

**Wisconsin Land Information Association (WLIA)
Wisconsin Orthoimagery Task Force (WOTF)
Strategies for a Statewide Orthoimagery Program**



May 30, 2008

Wisconsin Ortho Task Force (WOTF) Report

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EXECUTIVE SUMMARY

On April 16, 2007 the Wisconsin Land Information Association (WLIA) Board created the Wisconsin Orthoimagery Task Force (WOTF). WLIA Board Members requested that the Task Forces be created and be chaired by the East Central Wisconsin Regional Planning Commission (ECWRPC), Bay Lake Regional Planning Commission (BLRPC), and North Central Regional Planning Commission (NCWRPC) representatives. The State Cartographer provided the WOTF with goals to accomplish. The WOTF members included members from federal/state/local government, private industry, and other interested parties. The WOTF held meetings, conducted research, analyzed information, and developed strategies/ recommendations to achieve the ultimate goal; statewide acquisition of digital orthoimagery in 2010. See Attachment C for meeting summaries.

Digital Orthoimagery is vertical aerial imagery that has had all distortions caused by ground elevation changes and camera distortions removed through computer processing and placed in a digital format that can be used with computer applications. A digital orthoimage combines the rich information content of an aerial photo with the accuracy and spatial registration of a map.

Objective

Our primary intent of this collaborative effort is to draw awareness to the glaring issues of discontinuous geospatial data and the lack of a corresponding program. We need to illustrate the duplication of effort that exists in our State. We must develop common goals and a uniformed direction, to help share the burden of costs, and open the door to an environment of multi-jurisdictional data sharing agreements.

Image History

Aerial imagery has been acquired for over 70 years by local, state and federal government in Wisconsin. Imagery is a valuable resource to Wisconsin's state and local governmental functions. It is used at all levels of government and by the private sector to support a variety of applications and business processes. Most imagery products have been funded and designed by local units of government to meet a specific need. The following are some examples of how orthoimagery is used in Wisconsin:

- Economic Development - depict potential sites for new businesses searching to locate in Wisconsin
- Emergency Management - Some examples of uses on recent emergency responses are: Emergency evacuation planning, Flood analysis, and Wildfire Protection
- Creating new data and updating existing maps - i.e. new roads, new housing developments, etc.
- Digital orthoimagery serves as an excellent base upon which other layers of information can be overlaid, such as facilities, land use, species habitat, wetlands, mosquito breeding habitat, tax parcels, etc.

- Environmental impact assessments
 - Watershed analysis
 - Timber management
 - Coastal and wetland management
- Homeland Security

Problem Assessment Summary

The model used for development of orthoimagery in Wisconsin is focused primarily at the local level. This focus is driven by the fact local governments have had the burden of funding orthoimagery development. This results in overlapping efforts creating a patch work of orthoimagery with various resolution and accuracies. This model has allowed most local and county governments to meet their needs but has been problematic for regional and state agencies to work with. In the State of Wisconsin there is a growing need for consistent and up to date orthoimagery that crosses regional and jurisdictional boundaries. The lack of a coordinated effort to pull together local, regional and state imagery programs has limited the ability to tie into federal efforts and solicit greater federal funding. Duplication of like products should be eliminated or modify to meet multiple needs and reduce cost. An example of duplication was in 2005 the USGS 133 Urban program. This program could have been coordinated with local programs to eliminate that same areas of the state having 12” imagery acquired two times. With current fiscal constraints on projects there needs to be an effort to work together.

The development of the statewide orthoimagery effort requires the clear governance of a program. For a statewide program to be successful orthoimagery needs to be viewed as an asset that crosses all jurisdictions and departmental levels. Thus, the governance of the program needs to reflect that broad base of users. In poll at a WOTF meeting it was decided that the best governance of a statewide program should come from a state agency. Currently there is no agency to organize, contract, and promote the program. Without that one agency to champion the program, it will never move forward. In reviewing the various options at the state level the Task Force needed to consider the focus of the various state agencies and how they would be able to foster such a broad based program. With one agency taking the lead to organize a program of this size it is felt a statewide program could be successful.

Recommendation

The recommendation is to have a statewide base product that meets the majority of state and local users needs. This base product would provide a uniformed dataset that could be used for most state and local applications. There also needs to be a “buy up” option from the base product for local county and municipal users to help meet their needs and reduce their overall costs. A “buy up” option would allow the opportunity for local governments to purchase higher resolution data, which would be offset by the cost of the base product. For example if, the base product would be an 18” imagery that would cost \$100 per sq. mile and the county wanted to purchase 12” imagery at a cost of \$400 per sq. mile the county would only pay \$300 per sq. mile for the 12” imagery and the imagery would be resample to 18” for the statewide dataset. A mechanism needs to be created to allow Federal, State, Local, and private agencies to pool their

resources. The Task Force recommends a phase strategy with the State initially coordinating with a Federal agency to develop a lower resolution statewide product. This is envisioned as developing the ground work for the program that would evolve to develop high resolution orthoimagery in partnership with local governments.

The Task Force determined that the agency best-suited for this roll would be the Department of Administration (DOA) under the supervision of the Geographic Information Officer (GIO). The GIO's responsibility to coordinate Wisconsin's geospatial information activities with state, local and tribal governments would fit well with the development of a statewide program.

The recommendation of funding is directly determined by what strategy is selected. It is the recommendation of the Task Force that if a Short-Term Strategy - Federal/State Coordinated Program be selected as a state multi-agency partnership. It is recommended that State agencies pool resources to fund the first step in the development of a statewide program. A Long Term strategy would be the goal and options for funding would be much broader. Additional funding should be made available to the GIO base budget to contract and manage a statewide program. It is important to mention that the funding of this large strategy would focus on home based funding sources, which means state and local government sources. Federal funding should be pursued but should be viewed as an offset for state and local expenditures. A State program would not be solely dependant on Federal funding.

Conclusion

For a statewide orthoimagery program to become a reality there needs to be a statewide commitment. The governance, funding and product/program, need to be in place. There also needs to be support and "buy in" from the local units of government to want to be part of a statewide program. They need to see benefits from lower costs, shared costs, and ability to have data that reaches beyond their boundaries. This program will not work without a phased approach allowing local users the flexibility to use the "buy up" options to meet their data needs and specifications while still providing it at a lower cost and in a timely manor.

1. BACKGROUND

On April 16, 2007, the Wisconsin Land Information Association (WLIA) Board created the Wisconsin Orthoimagery Task Force (WOTF). Over the next nine months the WOTF held meetings, conducted research, analyzed information, and developed strategies / recommendations to achieve the ultimate goal; “statewide acquisition of digital orthoimagery in 2010.”

The WOTF Co-Chairs will present their strategies and recommendations at the 2008 WLIA Annual Conference. In addition, the Co-Chairs will present this effort to the Geographic Information Officer (GIO), the Wisconsin Geographic Information Coordination Council (WIGICC), the Land Information Officers Network (LION), the Wisconsin Counties Association (WCA), Wisconsin Emergency Management Association (WEMA), WisDOT and the State Agency Geographic Information Council team (SAGIC).

In Wisconsin, the history has been a bottom up approach in creating and acquiring geo-spatial data. This approach creates islands of datasets that meet project specific standards. This creates a duplication of different datasets throughout the state at all levels of government. Many of these geo-spatial datasets lack the level of interoperability to move a statewide system forward. Local data sharing and distribution policies also add to duplication of efforts and continue to impede a statewide GIS system. If Wisconsin wants to move to a statewide enterprise GIS system the following items must be addressed.

1. Create a process to acquire existing local datasets and keep them current
2. Provide benefits for local governments to share local data.
3. Provide minimum standards for geo-spatial data that must be followed.
4. Provide a system that allows locals the ability to share their data.
5. Create cost sharing programs to promote data creation and acquisition at the regional level

Duplication of effort continues in the state, for example, Brown and Outagamie counties had multiple fights occurring. While the two counties acquired imagery via a Regional Consortium, the Federal Government initiated the 133 Cities Program, and National Agriculture Imagery Program (NAIP) both obtained photos for the same area in 2005. With a coordinated program some of this duplication could have been prevented resulting in a saving to the taxpayers of Wisconsin.

2. OBJECTIVE

Our primary intent of this collaborative effort is to draw awareness to the patch work nature of orthoimagery acquisition in the State of Wisconsin and the lack of a coordinated program for it’s development. We need to illustrate the duplication of effort that exists in our State. We must develop common goals and a uniformed direction, to help share the burden of costs, and open the door to an environment of multi-jurisdictional data sharing agreements.

3. TASK FORCE STRATEGY

The task force divided into three sub-groups to focus on specific elements of a statewide orthoimagery effort. These three sub-groups were:

Product/Technical Group

This group was responsible for researching current trends in imagery and elevation technologies that will facilitate a broad based digital orthoimagery acquisition. This group also worked on product specifications.

Funding Group

This group sought different funding sources and options to fund a statewide orthoimagery acquisition. This group developed partnerships and worked to establish funding options.

Communication/Public Relations

This group was responsible for communicating with all interested and actively involved parties from the States land information community. This group prepared information on the progress of the WOTF and report it back to the WLIA via website and email postings.

Each of the sub-groups worked together and on their own throughout the WOTF process. The WOTF used email and phone conferences between the WOTF meetings as a way to communicate and address issues.

Due to this large undertaking, the WOTF continued to seek assistance and input from the land information community throughout the WOTF existence.

4. TASK FORCE GOALS

GOAL 1

Recruit members representing a broad range of interests and expertise

All WLIA members were invited to participate with the WOTF. The WOTF Co-Chairs called Federal, State, and private agencies and asked that they be part of the WOTF. There were 48 total members of the WOTF for all levels of government and the private sector. (See Attachment A)

GOAL 2

Document existing uses and needs of digital orthoimagery.

Aerial imagery has been acquired for over 70 years by local, state and federal government in Wisconsin. Imagery is a valuable resource to Wisconsin's state and local governmental functions. It is used at all levels of government and by the private sector to support a variety of applications and business processes.

Most imagery products have been funded and designed by local units of government to meet a specific need. The following are some examples of how orthoimagery is used in Wisconsin:

- Economic Development - depict potential sites for new businesses searching to locate in Wisconsin
- Emergency Management - Some examples of uses on recent emergency responses are: Emergency evacuation planning, Flood analysis, and Wildfire Protection
- Creating new data and updating existing maps - i.e. new roads, new housing developments, etc.
- Digital orthoimagery serves as an excellent base upon which other layers of information can be overlaid, such as facilities, land use, species habitat, wetlands, mosquito breeding habitat, tax parcels, etc.
- Environmental impact assessments
 - Watershed analysis
 - Timber management
 - Coastal and wetland management
- Homeland Security

GOAL 3

Analyze and document current trends in acquisition methods, products, format, and delivery.

a. Film Imagery Solutions

The process of developing imagery through film based cameras has been used for decades. This technology has a well developed science behind it that has developed industry standards for image processing, accuracy and resolution. This technology continues to be a cost effective method for small and medium sized projects.

Panchromatic or black-and-white film is sensitive to about the same spectral range as the human eye. However, it is more sensitive in the red part of the spectrum and weaker in the green. Panchromatic film is rendered in shades of gray, has good tonal contrast comparable to the density of an object's color (as seen by the human eye) and is fine grained thus producing good quality enlargements.

Natural or True Color film has layered emulsions that are each sensitive to different wavelength ranges (i.e. visible blue, green, and red) of the electromagnetic spectrum. Color allows for a greater interpretability of features because one can interpret different hues of color. From color film one can produce products in color or black-and-white.

Color Infrared (CIR) is a three-emulsion color reversal film sensitive to the most sensitive to blue and indigo in visible spectrum but more sensitive to the near- infrared (Near IR) spectral range. CIR film is better for vegetation classification including vegetation type, insect infestation detection, and

vegetation stress and health determination. Also since water is easily detected, CIR film is useful to help delineate and study wetlands. CIR film detects features better on hazy days than Panchromatic or True Color film. The downside of CIR film is that shadow areas are exposed very dark and will usually contain little or no information.

b. Digital Camera Solutions

Digital camera solutions have been gaining increased acceptance in the industry. The initial providers of this technology included ISTAR, Emerge, Image America and GeoVantage. Except for ISTAR, the cameras have not been considered suitable for high accuracy photogrammetric applications, and they often rely on existing Digital Elevation Models (DEMs). Emerge and Image America had some success on local and regional projects with moderate to low accuracy requirements.

With the introduction of the next generation of digital cameras, specifically the ADS40 from Leica (an ISTAR clone) and the DMC from ZI, the technology now provides the precision required for photogrammetric mapping. With the introduction of improved technology, industry and the Federal government are developing standards to assure accuracy and resolution. With these changes and the increasing availability of these systems, more photogrammetric companies are using digital cameras and offering them as an alternative to traditional film solutions.

Multi/Hyperspectral Sensors are sensitive to predetermined and specific wavelength ranges (bands) within the electromagnetic (light) spectrum. Thus, the sensors can detect multiple bands within the visible portion of the spectrum or outside the visible spectrum in the infrared and thermal infrared portions of the spectrum. 'Multispectral' refers to a sensor capable of detecting broad bands (>1 micron) of the spectrum thus they are usually limited to less than 10 bands. 'Hyperspectral' refers to sensors capable of sensing very narrow (10 nanometer) bands and thus may detect fifty or even hundreds of bands. Hyperspectral systems are superior for most analyses to broader-band multispectral data, simply because such data provide so much more detail about the spectral properties of features to be identified.

Synthetic Aperture Radar (SAR) is an active rather than passive (optical) system. A passive imaging system like those previously discussed senses the reflected or emitted radiation (which occurs naturally when sunlight is reflected or thermal energy emitted).

An active sensor like SAR is one in which the sensor emits an energy source to illuminate the target. Radar is one of the most common active remote sensing systems operating in the microwave portion of the electromagnetic spectrum, which makes them capable of penetrating the atmosphere under virtually all weather conditions. The drawback is that SAR usually cannot achieve high geospatial accuracies as compared to the passive sensors.

For a Statewide project, where fairly rigorous compliance were photogrammetric standards are required, a close scrutiny of the digital camera should be accomplished. Two such cameras currently on the market are the ADS40 and DMC.

c. Satellite Imagery Solutions

The satellite solution offering has increased in resolution over the past years. The traditional satellite imagery solutions ranged from 30 to 5 meter pixel resolutions. This made its adoption by local government extremely limited. In some cases, regional and state governments used it for land cover detection. State government, specifically Wisconsin DNR has used it for remote sensing and analysis (WISCLAND)

Higher resolution cameras have been deployed allowing for sub meter imagery opening up a wide user base with satellite imagery. There are three commercial US satellites offering 1 meter or better resolution Space Imaging (IKONOS), Digital Globe (Quickbird), and OrbImage (Orbview 3).

These are typically best for local and regional applications that can benefit from multi-spectral capture, and where high resolution (sub .5 meter) is not required. Satellite imagery provides a quick turn around on small or medium size projects. Satellites are also a good supplement to periodic orthoimagery programs (i.e. providing interim updates in areas of change in off years). Geospatial accuracy is another issue to consider. Although satellite imagery has high resolution capability they yield lower geo-spatial accuracies.

GOAL 4

Analyze and document the experiences of other Regional, Statewide and National initiatives that have coordinated and acquired digital orthoimagery over the past 5 years.

In the State of Wisconsin orthoimagery is developed at all levels of government and thorough a number of different efforts.

a. Local Government Efforts

Historically digital imagery in Wisconsin have been acquired and funded at the county and municipal government level. This appears to be for two main reasons. First, the Wisconsin Land Information Program (WLIP) provides funding for land records modernization to Wisconsin counties thus allowing a source for funding of orthoimagery. Second, locals are able to control the specifications of their individual products to meet their specific needs. Over the past ten years local agencies have acquired imagery from 2 inch to 1 meter pixel resolutions with leaf-off conditions. Some counties with large amounts of county forest lands have captured IR imagery for forest management activities.

In the absence of a state or regional efforts some local governments have partnered in the development of high resolution digital imagery. One example

is the Fly Dane Partnership, where over forty city, village, town, state and federal agencies partnered with Dane County to develop 1-foot and 6-inch resolution imagery across the county. This partnership has allowed participants to take advantage of an economy of scale and provided a more predictable update cycle. To date the partnership has done three flights with more planned for the future.

b. Regional Efforts

Numerous counties and state agencies have participated in multi-county imagery efforts. The majority of these efforts at the local government level are to support GIS development and mapping functions. The latest large-scale effort was the Wisconsin Regional Mapping Initiative began with the support of three regional planning commissions (RPCs), the East Central Wisconsin RPC, Bay-Lake RPC, and North Central Wisconsin RPC. The goal of this program was to provide a way for counties and municipalities to acquire mapping products, save staff time, and benefit from the economy of scale. Thirty-five counties participated totaling about 1/3 of the land area of the state. This program allowed an estimated 25% to 40% cost savings from this regional effort. The program also work to establish partnerships with Federal, State and private agencies to help with cost sharing of local projects.

c. State Efforts

State agencies have acquired imagery for specific projects, wetland delineation, highway projects, and forest management to name a few. No efforts have been made at the state level to coordinate imagery products across state agencies or with local government. State agencies are currently working on creating an inventory of state imagery needs.

d. Federal Efforts

NAIP

In 2005 and 2006 the USDA's Farm Services Program collected 1 and 2 meter, leaf-on imagery to be used to measure farm acreage and maintain farm records (common land unit boundaries). This project did require county and state agencies to provide one-third funding to make it possible. This dataset as the first uniformed statewide orthoimagery product in the State. All levels of government has utilized this product.

133 Urban Areas

The 133 Urban Areas activity seeks to acquire natural color, 1/3 meter resolution orthoimagery for 133 urban areas of the United States to meet critical Homeland Security and Emergency Services requirements. In partnership with NGA, the USGS seeks a 2-year maintenance cycle for this imagery. The USGS has attempted to coordinate with local governments to leverage funding in the acquisition of this imagery. However, more could be done to provide more consistent funding and to better coordinate with local agencies. Any state or local imagery programs should partner with USGS to reduce or eliminate duplication of products over these areas in Wisconsin

IFTN

Imagery for the Nation (IFTN) is a program being proposed by the Federal Geographic Data Committee (FGDC) to create a new nation-wide aerial imagery program that will collect and disseminate standardized multi-resolution products on “set” schedules. Local, state, regional, tribal, and federal partners will be able to exercise “buy-up” options for enhancements that are required by their organizations. The imagery acquired through this program will remain in the public domain and archived to secure its availability for posterity. IFTN continues to seek funding options and technical specifications for the program.

GOAL 5

Monitor the development of the nationally proposed program, “Imagery for the Nation (IFTN)”. If necessary, develop strategies, recommendations, and a business plan to meet IFTN requirements.

Currently there appears to be no movement on this program. IFTN should continue to be monitored and a business plan could be created from the WOTF Report.

GOAL 6

Document to the extent possible the orthoimagery requirements over the next three years for all levels of government, the private sector and tribes. This includes collecting specifications regarding resolution, image type, area coverage, frequency of coverage, accuracy, QA/QC requirements, contracting preferences, funding methods, licensing, and areas of security concerns.

IMAGERY PROGRAM STRATEGIES

The suggested approach for Wisconsin is to implement short, mid, and long-term strategies for digital imagery to support state and local government needs. Below are descriptions of each of the proposed approaches:

a. Short-Term Strategy - Federal/State Coordinated Program

A short-term strategy would be for the State of Wisconsin to partner with the USDA’s Farm Service Agency (FSA) and provide the necessary partner funding to acquire 1-meter color, leaf on imagery across the state as part of the National Agricultural Imagery Program (NAIP). The FSA has a well developed program that needs state support for the development of more frequent updates. This would provide a base level product that would have limited benefit for all levels of government and the private sector. However, would demonstrate that the State is serious about the development of statewide orthoimagery and establish the groundwork for a more comprehensive statewide program. One benefit is that the USDA handles contracting administration.

b. Short-Term Strategy – Promoting Local Partnerships

A coordination strategy would center around the state being the leader for the development of county and regional partnership. The state agency that would be

the most appropriate for this function would be the Department of Administration – Geographic Information Officer (GIO). At a minimum it would require the GIO working with local agencies (LIO's, RPC's, etc.) to encourage and promote the development of the partnerships. At the next level the GIO would work with state agency heads to build a unified front to the Governor and Legislator that statewide orthoimagery is a value to all agencies and work for the funding to encourage local partnerships. Providing state funding would be an incentive for counties to come together in orthoimagery acquisition. It could also be used to provide back to the State a base level product. This strategy would be the first step to building a higher resolution statewide program. In addition the coordination between local projects and state / federal projects would be monitored to eliminate duplication of similar projects on the same year.

c. Mid-Term Strategy – Local Government Supported Program

As a mid-term strategy Wisconsin would contract for the development of a base level product. The State would include the options for the development of higher resolution products. The State would provide a contracting mechanism with unit pricing that could be used by all local governments. Local governments could then tie into the state contract for the higher resolution products and then manage the project on their own. This would save the locals time and money and allow for consistency in data and spatial accuracies.

To assure a low unit cost the state contract would have a preference for county-wide partnerships or multi-county consortiums. The contract would also require that the local governments provide back to the state a final base level product. This would benefit the State because they would not have to process or manage the development of the imagery in these areas, but would still receive the resulting imagery. As an incentive for local to use the statewide contract, a simple cost share formula would be developed. The formula would provide local governments with a percent of the cost for the development the base product for an area. This would help the local governments to offset their project costs for the development of the higher resolution products.

d. Long Term Strategy – Statewide Coordinated Program

There is, and has been, a recognized need for a long-term strategy and solution for imagery for the State of Wisconsin. This solution must try to support all levels of government and have sustainable funding over time. This must be developed leveraging a variety of funding sources, from federal, state and local government to specific agency applications.

All levels of government that use imagery must support this program. A statewide coordinated imagery program would build on the successes that local governments have had in the development of high resolution orthoimagery. This program would provide an even greater economy of scale for state and local government by significantly reducing costs and improving government's ability to make better decisions on public safety, emergency management and response, E-911, economic development assessment, natural resource planning, urban and rural planning, etc. It will also provide a consistent and standard product allowing for cross-jurisdictional interoperability for planning and emergency

response. It opens up the use of imagery to counties contemplating and planning for GIS and promotes coordination and cooperation between jurisdictions and all levels of government.

To properly prepare for this, a Request for Qualifications (RFQ) will need to be released for the development of a statewide specification that represents both state and local government's needs as well as associated deliverables to support the implementation, access, distribution and management of a statewide imagery program. The crafted statewide program will be flexible enough to accommodate unique requirements for local jurisdictions (upgrade to higher resolutions, support contours and planimetrics), but rigid enough to maintain the benefits of a consistent program (lower production costs, cross jurisdiction interoperability).

Issues that will need to be considered will be the following:

- Use penalties and bonuses for delivery compliance
- Ensure a quality control and acceptance process is in place
- Different local and state projections
- Make contract flexible to add services as needed
- Select by qualifications on comparable projects
- Different local and state DEM's/DTM's

One of the challenges will be the schedule as we may be requesting local government to adjust their imagery requirements to match that of a statewide program. It also may delay existing re-fly strategies currently in place in the more progressive counties. This would need to be coordinated with Governance of this program to ensure the most effective use of resources and appropriate schedules. Additionally, several photogrammetric vendors would need to be managed through this process and a process for reviewing the quality of the imagery to ensure it meets specifications. This could be accomplished through state and regional agencies or potentially by an independent contractor.

GOAL 7

Explore the potential availability of various public and private funding sources.

Funding is one of the most difficult aspects to deal with when considering a program of this magnitude. As with the development of any geo-spatial data it is driven by a specific need and resources are then found to acquire it. Traditionally a specific local government or state agency drives the need. The funding of the project then falls solely on the specific unit of government. In some instances, departments have built in fees to cover costs of the periodic updates of orthoimagery (Fly-Dane would be an example of this.) The importance of the data to the operation of the department justifies the fee.

The coordination of the multiple funding sources can be problematic. This is especially true when partnering between the local, state and federal agencies. The main obstacle is the various fiscal calendars that are involved. This

creates a great deal of uncertainty for the lead agency on whether adequate funding will be available. It is because of this fact that many local governments tend to focus on local funding that allows for more consistent project planning.

In determining the funding for an orthoimagery project there are a great many variables that need to be considered. The timing of the project, the budget cycle of the participating agencies, timeline of expenditures are all factors that need to be considered.

a. Local Government

Much of the orthoimagery that has been produced in Wisconsin has been done thru the use of local funding that include WLIP, general capital, departmental or utility funding sources. Local governments have also benefited from some state and federal funding, however the availability of such funding is often unclear and limited. Because of these funding limitations the development of orthoimagery has been sporadic throughout Wisconsin.

b. Regional

The regional efforts rely on the same base funding from local governments. However, these efforts use a central or regional agency to coordinate the consolidation of various funding sources. These regional efforts allow for a greater economy of scale that helps to lower the unit costs for orthoimagery more than any one local government can get alone. The more central coordination also helps to attract state and federal funding that would be used to offset project cost. It is important to note that the success of a regional project is dependant on availability of core local funding. Due to the indeterminate nature of State and Federal funding it is more often viewed as a funding offset and not a partership.

c. State

Most of the State funding of orthoimagery is connected to various bureaus within agencies that need imagery to meet program needs. Due to budget limitation or legislative priorities, there has not been a tradition of bureau's or agencies pooling funding resources to acquire imagery that meets a more broad set of needs. State agencies have coordinated with federal agencies to take advantage of various federal grant sources.

d. Federal

Most of the Federal funding of orthoimagery is connected to various agencies within departments that need imagery to meet program needs. Due to budget limitation or legislative priorities, there has not been a tradition of bureau's or agencies pooling funding resources to acquire imagery that meets a more broad set of needs. There has been some effort to change this model, but progress has been slow. In addition, the Federal fiscal calendar provides a very short timeline for state and local governments to react to the availability of Federal monies.

The following are list of possible funding sources:

LOCAL - Town, Village, City, County, RPC (Calendar year budget cycle)

STATE – DNR, DOT, DATCP, DOA, BCPL, DMA, WEM, OJA, UW Extension (Bi-annual budget cycle, July to June)

FEDERAL – NSDA, NFS, USGS, Tribal, Army Corp of Engineers, FEMA, Census (Annual budget cycle, October to September)

PRIVATE/OTHER - Realtors, Utilities, Timber Companies, Microsoft, Google, Commercial Data Providers (Tele Atlas, Onstar, etc.)

OTHER IDEAS - Retained Fees – Using part of existing retained fees, increasing retained fees to support program, charging for the data, Reimbursement policy

The likelihood of acquiring funding from the some of the above sources is really unknown. However, the funding of the project is based on the establishment of a project/program. As the 2005 consortium/partnership projects demonstrated, once a commitment to a project specification was made then the funding could be pursued. The key was the establishment of a base project that could be funded at local level. Any additional funding that was then acquired allowed for the funding of higher resolution products or a cost reduction to local projects.

GOAL 8

Maintain Task Force meeting agendas, minutes, reports, and related documents on appropriate websites.

See Attachment C

GOAL 9

Develop governance proposals for coordinating a statewide program that defines roles, responsibilities, and expectations.

a. Governance

The Task Force determined that the agency best-suited for this role would be the Department of Administration (DOA) under the supervision of the Geographic Information Officer (GIO). The GIO's responsibility to coordinate Wisconsin's geospatial information activities with state, local and tribal governments would fit well with the development of a statewide program. This role gives the GIO a unique perspective of a statewide program that allows the office to look more broadly at various needs. The GIO would need to be given greater authority, staffing and funding than it currently has to successfully manage such a program. It is important to state that the Task Force views this as a program and not a one time project and the governance needs to reflect that.

The development of the statewide orthoimagery effort requires a clear governance of the program. For a statewide program to be successful orthoimagery needs to be viewed as an asset that crosses all jurisdictions and departmental levels. Thus, the governance of the program needs to reflect that broad base of users. The best governance of a statewide program should come from a state agency. Without that one agency to champion a program, it will never move forward. In reviewing the various options at the state level the Task Force needed to consider the focus of the various state agencies and how they would be able to foster such a broad based program. With one agency taking the lead to organize a program of this size it is felt a statewide program could be successful.

It was shown during the 2005 consortium/partnership projects that occurred across the state, that the coordination issues can be overcome and that various agencies can pool funding to build a large project. Much of the success of these efforts was a long range project plan that looked at the needs of all the participants and an organized governance of the program. It freed local governments from the timely project contracting and management. It also allowed agencies to identify deliverables and expenses in advance and build them into their respective budgets.

b. Products

The selection of a statewide product is directly connected to the level of commitment to make the program a reality. As stated in the Governance section it is the recommendation of the Task Force this be a state program headed by the GIO. There needs to be clear acknowledgement that the development of a statewide orthoimagery acquisition program will reap benefits across all levels of government and the private sector. The goal of this report was to identify a "statewide program" starting in 2010. Considering the limited timeframe a recommendation is needed that can establish an initial program that can then develop over time. Thus, it is the recommendation of the Task Force that at a minimum the state commit to the Short-Term Strategy - Federal/State

Coordinated Program and at a minimum partner with the USDA, Farm Service Agency and acquire 1-meter, color, leaf on imagery through the National Agricultural Imagery Program (NAIP) on a three year cycle starting in 2008.

BASE PRODUCT = 1-meter statewide digital product. Summer leaf on flight, NAIP

However, the Task Force would strongly encourage the state to look at a much greater commitment and work towards the development of a Long Term Strategy – Statewide Coordinated Program. The Task Force looked at a number of different orthoimagery products and it was clear that there were many different needs across the state. The following were identified as meeting the majority of the orthoimagery needs for the state and local users.

ENHANCED BASE PRODUCT = 18 inch statewide 4 band digital product. Spring leaf off flight*

BUY UP OPTION 1 = 12 inch 4 band digital product. Spring leaf off flight*

BUY UP OPTION 2 = 6 inch 4 band digital product. Spring leaf off flight*

*Detail image specifications will defined be at a later time.

In looking at an effort of this size and the need to minimize costs and provide fast turn around in products the task force also recommends a digital camera solution. This technology has become an industry standard for projects that cover a large geographic area. It is also more cost effective and can reduce the processing time to allow a faster delivery timeline.

With the establishment of the governance and the products determined, funding can be identified. The recommendation of funding is directly determined by what strategy is selected. It is the recommendation of the Task Force that a Short-Term Strategy - Federal/State Coordinated Program be selected as a state multi-agency partnership. It is recommended State agencies pool resources to fund the first step in the development of a statewide program.

However, a Long Term strategy would be the goal and the options for funding are much broader. Additional funding should be made available to the GIO base budget to contract and manage a statewide program. It is important to mention that the funding of this large strategy would focus on home based funding sources, which means state and local government sources. Federal funding should be pursued but should be viewed as an offset for state and local expenditures. A State program would not be solely dependant on Federal funding. This strategy would rely on State funding for the development of a base level of products. In addition it would provide a “buy up” option that would leverage local funding. To encourage local participation, grant moneys would be provided to local governments to offset their costs and reduce the management overhead for the State.

An additional funding option that could be explored is to utilize a portion of the 2 million dollars that were removed from the WLIP to fund Comprehensive Planning. A portion of this money could be used to fund a base statewide orthoimagery program. This statewide orthoimagery dataset would continue to support Comprehensive Planning and the land information community. This imagery would be a foundational element for the creation of land use data used for Comprehensive Planning.

d. Other Considerations

Spatial accuracies should also be addressed. An inventory of existing DEM's should be created. Quality control/assurance specifications should be developed to check the accuracy of these existing DEM's to determine what level of orthoimagery spatial accuracy they would support. Areas of the state that have limited elevation data and survey control framework will need to be addressed. This may create an opportunity for additional partnerships to create a statewide DEM that can be used for other applications in the state.

GOAL 10

At public events, regularly report on the Task Force's progress.

The WOTF Co-Chairs will present their strategies and recommendations at the 2008 WLIA Annual Conference. Email, phone conferences, and the WLIA website were used through out the WOTF process.

GOAL 11

Present strategies and recommendations to the WLIA, DOA, WIGICC, DOT, DNR, WCA, LION, AWRPC, WEMA and SAGIC.

The WOTF Co-Chairs will present their strategies and recommendations at the 2008 WLIA Annual Conference. In addition, the Co-Chairs will present this effort to the Geographic Information Officer (GIO), the Wisconsin Geographic Information Coordination Council (WIGICC), the Land Information Officers Network (LION), the Wisconsin Counties Association (WCA), Wisconsin Emergency Management Association (WEMA), WisDOT and the State Agency Geographic Information Council team (SAGIC).

4. CONCLUSION

For a statewide orthoimagery program to become a reality there needs to be a statewide commitment. For this to happen there needs to be a general consensus for all level of governments to make this happen. The governance, funding and product/program, need to be in place. There also needs to be support and "buy in" from the local units of government to want to be part of a statewide program. They need to see benefits from lower costs, shared costs, and ability to have data that reaches beyond their boundaries. This program will not work without a phased approach allowing local users the flexibility to use the buy up options to meet their data needs and specifications while still providing it at a lower cost in a timely manor. There needs to be a concerted effort to strive for the following goals.

GOALS OF A STATEWIDE PROGRAM

1. Reduce or eliminate duplication of coverage in a given year
 - a. Coordinate between local, state, federal, and private entities to end the duplication of like products. A clearinghouse should be maintained on all current and proposed imagery projects within the state. (use ROMONA)
2. Acquire imagery that meets the needs of the majority of users
 - a. Use the current recommendations of the WOTF base product
3. Lower acquisition costs – through cost sharing and economy of scale
 - a. Acquire imagery through multi-county areas
4. Develop partnerships for cost sharing
 - a. Continue to develop local, regional, state, federal, and private partnerships
 - i. Local
 1. County and local governments
 2. Inter departmental example: LIO – Sheriff
 3. Local utility companies
 - ii. Regional
 1. Multi-County
 2. Regional Planning Commissions
 3. Large utility and transmission companies
 - iii. State
 1. Inter departmental example: DNR – DATCP
 2. Local government partners
 3. Large utility and transmission companies
 - iv. Federal
 1. State and local government partners
5. Establish flexible contracting mechanisms that will allow users to best meet their needs through a “buy up” option
 - a. Create a program that allows for those who need and can afford higher resolution data to have the option to “buy up”
6. Secure consistent funding that provides for a long term program and promotes the building of partnerships.
7. Have open communications with Federal, State, and private entities.
 - a. Promote the SCO imagery clearinghouse to make everyone aware of the different projects going on at all levels.
8. Designate a management agencies
 - a. GIO should take the lead or designate an agency or organization to organize and promote a statewide program.

Much of the general background information, issues, and basic framework have been identified in this report. To keep this mission moving forward the Regional Planning Commissions have decided to continue to work with all levels of government to create a statewide program for 2010. This program will be called Wisconsin Regional Orthoimagery Consortium (WROC). A Request For Qualifications has been issued to select a qualified consultant team to help build a statewide program. The goal of WROC is to establish a multi-county imagery acquisition program. In addition to imagery products many counties and municipal governments have budgeted for

additional products and services, including planimetrics, contours and DTM creation and updates. This program will establish and facilitate a regional platform for outsourcing products and services. The strongest benefit of WROC will be in cost and time savings because of the economy of scale. Secondary benefits include standardization of product for regional and state applications, unified scope, shared knowledge and experience, and healthy multi-jurisdictional relationships.

Attachment A:

Task Force Participants

Borlick, Jennifer	Rock County, Planning and Development GIS Manager
Contrucci, Kirk	Ayres Associates, Manager - Photogrammetry
Cutforth, Larry	USDA FSA, GIS Coordinator
Davies, Bret	Juneau County, Land Information Officer
Davis, Dave	City of Madison, Planning Director
DeLain, Cathy	Manitowoc County, GIS Coordinator
Diller, Chris	DMA, GIS Coordinator
Donze, Tim	Surdex, Business Developer
Dorn, Adam	City of Fond du Lac, GIS Specialist
DuChateau, Jonathon	WisDOT, IT Strategy & Architecture Section
DuMez, Jeff	Brown County, GIS Coordinator / Land Information Officer
Duncan, Brad	DNR, Bureau of Technical Services - GIS Services Section
Fannucchi, Bill	PSC
Faust, Andrew, GISP	NCWRPC, Senior GIS Analyst
Felton, Kelly	Sauk County, Land Information Officer
Fiacco, Joyce	Dodge County, Land Information Officer
Friis, Mike	DOA DIR, Resource Policy Team Leader
Gerczak, Dave	USACE, Detroit District - Program Coordinator
Grueneberg, Jason	Wood County, Land Information Officer
Iausly, Fred	Dane County, Senior GIS Analyst
Jennings, Andrew	ECWRPC, EM Planner
Klaus, Courtney	DNR, Forestry Division - GIS Specialist
Koch, Ted	State Cartographer's Office, State Cartographer
Koutnik, Mike	ESRI
Lacy, Jim	State Cartographer's Office, Assistant State Cartographer
McGee, Brian	ATC
Mockert, Dave	GeoAnalytics Inc., Director - State and Local Practice
Moline, Mitch	WisDOT, Spatial Data Architect
Morrison, Lisa	DATCP
Novinska, Tiffany	WisDOT
Patterson, Tom	WLIA Member
Pearson, Christina	Iowa County, GIS Coordinator
Pena, Kent	NRCS - USDA
Pike, Janel	DNR, Forestry Division - GIS Coordinator
Pulford, Curtis	DOA DET, State Geographic Information Officer
Rice, Keith	UWSP, Dept. of Geography & Geology Chair
Root, Steve	Wolpert
Schedler, Josh	BLRPC, GIS Specialist
Schutte, Matt	Aero Metric Inc.
Schwoegler, Amanda	DNR, Map Modernization Manager
Sissons, John	Board of Commissioners of Public Lands, IT Manager
Sullivan, Jerry	DNR, Bureau of Science Services
Ventura, Steve	UW-Madison
Vraga, Dick	USGS, State of Wisconsin Liaison
Watson, Todd	Plum Creek Timber
Winstead, Richard	USDA Forest Service, GIS Coordinator
Wortly, AJ	SCO, Outreach Specialist
Zuege, Mike	ECWRPC, GIS\Planning Specialist

Attachment B: Other Successful Statewide Programs

Historic or Current Statewide Programs and Initiatives

For the purpose of this document a list of programs from other mid-west states was compiled. In addition to this list is a sampling of other states from around the country that have or have had statewide orthoimagery programs.

Florida

Standard Information

- Coordination Council – Currently under development
- GIO - No
- Lead Agency for Orthoimagery Program – Department of Revenue
- Past Orthoimagery Programs – 1994 Film based DOQQs, 1999 Film based DOQQs, 2004 Digital based High Resolution @ 1foot + 6inch
- Current Orthoimagery Programs – 2008-2010 Digital based High Resolution 4-band stack DMC product
- Distribution/Data Sharing Portal – Currently under development
- Notable Contacts – Stephen Hodge from the [Florida Resource and Environmental Analysis Center](#)
- Notable Contacts – Richard Butgereit from the Division of Emergency Management

Illinois

Standard Information

- Coordination Council – Currently under development
- GIO - No
- Lead Agency for Orthoimagery Program – IDOT and USGS
- Past Orthoimagery Programs – 2005 Statewide NAPP DOQQs @ 18inch color + 1foot in 6 Urbanized Counties around Chicago
- Current Orthoimagery Programs
- Future Orthoimagery Programs
- Distribution/Data Sharing Portal - <http://www.isgs.uiuc.edu/nsdihome/>
- Notable Contacts – Sheryl Oliver from Illinois Department of Natural Resources
- Notable Contacts – Donald Luman from Illinois State Geological Survey

Iowa

Standard Information

- Coordination Council – <http://www.iowagic.org>
- GIO – Planning to staff a position in 12-18 months
- Lead Agency for Orthoimagery Program – USGS and IDNR in 2002, FSA for 2006, IGIC for future program
- Past Orthoimagery Programs – 2002 Color IR DOQQs, 2006 NAIP
- Future Orthoimagery Programs – Under development
- Distribution/Data Sharing Portal - <http://www.iowagis.org>
- Notable Contacts – Brad Cutler
- Notable Contacts – James Giglierano
- Notable Programs – Statewide 2007-2010 LiDAR project <http://www.iowadnr.com/mapping/lidar/>

Indiana

Standard Information

- Coordination Council – <http://www.in.gov/igic>
- GIO – Jim Sparks in the Office of Technology <http://www.in.gov/iot/2380.htm>
- Lead Agency for Orthoimagery Program - <http://www.in.gov/igic/committees/orthos.html>
- Past Orthoimagery Programs – 2005 1meter, 1foot, 6inch Color
- Future Orthoimagery Programs – Planning via IGIC workgroup
- Distribution/Data Sharing Portal – <http://in-ulib-clark.ads.iu.edu/metadataexplorer>

Kansas

Standard Information

- Coordination Council – <http://www.da.ks.gov/gis>
- GIO - Ivan Weichert (State Geographic Information Systems Director) from the Kansas Information Technology Office
- Lead Agency for Orthoimagery Program – 2002-USGS, 2006-FSA
- Past Orthoimagery Programs – 2002 DOQQs, 2006 Color IR NAIP

- Future Orthoimagery Programs – Proposed in the next 12 months
- Distribution/Data Sharing Portal – <http://www.kansasgis.org>

Michigan

Standard Information

- Coordination Council – Michigan Geospatial Steering Committee (voluntary)
- GIO – No formal position
- Lead Agency for Orthoimagery Program – Michigan Center for Geographic Information <http://www.michigan.gov/cgi>
- Past Orthoimagery Programs – 1992 USGS DOQQs, 1998 USGS DOQQs, 2005 USGS DOQQs
- Current Orthoimagery Programs – 2005-2009 High Res Partnership
- Distribution/Data Sharing Portal - <http://www.mcgi.state.mi.us/mgdl/>
- Notable Contact – Eric Swanson-CGI Director
- Notable Contact – Rob Surber
- Notable Contact – Everett Root
- Notable Contact – Scott Oppmann
- Notable Contact – Jessica Moy (MSU)

Minnesota

Standard Information

- Coordination Council - <http://www.gis.state.mn.us/>
- GIO – No formal position
- Lead Agency for Orthoimagery Program – LMIC and FSA
- Past Orthoimagery Programs – 1991-1997 USGS DOQQs, 2003 FSA NAIP
- Current Orthoimagery Programs – 2008 FSA NAIP Program
- Distribution/Data Sharing Portal - <http://www.lmic.state.mn.us/chouse/index.html>
- Notable Contact – Tim Loesch (MDNR)
- Notable Contact – Chris Cialek (LMIC)

Mississippi

Standard Information

- Coordination Council - <http://www.giscouncil.ms.gov/gis/gis.nsf>
- GIO – No formal position created
- Lead Agency for Orthoimagery Program – Dept. of Environmental Quality
http://www.deq.state.ms.us/MDEQ.nsf/page/Main_Home?OpenDocument
- Past Orthoimagery Programs – 2006-2007 2ft Statewide, 1ft and 6inch color for coastal areas, 2007 FSA 1m NAIP
- Future Orthoimagery Programs – MDEM Program
http://www.deq.state.ms.us/MDEQ.nsf/page/MDEM_WhatisMDEM?OpenDocument
- Distribution/Data Sharing Portal - <http://www.gis.ms.gov/Portal/>
- Notable Contacts – Keith Harkins
- Notable Contacts – Jim Steil
- Notable Contacts – Bill McDonald

Missouri

Standard Information

- Coordination Council – MGISAC
- GIO – Timothy Haithcoat <http://www.gis.mo.gov/about.htm>
- Lead Agency for Orthoimagery Program – MGISAC
- Past Orthoimagery Programs - 2007 1m color IR FSA NAIP
- Current Orthoimagery Programs – 2007-2008 2foot DOQQs w/ buy ups
- Distribution/Data Sharing Portal – MSDIS <http://msdis.missouri.edu/>
- Notable Contacts – Steve Marsh
- Notable Contacts – Anthony Spicci
- Notable Contacts - Andrea Repinsky

Nebraska

Standard Information

- Coordination Council – Nebraska Geographic Information System Steering Committee
<http://www.cio.nebraska.gov/gis/index.html>

- GIO – No formal position
- Lead Agency for Orthoimagery Program – MAGIC <http://magicweb.kgs.ku.edu/>
- Past Orthoimagery Programs – 1993 USGS DOQQs, 1999 USGS DOQQs, 2003 FSA NAIP, 2006 FSA NAIP
- Current Orthoimagery Programs – 2007-2008 NIROC (High Res. Consortium)
- Distribution/Data Sharing Portal - <http://www.dnr.ne.gov/databank/geospatial.html>
- Notable Contacts – Larry Zink (Steering Committee Coordinator)
- Notable Contacts – Douglas Schonlau

Ohio

Standard Information

- Coordination Council – OGRIP Coordination Council
- GIO – No formal position
- Lead Agency for Orthoimagery Program - OGRIP
- Past Orthoimagery Programs – 1997-1998 NAPP DOQQs,
- Current Orthoimagery Programs – OSIP 2006-2008 1ft color
- Distribution/Data Sharing Portal - <http://metadataexplorer.gis.state.oh.us/metadataexplorer/explorer.jsp>
- Notable Contacts – Stu Davis (OGRIP Executive Director)
- Notable Contacts – Jeff Smith
- Notable Contacts – Brian Stevens

WISCONSIN ORTHOPHOTO TASK FORCE (WOTF) JULY 27, 2007 MEETING

COORDINATION GROUP SUMMARY

Overall we had great participation for our July 27th meeting in Stevens Point. Special thanks go out to Dr. Keith Rice and Diane Stelzer for allowing use of the geography department, the facility was very accommodating.

The group convened as a whole and discussed the current status of the task force and progress that had been made to that point.

Ted Koch delivered information regarding the federally proposed program Imagery for the Nation. He also informed the group of the up coming NSGIC national conference being held in Madison coming up in late September. Please support this opportunity and stay tuned for further developments.

Included is a list of participants as well a spreadsheet of everyone on the communication database.

The majority of the progress of the day came from the individual breakout groups. Thanks to Andrew Faust and Josh Schedler for pulling together attached summaries.

The coordination group reaffirmed a few of the concerns of pulling together a program of this magnitude. Parallel to the WIGICC, establishing a home for administration at the State level will be a primary recommendation that will need to be resolved. Communication and distribution of information will be another major undertaking for this future program.

A first objective was established: To support a need assessment through the established RAMONA Survey. Brett Davies and Kelly Felton committed to work on a letter of support to distribute via LION.

A second objective was established: To communicate our findings and recommendations via presentations to WLIA, WCA, LION, WIGICC, and the DOA through the future GIO. Andrew Jennings committed to present and will call on other Coordination group members, as well as team leaders Andy Faust and Josh Schedler.

Overall significant progress was made in all three groups. Thanks for your support. We look forward to making a direction for Statewide Imagery.

WISCONSIN ORTHOPHOTO TASK FORCE (WOTF) JULY 27, 2007 MEETING

FUNDING GROUP SUMMARY

After much discussion the Funding Group came to the conclusion that there are many possible funding sources that could help fund a statewide project. Most agreed that it is hard to move forward with any of these funding sources until a base product is decided.

Without people knowing the “what, when, & how often” of what they would be funding it would be hard for them to commit to or seek any funds to support a statewide program. We found this to be true with our 2005 consortium also. It was hard to find partners when we were not sure of what we would be able to provide.

If one of our goals is to have a “statewide program” starting in 2010 a base product needs to be determined. This base product determination should come from a needs assessment survey (ROMONA?) of local, state, federal, and private companies that use orthophotos. We are aware that the base product will not meet everyone’s needs, but should meet as many end users needs as possible. There could also be a possible “buy up” from the base product for local county and municipal users to help meet their needs and reduce their overall costs.

There was also discussion that the National Agriculture Imagery Program (NAIP) should be considered as a “statewide program.” With the help of state and federal agencies NAIP could be used or modified into an annual statewide program.

The following are list of possible funding sources from the meeting:

POSSIBLE FUNDING SOURCES

LOCAL

- Town, Village, City
- County
- RPC

STATE

- DNR
- DOT
- DATCP
- DOA
- BCPL
- DMA
- WEM
- OJA
- UW & UW Extension

FEDERAL

NSDA
NFS
USGS
Army Corp of Engineers
FEMA
Census

PRIVATE / OTHER

Realtors
Utilities
Timber Companies
Microsoft
Google
Tribal
Commercial Data Providers (Tele Atlas, Onstar, etc..)

OTHER IDEAS

Retained Fees – Using part of existing retained fees
Increasing retained fees to support program
Charging for the data

In summary, the meeting provided an active dialog and was very good start. There is still much to work on and discuss over the next months before any recommendations can be made. From this meeting a few items need to be addressed as any recommendations are developed.

1. Is the pursuit of a statewide digital orthophoto acquisition going to be a one time project or a program that will be continued?
2. If a full statewide acquisition is going to be pursued a base product needs to be determined.
3. Should we provide recommendations for different strategies for statewide and local acquisition of orthoimagery?
4. Provide recommendations for how often orthoimagery should be acquired at the state and local level.
5. What funding mechanism would need to be created to support a program?

WISCONSIN ORTHOPHOTO TASK FORCE (WOTF)

JULY 27, 2007 MEETING

TECHNICAL GROUP SUMMARY

The group discussed whether or not the 1 meter National Agriculture Imagery Program (NAIP) would serve the needs of the counties. After the discussion it was determined that NAIP is a complementary product, but would work for most counties.

The group looked at some possible cost saving beyond cost sharing, "economy of scale" and flight duplication. A couple mentioned were:

1. Time and money saved by using the newer photos to perform a field check instead of sending someone out into the field.
2. The group also looked at the possibility of flying high resolution 6 inch pixel resolution photography every 5 years and 12 inch pixel resolution in-between.

A lengthy discussion then took places regarding contours and elevation data. Should the consortium be looking at completing a statewide contour/elevation data set in the year 2009? Then the photos would be flown the next year utilizing the new statewide elevation for rectification.

The group then briefly talked about possible partners for 2010.

The next discussion focused on the statewide ortho flight. After a few minutes of comments by the members, it was clear there was common preliminary thought regarding the specs of the orthos.

A statewide color 12 inch pixel flight.
Buy up/options for 6 inch, 3 inch, Infrared, Black & White

The next discussion centered on the custodian of the data. There was no answer found but the options presented were the State or RPC's.

Next the group talked about who is using the data and how? The use of RAMONA for this?

A possible task for the Coordination Group was discussed. To prepare a presentation that could be presented by the group to county boards showing the benefits of the new photography and the consortium approach.

In summary, the group had a good start to the process but will have more work to be done in the coming months. There was one task for the technical group before the next meeting.

1. Provide a Pros/Cons list for both the Digital and Film photography products

November 1, 2008

Meeting Wrap-Up from WOTF at the Regional WLIA meeting in Sheboygan

Thanks to all that participated at the November 1st meeting. Here is a list of attendees, please contact Andrew Jennings if you were not listed and did attend.

<u>Participants</u>	<u>Agency</u>
Andrew M Jennings	ECWRPC
Andy Faust	NCWRPC
Josh Schedler	BLRPC
Ted Koch	SCO
Dick Vraga	USGS
Fred Iausly	Dane County
Kirk Contucci	Ayres
Tom Patterson(new guy?)	Aero-Metric
Adam Dorn	City of Fond du Lac
Brian McGee	ATC
Cathy DeLain	Manitowoc County
Dave Mockert	GeoAnalytics
Jason Grueneberg	Wood County
Jennifer Borlick	Rock County
Jim Lacy	SCO
Joyce Fiacco	Dodge County
Kent Pena	NRCS
Larry Cutforth	USDA FSA
Mike Koutnik	ESRI
Mike Zuege	ECWRPC

The first topic discussed was the best place in the opinion of the Task Force for the home/administration/coordination of the proposed program. The Department of Administration (DOA) was the clear choice. With the GIO located in the Department of Enterprise Technology, the group felt this to be the best place within DOA. The second most popular location to host the proposed program was the Department of Transportation. The DOT was chosen due to the fact that they have more contracting experience and have a standing aerial photography program. Other locations that were mentioned as possibilities were the Regional Planning Commissions (RPC), Department of Military Affairs (DMA) with Wisconsin Emergency Management (WEM), Wisconsin Geographic Information Coordination Council (WIGICC), and a county lead Consortium.

The second topic discussed was how the proposed program might be funded. The majority of opinions gathered pointed to attempting to kick start the program with monies from a state homeland security grant. This would begin financing the base product of 18" B&W-leaf off-full state coverage with the option for counties/municipalities to have a buy up option to higher resolution data from the base product. The second idea that the most supported was to look into a strategies to use the Retained Fees that are currently being used to fund Comprehensive Planning Grants that will expire in 2010. The other thoughts were to find a way to get the proposed program into the state budget, find other federal/state

programs that may be untapped. The Task Force will make recommendation on strategies on pooling together one or more of the above funding ideas through a consortium to create fully funded program.

The final recommendations will still need some considerable working. Any input of ideas or strategies would really be appreciated. We will be conducting a mailing to all interested entities around January 15th and again around February 5th. The final recommendations will need to close by the February 22nd so preparations for the delivery to the WLIA Annual Conference in Lake Geneva at the end of the month can conclude. These recommendations will then be presented to the new GIO at DOA and to the WIGICC.

The Task Force understands people's apprehension in developing a statewide strategy. We must strive for a coordinated a sustainable program. This program will benefit the majority of imagery consumers in the state. The evolution of the program depends on the willingness of constituents to work together, make compromises, share efforts and funding sources to create a statewide program that provides an effective program.

Thanks for your cooperation,

Andrew Jennings,
Andy Faust, &
Josh Schedler