource Film Inspection	21	1
NRI Inspection	2118	20
WRP Inspection	527	5
Digital Inspection	948	9
QA Contract Management	275	1
QA Support	200	1
Cartographic Technical Support	1434	13
Other Section Activities	753	7
Training	364	3
Section Administration	394	3
Supervision	1511	14
Annual Leave	1032	9
Sick Leave	424	5
Other Leave	507	4
Total	11,037	100%

Activity	Number of Activities
Resource Inspection	5%
Resource Film Inspection	1%
NRI Inspection	20%
WRP Inspection	5%
Digital Inspection	9%
QA Contract Mgmt	1%
QA Support	1%
Cartographic Tech Support	13%
Other Section Activities	7%
Section Admin	3%
Training	3%
Supervision	14%
Annual Leave	9%
Sick Leave	5%
Other Leave	4%

Resource Imagery Inspection Section Activity Report

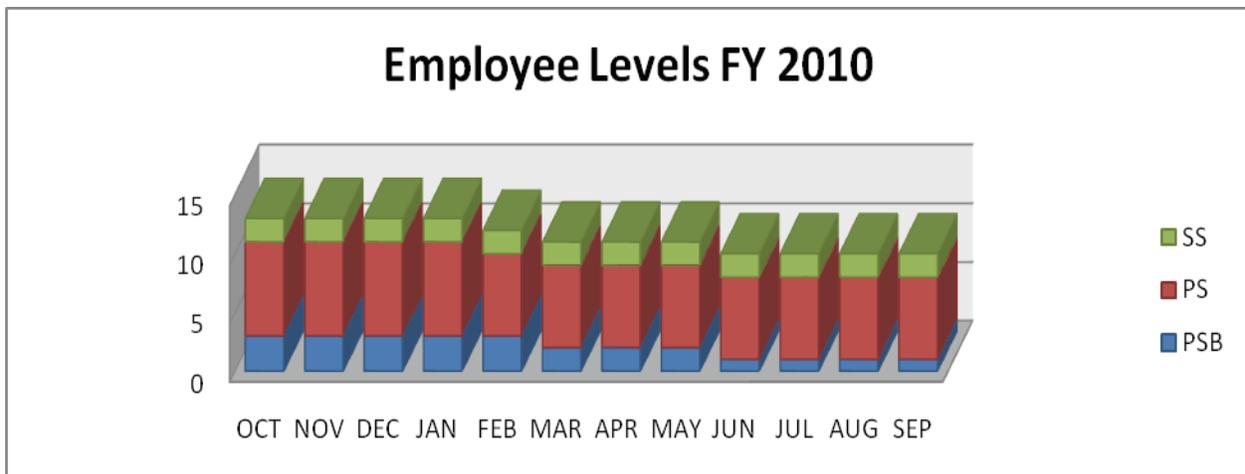


PRODUCTION BRANCH

Mission Statement: *To provide Quality in the form of Value, Service and Customer Conformance. Working in unity with our customers in order to meet their expectations. Providing the highest quality B&W and Color aerial photographic and digital products available.*

Production Services Branch (PSB)

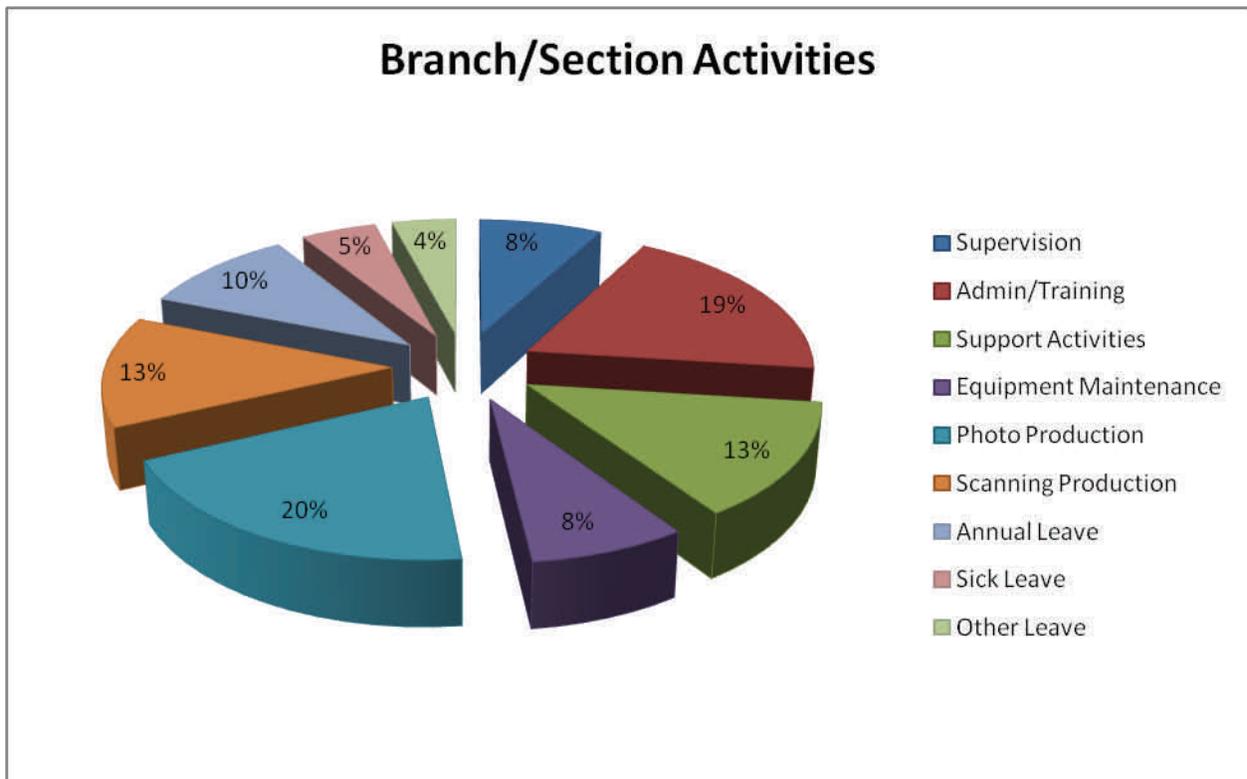
The Photo/Imaging Branch is responsible for generating color and black and white aerial photographic products and digital imagery for various customers, including FSA, NRCS, and Forest Service, as well as other Federal and non federal agencies and the public. The Branch is also responsible for chemical mixing, electronic and mechanical maintenance of all production related equipment.



PSB employee level included the Branch Chief and two Tech Staff employees. At the end of February, Tech Staff lost one employee due to retirement from Federal Service and in June lost the other due to resignation.

PS employee level included the Photographic Section Supervisor and seven Photographers. February one Photographer was lost due to "Termination – Appt In (Agency)", this employee left the USDA for a position with the Department of Defense (DOD).

SS employee level included two Photographers assigned to the Scanning Section.

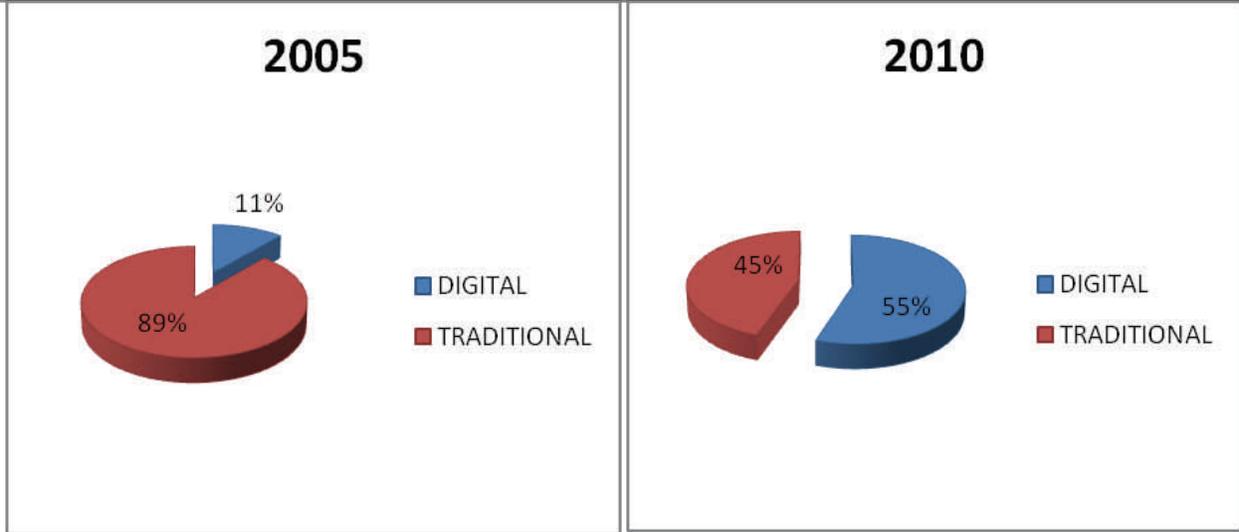
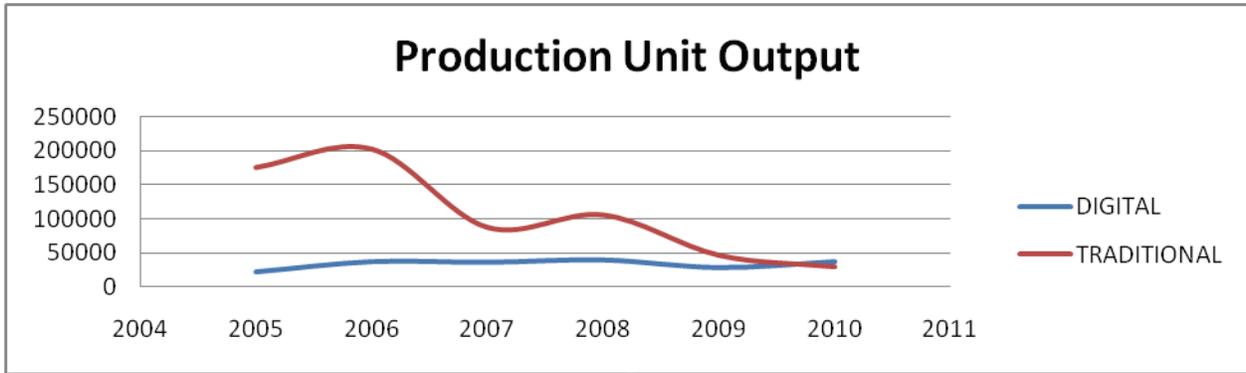


Supervision and admin/training activity time accounted for 9,081 hrs (40%); support activities (chemical mixing, process control, print finishing, etc.), equipment maintenance, photo and scanning production combined totaled 12,120 hrs (54%), and leave accounted for 4,253 hrs (19%)

The APFO Historical Photo Index contract from FY07 accounted for nearly 1,600 support activity hours. PSB employees inspected 9,207 phot index scans.

The U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center film duplicating and scanning project: APFO completed 16,131 scans, putting this portion of the project at 76% complete. The EROS crew transferred 27 terabytes of digitally captured NAPP images moving this portion of the project to 69%.

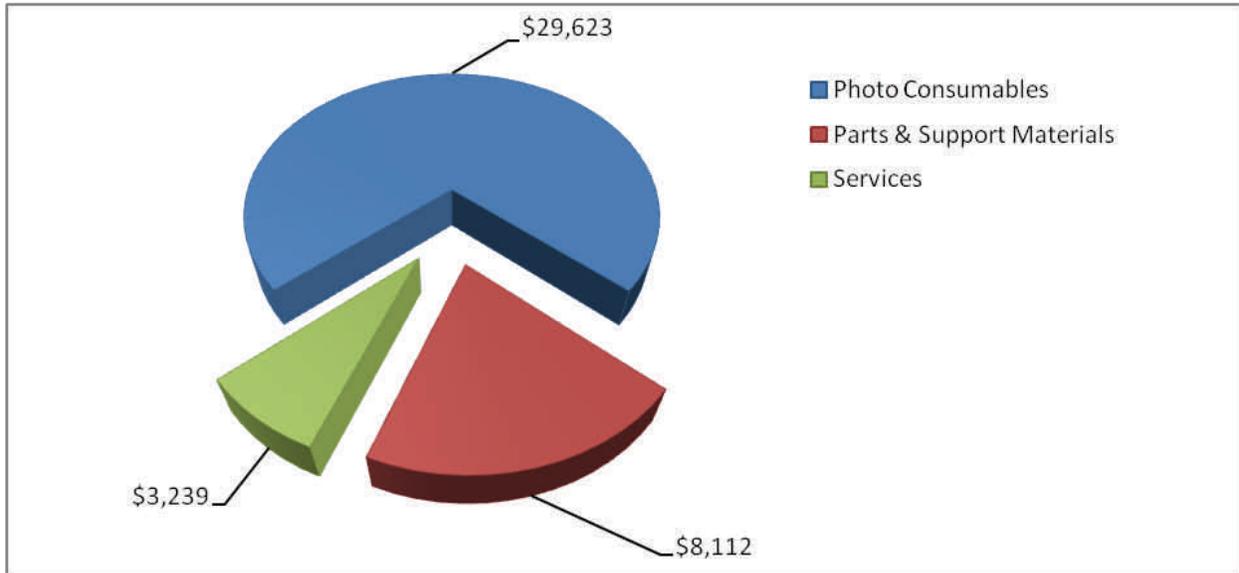
Over the past five years there has been a clear and distinct trend in production. In FY 2005, just 11% of all production involved some form of digital imagery, moving forward to FY 2010, production units involving digital technology accounted for over half of the work throughput at 55%. One could hypothesis that our customers are relying less on traditional film based original source materials to satisfy their end use of aerial imagery products. However this is not the case, in fact, the vast majority of the 120,000 digital units produced, occurred as the result of APFO customers demanding a digital version, in the form of a scan, of the nearly 11 million historical film images located in the APFO film vault.



FY 2010 production output summary

Photography Section		Scanning Section	
B&W Film	794	B&W Scan total	12,958
B&W Contact prints	8,877	Color Scan total	27,797
B&W Enlargements	780		
		Scans to print	
Color Film	143	B&W	6
Color Contact prints	18,806	Color	1,981
Color Enlargements	8,157		
Color Digital prints	8,110	Scans to media	
Color Film prints	47	B&W	12,952
Digital 10 x 10	7197	Color	25,816

Branch Procurement Summary



BLOOD DRIVE

This past year APFO played host to ARUP Blood Services “Blood Vessel” in an effort to provide USDA employees as well as other federal employees an on-site venue for making blood donations. Employees participated in four separate blood drives over the past 12 months by giving a total of 55 units.

Geospatial Services Branch Geospatial Services Section

The Geospatial Services Section is responsible for producing accurate and quality checked ortho imagery, from a variety of sources. Imagery is made available in soft and hardcopy formats to meet the needs of GIS implementation in support of FSA Service Centers. In addition, the Geospatial Services Section flight planned the acquisition of imagery for the NAIP 2010 year.

Cartographic features such as scales or legends accompany hardcopy digital products, thus enhancing usability. Responsibilities of the Geospatial Services Section include:

- ◇ County Index maps created with quarter quads overlays
- ◇ County, State, and National Status Maps containing geospatial information
- ◇ Special projects including historic ortho generation, georeferencing, compressed imagery production, color balancing of county imagery, and reformatting of imagery to meet FSA specifications.
- ◇ Detailed flight planning status maps by county and state
- ◇ National flight planning status map

Strategic Planning

Equipment, process improvements, and training were goals established and achieved to include:

Training

ERDAS Imagine - 1 Employee

Accomplishments

Production

Digital Ortho Quarter Quads produced - 28
Compressed county mosaics produced – 149 (Idaho and Kansas)
Compressed county mosaics unit corrections – 4
Compressed county mosaics reprojected – 1
Researched stripping bands from JP2 images in Geoexpress
Created slotted template display
Reviewed New Mexico, Utah, Idaho and Wyoming metadata fixes for seams polygon files

Verification of needed or missing DOQQ's for the state of Texas
 Created .aux files for the State of Texas
 Forest Service digital indices created – 3 (7 sheets)
 Reformatted county mosaics – 1 (4 parts)
 NAIP 2010 states flight planned – 32
 Status maps produced - 200
 Georeferencing for DAFP projects completed
 Georeferencing for Henry's Fork Watershed Project – 147 images
 Georeferencing for Historic Utah Project – 165 images
 MIT Georeferencing Project – Ongoing
 Historic Minnesota Ortho Project - Ongoing

Geospatial Services Section Activity Report

Activity	Hours	% of Time
Annual Leave	720.00	7%
Sick Leave	342.50	3%
Other Leave	475.25	5%
Section Administration	191.50	2%
Supervision	1824.50	18%
Training	275.00	3%
Detailed Activity	0.00	0%
Production Activity	6073.75	62%
Total	9,902.50	100%

Production Activity Defined

Activity	Total hours	% of Time
Resource Index Production	176.50	3%
Compressed County Mosaic Production	729.75	12%
Special Projects	63.00	1%
NAIP Flight Planning	460.25	8%
Product Development	305.00	5%
Georeferencing Imagery	1592.25	27%
CD/DVD Writing	12.00	1%
Ortho Production	2635.75	43%

Service Center Support Section

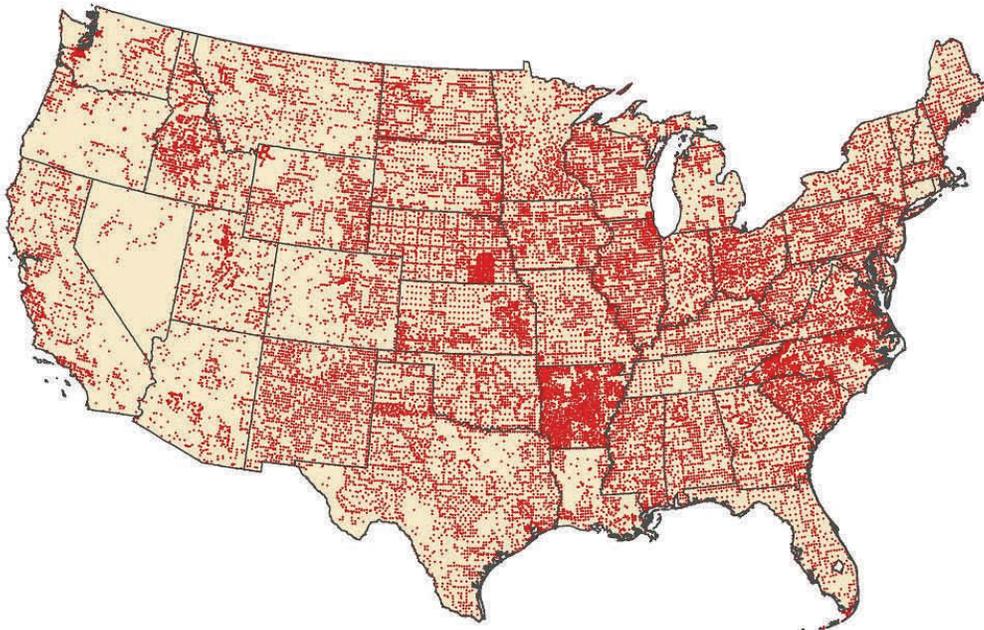
[The Service Center Support Section](#) provides technical and programmatic support and assistance on geospatial related issues to Farm Service Agency (FSA) Service Centers, State Offices, and Headquarters offices as well as to other government agencies and the public. The Service Center Support Section supports APFO and FSA in research and analysis, product enhancement, and in the development of processes and methodologies to improve efficiency in all aspects of geospatial business.

Planning and Project Management

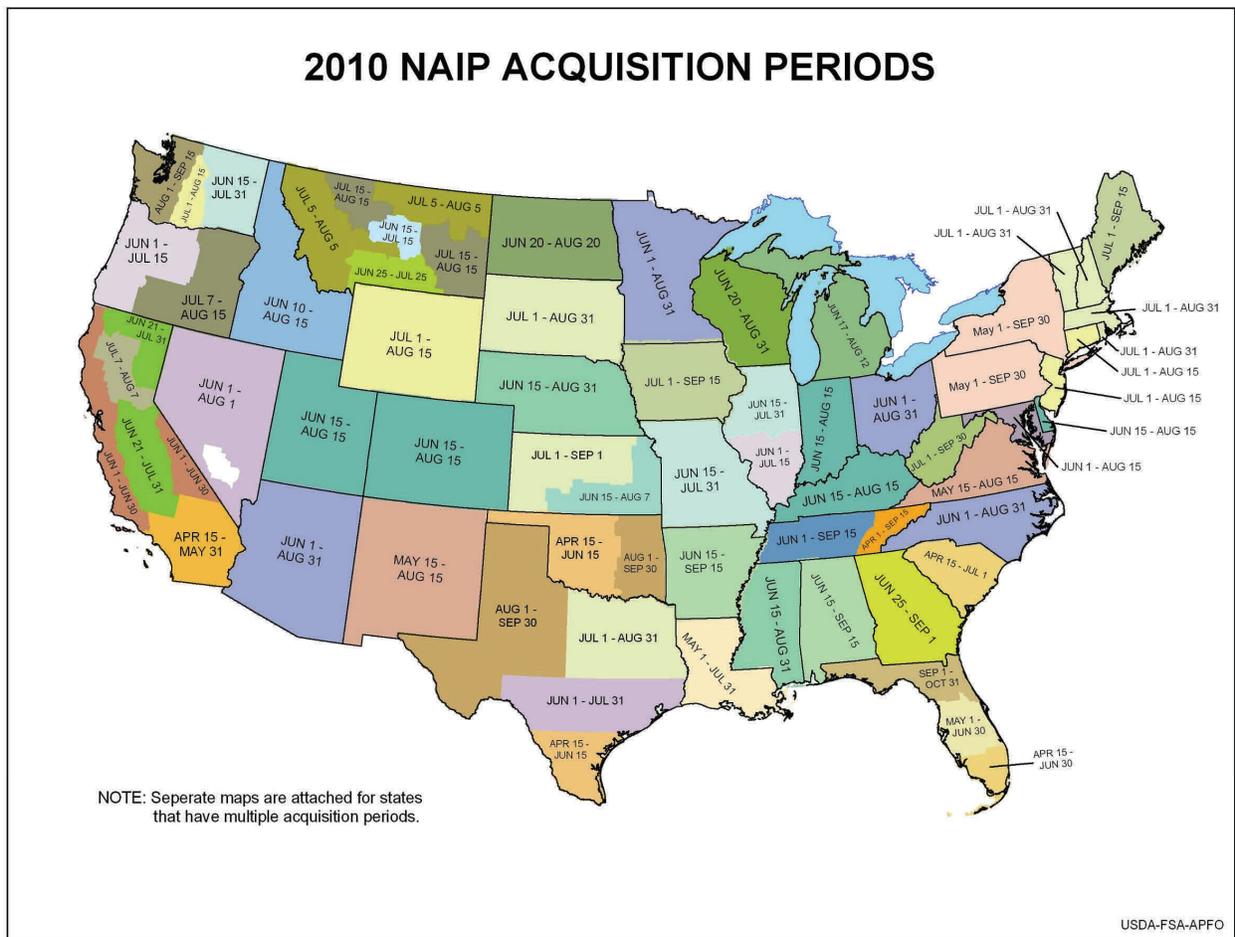
Developed multiple GIS and remote sensing projects and product lines for FSA Administrator, highlighting changes in agriculture over time, utilizing historical and current aerial photography. Applied data analysis and georeferencing skills and techniques to raster and vector datasets to produce rich contextual pictures of how agricultural lands have changed over the last 50-60 years.

- ◆ National Agriculture Imagery Program (NAIP) Support
 - ◇ Absolute Control Projects: 2010 control point acquisition for 30 NAIP States. Teaming with States and Federal Agencies to obtain points and supplemental data, database update and maintenance, and assistance with automation of the inspection process. The database is conservatively worth \$9.0M at present, developed through partnership and on a mostly gratis basis.
 - ◇ Updated NAIP Control Point Plan.
 - ◇ Developed a model in ArcGIS ModelBuilder to identify areas of control point needs in support of NAIP.

6/1/2010 - 35,583 Control Points



- ◇ Developed and administered 2009 NAIP Survey: AP Notice, design, setup, distribution, analysis, and annual assessment report.
- ◇ Updated NAIP Flight Planning Plan.
- ◇ Enhancements to NAIP – State based seamline shapefile design to support thin client and NAIP image services.
- ◇ Provided NAIP graphic for FGDC Annual Report.
- ◇ Updated NAIP Annual Acquisition Map for Customer Service Section.
- ◇ Developed NAIP ½-Meter Technical Specifications
- ◇ Working to assess the impact of the use of a ½-meter resolution product in the FSA field.



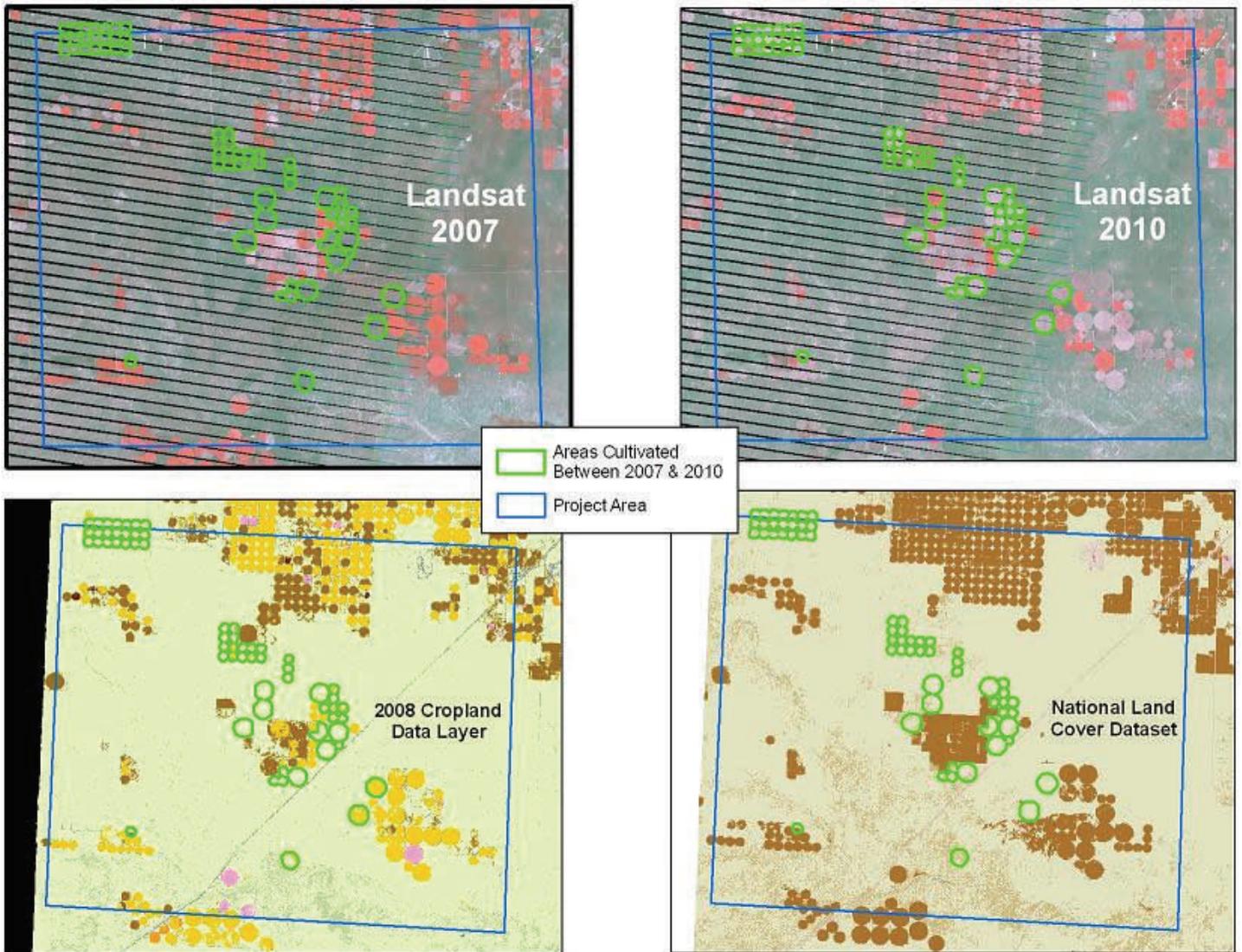
- ◇ Participated on the NAIP Defect Reporting Team. This team evolved into the 2010 QA Enhancements Team; offered technical support and programmatic advice in the Team environment, arriving at an inspection application. Provided gray point model and tool to spatially enable gray point testing, enhanced the seamline inspection program, and provided associated training and support for these tools.
- ◆ Assisted on digital Resource Photography projects at APFO, consisting of a complex mix of new customer requirements and diverse deliverables.
 - ◇ Evaluated proposals for several contracts.
 - ◇ Assisted in development of contract specifications.

- ◇ Designed and/or reviewed several metadata templates.
 - ◇ Continuing to design stereo inspection process.
 - ◇ Quality checked and validated AK QQQ Index to be used in AK Resource flight planning processes
- ◆ Provided digitizing and analysis services for water surface coverage on historical and current imagery within the Devil's Lake, ND area in response to resource issues in the region.
 - ◆ 1AP – Continuing to revise policy for APFO. The last update to this document was in 1996. A draft has been submitted, reviewed by Leadership and returned for changes. The review process, internal and external to APFO, is expected to span most of the next Fiscal Year.
 - ◆ Information Sheets: updated 8 Information Sheets on APFO website, on subject matter ranging from NAIP to remote sensing.
 - ◆ Updated instructions for adding ArcGIS Server in 9.3
 - ◆ Developed specifications and process steps for the Utah Historical Project, for georeferencing and ortho production. Developed scanned film georeferencing specifications.
 - ◆ 2010 FSA County and State Office Tour.
 - ◆ Prepared article for GeoWorld Magazine.
 - ◆ Assembled with team input the COE Products Brochure.
 - ◆ Map published in 2010 ESRI Map Book.

Research and Analysis

- ◆ Completed NAIP High Resolution Impact Study.
- ◆ Continue to make advances in the Horizontal Velocity Study, impacting the implementation of the control point database.
- ◆ JPEG 2000 Analysis – Lead continuing analysis of the JP2 format and associated deficiencies.
- ◆ Researched pixel matching technology to answer several questions related to the registration of CLU and imagery, for current use to answer policy related questions for editing CLU, and potential long term use as a factor in review registration of imagery datasets.
- ◆ Participated in the FSA Disaster Pilot Project, which lead to the development of a process and application for disaster (hurricane) reporting for FSA (Pilot Phase).

- ◆ Lead Native Sod Remote Sensing Project for APFO; project scope which is based on a programmatic need to identify native sod versus newly broken ground utilizing primary remote sensing techniques and varied imagery datasets.
- ◆ Currently conducting an Elevation Feasibility Study, which will have impacts on APFO potentially contracting for elevation in the future for other Agency customers.



- ◆ Tested speed of opening NAIP JP2 files in KS.
- ◆ Spatially analyzed 2009 NAIP contractor provided DEM error logs to help improve DEM source data in the future; which is a basic component of ortho imagery.
- ◆ Evaluated Digital Globe 8-band image samples for potential applicability for FSA programs in the future.
- ◆ Researched and assembled available imagery for HI and AK in support of FSA Thin Client services.

- ◆ Assisted APHIS in developing digitizing protocols.
- ◆ Researched Geographic Imager Photoshop Add-on for Production

Team Representation and Presentations

- ◆ Presentations on various subjects, from historical imagery to NAIP at:
 - ◇ USDA Planning and NAIP Post Mortem Meetings
 - ◇ National Digital Orthophoto Program (NDOP)
 - ◇ Utah GIS Day
 - ◇ ND GIS Conference
 - ◇ NDEP Face to Face
 - ◇ ESRI Federal Users Conference
 - ◇ NDOP Technical Subcommittee and Inter-Agency Digital Imagery Working Group (IADAWIG) Meetings
 - ◇ Administered Jordan School District GIS Teacher Training
 - ◇ Daughters and Sons to work day
- ◆ Representation on (active teams):
 - ◇ NDEP
 - ◇ FGDC Cadastral Subcommittee
 - ◇ NAIP Team
 - ◇ NDOP Tech Subcommittee
 - ◇ GDMT
 - ◇ IADIWG
 - ◇ Aerial Observer
 - ◇ CFC Project Lead
 - ◇ EA Committee
 - ◇ Safety Team
 - ◇ Green Team
 - ◇ UGIC
 - ◇ CERT
 - ◇ FSA DC COOP for GIS Support
 - ◇ APFO Awards Team

Custom Data & Digital Cartographic Work Provided

- ◆ Produced 7 custom cartographic products, which included georeferenced and ortho images, vector overlays, elevation, annotation and custom layouts
- ◆ Repaired 118 2008 NAIP NY projection errors
- ◆ Georeferencing of 1500+ film scans
- ◆ Compressed AK data in support of Resource and NRI quality assurance
- ◆ Customer Service Digital Photo Scale
- ◆ Geocoded Facilities in the Region for Department of Homeland Security

Customer Support

Fielded and answered several hundred customer support calls and emails from APFO, FSA, SCA, federal & local government, private business, and the general public.

Time Allocation

Research and Analysis 28%
Special Projects & Cartographic Work 13%
Project Management 12%
Imagery Evaluation 11%
Documentation/Review 6%
Direct Customer Support 6%
Section Administration 5%
Team Representation 3%
Training (Trainer & Trainee) 2%
Other Activities 1%

Total Leave 13%
Annual Leave 7%
Sick Leave (including FFLA) 3%
Other Leave 3%

TECHNOLOGICAL SERVICES BRANCH

Mission Statement: *Provide Information Technology security and support requirements for agency specific applications.*

Under the Technological Services Branch are two other sections:

The **Digital Data Management and Distribution section** performs data ingestion, archiving, distribution and fills large custom digital product orders.

The **Application Development section** supplies specific production application development while providing support and/or development of custom applications.

Additional responsibilities include management of APFO web based applications and services, solution and development research and coordination of requirements with a variety of OCIO-ITS organizations.

TSB supports both business and GIS applications in direct support of APFO business requirements, managing approximately 400 TB (terabytes) of data on behalf of FSA and an additional 200 TB of data in support of other USDA agencies (NRCS, FS).

Beginning with FY2010, APFO TSB entered into partnership with FSA GISO office, providing virtualized development environments, base layer imagery for the new Citrix services, and supporting CLU services to and from county offices.



CyberSecurity

- ◆ Certification and Accreditation for Consolidated Management System (CMS) has been completed for FY2010 and reviewed quarterly. The Production Distribution System (PDS) was completed in FY2009.
- ◆ There were no IT related security incidents during the year.
- ◆ Disaster Recovery is being reviewed and maintained for APFO.
- ◆ All APFO databases are continuously reviewed for appropriate security levels and user permissions and changes made as necessary.
- ◆ In collaboration with FSA ISO, TSB developed account management policy and procedures.

Business and Geospatial Application Development/Implementation:

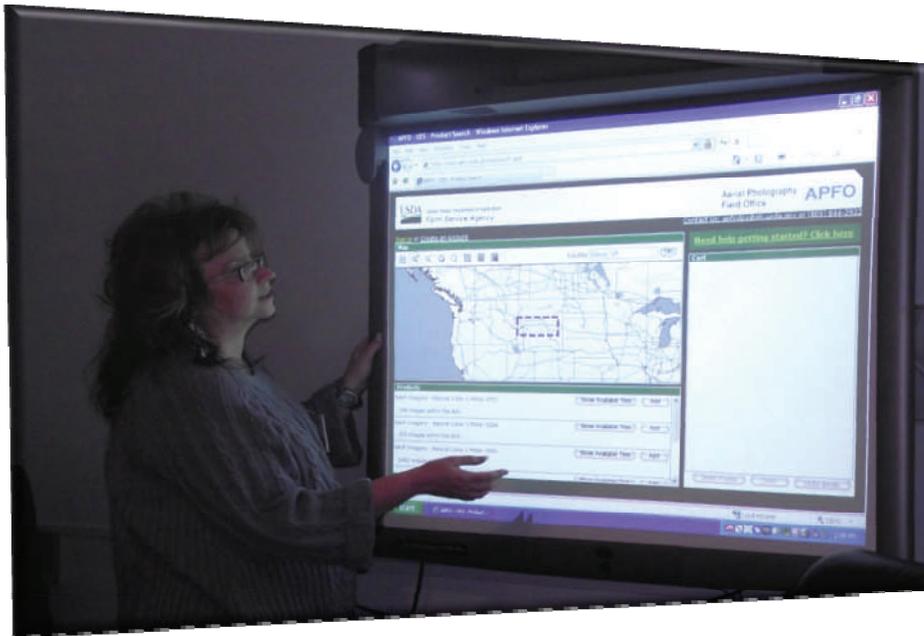
In the last year, TSB has developed and/or implemented the following:

- ◆ Successfully redesigned NAIP inspection applications for FY2010, based on current business requirements, automating several new processes before the start of the 2010 inspection. The 100% automation of the seam line inspection process which was a complex manual process for each county was automated, to take 30 seconds per county without any QA inspector intervention resulted in a savings of both man-hours and resources.



- ◆ Developed new inspection applications for Resource Imagery.
- ◆ Developed (and made available) state based web services.
- ◆ Completed APFO Work Order Entry and Pitney Bowes SendSuite Shipping interface, batch process replaced by new table and 2 data base triggers.

- ◆ Implemented Web based Customer Order Entry System (COES) to allow both public and Federal customers the ability to order geospatial data on line.



- ◆ Completed the re-positioning of the entire suite of GDW hosted NAIP imagery services. Migrated hardware platform to newer servers and software platform to latest ESRI release. Shifted delivery paradigm from a UTM based set of image services to state based image services to better meet the needs of FSA users in the field. Deployed state based services for all historical and current 1 meter state acquisitions for years 2005 through 2010, with 2003 and 2004 years currently in progress.
- ◆ CLU Replication process was re-designed to streamline ingestion related processing, and shorten the overall turnaround time for dataset availability. Working with the FSA GIS Office, the CLU county deliveries were modified to enable less transaction based analysis to occur prior to ingesting the CLU county datasets into the GDW. The new received datasets required a re-work of the in place CLU ingestion processes to enable for faster processing of the CLU datasets as they arrive from the county offices.
- ◆ Developed several Python based scripts and ArcMap tools to enable Resource imagery to be checked and formatted for use in downstream inspection workflows.

- ◆ Geospatial Infrastructure Support-Continued to support and enhance existing web sites to enable Federal and public customers to obtain status on CLU, NAIP, and NRI related projects.
- ◆ CLU Pilot Project - Assisted with the deployment of an integrated suite of CLU web services to enable national-scale CLU data to be accessed by FSA web applications for use in Disaster Planning and related activities.

Data Management:

- ◆ Data Management of Vault Film Exposure Scan submitted from USGS, and created by APFO.
- ◆ Data Management of NAIP 2010 CCM and QQ's submitted by NAIP vendors.
- ◆ ESRI Image server data set creation for the GDW image services.
- ◆ Migrated 45 TB of archived imagery from the L700 tape library to the SL8500 tape library.
- ◆ Provided data management for 400TB of archived imagery on the SL8500 tape library.
- ◆ **Resource Data Gateway**
 - ◇ Cataloged and managed 15,386 CCM Data sets or 184,632 individual files for NAIP 2003 - 2010.
 - ◇ Cataloged and managed 26,664 CLU Data sets or 213,312 individual files.
 - ◇ Cataloged and managed 22,648 CRP Data Sets or 22,648 Individual files.
 - ◇ Cataloged and managed 20,962 WETLAND Data Sets or 83,848 individual files.
- ◆ **Earthwhere Catalog:**
 - ◇ Cataloged 374,478 1 meter 2003 – 2009 NAIP Quarter Quads (QQ's) into the APFO Data Provisioning System.
 - ◇ **2009 – 116,600**
 - ◇ **2008 – 72,214**
 - ◇ **2007 – 50,639**
 - ◇ **2006 – 43,299**
 - ◇ **2005 – 55,612**
 - ◇ **2004 – 33,490**
 - ◇ **2003 – 32,624**

374,478
- ◆ **GDW:**
 - ◇ Provided data management support to the GDW operations by cataloging and archiving 15,430 2010 1-meter NAIP quarter quadangles.

- ◇ Provided data management support to the GDW operations by creating and archiving 538,843 1- meter NAIP Quarter Quads (QQ's)
- ◇ **2010 - 124,184**
- ◇ **2009 - 148,215**
- ◇ **2008 - 75,142**
- ◇ **2007 - 39,600**
- ◇ **2006 - 59,973**
- ◇ **2005 - 55,572**
- ◇ **2004 - 33,533**
- ◇ **2003 - 2,624**

538,843

◆ **Oracle Catalog:**

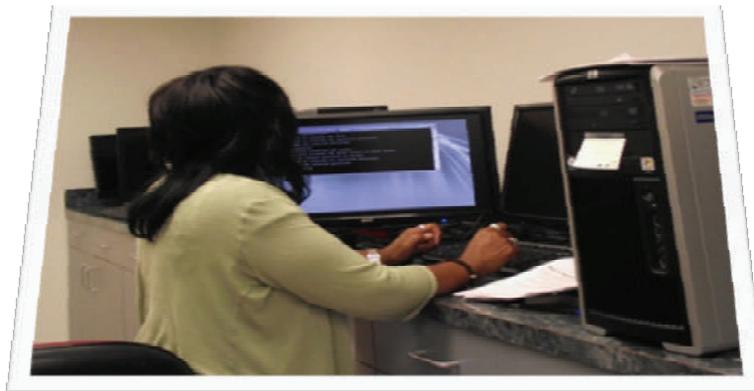
- ◇ Cataloged into the Oracle RDBMS and managed 2,654 - 2010 Compressed County Mosaics (CCM's) on the tape archive system.
- ◇ Cataloged into the Oracle RDBMS and managed 115,430 NAIP 2010 QQ's on the tape archive system.

◆ **Vault Film Exposure:**

- ◇ Archived 25,044 vault film scans created by APFO.
- ◇ Archived 1,392,343 vault film exposures created by the APFO/USGS MOU.

Project Management:

- ◆ Lifecycle replacement of end of life UNIX based geospatial systems to Windows based systems to include testing of required geospatial applications.



- ◆ Lifecycle replacement of two legacy plotters to large format eight color printers
- ◆ Lifecycle replacement of 25 laptops
- ◆ Purchase of network equipment required to implement web farm security stack

- ◆ TSB provided oversight and coordination for the successful migration of production servers, with minimal down time.
- ◆ Established change management processes for both internal (APFO) development and external hosting (ITS_AOB) requirements.
- ◆ Initiated migration of Oracle from 9i to 11g, to include migration of legacy forms and reports.
- ◆ Established new storage systems for Resource Imagery.
- ◆ Provided data center support and services to ITSD-GISD in support of Citrix rollout and pilot.
- ◆ Assumed responsibility for management and imaging of ITSD-GISD training laptops.
- ◆ Provided virtual server services to ITSD-GISD in support of their development and testing requirements .
- ◆ Established procedures to ensure imagery is available during disaster situations.
- ◆ Provided on site coordination and project management for the successful migration from legacy enterprise servers more robust systems.

Employee Training

- ◆ Microsoft TechNet Seminars
- ◆ Oracle Training and Conference
- ◆ Utah Oracle Users Group
- ◆ Women's Conference
- ◆ CPR/First Aid
- ◆ CERT (Community Emergency Response Team)

Staff

- ◆ Two contractors are on site from Computer Services Corporation (CSC) to assist APFO in steady state operations of the Geospatial Data Warehouse. Another contractor is onsite to provide support for web based applications in both business and Geospatial environments.
- ◆ TSB has a total of nine federal employees who continue to support, maintain, and develop production specific applications, database and Web Services of APFO, security, accreditation as well as GDW requirements.
- ◆ APFO is directly supported by 6 OCIO on-site staff assigned to ITS-AOB, ITS-TSD and NITC.